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Cross-country differences in goodwill impairment testing

A study of the use of discount rates, terminal growth rates, and cash-generating units under IFRS from 2005 to 2013

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ABSTRACT

This study investigates the cross-country use of elemental components under IFRS when testing for goodwill impairments with the value in use-method. The study is based on the aspect of accounting conservatism and studies 290 large listed companies in three countries: the U.K., Sweden, and Germany, during the period of 2005-2013. The study finds that there exist cross-country differences in the application of elemental components when conducting the impairment testing in the studied countries. Whether these differences are in line with the expectations on conservatism may be an area of interpretation. It was found that (1) the level of impairment testing varied between the countries, with the U.K. testing for impairments on a cash-generating unit-level most frequently (2) the discount rate used was higher in the U.K., (3) Germany had the lowest terminal growth rate and the U.K. the highest, and (4) the U.K. and Sweden have been better at disclosing information compared to Germany in the initial years, however the gap regarding disclosure has become fairly small in the final years. The study also found a significant difference in the manner of which each country chooses to disclose the same information. The findings may be of interest for standard setters, academia, investors, and practitioners.

Key words: IFRS 3, IAS 36, goodwill, impairment testing, cash-generating unit, discount rate, terminal growth rate

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1. INTRODUCTION

In 2004 the International Accounting Standards Board (IASB) replaced the previous amortization and impairment approach with the impairment only approach when issuing the International Financial Reporting Standard (IFRS) 3 *Business Combinations* and revising related standards. The impairment testing of goodwill has regularly been cited as an area critical of judgment and estimation uncertainty when preparing financial statements (KPMG, 2014). Even today, almost ten years after the issuance, issues associated with the impairment of goodwill is one of the areas where companies receive the most criticism and remarks from Nasdaq OMX Surveillance (Nasdaq OMX Surveillance, 2013). In the beginning of 2014, IASB launched a Post-Implementation Review on business combinations accounting, which is being conducted while this study is performed (PIR - IFRS 3, 2014). Additionally, the European Security and Market Authority (ESMA) published a report in 2013 that provides an overview regarding the accounting practices of goodwill impairment testing in the annual reports of 2011. The study was conducted on 235 companies that apply IFRS and presented a significant amount of goodwill. The report found evidence of both lacking compliance and questionable assumptions in the goodwill impairment testing process (ESMA, 2013).

Although there is a common legislation for financial reporting under IFRS, several researchers have found that differences in accounting practices between countries exist, an area that was not considered in the report published by ESMA. The country of domicile has been found to have a larger effect on a company's accounting practice than both size and industry (Jafaar and McLeay, 2007) and despite the mandatory implementation of one common accounting framework, IFRS, differences between countries still exist (Devalle et al., 2010, Nobes, 2006). One major factor that has been brought to attention in regards to accounting-differences between countries is conservatism. Gray (1988) established a framework arguing that countries with conservative accounting tend to be less transparent. The country differences have also been discussed in regards to the application of goodwill impairments (Downs et al., 2012, Glaum et al., 2013, Jafaar and McLeay, 2007). Earlier studies within the area of goodwill impairments have found that the incidence and amount of impairment have been associated with country differences (Downs et al., 2012), as well as the reported level of compliance (Glaum et al., 2013). Due to the importance of country factors on accounting practices there might exist significant country differences that the report from ESMA does not capture. These differences may be important for understanding the way the current regulations on goodwill impairment testing have been implemented across countries.

In order to test goodwill for impairment, the companies need to determine the recoverable amount of the recognized goodwill. Most practitioners use the value in use-method, which normally requires discounting of the future predicted cash flows (ESMA, 2013, Petersen and Plenborg, 2010). The model is not complex itself, however it requires several vital assumptions and judgments regarding elemental

components, such as predicted cash flow, discount rate, and terminal growth rate, which have been considered as areas with gaps in the current research literature (Carlin et al., 2010). Given the discretional nature of the different components used when estimating the recoverable amount one could wonder how these have been applied in different settings and if the nationality has any effect on the components.

1.1 PURPOSE

Therefore, (1) given the problematical application of goodwill impairment testing, (2) the existence of national differences, and (3) the limited research focusing specifically on elemental components; the purpose of this study is to focus on the cross-country differences in goodwill impairment testing, and how these have changed over time - with an emphasis on the use of cash-generating units, discount rates, and terminal growth rates under IFRS. The study complements existing research in several aspects:

(1) Earlier studies have not viewed a similar timeframe,
(2) The majority of research has focused on specific countries' impairment testing, not putting national differences in focus,
(3) By looking at elemental components used in the impairment testing, the study investigates the actual application of the standards, which only have been done in a few cases and where mainly one component at a time has been in focus, and
(4) By using accounting conservatism as a factor of reasoning in regards to goodwill impairment testing, a further discussion to the area within accounting conservatism will be added.

The study will focus on the cross-country differences in goodwill impairment testing in three countries: the United Kingdom (U.K.), Sweden, and Germany, it will not investigate cross-country differences in a goodwill impairment testing-setting in general. The U.K. and Germany have been found to be extreme cases for different accounting practices in previous research (Joos and Lang, 1994, Nobes, 1998) and Germany has been considered to be a primary example of a conservative country, while the U.K. is found to be significantly more optimistic (Gray, 1980). The Swedish accounting system is considered to be between the U.K. and Germany with regards to level of conservatism and disclosure (Gray, 1988). The study includes 349 companies, where data has mainly been collected manually from annual reports, covering a reporting period between year 2005 and 2013.

By combining all of these aspects, more interesting findings are hopefully found, which may be of interest for standard setters, academia, investors, and practitioners, and lay a basis for further research within the area. This study is not, and was not designed to be, a statistical report. Rather, the aim with this report is to provide an overview of the actual accounting practices related to the impairment testing of goodwill.

1.2 FINDINGS

In brief, the results of the study show that there exist cross-country differences in the application of elemental components when conducting the impairment testing in the U.K., Sweden, and Germany. Whether these differences are in line with the study's expectations on conservatism may be an area of interpretation. Firstly, it was found that the U.K. tested for impairments on a CGU-level most frequently and Sweden tested for impairments on a segment-level. However, these findings have mainly been argued as a consequence of company sizes. Disregarding the country, the study indicates that companies conducting their impairment testing on a segment-level tend to do less impairments than a company testing on a CGU-level. Secondly, the results of the study show that the discount rate used is higher in a non-conservative country for the majority of the years studied, in this case the U.K.. Thirdly, the three countries have shown constant positions for the terminal growth rate over the period, where Germany shows the lowest, U.K. the highest, and Sweden is positioned in between the two, which is in line with the conservative theory. Lastly, the study shows that U.K. and Sweden have been better at disclosing information compared to Germany in the initial years. However, the gap regarding disclosure has become fairly small in the final years, which might be explained by a learning-curve effect. Nevertheless, the study also found a significant difference in the manner of which each country chooses to disclose the same information.

2. BACKGROUND

The following section will function as a guide through the changes of relevant standards and present important background information for the application of impairment testing of goodwill.

Goodwill accounting has a long history of changes and the treatments have varied noticeably between different local Generally Accepted Accounting Principles (GAAPs). The discussion whether to use amortization or impairment testing on goodwill has been a hot topic on the standard setters' agendas, especially considering the history of changes in the U.S. accounting standards and the IFRSs.

In 2001, the U.S. Financial Accounting Standards Board (FASB) issued Statement of Financial Accounting Standard (SFAS) 141 and 142[1], which prohibited the maximum of 40 years amortization of goodwill and instead defined the useful life of goodwill as infinite and required the use of impairment testing. However, the FASB reintroduced the possibility of amortization for private companies, i.e. not public companies, for a maximum period of 10 years in 2013 (EFRAG, 2014). The IASB followed the changes of the U.S. GAAP and in 2004, IFRS 3 *Business Combinations*, was issued, where the requirements were aligned with those in the in the U.S. accounting standards. Hence, goodwill should regularly be tested for impairment. Before this transition, goodwill could be amortized over its useful life not exceeding 20 years in accordance to the revised IAS 22 from year 1993[2] (EFRAG, 2014).

In connection to the issuance of IFRS 3, the IASB also revised the International Accounting Standard (IAS) 36 *Impairment of assets*, which regulates the impairment of goodwill. Goodwill cannot be separated since it represents resources that cannot be identified and estimated reliably, it is instead allocated to individual, or groups of cash generating units (CGU) that are expected to benefit from the business combination. This allocation should represent the lowest level within the entity at which goodwill is monitored internally and cannot be larger than an operating segment (IAS 36:80). A company must test the carrying amount of goodwill for impairment on at least an annual basis (IAS 36:10). If the determined recoverable amount is found to be less than the carrying amount for a CGU, the carrying amount needs to be reduced at least down to the level of the recoverable amount; hence, an impairment is recognized in the income statement. The recoverable amount is the higher of the *fair value less costs of disposal*[3] (FVLCD) and the *value in use* (VIU) (IAS 36:18). The definitions according to IAS 36 are:

- *Value in use* is the present value of the future cash flows expected to be derived from an asset or CGU.

[1] In September 2009, the FASB changed their classification system. Now SFAS 141 is called ASC 805 and SFAS 142 is called ASC 350. Since the majority of previous research uses the terms SFAS 141 and 142 the study will keep those names for simplicity.
[2] Many countries did adopt IFRS before January 1, 2005 and goodwill amortization practices under local GAAPs often differed from the requirements in IAS 22.
[3] Prior to amendments made by IFRS 13 *Fair Value Measurement* the term fair value less costs to sell was used.

- *Fair value* is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date.

The fair value is preferably estimated with a quoted price, but that is not necessary. There are alternative ways to measure the fair value, but making a reliable estimate of the price that would take place between market participants can be hard to do in reality. Instead, the entity may use the VIU-method as its recoverable amount (IAS 36:20). This is also the method that is primarily used among practitioners for determining the recoverable amount for goodwill (ESMA, 2013, Petersen and Plenborg, 2010).

When estimating the VIU, IAS 36:30 proposes the use of the discounted cash flow (DCF) model, which also is the main model used in practice (Petersen and Plenborg, 2010). When applying the DCF-model, estimations of future expected cash flows have to be made and an appropriate discount rate has to be determined. The cash flow projections should be based on the management's best estimate (IAS 36:33a) and for periods not covered by most recent budgets/forecast, a future growth rate can be used (IAS 36:33c). The discount rate should be pre-tax and reflect current market assessment of time value of money and risk of the asset (IAS 36:55).

2.1 NUMERICAL EXAMPLE

Below, two short and simplified examples of how a need of goodwill impairment may arise are presented. Since this paper only will focus on the VIU-method (further information can be found in section 4.2), a DCF-model combined with a Gordon Growth formula (to establish the terminal value) will be used in the examples.

$$DCF_0 = \frac{CF_1}{(1+r)^1} + \frac{CF_2}{(1+r)^2} + \cdots + \frac{CF_{T+1}}{(r-g) \times (1+r)^T}$$

CF = Cash flow before tax, r = Discount rate before tax,
g = Growth rate in terminal period, T = Terminal date

Example 1					
Discount rate before tax (r)	11 %				
Growth in budget period	3 %				
Growth in terminal period (g)	2 %				
Year (period)	**2014 (1)**	**2015 (2)**	**2016 (3)**	**2017 (4)**	**2018 (T+1)**
Cash flow before tax (CF)	10	10,30	10,61	10,93	11,26
Discount factor	1,11	1,23	1,37	1,52	
Present value CF	9,01	8,36	7,76	7,20	
Present value of CF	32,32				
Present value of CF (terminal value)	82,38				
Estimated recoverable amount	*114,70*				

Example 2					
Discount rate before tax (r)	14 %				
Growth in budget period	3 %				
Growth in terminal period (g)	2 %				
Year (period)	**2014 (1)**	**2015 (2)**	**2016 (3)**	**2017 (4)**	**2018 (T+1)**
Cash flow before tax (CF)	10	10,30	10,61	10,93	11,26
Discount factor	1,14	1,30	1,48	1,69	
Present value CF	8,77	7,93	7,16	6,47	
Present value of CF	30,33				
Present value of CF (terminal value)	55,53				
Estimated recoverable amount	*85,86*				

In these examples, it is assumed that the carrying value of goodwill is 100 currency units (CU) at the end of year 2013 and that the impairment testing is conducted at the last date of the reporting year. In example one, the estimated recoverable amount is higher than the carrying amount (114,7 CU > 100 CU); hence no impairment is needed for the year. In example two, the discount rate before tax has increased by three percentage points. This increase lowers the estimated recoverable amount to a value below the carrying value (85,86 CU < 100 CU). In this case, an impairment of 14,14 CU has to be recognized in the income statement for the year of 2013, lowering the carrying value to 85,86 CU.

3. THEORETICAL FRAMEWORK AND PREVIOUS RESEARCH

In this chapter the theories and previous research most essential for forming the background and foundation to the study are presented. These may be divided into two areas: (1) research regarding goodwill impairments and the elemental components used when performing the impairment testing on goodwill, and (2) research regarding differences in accounting practice between countries.

3.1 GOODWILL IMPAIRMENT

The majority of previous research within the goodwill impairment area either focuses on value-relevance or the management discretion inherited in the impairment decision. Even if these areas do not consider the elemental components in focus for this study the underlying research is still important as a theoretical background.

3.1.1 VALUE RELEVANCE AND MANAGEMENT DISCRETION

Several previous studies have shown positive relations between goodwill and share prices, as well as negative relations between goodwill impairments and share prices, and that goodwill impairments have a negative effect on investors' and analysts' expectations on the companies' future performance (Hirschey and Richardson, 2002, AbuGhazaleh et al. 2011, Bens et al. 2011, Li et al., 2011). In a study on Swedish companies, Hamberg and Beisland (2014) found that goodwill is positively associated with share prices. The results also showed that when companies followed the amortization practice under Swedish GAAP, goodwill impairments were negatively correlated with share prices on a significant level. However, after converting to IFRS, the goodwill impairment is no longer significantly related to share prices.

The impairment only-practice has led to an increase in the amount of management discretion in the impairment decision (AbuGhazaleh et al., 2011, Ramanna and Watts, 2012). IAS 36, that regulates the impairment testing, requires significant judgments (Petersen and Plenborg, 2010), which increase management discretion compared to the former amortization practice. Standard setters argue that by allowing higher management discretion, goodwill impairments will be a way for management to convey their private information regarding future cash flows to the market (Ramanna and Watts, 2012). However, if managers use this flexibility opportunistically it might affect the usefulness of the accounting information (Beatty and Webber, 2006). Previous research is not unanimous regarding the question whether managers in reality do use their discretion opportunistically or to signal their internal knowledge about the operation (Hamberg and Beisland, 2014).

In their study of American companies with market indications of goodwill impairment[4] Ramanna and Watts (2012) found that 69 % do not impair goodwill. Similarly, Verriest and Gaeremynck (2009) found that in their sample of companies with a market indication of needing to impair goodwill only 53 % actually did so. Ramanna and Watts (2012) further explored whether the companies that did not impair goodwill did so out of opportunistic, agency-based reasons, or if it was done to convey the manager's private information. The likelihood of a company not impairing goodwill was found to be related to factors identified by Ramanna (2008)[5] to increase management discretion. The study could not prove that managers used their discretion to signal private information. There is therefore indications that managers are exploiting the discretion in the standard to avoid timely goodwill impairments when they have agency-based motives to do so.

Francis et al. (1997) explored the relation between the incentives that the company's management has to impair an asset and the likelihood of such an impairment. They found that there is a strong correlation between management incentives and the impairment of assets that are highly discretional, such as goodwill. They also found that impairments of goodwill are more likely in companies with recent management changes. Similarly, Beatty and Webber (2006), Hamberg et al. (2011), and Hayn and Hughes (2006) found that management with longer tenure is less likely to impair goodwill on acquisitions that they themselves were responsible for. This is explained by that managers are likely trying to avoid criticism and are therefore more reluctant to make impairments on acquisitions that they themselves were responsible for. In contrast, new managers can lay the blame of having to take an impairment on his/her predecessors and might also want to conduct a larger impairment in order to avoid impairments in the future. However, in a study of German companies, Siggelkow and Zülch (2013) did not find evidence that goodwill impairments were significantly related to changes in management. AbuGhazaleh et al. (2011) conducted a study of listed companies from the U.K., which found that managers are using their discretion in the reporting of goodwill impairments and that these impairments are connected with recent CEO-changes, income smoothing, and "big bath"-accounting. This would be consistent with managers acting opportunistically, but at the same time they found a strong connection between effective corporate governance mechanisms and goodwill impairments. The authors of this study argued that this suggests that managers are more likely to use their accounting discretion to signal their internal information regarding the company's performance than to use it opportunistically. Verrist and Gaeremynch (2009) also found that one of the most strongly related factors for a company to impair goodwill was that the

[4] Defined as companies with goodwill on their balance sheet and a book-to-market ratio above one for two consecutive years.
[5] Ramanna (2008) identified that the following company characteristics increased the probability of discretion: (1) larger and more numerous business segments, (2) higher market-to-book ratios, and (3) higher proportions of net assets without observable market values. Ramanna and Watts (2012) tested the relationship between the likelihood of a company not impairing goodwill and (1) larger and more numerous business segments as well as (3) higher proportions of net assets without observable market values.

company had a strong corporate governance system. A strong corporate governance system might therefore be the key to management using their discretion in a way that is positive for investors.

Concluding from above, the areas of value-relevance and management discretion present non-conclusive results with no clear cut answer of how the current accounting practice has affected the value relevance or management behavior. One part that most studies seem to agree on is that the amount of management discretion has increased with the impairment-only accounting. Since the most common method of conducting the impairment testing is the DCF-method (ESMA, 2013, Petersen and Plenborg, 2010), it requires several judgments and assumptions, it is interesting to go one step further and investigate key inputs used for the impairment testing.

3.1.2 ELEMENTAL COMPONENTS IN IMPAIRMENT TESTING

Below, three of the most fundamental and observable elemental components will be presented. Starting with the level of impairment testing based on CGU, followed by the discount rate, and finally the terminal growth rate is presented.

3.1.2.1 CASH-GENERATING UNITS

One of the key factors when testing for impairment is the CGUs that the goodwill has been allocated to. Hayn and Hughes (2006) stated that: "*identifying reporting units*[6] *and assigning goodwill to them has proven to be one of the most difficult implementation issues of SFAS 142, raising concerns by both preparers and users of financial statements regarding the complexity, cost, and inconsistency of this process...*". Despite the complexity and importance of CGUs the detailed empirical research is yet very limited (Carlin et al., 2010).

One area that has been discussed as problematic with regards to the current goodwill practice is the tracing of goodwill after the acquisition (Hayn and Hughes, 2006, Ramanna, 2008). Ramanna (2008) argues that the larger and more numerous an acquirer's reporting units, the greater the acquirer's flexibility in allocating goodwill, which increases the discretion in determining impairments. A unit of a large size relative to the amount of goodwill may more easily mask subsequent value changes of the acquired goodwill by the unit's internally generated gains and losses. Furthermore, when goodwill is allocated across several reporting units, the performance of the acquired entity is no longer specified and cannot be traced (Hayn and Hughes, 2006).

Other researchers have argued that the high level of judgments and assumptions used when determining the reporting units create opportunities for creative accounting (Dagwell et al., 2007). By allocating the

[6] A reporting unit (U.S. GAAP) is an operating segment (as defined in FASB 131) or one level below it (referred to as a component) (§ 130 FASB 142). A reporting unit under U.S. GAAP is therefore approximately the same as a cash-generating unit under IFRS.

greater part of goodwill to CGUs that are expected to increase in value, managers may lower the probability of having to impair goodwill, or contrarily, allocate goodwill that is expected to decrease to CGUs that also are expected to decrease in value if management wants to maximize the amount of the impairment. By choosing how to allocate the acquired goodwill in this manner, managers can understate, or totally avoid, the goodwill impairment that would be needed if the acquired goodwill was valued on its own (AbuGhazaleh et al., 2011) The range of opportunities in defining and using CGUs under IFRS has been argued as inconsistent with the objectives of transparent and representational financial reporting (Carlin et al., 2010).

Some studies investigate the application of defining CGUs and the variation in CGUs over time (Almici et al., 2013, Carlin et al., 2010, Petersen and Plenborg, 2010). Petersen and Plenborg (2010) found inconsistencies in the application of defining CGUs, but could not determine if these were related to companies taking an approach that would suit their organization and economic structure or uncertainty in how to apply the standards. Almici et al. (2013) found that there were no significant variations between the choices of CGU before and after the global crisis (2007-2011) in the U.K.. Carlin et al. (2010) conducted a study of Australian companies over the initial three years of their implementation to IFRS. The authors found that an increasing number of companies defined a higher number of CGUs than segments as the research period progressed, while the number of companies that defined fewer CGUs than segments remained consistent. In regards to the average number of CGUs, the result suggested a gradual increase over time, however a substantial amount of the companies continued to use a very limited number of CGUs.

3.1.2.2 DISCOUNT RATE

When using the DCF-model an appropriate discount rate must be determined. The discount rate is affected by external factors, such as general economic conditions and industry conditions, and internal factors, such as operational risk and risks associated with the estimation of the cash-flow (Larrabee and Voss, 2012). One could choose to adjust for risks directly in the expected cash flow instead of in the discount rate but previous studies have shown that practitioners almost exclusively prefer to adjust the discount rate when applying the DCF-model (Petersen et al., 2006). One research paper that has brought this subject to attention is "*Discount rates in disarray*", written by Carlin and Finch (2009). The paper investigates large Australian companies and test for evidence consistent with opportunistic behavior by documenting variations between the discount rates used when conducting impairment testing and independently generated company-specific risk-adjusted discount rates. Carlin and Finch came to the conclusion that discount rates might be used opportunistically since there exist variances between these rates.

The paper by Carlin and Finch has received mixed reviews (Bradbury, 2010, Gallery, 2009, Lonergan, 2009). Gallery (2009) argues that the discount rates may differ because managers have more information

about the CGUs than outsiders to the company and without information about incentives and managerial responses; it is not obvious why managers would have motives to manipulate the discount rates. The estimated discount rates have also been questioned when it comes to calculations and sensitivity (Bradbury, 2010, Gallery, 2009). However, other researchers acknowledge the technical limitations of the study but argue for them to be unavoidable and the implications of the study too important to ignore (Longergan, 2009). In conclusion, the study does not serve as a basis for unpacking the issues surrounding managerial motivation and the choice of discount rates, but the data shows that there exists a downwards bias on the selection of discount rates in impairment testing (Carlin and Finch, 2010).

As could be seen in the numerical example in section 2.1 the value from the DCF-model is sensitive to changes in the discount rate. In that specific example it would be enough with an increase in the discount rate of 1,5 percentage points for an impairment to be necessary.

3.1.2.3 TERMINAL GROWTH RATE

One of the most important parts of the DCF-model is the continuation (terminal) value (Berk and DeMarzo, 2011, ESMA, 2013,) and it is common that the terminal value represents more than 50 % of the total value from a DCF-model (Larrabee and Voss, 2012). However, terminal growth rates have received less attention in previous goodwill research compared to other elemental components. In a report regarding goodwill impairment conducted by the ESMA, where financial reports of 2011 were examined, approximately 15 % of the companies disclosed growth rates exceeding 3 % in the terminal value (ESMA, 2013). ESMA concluded that the terminal growth rates applied might appear to be overly optimistic, especially compared to the long-term expectations of investors reflected in the market capitalization (ESMA, 2013). Being overly optimistic when estimating the terminal growth rate and for example using an unsustainable long-term growth is a common mistake when using the DCF-model (Berk and DeMarzo, 2011). As stated by Berk and De Marzo (2011): "*In the long-run, however, companies cannot continue to grow faster than the overall economy*". Since the terminal value is a substantial part of the DCF-model the valuation is sensitive to changes in the terminal growth rate. If the growth rate in the numerical example presented in 2.1 is decreased by one percentage point, all other components held constant, the end value decreases by 7,2 %[7].

[7] Figures:

Original growth rate:	
Discount rate before tax	11 %
Growth in budget period	3 %
Growth in terminal period	2 %
Present value of CF	32,32
Present value of CF (terminal value)	82,38
Estimated recoverable amount	114,70

Decreased growth rate:	
Discount rate before tax	11%
Growth in budget period	3%
Growth in terminal period	1%
Present value of CF	32,32
Present value of CF (terminal value)	74,14
Estimated recoverable amount	106,46

3.2 CROSS-COUNTRY DIFFERENCES IN ACCOUNTING PRACTICES

Prior studies have found that there exist national differences in accounting practices. Jafaar and McLeay (2007) concluded that even if company size and international exposure were important factors when it came to accounting choices, the country of domicile had even larger effects on a company's accounting practice. One of the most discussed areas influencing a country's accounting practice is culture. Gray (1988) argues that cultural differences might influence the characteristics of countries' accounting systems. The author formulates four accounting values, based on the cultural dimensions found by Hofstede (1980), and a framework for how these affect the attitude towards accounting and the accounting system in different country groups. These four values can be grouped into two groups; one that relates to the authority of accounting systems[8] and another that is related to the measurement and disclosure of accounting systems (Gray, 1988). Nobes (1998) classified the different countries' accounting system according to classes and stated that the U.K. was a Class A system focusing on reporting for equity-holders by focusing on relevant performance and future cash flows, and Germany was classified as a Class B system providing reporting for creditors and tax systems, implying a more prudent view.

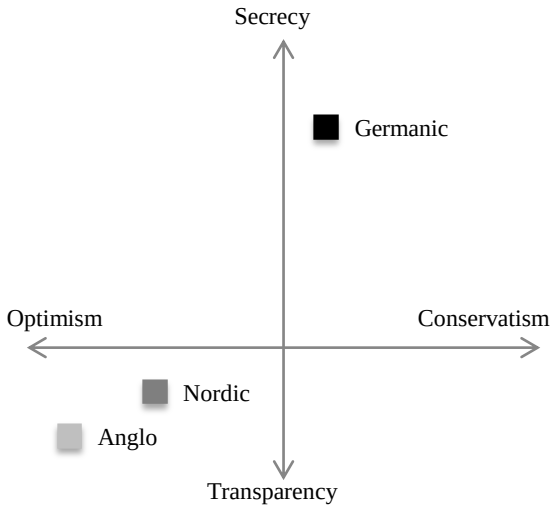
Other studies of cross-country differences highlight the areas within legislations and institutional contexts. Joos and Lang (1994) studied the effects on financial statements from differences in accounting measurement practices in France, Germany, and the U.K.. Germany and the U.K. are the originators, and arguably the most extreme examples of the two primary accounting philosophies worldwide, the Anglo-Saxon and the Continental models. The authors find evidence of significant differences in financial ratios and the markets' valuation of accounting information. Neither the composition of the sample or macro-economic factors seem to explain these differences that appear to be largely unaffected by the legislation enacted in response of the European Union directive which aims to create an integrated set of reporting standards. The study of Ball et al. (2000) investigates how differences in the demand for accounting of income, in different institutional contexts, vary internationally. The authors characterize the shareholder and stakeholder corporate governance models of common law, for example the U.K., and code law, for example Germany, countries respectively. They find that code law countries' accounting of income is less timely, specifically when it comes to incorporating economic losses, i.e. these countries have a higher degree of income conservatism.

