

Purchase Price Allocation and Impairment Testing

-A straight application of standards?

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Abstract

The importance of goodwill and intangible assets has amplified over the years as both their presence in the standards and their values in the financial reports have increased. How the purchase price allocation (PPA) and the subsequent impairment testing process are made is of great importance as different choices have different consequences on for example the financial reports and key ratios.

The purpose of this thesis is to explore and identify practices and forces affecting the implementation of IFRS 3 with respect to the allocation of the consideration transferred and the subsequent impairment tests. In order to fulfill the aim of this thesis, a quantitative and a qualitative study have been made. In the quantitative study, general tendencies in how firms allocate the consideration transferred between the major asset groups in the PPA and how often impairments are done have been investigated. The qualitative study has been based on a Swedish group where four specific acquisitions have been studied.

The study of the case group revealed seven aspects that have a major impact in the reasoning process of the group when doing a PPA and the subsequent impairment testing. It was concluded that the expectations of impairments were low, that the case group had a partial lack of formal control in some areas and that the informal control within these areas not was strong enough to counterbalance the partial lack of formal control. Furthermore, practicality, materiality, internal incentives and external pressure were concluded to influence the PPA and the impairment testing. As the comparison of the case group to the quantitative sample gave no sign of the case group being an extreme outlier, the findings and conclusions made in the qualitative study can be suggested as possible also for other companies.

Concluding, even though standards often are considered as the determinants of accounting, it has been shown that company culture, management control systems and external influences also might be of great importance in the reasoning when performing a PPA after an acquisition and in the subsequent impairment testing.

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Quantitative Study: Table of Acquisitions

Quantitative Study: Table of Impairments and Amortizations

Abbreviations

BA (A,B,C)	Business Area (A,B,C)
C(1,2,3,4pf)	Company (1,2,3,4pf)
CAPM	Capital Asset Pricing Model
CGU	Cash Generating Unit
DCF	Discounted Cash Flow (model)
DTL	Deferred Tax Liability
EBIT	Earnings Before Interest and Taxes
FCF	Free Cash Flow
HQ	Head Quarter
IA	Intangible Assets
IAS	International Accounting Standards
IFRS	International Financial Reporting Standards
M&A	Mergers and Acquisitions
PGM	Purchased Goodwill Method
PPA	Purchase Price Allocation
RIV	Residual Income Valuation
ROCE	Return On Capital Employed
WACC	Weighted Average Cost of Capital

1. Introduction

1.1 Background

The importance of goodwill, the value in an acquisition that cannot be attributable to separable assets and liabilities, and intangible assets, identifiable assets without physical form, have amplified over the years. This is both due to the fact that these assets' presence in the standards has increased and due to an amplification of their values in the balance sheets (Gauffin and Nilsson, 2010). According to a Swedish report by Ernst & Young (2009), these assets constitute a large part of the acquired enterprise value after an acquisition; the average value between 2006 and 2009 was 77 percent (50.5 percent goodwill and 26.5 percent intangible assets).

When an acquisition has been made, an allocation of the consideration transferred has to be conducted. This purchase price allocation (PPA) concerns valuing both tangible and intangible assets acquired in the acquisition to fair value as well as placing a monetary value on the goodwill emerged in the acquisition. In this process, recognizing and measuring goodwill and intangible assets is featured by a significant amount of subjectivity. From an external perspective it is nearly impossible to oppose the assumptions made by companies in the process of allocating the consideration transferred in the PPA and in the subsequent impairment testing (Wyatt, 2005).

Subsequent to an acquisition, tangible and intangible assets¹ valued at fair value as well as goodwill have to be depreciated, amortized or tested for impairment. Also this process is complicated as for example the values of intangible assets are hard to estimate (Wales 1962, Muller, 2004) and as goodwill need to be allocated to cash generating units which often give rise to complex calculations (Wines et al, 2007).

How the PPA and the subsequent impairment testing are made is of great importance as different choices have different consequences on for example the income statement, the balance sheet (Bloom, 2009) and hence also key ratios. Furthermore, the effects on the financial statements may give rise to effects on management compensation (Newman, 1989) and stock price reactions (Niederhoffer and Regan, 1972).

According to IFRS 3, goodwill should no longer be amortized but instead tested for impairment whilst most intangible assets, which in line with IFRS do not include goodwill, still are amortized over their useful life. A current debate concerns the question of what effects the new standards have on the level of goodwill and goodwill impairments. Several researchers have raised the opinion that the levels of goodwill will increase as a result of the changed standards (for example Hellman et al, 2010). Another raised opinion is that the change of the standards has decreased the usefulness of the external accounting due to the way the standards are applied (Marton, 2009). Hence, both the formulation of the IFRS 3 and the application made by companies have been criticized.

The fact that goodwill and intangible assets constitute a large amount of the total enterprise value after an acquisition, that the values are characterized by subjectivity, that the treatment of goodwill differs from the treatment of most intangible assets and that the choices made can have large consequences make the PPA and the subsequent impairment testing a topic that is

¹ When discussing tangible and intangible assets further in the thesis, it is generally the assets arising as a

interesting to further investigate. How do companies allocate the consideration transferred to goodwill and intangible assets? How are the interest rate and time horizon chosen? Are there incentives for companies to take advantage of the subjectivity?

By studying Swedish companies that apply IFRS, the questions raised in this section are the focus of this thesis. Already at this point it should be noted that the thesis does not take a stand in the discussion concerning the shortcomings of the IFRS or in which direction the standards should develop.

1.2 Purpose

The purpose of this thesis is:

To explore and identify practices and forces affecting the implementation of IFRS 3 with the respect to the allocation of the consideration transferred and subsequent impairment tests.

A visualization of this can be seen in *Figure 1*, where the blue box represents the process this thesis aims to investigate. This process could for example include company specific interpretation and adjustments of the IFRS as well as consideration of internal incentives and external pressure.



Figure 1 The purpose of the thesis

As a basis for the described study, a pre-study has been made. The purpose of the pre-study is to investigate general tendencies in how companies allocate the consideration transferred between the major asset groups in the PPA and how often impairments are done. In *Figure 1*, the pre-study corresponds to the outcome of the blue box, i.e. the externally reported allocation of the consideration transferred and the impairments.

This thesis aims to take an external perspective, meaning that the purpose of the thesis is to provide analysts, investors and standard setters with information and an example of the blue box process in *Figure 1* in order to make better decisions within their respective area.

1.3 Structure

The thesis is organized as follows. After a short explanation of the current IFRS within the area of the thesis, previous research is presented. After that, the research method is described. The results of the pre-study are then presented along with a discussion of the quantitative findings. This discussion is followed by the empirical results of the qualitative case study and a discussion concerning the case results. The thesis ends with conclusions, a discussion of the reliability and validity of the thesis as well as suggestions for further research.

2. Theoretical framework

When a company is acquired the parent company has to specify what individual assets it has purchased, i.e. how to allocate the consideration transferred between the different assets classes in the PPA. The major asset classes are tangible assets, intangible assets and goodwill. As can be seen below, tangible and intangible assets should be valued at fair value.

Goodwill is on the other hand calculated as the residual as shown in *Figure 2*. The allocation to the different asset classes will then be included in the consolidated financial reports.

$$\begin{array}{l} \text{Consideration transferred} \\ - \text{Book value of acquired net assets} \\ - \text{Fair value adjustments of acquired net assets} \\ + \text{Deferred tax liabilities} \\ \hline = \text{Goodwill} \end{array}$$

Figure 2 The determination of the goodwill post

This section will start by describing the IFRS standards within this area. After that, previous literature will be covered in four different sections. The first section describes the difficulties that arise when allocating the consideration transferred in the PPA and in the subsequent impairment testing. After that, a section covering the concept of goodwill follows. The third section explains why the PPA and the subsequent impairment testing are important by describing potential consequences of the different choices. The fourth section of the previous literature gives an account of the current literature concerning firm practice within the area of this thesis and the final section touches upon the area of creative accounting².

2.1 Current standards in the context of business combinations

2.1.1 Accounting for a business combination

According to the International Financial Reporting Standards (IFRS) 3, a business combination is a transaction or event in which an acquirer obtains control of one or more businesses (Appendix A). When accounting for business combinations, IFRS 3 Business Combinations should be applied. The standard describes an acquisition method containing four steps (IFRS 3 §5):

1. Identification of the acquirer
2. Determination of the acquisition date
3. Recognition and measurement of the identifiable assets acquired, the liabilities assumed and any non-controlling interest
4. Recognition and measurement of goodwill or gain from a bargain purchase

As the thesis is focusing on how the consideration transferred is allocated in the PPA, only step 3 and 4 will be discussed further.

2.1.1.1 Recognition of identifiable assets acquired, liabilities assumed and non-controlling interest

At the acquisition date, the identifiable assets acquired, the liabilities assumed and any non-controlling interest in the acquired company should be recognized (IFRS 3 §10). In order to be recognized, the assets and liabilities must meet the definitions of assets and liabilities in the IASB Framework (IFRS 3 §11). According to IFRS 3 Appendix A, an asset is identifiable if it is

² In this thesis, the concept of creative accounting is used to denote all cases where personal preferences consciously or unconsciously affect the external accounting. Hence, the concept is substantially broader than fraud.

either separable and thus can be sold or arises from contractual rights. It should be noted that IFRS 3 implies that assets and liabilities not recognized before the acquisition may be recognized (§13).

IAS 38 §11 states that it is the requirement to be identifiable that separates intangible assets from goodwill. When an intangible asset acquired in an acquisition as a part of a business combination meets the definition of an intangible asset, the probability recognition criteria and the reliability measurement criteria is always considered to be satisfied (IAS 38 §33).

IFRS provides an exception to the general recognition principles when it concerns contingent liabilities. At an acquisition, the acquirer should recognize a contingent liability if it is a present obligation that arises from a past event and its fair value can be measured reliably (IFRS 3 §23). Thus, there is no need that the liability is probable, which is required by IAS 37.

IAS 12 §19 explains that when the carrying amount of an asset is increased to its fair value in a business combination, and the tax base of the asset remains at cost in the subsidiary's accounts, a taxable temporary difference arises. According to IAS 12 §39 shall an entity recognize a deferred tax liability for all taxable temporary differences that arise in an acquisition of a subsidiary. The same holds for deferred tax assets (IAS 12 §44). An important exception to this rule is that, as explained by §15, no deferred tax should be recognized for goodwill (IAS 12).

2.1.1.2 Measurement of identifiable assets acquired, liabilities assumed and non-controlling interest

When measuring the identifiable assets and liabilities, the fair value at the acquisition date should be used (IFRS 3 §18). Any non-controlling interest should be measured at either fair value or at the non-controlling interest's proportionate share of the acquired company's identifiable net assets.

Fair value is defined as the amount for which an asset could be exchanged or a liability settled between knowledgeable, willing buyers and sellers in an arm's length transaction (IFRS 3 Appendix A). According to the fair value hierarchy, three levels of fair value exist (IFRS 7 §27A). The first level consists of observable quoted prices for identical assets/liabilities in active markets. The second level consists of observable inputs other than quoted prices for identical assets/liabilities in an active market. The level three inputs are unobservable.

2.1.1.3 Recognition and measurement of goodwill

According to IFRS 3 §32, goodwill is determined as the difference between a) the consideration transferred and the non-controlling interest and b) the net of the acquisition date amounts of the acquired assets and liabilities. If this amount is smaller than zero, no goodwill is recognized and the acquirer will instead make a bargain purchase (IFRS 3 §34). The resulting gain shall be recognized in the acquirer's income statement. According to IFRS 3 §40 and §58, a change in the consideration transferred made years after the acquisition does not affect the recorded goodwill.

2.1.2 Accounting subsequent to the acquisition

Subsequent to the acquisition, assets acquired, liabilities assumed or incurred and equity instruments issued in a business combination are in general measured in accordance with other applicable IFRS, depending on the type of asset (IFRS 3 §54). This means that tangible assets are depreciated and intangible assets with a finite life are amortized (IAS 16, IAS 38).

2.1.2.1 Amortization and impairment of intangible assets

For intangible assets with finite useful lives, the depreciable amount shall be allocated on a systematic basis over the useful life (IAS 38 §97). When determining the useful life of an asset, many factors should be considered (IAS 38 §90-95). These factors include for example:

- Expected usage
- Typical product life cycle
- Stability of the industry
- Actions of the competitors
- Periods of control
- Legal factors

Intangible assets with an indefinite useful life shall not be amortized (IAS 38 §107) but instead, annually or when needed, tested for impairment.

An impairment loss should be recognized if the recoverable amount of an asset or a cash generating unit (CGU) is less than its carrying amount (IAS 36 §59). The recoverable amount is defined as the higher of the fair value less costs to sell and the value in use (IAS 36 §18). When estimating the value in use, estimates of future cash flows should be discounted by the appropriate discount rate (IAS 36 §31).

2.1.2.2 Impairment of goodwill

According to IFRS 3 B63, goodwill is no longer subject to amortization but instead tested for impairment. When performing the impairment testing, goodwill acquired in a business combination shall be allocated to CGU:s or groups of CGU:s of the acquirer (IAS 36 §80). This should be done irrespective of how the other assets and liabilities are assigned to the units. Each unit or group of units shall represent the lowest level within the entity at which the goodwill is monitored for internal management purposes and not be larger than an operating segment according to IFRS 8 §5 before aggregation. Impairment testing should be done annually or more often if there is an indication that the goodwill may be impaired (IAS 36 §90).

As for all assets, an impairment should be done if the recoverable amount of the CGU is lower than the carrying amount of the unit. The impairment should be recognized in accordance with IAS 36 §104 stating that the carrying amount of the unit's goodwill should be reduced prior to a pro rata decrease of the other assets of the unit. However, for the individual assets, it is not possible to reduce the value to less than the highest of its fair value less costs to sell, its value in use and zero. An impairment loss for goodwill cannot be reversed in a later period (IAS 36 §124) as this would likely be an increase in internally generated goodwill, which cannot be recognized according to IAS 38 (IAS 36 §125).

2.1.3 Disclosures

After the acquisition, information that enables users of financial statements to evaluate the nature and financial effect of a business combination should be disclosed (IFRS 3 §59). Examples of what should be disclosed are the fair value of the total consideration at the acquisition date and the amounts recognized for each major class of assets acquired and liabilities assumed (IFRS 3 §B64).

Also requirements regarding disclosures of impairments are stated by IFRS. As an example, the amount, the reason and the valuation method should be disclosed for all material impairment losses (IFRS 36 § 130).

A threshold for disclosing information in the external accounting is the principle of materiality. According to the IFRS Framework QC11, information is material if omitting it can influence the decisions made by external users of the financial information. It is also pointed out that materiality is an entity-specific aspect.

2.2 Difficulties in allocating the consideration transferred and the subsequent impairment testing

The intention of the standards concerning the PPA and its subsequent treatment is to give investors a good picture of the financial situation of an acquisition. However, some people within the industry (for example Heurlin, 2011) have criticized the way in which IFRS have been formulated, suggesting that the standards are difficult to interpret for companies. Hence, for the preparers of the financial information many problems might arise in the application of the standards. Due to different national contexts these problems are further increased (Hellman, 2011).

The introduction of IFRS 3 implied that companies need to analyze acquisitions more deeply (Thorne, 2010) and as Wines et al. (2007) point out, the current accounting of goodwill require numerous assumptions to be made when estimating fair value, value in use and recoverable amount. Thus, as Wines et al. state it: *Considerable ambiguity and subjectivity are inherent in the IFRS requirements* (2007, p. 862). However, Dahmash et al. (2009) argue that the avoidance of subjectivity when valuing intangible assets and goodwill might not be possible as the pattern of declination varies among those assets. Instead, they suggest that managerial discretion is crucial to achieve somewhat relevant measures.