The area of conservatism as a factor that influences accounting differences between countries has been brought to attention by many researchers and has been demonstrated empirically (Gray, 1980). Con-

[8] The values in this group are Professionalism versus Statutory control, whether a country has a preference for individual professional judgment and self-regulation or statutory control, and Uniformity versus Flexibility, whether the country has a preference for uniform accounting practices between companies and over time in contrast to flexibility depending on the circumstances of individual companies. This group of values will not be further explored in this study since they are hard to observe on a company level.

servatism has been stated to be "*the most ancient and probably the most pervasive principle of accounting valuation*" (Sterling, 1967 in Gray, 1988.) The traditional motto of conservatism can be explained as: "*Anticipate no profit, but anticipate all losses*" (Watts, 2003 I). A more detailed interpretation of conservatism is "*capturing accountants' tendency to require a higher degree of verification for recognizing good news than bad news in financial statements*" (Basu, 1997). Conservatism is an important standpoint for accounting in all countries but it ranges from highly conservative to much less so depending on the country (Gray, 1988). Givoly and Hayn (2000) investigated the changing time-series properties of earnings, cash flows, and accruals over four decades and found that the results were consistent with a trend of increased reporting conservatism. More conservative accounting would cause higher earnings and book value multiples in today's market and the occurrence of losses do not necessarily indicate overpricing. Watts (2003, I & II) found several explanations for conservatism in accounting: contracting, shareholder litigation, taxation, and accounting regulation. The author argued for contracting and shareholder litigations to be the most important explanations; taxation and regulation were weaker but still explanations with impact.

The accounting value related to accounting measurement in Gray's framework (1988) regarding cultural differences is conservatism versus optimism. This accounting value shows that a country's preference to manage the uncertainty of future events either by a cautious approach to measurements or by a more optimistic approach. Closely related to conservatism is the accounting value of secrecy, this value being the disclosure side of the accounting system, as both values indicate a cautious attitude towards financial reporting. By combining the dimensions of conservatism and secrecy into a two-dimensional graph, different country groups from the study by Hofstede (1980) are mapped in relation to each other (see graph 3.1). For example, the Anglo group, consisting of among others the U.K., the U.S., and Australia, is categorized by high transparency and an optimistic attitude, whereas the Germanic group, consisting of Germany, Austria, Switzerland, and Israel, is characterized by a high level of secrecy and conservatism. The Nordic group, consisting of the Nordic countries and the Netherlands, has been located between the two other groups but are closer to the Anglo group, with a tendency to be more optimistic and transparent. The characteristics in Gray's framework have been found to be connected to several organizational factors. For example Gray et at. (2013) found that countries with a higher level of optimism tend to have a higher cost of capital, which is argued to be in line with that these countries are more risk taking.



Graph 3.1: Gray's mapped framework

3.2.1 CROSS COUNTRY DIFFERENCES IN IFRS PRACTICES

One of the original purposes of IFRS was to give countries a common legislation for accounting. However, the IFRSs have been criticized for lacking homogeneity when it comes to country adoption (Nobes, 2008). Devalle et al. (2010) conducted a study of companies from the U.K., Italy, Germany, France, and Spain, and found that in general IFRS has increased the value relevance of earnings, while the value relevance of book value of equity has decreased. However, for the individual countries the results are more varied. It has been noted that significant differences in accounting practice still exist between the countries due to national factors. Fifield et al. (2011) find significant differences between countries in their study regarding the adjustments companies had to adopt when implementing IFRS. They therefore encourage that further research adopt a multi-country approach when investigating the impact of IFRS as the effects of different standards vary between countries.

3.2.2 CROSS COUNTRY DIFFERENCES IN GOODWILL IMPAIRMENT PRACTICES

A large part of the previous research within the goodwill impairment area is executed in a single country setting. However, some studies show that the national differences also are consistent within this area (Downs et al., 2012, Glaum et al., 2013, Jafaar & McLeay, 2007). Differences can be found in impairment practices, level of compliance with the standard, as well as disclosure levels.

Downs et al. (2012) conducted a comparative country analysis whether non-U.S. companies (listed on U.S. secondary markets and report with U.S. standards) accounts differently than their U.S. counterparts; more specifically, they wanted to investigate if non-U.S. companies conduct greater goodwill impairments than U.S. companies by using the framework established by Gray (1988). The study showed that company and country-level characteristics, for example: legal, accounting, and cultural values, affected the goodwill impairment decision, hence, affecting the accounting information's comparability.

Glaum et al. (2013) did a cross-country analysis over 17 European countries and their compliance and disclosure under IFRS 3 and IAS 36. The study found that both company and country specific variables play a crucial role for the reporting, for example: earlier experiences with IFRS, existence of audit committee, type of auditor, ownership structure, size of national stock market, strength of enforcement system, etc. The findings indicate that despite the common reporting standards, accounting traditions and other country-specific factors continue to play an important role. Even though the research by Downs et al. (2012) and Glaum et al. (2013) are conducted under different GAAPs, similar findings have been found, indicating that homogenized practices of goodwill impairment are a global challenge.

In a working paper written by Gullkvist (2014), the disclosures of goodwill impairment under IAS 36 in Sweden and Finland were studied during 2006-2012. By measuring the disclosure quality, the author found an increase in compliance with IFRS over time. Furthermore, the study indicated that Finnish companies were more compliant than Swedish companies and that cross-country differences persist over

time, however, they somewhat diminish. Gullkvist proposes that the trends in disclosure levels were associated with learning outcomes rather than the institutional oversight system.

A common request from the studies above is the need for further studies within the areas. Glaum et al. (2013) request more recent studies due to strengthen capital market supervision and enforcement of accounting standards and Gullkvist (2014) requests more research regarding disclosure between other Nordic and European countries. Hence, the cross-country application of goodwill accounting is in need of further research.

Concluding from the previous literature above, goodwill is an area that has received a lot of attention during the years, especially regarding the subject of value-relevance and subjectivity of impairments. However, studies that focus on the elemental components used in the impairment testing are still rather limited, nevertheless these studies have indicated that companies provide little information about the CGUs, discount rate, or that the recoverable amount is estimated in an inconsistent manner between different companies. Two areas in need of further research have been identified. Firstly, the current research on elemental components of the goodwill impairment testing is limited, and secondly, cross-country application of the goodwill accounting needs to be studied further. By combining these two areas, this report takes on a multifaceted and relatively unexplored research area.

4. EXPECTATIONS AND DELIMITATION

Based on the chapter about theoretical framework and previous research, this chapter presents the expectations this study has on the elemental components it aims to examine, as well as the delimitations of the study.

4.1. EXPECTATIONS

Previous research suggests that there exist cross-country differences in goodwill impairment testing and this may have implications on the use of the elemental components. When conducting an impairment test on goodwill, the company must specify several elemental components that are dependent on the future, i.e. terminal growth rates and discount rates. Since no one can ever with certainty know the correct value of these future components a level of uncertainty will be inherent in this values. Given that a conservative country is more cautious regarding future uncertainties, it is expected that a country whose accounting practice traditionally is more conservative will be more prudent when it comes to the impairment testing of goodwill and that this will have an effect on the elemental components used in the valuation.

It could be argued that companies in a conservative country, in a higher degree than those in an optimistic country, would perform the impairment testing on a CGU-level since they are expected to want to capture the risks of the cash-flow faster and with more precision. Previous research has reasoned that by doing the impairment testing on a segment level, value changes on the goodwill from acquisitions could be masked by the opposite change on another goodwill item. However, as shown by Gray (1988) conservatism is closely related to the secrecy in disclosure. By doing the impairment testing on the CGU-level, companies are forced to disclose more information regarding their operations, which companies in a country ranked highly in the level of secrecy would not be in favor of. It is hard to predict which one of these factors that will have the largest effect on the impairment level and therefore no specified expectation is formulated for this elemental component.

The discount rate used in the valuation should represent the return investors demand to invest in the cash flow being valued. This return should be adjusted for the risks associated with the cash flow and the higher the risk, i.e. the higher the uncertainty, the higher return investors usually demand. If a country is more conservative it is less comfortable with future uncertainties than a more optimistic country, and it could therefore be argued that these countries would demand a higher return for the same risk, resulting in a higher discount rate. However, the study conducted by Gray et al. (2013) found that the cost of equity tends to be higher in more optimistic countries. Since the cost of equity is an important part of determining the discount rate, in, for example, the weighted average cost of capital method, it might be assumed that the same should hold for the discount rate. Therefore, it is expected that the discount rate will be lower in a conservative country compared to the discount rate in a more optimistic country.

The terminal growth rate may have a large impact on the result from the valuation but is arguably the elemental components with the highest inherent uncertainty. Since the factors determining this rate lay further into the future, and often covers an infinite period of time, it becomes hard to predict. Therefore, it is expected that a country that is considered as conservative will be more cautious in its choice of terminal growth rate and that this country, on average, will report lower terminal growth rates compared to an optimistic country.

The accounting practice in a conservative country has been linked to secrecy in the disclosure of information in the financial reports. It is therefore expected that the financial reports from companies in a conservative country will have a lower level of disclosure and a lower level of compliance with the disclosure requirements in the IFRS compared to a more optimistic country. Previous studies have found a learning effect over time after the transition to a new accounting standard and it is therefore expected that the compliance level will be higher in the later years of the studied period than in the years right after the transition.

4.2 DELIMITATIONS

This study does not investigate the application of the whole IFRS 3 and IAS 36, only specific areas regarding the impairment testing of goodwill have been taken into considerations. The study provides an overview of the accounting practices related to the impairment testing of goodwill and the selected areas of review are: (1) General information about goodwill impairment testing (2) Methods for determining the recoverable amount, (3) Elemental components used when calculating the discounted cash flow, including CGUs, discount rates, and terminal growth rates. Only the elemental components used by companies applying the VIU-method will be considered. The choice to focus on the VIU-method is due to that it is the most common valuation method. Furthermore, elemental components used in the FVLCD are not directly comparable with the ones used in VIU and have therefore not been included. Further information regarding these investigated areas can be found in the following method chapter. This study will neither compare nor promote any of the accounting methods used for goodwill de-recognition: impairment testing or amortization.

5. METHOD

This chapter presents the method used when conducting the study. First, the basis for the research approach is presented, followed by the determined sample. Thereafter, specific information about the method for collecting data, assumptions, and adjustments are presented.

5.1 RESEARCH APPROACH

In order to fulfil the purpose of this study, to investigate the elemental components used in the impairment testing, how these have been disclosed, and how these have changed over time in a cross-country perspective, a combination of an exploratory and a conclusive research design has been chosen. Brown (2006) explains that: "*Exploratory research tends to tackle new problems on which little or no previous research has been done*". Exploratory research is the initial step that will form the basis for a more conclusive research, which is used when providing information that is useful in reaching conclusions (Singh, 2007). Since the study covers a rather unexploited area within goodwill impairment research, which in general is fairly explored, but takes on another approach in regards to conservatism in a cross-country perspective, it can be viewed from both research designs.

A quantitative method can preferably be used for increasing the precision of the results, however, this report takes a quantitative approach in collection of data but analyzes it qualitatively. This is because new interesting departures and contributions may more easily be found in a qualitative analysis. Additionally, data of greater depth may be used in a qualitative analysis compared to a quantitative (Bryman, 2013).

Moreover, the study takes a descriptive approach and therefore focuses on the "what"; what are the characteristics of the populations studied, rather than how, when, and why (Shields and Rangarajan, 2013). Descriptive studies do not find any causal link, rather the approach is used to summarize data explained in terms of frequency distribution, cross tables, mean, median, standard deviation, and range (Shields and Rangarajan, 2013).

The study covers a nine-year period from 2005 to 2013. Year 2005 was the first year when it became mandatory for companies to comply with the issued IFRS 3 and the revised IAS 36. Year 2013 is the last available reporting year for when this study is conducted.

5.2 SAMPLE SELECTION

The countries chosen for the study are the U.K., Sweden, and Germany. The U.K. and Germany are typically referred to as the extreme cases in previous research (Joos & Lang, 1994, Nobes, 1998). Germany has been considered to be a primary example of a conservative country and the U.K. is signif-

icantly more optimistic (Gray, 1980) and the two countries have the opposite position in the Gray framework (Gray, 1988). Nobes (1998) similarly classified the U.K. and Germany as opposites when it came to accounting system. If cross-country differences in impairment testing exist, they should be visible between these countries. Sweden is chosen as a third country because of both data availability and that Swedish accounting is in general considered to be of high quality (Hamberg et al., 2011). However, the Swedish accounting system is not as easily classified, since the classification has changed over time (Hellman, 2011). Nobes (1983) classified the Swedish accounting as extreme in terms of high influence of government and tax regulations, but in Hellman (2011) it is brought forward that Scandinavian companies are now considered to be less influenced by tax alignment and more by capital market forces. Given this information, Sweden is considered to be a country between the U.K. and Germany when it comes to accounting systems, consistent with the ranking of the Nordic group in Grays' framework (1988).

The three countries investigated have had different accounting practices for managing goodwill impairments in their pre-IFRS regulations. The U.K. GAAP allowed for both amortization and impairment testing of goodwill, similar to the requirements according to IFRS. In Germany, goodwill was amortized over its useful life, and if this period exceeded five years an explanation was required. Lastly, in Sweden, goodwill was amortized with a maximum period of 20 years.

The sample needs to consist of companies that have applied IFRS 3 and IAS 36 over a longer period, hence made acquisitions and favorably applied the standards since the issue/revision in 2005. The main objective has therefore been to focus on the largest listed companies within each country; since these mainly apply IFRS, make relatively frequent acquisitions, present reports in English (or Swedish), and are more likely to have older annual reports publically available.

In the U.K. the FTSE 100 has been used as a starting selection, including the 100 companies listed on the London Stock Exchange with the highest market capitalization. In Sweden the Nasdaq OMX Stockholm has been the starting selection. However, since the companies in Sweden in general are smaller in relation to the large companies in the U.K. and Germany, a larger loss of companies that do not recognize any goodwill may be expected, hence a larger starting selection has been chosen for Sweden, including the 149 companies listed on Large and Mid-cap which are the two highest market capitalization lists of Sweden. In Germany, the Frankfurt Stock Exchange has been used. Since listed companies in Germany are divided into several different lists, some selections had to be made. First, the DAX was included with the 30 largest companies according to book volume and market capitalization; secondly, MDAX was included which is the 50 following largest companies (excluding technology companies). Finally, in order to reach a total starting selection of the same size as for the U.K., the companies from the SDAX and TecDAX were ranked according to current market capitalization and

the 20 highest ranked companies were chosen for the study[9]. In total, this represents 349 companies in the starting selection[10].

The table below presents the starting selections for all countries. From the starting selection companies that are non-applicable over the whole period, for example that do not have goodwill any of the years between 2005 and 2013, are deducted to receive the applicable selection for the study. Information about non-applicable companies, and the applicable selection divided into industries according to the NACE (Nomenclature statistique des Activités économiques dans la Communauté Européenne)[11], can be found in Appendix A and G. If all companies in the starting selection would fulfill the information requirements all years, a total of 3 141 observations would be obtained.

Companies / %	**United Kingdom**		**Sweden**		**Germany**		**Total**	
Starting selection	100	100 %	149	100 %	100	100 %	349	100 %
Applicable selection	91	91 %	109	73,2 %	90	90 %	290	83,1 %

5.2.1 TOTAL AND VALID SAMPLES

The country specific sections below present the identified companies from the sample selection and the determined country specific total sample, further on referred to as the *Total sample*. To receive the Total sample, companies that do not fulfill the criteria for a specific year are removed only for that year, i.e. a company can be removed from the sample in year 2005 because it does not possess goodwill but can be included in 2006 after it has made an acquisition resulting in goodwill. Information about the non-applicable cases in certain years can be found in Appendix A and descriptive statistics regarding each country can be found under each country heading in the result chapter.

	2013	**2012**	**2011**	**2010**	**2009**	**2008**	**2007**	**2006**	**2005**
United Kingdom									
Sample	91	91	91	91	91	91	91	91	91
Total sample	90	88	87	84	82	82	82	82	67
Sweden									
Sample	109	109	109	109	109	109	109	109	109
Total sample	105	105	101	100	96	94	88	84	78
Germany									
Sample	90	90	90	90	90	90	90	90	90
Total sample	88	88	87	86	85	83	78	75	70

The group of companies that fulfill the criteria every year during the investigated period are referred to as the *Valid sample*, i.e. companies that apply IFRS, recognize goodwill, and have annual reports available over the whole period. In U.K., 66 companies from the applicable selection (73 % of 91 companies)

[9] Whereof SDAX: 7 companies, TecDAX: 13 companies.
[10] The date of data collections/listings are: Sweden 2014-09-15, U.K. and Germany 2014-10-17.
[11] Company classification has been made using code information from Orbis and MintGlobal.

present sufficient data for every year over the period 2005-2013. In Sweden and Germany, 76 companies (70 % of 109) and 69 companies (67 % of 90) respectively, present sufficient data for all years.

5.3 DATA COLLECTION

The majority of data has been collected manually, country-by-country, starting with the Swedish companies and finishing with the German. Initially, a list of relevant information to be collected was established[12] and after the collection of the Swedish data a smaller analysis was conducted. Based on that analysis, a second, additional collection of Swedish data was conducted in order to cover other potentially interesting observations found in the initial analysis. When the Swedish data was completed, data was collected for the U.K. and finally Germany.

Glaum et al., (2013) stated: "*we find substantial non-compliance with disclosures in the areas analyzed in 2005 financial statement*" when investigating IFRS 3 and IAS 36. Hence, one may expect the data to be lacking in the beginning of the investigated period raising the question if this year should be removed since the sample might be much smaller this year. However, since the learning curve of the implementation also is of interest for this study, the first year adoption has not been disregarded. Due to the large amount of non-applicable companies the first year, the use of only companies with valid data over the whole reporting period would cause the sample to decrease significantly. Instead, the limited information has been taken into consideration and individual samples for the different investigated elemental components have been determined, these samples are presented under each investigated item in the result section.

If a company applies a fiscal year other than the calendar year, the year with the majority of the reporting period is used as the reporting year, e.g. an annual report between 2012-04-01 – 2013-03-31 is presented for the annual year of 2012.

Companies that have chosen to adopt the FVLCD-method for the whole recognized goodwill amount have been separated in the section about discount rates and terminal growth rates. According to ESMA (2013), 60 % of the companies that apply FVLCD use the discounted cash-flow model i.e. the same model that is most commonly used when determining the VIU. However, different criteria for the methods' cash flows are required in IAS 36, where FVLCD should be based on more external information than VIU. During the data collection of this study it was noted that the discount rates used by companies applying FVLCD often are based on discount rates from comparable companies and tend to be lower than the rate used for the VIU. Since these rates are not deemed to be comparable with the rates used for VIU-valuation they have been eliminated before the specific calculations of discount rates and terminal growth rates. FVLCD is also a more common practice directly after an acquisition where the

[12] Including information about recognized goodwill and impairments in relation to other balance sheet items and specific disclosures about the impairment testing.

acquirer believes that the value is in line with the carrying value. In these cases, the valuation is generally based on the market value from the acquisition and not on the DCF-model. In cases where a company has chosen to apply both the FVLCD and VIU-method for different CGUs during the same year, the VIU part is separated and still included in the discount rate and terminal growth rate sections.

5.3.1 TOTAL ASSETS, GOODWILL, AND IMPAIRMENTS

Total assets data has mainly been collected from the Orbis database. The data received has been controlled with the annual reports for each year when other data has been collected. For those companies not included in the Orbis database, the data has been gathered manually. Information about the goodwill balances and impairments have been collected manually from the annual reports. Goodwill is the amount recognized by the company in the balance sheet at the year-end. Impairment is the amount specified as impairment on goodwill by the company; hence no considerations have been taken to other adjustments of goodwill, such as translation differences and reclassifications.

Comparatives for carrying values and impairments of goodwill have been used in order to increase the amount of data for years without annual reports. However, comparatives have not been used for information about CGUs, discount rates, and terminal growth rates since these areas also are dependent on disclosure information for the specific year.

Total assets, goodwill, and impairments that have been presented in currencies other than the countries own currency have been converted based on the closing date rate for every fiscal year. Since the impairment testing normally takes place at the later part of the fiscal year, the closing date rate can arguably be used for conversion of impairments.

In order to analyze the level of impairments, the year's impairment divided by the opening balance of goodwill has been used as a ratio. In a few cases this ratio exceeds 100 %[13] due to that impairments have been made during the same year as the acquisition. In these cases, the year's acquisition attributable to the impairment has been added to the opening balance for the ratio calculation in order to obtain a more comparable value.

5.3.2 CASH GENERATING UNITS

Information about the CGUs has been collected manually from the annual reports. Firstly, the companies' reported segments according to IFRS 8 were identified. Secondly, information about the CGUs were identified. If the company specifically stated that the impairment testing was conducted at a segment level, this was noted and if the company stated that they presented all of their CGUs and these correspond with the segments collected, the company was assumed to test for impairment on segment

[13] One case in each country, ranging from 102,2 % to 530,2 %.

level. If the CGUs did not correspond to the segments, it was noted that the impairment testing was not conducted on a segment-level. Additionally, if the information was lacking and the level of impairment testing could not be determined, this was noted.

5.3.3 DISCOUNT RATE AND TERMINAL GROWTH RATE

Information about the discount rates and terminal growth rates has been collected manually from the annual reports. Discount rates are primarily used before tax in the analysis, since this is the requirement in IAS 36:55. However, since companies do not always present one single specific discount rate before tax, some assumptions and adjustments had to be made to the data collection and gathering:

Both before and after tax discount rates are presented: This information has been noted, but the before tax rate is the only rate collected and used for the analysis.

Presentation of before or after tax discount rate cannot be determined: Due to the large amount of companies presenting the discount rate after tax, one cannot assume that the rate presented is before tax, therefore if there is no information regarding if the discount rate is before or after tax, it has been classified as *uncertain* and will not be included in the sample when analyzing the before tax discount rate used. In those cases where a company has not stated the discount rate used after or before tax for a specific year but the other subsequent or earlier years have similar rates that are stated after or before tax, it has been assumed that the rate is presented in the same manner.

Discount rate after tax: In cases when the discount rate only is presented after tax, it has been recalculated to a rate before tax. Some researchers argue for the best method to use is the iterative method (Carlsson et al. 2013), however due to the lack of information regarding future cash flows this method has not been used. Instead, in order to be consistent, the country specific company tax rates applicable for the financial years have been used to estimate the discount rate before. The following formula has been used for the calculation: *Discount rate before tax = Discount rate after tax / (1 – Company tax rate for the year).*

Discount rates presented for each disclosed CGU: For companies presenting different discount rates per disclosed CGU, in accordance with the requirements in IAS 36:134, either the average rate presented by the company has been used or a discount rate has been calculated when possible. In order to calculate a weighted average discount rate, the discount rates for each CGU have been weighted with the amount of allocated goodwill to that CGU. However, several companies do not present information about their non-significant CGUs, or these are grouped together in an "other"-item and no information regarding the discount rates used for this part of the goodwill is disclosed. Sometimes this amount represents a significant portion of the total goodwill and disregarding it might have large effects on the discount rate calculated. Therefore, it was decided that a minimum level of 75 % of the total goodwill should have

been presented per CGU with a specific discount rate in order for a weighted rate to be calculated. The remaining part of the goodwill is assumed to follow the same distribution as the weighted CGUs. In those cases where less than 75 % of the recognized goodwill is disclosed per CGU, the discount rates have been disregarded in the calculations. The use of a 75 %-level is argued to represent a clear majority of the goodwill recognized in the company, and a deviating discount rate in the remaining 25 % would not have a major impact on the estimated discount rate.

Discount rates presented as an interval: When discount rates have been presented in an interval, either the average presented by the company has been used or an average discount rate from these intervals has been estimated, if possible. In some cases using the average of an interval can be seen as too extreme, since many companies are present in different markets with considerably different rates. In order to determine an acceptable range of the interval, the standard deviation for those companies that present the discount rate before tax for each country has been estimated. This standard deviation is then used as the maximum level of deviation allowed between the maximum and minimum value of the interval. If the interval fulfills the requirement, the average has been calculated, and if not, the discount rates have not been used.

The terminal growth rates have been treated with the same adjustments and assumptions as the discount rates, disregarding the tax part since this is not applicable for the terminal growth rates.

6. RESULTS

The following chapter will present country-specific findings for the U.K., Sweden, and Germany. This is followed by a cross-country comparison, with values translated into the same currency, which is analyzed from a theoretical perspective.

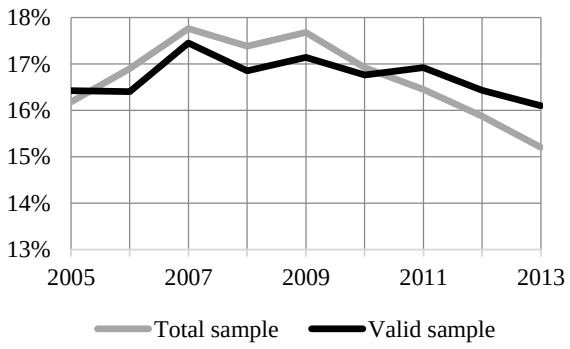
6.1 UNITED KINGDOM

The table below presents the mean data for the Valid sample in the U.K. (66 companies):

Mean	**Assets (MGBP)**	**Goodwill (MGBP)**	**Impairment (MGBP)**	**Goodwill /Assets (%)**	**Impairment /Goodwill (OB) (%)**	**Valid observations (Number)**
2013	112 054,9	2 872,8	156,9	16,10	3,15	66
2012	116 344,4	3 106,0	233,7	16,43	3,86	66
2011	119 979,4	3 360,4	155,9	16,92	2,59	66
2010	117 823,7	3 371,6	113,1	16,76	0,89	66
2009	115 220,1	3 414,6	92,6	17,14	2,52	66
2008	130 242,5	3 526,9	752,5	16,85	6,96	66
2007	95 884,0	3 511,5	3,2	17,45	0,08	66
2006	69 939,8	2 577,3	182,5	16,40	1,04	66
2005	55 856,3	2 953,4	364,5	16,42	NA	66

6.1.1 GOODWILL AND GOODWILL IMPAIRMENT

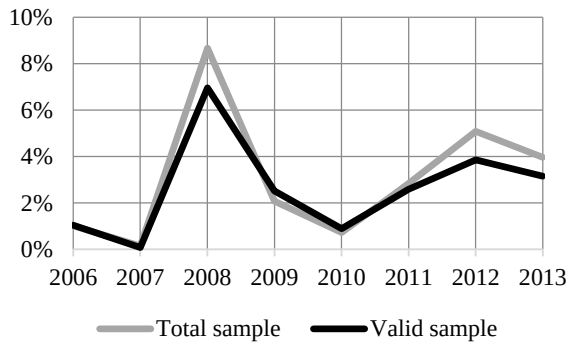
The total goodwill recognized in relation to assets has stayed fairly similar over the years for the Valid sample, only deviating 1,35 percentage points between the maximum and minimum value. The noteworthy decrease in goodwill for the final years for the Total sample is due to a larger amount of companies that recently acquired goodwill, hence having a lower accumulated level of goodwill in relation to assets.



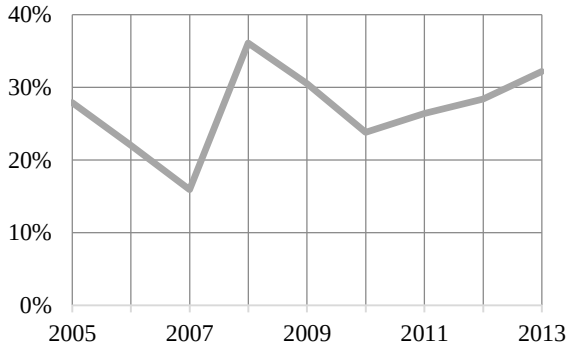
Graph 6.1: Goodwill/Assets (%)

The frequency of impairments has varied considerably over the time period (see graph 6.3). Looking at the total sample companies, the lowest level of impairments can be identified in year 2007, where 15,9 % of the companies conducted an impairment. This level came to increase drastically in 2008, reaching a level of 36,1 %. From year 2010-2013 the level of impairments has increased steadily between 2,0-3,8 percentage points per year. The level of impairments in relation to the opening balance of goodwill is similar to the trend in frequencies of impairment. In 2007, when the frequency of impairments was at its lowest level, the impairment in relation to the opening balance of goodwill reached almost 0 %. However, looking at 2008, when the frequency was at its highest level, the same ratio showed almost 7

% for the valid sample and 8,7 % for the Total sample. Interesting to observe is that 14 out of the 66 valid companies (21,2 %) have never conducted an impairment over the whole period between 2005-2013.



Graph 6.2: Impairment/Opening balance of goodwill (%)



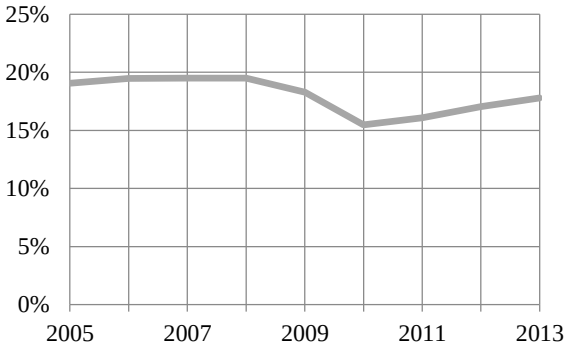
Graph 6.3: Frequency of impairments of Total sample (%)

6.1.2 CASH-GENERATING UNITS

The following table presents the CGU sample used in the analysis:

	2013	**2012**	**2011**	**2010**	**2009**	**2008**	**2007**	**2006**	**2005**
Total sample	90	88	87	84	82	82	82	82	67
- Comparatives used	0	0	0	0	0	0	0	-5	-4
CGU sample	90	88	87	84	82	82	82	77	63

Companies stating that they test for impairment at a CGU-level that is the same as their reported segment-level, ranges from 15,5 % to 19,5 % for the total sample during the investigated period (see graph 6.4). The level of companies with missing or uncertain information about their level of impairment testing has been declining from 2005 to 2012 (from 22,2 % to 11,4 % of the total sample), but has however increased again during 2013, to 15,6 %. A total of three companies have during the whole reporting period only disclosed one CGU.



Graph 6.4: Impairment testing at segment-level for the Total sample

Furthermore, when comparing the level of impairment testing with the level of conducted impairments some interesting findings can be identified (see Appendix C). Between 2008-2013, 40 % or more of the companies testing for impairment at a segment level have not conducted an impairment, which can be

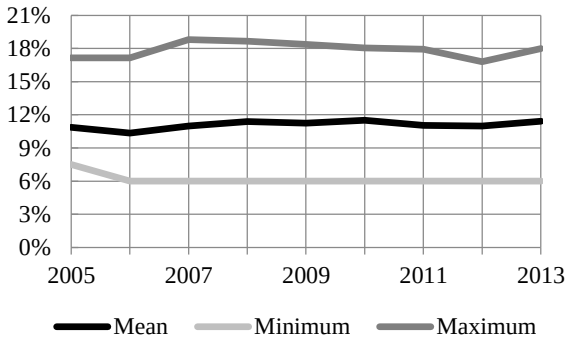
compared to companies testing on a CGU-level, showing that 20,0-25,5 % do not conduct an impairment. Additionally, looking at impairments that are larger than 5 % of the opening balance of goodwill, this level of impairment is more represented for companies that conduct their testing on a CGU-level.

6.1.3 DISCOUNT RATE

When examining the discount rates used by U.K. companies the following sample has been used:

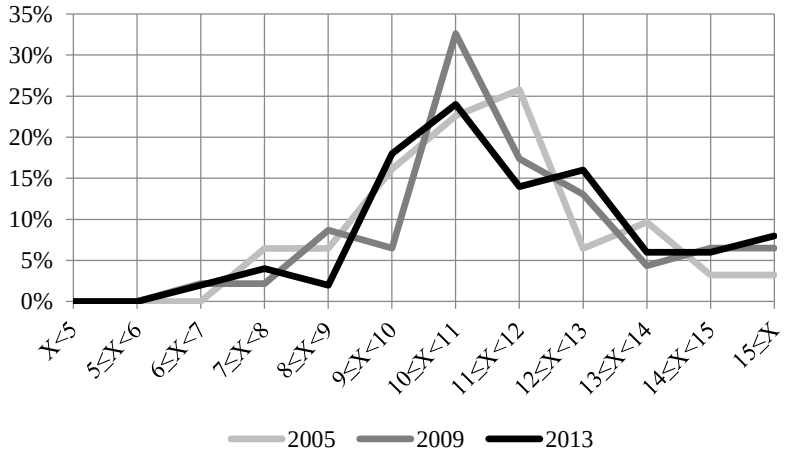
	2013	**2012**	**2011**	**2010**	**2009**	**2008**	**2007**	**2006**	**2005**
Total sample	90	88	87	84	82	82	82	82	67
- Comparatives used	0	0	0	0	0	0	0	-5	-4
- Use fair value less cost of disposal	-5	-5	-5	-6	-5	-4	-5	-4	-2
- No information in annual report	-7	-6	-4	-4	-7	-6	-9	-15	-16
Discount rate sample	78	77	78	74	70	72	68	58	45

The amount of companies that provide no information regarding discount rates was significantly higher during the initial years after the introduction of IFRS. The first year IFRS was mandatory, 2005, 26,2 % of the companies that used the VIU-method in the Total sample provided no information about the discount rates used in the annual report. This amount decreases to 4,9 % in 2011 before it increases in 2012 and 2013 (7,2 % and 8,2 % respectively). This increase seems to be due to that five companies that are listed for the first time during 2012-2013 fail to comply with the disclosure requirements in the standard.



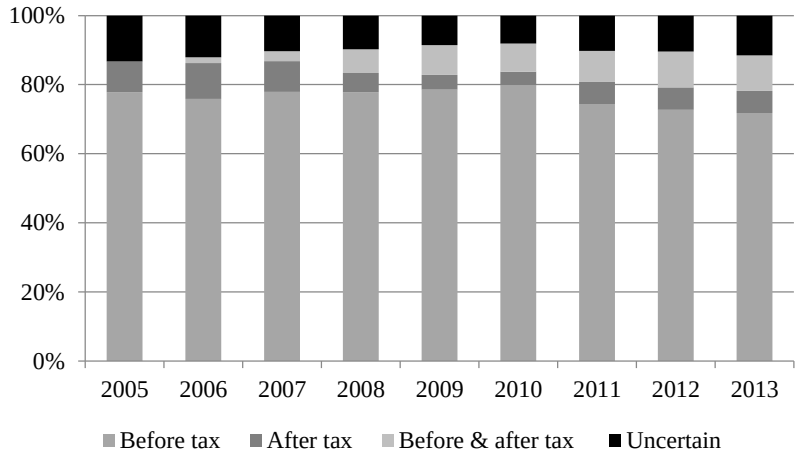
Graph 6.5: Discount rate for the Total sample

Since 2005, the mean of the discount rate used have increased from 10,9 % in 2005 to 11,4 % in 2013 for the Total sample. From Graph 6.6 one can see that there is a larger frequency of higher discount rates in the later years of the period compared to the earlier years. In 2013, 36,0 % of the companies used a discount rate larger than, or equal to 12,0 %. The corresponding number for 2005 was 22,6 %.



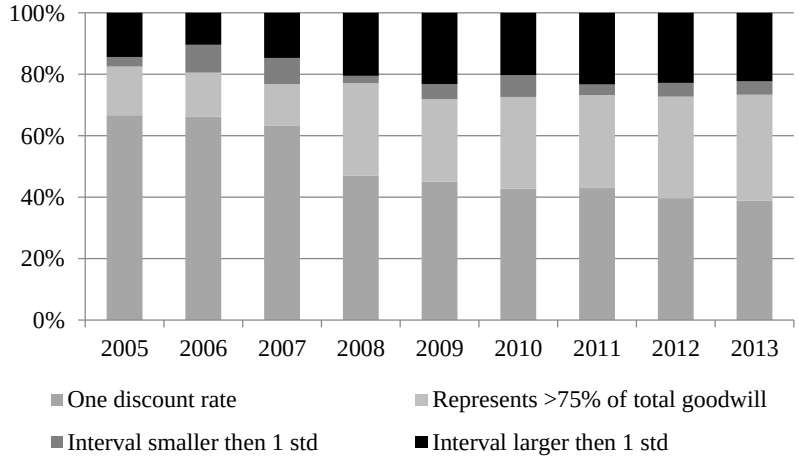
Graph 6.6: Discount rate frequency for the Total sample

At the same time the amount of companies using discount rates below, or equal to 8 % was similar the two years at 6,5 % in 2005 to 6,0 % in 2013, which can explain the higher mean in 2013.



Graph 6.7: Discount rate tax disclosure for the Total sample

U.K. companies show a high compliance with the requirements in IAS 36, to disclose the discount rate before tax, during the whole period. In 2005, 77,8 % of the companies disclosed the discount rate before tax, either by disclosing the discount rate before tax or by disclosing it both before and after tax. In 2013, that number increased to 82,1 %. This increase is mainly due to a rise in the amount of companies disclosing the discount rate both before and after tax. Companies only disclosing the discount rate before tax have decreased by approximately 6 percentage points since 2005. The amount of companies that disclose the discount rate after tax, or where one cannot determine whether the rate is before or after tax, has decreased during the period. The majority of the companies that change from this type of disclosure choose to change into disclosing the discount rate both before and after tax, rather than only before tax as the standard requires. Of the nine companies in 2013 where it cannot be determined whether the rate is before or after tax, eight have presented the rate in the same manner all years that the rate have been disclosed.



Graph 6.8: Use of multiple discount rates for the Total sample

Since 2005, there has been a significant increase in the number of U.K. companies that disclose more than one specific discount rate. The largest increase can be seen in the number of companies that disclose enough information for a weighted discount rate to be calculated. 22,6% of the companies with an estimated discount rate in 2013, i.e. seven separate cases, that disclose the discount rates in this manner have earlier years disclosed the rate as an interval. There is, however, also a substantial increase in the number of companies disclosing the discount rate as an interval. The range of the interval varies both within single companies and the population as a whole, with a tendency towards larger intervals in the later years of the investigated period.

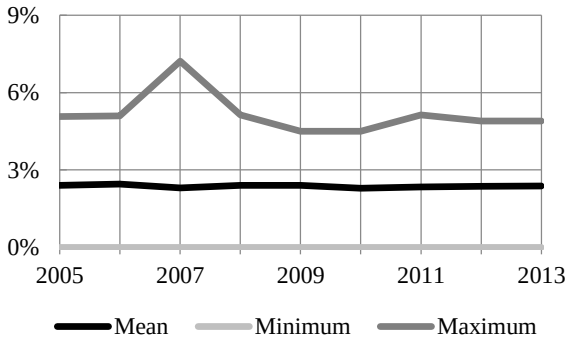
6.1.4 TERMINAL GROWTH RATE

When examining the terminal growth rates used by U.K. companies the following sample has been used:

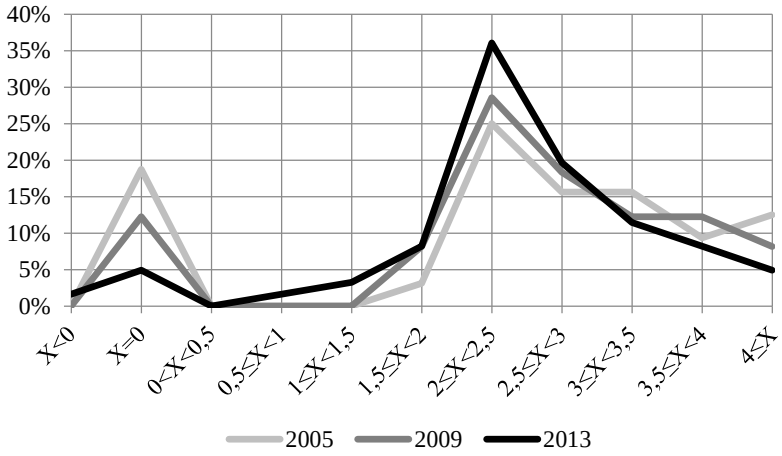
	2013	**2012**	**2011**	**2010**	**2009**	**2008**	**2007**	**2006**	**2005**
Total sample	90	88	87	84	82	82	82	82	67
- Comparatives used	0	0	0	0	0	0	0	-5	-4
- Use fair value less cost of disposal	-5	-5	-5	-6	-5	-5	-5	-4	-2
- No information in annual report	-14	-12	-10	-11	-14	-15	-19	-24	-22
New sample	71	71	72	67	63	62	58	49	39

The number of companies that provide no information in the annual report regarding the growth rate used for the terminal value follows a similar development as the discount rate, decreasing every year until 2011 and increases again in 2012 and 2013. However, the percentage of companies giving no information is higher for the terminal growth rate than for the discount rate. In 2005, 36,1 % failed to provide any information, decreasing to 12,2 % in 2011, and then increasing to 14,5 % and 16,5 % in 2012 and 2013 respectively. As in the case with the discount rates this increase seems to a large extent be due to the listing of new companies in the last years of the period that do not provide correct disclosures.

Likewise to the discount rate, the average terminal growth rate has fluctuated little over the investigated period. The highest rate used has decreased slightly but overall, the changes over the period are small.



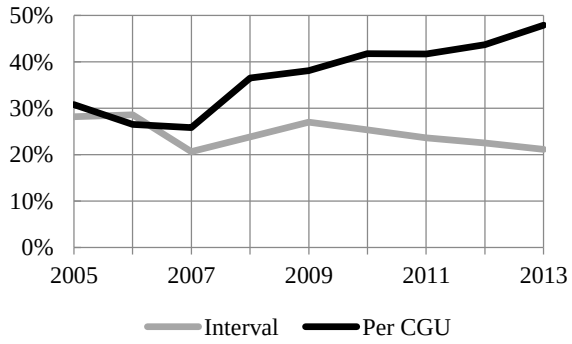
Graph 6.9: Terminal growth rate for the Total sample



Graph 6.10: Terminal growth rate frequency for the Total sample

Even if the mean of the growth rates has been fairly stable over the period, the distributions of companies that use different rates have changed. The majority of companies, 55,7 %, in 2013, use a terminal growth rate at or above 2 %, but below 3 %. In 2005 the corresponding amount was 40,6 %. In 2005, 37,5 % of the companies used a growth rate higher than, or equal to, 3 % and 18,8 % did not anticipate any growth after the forecast period. In 2013 these numbers have changed to 24,6 % with a rate at 3 % or higher, and 4,9 % with no anticipated growth rate beyond the forecast period. These changes show that the rates in 2013 are more tightly clustered towards the mean than in earlier periods, which also can be seen from the lower standard deviation in the later periods (see appendix E).

As can be seen in graph 6.11, there have been an increasing number of companies that specify the terminal growth rate for each CGU. The number of companies that disclose the terminal growth rate as an interval have during the same period decreased.



Graph 6.11: Terminal growth rate disclosure for the Total sample

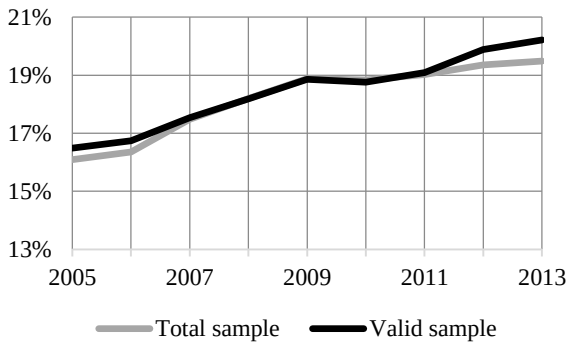
6.2 SWEDEN

The table below presents the mean data for the Valid sample in Sweden (76 companies):

Mean	**Assets (MSEK)**	**Goodwill (MSEK)**	**Impairment (MSEK)**	**Goodwill /Assets (%)**	**Impairment /Goodwill (OB) (%)**	**Valid observations (Number)**
2013	199 056,8	6 186,4	37,7	20,22	2,65	76
2012	198 013,1	5 905,4	131,3	19,88	3,61	76
2011	204 701,5	5 051,3	135,5	19,09	2,83	76
2010	181 084,1	5 710,8	67,8	18,76	1,47	76
2009	182 617,3	5 743,9	115,7	18,86	1,34	76
2008	187 238,7	5 782,4	94,7	18,19	1,87	76
2007	154 946,7	5 104,3	45,4	17,54	1,66	76
2006	135 025,7	4 165,1	54,5	16,74	0,85	76
2005	128 203,1	4 388,4	8,9	16,49	NA	76

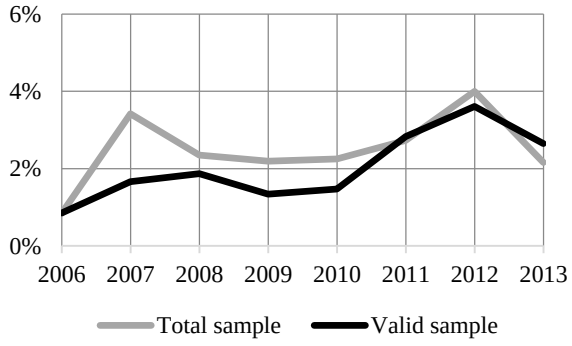
6.2.1 GOODWILL AND GOODWILL IMPAIRMENT

The goodwill-to-asset-ratio has increased with an average of 0,43 and 0,47 percentage points per year between 2005-2013 for the Total and Valid sample respectively.

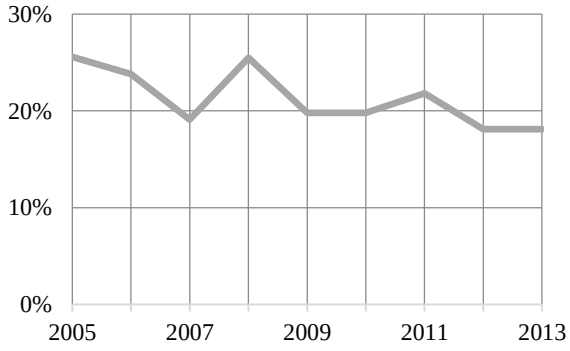


Graph 6.12: Goodwill/Assets (%)

The frequency of impairments for the Total sample had its peaks in year 2005 and 2008, reaching a maximum of 25,6 %. However, the level of impairments in relation to the opening balance of goodwill was not as high during this period, instead, this ratio has increased more between 2010-2012. The increased level of impairments in 2007 for the Total sample can mainly be explained by considerably higher impairments in three cases that have taken place during the year. Of the Valid sample, 22 companies have never conducted an impairment over the years 2005-2013, representing 28,9 %.



Graph 6.13: Impairment/Opening balance of goodwill (%)



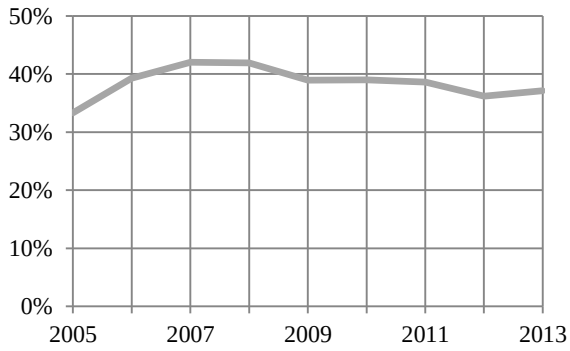
Graph 6.14: Frequency of impairments of total sample (%)

6.2.2 CASH-GENERATING UNITS

The following table presents the CGU sample used in the analysis:

	2013	2012	2011	2010	2009	2008	2007	2006	2005
Total sample	105	105	101	100	96	94	88	84	78
- Comparatives used	0	0	0	0	-1	-1	0	0	0
CGU sample	105	105	101	100	95	93	88	84	78

Companies disclosing information that they test for impairment at a CGU-level that is the same as their reported segment-level, ranges from 33,3 % to 42,0 % during the period (see graph 6.15 below). The level increased between 2005-2007, reaching a maximum of 42,0 %, and has during the following years declined to 37,1 % in year 2013. Companies that do not disclose information or that the information is not sufficient in order to determine the level of impairment testing has for the period stayed around 14,3 % (average for 2006-2013), year 2005 is an exception with 24,4 % that did not disclose any or sufficient information. A total of 6 companies did only disclose one CGU for all applicable years during the period.



Graph 6.15: Impairment testing at segment-level for the Total sample

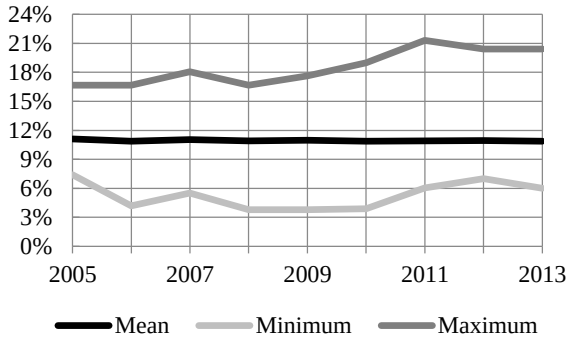
When comparing the level of impairment testing with the level of impairments (see Appendix C), companies testing for impairment at a segment level but not conducting any impairments have varied between 41,0-48,7 % between 2008 and 2013. This can be compared to companies not conducting any impairment but reporting at a CGU-level over the same period, showing 39,1-42,9 %, a somewhat smaller amount. Additionally, looking at impairments that are larger than 5 % of the opening balance of goodwill, this level of impairment is more represented for companies conducting impairment testing at a CGU-level between 2008 and 2013. In contrast, in 2006 and 2007 testing for impairment at a CGU-level conduct similar impairments as those reporting at a segment-level.

6.2.3 DISCOUNT RATE

When examining the discount rates used by Swedish companies the following sample has been used:

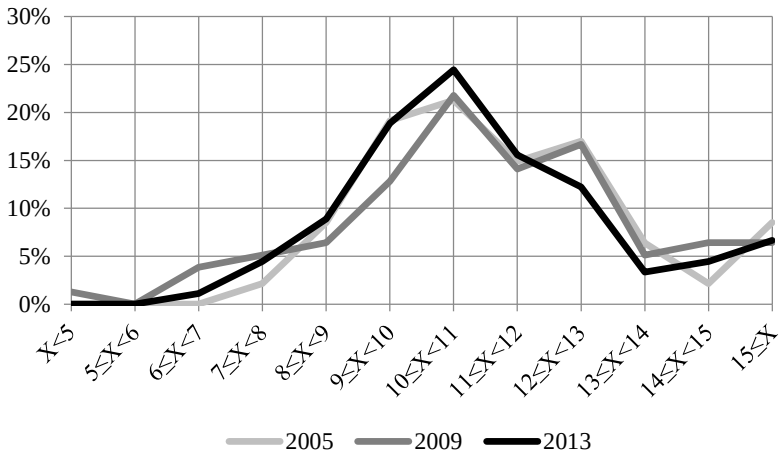
	2013	2012	2011	2010	2009	2008	2007	2006	2005
Total sample	105	105	101	100	96	94	88	84	78
- Comparatives used	0	0	0	0	-1	-1	0	0	0
- Use Fair value less cost of disposal	-3	-3	-3	-4	-3	-3	-2	-3	-2
- No information in annual report	-4	-5	-4	-5	-7	-8	-12	-9	-19
New sample	98	97	94	91	85	82	74	72	57

During the first year after the transition to IFRS, 25,0 % of the companies using the VIU-method in the Total sample lacked all information regarding discount rates. In 2006-2008 this amount dropped sharply to 8,9 % and has since then steadily decreased. In 2013 the corresponding amount is 3,9 %.