When performing the PPA and the subsequent impairment testing, the difficulties can be divided into two types: recognition problems and measurement problems. Recognition problems concern the fact that it might not always be obvious what assets and liabilities to recognize in the allocation process following an acquisition. An example of a difficult issue on the asset side is which intangible assets to recognize and which not to (Thorne, 2010, Heurlin, 2011). On the liability side, a problematic area in the allocation concerns the treatment of contingent liabilities (Wines et al, 2007). As a result of the residual nature of goodwill, the higher amount of intangible assets and the lower amount of contingent liabilities recognized, the lower is the residual amount of goodwill.

Measurement problems concern how to measure the different values in the PPA and in the subsequent impairment testing. The valuation might be done by looking at other prices in the market or by doing estimates and using a theoretical model. Herz et al. (2001) suggest two basic models for estimating fair values, the discounted cash flow (DCF) model and the residual income valuation (RIV) model. All valuation models should theoretically give rise to the same value, but this might not be the case in practice. Thus, the choice of how to value an asset or liability can have implications for the recognized amounts. A disadvantage with the use of both the DCF and the RIV models when valuing goodwill is that they measure the aggregate goodwill, not the acquired (Herz et al, 2001).

In a valuation model, there are several inputs and estimates that have a great impact on the calculated value. As an example, the length of the time period of the model and the choice of rates, such as discount and growth rates, are important. As shown in Skogsvik (2006), these choices might have very large consequences on the calculated value. Once the basic assumptions of the valuation model have been made, future earnings and cash flows have to be estimated together with probability estimates (Sevin and Schroeder, 2005). In many situations, a salvage value also has to be estimated (Wines et al, 2007).

When valuing intangible assets, further complications arise. As Muller (2004) concludes, the determination of the useful life of an intangible asset is subjective and as stated by Wales (1962), the same holds for the choice of amortization pattern. The subjectivity when valuing intangible assets is also highlighted by Olsen and Halliwell when stating: *How do you quantify things you can't feel, see or weigh?* (2007, p. 66).

Due to the characteristics of goodwill, also the measurement of goodwill comes with further difficulties (Herz et al, 2001). Marton (2009) even proposes that goodwill is the most difficult area within IFRS. The residual nature of the calculation of goodwill implies that any measurement error in computing the fair value of net assets affects the imputed value of the goodwill. The same holds for any overpayment or underpayment at the acquisition. Wines et al. (2007) also consider the subjectivity when recognizing a gain on a bargain purchase. It should also be noted that the handling of goodwill also results in major accounting and administration costs (Heurlin, 2011).

Another difficulty in the treatment of goodwill relates to identifying CGU:s. While the standards require the use of the smallest units possible, many units often give rise to complex calculations when determining cash flows, fair value and recoverable amount (Wines et al, 2007). This goes hand in hand with the demand for more time and money.

A third goodwill related problem arises as goodwill does not produce profit by itself. Instead, it is the combination with other assets that produce profit. This makes it hard to determine whether goodwill has been impaired or not (Wines et al, 2007). This issue is further complicated if the acquired firm is operationally merged with any other company in the group (Herz et al, 2001).

Concluding, there are several difficulties in allocating the consideration transferred and in the subsequent impairment testing. As it is hard to tell what is right or wrong, the decisions that have to be made are characterized by subjectivity. That this is a problematic area has also been considered by the standard setters, who currently are working on a new standard for calculating fair values (Ernst & Young, 2010) and have the intention of revising the current standards concerning impairment testing of goodwill (Heurlin, 2011).

2.3 The concept of goodwill

Before proceeding, it is interesting to reflect upon what is meant by the term goodwill at the time of the acquisition. According to the old article *Economic theories of goodwill* the term is in general used to designate the capital value of all periodic surpluses accruing to an enterprise in the regular course of business, whether or not they are exploitation profits (Preinreich, 1939, p. 177). This is in line with what Hellman et al. (2010) define as core goodwill: the economic value of the entity less the net value of identifiable assets and liabilities measured at fair value and

less all unrecognized assets and liabilities measured at fair value. Conceptually, only core goodwill is regarded as an asset according to IASB.

The concept of goodwill has received a lot of critique in the past. Much of this relates to what Benjamin Graham states in his famous quote: *Separate what you know from speculation and anchor on what you know* (Penman, 2009, p. 359). Following his reasoning, goodwill should be left out from the balance sheets as it concerns a lot of speculation.

Another type of critique concerns the vague distinction between intangible assets and goodwill, as discussed above. As an example, Malmqvist (2007) argues that goodwill should include all intangible assets acquired in an acquisition. This is in contrast to Heurlin (2011) who points out that by separating intangible assets from goodwill it is possible to see the underlying reasons for the acquisition.

2.4 Consequences of the allocation of the consideration transferred and the subsequent impairment testing

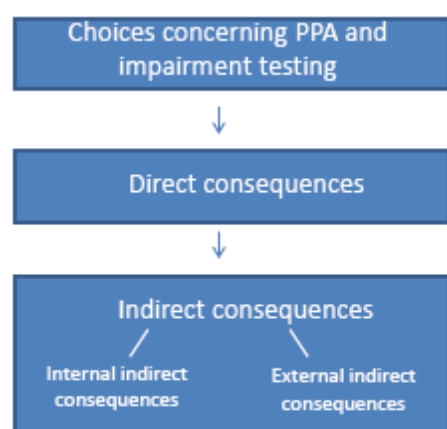


Figure 3

One major reason to why it is interesting to study the allocation of the consideration transferred in the PPA and the subsequent impairment testing is that the choices of methods and assumptions have several consequences. The choices by a company give rise to consequences in different levels and in this thesis, the consequences have been structured as shown in *Figure 3*.

2.4.1 Direct consequences

The first level of consequences can be called direct effects. Direct effects that Bloom (2009) points out relate to result effects, financial position effects and tax effects (see *Figure 4*).

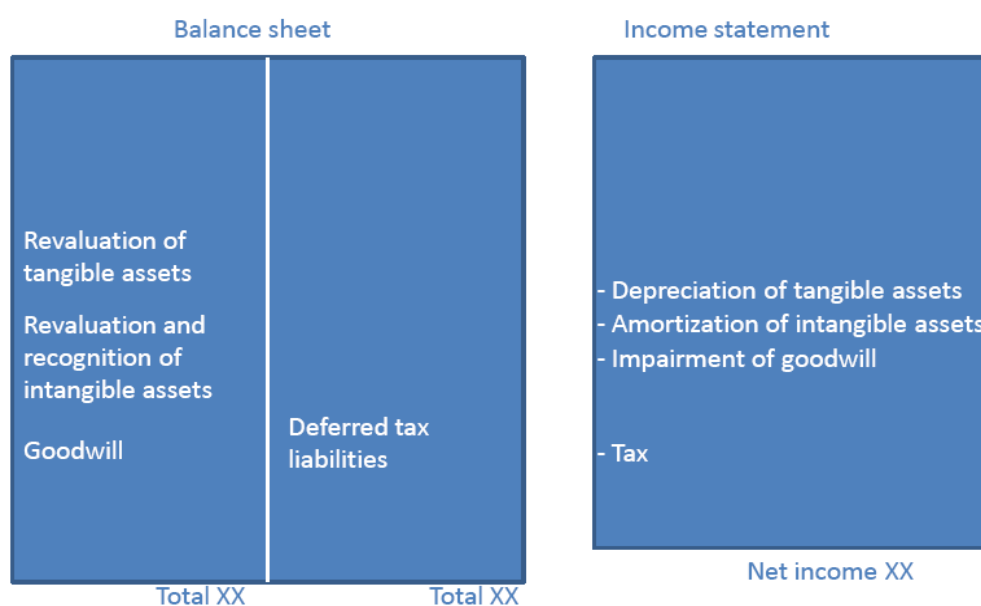


Figure 4 Posts affected by the allocation of the consideration transferred and the subsequent impairment testing

Interesting to keep in mind is that whereas most tangible and intangible assets are subject to depreciation or amortization, goodwill is currently only subject to impairment. In addition, Wales (1962) highlight the fact that the amortization period of intangible assets can have a large impact on net income.

The fact that goodwill no longer is amortized has theoretically important direct consequences as pointed out by Hellman et al. (2010). At the acquisition, the recognized goodwill will consist of core goodwill and recognition goodwill. This is due to the fact that there will be no measurement conservatism as all assets and liabilities should be recognized at fair value. Subsequent to the acquisition, when measurement conservatism is introduced, a buffer consisting of unrecognized assets, for example internally generated goodwill, and conservatively valued assets is created. This buffer protects the goodwill from being impaired and implies that future goodwill not only will consist of the goodwill emerged in the acquisition, but also of hidden reserves for unrecognized and conservatively measured assets. Hellman et al. thus argue that the probability of goodwill impairments is decreased by the buffer. The fact that the impairment test does not measure whether the core goodwill has been impaired is something that has gained a lot of critique (Alfredson et al, 2009) and that IASB has brought up in the Basis for Conclusions of IAS 36.

It should also be noted that the fewer and the larger the identified CGU:s are in a group, the higher is the probability for the shielding of goodwill and the lower is the probability of reporting a goodwill impairment (Hellman et al, 2010).

2.4.2 Indirect consequences

The direct consequences of the allocation of the consideration transferred in the PPA and the subsequent impairment testing give rise to indirect consequences both internally in the company and in the external market.

One potential internal indirect effect concerns the level of bonus paid to managers. Newman (1989) claims that companies tend to use either profit before income taxes or profit after income taxes when determining management compensation. That the net income is important for the managers bonuses is also supported by the article of Gibbs et al. (2009). In a study of 326 car dealerships the authors find that net income is the primary performance measure in over 50 percent of the cases. Another internal indirect effect concerns credit ratings. As illustrated by White et al. (2003), both earnings and balance sheet measures are considered when the credit rating for a company is decided. The credit ratings will further have implications for required interest rates and the issuing of debt.

Credit ratings are also important from an external perspective as investors are likely to use them in their decision making processes (White et al, 2003). Another external indirect consequence concerns the stock price. Niederhoffer and Regan (1972) show by studying over 1000 companies of the New York Stock Exchange that stock prices are strongly dependent on earnings changes.

Johansson (2008) discusses the fact that a consequence of the new standards is that it is very hard to predict goodwill impairments from an external perspective. However, Elwin (2008) points to the fact that goodwill accounting might not be that important. He argues that what analysts look for is intangible assets where there is a reasonably clear legal framework and that

subjective intangible assets and goodwill, both on the income statement and balance sheet, are ignored. This argument is also supported by Heurlin (2011).

Still, as the concept of goodwill has been highly debated in the past and been the focus of extensive lobbying (Gowthorpe and Amat, 2005) one has to conclude that goodwill must have importance. This is for example the opinion of Dahmash et al. (2009), who show that goodwill and intangible assets, despite being presented with less reliability than other assets, are value relevant.

Concluding, there are many factors other than the IFRS that might influence how the PPA and the subsequent impairment testing are made. As an example, Hjelström and Schuster (2011) points out management control systems, cost-benefit analysis and considerations of a broader spectrum of economic consequences as important in the accounting. Hence, these factors are likely to influence the PPA process and the subsequent impairment testing.

2.5 Data on firm practice

2.5.1 Allocation of the consideration transferred

As stated above, the allocation process might not be straight forward and that companies find this process difficult becomes evident in a study by the Financial Reporting Council (2010). The study shows that many acquiring companies found it hard to identify separate intangible assets and were satisfied by recognizing everything as goodwill with the argument that it could not be measured reliable. The Financial Reporting Council also found the disclosure level disappointing. That this is a problem also when only considering only Swedish companies is concluded by Gauffin and Nilsson (2010). Furthermore, Petersen and Plenborg (2010) conclude that there is inconsistency among companies in the application of IAS 36 Impairment of Assets. This holds for both how the CGU:s are defined and how the recoverable amount is estimated. Also Ernst & Young (2010) find indications of a lack of consistency in the application of the standards.

In a study made by Ernst & Young (2010), the 40 largest acquisitions made during 2009 by Swedish companies complying IFRS were investigated. The study showed that goodwill was the most important asset of the consolidated enterprise value, constituting on average 35 percent of the total value. However, this percentage was substantially lower than during the previous three years when goodwill represented over 50 percent of the total value. Ernst & Young suggest that the 2009 decrease partly can be explained by overall lower company valuations. In a similar study by Gauffin and Nilsson (2010) covering companies noted on Stockholm OMX, the authors conclude that years with high purchase prices of companies are accompanied with higher percentages of goodwill in relation to the consideration transferred.

The Ernst & Young study (2010) revealed a 2009 average of 32 percent for intangible assets in relation to the enterprise value. It also showed that it is common to aggregate all intangible assets in one post. In a similar study covering over 700 global transactions 2007, Ernst & Young (2009) conclude that the recognition of a key intangible asset results in a smaller goodwill amount and thus that the residual goodwill is strongly negatively correlated to the recognition and measurement of intangible assets. The study also shows that in the process of valuing intangible assets, the choice of model varies depending on the type of intangible asset and that some sort of income approach is most commonly used.

Ernst & Young (2010) conclude that it is rare with fair value adjustments of tangible assets. Heurlin (2011) offers a reason to this by arguing that Swedish companies tend to consider the book values in the acquired companies as the correct values despite the fact that these are often not fair values. However, Ernst & Young concludes a previous reluctance to recognize assets that are depreciated or amortized to have been decreased.

By studying the technology industry Wyatt (2005) shows that the industry is of importance for the allocation of the consideration transferred in the PPA. As an example, the speed of the technology development has a positive correlation with the likelihood of managers recognizing intangible assets as their cash flows are closer and thus less risky. The importance of industry is supported by Ernst & Young (2009) who show that the allocation of the consideration transferred in the PPA varies depending on which industry the company operates within.

2.5.2 Subsequent impairment testing

Herz et al. (2001) conclude that when doing impairment tests, the DCF model is the most frequently used model. Gauffin and Thörnsten (2010) investigate impairment testing of goodwill in 254 companies noted on Stockholm OMX and their study shows that DCF valuation also is the most common model for impairment testing when only considering goodwill valuation. In over 50 percent of the cases, a discount rate of 10 to 13 percent was used. In a study of ten Swedish companies by Hellman (2011), discount rates between 6 and 14 percent were used.

Beisland and Hamberg (2009) describe a study of 230 Swedish companies listed on the Stockholm OMX. In that sample, impairments of goodwill were during the period 2001 to 2007 on average made in 17 percent of the companies. The authors concluded that there were no differences in the level of goodwill impairments before and after the introduction of the new IFRS.

Heurlin (2011) criticizes the way in which companies apply the new standards, stating that they tend to do it in a practical and simplistic way. He argues that there should be a higher number of impairments if the standards were applied in a more correct manner.

Concluding the sections on firm practice, it becomes evident that there is a need of more research in the area of how companies do the allocation of the consideration transferred in the PPA and the subsequent impairment tests. Even though some quantitative data is available there is a gap in deeper qualitative information on how firms make their allocation of the consideration transferred in the PPA and how they subsequently treat the PPA.

2.6 Creative accounting

When the communication from a company is deliberately distorted by financial statement preparers in order to bias the message, the company can be said to pursue creative accounting (Gowthorpe and Amat, 2005).

The previously discussed indirect consequences of the allocation of the consideration transferred in the PPA and the subsequent impairment testing could potentially give incentives for management to be creative in the accounting. Healy and Wahlen (1999) suggest a variety of reasons to why companies might manipulate the financials. Several of the reasons concern the indirect consequences, both internal and external, that have been discussed: influencing the

stock market, increasing management compensation, reducing the likelihood of violating lending agreements and avoiding intervention by government regulators.

The ambiguity and subjectivity in the processes of allocating the consideration transferred in the PPA and of subsequent impairment testing, in combination with the effects on the financial statements suggest that these processes are potential areas for creative accounting. Furthermore, the fact that it is very hard for outsiders to observe and monitor these processes (Wyatt, 2005) increases the possibilities for creative accounting. Additionally, Gowthorpe and Amat (2005) suggest that the replacement of the amortization of goodwill with tests of impairment, as the new IFRS require, further increase the opportunities for creative accounting as the impairment testing rely on fair value estimates.

Earnings management has in previous literature been defined as the attempt by corporate managers to influence short-term reported income (Sevin and Schroeder, 2005). Massoud and Raiborn (2003) raise concerns that the possibility of creative accounting, due to the standards allowing for flexibility, might result in managers adhering to a big bath behavior and higher volatility in the earnings. Wines et al. (2007) point out that as a low number of CGU:s decrease the probability of goodwill impairments, there are incentives to identify as few CGU:s as possible. A final suggestion for creative accounting is offered by Muller (2004) who states that an indefinite useful life can in many cases be assumed for intangible assets, thus resulting in the same subsequent treatment as for goodwill.

Previous research suggests that earnings management of intangible assets and goodwill has existed in the past. Wines and Ferguson (1993) provide evidence that firms between 1985 and 1989 used accounting policies to avoid the goodwill amortization. In the study, companies recognized intangible assets that they did not amortize in order to get as low goodwill amortization as possible. There have also been indications of that companies have planned the timing of the amortization in order to make the stock price react favorable (Henning and Shaw, 2003). This suggests that already before the changes in the standard were applied there were tendencies of manipulation concerning goodwill. After having studied ten Swedish companies during 2008 and 2009, Hellman (2011) questions whether impairments of goodwill should not have been larger and occurred more often. There is also evidence that goodwill impairments have been used in order to manipulate earnings by adopting a big bath behavior (Sevin and Schroeder, 2005, Giacomino and Akers, 2009).

Gramlich et al. (2001) consider the existence of balance sheet management and report in their study that firms do manipulate balance sheet ratios by reclassifying assets and liabilities. As a result, the liquidity and leverage ratios reported on the balance sheet are smoothened.

As is evident by the previous research, creative accounting can be implemented both by focusing on the income statement and on the balance sheet and when investigating creative accounting it is as Hellman et al. (2010) point out important to both consider the effects on the balance sheet and the effects on the income statement. Hellman (2010) explains two different approaches to how financial performance can be measured. Taking the income statement approach, accomplishment is measured by profit. By instead taking the balance sheet approach, the change in net assets is the measure of accomplishment. It should also be noted that some researches argue that there is no dichotomy between the two different concepts. Instead, Heurlin (2011) argues that the two approaches do not exclude each other.

As Elwin (2008) describes, IFRS and other standard setters are more and more focusing on the balance sheet approach. Dahmash et al. (2009) argue that this shift is likely to increase the importance of appropriately recognizing intangible assets. Penman (2009) on the other hand concludes that even though the value of intangible assets and goodwill are stated on the balance sheet, it is important to also focus on the income statement in order to get the most accurate picture of a company's financial position.

An indication of that analysts pay a lot of attention to the income statement is the fact that the earnings measure is related to the stock recommendation (Bradshaw, 2004). Analysts also tend to overweight past earnings in their forecasts, as Nandelstadh (2003) shows in his study of the Nordic market.

The direction of a manipulation is all dependent on the specific situation and on whether most focus is on the balance sheet or the income statement. Consequently, as Wines et al. (2007) highlights, it is not possible to state in which direction a possible manipulation would be in, it could be both up- and downwards. Despite the fact that one cannot say for certain whether it is in the favor of the balance sheet approach or the income statement approach creative accounting would be, the majority of the previous research seems to be in agreement of that it is avoiding impairments that companies would like to do.

Even though there has been much written about the fact that companies might manipulate, Wyatt (2005) suggests, after having investigated intangible assets within the technology sector, that the risk of manipulation in many instances is overstated. Also, as is highlighted in the study by Barton and Simko (2002), there is a trade-off between earnings and balance sheet management since the income statement and the balance sheet are closely interlinked. Management's ability to manipulate earnings on the income statement decreases with the extent to which the accumulated amount of net assets already are overstated on the balance sheet (Barton and Simko, 2002).

Despite the arguments that creative accounting might not be such a large problem, it can be concluded that is important to have the concept of creative accounting in mind when analyzing the empirical data in this thesis.

3. Method

In order to fulfill the aim of this thesis, a quantitative and a qualitative study have been made. The aim of the quantitative study is to extend the previous studies that have been made within the area, to investigate how firms on average allocate the consideration transferred and to determine the general level of goodwill impairments and amortization of intangible assets. Compared to the previous quantitative studies, the study of this thesis is extended in time and number of details investigated.

The qualitative study takes an exploratory approach and aims to deeper investigate how the management of one chosen group reflect and reason in the process of allocating the consideration transferred and in the subsequent impairment testing.

This part of the thesis will explain the methods, calculations and choices made, first in the quantitative study and secondly in the qualitative study.

3.1 Quantitative method

The quantitative study is important due to two reasons. Firstly, if the fair value adjustments of the tangible assets, the recognized intangible assets and the residual goodwill amount are substantial, the qualitative study becomes relevant. Hence, this is important prior to the qualitative study. Secondly and after the qualitative study, the quantitative study can be used in order to validate that the case group not is an extreme outlier when it comes to the externally reported allocation of the consideration transferred and the externally reported impairments. It should be noted that the case group is only one company of a heterogeneous sample why generalizations are impossible and hence not either included in the purpose of the thesis.

When performing the quantitative study, the annual reports from 2006 to 2009 of companies in February 2011 listed on Stockholm OMX Large Cap have been investigated. A four year period has been chosen to give a high number of observations, more reliable averages and not give results affected by economic conditions on a yearly specific basis. In order to get results that are useful to interpret and generalize, companies in the financial sector has been left out as they are operating under very specific conditions.

As a first step, acquisitions made from 2006 to 2009 by the companies in the sample have been analyzed by deeper readings of the annual reports. The acquisitions studied are those where:

- The parent company is gaining control over the acquired company and thus consolidates assets and liabilities. Step acquisitions where control already has been established (generally if the group already own 50 percent or more) are left out to not distort the sample.
- The consideration transferred is higher than 100 million SEK (15 MUSD, 10 MEUR).
- The acquisition not is a reverse acquisition, to avoid the risk of distorting the sample.

In the cases where single acquisitions not are disclosed in the annual reports, aggregate acquisition data have been used if the total consideration is higher than the minimum monetary requirement of 100 million SEK. Observations fulfilling the monetary requirement of the consideration transferred but with no information of the allocation has been noted but not included in the numerical calculations.

Due to the revision of IFRS 3, effective from July 1st 2009, implying that transaction costs should be expensed rather than added to the consideration transferred, transaction costs have in this thesis been treated differently for the different years depending on the company specific treatment. The reason to why this not has been adjusted for is that the necessary information seldom is disclosed and that the transaction costs in relation to the consideration transferred generally is small.

Studying the acquisitions, the allocation of the consideration transferred, the amortization periods of the revalued assets and the ownership stake before and after the acquisition have been recorded. When the deferred tax liabilities (DTL) arising due to acquisitions not have been assigned to specific acquisitions, the DTL allocation has been estimated based on the amount of the fair value adjustment of the net assets in the acquired company. In the case of acquisitions of less than 100 percent, the accounting method (i.e. the purchased goodwill method or the full goodwill method) has also been noted.

As a second step, the level of goodwill and other intangible assets together with the accompanying impairment/amortization has been monitored. It should be noted that these figures do not only consist of assets recognized as a result of an acquisition but also of for example internally generated goodwill and intangible assets.

The number of CGU:s per group has been recorded and related to the group revenue. In order to calculate an average of this ratio, the revenue used in the ratio has been translated into SEK when necessary. The exchange rates used have been those of the last trading day of the specific year as reported by Swedbank (2011).

3.1.1 Compilation of data

To determine how large part of the goodwill/intangible assets that have been impaired/amortized, the following ratios have been calculated:

$$\text{Goodwill impairment / GW} = \frac{\text{Goodwill impairment}}{\text{Closing balance goodwill} + \text{Goodwill impairment}}$$

$$\text{Intangible asset amortization / IA} = \frac{\text{IA amortization}}{\text{Closing balance IA} + \text{IA amortization} + \text{IA impairment}}$$

$$\text{Intangible asset impairment / IA} = \frac{\text{IA impairment}}{\text{Closing balance IA} + \text{IA amortization} + \text{IA impairment}}$$

Reversals have been treated as negative impairments³. When calculating the averages for the above three ratios, a denominator corresponding to the number of impairments/amortizations made has been used.

3.2 Qualitative method

In order to answer the questions posed in the introduction and to fulfill the purpose of the thesis, a Swedish group, referred to as *the group*, has been selected as a case object. This group

³ As can be seen in the results, reversals were few and have a minor impact on the aggregated numerical data.

was chosen as it is a mature and stabile group accustomed to handle the accounting issues investigated in this thesis. Also, the authors had high accessibility to this group. To be able to study the case on an as deep level as possible, the authors have for a period of three weeks been positioned at the head quarter of the group.

As a first step, general information and knowledge about the operations of the group has been acquired, for example by studying annual reports, group magazines and other available material. Secondly, the group guidelines concerning the investigated issues have been processed. Thirdly, four different acquisitions have been chosen as case objects based on the aim of getting as diverse case acquisitions as possible. For example, acquisitions made with different objectives, of different size and from all business areas of the group have been chosen. For the four chosen acquisitions, the documentation from the acquisition has been studied. The group's documentation of these four acquisitions included for example PPA:s, press releases and in some cases fair value calculations. The fourth step consisted of undertaking interviews with people at the head quarter as well as in the organization. Those at the head quarter were interviewed concerning the group guidelines and organizational structure whereas those in the organization were interviewed regarding one of the four studied acquisitions. The interviews were in general face-to-face interviews. However, in two cases the interviews had to be made via telephone, in one case due to sickness and in the other case due to different location. All interviews were semi-structured and have been recorded and transcribed. A list of the interviews can be found in the reference list.

4. Quantitative study

This section will first account for the results of the quantitative study. The results have been divided into two parts, the first covering the allocation of the consideration transferred in the PPA and the second covering the subsequent impairment testing and amortization. After the results have been presented, a discussion of the quantitative study will follow.

4.1 Results

Based on the criteria described in the *Method* section, 43 companies have been included in the quantitative study.

4.1.1 Allocation of the consideration transferred

The selection criteria resulted in 117 acquisition observations, of which 33 observations consisted of more than one acquired company. Almost every acquisition resulted in recognition of goodwill and the goodwill constituted on average 48 percent of the consideration transferred. The median was slightly higher, 50 percent.

New intangible assets were recognized in 70 percent of the cases. The value of intangible assets constituted on average 30 percent of the consideration transferred. The median was 19 percent. In many cases, the composition of the intangible assets was not explained. Among the cases disclosed, trademarks/brands and customer relationships were common explanatory posts. As companies were bad at disclosing the useful life of their intangible assets, it is hard to state any aggregated numbers concerning useful lives. However, for trademarks and brands the most commonly disclosed useful life was 10 years. For customer related intangible assets, the useful life was slightly lower. The amount of intangible assets with an indefinite lifetime was generally low.

Tangible assets were fair value adjusted in approximately 40 percent of the cases. The adjustments were in the majority of these cases made upwards. When disclosed, the most commonly mentioned fair value adjusted tangible asset was property, plant and equipment (PPE).

A general observation from the study of acquisitions is that there are large differences among the companies on how much information concerning acquisitions that is disclosed. No acquisition was accounted for by applying the full goodwill method.

4.1.2 Subsequent impairment testing and amortization

As four individual years were investigated, 172 observations of the level of goodwill and intangible assets together with the accompanying impairment/amortization were monitored. The results from this part of the study are shown in *Table 1*. It can be seen that goodwill was impaired in approximately 25 percent of the goodwill observations and that intangible assets were almost amortized every year. In relation to sales, both goodwill impairments and intangible asset amortization were minor. It is also evident that in every third observation, impairments of intangible assets were made. However, these were in general very small. The number of reversals was low and not of a great amount.

Number of companies	43
Number of observations	172
Number of goodwill items	155
Number of goodwill impairments	38
Number of goodwill impairments/Number of goodwill items	25%
Average (Goodwill impairment/Goodwill)	12%
Average (Goodwill impairment/Revenue)	3%
Number of intangible asset posts	156
Number of intangible asset amortizations	149
Number of intangible asset amortizations/Number of intangible asset posts	96%
Average (Intangible asset amortization/Intangible assets)	14%
Average (Intangible asset amortization/Revenue)	1%
Number of intangible asset impairments	56
Number of intangible asset impairments/Number of intangible asset posts	36%
Average (Intangible asset impairment/Intangible assets)	3%
Average (Intangible asset impairment/Revenue)	0.3%

Table 1

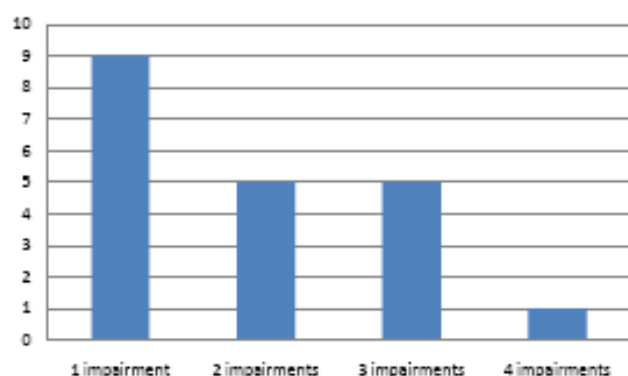


Figure 5 Goodwill impairments per company

Interesting to note is the distribution of the goodwill impairments and the intangible asset impairments. A total of 38 goodwill impairments were distributed among 20 companies as shown in *Figure 5*. As an example, it can be seen that of the companies that have done impairments, more than half of them have done more than one impairment. The 56 observations of intangible asset impairments were distributed among 20 companies and

the number of companies that did both impairments of goodwill and of intangible assets amounted to 14.

The number of CGU:s defined for impairment testing of goodwill was hard to determine. The companies were in general good at disclosing goodwill allocated on units, but it is hard to know on which level the impairment tests are done. The units disclosed ranged between 1 to 20, with the majority distributed between 2 and 7 CGU:s. On average, the revenue generated per CGU amounted to 19 billion SEK. The median was 7 billion SEK.

All ratios in the quantitative study were also calculated excluding real estate companies due to concerns that they might distort the results. The exclusion did not alter any figure materially, partly due to the low number of acquisitions made by real estate companies. Hence, the real estate companies will not be excluded further in the thesis.

For additional results of the quantitative study, please see the appendix.

4.2 Discussion

Looking at the results of the quantitative study it is evident that goodwill and intangible assets often constitute a large amount of the balance sheets. As goodwill by several authors (for example Herz et al, 2001) has been considered to be characterized by substantial subjectivity, the reliability of the accounting of business combinations can be questioned as almost 50 percent of the consideration transferred on average is recognized as goodwill in the PPA. The question of ambiguity is further enhanced by the fact that intangible assets also constitute a large part of the consideration transferred and also intangible assets are hard to value objectively, as stated by for example Muller (2004), Olsen and Halliwell (2007) and Heurlin (2011).

It should be noted that due to the revised IFRS, transaction costs are in some observations not included in the consideration transferred. Even though this will have an impact on the goodwill item, this effect is likely to be minor.

The study of intangible assets gives no indication of any large amount of intangible assets with an indefinite life, which suggest that intangible assets with an indefinite life are not used as a source of manipulation as Muller (2004) suggests. Hence, whether the consideration transferred is allocated to goodwill or intangible assets in the PPA seems in practice to give rise to substantial differences.