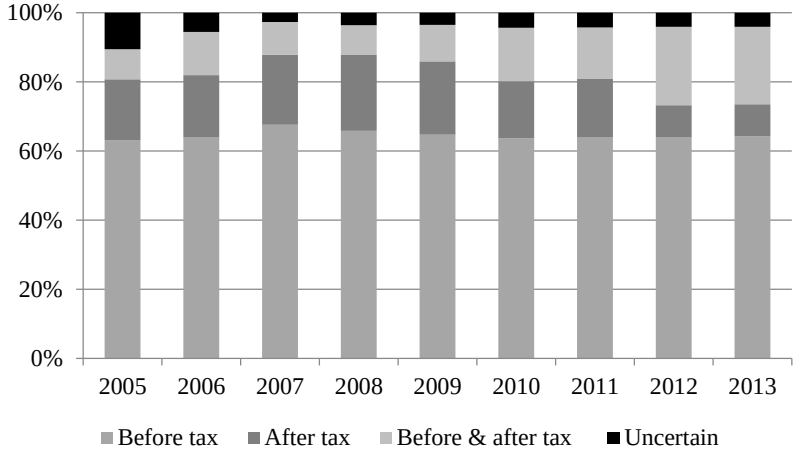


Graph 6.16: Discount rate for the Total sample

The mean discount rate has been relatively stable over the period for the Swedish companies showing the highest value in 2005 with 11,11%, and the lowest value in 2010 and 2013 with 10,87 %. The frequency distributions of the discount rates have likewise been fairly consistent with a slight tendency towards lower rates in 2011-2013. For more information see Appendix D.



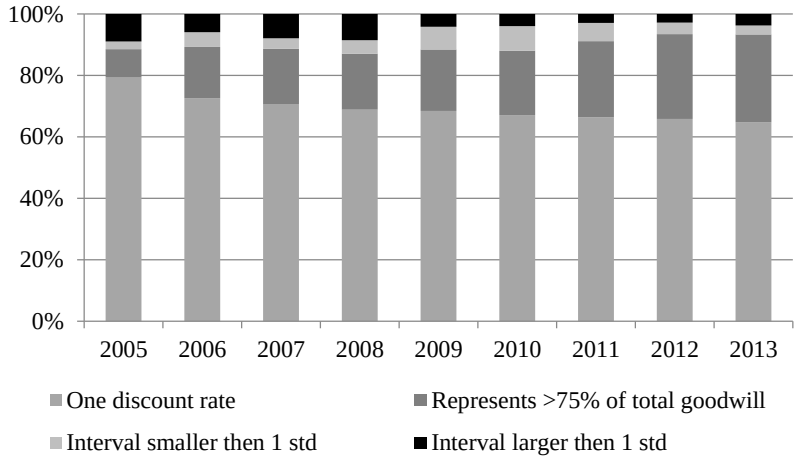
Graph 6.17: Discount rate frequency for the Total sample



Graph 6.18: Discount rate tax disclosure for the Total sample

In 2005, 72 % of the companies that did provide information regarding the discount rate disclosed the rate before tax in accordance with the requirements in IAS 36[14]. This amount has increased since then and is in 2013 86,7 %. The vast majority of this increase comes from an increase in the amount of companies choosing to disclose the rate both before and after tax, this type of disclosure has increased with 13,6 percentage points between 2005 and 2013. The increase in companies only disclosing the discount rate before tax during the same period is merely 1,1 percentage points. A large drop of 7,7 percentage points, in companies only disclosing the discount rate after tax, can be seen between 2011 and 2012. In the same years an increase of 7,8 percentage points can be seen in the amount of companies disclosing the rate both before and after tax. The timing of this change could be due to that Nasdaq Surveillance, as mentioned in the introduction, started paying more closely attention to the compliance problems surrounding IAS 36 from 2010 (Nasdaq OMX Surveillance, 2009-2013).

These results indicated that Swedish companies have often chosen to disclose two separate discount rates, rather than fully changing to only disclosing the rate before tax, in order to comply with the standards.



Graph 6.19: Use of multiple discount rates for the Total sample

As can be seen in graph 6.19 it has been relatively uncommon for Swedish companies to disclose the discount rate in the form of an interval and it has become even more so since 2011. The amount of companies disclosing an interval stayed fairly stable between 2005-2010 at approximately 12 % and decreased to an amount of 6,7 % in 2013. In contrast, the proportion of companies disclosing specified rates for more than 75 % of their total recognized goodwill has increased constantly over the period from 9,0 % in 2005 to 28,6 % in 2013.

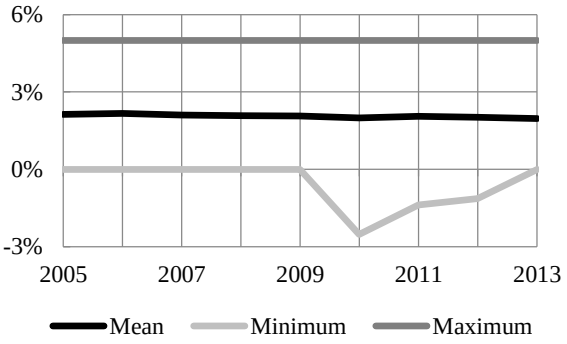
[14] This number includes those presenting before tax and before & after tax

6.2.4 TERMINAL GROWTH RATE

When examining the terminal growth rates used by Swedish companies the following sample has been used:

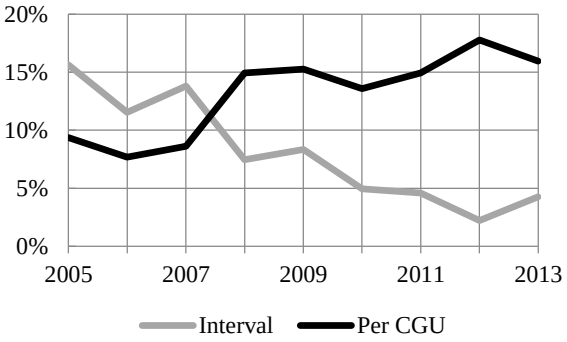
	2013	2012	2011	2010	2009	2008	2007	2006	2005
Total sample	105	105	101	100	96	94	88	84	78
- Comparatives used	0	0	0	0	-1	-1	0	0	0
- Use fair value less cost of disposal	-3	-3	-3	-4	-3	-3	-2	-3	-2
- No information in annual report	-7	-11	-10	-14	-19	-22	-26	-28	-42
- Use multiples	-1	-1	-1	-1	-1	-1	-2	-1	-2
New sample	94	90	87	81	72	67	58	52	32

After the transition to IFRS there was a significant amount of companies that did not disclose any information regarding the terminal growth rate. In fact, in 2005 only a minority, 43,2 %, of the companies that ought to provide this information, did so. The amount of companies that fulfills the requirement to disclose this information has improved since, but in 2009 the amount that did not disclose any information was still 20,9 %. However, in 2013 this amount had gone down to 6,9 %.

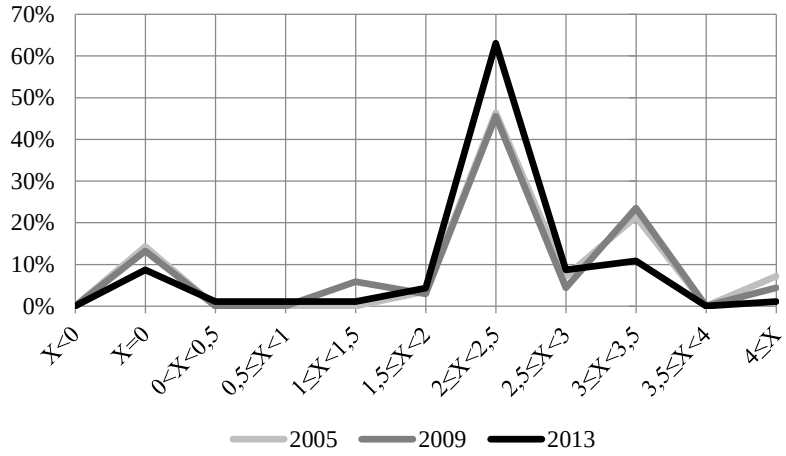


Graph 6.20: Terminal growth rate for the Total sample

The Swedish companies show a high level of homogeneity in the choice of growth rate. 63,0 % of all companies that have disclosed their growth rate uses a rate at, or above, 2 % but below 2,5 %. If this is investigated more closely, one finds that 59,8 % of all companies in 2013 uses a growth rate of exactly 2 %, the corresponding amount 2005 was 46,4 %. In total, the average terminal growth rate has decreased from 2005 to 2013 by 0,17 percentage point, due to a higher frequency of companies that used a rate higher than, or equal to 3 % in the earlier years. In 2005, 28,6 % of the companies used a rate at 3 %, or higher, and in 2013 this figure was down to 12,0 %.



Graph 6.21: Terminal growth rate disclosure for the Total sample



Graph 6.22: Terminal growth rate frequency for the Total sample

As with the discount rates, it is relatively uncommon for Swedish companies to disclose the growth rate as an interval and the amount of companies that use this type of disclosure are decreasing. The amount of companies that disclose different terminal growth rates per CGU is also fairly modest, but contradictory to the intervals this type of disclosure is increasing. Relatively few, 3 companies, of the companies that disclose the growth rate per CGU in 2013 have used intervals earlier years.

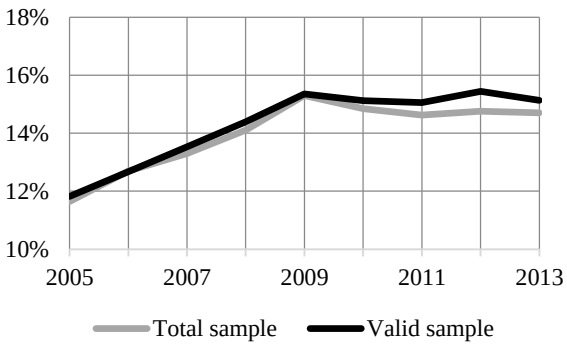
6.3 GERMANY

The table below presents the mean data for the Valid sample for Germany (69 companies):

Mean	**Assets (MEUR)**	**Goodwill (MEUR)**	**Impairment (MEUR)**	**Goodwill /Assets (%)**	**Impairment /Goodwill (OB) (%)**	**Valid observations (Number)**
2013	74 724,4	3 518,1	40,7	15,13	1,26	69
2012	81 785,5	3 565,5	86,7	15,44	1,36	69
2011	82 585,9	3 043,3	64,4	15,06	1,13	69
2010	77 276,2	3 005,4	47,0	15,12	1,34	69
2009	69 912,4	2 895,1	78,8	15,35	2,14	69
2008	85 672,8	2 801,0	105,6	14,39	1,54	69
2007	80 453,7	2 635,6	12,7	13,53	1,62	69
2006	75 589,0	2 369,5	20,6	12,67	1,04	69
2005	60 238,9	2 135,8	57,6	11,82	NA	69

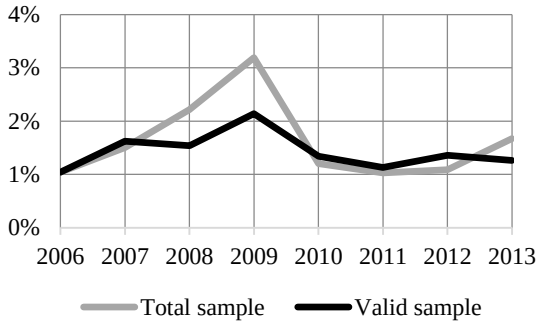
6.3.1 GOODWILL AND IMPAIRMENT

The goodwill-to-asset ratio has increased from year 2005 to 2009, with an average increase of 0,9 percentage points per year for both samples. After reaching its maximum of approximately 15,3 % in 2009 for both samples, the goodwill-to-asset ratio stayed fairly similar over the remaining period.

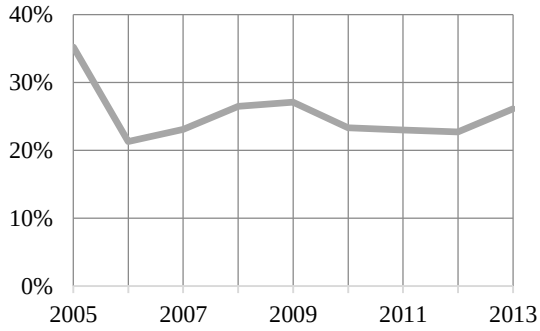


Graph 6.23: Goodwill/Assets (%)

Between 2007-2013 the difference in the level of frequency of impairments for the total sample has varied within 4,4 % percentage points. In 2005, 35,2 % of all companies with goodwill in Germany conducted an impairment, which was followed by a significant drop of 13,9 percentage points in 2006. A total of 17 companies, 24,6 %, of the valid sample have never conducted an impairment throughout the whole period. The ratio of impairments in relation to the opening balance of goodwill has been fairly stable over the period for the Valid sample. The Total sample has higher levels in 2008 and 2009 due to two cases with considerably higher impairments.



Graph 6.24: Impairment/Opening balance of goodwill (%)



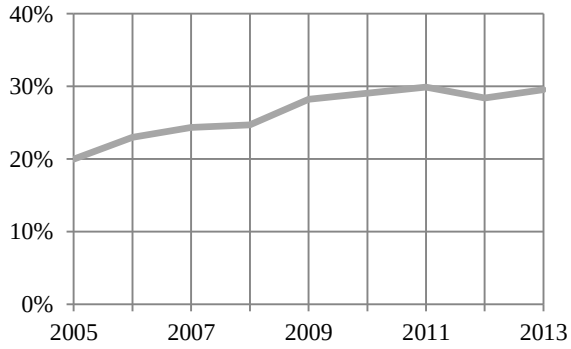
Graph 6.25: Frequency of impairments of Total sample (%)

6.3.2 CASH-GENERATING UNITS

The following table presents the CGU sample used in the analysis:

	2013	**2012**	**2011**	**2010**	**2009**	**2008**	**2007**	**2006**	**2005**
Total sample	**88**	**88**	**87**	**86**	**85**	**83**	**78**	**75**	**70**
- Comparatives used	0	0	0	0	0	-2	-4	-1	0
CGU sample	88	88	87	86	85	81	74	74	70

Companies disclosing information that they test for impairment at a CGU-level, which is the same as their reported segment-level, has increased steadily over the period from 2005 to 2011 (see graph 6.26). The number of companies that has not disclosed sufficient information to determine the level of impairment testing has decreased significantly over the whole period, from 37,1 % in 2005 to 13,6 % in 2013. The decrease has been most significant between the years 2005 to 2009. No companies have during the whole reporting period only disclosed one CGU continuously.



Graph 6.26: Impairment testing at segment-level for the Total sample

Comparing the level of reporting with the level of impairments (see Appendix C), shows that companies testing for impairment at a segment-level but not conducting any impairment over the whole reporting

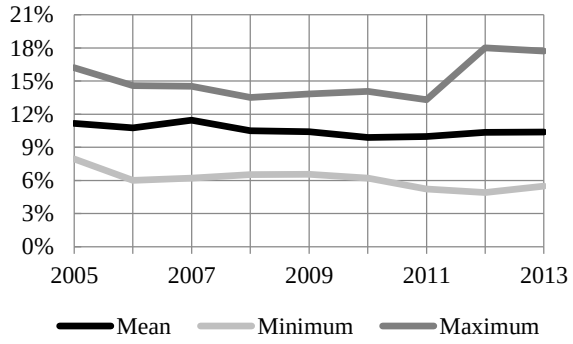
period has an average of 56,4 %. The same number for companies testing at a CGU-level is 23,6 %, indicating that companies testing at a CGU-level tend to do more impairments than segment-level companies. Furthermore, when conducting impairments, companies testing at a CGU-level tend to do more impairments larger than 5 % of the opening balance over the years, having an average of 44,5 %, compared to impairments of 5 % or less that has 31,9 %. The same numbers for segment-testing companies are 24,9 % and 18,7 % respectively.

6.3.3 DISCOUNT RATE

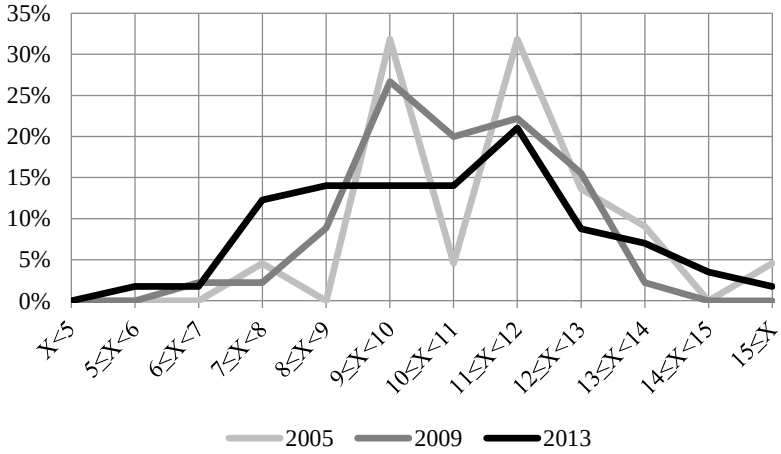
When examining the discount rates used by German companies the following sample have been used:

	2013	**2012**	**2011**	**2010**	**2009**	**2008**	**2007**	**2006**	**2005**
Total sample	88	88	87	86	85	83	78	75	70
- Comparatives used	0	0	0	0	0	-2	-4	-1	0
- Use Fair value less cost of disposal	-15	-15	-14	-15	-13	-13	-14	-12	-12
- No information in annual report	-3	-3	-4	-5	-6	-8	-12	-18	-24
New sample	70	70	69	66	66	60	48	44	34

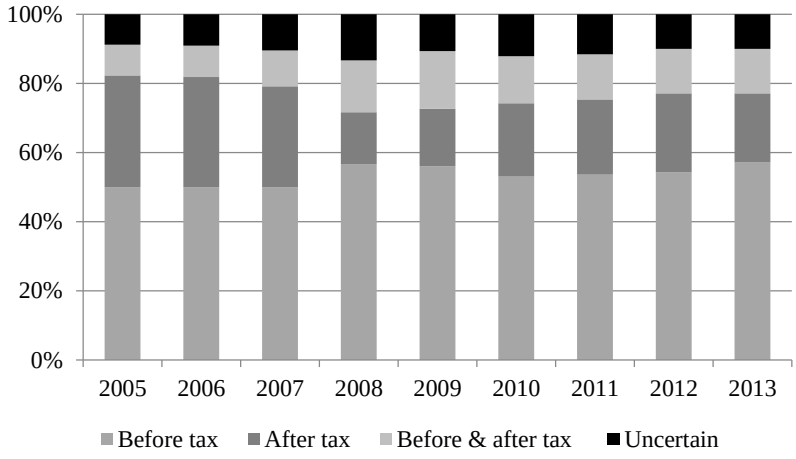
A noteworthy amount of companies using the VIU method, 41,4 %, did not disclose any information regarding the discount rates used during 2005. This level decreased to approximately half until 2007 and has since then decreased down to 4,1 % in 2013. Worth noting is the relatively large amount of companies deemed as non-applicable because they use the FVLCD in the impairment test. A large amount of these companies still use the DCF-model to determine the fair value but are removed due to the reasons described in section 5.3.



Graph 6.27: Discount rate for the Total sample

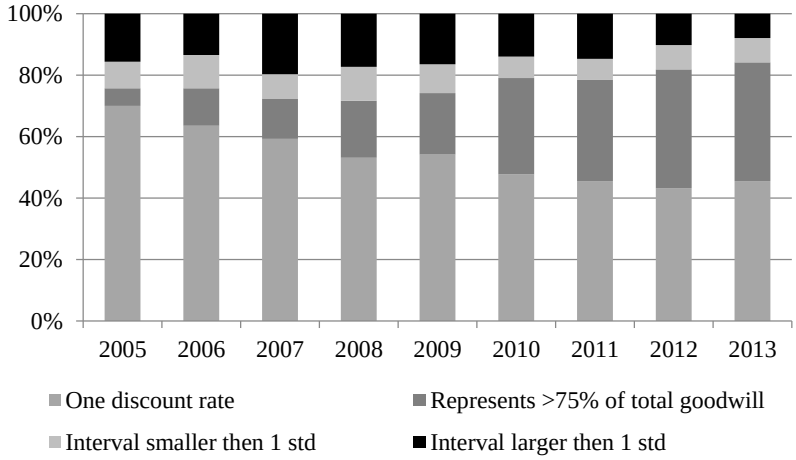


Graph 6.28: Discount rate frequency for the Total sample



Graph 6.29: Discount rate tax disclosure for the Total sample

In 2005, after the transition to IFRS, 58,8 % of the German companies disclosed the discount rate before tax in accordance with IAS 36[15]. Until 2013 this amount increased to 70,0 %. This change comes from an increase in companies disclosing the discount rate only before tax, which has risen from 50,0 % in 2005 to 57,1 % in 2013. The amount of companies for which it cannot be determined if the discount rate is before or after tax has increased slightly during the period.



Graph 6.30: Use of multiple discount rates for the Total sample

The number of companies in Germany that disclose several discount rates has increased significantly during the period. In 2005, 30,0 % disclosed more than one discount rate and in 2013 this figure had risen to 54,9 %. The increase came from companies starting to disclose separate discount rates for at least 75 % of their total goodwill and the amount of companies that disclose the rate as an interval has decreased by 8,4 % during the period.

[15] This number includes those presenting before tax and before & after tax

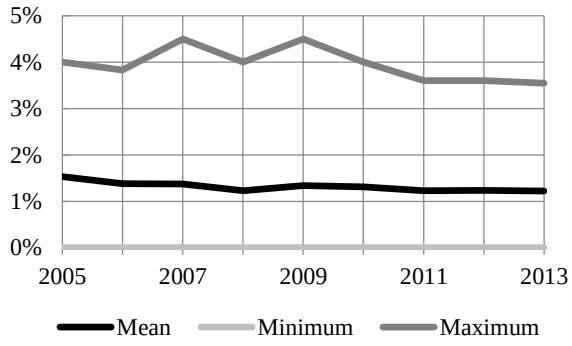
6.3.4 TERMINAL GROWTH RATE

When examining the terminal growth rates used by German companies the following sample has been used:

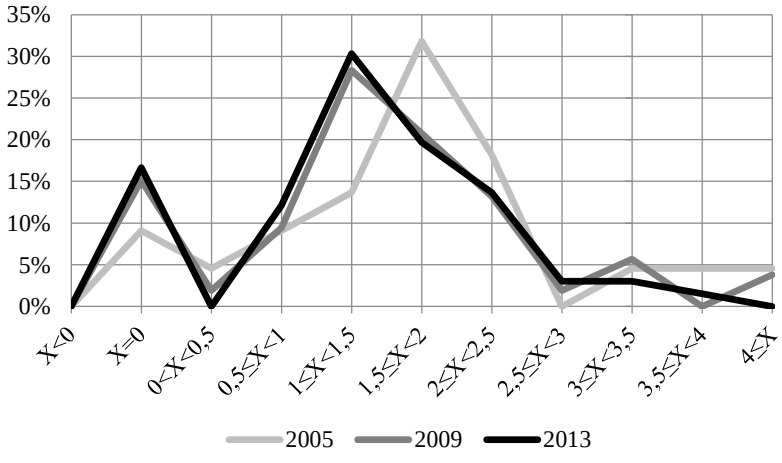
	2013	2012	2011	2010	2009	2008	2007	2006	2005
Total sample	88	88	87	86	85	83	78	75	70
- Comparatives used	0	0	0	0	0	-2	-4	-1	0
- Use Fair value less cost of disposal	-15	-15	-14	-15	-13	-13	-14	-12	-12
- No information in annual report	-4	-6	-10	-11	-16	-19	-23	-26	-33
New sample	69	67	63	60	56	49	37	36	25

After the transition to IFRS in 2005 the majority of German companies, 56,9 %, that should present information regarding the terminal growth rate failed to provide any information regarding this component. Since the initial year this disclosure follows the same development as the discount rate with close to yearly improvements and in 2013 only 5,5 % of the companies failed to provide any information about the growth rate.

The average growth rate used by German companies has decreased by 0,3 percentage points during the period, from 1,5 % in 2005 to 1,2 % in 2013. The most common terminal growth rate used falls at, or above, 1 % and below 2 %; in 2013, 50 % of the companies used a rate in this range. A growth rate below 1 % is also common, in 2013, 28,8 % used a rate at, or below 1 %; the corresponding number in 2005 was 22,7 %. High rates, at or above 3 %, are fairly uncommon and have been decreasing during the period. Only 4,6 % of the companies that disclose their growth rate fall within this category in 2013, while 13,6 % did so in 2005. However, due to the lack of proper disclosure in the early years of the period, this figure should be interpreted carefully.

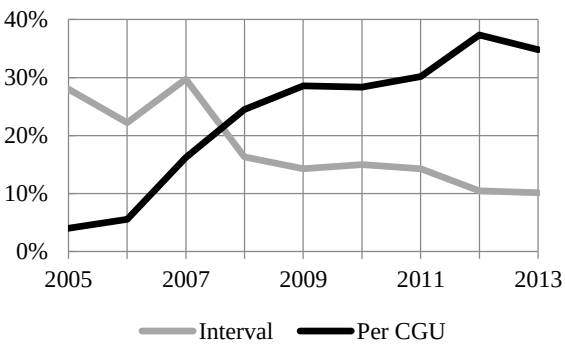


Graph 6.31: Terminal growth rate for the Total sample



Graph 6.32: Terminal growth rate frequency for the Total sample

The disclosure of terminal growth rates in Germany has followed a similar development as the discount rates. There has been a significant increase in the amount of companies that disclose a growth rate for each specific CGU. In 2005, only 4 % of companies provided this information, compared to 34,8 % in 2013. The opposite development can be seen for companies disclosing the growth rate as an interval; this amount has decreased from 28,0 % in 2005 to 10,1% in 2013.



Graph 6.33: Terminal growth rate disclosure for the Total sample

6.4 CROSS-COUNTRY COMPARISON

In the following section information from the country specific findings are rearranged into a cross-country comparison in order to reach a more comprehensive and detailed conclusions. In this section, earlier research will also be connected and discussed in connection to the findings.