Noticeable is the low occurrence of fair value adjustments of tangible asset. A possible reason to the low numbers of adjustments of tangible assets is, as Heurlin (2011) suggests, that managers consider the original book values as very relevant. A related possible reason for not adjusting the value of tangible assets concerns the principle of materiality; if the management believes the fair values to be close to the book values the management might not consider the benefits of revaluing the tangible assets to exceed the costs. It could also be the case that the values already are fair values, which in many cases seems realistic as the use of fair values lately has increased in the IFRS. With this aspect in mind, it is not possible to conclude that the number of revaluations is too low. On the other hand, if the number of acquired companies that before the acquisition did not apply IFRS and instead used historical cost accounting were high, fair value adjustments of tangible assets in 40 percent of the cases seems low. However, the accounting policies of the acquired companies have not been investigated in this study. It can also be noted that few fair value adjustments of tangible assets increases the amount of goodwill in most cases. Hence, if the company is in favor of high levels of goodwill, low amounts of fair value adjustments is a potential method to achieve this.

When analyzing the data on goodwill impairments, one can start to question whether goodwill impairments in 25 percent of the cases is a high or low number. The figure is higher than the level of goodwill impairments found by Beisland and Hamberg (2009) and seems high enough to not suggest manipulation in the form of too few impairments on a general level. On the individual level this type of creative accounting might still be the case. Manipulation on the individual level is supported by the fact that the goodwill impairments are not evenly distributed among the companies. However, the fact that some companies do impairments of goodwill for several years, indicates that no big bath behavior is applied. Another possible reason for the uneven distribution is industry specific norms and company specific policies, as suggested by Wyatt (2005) and Ernst & Young (2009). If the number of impairments were

highly correlated to the company or industry, predicting goodwill impairments would be somewhat easier than envisioned by Johansson (2008).

Impairments of intangible assets are commonly occurring, but the level of impairments, both in relation to the intangible assets itself and to sales, is rather low. Hence, companies seem to be good at estimating useful life and in contrast to previous literature, there is no support for big bath behaviors concerning intangible assets. As experienced by Ernst & Young (2010) and the Financial Reporting Council (2010) it was in the pre-study sample common to aggregate all intangible assets into one post. This might as the Financial Reporting Council suggests be due to companies finding the standards hard to apply. Another suggestion is that companies do not want to disclose too much information due to secrecy. Despite the underlying reason, this makes the analysis of the acquisition harder from an external perspective.

When comparing the average percentage decrease in goodwill in those cases where goodwill is impaired with the average amortization of intangible assets, it can be concluded that they are approximately the same. As goodwill impairments are done more seldom than amortization of intangible assets, this implies that goodwill will stay on the balance sheet during a longer time period. One can question whether the fact that something is not separable and has an indefinite life (i.e. goodwill) implies that it has a longer life. If this is not the case, the shielding effect discussed by Hellman et al. (2010) resulting in a lower probability of goodwill impairments is supported.

As stated in the section *Results*, a possible reason to the low numbers of CGU:s is that companies in some cases do not bother to disclose all units, but only the largest. As a low number of CGU:s in line with Hellman et al. (2010) increases the shielding of goodwill and can be seen as a sign of manipulation, it should be in the companies' interest to disclose all units tested for goodwill impairment. This means that if companies today only are disclosing the largest CGU:s one can in the future, when the theories regarding creative accounting are more understood by companies, expect more details on the allocation of goodwill. However, keeping the number of CGU:s low is a useful tool for keeping impairments low that is hard to argue against. Another likely reason to the low number of CGU:s is the difficulties in dividing the operations into different units as pointed out by Wines et al. (2007).

The large difference between the average and the median of the ratio between the revenue and the number of CGU:s implies that there are a number of companies that have a very high ratio. Even though these companies do not belong to a specific industry, they are all mature and well developed companies focusing on their core business.

Two plausible reasons for why there are such large differences in how much and how detailed information companies disclose regarding acquisitions and impairment testing are that some companies put more effort into the disclosing process than others and that some companies are reluctant to reveal some of their information. The reason is likely to be dependent on the individual company and its competitive situation.

After performing the quantitative study, it can be concluded that the allocation of the consideration transferred and the subsequent impairment testing have large direct consequences on the financial reports and that the PPA and impairment testing processes are characterized by several choices. This implies that it is important to get a deeper understanding of how companies reason and think in these processes.

5. Qualitative Study

This section covers the main study of the thesis, firstly by giving an account of the observations of the case group and secondly by discussing the results.

5.1 Results

After a brief description of the case group, general responsibilities and guidelines of the group are portrayed. This general information of the group is followed by illustrations of the four specific acquisitions made by the company, both when it comes to the PPA and the impairment testing. Finally, the WACC and the level of disclosures in the annual report are described.

5.1.1 Case Description

The group investigated is a Swedish industrial concern listed on the Stockholm OMX Large Cap. The group is present all over the world and consists of three Business Areas (BA:s), in this thesis referred to as BA A, B and C. The BA:s are further operationally divided into approximately 100 different segments based on product areas, profit centers and customer segments (see *Figure 6*). In this thesis they are all referred to as segments. Even though these segments prepare financial result reports to the HQ, they are not reported externally.

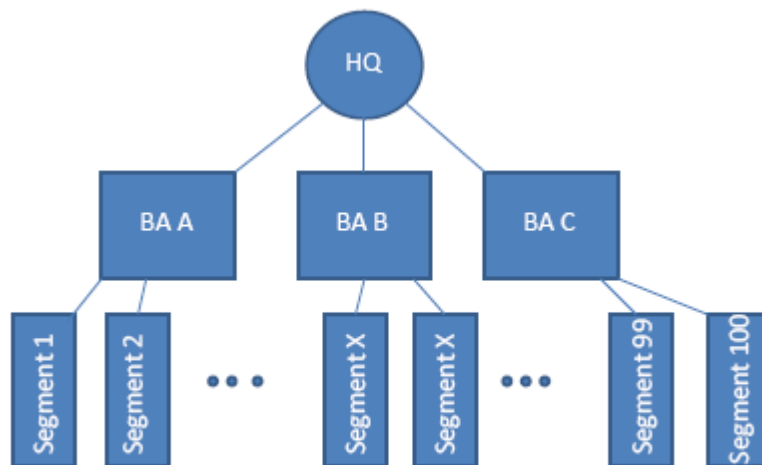


Figure 6 Case organization

Important to note is that a segment is not the same as a legal entity. A legal entity can belong to several different segments, and a segment often consists of more than one legal entity. The legal entity currently belonging to the highest number of segments is part of 40 different segments. The group has no subgroups and split groups acquired. Only one consolidation is made.

One of the group's growth strategies is to acquire new companies and all the three BA:s have done so extensively during the last couple of years. To fulfill the aim of the thesis, four separate acquisitions between 2007 and 2009 have been studied.

5.1.2 General responsibilities and guidelines of the group

The headquarter (HQ) issues guidelines covering how the BA:s and segments of the group should handle acquisitions of businesses, intangible assets and impairments. These are mostly of a general character and mainly restate what the IFRS/IAS are stating. However, the general principles are to some extent complemented with specific accounting principles of the group. Even though the guidelines covering acquisitions of businesses recently were revised, the Group

Reporting Manager working at the Financial Control unit at the HQ cannot identify any major changes from the previous guidelines.

The Group Reporting Manager states that in addition to the written guidelines, HQ also provides the group with educational gatherings to make sure that a high quality of the accounting is reached. Four times a year, HQ assembles two representatives from each BA in a forum where they proactively discuss internal as well as external accounting issues. On these occasions, HQ also takes the opportunity to inform about new accounting rules and the effects they may have. The Group Reporting Manager further exemplifies the educational efforts by informing that the HQ also arranges seminars on a regional basis in order to decrease implementation differences arising in the accounting due to cultural differences. Most cultural differences are perceived to exist between Asia and Europe, both concerning the mentality and the institutional factors. However, the Group Reporting Manager highlights that the implementation differences are less problematic than what is often expected.

5.1.2.1 Mandate to decide whether to acquire

Acquisitions are initiated at the level of the BA:s, which have their own Mergers and Acquisitions (M&A) units. The initiative to make an acquisition is often raised internally, but in some cases also external parts come with suggestions. The BA is the first instance to approve an acquisition.

The second instance to approve an acquisition is the HQ. The HQ should be informed and involved in the acquisition process at an early point. However, at this point, the M&A process is at a fairly advanced stage and the majority of the potential acquisitions never reach this stage. The Group Reporting Manager explains that information about acquisitions previously sometimes has arrived too late to the HQ and that this is the reason for why explicit guidelines on this matter have been formulated. A rule of thumb is that the larger the planned acquisition, the earlier the HQ should be involved. A preferable time frame is up to 12 months before a planned large acquisition.

The pre-notice information that should be provided to the HQ is described in the guidelines and includes for example strategic reasons for the acquisition, purchase price, PPA plan, conditions for closing and company structure. In return, HQ has the responsibility to assist the BA and to make sure that there are no risks for non-compliance with IFRS or other accounting principles applied by the company. If the acquisition involves complicated issues related to accounting, the Group Reporting Manager explains that the BA has an extended responsibility to contact the HQ.

The final decision of whether to acquire is made by the board of directors of the group. In practice, it is according to the Group Reporting Manager seldom that the board rejects a proposed acquisition as it informally has been discussed prior to the point of decision.

5.1.2.2 PPA responsibilities

When an acquisition has been finalized, the guidelines state that it is the responsibility of the BA to:

- Ensure that a PPA is initiated as soon as possible
- Ensure that revaluations from local GAAP to IFRS are initiated
- Allocate goodwill to the relevant segments together with the HQ

The general rule is that when an acquisition has been made, a revaluation of the assets in the acquired company should be made. However, the Group Reporting Manager explains that the group uses the principle of materiality in this case and that sometimes the benefits of performing a revaluation of the assets are considered to be outweighed by the costs. The reasoning in the group of whether to perform a revaluation of the assets should according to the HQ follow the structure shown in *Figure 7*. If the size of the acquisition is considered to be large enough, a revaluation is always made. If the acquisition not is considered large enough, the judgment criteria is instead the size of the difference between the price paid and the original book values of the net assets of the acquired company. If this difference is large a revaluation is made but if not, the assets of the acquired company are not revalued and the difference between the price and the net assets is booked as goodwill. There are no formal numerical limits for making this decision.

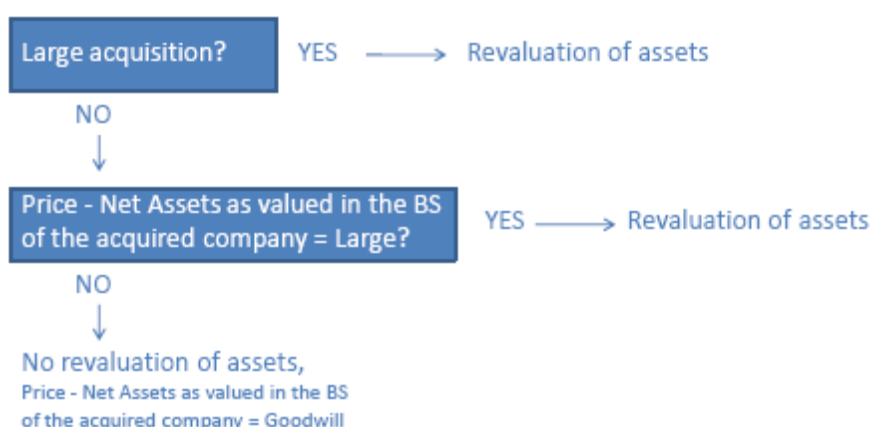


Figure 7 The principle of materiality when deciding on whether to perform revaluation of assets

The final decision of whether to perform a revaluation of the assets is taken by the HQ according to the Group Reporting Manager. The Group Reporting Manager reflects over the fact that it is of great importance that the HQ monitor the BA:s in this matter. This is since the BA:s have incentives to avoid revaluations as the BA:s in the short term are charged with the costs of performing the revaluation and in the long term are negatively affected by the depreciation and amortization of the increases in value of tangible assets and recognitions of intangible assets that often is the result of a revaluation.

The Group Reporting Manager explains that even though the booking of goodwill is made at the HQ, it is the responsibility of the BA:s to, after the acquisition, report how the goodwill should be divided over the segments and cash generating units (CGU). In this matter, the HQ has no mandate to affect the decisions of the BA:s, but only to give advice. This division of goodwill is not fully reported externally.

In the PPA process, the HQ is responsible for the external reporting, the consolidation, the main contact with the auditors and that the company specific accounting principles are followed. The HQ also has the responsibility of documenting the acquisition. A binder with information concerning twelve different areas, such as due diligence, PPA, balance sheet from the acquired company and acquisition balance sheets, should be created.

The Group Reporting Manager explains that even though the BA:s have the formal responsibility for the PPA, the HQ is very much involved in the process:

Sometimes it feels like I have more contact with the BA:s than with the people at the HQ.

The Group Reporting Manager further explains that as soon as any queries arise, the BA:s consult the HQ.

5.1.2.3 PPA calculation guidelines

The group guidelines state that the consideration transferred in an acquisition should be measured at fair value at the acquisition date. Furthermore, a liability for an eventual deferred consideration should be determined by discounting the amount payable. What is meant by this is according to the Group Reporting Manager that payments that are planned to be made in the future should be discounted. The Group Reporting Manager further informs that this is nothing that the group has been doing so far and that there has never been a case where the planned deferred payments have not been paid.

The guidelines describe a four-step process for preparing the consolidated balance sheet after an acquisition. It is stated that this process can be based on the balance sheet of the acquired company. The first step in the PPA process concerns reclassification of the acquired company's balance sheet items to the group format. The second step is to identify any differences between local GAAP and IFRS in the acquired balance sheet and to make adjustments when necessary. The third step concerns identifying and making adjustments for differences between reported IFRS values and fair values. As the third step corresponds to the focus of this thesis, emphasis will be put on issues covered in this step. The fourth and final step concerns the consolidation of the reclassified and adjusted balance sheet of the acquired company. The consolidation is made by the HQ. A thorough documentation of the PPA, expressed by a ten point list, is required by the guidelines.

In the PPA process, the guidelines suggest that fair value adjustments in practice often occur for the following items:

- Buildings
- Land
- Plant and machinery
- Inventory
- Pension obligations
- Intangible assets

Three general valuation approaches are presented in the guidelines for estimating the fair value of tangible assets and the Group Reporting Manager explains that these methods are extracted from audit firm guidelines. The market approach is suggested for real estate, machinery and equipment, the income approach for office buildings and production lines and the cost approach for industrial buildings, special designed assets and high number of assets.

The guidelines prescribe that the assessment of buildings and land preferable should be made by an external real estate valuation institute. Since this is a costly process there is however always, as explained by the Group Reporting Manager, a question of whether the benefits exceed the costs. The Group Reporting Manager does not know how often an external part is

consulted but states that it is dependent on which company that is acquired. The Group Reporting Manager believes that the BA:s often have an already established contact with a valuation firm in the countries where many acquisitions have been made. The choice of external part is decided by the BA in consultation with a Country Financial Manager. Each country where the company is present has a Country Financial Manager that due to experience of the country and its accounting rules has a good knowledge of country specific matters. The Country Financial Managers are often recruited locally and work as consultants that are of great importance for both the BA:s and the HQ.

Even though the guidelines state that higher fair values than reported values are rare for plant and machinery, they also state that these assets should be revalued internally by the business area. However, how this valuation should be done is not explained. The Group Reporting Manager does not know how this is done in practice but points to the fact that there often is an internal knowledge of these assets. Technicians are included in the PPA teams and these types of assets are often sold at market prices within the group. In some cases, external valuations of plant and machinery have been made according to the Group Reporting Manager.

Inventory should be valued differently depending on the characteristics of the inventory item. Finished goods should be valued at selling prices less costs to sell and less a reasonable profit. The same holds for work in progress items, with the addition of deducting costs to complete. Raw material should be valued at current replacement costs. It is also stated that due to the complexity of the inventory valuation, this area need thorough discussions. The Group Reporting Manager states that inventory is even closer than plant and machinery to the core business of the company and thus that the internal knowledge is even better for inventory valuations.

How pension obligations should be valued is not stated in the guidelines. Together with financial instruments and taxes, pension obligations are according to the Group Reporting Manager a signal that the HQ is to be consulted. HQ has specialists in these complex areas and if the HQ are not contacted by the BA:s after an acquisition, they contact the PPA teams to make sure that the fair value adjustments of these assets are made correctly.

Hidden assets and liabilities are also mentioned in the guidelines as items that should be recognized at fair values. As stated by the guidelines, this could for example be intangible assets such as customer lists, contracts and trademarks. In connection with this information it is in the guidelines stated that the PPA is normally prepared by external advisors. The Group Reporting Manager explains that what is meant by this is that intangible assets preferably should be valued externally as the competence for doing this often does not exist within the group. External valuation also implies objectivity. However, in some cases where the BA:s claim to have the competence, the BA:s find it unnecessary to pay for the service of external valuation and do the valuation themselves according to the Group Reporting Manager.

The Group Reporting Manager explains that a general group principle is to be cautious towards intangible assets, both concerning the recognition and the estimation of useful life. Material substance is required to be able to record these assets and limitations for the useful life exist. As an example, to be able to capitalize development costs or IT software, group materiality is set to be equivalent to 5 MSEK. The reason for the cautiousness is that there is a great amount of ingenuity for activating intangible assets in the operating functions in order to minimize the

costs. However, that a low amount of intangible assets after an acquisition results in low numbers of amortization is nothing the Group Reporting Manager thinks that the BA:s take advantage of.

In comparison to the principle of cautiousness concerning intangible assets, the guidelines concerning intangible assets also state that the identification of intangible assets needs to be more stringent in an acquisition than if they would be internally generated. What is meant by this is according to the Group Reporting Manager that more intangible assets should be recognized today when IFRS 3 is applied in comparison to before applying IFRS.

Examples of how intangible assets should be valued according to the group guidelines are shown in *Table 2*.

Approach	Method	Examples
Market approach		Brands and trademarks
		Customer lists
Income approach	Relief from royalty method	Brands and trademarks
		Technology
		Software
	Multi-period excess earnings	Customer relationships
		Order backlog
		Technology
	Incremental cash flow method	Internally developed assets
		Brands and trademarks
Cost approach		Technology
	Direct cash flow method	
	Reproduction costs method	Internally developed assets
	Replacement costs method	Customer lists
		Software

Table 2

The Relief from royalty method determines the present value of the intangible assets based on the cost savings realized through ownership. The Multi-period Excess Earnings Method (MEEM) calculates a present value by excluding a proportion of the cash flow that is assigned to other assets that the intangible asset needs in order to generate cash flows. The Incremental cash flow method calculates a present value of the extra cash flow that arises due to the intangible asset. Even though all these methods are extracted from an audit firm, the Group Reporting Manager explains that all methods are used in the group and believes that the MEEM is one of the most common methods.

Even though the Group Reporting Manager states that valuations in an ideal situation should be made on each particular asset, the group is often forced to conduct valuations on a higher level, such as the segment. If the fair value of the intangible assets is not valued by the market approach, the guidelines state that the value of the asset cannot be so high that it creates negative goodwill.

Contingent liabilities should according to the guidelines be discussed with HQ. Furthermore, the guidelines prescribe that tax amortization benefits should normally be excluded from asset fair values as a step-up in fair value is not tax deductible.

The Group Reporting Manager explains that the recommended valuation model for estimating fair values consists of a five year forecast period together with a terminal value and that the model is constructed by one of the BA:s. The cash flows should be based on the BA's business plans and the Group Reporting Manager states that the HQ is striving for limiting the terminal values, for example by not allowing a growth rate over three percent.

All fair value adjustments arising in the PPA are pushed down on the legal entities even though these values often are irrelevant for the entities. The Group Reporting Manager explains that this is a new practice within the group and that the legal entities in some cases are so reluctant to recognize the fair value adjustments that the HQ is forced to book the adjustments at the group level. The Group Reporting Manager states that the major benefit with the push down accounting is that people closer to the operations, and hence better informed about what happens with the assets, have responsibility for the asset values and to make impairments. This also implies that the legal entity's auditor audit the asset value. An exception to the push down accounting concerns goodwill, which only is placed on the BA level.

Goodwill is in the guidelines defined as a residual value calculated as the difference between the purchase price and the sum of the individual fair values of the acquired assets and liabilities.

5.1.2.4 Guidelines concerning depreciation and amortization of assets revalued in the PPA

As mentioned above, the group applies limiting rules for how long the useful life for an intangible asset can be. The guidelines state that capitalized development costs should be amortized over a period of maximum seven years and that the amortization period for IT software investments not should exceed three years. If the business area believes that a longer amortization period is appropriate it needs to be approved by the HQ. The Group Reporting Manager explains that this is very rare and that a substantial sustainable value needs to be verified in order to approve a longer useful life. Examples of assets approved to have a longer useful life are patents and other assets with a legal base. On average, the Group Reporting Manager estimates that the useful life is between three and five years. The Group Reporting Manager also states that almost all assets are depreciated and amortized linearly as it is the default depreciation/amortization pattern. If the useful life of an intangible asset should be considered indefinite, HQ has to be consulted.

5.1.2.5 Guidelines concerning impairment testing of goodwill and assets revalued in the PPA

The group guidelines covering impairments state that if possible, impairment tests should be done at the individual asset, and if not possible at the smallest group of assets that generate independent cash flows, i.e. CGU:s. To illustrate the notion of CGU:s, an example with two different products is provided in the guidelines. If these two products share any machine, the impairment test should be done for both products together, whereas if the products do not share any machine, it is probably possible to do the impairment test on each individual product. Another rule of thumb stated is that if one can identify a business result, it is likely that one can calculate a separate cash flow. In most cases, the CGU:s are according to the Group Reporting

Manager identical with the segments. As stated in the guidelines covering impairments, goodwill should not be allocated to a unit larger than a segment.

The Group Reporting Manager explains that each segment has one person that is responsible for the impairment testing and that this also is the level where the impairment tests generally are made. If the calculation shows a need for impairment, the BA should be contacted. However, the majority of the segments has not done any acquisitions and does hence not have any goodwill or any in an acquisition revalued assets.

In addition to annual impairment tests, the guidelines give examples of indicators that should cause an impairment test:

- Internal changes, for example restructuring of operations or the asset becoming idle
- Declining market value
- External changes, for example technical or legal
- Increases in market rates that affect the discount rate

The guidelines state that the best method for calculating a value for impairment testing is market value less costs to sell. However, it is also noted that the most commonly used valuation method of the recoverable amount is the value in use method based on discounted expected future cash flows.

The group has a general excel model that should be used to test whether tangible and intangible assets with an indefinite life need to be impaired. In the model, future free cash flows (FCF) are calculated as follows:

$$FCF = Revenue * EBIT\ margin\ (excl.\ scheduled\ depr.) - Capex - \Delta Working\ capital$$

The estimation of the four components is simplified by calculating the four components of free cash flow for the previous three years and using these figures as reference points. When estimating the terminal value, the guidelines state that the forecasting of the EBIT-margin should be conservative, that the estimated capital expenditures should be almost equal to the last explicit year and that the working capital is restricted to the same amount as the last explicit year. The guidelines state that a maximum of five explicit years should be used unless a longer period can be justified and the excel model distributed to the BA:s is built in accordance with this reasoning. The guidelines state that the discount rate should reflect the risk specific for the assets. However, in the model, it is stated that the discount rate is given by the HQ.

If the impairment test concerns an intangible asset with an indefinite useful life or goodwill, HQ should be contacted.

5.1.2.6 Evaluation within the group

In order to reach the, in the annual report stated, target of a ROCE of 25 percent, the Group Reporting Manager states that the BA:s are evaluated monthly on income and net working capital and quarterly on full financial reports. However, from the year of 2012 full financial reports will be demanded each month to fulfill the key ratio demands from the board of directors. How the group's incentive systems are constructed is nothing the Group Reporting Manager wants to comment upon.

As stated by the Business Controller of BA A, all segments of BA A are currently evaluated on the same measures, mainly EBIT margin and an economic value added measure, despite the fact that the segments ideally should be evaluated based on their specific characters. For example, the Business Controller suggests that EBIT margin might not be the optimal measure for a raw material unit. Due to this, BA A is currently considering revising the key measures.

The segments of BA B are according to the Executive Vice President Finance (Vice President) of BA B evaluated based on the general financial performance, both with regards to the income statement and the balance sheet. As pointed out by the Vice President, the board is primarily evaluating BA B based on organic growth and return on capital employed. Hence, these KPI:s are also important when BA B evaluates its segments. However, the incentive system of the BA B segments is based on EBIT margin and cash conversion size.

Also BA C focuses the evaluation of its segments on the same measures that BA C itself is evaluated upon: organic growth and return on capital employed externally, and EBIT margin internally. The Financial Control Manger of BA C also mentions net working capital divided by revenue as an important measure. Bonuses of higher management in the segments are based on the mentioned measures, and differ somewhat between the years.

The Business Controller of BA A states that the original management in the segments and acquired companies often are reluctant to be measured on ratios affected by numbers arising as a consequence of the acquisition, such as goodwill impairment and fair value depreciation/amortization. Hence, this is something the Business Controller considers important to have in mind.

5.1.3 Acquisition descriptions

Four specific acquisitions have been studied, in this thesis referred to as the acquisition of Company 1 (C1), Company 2 (C2), Company 3 (C3) and Company 4 production facilities (C4pf), where the acquisition of C1 has the largest consideration transferred and the acquisition of C4pf the smallest. Further figures concerning the acquisitions are shown in *Table 3*.

Acquisition	C1	C2	C3	C4pf
Percentage acquired	100%	100%	100%	100%
Previous ownership	0%	49%	0%	0%
Year of acquisition	2009	2007	2007	2008
Acquiring Business Area	A	B	B	C
Consideration transferred in relation to C1	100%	9%	5%	3%
Revenue the year prior to the acquisition (MSEK)	2000	600	70	150

Table 3

5.1.3.1 Acquisition of C1

In 2009, BA A acquired 100 percent of one of their suppliers. The acquisition was of a highly strategic character as it secured the access to a, of BA A, crucial raw material that otherwise would be in full control by the Chinese market. Since BA A considered the Chinese market to be politically unstable, an acquisition of this type of company had been planned for a while. The reason for choosing C1 was that it was the largest company within its business and the acquisition both complemented and strengthened the operations of the BA. Prior to the acquisition the acquired company was owned by its management, the majority by the founder

that wanted to retire and lacked an obvious successor. BA A was the only potential buyer and the acquisition was considered natural as BA A was C1:s largest customer. The year prior to the acquisition, C1 had revenues of approximately 2000 MSEK.

The intention of BA A was to let C1 continue to operate as an independent unit, thus supplying the BA:s competitors with material. However, the Business Controller of BA A points out that the group always has a choice of terminating the supply of raw material to the competitors of BA A.

The implementation of C1 has been very successful and the profitability has been higher than expected. One of the reasons for this is the unexpected increase in the price of the raw material extracted.

5.1.3.2 Acquisition of C2

C2 was founded in the beginning of the 21th century by three entrepreneurs. As these three entrepreneurs wanted to buy the majority of their machinery park from the case group, the group was offered to make an initial investment in the start-up. According to BA B's Vice President, the investment, resulting in a 49 percent share ownership, was minor in monetary terms. At the initial investment, a pre-emption agreement was signed stating that when C2 had reached a certain size, the case group would have the possibility to increase their ownership in the company to 100 percent. However, when the group in 2007 decided to acquire one of the three largest players on this market, operating in the same country as C2, a discussion with C2 was initiated. As C2 was both a competitor and a complement to the other acquired company in the country, it was seen as suitable to also fully acquire C2. The acquisition of C2 was made parallel to the acquisition of the other company and seen as a strategic acquisition that enabled BA B to take a leading role within its specific market segment. The year prior to the acquisition of the final shares in the company, C2 had revenues of 600 MSEK and the holdings were recorded as an associated company of the group.

The Vice President of BA B states that during the first two years, C2 performed positively in line with the expectations. Even though the operations then were cut down almost 50 percent due to the global financial crisis, the segment has continued as a strong player on the market.

5.1.3.3 Acquisition of C3

In 2007, BA B concluded that they lacked one type of company in the long term strategy of one of their segments. BA B could only identify one company with the potential to fill this hole and as BA B already functioned as the sales channel for this company, the acquisition of C3 in 2007 was a natural acquisition that was expected to both give rise to synergies and to complement the product offering of BA B. The acquisition was considered as very small and in 2006 the company had an annual turnover of approximately 70 MSEK.

According to the former CFO of BA B, the integration of C3 was very simple due to the company's small size and the company has been able to deliver in line with the expectations.

5.1.3.4 Acquisition of C4pf

For several years, the group has been operating as a materials provider within a specific industry. This industry was in 2007 considered as one of BA C's areas where the highest growth and future profitability would occur and several companies were bought within this sector. To increase the growth rate, BA C decided to take the next step in the value chain and thus start

producing the products within the industry. As the risk within the sector was considered to be too high for the group, BA C searched for ways of mitigating this risk while still exploiting the profitability of the sector. In 2008, BA C therefore acquired 100 percent of a production facility owned by C4 that provided the C4 group with products. The acquisition contract included a section stating that as long as BA C followed C4's instructions, no risk would be placed on BA C. In addition to increasing the BA C growth, C4pf was also seen as a good complement to the already existing portfolio of BA C. The year prior to the acquisition, the C4pf had sales of approximately 150 MSEK.

The Business Controller of BA C states that at the point of the acquisition, the C4pf was considered to be a bargain. However, what was not revealed during the Due Diligence process was that the production costs were considerably understated by the C4 group. Six months after the acquisition BA C realized that with the agreed selling prices to the C4 group, BA C was not able to make a profit. Due to this, BA C forced C4 to renegotiations of the prices resulting in a 30 percent price increase both retrospectively and for the future. The Business Controller explains that the renegotiation was good in the short term as it created a profit. However, in a medium time perspective, the renegotiation was a disaster as it destroyed the relationship with the C4 group, resulting in lower sales for the C4pf as the C4 group bought as much as possible from other producers. However, the Business Controller of BA C informs that fortunately the relationship between the parties has improved lately.

5.1.4 Allocation of the consideration transferred

5.1.4.1 Payment of the acquisition

In order to put pressure on the owner of C1, it was decided that the purchase price of C1 should be paid in eight installments over 21 months. The Business Controller of BA A explains that yearly installments are booked as individual investments the year the payment is done. Thus, it appears as if new acquisitions are made every year. The Business Controller continues by stating that he would have preferred a single investment post in the cash flow statement and the installments booked as financial operations. Due to changes in currency rates, the deferred payments have resulted in currency gains in the currency translated consolidated financial accounts. However, the PPA is booked in the purchase price currency and is thus not affected by currency changes.

Neither was the payment for C2 fully made at the time of the acquisition. Instead it was decided that the payment should be distributed over the eight upcoming years, with the majority being paid during the first three years. In order to avoid currency effects on the consolidated goodwill item, the deferred payments were hedged.

The consideration for C3 was paid in cash. However, 15 percent of the consideration was held as a retention sum to be released if no claims were made against the sum. The former CFO of BA B confirms that no claims were raised.

In the case of C4pf, the total sum was paid in cash at the time of the acquisition. The consideration transferred was however adjusted in the final PPA compared to the preliminary PPA. The Group Reporting Manager believes that this was due to difficulties of interpreting the contract. Sometimes it can be so hard to interpret contracts that one does not really understand the full meaning of the purchase agreement until at a later stage and then consequently has to adjust the purchase price.

5.1.4.2 Involvement in the PPA

The Business Controller at BA A and the Business Controller of BA C point out that it is the BA:s that perform the PPA. However, HQ has the ultimate responsibility for the figures presented to the financial market and according to the Vice President of BA B this results in that they also have the final say in all PPA decisions. In addition to approving the PPA, HQ can also function as a sounding board for the BA throughout the PPA process. The Vice President of BA B states that this is particularly evident in the case of financial assets and pension obligations but that these issues also can be discussed with specialists. Furthermore, the HQ function of a sounding board may also be applied when the BA:s face difficulties in how to apply new standards. This was for example the case for C2.