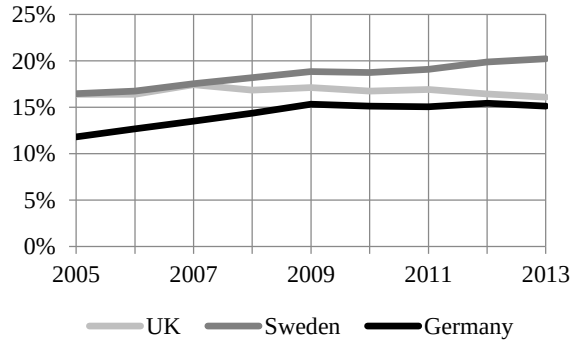
6.4.1 GOODWILL AND IMPAIRMENT

The table below presents the comparative mean values for the Valid samples in each country in MEUR. Important to note is the differences in size between the countries; the total assets of Germany, in relation to the U.K.'s, has decreased from 90 % to 46 % from 2005 to 2013. Sweden's total assets in relation to U.K.'s have decreased from 22 % to 13 %.

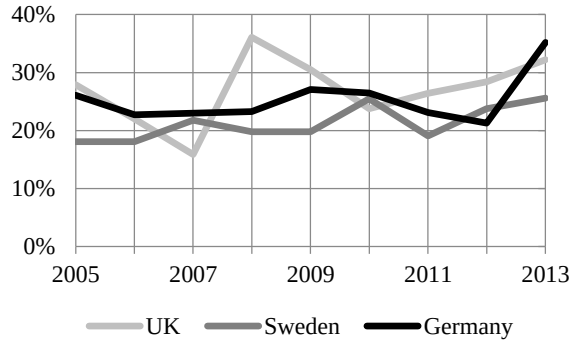
MEUR	**United Kingdom**			**Sweden**			**Germany**		
	Assets	*Good-will*	*Impair-ment*	*Assets*	*Good-will*	*Impair-ment*	*Assets*	*Good-will*	*Impair-ment*
2013	162 827,2	4 174,5	228,0	21 158,5	657,6	4,0	74 724,4	3 518,1	40,7
2012	172 716,2	4 610,9	346,9	21 897,2	653,0	14,5	81 785,5	3 565,5	86,7
2011	163 215,1	4 571,4	212,1	21 701,9	535,5	14,4	82 585,9	3 043,3	64,4
2010	123 704,7	3 539,9	118,7	16 509,1	520,6	6,2	77 276,2	3 005,4	47,0
2009	129 961,6	3 851,5	104,4	17 805,8	560,0	11,3	69 912,4	2 895,1	78,8
2008	151 693,7	4 107,8	876,4	20 777,3	641,7	10,5	85 672,8	2 801,0	105,6
2007	114 858,8	4 206,4	3,8	17 315,7	570,4	5,1	80 453,7	2 635,6	12,7
2006	86 249,5	3 178,3	225,1	15 729,5	485,2	6,3	75 589,0	2 369,5	20,6
2005	67 201,0	3 553,2	438,5	14 475,4	495,5	1,0	60 238,9	2 135,8	57,6

When comparing the recognized goodwill in relation to total assets over the years between the countries' Valid samples one can see that Sweden and Germany have followed a similar trend over the whole period, but Sweden has consistently presented 4-5 percentage points more goodwill in relation to assets.

The U.K. has not followed this slightly increasing trend; instead, the goodwill to asset ratio has stayed fairly similar over the period.



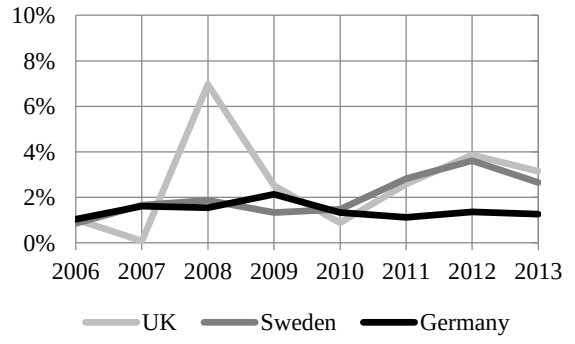
Graph 6.34: Goodwill/Asset for the Valid samples



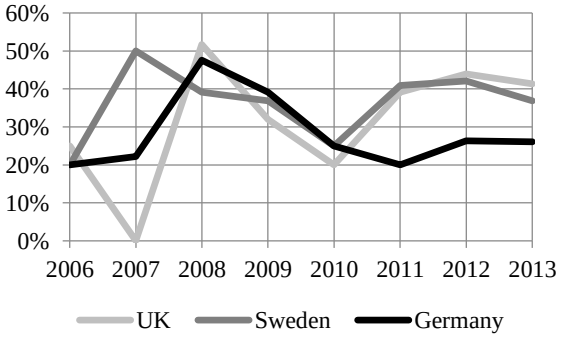
Graph 6.35: Frequency of impairments for Total samples

The recognized impairments in relation to the opening balance of goodwill show more deviations across the countries. Between the years 2006-2010, Germany and Sweden follows a similar trend, whereas U.K. fluctuates significantly. However, from year 2010 and forward U.K. and Sweden follows the same trend. Additionally, when comparing the frequencies of impairments, U.K. is more fluctuating than the other countries. The same goes for the level of the impairments conducted, which represent more than 5 % of the opening balance of goodwill given that the company has conducted an impairment. U.K. represents both the highest and lowest value in this section. For certain 2007 and 2008 have had significant effect on the U.K. sample but an effect in the same extent cannot be identified in the other countries. However, the level of the impairments that were conducted was certainly higher for both Germany and Sweden in 2008 as well.

From this part, one can conclude that the U.K. represents a more variable sample, both when it comes to the frequencies and levels of impairments. Sweden is the country with the highest level of goodwill in relation to assets over the examined period, however, when looking at the impairments, the country falls in-between the U.K. and Germany.



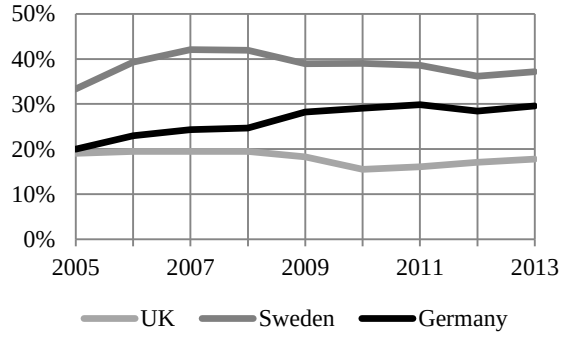
Graph 6.36: Impairment/Opening balance of goodwill (%) for the Valid samples



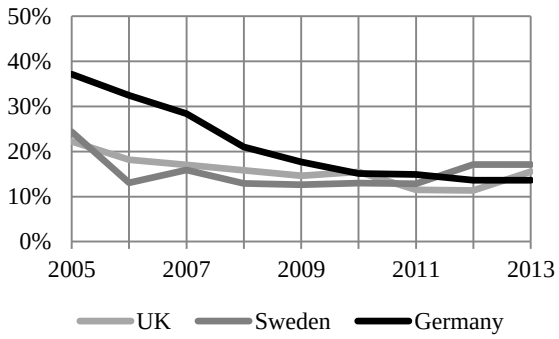
Graph 6.37: Impairments of more than 5 % of the opening balance of goodwill (%) for the Total sample. Given that an impairment has been conducted

6.4.2 CASH-GENERATING UNITS

Comparing the level of the impairment testing between the countries, Sweden shows the highest level of testing on a segment-level, the U.K. has the lowest level of testing on a segment-level all years, and Germany falls in between.



Graph 6.38: Impairment testing at segment-level for the Total samples



Graph 6.39: Non-sufficient information for impairment testing for the Total samples

Looking at companies that have not disclosed sufficient information to determine the level of impairment testing, the level of disclosure has improved since 2005 for all countries and has converged toward a fairly similar level in the later years. However, Germany shows a significantly longer adjustment period compared to the other countries. ESMA (2013) found that 75 % of the companies for the reporting year of 2011 had an apparent link between the CGUs used for impairment testing and the operating segment, a somewhat small level compared to the one identified in this study for 2011, 87 %. This may be explained by the differences in samples.

When comparing the level of reporting with the level of impairment (see Appendix C), one can observe that companies conducting the impairment testing on a segment-level seem to have a higher tendency to not conduct impairments in relation to the companies doing the impairment testing on a CGU-level. This tendency can be seen in all countries in the study, but is particularly clear in Germany, which shows a higher difference between companies that test on a segment and CGU-level. Furthermore, in all countries where the companies conduct an impairment testing on a CGU-level, there seems to be a higher tendency to conduct impairments that are larger than 5 % of the opening balance of goodwill, compared to 5 % or lower. In Sweden and the U.K., companies testing for impairments on a segment level and that conduct impairments, tend to do an impairment that represents 5 % or lower of the opening balance of goodwill more often than an impairment of more than 5 % of goodwill, over the whole period. This can only be seen in Germany in the two last years of the period, 2012-2013.

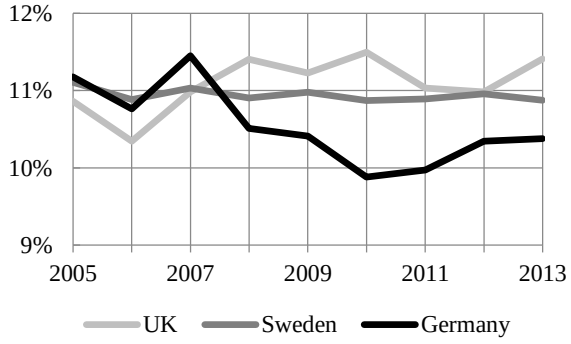
One possible explanation for the clear differences of levels of impairment testing might be the companies' relative sizes in each country, a factor that will be further discussed in section 7.1.1. The disclosure levels have improved during the year, which can be associated with the learning outcome presented by

Gullkvist (2014). It is however interesting to see that Germany has showed a significantly worse disclosure regarding the level of testing in the beginning of the period, which can be argued to be in line with the research of Gray (1988) who argues that a conservative country would be less transparent.

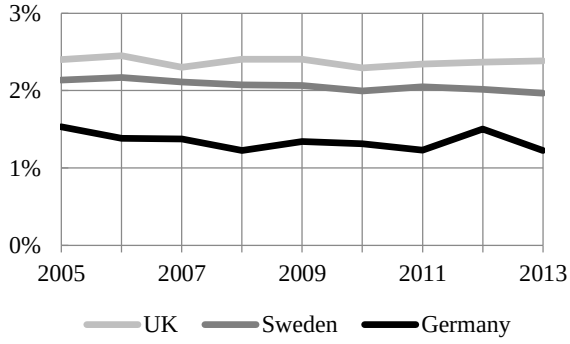
The findings from above are interesting given the earlier research on the subject. Ramanna (2008) argued that the larger and more numerous reporting units, the greater is the flexibility of goodwill allocation, which increases the discretion in determining impairments. It cannot be stated with certainty, but however, it is a very interesting observation that companies testing for impairments on a segment-level tend to do less impairments than those testing on a CGU-level.

6.4.3 DISCOUNT RATES AND TERMINAL GROWTH RATES

When comparing the average discount rates used by companies in the three countries some differences can be observed. The U.K. and Germany show the same development from 2005 to 2007, before becoming more dispersed. After 2007, the German discount rates drop, while the U.K. rates rises, increasing the gap between the two countries' rates from on average of 0,4 percentage points up until 2007, with Germany presenting the highest rates, to 1 percentage points from 2008, now with the U.K. presenting the higher rates. As discussed in part 4.1, it was expected that a country showing lower levels of conservatism, like the U.K., would use a higher discount rate since they are more risk-taking. Overall, the results are in line with this expectation, with the U.K. showing a higher discount rate every year after 2007. Compared to the average discount rates used by the U.K. and Germany, the Swedish interest rate is stable over the whole period. An interesting observation is that the discount rates in Germany drops when moving into the financial crisis in 2008. This is the opposite reaction one could expect if the risk of future cash flows was perceived to increase due to the more uncertain market environment.



Graph 6.40: Discount rates for the Total samples



Graph 6.41: Terminal growth rates for the Total samples

Even if there are no significant changes between the years when it comes to the average terminal growth rate for each country, there are noteworthy differences between the countries. As can be seen in graph 6.41 the countries keep their relative position toward each other during the entire period, with Germany showing the lowest growth rates, U.K. the highest, and Sweden positioned in between the two. The difference varies between the years but on average U.K. has used rates that are 77,1 % higher than the

rates used by German companies and 15,0 % higher than the Swedish companies. The growth rate in Swedish companies is on average 54,0 % higher than the rates used by German companies. These findings are in line with what one would expect given the different levels of conservatism and optimism in the three countries. Germany, that is the country ranked highest when it comes to conservatism, does on average, use a lower, more cautious growth rate. A lower terminal growth rate could arguably be perceived as more certain if it entails lower expectations on the company's future market environment. U.K. on the other hand, is ranked as the most optimistic of the countries and correspondingly use a higher growth rate that might entail more expectations about the future that need to be fulfilled for the rate to become a reality. As within Gray's framework (1988) Sweden falls in between the two but is closer to U.K. than Germany.

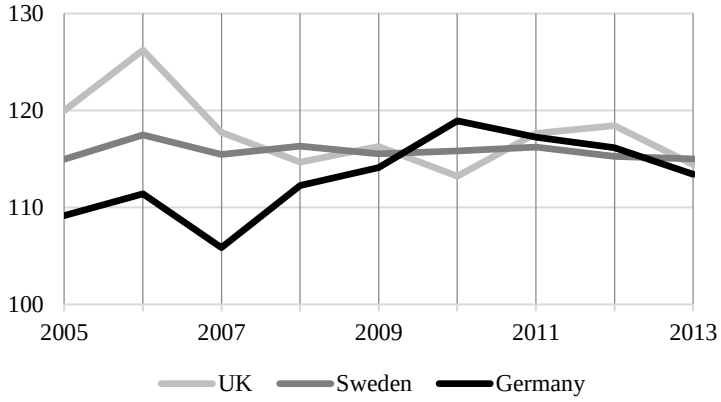
In the study conducted by ESMA on the financial reports from 2011, they found that over 15 % of companies used a terminal growth rate above 3 %. ESMA commented that this "*appears ambitious and optimistic and may lead to an overstated long-term growth rate*" (ESMA, 2013). This study found that in 2011 the actual number in the U.K. was even higher at 17,7 %. However, in Germany and Sweden, on the other hand, this number is much lower at only 3,5 % and 2,4 % respectively. Worth noticing is that if one instead look at companies using a growth rate higher, or equal to 3% the numbers change. For 2011 this amount was 25,8 %, 23,5 %, and 8,2 % for the U.K., Sweden, and Germany respectively. The large difference in especially Sweden stems from that a large amount of companies use a rate that is exactly 3 %. These findings indicate that overly optimistic terminal growth rates might be a more significant problem in certain countries than other.

6.4.3.1 NUMERICAL EXAMPLE

Relating back to the numerical example used in section 2.1 one could see what effects that the difference in average discount rate and terminal growth rate have on the calculated value of goodwill in the example. However, it is important to remember that this example is heavily simplified and only changes the discount rate and terminal growth rate used. All other inputs are kept constant over the three countries, which likely does not reflect real conditions. The example is therefore not intended to show a picture of reality or the real difference in valuation between the countries. It merely has the purpose to illuminate the value difference that the variance in rates could have. It is deemed to have an informative value as it helps to illustrate the extent that the discount rate and growth rates affect the estimated value.

As can be seen from graph 6.42 there have been some changes in the value over the period. In the earlier years the rates used by U.K. companies generate a 10 % higher value than the rates used by German companies. In 2007 the U.K. companies increase the average discount rate used, and after 2007 the German companies' average rate decreases, causing the value from the calculation to converge. After 2008 the higher discount rate used by the U.K. companies neutralizes the higher terminal growth rate making the two valuations more in line with each other. In 2013 the difference in value between U.K.

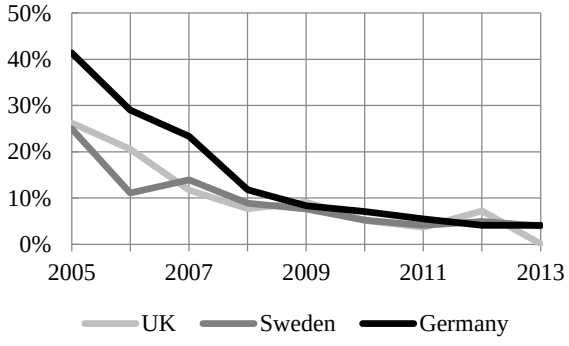
and Germany is only 0,9 %. In contrast to the U.K. and Germany, Sweden has remained rather constant over the whole reporting period, due to the constant averages of the discount rate and the terminal growth rate over the period. These results give an indication that any potential differences in the valuation of goodwill between countries are less likely to steam from differences in the choice of discount rate and terminal growth rate today than it was in the earlier years directly after the transition to IFRS.



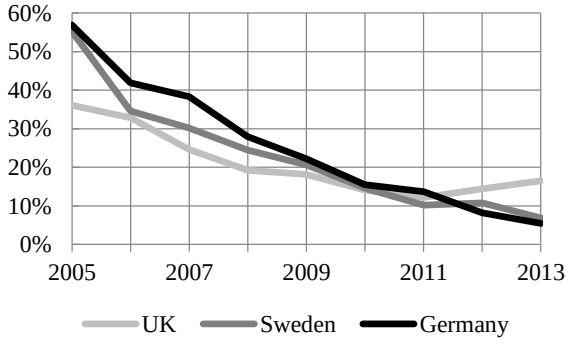
Graph 6.42: Value differences given the average discount rates and terminal growth rates used for the countries

6.4.3.2 DISCLOSURE OF DISCOUNT RATES AND TERMINAL GROWTH RATES

When looking at the amount of companies that fail to provide any information regarding the discount rate and terminal growth rate a similar trend is observed in all three countries. In all countries there was a large amount of companies lacking information in the earlier years of the standard, which improved over time. The gap between the countries with regards to the amount of companies that provide information about discount rates has decreased over the period from 16,4 percentage points in 2005 to 4,3 percentage points in 2013. The same is true for the terminal growth rate where the gap has decreased from 20,8 percentage points in 2005 to 11,0 percentage points in 2013. Germany stands for the largest improvement both regarding discount rates and terminal growth rates, while the U.K. shows the least improvement.



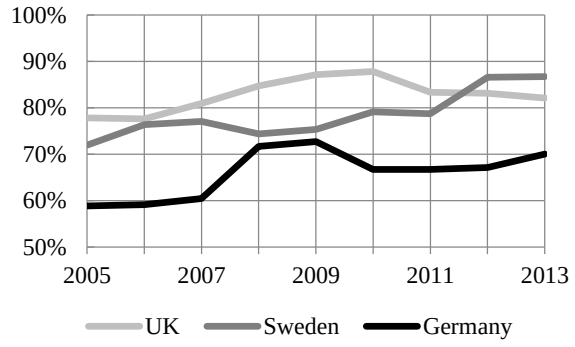
Graph 6.43: No information about discount rates for the Total samples



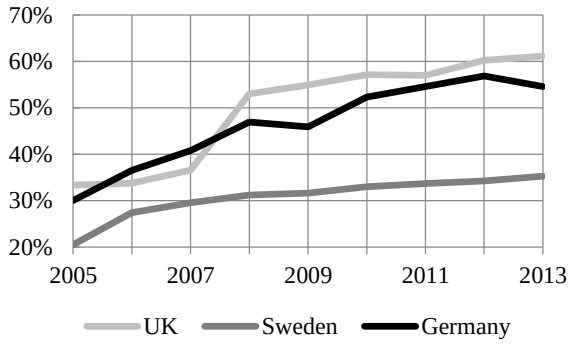
Graph 6.44: No information about terminal growth rates for the Total samples

There has been an improvement in all countries regarding how many companies that comply with the requirements in IAS 36 and disclose the discount rate before tax. The gap between Germany and the U.K. has decreased, likely due to the deterioration of the disclosure level of discount rates before tax during the last three years in the U.K.. However, the gap between Germany and Sweden has increased during the period since Sweden has had a higher improvement then Germany. Worth noting is that the manner in which the companies from different countries have chosen to comply with this disclosure requirement differs. It is more common for Swedish companies to disclose the rate both before and after tax than it is for German or U.K. companies. In 2013, 22,4 % of the Swedish companies disclosed both the rates compared to 10,3 % of U.K., and 12,9 % of German companies.

It has become increasingly more common in all three countries for companies to disclose more than one discount rate, i.e. to disclose either an interval, or separate discount rates specified per CGU. The gap between the countries have increased during the period due to that Sweden has not increased in the same pace as Germany and the U.K. that both have increased with 25-28 percentage points during the period. It is probably reasonable that the amount of companies in Sweden that disclose several discount rates are lower since Sweden has a higher amount of companies with only one CGU and therefor only have one discount rate. Also in this area one can see changes in the manner that the discount rates are disclosed. To disclose the discount rate as an interval, and specifically large intervals, is significantly more common in the U.K. and fairly uncommon in Sweden. Overall the amount of companies that discloses intervals have decreased in all countries and of the companies that disclose multiple discount rates the majority does so by disclosing the discount rate per CGU. In 2013, 56,4 %, 81,1 %, and 70,8 % of the companies that disclose several discount rates, in the U.K., Sweden, and Germany respectively, did so by disclosing the discount rate per CGU. The shift from intervals to disclosed rates per CGU is arguably a more appropriate way of disclosure since it provides the external reader with more detailed information less open for interpretation errors.



Graph 6.45: Correct tax disclosure for the Total samples



Graph 6.46: Disclose more than one discount rate for the Total samples

According to Grays' framework a higher level of disclosure could be expected for the U.K. and Sweden compared to Germany, since these countries are ranked higher in the transparency factor. In the early

years after the transition to IFRS a higher amount of German companies failed to provide information regarding discount rates before tax, which seem in line with what Gray's framework predicts. Since 2005, however, Germany has improved the level of disclosure significantly and has the last year the lowest amount of companies providing no information of all the countries in the study, but does still rank the last in disclosing the discount rate before tax.

The results imply that there is a learning effect when it comes to the disclosure of goodwill impairments and that how fast, and to what extent this effect comes differs between the studied countries. These results appear to be in line with the findings in Gullkvist's (2014) working paper. All countries have improved their disclosure but in general Germany and Sweden show larger over all improvements than the U.K.. This might be due to that the U.K. had the best disclosure in the early years making the need for improvements less prominent.

Comparing the results from this study with the results from the ESMA report (2013) on the matter of disclosure, some differences can be seen. All the countries in this study show better compliance, with regards to disclosing the discount rate before tax than the sample in the ESMA report. For example in the ESMA report the amount of companies disclosing the discount rate before tax is found to be 48 % while the results from this study show that the proportion is 74 %, 64 %, and 54 % for the U.K., Sweden, and Germany respectively. There are also differences in regard to if the companies disclose a CGU-specific discount rate or not. The ESMA study found that 67 % of the sample disclosed a CGU-specific discount rate, while that amount in this study only was found to be 30 %, 25 %, and 33 % for the U.K., Sweden, and Germany respectively. This study also found a higher amount of companies disclosing the discount rate as an interval. The ESMA report found that the majority of companies disclosed CGU-specific terminal growth rates, which is not the result from this study where only 41,7 %, 15,0 %, and 30,2 % of the companies in the U.K., Sweden, and Germany disclose CGU-specific growth rates. The differences in results from the sample used in ESMA and in this study likely stems from two main factors. Firstly, the sample used in the ESMA report only included companies with a significant carrying value of goodwill, while this study included any company with a goodwill item no matter the size, or relative weight, of that item compared to the total balance sheet. One might expect that companies with a relatively higher carrying value of goodwill would have a more detailed disclosure regarding the elemental components of the impairment test. Secondly, the sample in the ESMA report comes from a much larger geographical area, including companies from 23 countries compared to the three in this study, further indicating that there are differences between how countries disclose goodwill information.

7. DISCUSSION

This chapter discusses the results obtained from the study. Firstly, the results are discussed and other possible explanations are brought to attention. Secondly, the limitations of the study are presented in terms of validity and reliability.

7.1 DISCUSSION OF RESULTS

The purpose of this study has been to create an overview of the goodwill impairment area and more specifically, the accounting practices of elemental components used in the impairment testing between countries, and how these have changed over time. The results are generally in line with the expectations stated in section 4.1.

7.1.1 POTENTIAL EXPLANATORY FACTORS

This study focuses on the national effects on accounting practices with regards to goodwill impairment testing, and more specifically the level of conservatism is used as a main differentiator between the countries when trying to describe the differences found. A country's accounting is a complex area that previous research (Nobes, 2006) show is affected by a multitude of factors and to merely focus on one when investigating the differences between the studied countries is a limited perspective. However, this report does not aim to test for conservatism statistically, but rather use it as a base for reasoning. Nevertheless, other factors for the country differences presented in the results should not be underestimated or disregarded. Some potential factors not brought to focus in the report, but in some cases touched upon, are: macro-economic factors, company size, industry, the allocation of goodwill and the prediction of cash flows, the countries previous accounting regulation, as well as management discretion.

Macro-economic factors, such as expected GDP-growth and inflation, may have potential implications on the results. Even if the majority of the countries studied operate internationally, many still have the largest part of the operation, and financing, in the country they are listed in and should therefore be most strongly affected by the macro-economic development of that country. One elemental component that is likely to be heavily affected by the expected growth of the countries' overall economic development is the terminal growth rate. On average, the companies in all of the studied countries present terminal growth rates higher than the expected long-term inflations for their respective country (Trading Economics, 2014), hence assuming a real growth of the company (see Appendix H). The distribution of the terminal growth rates is also in line with the distribution of the inflation rates, but the differences are not as evident between the countries, hence, this does not seem to be the only factor explaining the deviation. The different development in discount rates over the period, particularly between the U.K. and Germany, could have been explained by that the countries were affected differently by the economic developments over the studied period. However, looking at the development of the real GDP in the

countries, it has developed fairly similar over the period and does therefore not seem to explain this difference.

Company size is a factor that is significantly different between the countries as could be seen in section 6.4.1. This difference could likely be affecting some of the results found in the study. Some elemental components can reasonably be argued to be less affected by the size of the company. For example, the terminal growth rate is not likely to deviate significantly since the long-term growth can be assumed to be fairly similar for companies no matter the size. However in regards to the level within the company where the impairment testing is conducted, company size is likely to have a larger effect. A larger company does arguably have a higher need to divide its operations into smaller parts in order to keep track of its operations and more often have a larger absolute amount of goodwill. This ought to make it more likely that the company internally chose to allocate its' goodwill to several CGUs since these would still be material. Since the company has to present the goodwill in the financial report at the same level as it is tracked internally, it would be reasonable to assume that large companies have a higher frequency of impairments on the CGU-level than smaller companies. As could be seen in section 6.4.2 it is more common for Swedish companies, than it is for U.K. companies, to state that the impairment testing is performed on a segment-level, which then might be associated with the Swedish companies' relatively small size.

Another area where the size differences between the countries likely have had an effect is on the disclosure of the discount rate and terminal growth rate. Sweden shows a significantly lower amount of companies that disclose the discount rate and growth rate either for each CGU or as an interval, see part 6.4.3.2. Since the goodwill item in the U.K. and German companies are larger, and that these companies on average has a higher amount of different CGUs makes it reasonable to argue that their goodwill item is less homogeneous. This might have caused a higher need for these companies to disclose several rates since it would be harder to argue that one rate is representative for the total goodwill. The size difference between Germany and the U.K. is smaller but still significant and it could be argued that Germany's lower disclosure-level of CGU-specific rates is caused by this difference. However, Germany also shows lower compliance regarding if the discount rate is disclosed before tax, a disclosure that has no direct connection to the size of the company. This makes it unlikely that the differences in disclosure levels of CGU-specific rates would only be caused by the different company size between the countries.

One important factor when determining the discount rate is the condition and outlook for the *industry* where the company is active (Larrabee and Voss, 2013). Since the industry distribution is different in the three countries (see Appendix G), a brief comparison of the four largest industries has been conducted; Manufacturing, Wholesale and retail, Information and Communication, and Financial and insurance. The purpose of this comparison is to explore whether the difference in average discount rate and terminal growth rate, could be caused by the difference in industry distribution. Below follows the

most important observations, for more detailed information about the rates per industry each year in the period see Appendix G.

In all countries the Information and communication industry has the highest goodwill-to-asset ratio while the Financial and insurance industry has the lowest. The Information and communication industry has an average goodwill-to asset ratio over the period of 38,2 %, 23,5 %, and 29,6 % in U.K., Sweden and Germany respectively, while the financial and insurance industry has a ratio of 1,8 %, 7,0 %, and 0,8 %.

The Financial and insurance industry has the highest average terminal growth rates across all countries at 2,9 %, 3,2 %, and 2,8 % for the U.K., Sweden, and Germany respectively, while the Manufacturing industry has the lowest average growth rates at 2,1 %, 1,9 %, and 1,2 %. Additionally, the terminal growth rate has a fairly similar development over the period within each industry. When it comes to the discount rates, the results are not as evident and there is not as much industry consistency between the countries. Germany and the U.K. show similarities in the average discount rates used with the highest average discount rate for the Financial and insurance industry and the lowest average discount rate for the Wholesale and retail industry. Contrarily, Sweden shows the highest average discount rates for the Wholesale and retail industry and the lowest average discount rate for the Financial and insurance industry. Sweden also shows the opposite development over the period for the two largest industries the Manufacturing and the Wholesale and retail industry.

To conclude, the industry where a company operates seems to have more of a relative effect than an absolute effect. Meaning that the industry appears to affect the level of goodwill, the discount rate, and terminal growth rates used in the impairment test relative to other industries within the same country. However, one can still observe differences in the absolute values between countries that the industry factor does not seem to explain.

The allocation of goodwill in the purchase price analysis (PPA) may also cause potential differences in regards to goodwill impairment. When conducting the PPA, companies allocate the consideration paid between different types of assets and liabilities, recognizing acquired intangible assets that have not been recognized earlier in the acquirer. The difference from the consideration and fair value of the net assets is allocated as goodwill. Given that a company allocates more of the consideration to separate intangible assets, goodwill becomes smaller. This study has not investigated the allocation of goodwill, however if a company allocate less as goodwill the potential impairments can be argued to be smaller since the recoverable amount of possible benefits from synergies would potentially exceed the carrying value more easily. One other factor not considered in this study is the actual *cash flows* being discounted in the valuation. The cash flows can be predicted using more, or less optimistic assumptions. A more optimistic cash flow should generally be discounted using a higher discount rate since the uncertainties

is higher. If there would be differences between the countries in the level of optimism in the cash flows that might affect the discount rate.

Before the transition to IFRS in 2005 there existed different national practices for how goodwill should be managed. The *countries' previous accounting regulation* might have effects on how companies took on the new IFRS. The U.K. applied a fairly similar accounting treatment with one part consisting of impairment testing, which may have facilitated the transition. In contrast, Germany only allowed the amortization approach, which therefore might have made the transition harder. Sweden also applied the amortization approach, but had already adopted several other IFRS-regulations in their local GAAP, which also may have facilitated parts of the transition.

Lastly, one should not forget one of the areas brought to attention in the theoretical chapter. A lot of previous research has discussed the level of *management discretion* inherent in goodwill impairments and this can possibly affect the results found in this report. If one country is more prone to manipulation the results than the other countries, managers in that country might affect the valuation of goodwill.

All of the items presented above may have potential impacts on the result. Although the study can only speculate, the identified differences seem to exist regardless of these items and conservatism might be a potential explanation for these differences in the accounting practices.

7.1.2 CALCULATED RATES

When conducting the calculations for the analysis some discount rates and terminal growth rates had to be adjusted. Discount rates disclosed after tax were recalculated to a pre-tax rate and the mean was calculates for rates disclosed as intervals. In order to determine the average discount rates used before tax, the study has made use of some simplifying methods that might have affected the outcome of the study. In order to examine what effects these calculated rates had on the total mean of the country, the different mean rates have been calculated separately and compared (see Appendix F). Looking at the calculated averages for the different type of means one can see that the discount rates calculated from a post-tax rate on average is higher than those that originally are disclosed pre-tax. The mean of all companies disclosing the discount rate as an interval is higher than that of the pre-tax discount rates. If this is limited to the interval with a range not exceeding one standard deviation, as used in the study, the mean is lower than the discount rate of the pre-tax discount rates. Thus, the calculated rates have an effect on the rates presented in the result. However, the effect of the calculated rates is similar in all three countries, and is therefore not likely to be the sole reason for the observed difference between the countries.

Given the discussion made above, it is determined that the results could likely be affected by a number of factors. However, given the large sample and the cautious reasoning and conclusions drawn, the

results can be argued as reasonable. Due to the study method chosen, this study cannot state to what degree this is caused by the difference in accounting practice and conservatism between the countries, but it can be speculated that these factors indeed do have an effect on the level and disclosure of the elemental components studied.

7.2 LIMITATIONS

To address the limitations of the study, two aspects will be taken into consideration: validity and reliability. Validity defines whether the study measures what it set out to measure and its generalizability; reliability has to do with issues of consistency with measures (Bryman, 2012). LeComte and Goetz (1982) separate the two terms into internal and external factors. External validity regards if the findings can be generalized and internal validity concerns the match between the researchers' observations and the theoretical ideas developed. External reliability considers the degree to whether the study can be replicated and internal reliability is addressed when there is more than one observer and whether the members of the research team agree with what they see and hear.

In terms of external validity, the results of the study are restricted by the limitations of the sample countries. The countries have not been chosen randomly and do only represent a small proportion of the countries applying IFRS. However, U.K. and Germany have in previous research been argued to be two strong countries in regards to accounting systems (Joos and Lang, 1994, Nobes, 1998) and may therefore support a generalizable result of accounting differences. Additionally, the companies within the countries are not chosen randomly, which limits the generalizability. Looking at the internal validity, the study investigates the area of concern but can only speculate about the underlying reason for the results, the differences are very interesting and conservatism might be a potential explanation for this difference.

The external reliability of the report can be considered in several aspects. Firstly, it is important to note the amount of companies included in the study. Plenty of companies have been included but a large amount of companies have been found as non-applicable. It has therefore been of great importance to disclose information regarding the sample selection process in order to define the specified sample used. Specifying the exact companies by name used in each section would enhance the reliability, but the information would be too extensive regarding the sample size. Secondly, the data used is based on externally audit financial statements that are publically available, which can be considered as data of high reliability and the possibility to replicate the study is high. However, some cases become an area of interpretation and the researchers may have interpreted data differently compared to other users of the financial reports. Also, although that the investigated countries apply IFRS when establishing the reports, the presentation of the information is found to vary, hence different experiences with the types of reports may affect the conclusions drawn. Thirdly, since a lot of data is collected by hand, some information might have been missed, interpreted incorrectly, or wrongly documented. In order to limit the

implication of these errors, outliers and deviating trends have been controlled for in the data sources an additional time. These limitations are also connected to the internal reliability of the study. In order for the researchers to be consistent when collecting data, the first investigated country, Sweden, had data collected at two times in turns to control for the methods used by the researchers before continuing with new data. Furthermore, when uncertain observations have been identified these have always been discussed between the researchers in order to increase the consistency.

In conclusion, the validity and generalizability of the research can be seen as somewhat limited, especially due to the specific countries and companies studied. The reliability of the report can be considered as high due to the systematic approach when collecting data.

8. CONCLUSION

The purpose of this study was to investigate cross-country differences in goodwill impairment testing, and how these have changed over time - with an emphasis on the use of CGU, discount rates, and terminal growth rates under IFRS between the U.K., Sweden, and Germany. The study shows that cross-country differences between these countries exist when applying IFRS 3 and IAS 36 in regards to goodwill impairment testing. Whether these differences are in line with the study's expectations on conservatism may be an area of interpretation. Firstly, the expectation about impairment testing on CGUs was not specified, since the expectations were contradicting. It was found that the U.K. tested for impairments on a CGU-level most frequently and Sweden tested for impairments on a segment-level. However, these findings have mainly been argued as a consequence of company sizes. Nevertheless, an interesting observation was that disregarding the country, the study indicates that company conducting its impairment testing on a segment-level tends to do less impairments than a company testing on a CGU-level. Secondly, the results of the study are in line with the expectation that the discount rate used should be higher in a non-conservative country for the majority of the years studied. In the first years after the transition to IFRS, Germany presented the highest discount rates and the U.K. presented the lowest, but it was found that Germany and the U.K. switched positions after 2008 and U.K. has since then showed the highest and Germany showed the lowest as expected. Sweden has remained on a constant level generally placed between the other two countries. Thirdly, the terminal growth rate was expected to be lower in a conservative country, an expectation consistent with the result of the study. The three countries have showed constant positions for the terminal growth rate over the period, where Germany shows the lowest, U.K. the highest, and Sweden is positioned in between the two. Lastly, the study expected financial reports from companies in conservative countries to have a lower level of disclosure and a lower level of compliance. In line with the expectations, the study shows that U.K. and Sweden have been better at disclosing information compared to Germany in the initial years. However, the gap regarding disclosure has become fairly small in the final years, which might be explained by a learning-curve effect. Nevertheless, the study also found a significant difference in the manner of which each country chooses to disclose the same information.

The results from this study might have implications for several different types of stakeholders. Firstly, it is important to understand the different country adaptions when implementing new standards, which might have implications for the users of the financial reports. Conducting valuations on financial numbers that have been presented in different terms may have implications on the valuations. Secondly, the knowledge of different adoptions and disclosures are of importance for standard setters when issuing and revising standards. Both how countries interpret new standards and the time-aspect when implementing them should be of interest when implementing new standards and how soon after the implementation the change can be evaluated. Third and lastly, it is of high importance for auditors to under-

stand the practitioners' usage of elemental components when conducting their audit, for example, companies within countries with a tendency of being more optimistic when conducting their impairment testing of goodwill may be of higher risks.

Since this study is of a descriptive nature it does not test the explanatory power of conservatism statistically and can therefore not confirm that the differences between the countries are caused by conservatism. It would be interesting to have the results tested in a further study where conservatism, together with the other possible explanatory factors brought forward in the discussion, might be tested to explore what may have the strongest effect on the elemental components and their disclosure. The IFRS have during recent years put an increased emphasis on fair values. Since this study found differences in what methods, and assumptions, countries used in the fair value valuation of goodwill it would be of interest to investigate whether similar differences could be found on other fair value items in the balance sheets. Lastly, it would also be of interest to investigate if some of the elemental components might be exposed to management discretion and to what extent.

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10. APPENDIX

A. SAMPLE SELECTION

APPLICABLE SELECTION

Companies / %	**United Kingdom**		**Sweden**		**Germany**		**Total**	
Starting selection	100	100%	149	100%	100	100%	349	100%
- Do not apply IFRS	-2	-2%	-2	-1,3%	-3	-3%	-7	-2%
- No recognized goodwill	-7	-7%	-34	-22,8%	-7	-7%	-48	-13,8%
- Other	0	0%	-4	-2,7%	0	0%	-4	-1,1%
Applicable selection	91	91%	109	73,2%	90	90%	290	83,1%

Information about the criteria for the applicable selection:

Do not apply IFRS: Companies that do not apply IFRS during the whole reporting period. All of the companies included in this section have applied US GAAP throughout the whole investigated period.

No recognized goodwill: No goodwill has been disclosed throughout the whole investigated period[16].

Other: This section includes other non-applicable companies, representing companies that are newly listed and have not presented any official annual reports and companies that are listed on more than one of the investigated countries' stock exchange, in that case the domicile of the company has been the deciding factor[17].

[16] This section also includes companies that present negative goodwill, which was the case for one company in the U.K. in 2005.

[17] Astra Zeneca is listed on both the U.K. and Swedish stock exchanges but has its domicile in the U.K., therefore Astra Zeneca is included in the U.K. sample.

TOTAL SAMPLE									
Companies	**2013**	**2012**	**2011**	**2010**	**2009**	**2008**	**2007**	**2006**	**2005**
United Kingdom									
Applicable selection	91	91	91	91	91	91	91	91	91
- Do not apply IFRS	0	0	0	0	0	0	0	0	-4
- No recognized goodwill	-1	-3	-4	-5	-6	-6	-5	-5	-9
- No available annual report	0	0	0	-2	-3	-3	-4	-4	-11
Total sample	**90**	**88**	**87**	**84**	**82**	**82**	**82**	**82**	**67**
Sweden									
Applicable selection	109	109	109	109	109	109	109	109	109
- Do not apply IFRS	0	0	-1	-1	-2	-2	-2	-4	-4
- No recognized goodwill	-4	-4	-6	-7	-7	-8	-12	-14	-18
- No available annual report	0	0	-1	-1	-4	-5	-7	-7	-9
Total sample	**105**	**105**	**101**	**100**	**96**	**94**	**88**	**84**	**78**
Germany									
Applicable selection	90	90	90	90	90	90	90	90	90
- Do not apply IFRS	0	0	0	0	0	0	-1	-1	-3
- No recognized goodwill	-2	-2	-2	-2	-3	-3	-4	-5	-4
- No available annual report	0	0	-1	-2	-2	-4	-7	-9	-13
Total sample	**88**	**88**	**87**	**86**	**85**	**83**	**78**	**75**	**70**

Information about the criteria for the specific years' total sample:

Dot not apply IFRS: Companies that apply US-GAAP or amortization of goodwill certain years.

No recognized goodwill: No goodwill is recognized during the reported year.

No available annual report: No report for the year can be found through public available sources or the report has not been established for the year (e.g. the company is not founded yet).

B. GOODWILL AND IMPAIRMENTS

GOODWILL

Information about the carrying value of goodwill for each country.

United Kingdom

MGBP	Total sample						Valid sample					
	Min.	*Max.*	*Median*	*Mean*	*Std. Dev.*	*Obser-vations*	*Min.*	*Max.*	*Median*	*Mean*	*Std. Dev.*	*Obser-vations*
2013	1,3	23 315,0	1 216,5	2 528,6	3 791,0	90	4,9	23 315,0	1 455,9	2 872,8	4 114,0	66
2012	1,3	30 372,0	1 346,0	2 741,1	4 437,7	88	5,0	30 372,0	1 481,6	3 106,0	4 848,5	66
2011	1,3	38 350,0	1 312,0	2 977,1	5 179,3	87	5,0	38 350,0	1 453,7	3 360,4	5 649,9	66
2010	5,0	45 236,0	1 290,0	3 055,9	5 781,8	84	5,0	45 236,0	1 393,1	3 371,6	6 277,0	66
2009	2,5	51 838,0	1 218,2	3 161,8	6 464,1	82	2,5	51 838,0	1 331,4	3 414,6	6 989,6	66
2008	2,6	53 958,0	1 114,0	3 218,4	6 711,6	82	2,6	53 958,0	1 367,1	3 526,9	7 308,1	66
2007	2,3	51 336,0	837,2	3 086,2	7 586,0	82	2,3	51 336,0	1 066,2	3 511,5	8 370,8	66
2006	5,0	40 567,0	679,0	2 322,3	5 306,7	82	5,0	40 567,0	788,5	2 577,3	5 836,7	66
2005	11,1	52 606,0	751,0	2 909,9	7 430,9	67	11,1	52 606,0	778,0	2 953,4	7 479,2	66

Sweden

MSEK	Total sample						Valid sample					
	Min	*Max.*	*Median*	*Mean*	*Std. Dev.*	*Obser-vations*	*Min*	*Max.*	*Median*	*Mean*	*Std. Dev.*	*Obser-vations*
2013	12,6	67 313,0	1 567,7	5 090,9	9 219,6	105	23,0	67 313,0	1 958,7	6 186,4	10 089,3	76
2012	12,6	69 162,0	1 257,6	4 867,9	9 187,8	105	23,0	69 162,0	1 793,0	5 905,4	10 123,5	76
2011	12,6	27 438,0	1 051,0	4 389,6	6 802,5	101	23,0	27 438,0	1 632,1	5 051,3	6 969,3	76
2010	4,7	77 207,0	979,8	4 915,8	9 842,3	100	23,0	77 207,0	1 590,0	5 710,8	10 716,6	76
2009	4,8	85 737,0	1 019,8	4 884,6	10 465,4	96	26,0	85 737,0	1 644,0	5 743,9	11 415,8	76
2008	16,0	84 431,0	1 121,8	5 039,5	10 439,0	94	26,0	84 431,0	1 654,0	5 782,4	11 259,0	76
2007	11,7	71 172,0	1 053,8	4 840,4	9 592,8	88	20,9	71 172,0	1 184,9	5 104,3	9 771,3	76
2006	3,0	62 638,0	942,7	3 876,1	8 004,2	84	3,0	62 638,0	1 093,7	4 165,1	8 356,2	76
2005	9,4	62 498,0	956,1	4 284,2	8 680,2	78	9,4	62 498,0	1 025,5	4 388,4	8 770,7	76

Germany

MEUR	Total sample						Valid sample					
	Min.	*Max.*	*Median*	*Mean*	*Std. Dev.*	*Obser-vations*	*Min.*	*Max.*	*Median*	*Mean*	*Std. Dev.*	*Obser-vations*
2013	0,4	23 730,0	609,6	2 896,5	4 910,6	88	0,4	23 730,0	639,4	3 518,1	5 372,4	69
2012	0,4	23 889,0	587,5	2 939,4	4 967,2	88	0,4	23 889,0	642,3	3 565,5	5 434,4	69
2011	0,4	17 158,0	613,0	2 547,8	4 104,9	87	0,4	17 158,0	651,4	3 043,3	4 464,5	69
2010	0,4	20 561,0	529,3	2 534,5	4 247,9	86	0,4	20 561,0	615,3	3 005,4	4 609,7	69
2009	0,4	20 334,0	459,1	2 477,4	4 216,6	85	0,4	20 334,0	599,0	2 895,1	4 565,8	69
2008	0,4	20 626,0	419,0	2 433,2	4 194,4	83	0,4	20 626,0	442,7	2 801,0	4 499,7	69
2007	0,4	20 640,0	389,9	2 402,4	4 202,6	78	0,4	20 640,0	391,5	2 635,6	4 403,6	69
2006	0,4	20 955,0	299,8	2 229,1	4 076,0	75	0,4	20 955,0	331,4	2 369,5	4 215,4	69
2005	0,4	18 375,0	272,3	2 105,3	3 994,8	70	0,4	18 375,0	277,2	2 135,8	4 015,9	69

GOODWILL-TO-ASSET RATIO

Information about the goodwill-to-asset ratio for each country.

United Kingdom

%	Total sample						Valid sample					
	Min.	*Max.*	*Median*	*Mean*	*Std. Dev.*	*Obser-vations*	*Min.*	*Max.*	*Median*	*Mean*	*Std. Dev.*	*Obser-vations*
2013	0,02	69,17	8,17	15,20	16,47	90	0,04	69,17	8,74	16,10	16,76	66
2012	0,04	73,36	8,65	15,87	16,79	88	0,04	73,36	9,00	16,43	17,02	66
2011	0,05	63,29	9,14	16,45	16,78	87	0,05	63,29	9,61	16,92	16,83	66
2010	0,03	74,63	11,19	16,92	17,11	84	0,05	74,63	9,42	16,76	17,15	66
2009	0,03	74,16	11,91	17,68	17,32	82	0,03	74,16	9,65	17,14	17,38	66
2008	0,03	71,93	11,95	17,38	17,25	82	0,03	71,93	7,57	16,85	17,41	66
2007	0,01	71,21	11,45	17,76	17,75	82	0,02	71,21	9,96	17,45	17,47	66
2006	0,01	70,65	8,88	16,90	17,62	82	0,04	70,65	7,82	16,40	17,44	66
2005	0,24	71,28	8,06	16,18	17,78	67	0,65	71,28	8,16	16,42	17,80	66

Sweden

%	Total sample						Valid sample					
	Min.	*Max.*	*Median*	*Mean*	*Std. Dev.*	*Obser-vations*	*Min.*	*Max.*	*Median*	*Mean*	*Std. Dev.*	*Obser-vations*
2013	0,04	70,64	17,21	19,49	15,88	105	0,04	70,64	18,02	20,22	16,04	76
2012	0,05	68,47	17,48	19,36	15,85	105	0,05	68,47	18,26	19,88	15,85	76
2011	0,06	63,02	15,04	19,02	15,89	101	0,06	63,02	16,26	19,09	15,58	76
2010	0,06	63,24	16,77	18,84	16,05	100	0,06	61,34	17,20	18,76	15,38	76
2009	0,02	70,31	15,87	18,88	16,47	96	0,09	70,31	16,83	18,86	15,50	76
2008	0,12	68,44	15,31	18,20	15,89	94	0,12	68,44	15,42	18,19	15,08	76
2007	0,11	72,42	13,66	17,48	15,78	88	0,11	67,73	14,11	17,54	14,93	76
2006	0,30	67,35	10,99	16,36	15,21	84	0,30	67,35	11,21	16,74	15,34	76
2005	0,05	65,90	10,23	16,09	15,82	78	0,05	65,90	10,61	16,49	15,83	76

Germany

%	Total sample						Valid sample					
	Min.	*Max.*	*Median*	*Mean*	*Std. Dev.*	*Obser-vations*	*Min.*	*Max.*	*Median*	*Mean*	*Std. Dev.*	*Obser-vations*
2013	0,11	57,78	10,55	14,70	13,85	88	0,11	57,78	10,53	15,13	14,58	69
2012	0,11	55,69	11,21	14,76	14,13	88	0,11	55,69	11,44	15,44	14,83	69
2011	0,12	57,25	11,44	14,63	13,44	87	0,12	57,25	11,44	15,06	14,01	69
2010	0,10	61,73	11,69	14,85	13,95	86	0,10	61,73	11,59	15,12	14,35	69
2009	0,09	60,39	12,13	15,30	13,83	85	0,09	60,39	11,99	15,35	14,19	69
2008	0,10	52,82	11,68	14,11	13,08	83	0,10	52,82	11,68	14,39	13,44	69
2007	0,07	51,55	11,67	13,30	12,10	78	0,07	51,55	11,70	13,53	12,54	69
2006	0,02	51,36	10,77	12,70	11,54	75	0,02	51,36	11,02	12,67	11,73	69
2005	0,02	48,76	7,89	11,65	11,82	70	0,03	48,76	8,20	11,82	11,82	69

IMPAIRMENTS

Information about the recognized impairments for each country.

United Kingdom

MGBP	Total sample						Valid sample					
	Min.	*Max.*	*Median*	*Mean*	*Std. Dev.*	*Obser-vations*	*Min.*	*Max.*	*Median*	*Mean*	*Std. Dev.*	*Obser-vations*
2013	0,0	6 600,0	0,0	174,3	848,0	90	0,0	6 600,0	0,0	156,9	827,6	66
2012	0,0	7 700,0	0,0	191,5	977,2	88	0,0	7 700,0	0,0	233,7	1 118,0	66
2011	0,0	4 770,2	0,0	123,0	653,1	87	0,0	4 770,2	0,0	155,9	746,9	66
2010	0,0	6 150,0	0,0	89,0	671,2	84	0,0	6 150,0	0,0	113,1	756,6	66
2009	0,0	2 300,0	0,0	74,8	295,8	82	0,0	2 300,0	0,0	92,6	327,7	66
2008	0,0	30 062,0	0,0	636,8	3 461,7	83	0,0	30 062,0	0,0	752,5	3 866,2	66
2007	0,0	148,0	0,0	3,1	17,0	82	0,0	148,0	0,0	3,2	18,6	66
2006	0,0	11 600,0	0,0	147,1	1 280,5	82	0,0	11 600,0	0,0	182,5	1 427,2	66
2005	0,0	23 515,0	0,0	356,2	2 850,4	68	0,0	23 515,0	0,0	364,5	2 893,6	66

Sweden

MSEK	Total sample						Valid sample					
	Min.	*Max.*	*Median*	*Mean*	*Std. Dev.*	*Obser-vations*	*Min.*	*Max.*	*Median*	*Mean*	*Std. Dev.*	*Obser-vations*
2013	0,0	1 171,0	0,0	36,3	153,8	105	0,0	1 171,0	0,0	37,7	146,4	76
2012	0,0	7 552,0	0,0	97,7	741,9	105	0,0	7 552,0	0,0	131,3	871,0	76
2011	0,0	4 910,0	0,0	104,9	574,8	101	0,0	4 910,0	0,0	135,5	660,2	76
2010	0,0	4 208,0	0,0	52,1	419,4	101	0,0	4 208,0	0,0	67,8	483,2	76
2009	0,0	3 342,0	0,0	101,0	476,0	96	0,0	3 342,0	0,0	115,7	526,1	76
2008	0,0	2 588,6	0,0	97,8	402,4	94	0,0	2 588,6	0,0	94,7	396,0	76
2007	0,0	2 261,1	0,0	71,0	296,9	89	0,0	1 315,0	0,0	45,4	186,6	76
2006	0,0	3 300,0	0,0	49,3	360,5	84	0,0	3 300,0	0,0	54,5	378,8	76
2005	0,0	278,0	0,0	8,7	35,7	78	0,0	278,0	0,0	8,9	36,1	76

Germany

MEUR	Total sample						Valid sample					
	Min.	*Max.*	*Median*	*Mean*	*Std. Dev.*	*Obser-vations*	*Min.*	*Max.*	*Median*	*Mean*	*Std. Dev.*	*Obser-vations*
2013	0,0	1 404,0	0,0	32,9	163,2	88	0,0	1 404,0	0,0	40,7	183,6	69
2012	0,0	2 965,0	0,0	70,7	358,8	88	0,0	2 965,0	0,0	86,7	403,4	69
2011	0,0	3 100,0	0,0	51,6	335,7	87	0,0	3 100,0	0,0	64,4	376,4	69
2010	0,0	1 145,0	0,0	37,9	174,9	86	0,0	1 145,0	0,0	47,0	194,5	69
2009	0,0	2 345,0	0,0	65,3	283,8	85	0,0	2 345,0	0,0	78,8	313,7	69
2008	0,0	3 178,0	0,0	88,3	382,0	83	0,0	3 178,0	0,0	105,6	417,3	69
2007	0,0	327,0	0,0	11,4	42,1	78	0,0	327,0	0,0	12,7	44,6	69
2006	0,0	709,5	0,0	19,4	105,0	75	0,0	709,5	0,0	20,6	109,4	69
2005	0,0	1 920,0	0,0	56,3	253,4	71	0,0	1 920,0	0,0	57,6	257,0	69

IMPAIRMENTS-TO-OPENING BALANCE OF GOODWILL RATIO

Information about the recognized impairments in relation to the opening balance of goodwill for each country.