The valuation of C1 was made fully internally by the Business Controller of BA A. The Business Controller considers internal valuation to be ideal as, from his point of view, external valuation firms tend to use a very standardized framework in the PPA valuation. This would result in recognitions of intangible assets that are very general. In comparison to external valuation firms, the Business Controller claims to have a better understanding of why companies such as C1 are acquired, resulting in a PPA reflecting the underlying reasons for the acquisition in a better way. The Business Controller does not consider the PPA calculations to be very complicated and rather suspects that valuation firms describe the process as complex in order to get clients. However, the original PPA calculations made for C1 by the Business Controller were not approved by the HQ and the auditors since they did not include any recognition of intangible assets. The Business Controller claims that the highly strategic characteristics of the acquisition motivated a high level of goodwill but that there are external expectations on the allocation proportions of the consideration transferred that has to be fulfilled.

The acquisition of C2 was made right after the introduction of the new IFRS 3 and it was the first PPA that BA B conducted in the manner they do today. In the PPA process, BA B consulted the transaction service unit of the group's auditor, both in Sweden and in the country of the acquisition. It had previously been discussed with the HQ whether it would be appropriate to use parts of the audit firm for other services than auditing and it was decided that as long as different units of the audit firm were used it would be considered as appropriate. The role of the audit unit of the audit firm was limited to the annual auditing and they were hence not involved in the acquisition process. As also the transaction service unit had minor experience in applying the new standards, a new model was created based on both the BA's and the transaction unit's knowledge. While both BA B and the transaction unit were involved in the valuation part, the transaction unit focused on the detailed information and the balance sheet while the BA B contributed with knowledge about the acquisition. After a model was created, a process of iterations concerning the valuations was initiated between BA B, the external transaction unit in Sweden and the transaction unit of the audit firm in the acquisition country. Due to the uncertainty of how to apply the new standards, BA B also had a continuous dialogue with the HQ concerning how to value customer relations.

As the country where the acquisition of C3 was made is an important market for BA B, the BA has competent personal knowledgeable in accounting located in the country. The former CFO of BA B explains that as the acquisition was of minor size, the local personnel were conducting most PPA calculations. In cases of larger acquisition characterized by a higher degree of secrecy, local offices cannot be used to the same extent as for C3, as then only a few people are intended to be involved in the preliminary PPA. Hence, centralization increases. However, when

acquisitions characterized by a higher degree of secrecy have reached a later state and are official, more parties can be involved in order to get more reliable valuations. The former CFO of BA B reflects over the fact that this often results in revisions of the preliminary PPA.

The valuations of C3 were made in cooperation with an external valuation firm in the country of the acquisition. The former CFO of BA B explains that the BA:s have no restrictions when it comes to the choice of the external valuation firm except for being cautious to not use the group audit firm in too many consultancy cases. Important factors in the choice of external consultants are according to the former CFO previous relationships, confidence and competence within the specific area. The C3 valuation assignment was rather small, but in larger cases BA B sometimes collects price offers from different firms before choosing the external part.

In the preliminary PPA calculations made after the acquisition of the C4pf no assets were revalued or recognized. The Business Controller of BA C confirms that the discussions of whether to perform a revaluation correspond to *Figure 7* but that the final decision of whether to perform a revaluation of assets generally is made by the HQ. In the case of the C4pf, the Group Reporting Manager at the HQ and the person responsible for the PPA knew each other as they previously had been working together at the same office, why the decision was taken by the HQ and BA C in coherence. In the final PPA, it was decided to revalue the machinery and when doing this, neither an external valuation firm nor the auditor was consulted.

5.1.4.3 PPA calculations

The PPA:s of the four acquisitions resulted in fair value adjustments of tangible assets, new intangible assets and residual goodwill in relation to the consideration transferred according to *Table 4*.

Acquisition	C1	C2*	C3	C4pf
Revaluation value of TA/Consideration transferred	13%	0%	0%	1%
New IA/Consideration transferred	8%	86%	40%	0%
Goodwill/Consideration transferred	51%	19%	37%	12%

Table 4

*The reason for a total percentage exceeding 100 percent is due to DTL:s.

The C1 PPA calculations led to positive fair value adjustments for buildings, inventory, rights, know-how and technology. The buildings fair values were based on the insurance values as they were considered to be good indicators of the fair values and the amounts recorded were calculated by multiplying the current insurance values with the ratio between the previous book values and the historical acquisition costs of the buildings. Inventory was valued to selling prices without deductions. The Business Controller of BA A states that the inventory rule is an insane rule as it results in zero profit during the period after the acquisition when the old inventory is sold.

Rights, know-how and technology of C1 were valued by standard DCF models without terminal values. The exclusion of terminal values is motivated by the fact that these assets only are useful for a limited period. The rights were restricted to a period of five years but since there was raw material for at least 20 years, the DCF calculation and hence the useful life was based on this number of years. The cash flows were estimated as the difference between the current raw material price and the extraction costs. As there is a limit on how much raw material that can be

extracted from the mine, no growth in cash flows was assumed for the mine. The know-how and the technology were the assets that were recognized in the later stage in the PPA process. For these assets, a useful life of 10 years was assumed based on a discussion with several persons concerning for example for how long previous techniques had been used.

The C2 PPA resulted in recognition of three intangible assets: a brand, customer relations and a backlog. When calculating the value of the customer relations, 90 percent of the customers were assumed to be regular buyers. This percentage was however assumed to decline by 10 percent yearly. The order backlog was valued as the gross profit in the backlog at the point of the acquisition. It corresponded to approximately four months of sales.

At the time of the final acquisition of C2, the Vice President was not aware of any explicit guidelines from the HQ concerning how long the useful life for intangible assets should be. Thus, this was decided in a discussion between BA B, the HQ and the external valuation firm. The estimates were based on their previous experience and expertise. The order backlog was amortized during the backlogs useful life, thus a very short period.

The Vice President of BA B considers the cash flow estimations the hardest part in the PPA process as, in relation to estimating the WACC and useful life, estimating cash flows is less mechanical. Furthermore, cash flows also have a major impact on the final estimated value. When estimating cash flows when calculating the fair values of the intangible assets of C2, the estimations of the future EBIT margin was based on the historical performance and the calculations made in the due diligence. The EBIT margin was estimated to increase in the future due to a forecasted higher increase in sales than increase in fixed costs. The estimation of the sales growth was a conservatively adjusted historical growth.

The fact that the group previously had a 49 percent share in the company complicated the C2 PPA process. Most problematic was the question of whether to revalue the previous stake or to use the investment value transferred in the start-up. This was especially important in this case as the book value of the first 49 percent was considerably lower than the consideration transferred 2007. Additionally, there were no precedents in this area. In the end, the decision was taken not to revalue the first 49 percent.

The external valuation firm consulted after the C3 acquisition was instructed that plant and equipment should be assumed to have a fair value equal to its written down book value. The former CFO of BA B explains that this judgment was made by technicians within BA B and that this is an area where BA B in general has better knowledge than valuation firms. However, the former CFO highlights that it is important that the external consultant take a critical perspective and consider the plausibility of the assumptions made by the BA as many assumptions in the calculations are based on the group's expectations which after an acquisition naturally are high.

The C3 PPA resulted in fair value adjustments of the inventory and intangible assets. However, in the final PPA, the inventory adjustment was not included. No one can remember why this was the case, but several possible explanations are presented. The former CFO of BA B suggests that it might be due to an almost immediate depreciation of the adjustment. The Group Reporting Manager suggests that either the BA did not agree with the assumptions made by the external valuation firm or elements of the final PPA are made incorrectly.

The intangible assets identified in C3 consisted of the brand name and two intangible assets for the product ranges. The intangible asset for each product range was not further divided as the external valuation firm considered an aggregation to give a better reflection of how the intangible assets were used in the business. It is noted in the PPA that the aggregation consisted of patents, technical knowledge, designs and trade names and the former CFO points out that it was the product ranges that were the reasons for acquiring C3. When valuing the product ranges and the brand, explicit forecasts based on the sales expectations of the group were made for 5.5 respectively 15.5 years as these times were considered the useful lives of the intangible assets. No terminal values were used. The useful lives were estimated by BA B and the former CFO of BA B states that no permission from the HQ was asked for when choosing a useful life of 15.5 years for one of the product ranges and the brand. The external valuation firm used the income approach when valuing the intangible assets. The brand was valued by the Relief from royalty method, assuming a two percent royalty rate. The MEEM as mentioned by the Group Reporting Manager is no method that the former CFO of BA B is acquainted with.

No DTL:s were recognized in connection with the recognition of the C3 intangible assets. The former CFO of BA B explains that this was due to country specific tax rules that for example allowed deductions of the fair value adjustments. The Group Reporting Manager explains that this type of rules are very rare and that DTL:s are recorded in most cases.

Two other intangible assets were also identified in C3 in addition to the two product ranges and the brand. However, after the external valuation firm had valued these projects with the cost approach the projects were considered minor and thus immaterial. Consequently, they were not recognized. Other intangible assets such as customer lists, proprietary software and distribution networks were also considered to have immaterial value. As an example, the former CFO of BA B mentions that the customer base was almost identical to the BA B customer base as they were already selling the products of C3. The former CFO of BA B mentions two criteria that have to be met in order to be able to recognize an asset. Firstly, the value has to be material. Secondly, a sufficient degree of certainty has to be established for the future cash flows. The external valuation firm states in their report that they use materiality level of in SEK approximately 6 million.

As with the value of the consideration transferred, the book value of the acquired net assets was also changed between the preliminary and the final PPA of C4pf. The Group Reporting Manager explains that at an early stage, the group has to rely on what the acquired company tells the group. When the group, in a later stage, gets hold of the company's books there are often adjustments necessary due to accounting principles that the acquired company did not realize were different from the group's. The Business Controller of BA C states that when making the final calculations, BA C is much more informed about the company, for example due to local controllers and visits to the company, why revaluations can occur. One further issue of why there might be changes in the preliminary PPA is strategy changes. As an example, an asset not part of the future strategy is given a value of zero.

The simplified revaluation process of the C4pf resulted in that no external valuation firm was consulted and that no intangible assets were revalued. In a later stage it was apparent that a fair value adjustment of the machinery had to be done. The revaluation of machinery was not done based on a DCF but rather by making a personal judgment. The Group Reporting Manager explains the reason for not doing a DCF was due to materiality; machinery of 800 KSEK was not

considered to be large enough. Materiality considerations were also the reason for not recording any DTL on the fair value adjustment of machinery.

The Financial Control Manager of BA C expresses the opinion that in connection with an acquisition it can be beneficial to not be conservative when recognizing intangible assets that can be amortized. In this manner, the goodwill items are kept at a lower level and the likelihood of the unfavorable situation of doing large impairments will decrease. This opinion is contradicted by the Business Controller of BA A who personally prefers to recognize everything as goodwill in order to avoid amortization of intangible assets.

Price = 100
Net Assets = 50
Tax rate = 25 %

Ex. 1 No Intangible asset

Net Assets 50
Goodwill 50
100

Ex. 2 Intangible asset 20

Net Assets 50	
Intangible 20	DTL 5
Goodwill 35	
105	

Figure 8 The DTL effect of recognizing intangible assets

The Business Controller of BA A reflects upon a possible tactic for increasing the balance sheet values after an acquisition. By recognizing intangible assets resulting in DTL:s, the value of total assets increase by the amount of the DTL as illustrated in *Figure 8*. As the DTL:s are booked at the level of the group together with all tax posts, the DTL:s are not visible at the level of the BA, something the Business Controller of BA A questions. Despite this possibility, the Business Controller has not seen any signs of this tactic being used in the group. In contrast, the Business Controller of BA C states that DTL:s are booked at the BA, but that the BA does not consider these as important as they are evaluated on the EBIT

measure. The Group Reporting manager informs that DTL:s can be seen at the level of the legal entities but that no unit or segment evaluation is affected by DTL:s. This is something the Group Reporting Managers consider to have both advantages and drawbacks.

When DTL:s are calculated, all BA:s use a tax rate based on the tax rate in the country where the acquisition is made.

5.1.5 Impairment testing, depreciation and amortization of goodwill and assets revalued in the PPA

All BA:s are depreciating and amortizing all assets revalued in a PPA linearly. This is seen as the default case and as the Vice President of BA B states it is hard to motivate any other depreciation/amortization pattern. Neither one of the Business Controller of BA A, the Vice President of BA B nor the Financial Control Manager of BA C is aware of any intangible assets with an indefinite useful life.

At the annual impairment testing, it is the CGU:s that are tested and not any specific asset such as goodwill or intangible assets. However, as it is the value of goodwill that is reduced first when an impairment is made, these tests are often referred to as goodwill impairment tests. The Business Controller of BA A mentions that the guideline of contacting HQ when testing goodwill is nothing that the BA has to consider as HQ will make contact themselves.

Individual assets and companies being part of a CGU are only tested if there are indications that impairment tests are necessary. One occasion when the value of an individual asset had to be revalued was when it was decided that the brand of C2 would be replaced by the group brand. It was then obvious that the useful life of the brand no longer would be the previously estimated ten years and the useful life was consequently shortened to five years. The former CFO of BA B can on the other hand not remember any occasion where an individual asset has been tested. The Financial Control Manager of BA C explains that if an individual company performs poorly, that company will be tested for impairment individually. The Vice President of BA B points out that even though the group standards state that goodwill should be impaired before any other asset in the CGU, this is not always the case in practice.

5.1.5.1 Responsibilities

The Business Controller of BA A and the Vice President of BA B inform that it is the BA that has the responsibility and makes the calculations in the impairment testing process. However, there is a continuous dialogue with the segments. The Financial Control Manager of BA C explains that at BA C, it is the person closest to the operational activities that conducts the impairment test, hence the person responsible for the unit or the individual company. When the unit responsible has done the impairment test, the calculations are handed over to BA C.

The by the BA suggested calculations are handed over to the HQ, who takes the decision of whether to go through with the impairment. Furthermore, the Business Controller of BA C explains that all impairments of greater importance in practice have to be approved by the CEO or CFO.

The Financial Control Manager of BA C explains that at BA C, impairment tests are conducted and the outcome discussed with the auditors a few months before the annual revision is made to make sure that no disagreements arise between the BA and the auditors in the annual revision. If the probability of an impairment is considered to be substantial, the impairment test is initiated earlier in the financial year in order to have time for a thorough discussion with the auditors. Of particular interest to the auditors are always the goodwill items.

5.1.5.2 Model used for impairment testing

When testing for impairments, the group has one standardized excel model that is distributed within the group. Both the Business Controller of BA A and the Financial Control Manager of BA C explains that when using this model, a five year explicit period plus a terminal value is used. The underlying reasoning of the impairment testing model is similar to when performing a PPA. However, one difference is that the PPA valuations are more detailed as they for example distinguish intangible assets from goodwill. The Business Controller of BA A also believes the risk consideration concerning taxes to be somewhat different when doing impairment testing as compared to when making the PPA valuations. The Group Reporting Manager is not familiar with this difference. Market values were not used in the impairment testing for any of the case acquisitions.

The Vice President of BA B reflects over the fact that it is the assumptions concerning the perpetual growth rate and the EBIT margin that are the most critical estimates in the impairment testing process. To mitigate the difficulties of forecasting, the EBIT margins are based on the business plans and a specific BA B principle that states that exceptionally good arguments has to be raised in order to be able to have a perpetual growth rate of over 2 percent.

At BA A, the growth rate in the terminal value is commonly 3 percent. The Business Controller of BA A does not mention this as an explicit rule from the HQ but rather states that the rate has to be higher than the inflation. It is also explained that this is a rate often questioned by the auditors. The Financial Control Manager of BA C states that also BA C uses a 3 percent perpetual growth. In this case, it is however a result of the guidelines issued by the HQ.

An area that sometimes causes problems when doing impairment testing is according to the Business Controller of BA A transfer prices. Transfer prices biased due to local taxes are adjusted in the impairment testing, but discussions sometimes arise.

5.1.5.3 Definitions of CGU:s

If possible, the CGU:s are at all BA:s defined at the level of the segments and thus below the BA:s. For BA A there are five impairment tests made on the segment level, of which C1 is one. The remaining part, which according to the Business Controller of BA A constitutes the majority of the tested value, is tested at the level of the BA. The reason why C1 is tested separately is that it is fully separable from BA A's other operations.

BA B has currently two CGU:s at the level of the segments. The residual value is tested at the level of the BA. The former CFO of BA B reflects upon the use of a relatively low number of CGU:s when stating that since the intention of an acquisition generally is to complement, rationalize and create synergies, it is natural that an acquired company becomes part of a larger CGU soon after the acquisition.

C2 was the year after the acquisition considered a standalone CGU, but since the year of 2009 C2 and the parallel acquired company have been treated as one CGU due to the merging of their operational activities. They are today one of the two CGU:s at the level of the segment. According to the Vice President of BA B, the critical event for when the two companies were started to be treated as one CGU was when the production and the product development were merged. At this point, it was no longer possible to distinguish what products and hence income that belonged to which company. The sales units for the different companies were integrated at a later point. C3 has since the acquisition been part of a larger CGU and is today part of the second CGU on the segment level.

The Financial Control Manager of BA C explains that at BA C there is only one CGU at the level below the BA that is tested as a separate CGU. C4pf is one of three acquisitions that belong to this unit.

Both the Business Controller of BA A and the Financial Control Manager of BA C state that it would probably be possible to define more CGU:s. However, even if considered as theoretically preferred, the current CGU structure has been chosen for practical reasons.

5.1.5.4 Impairment testing in the cases

Since the acquisitions were made, no impairments have been made in any of the studied cases. For C2, this is despite the fact that the CGU not has performed in line with expectations. The Financial Control Manager of BA C states that this is since the BA still sees the potential of the CGU and believes that the unit has the knowledge to perform better in the future.

For the case acquisitions' CGU:s, the ratio between the calculated values in use, used in the impairment testing 2008, and the 2008 book values was 130 percent, 250 percent and 270 percent.⁴

Worth to notice is that in the 2008 impairment testing, all terminal values for the studied cases exceeded 50 percent of the total value of the discounted cash flows.

Even though no impairments were made for C2 during the financial crisis between 2007 and 2009, the Vice President of BA B mentions that the crisis was reflected in the estimates. The expectations from before the financial crisis were postponed about five years and thus the crisis had large impacts on the DCF valuations. However, the Business Controller of BA A, the Vice President of BA B and the Financial Control Manager of BA C are all agreeing in that the event of a financial crisis not necessarily has to result in impairments of goodwill or other assets. They motivate this by stating that the long term value has to be considered and that the impact of a financial crisis on this value is minor. However, both the Business Controller of BA A and the Financial Control Manager of BA C highlights the fact that a financial crisis can be seen as a good time to conduct goodwill impairments as it is likely to be externally accepted to perform poorly during crises. By taking impairments during financial crises, one might also avoid to present poor results due to goodwill impairments when the operations are going well.

5.1.5.5 The goodwill item in the future

The Vice President of BA B states that since relatively few impairments of goodwill today are done at the BA, the goodwill item is larger than it would have been if the old IFRS standards with goodwill amortization would have been prevailing. The former CFO of BA B adds that with the amortization rules it was not a question of *if* the goodwill item should be decreased but rather of *how much*, why the new standards would result in a higher goodwill item. This opinion is to some extent supported by the Financial Control Manager of BA C who states that a behavior to defend the goodwill item is likely to be adopted when applying the new standards. However, the Financial Control Manager expects the impairments to be very large when they eventually are done, potentially resulting in a long term goodwill value at the same level as before the new IFRS. Furthermore, the Business Controller of BA A argues that the new standards are likely to result in that the goodwill item will be hard to assign to a specific unit and consequently become somewhat unidentifiable.

5.1.6 The group WACC

Many fair value calculations are dependent on a discount rate and the group guidelines state that this rate should be determined together with the HQ. In practice, HQ provides the group with the group Weighted Average Cost of Capital (WACC) that is used as the discount rate when testing for impairments and when evaluating new investments, possible acquisitions and payment terms. Up until the summer of 2010, different rates were used when valuing payment terms and assets but as of today only one rate is used in the group.

According to the Head of Group Business Control positioned at the HQ, who is responsible for calculating the group WACC, the WACC calculations are based on the following formula:

⁴ Due to the critical character of these figures, the percentages are in the thesis not assigned to the specific acquisitions. It should also be noted that only three of the studied acquisitions had been made at this point, hence only three figures are disclosed.

$$WACC = r_D * \frac{D}{D + E} + r_E * \frac{E}{D + E}$$

r_D is defined as the average group debt rate and D as the value of the group debt. E is defined as the stock market value and r_E is derived using the standard Capital Asset Pricing Model (CAPM):

$$r_E = r_f + \beta(r_M - r_f)$$

The risk free rate (r_f) is set equal to a ten year Swedish government bond and the beta value (β) is taken from the Bloomberg database. The Head of Group Business Control informs that the beta is based on the historical group performance but cannot explain how it is calculated. The Swedish market risk premium ($r_M - r_f$) used is 4 percent and as the Head of Group Business Control explains, the figure is determined based on professional judgment and only changed if radical changes are experienced.

HQ estimates both a pre-tax and a post-tax WACC. However, as the Head of Group Business Control states it is the pre-tax WACC together with pre-tax cash flows that is commonly used in the group.

Even though the calculations of the WACC are made at the end of every year, the rate used is seldom changed. As an example, even though the calculated rate in the year of 2010 was estimated to 10.6 percent it was not considered to be a significant deviation from the 10 percent WACC in use and the WACC was consequently not changed. The Head of Group Business Control explains that changes in the WACC have large practical consequences for incentive plans and other calculations, why rates estimated between 9 to 11 percent would not alter the 10 percent WACC currently in use.

The HQ argument for using one single rate is that the HQ does not perceive any differences in the risk and requested return for the different BA:s. No political risk is considered when determining the discount rate even though the Group Reporting Manager can see a potential benefit of doing this.

The Business Controller of BA A expresses some objections towards the use of a group WACC. As it is used as a risk premium, the WACC should ideally be different depending on for example in which country the WACC is used. Also the Head of Group Business Control is of a similar opinion when stating that the next step for the group ideally would be to adjust the risk premium of the WACC in high risk countries. Instead of doing this, the group's current approach implies that one has to make qualitative considerations in addition to DCF calculations in high risk countries. Even though also the Financial Control Manager of BA C reflects upon the fact that all units of the group does not carry the same risk, the Financial Control Manager raises the question of whether the complexities of using case specific WACC:s would be larger than the benefits of more accurate calculations. In the long term, the results of using a too low rate in some cases and a too high rate in other cases might even out. The Head of Group Business Control also points out that a single group WACC is common practice among similar groups within the industry.

The Business Controller of BA A explains that the group WACC is used for internal as well as external calculations. Furthermore, the Business Controller believes that this rate also is given

as a presumption when valuations are made by external consultants. However, the former CFO of BA B states that external valuation firms use rates based on publicly available market information rather than the internal expectations that the group WACC is based on. In the case of C3, the discount rate used by the external valuation firm was a post tax company specific WACC on 12.5 percent. When valuing the customer contracts and the brand a 0.5 percent higher discount rate was used as those assets were considered to have a higher risk.

5.1.7 Disclosures in the Annual Reports of the PPA process and the impairment testing

In the Annual Reports from 2006 to 2009, the group does not disclose the individual PPA:s for each acquisition. Instead, the aggregated PPA for each BA is presented. The given reasons for recognizing goodwill are the same for all years.

How the goodwill is tested for impairment is described in detail by for example mentioning the model with five explicit years and a terminal value, the 3 percent maximum of the steady state growth and the WACC used. As explained by the Business Controller of BA A, the division of goodwill is for all material CGU:s disclosed for BA A. For BA B and BA C, all CGU:s are disclosed together with their amounts of goodwill. The description of how other intangible assets are tested for impairments is less extensive in comparison to the description of the goodwill testing.

Whereas impairments of intangible assets are shown under the heading *Accumulated amortization and impairment losses* in the Annual Report, impairments of goodwill are shown in connection with the acquisition costs of the assets.

5.1.8 The reflection of the characteristics of the acquisitions in the accounting

The Vice President of BA B generally considers that the application of IFRS/IAS gives a good picture of acquired companies. What the Vice President considers to be the hardest asset to give a fair value is unpatented technology.

Concerning the acquisition of C1, the Business Controller of BA A considers the PPA to reflect the strategic acquisition rather well. A minor objection concerns the decision to recognize intangible assets.

In the case of C2, one of the main reasons for acquiring the company was to get access to customer relations and technology. Even though these were separately recognized in the PPA, the Vice President of BA B believes that they are more valuable than what was recorded and consequently that some of the value was allocated to the goodwill item.

The former CFO of BA B considers the two aggregated intangible assets that were recorded in the PPA to be the main reason to the acquisition of C3. Therefore, the accounting can be said to give a good comprehension of the acquisition.

As stated above, all intangible assets possible to recognize in the acquisition of C4pf were not recognized due to the principle of materiality. Taking this into consideration, also the Group Reporting Manager regards the accounting to be satisfactory for C4pf.

Despite being in general satisfied with the accounting of the studied acquisitions, the Business Controller of BA A, the Vice President of BA B and the Financial Control Manager of BA C all consider the subjectivity of the PPA process and the goodwill impairment testing to be substantial. The former CFO of BA B stresses that the subjectivity is decreased by having several persons with different backgrounds and competences in the processes. However, the Vice

President highlights the fact that finance is based on opinions rather than science and that as long as no market exist, one can only strive for doing what is theoretically correct. As such, correctness within this area is something that never can be achieved ultimately.

5.2 Discussion

In this section, the empirical results of the qualitative study are discussed and analyzed. Seven practices and forces affecting the implementation of IFRS 3 have been identified based on the collected empirical data and the structure of the discussion is based on these observations. After having covered these seven practices and forces, a comparison between the case group and the quantitative sample has been made in order to validate that the case group not is an extreme outlier when it comes to the externally reported allocation of the consideration transferred and the externally reported subsequent impairment testing.

5.2.1 Expectations of impairments

A general observation is that the expectations of impairments, mainly of goodwill, are low in the group. This becomes evident for example when the Business Controller of BA A expresses to prefer goodwill to intangible assets in order to avoid costs. That the low expectations of impairments are widespread in the organization seems natural when considering that impairments rarely are done and that the values in use in the impairment tests are high in relation to the book value, as they for example were in 2008. In one of the acquisitions, the value in use amounted to 270 percent of the book value one year after the acquisition. As the differences between the values in use and the book values are large, it is interesting to consider different explanations.

Hellman et al. (2010) offer some potential explanations of a theoretical character. According to the authors, the difference in the values in use and the book values would be the buffer consisting of recognition goodwill and measurement goodwill. In addition, if the consideration transferred did not equal the fair value at the purchase, a component of this adjustment would also be included.

Value in Use – Book Value

= Recognition GW + Measurement GW (+Fair value adjustment of consideration transferred)

Hellman et al. (2010) also point out that the shielding is increased by having a low number of CGU:s, which can be said to hold for the case group.

That the difference in the 270 percent case would be due to not paying a fair value for the company seems unlikely as nothing in the interviews pointed to the fact that the BA made a bargain purchase when acquiring the company.

One part of the recognition goodwill is internally generated goodwill, which for example can arise due to changes in the business related expectations. That internally generated goodwill protects the recorded goodwill item might at first seem natural, but according to the IFRS definition, only acquired goodwill should be on the balance sheet. Close to the acquisition and in a CGU consisting of only one company, internally generated goodwill would likely be minor. However, a few years after the acquisition there is a high likelihood that the goodwill emerged in the acquisition has been replaced or increased by internally generated goodwill. Hence, the impairment test will not measure whether it is the goodwill as defined by IFRS that has decreased. In the case with a 270 percent value in use of book value, arguments contradicting

that internally generated goodwill would have a large impact in 2008 are that the impairment test was made soon after the acquisition and that the performance of the acquired company did not deviate from the expectations.

Other possible explanations to the 2008 difference are measurement goodwill and changes in recognition goodwill not related to internally generated goodwill. Due to only one year passing since the acquisition, neither these explanations are likely to have a major impact on a standalone basis. Even though the combined buffer effect as explained by Hellman et al. (2010) may explain a major part of the differences in the values in use and book values and hence give rise to the low expectations of impairments, there may also be practical factors that should be taken into consideration as the application of the standards when it comes to goodwill has been pointed out as the most complex area within IFRS (Marton, 2009).

A practical reason for the large differences between the values in use and the book values 2008 may be differences in the model related assumptions. In contrast to when estimating the fair values at the point of the acquisition when the useful life of the individual asset is used, the impairment testing model is based on larger units and on five explicit years and a terminal value. Theoretically, this should not give rise to any differences but the question is whether this is the case in practice. An example suggesting that the five year models with terminal values give rise to higher values than the fair value models based on a useful life is that all terminal values exceeded 50 percent of the total value in the year of 2008. Even though assets in the CGU may have useful lives exceeding five years, allocating the majority of the total value to the terminal value seems much when considering that the Group Reporting Manager states that it is a group principle to be conservative when estimating terminal values. It can also be noted that the usage DCF valuation in the impairment testing is in line with the findings of Herz et al. (2001) and Gauffin and Thörnsten (2010).

As pointed out by Skogsvik (2006), the choice of discount rate may have a great impact on the calculated value. Hence, the fact that different discount rates sometimes are used in the fair value estimations and in the impairment testing is another possible explanation to why impairments rarely are done and hence neither expected. This is not only a practical problem but also a theoretical. In the case of the brand of C3, a 3 percent higher rate was used in the valuation than later in the impairment testing. This means that the cash flows in the fair value estimation becomes substantially more discounted than the cash flows in the impairment test, resulting in a higher value in use than book value.

In addition to the theoretical and practical suggestions, one may also consider psychological aspects when trying to understand the reasons to the low expectations and low numbers of impairments. As stated by Heurlin (2011), companies generally tend to put high focus on the long term effects when doing impairment tests. This is in line with how the case group reasons when not impairing assets during financial crises as it is stated that long term values not are considered to be altered substantially. Hence, the long term perspective adapted by the group can be an explanation to why impairments seldom are done or expected. Even though the long term thinking is an appealing thought that also would decrease the volatility of markets, one can question whether it not would be more correct to decrease the fair values, which should be based on market values, when all prices in the market are decreased.

In line with Beisland and Hamberg (2009) and Hellman et al. (2010), the interviewed people at the case group generally agree with the statement that the goodwill items will be higher in the future due to the IFRS replacing goodwill amortization with impairments. Even though it is evident that many in the group consider the new rules hard to apply it might also, to some extent, be possible that this becomes a self-fulfilling prophecy. As pointed out in the group, a behavior of defending the goodwill items likely arises. This might create a psychological threshold towards recognizing impairments, even further decreasing the probability of goodwill impairments.

Concluding the discussion of impairments, it is evident that both the number and the expectations of impairments, especially concerning goodwill, are low. Three areas of potential explanations for this have been identified: theoretical, practical and psychological. Which one of these areas that have the greatest impact can only be speculated upon.

5.2.2 Applications of guidelines and formal control

When looking at the guidelines, rules and responsibilities of the group, many formal control mechanisms are apparent. However, after having investigated the four separate cases it becomes evident that the formal control of the PPA processes and impairment testing is not as strong as first envisioned.