United Kingdom

%	Total sample						Valid sample					
	Min.	*Max.*	*Median*	*Mean*	*Std. Dev.*	*Obser-vations*	*Min.*	*Max.*	*Median*	*Mean*	*Std. Dev.*	*Obser-vations*
2013	0,00	70,59	0,00	3,97	12,29	88	0,00	59,23	0,00	3,15	9,52	66
2012	0,00	94,62	0,00	5,08	16,99	87	0,00	80,00	0,00	3,86	12,66	66
2011	0,00	63,78	0,00	2,83	9,86	84	0,00	48,62	0,00	2,59	8,06	66
2010	0,00	13,54	0,00	0,72	2,39	82	0,00	13,54	0,00	0,89	2,64	66
2009	0,00	49,30	0,00	2,08	6,95	82	0,00	49,30	0,00	2,52	7,68	66
2008	0,00	100,00	0,00	8,67	21,56	82	0,00	89,32	0,00	6,96	18,20	66
2007	0,00	3,00	0,00	0,14	0,49	82	0,00	2,07	0,00	0,08	0,29	66
2006	0,00	22,05	0,00	1,02	3,41	67	0,00	22,05	0,00	1,04	3,43	66

Sweden

%	Total sample						Valid sample					
	Min.	*Max.*	*Median*	*Mean*	*Std. Dev.*	*Obser-vations*	*Min.*	*Max.*	*Median*	*Mean*	*Std. Dev.*	*Obser-vations*
2013	0,00	100,00	0,00	2,16	10,72	105	0,00	100,00	0,00	2,65	12,34	76
2012	0,00	98,72	0,00	4,00	16,94	101	0,00	98,72	0,00	3,61	16,20	76
2011	0,00	97,03	0,00	2,73	11,73	100	0,00	97,03	0,00	2,83	12,83	76
2010	0,00	93,99	0,00	2,25	11,02	95	0,00	39,89	0,00	1,47	6,17	76
2009	0,00	91,11	0,00	2,19	10,46	94	0,00	37,99	0,00	1,34	5,24	76
2008	0,00	57,46	0,00	2,35	8,82	88	0,00	54,59	0,00	1,87	6,98	76
2007	0,00	100,00	0,00	3,42	15,54	84	0,00	88,49	0,00	1,66	10,27	76
2006	0,00	12,36	0,00	0,84	2,65	77	0,00	12,36	0,00	0,85	2,66	76

Germany

%	Total sample						Valid sample					
	Min.	*Max.*	*Median*	*Mean*	*Std. Dev.*	*Obser-vations*	*Min.*	*Max.*	*Median*	*Mean*	*Std. Dev.*	*Obser-vations*
2013	0,00	59,65	0,00	1,67	7,13	88	0,00	25,32	0,00	1,26	3,85	69
2012	0,00	17,28	0,00	1,09	3,56	86	0,00	17,28	0,00	1,36	3,93	69
2011	0,00	39,16	0,00	1,03	4,65	85	0,00	39,16	0,00	1,13	5,10	69
2010	0,00	54,89	0,00	1,20	6,13	85	0,00	54,89	0,00	1,34	6,75	69
2009	0,00	100,00	0,00	3,19	13,41	83	0,00	68,59	0,00	2,14	8,61	69
2008	0,00	60,10	0,00	2,22	7,60	78	0,00	18,96	0,00	1,54	3,85	69
2007	0,00	45,95	0,00	1,50	6,08	75	0,00	45,95	0,00	1,62	6,33	69
2006	0,00	33,24	0,00	1,04	4,71	69	0,00	33,24	0,00	1,04	4,71	69

FREQUENCY OF IMPAIRMENTS

Information about the frequency of impairments for the Total samples.

Yes: Has conducted an impairment during the year

No: No impairment has been conducted during the year

Companies / %		**United Kingdom**		**Sweden**		**Germany**	
		Count	*Column %*	*Count*	*Column %*	*Count*	*Column %*
2013	No	61	67,8%	86	81,9%	65	73,9%
	Yes	29	32,2%	19	18,1%	23	26,1%
2012	No	63	71,6%	86	81,9%	68	77,3%
	Yes	25	28,4%	19	18,1%	20	22,7%
2011	No	64	73,6%	79	78,2%	67	77,0%
	Yes	23	26,4%	22	21,8%	20	23,0%
2010	No	64	76,2%	81	80,2%	66	76,7%
	Yes	20	23,8%	20	19,8%	20	23,3%
2009	No	57	69,5%	77	80,2%	62	72,9%
	Yes	25	30,5%	19	19,8%	23	27,1%
2008	No	53	63,9%	70	74,5%	61	73,5%
	Yes	30	36,1%	24	25,5%	22	26,5%
2007	No	69	84,1%	72	80,9%	60	76,9%
	Yes	13	15,9%	17	19,1%	18	23,1%
2006	No	64	78,0%	64	76,2%	59	78,7%
	Yes	18	22,0%	20	23,8%	16	21,3%
2005	No	49	72,1%	58	74,4%	46	64,8%
	Yes	19	27,9%	20	25,6%	25	35,2%

C. CASH-GENERATING UNITS

LEVEL OF IMPAIRMENT TESTING

Information about the level of impairment testing for the Total samples.

% / Companies	Segment level		Non-segment level		Missing information		Total	
United Kingdom								
2013	17,8%	16	66,7%	60	15,6%	14	100,0%	90
2012	17,0%	15	71,6%	63	11,4%	10	100,0%	88
2011	16,1%	14	72,4%	63	11,5%	10	100,0%	87
2010	15,5%	13	69,0%	58	15,5%	13	100,0%	84
2009	18,3%	15	67,1%	55	14,6%	12	100,0%	82
2008	19,5%	16	64,6%	53	15,9%	13	100,0%	82
2007	19,5%	16	63,4%	52	17,1%	14	100,0%	82
2006	19,5%	15	62,3%	48	18,2%	14	100,0%	77
2005	19,0%	12	58,7%	37	22,2%	14	100,0%	63
2011	16,1%	14	72,4%	63	11,5%	10	100,0%	87
Sweden								
2013	37,1%	39	45,7%	48	17,1%	18	100,0%	105
2012	36,2%	38	46,7%	49	17,1%	18	100,0%	105
2011	38,6%	39	48,5%	49	12,9%	13	100,0%	101
2010	39,0%	39	48,0%	48	13,0%	13	100,0%	100
2009	38,9%	37	48,4%	46	12,6%	12	100,0%	95
2008	41,9%	39	45,2%	42	12,9%	12	100,0%	93
2007	42,0%	37	42,0%	37	15,9%	14	100,0%	88
2006	39,3%	33	47,6%	40	13,1%	11	100,0%	84
2005	33,3%	26	42,3%	33	24,4%	19	100,0%	78
Germany								
2013	29,5%	26	56,8%	50	13,6%	12	100,0%	88
2012	28,4%	25	58,0%	51	13,6%	12	100,0%	88
2011	29,9%	26	55,2%	48	14,9%	13	100,0%	87
2010	29,1%	25	55,8%	48	15,1%	13	100,0%	86
2009	28,2%	24	54,1%	46	17,6%	15	100,0%	85
2008	24,7%	20	54,3%	44	21,0%	17	100,0%	81
2007	24,3%	18	47,3%	35	28,4%	21	100,0%	74
2006	23,0%	17	44,6%	33	32,4%	24	100,0%	74
2005	20,0%	14	42,9%	30	37,1%	26	100,0%	70

LEVEL OF IMPAIRMENT TESTING VS. LEVEL OF IMPAIRMENT

Information about the level of impairment testing vs. the level of impairment for the Total samples.

United Kingdom

% / Co-mpanies	Level of testing	No impairments		Impairments (≤5%)		Impairments (5%<)		Total	
2013	CGU-level	20,0%	12	33,3%	20	46,7%	28	100,0%	60
	Segment-level	43,8%	7	31,3%	5	25,0%	4	100,0%	16
	Missing information	41,7%	5	16,7%	2	41,7%	5	100,0%	12
2012	CGU-level	22,2%	14	33,3%	21	44,4%	28	100,0%	63
	Segment-level	40,0%	6	33,3%	5	26,7%	4	100,0%	15
	Missing information	40,0%	4	10,0%	1	50,0%	5	100,0%	10
2011	CGU-level	20,6%	13	34,9%	22	44,4%	28	100,0%	63
	Segment-level	42,9%	6	28,6%	4	28,6%	4	100,0%	14
	Missing information	33,3%	3	11,1%	1	55,6%	5	100,0%	9
2010	CGU-level	22,4%	13	39,7%	23	37,9%	22	100,0%	58
	Segment-level	46,2%	6	23,1%	3	30,8%	4	100,0%	13
	Missing information	27,3%	3	9,1%	1	63,6%	7	100,0%	11
2009	CGU-level	25,5%	14	36,4%	20	38,2%	21	100,0%	55
	Segment-level	40,0%	6	40,0%	6	20,0%	3	100,0%	15
	Missing information	16,7%	2	8,3%	1	75,0%	9	100,0%	12
2008	CGU-level	22,6%	12	35,8%	19	41,5%	22	100,0%	53
	Segment-level	50,0%	8	31,3%	5	18,8%	3	100,0%	16
	Missing information	15,4%	2	23,1%	3	61,5%	8	100,0%	13
2007	CGU-level	23,1%	12	34,6%	18	42,3%	22	100,0%	52
	Segment-level	37,5%	6	37,5%	6	25,0%	4	100,0%	16
	Missing information	28,6%	4	14,3%	2	57,1%	8	100,0%	14
2006	CGU-level	22,9%	11	37,5%	18	39,6%	19	100,0%	48
	Segment-level	33,3%	5	46,7%	7	20,0%	3	100,0%	15
	Missing information	30,8%	4	7,7%	1	61,5%	8	100,0%	13

Sweden

% / Co-mpanies	Level of testing	No impairments		Impairments (≤5%)		Impairments (5%<)		Total	
2013	CGU-level	39,6%	19	25,0%	12	35,4%	17	100,0%	48
	Segment-level	48,7%	19	30,8%	12	20,5%	8	100,0%	39
	Missing information	61,1%	11	5,6%	1	33,3%	6	100,0%	18
2012	CGU-level	40,8%	20	24,5%	12	34,7%	17	100,0%	49
	Segment-level	47,4%	18	31,6%	12	21,1%	8	100,0%	38
	Missing information	58,8%	10	5,9%	1	35,3%	6	100,0%	17
2011	CGU-level	42,9%	21	22,4%	11	34,7%	17	100,0%	49
	Segment-level	48,7%	19	30,8%	12	20,5%	8	100,0%	39
	Missing information	46,2%	6	15,4%	2	38,5%	5	100,0%	13
2010	CGU-level	41,7%	20	25,0%	12	33,3%	16	100,0%	48
	Segment-level	46,2%	18	28,2%	11	25,6%	10	100,0%	39
	Missing information	50,0%	6	16,7%	2	33,3%	4	100,0%	12
2009	CGU-level	39,1%	18	23,9%	11	37,0%	17	100,0%	46
	Segment-level	48,6%	18	27,0%	10	24,3%	9	100,0%	37
	Missing information	41,7%	5	8,3%	1	50,0%	6	100,0%	12
2008	CGU-level	42,9%	18	23,8%	10	33,3%	14	100,0%	42
	Segment-level	41,0%	16	28,2%	11	30,8%	12	100,0%	39
	Missing information	50,0%	6	8,3%	1	41,7%	5	100,0%	12

2007	CGU-level	40,5%	15	24,3%	9	35,1%	13	100,0%	37
	Segment-level	37,8%	14	27,0%	10	35,1%	13	100,0%	37
	Missing information	50,0%	6	16,7%	2	33,3%	4	100,0%	12
2006	CGU-level	40,0%	16	25,0%	10	35,0%	14	100,0%	40
	Segment-level	36,4%	12	27,3%	9	36,4%	12	100,0%	33
	Missing information	40,0%	4	10,0%	1	50,0%	5	100,0%	10

Germany

% / Co-mpanies	**Level of testing**	**No impairments**		**Impairments (≤5%)**		**Impairments (5%<)**		**Total**	
2013	CGU-level	20,0%	10	32,0%	16	48,0%	24	100,0%	50
	Segment-level	65,4%	17	19,2%	5	15,4%	4	100,0%	26
	Missing information	58,3%	7	8,3%	1	33,3%	4	100,0%	12
2012	CGU-level	21,6%	11	31,4%	16	47,1%	24	100,0%	51
	Segment-level	64,0%	16	20,0%	5	16,0%	4	100,0%	25
	Missing information	58,3%	7	8,3%	1	33,3%	4	100,0%	12
2011	CGU-level	20,8%	10	33,3%	16	45,8%	22	100,0%	48
	Segment-level	61,5%	16	19,2%	5	19,2%	5	100,0%	26
	Missing information	50,0%	6	8,3%	1	41,7%	5	100,0%	12
2010	CGU-level	20,8%	10	35,4%	17	43,8%	21	100,0%	48
	Segment-level	64,0%	16	16,0%	4	20,0%	5	100,0%	25
	Missing information	38,5%	5	7,7%	1	53,8%	7	100,0%	13
2009	CGU-level	26,1%	12	32,6%	15	41,3%	19	100,0%	46
	Segment-level	54,2%	13	20,8%	5	25,0%	6	100,0%	24
	Missing information	33,3%	5	13,3%	2	53,3%	8	100,0%	15
2008	CGU-level	29,5%	13	31,8%	14	38,6%	17	100,0%	44
	Segment-level	45,0%	9	20,0%	4	35,0%	7	100,0%	20
	Missing information	31,3%	5	18,8%	3	50,0%	8	100,0%	16
2007	CGU-level	25,7%	9	28,6%	10	45,7%	16	100,0%	35
	Segment-level	50,0%	9	16,7%	3	33,3%	6	100,0%	18
	Missing information	26,1%	6	30,4%	7	43,5%	10	100,0%	23
2006	CGU-level	24,2%	8	30,3%	10	45,5%	15	100,0%	33
	Segment-level	47,1%	8	17,6%	3	35,3%	6	100,0%	17
	Missing information	30,4%	7	26,1%	6	43,5%	10	100,0%	23

D. DISCOUNT RATES

DISCOUNT RATES

Information about the discount rates for the Total samples.

% / Com-panies	Minimum	Maximum	Mean	Std. Dev.	Observ-ationss
United Kingdom					
2013	6,00	18,00	11,41	2,37	50
2012	6,00	16,81	10,98	2,36	50
2011	6,00	17,92	11,03	2,50	51
2010	6,00	18,06	11,50	2,48	51
2009	6,00	18,36	11,23	2,34	46
2008	6,00	18,65	11,40	2,35	49
2007	6,00	18,79	10,98	2,42	50
2006	6,00	17,14	10,35	2,13	45
2005	7,52	17,14	10,86	1,99	31
Sweden					
2013	6,00	20,40	10,87	2,26	90
2012	7,00	20,40	10,96	2,30	90
2011	6,04	21,30	10,89	2,29	87
2010	3,90	19,00	10,87	2,32	83
2009	3,80	17,64	10,98	2,50	78
2008	3,80	16,67	10,90	2,44	71
2007	5,50	18,06	11,03	2,23	65
2006	4,20	16,67	10,88	2,24	62
2005	7,40	16,67	11,11	2,12	47
Germany					
2013	5,50	17,70	10,38	2,22	57
2012	4,90	18,00	10,35	2,72	55
2011	5,22	13,31	9,97	2,05	48
2010	6,22	14,05	9,88	1,87	46
2009	6,55	13,83	10,41	1,57	45
2008	6,53	13,51	10,51	1,69	38
2007	6,20	14,54	11,45	2,19	29
2006	6,00	14,60	10,76	2,23	31
2005	7,95	16,20	11,18	1,84	22

DISCOUNT RATE FREQUENCY

Companies / %	X<5		5≤X<6		6≤X<7		7≤X<8		8≤X<9		9≤X<10		10≤X<11		11≤X<12		12≤X<13		13≤X<14		14≤X<15		15≤X	
United Kingdom																								
2013	0,00%	0	0,00%	0	2,00%	1	4,00%	2	2,00%	1	18,00%	9	24,00%	12	14,00%	7	16,00%	8	6,00%	3	6,00%	3	8,00%	4
2012	0,00%	0	0,00%	0	4,00%	2	4,00%	2	12,00%	6	14,00%	7	16,00%	8	12,00%	6	14,00%	7	12,00%	6	8,00%	4	4,00%	2
2011	0,00%	0	0,00%	0	7,84%	4	1,96%	1	3,92%	2	17,65%	9	19,61%	10	13,73%	7	5,88%	3	21,57%	11	1,96%	1	5,88%	3
2010	0,00%	0	0,00%	0	3,92%	2	0,00%	0	9,80%	5	11,76%	6	17,65%	9	15,69%	8	9,80%	5	15,69%	8	7,84%	4	7,84%	4
2009	0,00%	0	0,00%	0	2,17%	1	2,17%	1	8,70%	4	6,52%	3	32,61%	15	17,39%	8	13,04%	6	4,35%	2	6,52%	3	6,52%	3
2008	0,00%	0	0,00%	0	2,04%	1	2,04%	1	4,08%	2	14,29%	7	22,45%	11	24,49%	12	8,16%	4	8,16%	4	6,12%	3	8,16%	4
2007	0,00%	0	0,00%	0	2,00%	1	2,00%	1	8,00%	4	16,00%	8	22,00%	11	28,00%	14	10,00%	5	2,00%	1	4,00%	2	6,00%	3
2006	0,00%	0	0,00%	0	6,67%	3	6,67%	3	6,67%	3	11,11%	5	26,67%	12	22,22%	10	13,33%	6	2,22%	1	2,22%	1	2,22%	1
2005	0,00%	0	0,00%	0	0,00%	0	6,45%	2	6,45%	2	16,13%	5	22,58%	7	25,81%	8	6,45%	2	9,68%	3	3,23%	1	3,23%	1
Sweden																								
2013	0,00%	0	0,00%	0	1,11%	1	4,44%	4	8,89%	8	18,89%	17	24,44%	22	15,56%	14	12,22%	11	3,33%	3	4,44%	4	6,67%	6
2012	0,00%	0	0,00%	0	0,00%	0	5,56%	5	11,11%	10	15,56%	14	20,00%	18	14,44%	13	15,56%	14	7,78%	7	4,44%	4	5,56%	5
2011	0,00%	0	0,00%	0	1,15%	1	8,05%	7	6,90%	6	12,64%	11	24,14%	21	19,54%	17	12,64%	11	8,05%	7	2,30%	2	4,60%	4
2010	1,20%	1	0,00%	0	0,00%	0	4,82%	4	12,05%	10	15,66%	13	19,28%	16	12,05%	10	18,07%	15	7,23%	6	6,02%	5	3,61%	3
2009	1,28%	1	0,00%	0	3,85%	3	5,13%	4	6,41%	5	12,82%	10	21,79%	17	14,10%	11	16,67%	13	5,13%	4	6,41%	5	6,41%	5
2008	1,41%	1	0,00%	0	2,82%	2	5,63%	4	9,86%	7	9,86%	7	21,13%	15	16,90%	12	15,49%	11	7,04%	5	2,82%	2	7,04%	5
2007	0,00%	0	1,54%	1	1,54%	1	3,08%	2	6,15%	4	12,31%	8	24,62%	16	18,46%	12	18,46%	12	3,08%	2	4,62%	3	6,15%	4
2006	1,61%	1	0,00%	0	0,00%	0	6,45%	4	8,06%	5	11,29%	7	22,58%	14	17,74%	11	20,97%	13	1,61%	1	3,23%	2	6,45%	4
2005	0,00%	0	0,00%	0	0,00%	0	2,13%	1	8,51%	4	19,15%	9	21,28%	10	14,89%	7	17,02%	8	6,38%	3	2,13%	1	8,51%	4
Germany																								
2013	0,00%	0	1,75%	1	1,75%	1	12,28%	7	14,04%	8	14,04%	8	14,04%	8	21,05%	12	8,77%	5	7,02%	4	3,51%	2	1,75%	1
2012	1,82%	1	3,64%	2	5,45%	3	3,64%	2	12,73%	7	20,00%	11	16,36%	9	12,73%	7	9,09%	5	9,09%	5	0,00%	0	5,45%	3
2011	0,00%	0	4,17%	2	4,17%	2	8,33%	4	14,58%	7	14,58%	7	20,83%	10	14,58%	7	12,50%	6	6,25%	3	0,00%	0	0,00%	0
2010	0,00%	0	0,00%	0	6,52%	3	10,87%	5	13,04%	6	17,39%	8	26,09%	12	15,22%	7	2,17%	1	6,52%	3	2,17%	1	0,00%	0
2009	0,00%	0	0,00%	0	2,22%	1	2,22%	1	8,89%	4	26,67%	12	20,00%	9	22,22%	10	15,56%	7	2,22%	1	0,00%	0	0,00%	0
2008	0,00%	0	0,00%	0	2,63%	1	5,26%	2	7,89%	3	23,68%	9	21,05%	8	13,16%	5	18,42%	7	7,89%	3	0,00%	0	0,00%	0
2007	0,00%	0	0,00%	0	3,45%	1	3,45%	1	3,45%	1	17,24%	5	13,79%	4	3,45%	1	31,03%	9	13,79%	4	10,34%	3	0,00%	0
2006	0,00%	0	0,00%	0	6,45%	2	6,45%	2	6,45%	2	22,58%	7	6,45%	2	12,90%	4	22,58%	7	9,68%	3	6,45%	2	0,00%	0
2005	0,00%	0	0,00%	0	0,00%	0	4,55%	1	0,00%	0	31,82%	7	4,55%	1	31,82%	7	13,64%	3	9,09%	2	0,00%	0	4,55%	1

MULTIPLE RATES

Information about the use of multiple rates for the Total samples.

%	One discount rate	Represents >75% of total goodwill	Interval smaller than 1 std	Interval larger than 1 std
United Kingdom				
2013	38,89%	34,44%	4,44%	22,22%
2012	39,77%	32,95%	4,55%	22,73%
2011	43,02%	30,23%	3,49%	23,26%
2010	42,86%	29,76%	7,14%	20,24%
2009	45,12%	26,83%	4,88%	23,17%
2008	46,99%	30,12%	2,41%	20,48%
2007	63,41%	13,41%	8,54%	14,63%
2006	66,23%	14,29%	9,09%	10,39%
2005	66,67%	15,87%	3,17%	14,29%
Sweden				
2013	64,76%	28,57%	2,86%	3,81%
2012	65,78%	27,62%	3,77%	2,83%
2011	66,34%	24,75%	5,94%	2,97%
2010	67,00%	21,00%	8,00%	4,00%
2009	68,42%	20,00%	7,37%	4,21%
2008	68,82%	18,28%	4,30%	8,60%
2007	70,45%	18,18%	3,41%	7,95%
2006	72,62%	16,67%	4,76%	5,95%
2005	79,49%	8,97%	2,56%	8,97%
Germany				
2013	45,45%	38,64%	7,95%	7,95%
2012	43,18%	38,64%	7,95%	10,23%
2011	45,45%	32,95%	6,82%	14,77%
2010	47,67%	31,40%	6,98%	13,95%
2009	54,12%	20,00%	9,41%	16,47%
2008	53,09%	18,52%	11,11%	17,28%
2007	59,21%	13,16%	7,89%	19,74%
2006	63,51%	12,16%	10,81%	13,51%
2005	70,00%	5,71%	8,57%	15,71%

TAX DISCLOSURE

Information about the tax disclosure for the Total samples.

%	Before tax	After tax	Before & after tax	Uncertain
United Kingdom				
2013	71,79%	6,41%	10,26%	11,54%
2012	72,73%	6,49%	10,39%	10,39%
2011	74,36%	6,41%	8,97%	10,26%
2010	79,73%	4,05%	8,11%	8,11%
2009	78,57%	4,29%	8,57%	8,57%
2008	77,78%	5,56%	6,94%	9,72%
2007	77,94%	8,82%	2,94%	10,29%
2006	75,86%	10,34%	1,72%	12,07%
2005	77,78%	8,89%	0,00%	13,33%
Sweden				
2013	64,3%	9,2%	22,4%	4,1%
2012	63,9%	9,3%	22,7%	4,1%
2011	63,8%	17,0%	14,9%	4,3%
2010	63,7%	16,5%	15,4%	4,4%
2009	64,7%	21,2%	10,6%	3,5%
2008	65,9%	22,0%	8,5%	3,7%
2007	67,6%	20,3%	9,5%	2,7%
2006	63,9%	18,1%	12,5%	5,6%
2005	63,2%	17,5%	8,8%	10,5%
Germany				
2013	57,14%	20,00%	12,86%	10,00%
2012	54,29%	22,86%	12,86%	10,00%
2011	53,62%	21,74%	13,04%	11,59%
2010	53,03%	21,21%	13,64%	12,12%
2009	56,06%	16,67%	16,67%	10,61%
2008	56,67%	15,00%	15,00%	13,33%
2007	50,00%	29,17%	10,42%	10,42%
2006	50,00%	31,82%	9,09%	9,09%
2005	50,00%	32,35%	8,82%	8,82%

E. TERMINAL GROWTH RATES

TERMINAL GROWTH RATE

Information about the terminal growth rates for the Total samples.

% / Com-panies	Minimum	Maximum	Mean	Std. Dev.	Obser-vationss
United Kingdom					
2013	0,00	4,90	2,38	0,96	60
2012	0,00	4,90	2,37	1,04	59
2011	0,00	5,14	2,34	1,12	61
2010	0,00	4,50	2,29	1,08	53
2009	0,00	4,50	2,40	1,17	49
2008	0,00	5,13	2,40	1,30	51
2007	0,00	7,22	2,30	1,53	49
2006	0,00	5,10	2,45	1,45	38
2005	0,00	5,07	2,40	1,45	32
Sweden					
2013	0,00	5,00	1,97	0,81	92
2012	-1,13	5,00	2,02	0,92	90
2011	-1,38	5,00	2,05	1,00	85
2010	-2,53	5,00	1,99	1,08	79
2009	0,00	5,00	2,07	1,08	68
2008	0,00	5,00	2,07	1,05	63
2007	0,00	5,00	2,11	1,12	53
2006	0,00	5,00	2,17	1,11	50
2005	0,00	5,00	2,14	1,15	28
Germany					
2013	0,00	3,55	1,23	0,87	66
2012	0,00	18,40	1,50	2,30	65
2011	0,00	3,60	1,23	0,91	58
2010	0,00	4,00	1,31	0,94	57
2009	0,00	4,50	1,34	0,99	53
2008	0,00	4,00	1,23	0,99	45
2007	0,00	4,50	1,37	1,13	33
2006	0,00	3,83	1,38	0,97	31
2005	0,00	4,00	1,53	1,04	22

DISCLOSURE

The following table shows the number of companies in the Total samples that have presented the terminal growth rate per interval or per CGU.

%	United Kingdom		Sweden		Germany	
	Per interval	*Per CGU*	*Per interval*	*Per CGU*	*Per interval*	*Per CGU*
2013	21,13%	47,89%	4,26%	15,96%	10,14%	34,78%
2012	22,54%	43,66%	2,22%	17,78%	10,45%	37,31%
2011	23,61%	41,67%	4,60%	14,94%	14,29%	30,16%
2010	25,37%	41,79%	4,94%	13,58%	15,00%	28,33%
2009	26,98%	38,10%	8,33%	15,28%	14,29%	28,57%
2008	23,81%	36,51%	7,46%	14,93%	16,33%	24,49%
2007	20,69%	25,86%	13,79%	8,62%	29,73%	16,22%
2006	28,57%	26,53%	11,54%	7,69%	22,22%	5,56%
2005	28,21%	30,77%	15,63%	9,38%	28,00%	4,00%

TERMINAL GROWTH RATE FREQUENCY

Companies / %	X<0		X=0		0<X<0,5		0,5≤X<1		1≤X<1,5		1,5≤X<2		2≤X<2,5		2,5≤X<3		3≤X<3,5		3,5≤X<4		4≤X	
United Kingdom																						
2013	1,64%	1	4,92%	3	0,00%	0	1,64%	1	3,28%	2	8,20%	5	36,07%	22	19,67%	12	11,48%	7	8,20%	5	4,92%	3
2012	1,67%	1	6,67%	4	0,00%	0	3,33%	2	3,33%	2	8,33%	5	35,00%	21	13,33%	8	15,00%	9	5,00%	3	8,33%	5
2011	1,61%	1	8,06%	5	1,61%	1	1,61%	1	3,23%	2	4,84%	3	38,71%	24	14,52%	9	11,29%	7	4,84%	3	9,68%	6
2010	0,00%	0	9,43%	5	1,89%	1	1,89%	1	1,89%	1	9,43%	5	33,96%	18	13,21%	7	15,09%	8	7,55%	4	5,66%	3
2009	0,00%	0	12,24%	6	0,00%	0	0,00%	0	0,00%	0	8,16%	4	28,57%	14	18,37%	9	12,24%	6	12,24%	6	8,16%	4
2008	0,00%	0	13,73%	7	0,00%	0	0,00%	0	1,96%	1	7,84%	4	25,49%	13	17,65%	9	11,76%	6	7,84%	4	13,73%	7
2007	0,00%	0	20,41%	10	0,00%	0	0,00%	0	0,00%	0	4,08%	2	28,57%	14	14,29%	7	16,33%	8	4,08%	2	12,24%	6
2006	0,00%	0	18,42%	7	0,00%	0	0,00%	0	0,00%	0	0,00%	0	26,32%	10	13,16%	5	23,68%	9	5,26%	2	13,16%	5
2005	0,00%	0	18,75%	6	0,00%	0	0,00%	0	0,00%	0	3,13%	1	25,00%	8	15,63%	5	15,63%	5	9,38%	3	12,50%	4
Sweden																						
2013	0,00%	0	8,70%	8	1,09%	1	1,09%	1	1,09%	1	4,35%	4	63,04%	58	8,70%	8	10,87%	10	0,00%	0	1,09%	1
2012	1,11%	1	8,89%	8	0,00%	0	0,00%	0	2,22%	2	5,56%	5	54,44%	49	12,22%	11	12,22%	11	1,11%	1	2,22%	2
2011	1,18%	1	10,59%	9	0,00%	0	1,18%	1	1,18%	1	1,18%	1	52,94%	45	8,24%	7	21,18%	18	0,00%	0	2,35%	2
2010	1,27%	1	11,39%	9	0,00%	0	1,27%	1	1,27%	1	1,27%	1	53,16%	42	7,59%	6	18,99%	15	1,27%	1	2,53%	2
2009	0,00%	0	13,24%	9	0,00%	0	0,00%	0	5,88%	4	2,94%	2	45,59%	31	4,41%	3	23,53%	16	0,00%	0	4,41%	3
2008	0,00%	0	12,70%	8	0,00%	0	0,00%	0	3,17%	2	4,76%	3	49,21%	31	6,35%	4	17,46%	11	0,00%	0	6,35%	4
2007	0,00%	0	13,21%	7	0,00%	0	1,89%	1	1,89%	1	5,66%	3	39,62%	21	5,66%	3	24,53%	13	1,89%	1	5,66%	3
2006	0,00%	0	14,00%	7	0,00%	0	0,00%	0	2,00%	1	2,00%	1	38,00%	19	10,00%	5	28,00%	14	0,00%	0	6,00%	3
2005	0,00%	0	14,29%	4	0,00%	0	0,00%	0	0,00%	0	3,57%	1	46,43%	13	7,14%	2	21,43%	6	0,00%	0	7,14%	2
Germany																						
2013	0,00%	0	16,67%	11	0,00%	0	12,12%	8	30,30%	20	19,70%	13	13,64%	9	3,03%	2	3,03%	2	1,52%	1	0,00%	0
2012	0,00%	0	15,63%	10	0,00%	0	14,06%	9	48,44%	31	0,00%	0	14,06%	9	1,56%	1	4,69%	3	1,56%	1	0,00%	0
2011	0,00%	0	15,52%	9	0,00%	0	15,52%	9	29,31%	17	18,97%	11	10,34%	6	1,72%	1	5,17%	3	3,45%	2	0,00%	0
2010	0,00%	0	15,79%	9	0,00%	0	10,53%	6	31,58%	18	17,54%	10	14,04%	8	1,75%	1	5,26%	3	1,75%	1	1,75%	1
2009	0,00%	0	15,09%	8	1,89%	1	9,43%	5	28,30%	15	20,75%	11	13,21%	7	1,89%	1	5,66%	3	0,00%	0	3,77%	2
2008	0,00%	0	22,22%	10	2,22%	1	13,33%	6	15,56%	7	22,22%	10	13,33%	6	2,22%	1	6,67%	3	0,00%	0	2,22%	1
2007	0,00%	0	18,18%	6	6,06%	2	12,12%	4	6,06%	2	27,27%	9	15,15%	5	0,00%	0	12,12%	4	0,00%	0	3,03%	1
2006	0,00%	0	16,13%	5	3,23%	1	6,45%	2	16,13%	5	32,26%	10	16,13%	5	0,00%	0	3,23%	1	6,45%	2	0,00%	0
2005	0,00%	0	9,09%	2	4,55%	1	9,09%	2	13,64%	3	31,82%	7	18,18%	4	0,00%	0	4,55%	1	4,55%	1	4,55%	1

F. MEAN COMPARISON

DISCOUNT RATES

The following tables present the mean discount rate for the different groups of adjustments. In order to facilitate the overview, these have been categorized in two groups; *the after tax* and *the interval group*. The classification of each rete is presented below:

Used mean: The mean presented in the study, which includes the both the after tax and interval groups within one standard deviation.
Pure mean: The estimated mean disregarding the after tax and interval groups.
Tax mean: The pure mean combined with the mean of the after tax group.
Interval mean: The pure mean combined with the mean of the interval group within an interval of one standard deviation.
Mean 2 std: The pure mean combined with the mean of the interval group within an interval of two standard deviations.
Mean all inter: The pure mean combined with the mean of the whole interval group.

%	Used Mean	Pure mean	Tax mean	Interval mean	Mean 2 std	Mean all inter
United Kingdom						
2013	11,41	11,47	11,50	10,93	11,33	11,57
2012	10,98	10,91	10,96	10,74	10,89	11,26
2011	11,03	10,97	11,00	10,82	10,93	11,30
2010	11,50	11,45	11,50	11,27	11,23	11,68
2009	11,23	11,25	11,27	10,93	11,23	11,62
2008	11,40	11,41	11,41	11,18	11,42	11,73
2007	10,98	10,74	10,88	10,54	10,88	11,21
2006	10,35	10,35	10,55	10,11	10,58	10,88
2005	10,86	10,62	10,87	10,45	10,70	10,93
Sweden						
2013	10,87	10,82	10,86	10,69	10,87	11,02
2012	10,96	10,90	10,97	10,81	10,97	11,03
2011	10,89	10,80	10,81	10,63	10,83	10,86
2010	10,87	10,84	10,90	10,88	10,88	11,00
2009	10,98	10,51	11,03	10,68	11,00	11,13
2008	10,90	10,47	10,96	10,64	10,96	11,19
2007	11,03	10,47	11,04	10,66	11,10	11,48
2006	10,88	10,64	10,84	10,63	10,85	11,22
2005	11,11	11,03	11,19	11,02	11,22	11,21
Germany						
2013	10,38	10,19	10,34	9,93	10,34	10,71
2012	10,35	10,07	10,42	9,73	10,31	10,63
2011	9,97	9,70	9,90	9,37	10,00	10,67
2010	9,88	9,63	9,77	9,38	9,98	10,22
2009	10,41	10,21	10,24	9,95	10,51	10,65
2008	10,51	10,44	10,40	10,15	10,59	11,00
2007	11,45	11,04	11,25	10,86	11,41	11,88
2006	10,76	10,67	10,83	10,04	10,83	11,31
2005	11,18	11,73	11,58	10,72	11,13	11,32

After tax

The following section presents information about the specific country-groups that only disclose the discount rates after tax. The table presents the countries' averages for the after tax rate and the new, calculated, average before tax rate for that group.

%	United Kingdom		Sweden		Germany	
	Mean after tax	*Mean before tax*	*Mean after tax*	*Mean before tax*	*Mean after tax*	*Mean before tax*
2013	10,91%	14,16%	9,14%	11,71%	8,24%	11,61%
2012	10,71%	14,10%	8,92%	12,10%	8,18%	11,60%
2011	9,07%	12,25%	8,99%	12,20%	8,77%	12,42%
2010	10,42%	14,48%	8,72%	11,83%	8,09%	11,46%
2009	11,23%	15,60%	9,48%	12,86%	8,14%	11,54%
2008	10,28%	14,68%	9,01%	12,51%	7,73%	10,97%
2007	10,30%	14,72%	9,45%	13,12%	8,60%	13,95%
2006	10,12%	14,45%	9,33%	12,96%	7,81%	12,67%
2005	9,79%	13,98%	8,38%	11,64%	7,59%	12,38%

Interval

The following section presents information about the specific country-groups that only disclose the discount rates in an interval. The table presents the countries' averages for all the intervals and the average range between the maximum and minimum values within the intervals.

%	United Kingdom		Sweden		Germany	
	Mean interval	*Average range*	*Mean interval*	*Average range*	*Mean interval*	*Average range*
2013	11,69%	5,14%	13,05%	6,20%	12,11%	5,64%
2012	11,83%	5,64%	11,76%	4,37%	11,32%	5,08%
2011	11,90%	5,69%	10,60%	2,76%	12,36%	5,53%
2010	12,01%	4,79%	11,66%	2,54%	11,09%	3,90%
2009	12,32%	5,31%	12,02%	3,09%	11,36%	3,52%
2008	12,53%	6,32%	12,55%	5,17%	11,74%	3,95%
2007	12,10%	4,86%	13,71%	5,67%	12,59%	3,84%
2006	11,76%	4,50%	13,44%	4,75%	11,95%	3,68%
2005	11,08%	4,86%	11,19%	3,67%	11,56%	3,70%

TERMINAL GROWTH RATES

The following tables will present the mean terminal growth rate for the different adjustments. The classification of each rete is presented below:

Used mean: The mean presented in the study, which includes the interval group within one standard deviation.
Pure mean: The estimated mean disregarding the interval group.
Mean 2 std: The pure mean combined with the mean of the interval group within an interval of two standard deviations.
Mean all inter: The pure mean combined with the mean of the whole interval group.

%	Used Mean	Pure mean	Mean 2 std	Mean all inter
United Kingdom				
2013	2,38	2,88	2,34	2,51
2012	2,37	2,38	2,34	2,53
2011	2,34	2,33	2,31	5,52
2010	2,29	2,31	2,33	2,5
2009	2,40	2,37	2,39	2,61
2008	2,40	2,36	2,39	2,65
2007	2,30	2,27	2,30	2,52
2006	2,45	2,39	2,40	2,64
2005	2,40	2,28	2,33	2,63
Sweden				
2013	1,97	1,96	1,98	1,99
2012	2,02	2,01	2,02	2,02
2011	2,05	2,04	2,06	2,09
2010	1,99	1,98	2,03	2,03
2009	2,07	2,02	2,09	2,06
2008	2,07	2,07	2,1	2,07
2007	2,11	2,09	2,16	2,14
2006	2,17	2,14	2,22	2,22
2005	2,14	2,12	2,21	2,21
Germany				
2013	1,23	1,27	1,22	1,22
2012	1,50	1,57	1,49	1,47
2011	1,23	1,26	1,22	1,25
2010	1,31	1,35	1,31	1,36
2009	1,34	1,27	1,32	1,33
2008	1,23	1,27	1,22	1,23
2007	1,37	1,18	1,36	1,45
2006	1,38	1,41	1,31	1,32
2005	1,53	1,48	1,46	1,46

Interval

The following section presents information about the specific country-groups that only disclose the terminal growth rates in an interval. The table presents the countries' averages for all the intervals and the average range between the maximum and minimum values within the intervals.

%	**United Kingdom**		**Sweden**		**Germany**	
	Mean interval	*Average range*	*Mean interval*	*Average range*	*Mean interval*	*Average range*
2013	2,99%	3,61%	2,81%	2,88%	0,95%	1,47%
2012	3,06%	3,73%	2,50%	1,00%	0,81%	1,77%
2011	3,15%	3,03%	3,19%	1,63%	1,17%	2,09%
2010	3,21%	3,45%	3,06%	1,38%	1,39%	2,37%
2009	3,24%	3,90%	3,00%	2,00%	1,66%	1,44%
2008	3,58%	3,83%	2,62%	2,20%	1,39%	2,18%
2007	3,45%	3,31%	2,44%	1,88%	2,06%	1,64%
2006	3,27%	2,96%	2,79%	1,25%	1,27%	1,66%
2005	3,49%	3,16%	2,70%	1,80%	1,39%	1,36%

G. INDUSTRY

INDUSTRY DIVISION

Information about the industry division for the applicable selection.

	Industry	UK		Sweden		Germany		Total	
1	Agricultural, forestry and fishing	0	0,0%	1	0,9%	1	1,1%	2	0,7%
2	Mining and quarrying and other industry	12	13,2%	4	3,7%	3	3,3%	19	6,6%
3	Manufacturing	25	27,5%	49	45,0%	46	51,1%	120	41,4%
4	Construction	2	2,2%	4	3,7%	2	2,2%	8	2,8%
5	Wholesale and retail trade, transportation and storage, accommodation, and food service activities	14	15,4%	16	14,7%	8	8,9%	38	13,1%
6	Information and communication	7	7,7%	7	6,4%	14	15,6%	28	9,7%
7	Financial and insurance activities	18	19,8%	12	11,0%	8	8,9%	38	13,1%
8	Real estate activities	2	2,2%	4	3,7%	2	2,2%	8	2,8%
9	Professional, scientific, technical, administration, and support service activities	11	12,1%	9	8,3%	4	4,4%	24	8,3%
10	Public administration, defense, education, human health, and social work activities	0	0,0%	0	0,0%	1	1,1%	1	0,3%
11	Other services	0	0,0%	3	2,8%	1	1,1%	4	1,4%
Total		91	100%	109	100%	90	100%	290	100%

INDUSTRY COMPARISON

Manufacturing

United Kingdom

	GW/Assets (%)	*Impairment/ GW OB (%)*	*Discount-rate (%)*	*Growth rate (%)*
	Valid (23)	*Valid (23)*	*Total*	*Total*
2013	21,52	1,81	11,39	2,01
2012	22,06	0,57	11,03	2,08
2011	22,77	0,25	11,14	2,19
2010	21,79	0,95	11,63	2,26
2009	23,14	1,27	11,20	2,12
2008	22,31	5,01	10,90	2,04
2007	23,63	0,15	10,96	2,20
2006	21,71	0,78	10,63	2,31
2005	20,73	NA	11,60	2,07

Sweden

GW/Assets (%)	*Impairment/ GW OB (%)*	*Discount-rate (%)*	*Growth rate (%)*
Valid (34)	*Valid (34)*	*Total*	*Total*
21,24	3,43	10,92	1,90
21,11	3,46	11,02	1,92
20,78	3,94	10,85	1,96
19,97	0,45	10,92	1,80
19,88	0,35	11,05	1,99
18,70	1,75	11,02	1,78
18,37	0,29	11,23	1,81
16,98	0,63	11,38	1,82
16,94	NA	10,80	1,92

Germany

	GW/Assets (%)	*Impairment/ GW OB (%)*	*Discount-rate (%)*	*Growth rate (%)*
	Valid (34)	*Valid (34)*	*Total*	*Total*
2013	12,89	0,72	10,51	1,13
2012	13,00	0,65	10,55	1,14
2011	12,73	1,56	10,07	1,14
2010	12,65	1,97	9,91	1,23
2009	13,89	0,89	10,15	1,15
2008	13,39	0,73	10,34	1,13
2007	12,10	1,68	11,26	1,12
2006	11,51	1,21	10,93	1,14
2005	10,58	NA	11,39	1,17

Wholesale and retail etc.

United Kingdom

	GW/Assets (%)	*Impairment/ GW OB (%)*	*Discount-rate (%)*	*Growth rate (%)*
	Valid (9)	*Valid (9)*	*Total*	*Total*
2013	11,38	0,43	11,32	2,13
2012	11,53	4,65	10,25	2,16
2011	12,03	3,32	10,18	2,05
2010	12,57	1,69	10,65	2,01
2009	12,70	10,09	10,61	2,40
2008	13,57	5,80	10,96	2,49
2007	13,88	0,02	9,46	2,24
2006	13,57	0,00	9,17	2,25
2005	13,36	NA	9,26	2,21

Sweden

	GW/Assets (%)	*Impairment/ GW OB (%)*	*Discount-rate (%)*	*Growth rate (%)*
	Valid (9)	*Valid (9)*	*Total*	*Total*
2013	18,63	2,69	16,00	2,15
2012	17,27	0,00	16,00	2,16
2011	16,00	0,00	14,00	2,23
2010	14,44	4,43	14,25	2,27
2009	15,33	0,00	14,25	1,79
2008	14,31	2,64	14,00	2,10
2007	13,04	1,24	14,00	2,42
2006	10,49	0,07	16,50	2,50
2005	10,14	NA	16,50	1,40

Germany

	GW/Assets (%)	*Impairment/ GW OB (%)*	*Discount-rate (%)*	*Growth rate (%)*
	Valid (6)	*Valid (6)*	*Total*	*Total*
2013	20,61	0,46	10,24	1,76
2012	19,60	3,00	10,81	1,83
2011	12,60	0,78	9,27	1,82
2010	12,18	0,00	9,29	1,87
2009	12,69	3,16	10,44	2,04
2008	8,68	3,81	9,85	2,41
2007	9,54	3,48	9,76	3,05
2006	9,35	0,00	8,55	3,42
2005	9,71	NA	8,88	2,69

Information and communication

United Kingdom

	GW/Assets (%)	*Impairment/ GW OB (%)*	*Discount-rate (%)*	*Growth rate (%)*
	Valid (5)	*Valid (5)*	*Total*	*Total*
2013	35,99	4,36	10,75	2,35
2012	37,40	4,02	11,21	2,29
2011	36,74	1,69	11,08	2,05
2010	38,59	2,37	11,00	2,05
2009	39,33	1,30	11,85	2,05
2008	39,32	2,25	11,08	2,42
2007	39,07	0,00	11,20	2,18
2006	37,85	4,41	10,85	3,00
2005	39,25	NA	11,40	3,50

Sweden

	GW/Assets (%)	*Impairment/ GW OB (%)*	*Discount-rate (%)*	*Growth rate (%)*
	Valid (6)	*Valid (6)*	*Total*	*Total*
2013	23,27	0,68	11,47	1,97
2012	23,04	17,58	11,77	1,82
2011	19,09	8,26	12,28	1,80
2010	26,61	0,27	11,64	1,54
2009	25,83	7,10	11,19	1,85
2008	26,96	3,08	12,45	2,09
2007	21,73	1,47	14,10	2,00
2006	21,99	2,06	12,66	2,20
2005	22,63	NA	12,57	3,00

Germany

	GW/Assets (%)	*Impairment/ GW OB (%)*	*Discount-rate (%)*	*Growth rate (%)*
	Valid (11)	*Valid (11)*	*Total*	*Total*
2013	31,30	0,39	9,64	1,44
2012	31,19	2,91	9,55	1,34
2011	32,77	1,45	9,83	1,37
2010	33,55	0,35	9,61	1,40
2009	32,23	1,74	10,79	1,41
2008	30,97	1,41	10,81	0,91
2007	27,70	0,74	12,48	1,32
2006	23,86	0,04	11,98	1,15
2005	23,14	NA	11,48	2,00

Financial and insurance activities

United Kingdom

	GW/Assets (%)	*Impairment/ GW OB (%)*	*Discount-rate (%)*	*Growth rate (%)*
	Valid (12)	*Valid (12)*	*Total*	*Total*
2013	1,29	2,17	13,36	2,96
2012	1,29	0,28	13,59	2,99
2011	1,22	2,55	14,33	2,70
2010	1,31	0,33	14,48	2,57
2009	1,42	1,80	14,10	2,85
2008	1,65	13,90	15,08	3,03
2007	2,12	0,03	14,33	2,90
2006	2,07	0,40	12,15	2,94
2005	3,45	NA	12,66	2,69

Sweden

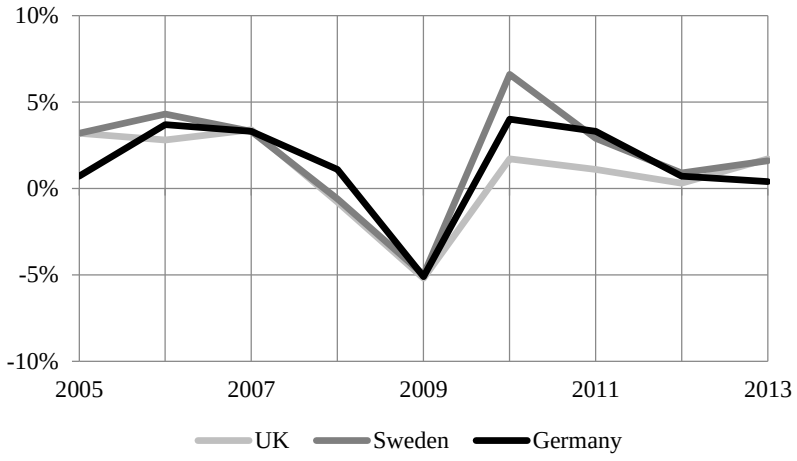
GW/Assets (%)	*Impairment/ GW OB (%)*	*Discount-rate (%)*	*Growth rate (%)*
Valid (10)	*Valid (10)*	*Total*	*Total*
6,81	4,81	10,87	2,30
6,83	4,47	11,11	2,68
7,65	2,00	10,63	2,70
7,18	1,61	10,22	3,00
7,58	3,98	10,99	3,36
7,06	1,90	10,23	3,45
7,43	0,00	10,25	3,57
6,19	0,47	9,48	3,51
5,64	NA	11,28	3,93

Germany

	GW/Assets (%)	*Impairment/ GW OB (%)*	*Discount-rate (%)*	*Growth rate (%)*
	Valid (6)	*Valid (6)*	*Total*	*Total*
2013	0,74	0,24	11,50	1,44
2012	0,72	2,75	11,25	1,66
2011	0,75	0,50	11,58	1,58
2010	0,83	0,83	11,79	1,88
2009	0,85	11,36	11,65	2,60
2008	0,70	1,30	12,56	2,64
2007	0,83	1,49	12,22	4,50
2006	0,77	1,59	12,20	3,70
2005	1,05	NA	NA	4,00

H. GDP GROWTH AND INFLATION

GDP ANNUAL REAL GROWTH



INFLATION