The group guidelines issued by the HQ mainly restate what the IFRS state. Furthermore, it is obvious that the guidelines have been written by different people as they sometimes are inconsistent. It is also evident that the knowledge of these guidelines is limited within the BA:s and also sometimes overlooked by the HQ. Examples of this are the fact that not all BA:s are aware of the maximum of 3 percent perpetuity growth and the use of the same rate for all group calculations when it in the guidelines is stated that the discount rate should be specific for each individual asset. Furthermore, the recommendation to use a five year explicit forecast period in the fair value calculations is not followed and in some cases the inventory valuation is done without the deductions stated by the guidelines.

A possible reason to the discrepancies between the group guidelines and the group practice is that the IFRS and the group guidelines are hard to interpret, as previously concluded by the Financial Reporting Council (2010), Gauffin and Nilsson (2010) and Petersen and Plenborg (2010). A potential effect of the discrepancies between the group guidelines and the group practice is inconsistencies in how the PPA:s and the impairment testing is made. Inconsistencies could occur both between the BA:s and within one BA if different persons are involved. As an example, there were often different people in the group that performed the fair value calculations at the point of the acquisition than performed the subsequent impairment testing. Hence, in addition to the discrepancies in the application of the standards *between* companies found by Petersen and Plenborg, there could also be differences *within* large groups.

One can question what the benefits of the group guidelines are if they are not fully applied and if those that should apply them are not updated on their content. One potential reason for issuing the guidelines is that it is expected, both internally and externally, from an organization of the group's size to have guidelines. If this would be the case, the benefit would be mainly institutional.

Another factor that points to the institutional use of the group guidelines is the inclusion of valuation models from an external auditor in the guidelines. That these not always are followed

is evident in the case of C1 where the fair value estimation of buildings is based on insurance values instead of the model stated in the guidelines. It should however be noted that in line with Ernst & Young (2009), the income approach is the most commonly used valuation technique in the case group.

In addition to discrepancies between the group guidelines and the application of the group, it also appears to be discrepancies between what the HQ believes and what actually is done in the BA:s when it comes to very general issues. As an example, the Group Reporting Manager states that one person at each segment makes the impairment tests, when in reality this person most often is at the higher BA level. The Group Reporting Manager also states that goodwill is tested at the segment level, which in reality rarely is the case. Furthermore, the Group Reporting Manager states the MEEM to be one of the most common valuation models in the group while the former CFO of BA B has never heard of the model. Hence, there seems to be a lack of evaluation of the BA's applications of the group guidelines.

There are several potential explanations to the lack of communication concerning general accounting principles of the group and evaluation of the application of these accounting principles. One reason could be that the HQ overestimates the general practicality of the IFRS and group guidelines and hence does not understand how hard they are to apply. Another reason could be that the HQ in line with the arguments by Elwin (2008) does not consider the accounting of goodwill to be of importance and thus only focuses on the more specific matters that the auditors often have opinions about. That this would be the case is however unlikely as the HQ in the case of C1 had strong opinions regarding the allocation of goodwill and intangible assets. A third possible suggestion is that the HQ does not want to know what the BA:s are doing in order to avoid to detect errors or manipulations. A final possibility is that the HQ has substantial time constraints and not prioritize the communication regarding these issues with the BA:s. Regardless of the reasons to the lack of communication, it implies that the risk of divergent behavior within the group is increased. Furthermore, it makes the BA:s more of separate units and hence creates possibilities for the BA:s to perform creative accounting as suggested by Wyatt (2005).

Concluding this section, it is clear that within the area of formal control there are some discrepancies between the group guidelines and the group practice and a partial lack of formal, general communication within the group regarding accounting issues. Even though consequences of this have been suggested, it is not possible to state whether those would occur without first also considering the informal characteristics of the PPA process and the impairment testing.

5.2.3 Areas of discussion and informal control

Even though the formal communication concerning general questions not is optimal, the informal communication within very specific areas and parts of the PPA process seems to work very well. In these areas, many decisions are taken informally and not via formal meetings and it is evident that the majority of these processes are dynamic and continuous. Examples of this are the continuous dialogues between the HQ and the BA:s when taking critical decisions in the PPA processes and the early informal participation of the board when deciding whether to acquire. The initiation of a specific discussion can be made by all parts of the group and the inputs and assumptions in the numerical calculations are often changed. Looking at the decision processes

and information flow within the group it is clear that the informal communication has larger impact than the formal communication.

The reason to initiating informal discussions seems to be based on a problem that one wishes to discuss with a colleague rather than a formal requirement of agreement. It is plausible that discussions initiated at the HQ are based on previous experience whereas discussions initiated at the lower levels are more likely to concern individual difficulties that from the perspective of the group might be of minor importance. As people at the HQ and BA:s know each other and have worked together previously it becomes natural to consult each other. The existence of informal relations between the HQ and the BA:s is very important as it can be said to mitigate the potential problems arising due to the deficiencies of formal communication within the group. However, it should be noted that this implies that most focus is placed on very specific questions and parts of the PPA and impairment testing processes while it in the long run probably are the more general questions that have the largest impact on the financial reports.

The pattern of dynamic processes characterized by informal control is also present in the external relations, both with the valuation firms and the auditors. As an example, the contact with the valuation firms of C2 and C3 was more of a continuous problem solving dialogue than the handing over of a task. This seems good when considering that both the business knowledge of the company and the accounting knowledge of the valuation firm are used. As pointed out by the former CFO of BA B also the choice of the valuation firm is based on informal relations. Even though this might result in that the external valuation firm achieves a good knowledge of the specific businesses of the group, it also decreases the legitimacy of consulting an external part.

A general observation is that many people, internal as well as external, are involved in the specific processes and discussions of the group. Examples of the persons involved in the PPA process are shown in *Figure 9*. The impact of the different parts is dependent on the specific situation, but it is evident that the BA is in the center. Many parties involved suggests that the calculations becomes more reliable and that the group consider it to be important that the PPA:s and impairment testing are made in a correct manner. However, as stated previously, the inclusion of a large amount of different parties is limited to some questions and difficult areas, suggesting that the informal control is not sufficient to counterbalance for the deficiencies in formal control as mentioned above. Hence, the suggested potential consequences of divergent behavior and creative accounting due to the weaknesses in formal general control may occur in practice.

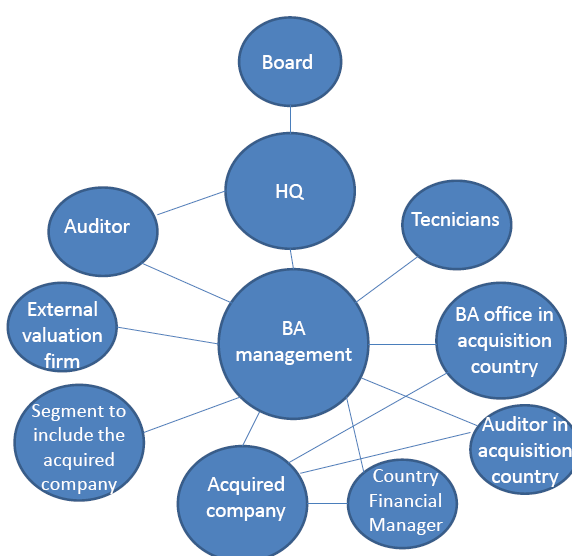


Figure 9 The different parties involved in the PPA process

5.2.4 Applications of practicality

An additional general observation is that the practices of the case group are characterized by choices that seem to be made based on practical considerations rather than what would be more theoretically correct. Interesting to note is that these choices often are made despite the

knowledge that they are less correct. This holds both when it comes to recognition and measurement and examples of practical choices can be seen within several areas.

A first example concerns the fact that a liability for an eventual deferred consideration according to the group guidelines should be determined by discounting the amount payable. This has not been made in the cases, even though the Group Reporting Manager states that it would have been better if that had been done. That the treatment of deferred consideration is of importance is evident as the consideration in three of the four cases was not paid in cash at once.

Secondly, the guidelines state that the PPA can be based on the balance sheet values of the acquired company. This seems more practical than correct and it is in accordance with Heurlin's (2011) statement that Swedish companies tend to view the acquired balance sheet values as correct even though these values might not in any aspect be related to fair values. Having the old book values as the starting point, it becomes easy to be biased and less objective. This approach is likely to result in fair value adjustments of minor importance, and hence most often to larger amounts of goodwill. This line of argumentation is in line with Ernst & Young's (2010) conclusion that the revaluation of tangible assets is low and that goodwill constitute a large amount of the consideration transferred.

Another example of practicality in the case group is that the guidelines give explicit examples of the most common assets to revalue. This seems like a good idea for people that are new within accounting and the business, but it may also result in that the revaluation procedure becomes standardized concerning what assets to revalue and recognize. Looking at the studied acquisitions, the assets mentioned in the guidelines are the only assets that have been fair value adjusted. Additionally, the guidelines state that higher fair values than reported values are rare for plant and machinery. Thus, the guidelines are not only informative but also normative, further increasing the likelihood of standardization. Even though the former CFO of BA B states that no fair value adjustments were necessary for plant and equipment in the case of C3, one can still question whether the normative guideline did not affect the decision to instruct the external valuation firm that plant and equipment should be assumed to have a fair value equal to its written down book value. However, in the case of C4pf the machinery was revalued. It can be suggested that the described formulations of the group guidelines are written mainly based on practical considerations rather than analysis of what consequences they may have.

In addition to practical choices in the PPA process, there are also practicality tendencies when testing for impairments in line with Heurlin (2011). Even though, as the Group Reporting Manager states, valuations in an ideal situation should be made on each particular asset, the group mainly conducts valuations on a higher level, such as the segment or even the BA. The fact that it is the BA:s that decide the allocation of the goodwill is good from the perspective that they are closer to the operations but on the other hand it has resulted in the fact that a major part of the annually tested value is tested at the BA level. That this is due to practical reasons is evident as it is stated that it probably would be possible to do it at a lower level. This follows the reasoning of Wines et al. (2007) that many CGU:s are less desired from a practical perspective and as stated by both Wines et al. and Hellman et al. (2010) a low number of CGU:s decrease the probability of making impairments, as discussed in the section *Expectations of impairments*. However, according to the former CFO of BA B the merging of all companies to one CGU is not due to practicality but rather inherent in the reason for making an acquisition.

That impairment testing is performed at the BA can be considered good as it is close to the operations at the same time as not the people in the actual operations perform the test. Hence, some objectivity is present. However, impairment testing at the level of the segment, as is the case in BA C, may be viewed as more simple and practical at the cost of objectivity. Also, incentive problems as discussed in the section *Consequences of internal interest* might increase.

Finally, the use of a single WACC throughout the whole organization is another application of practicality. It is throughout the group pointed out that one rate is very practical even though most people also state that it might be good to have different rates for different countries. As the political risk and inflation are dissimilar on different continents this would be preferred from a theoretical perspective. The use of the same rate within the group implies that fair value estimations in acquired companies with higher business risk or operating in high risk countries should get high fair values relative to those assets belonging to companies with low risk in the operations or the country. Also, the impairment testing will be biased so that the probability of impairments in projects with higher risk becomes too low.

Especially the HQ has a very relaxed view towards the WACC, which can be said to be strange as the rate is used extensively in the organization and has a major impact on the valuations. As an example, the person calculating the WACC has no idea how and on what the beta is calculated and the rate is not changed often. Interesting to consider is also that most people are very aware of that the WACC practices could be more theoretically correct but justify the current practice by relating to other similar groups. Hence, a “if they do it, we can also do it” mentality is apparent. That this mentality is common among companies is supported by the study of Gauffin and Thörnsten (2010) which states that many firms use a similar WACC rate. Even though the group WACC of 10 percent is in line with the findings of Gauffin and Thörnsten (2010) and Hellman (2011), the goal of a ROCE of 25 percent would result in a steady state market-to-book ratio of over 3 if a steady state growth rate of 3 percent is used⁵. Since this ratio according to Pennman (1996)⁶ can be said to be very high, either the WACC or the desired ROCE seem unrealistic.

After having considered practicality matters within the group it is evident that practicality has an influence on the PPA processes and the impairment testing. It is obvious that most of the practicality choices are based on a reasoning that the costs of a more correct manner are higher than the accompanying benefits and hence, in line with Hjelström and Schuster (2011), the group has a high focus on costs. Even though the costs in each specific case might be higher than the benefits, it can be questioned whether it on an aggregated level would not be more beneficial to make the less practical choices as the combined bias of many minor practical choices can be substantial.

5.2.5 Requirements of materiality

The principle of materiality is also present throughout the group, both with regards to recognition and measurement issues. In the process of an acquisition, the materiality considerations are first apparent in the measurement problem of whether to revalue the acquired assets. At this point it is questioned whether the benefits of a revaluation outweigh the costs and, as no formal numerical limits are stated, this decision process appears to be very

⁵ Steady state market-to-book = $(ROCE - g)/(WACC - g)$

⁶ A market-to-book ratio exceeding 3 is in the study of Pennman (1996) considered as high.

subjective. As discussed in the section *Consequences of internal interest*, this is also an area where incentive problems are evident.

Another example of the use of the materiality principle is given by the Group Reporting Manager when explaining the reason for not doing a DCF in the valuation of machinery in the C4pf case and not recognizing a DTL; machinery of 800 KSEK is not considered to be large enough. In this case, the adherence of the materiality principle results in that comparisons of the PPA between large and small acquisitions within the group becomes harder as no DTL:s are recorded in the small acquisitions. It is also important to note that the external valuation firm might have another materiality level than the group, which further could make comparison difficult. In the case of C3 it was for example stated that the external firm used a materiality level of 6 million SEK.

The group looks upon materiality as something relative to their own operations and size. Even though this seems reasonable and is in line with the IFRS Framework treating materiality as an entity-specific asset, it also results in that comparisons with other companies become hard. Hence, if a smaller company would acquire the same company as the group, the accounting would likely be different. However, taking the size of the group into consideration, many of the above mentioned areas might not be of great importance when evaluating the group as a whole. Hence, the assets left out due to materiality are not likely to influence decisions made by external users of the financial information.

Potential reasons to the widespread use of a materiality threshold are practicality issues and cost issues. In some cases, not even practicality or costs seems like plausible explanations for applying the materiality principle. As an example, in the case of C3 the external valuation firm valued the projects that were seen to be too small to recognize. When having finalized and paid for the valuations one can question why the valued assets are not recognized if the group wants to give an as good description as possible of the acquisition. At this point, questions of whether creative accounting is present arise. This example also supports the argumentation by Thorne (2010) that it is hard for companies to decide which intangible assets to recognize.

Despite the benefits of using a materiality threshold, the obvious drawbacks are that the information and descriptions of the acquisitions are decreased. Even though some level of materiality is necessary, in order to avoid mismatches, the same materiality level should be applied by the group and the consulted external valuation firms.

5.2.6 Consequences of external interest

In the PPA processes and in the impairment testing, it is important to also consider the potential effect of the external interest in the group. A first effect of external factors is that the group has to be very cautious with the number of people involved in the initial stages of a large acquisition. A potential side effect of this is that decisions of going through with larger and strategically more critical acquisitions, where less people are involved, are taken with less information than smaller and less critical acquisitions. This also suggests that the PPA process of secret acquisitions is likely to be characterized by a lot of changes as the inclusion of experts within different areas will increase gradually throughout the process.

Another issue concerns whether it is due to secrecy towards competitors that the choice to not disclose the consideration transferred and the adjustments for each particular acquisition is

made. This choice results in the fact that aspects such as further division and the useful life of the intangible assets have to be left out of the financial statements.

One can also question why the in the annual reports given reasons for recognizing goodwill are the same for all years. This gives the perception that the group does not consider the goodwill item as very important, which as observed at the cases, evidently not is the case. Also, as the goodwill acquired by the group sometimes is hard to justify externally, the group could put more focus on explaining what the in the acquisitions emerged goodwill consists of. Despite what has been mentioned it is concluded that the group in comparison to other companies in general is good at disclosing the PPA:s and hence to a large extent enables users of the financial statements to evaluate the nature and financial effects of business combinations as requested by IFRS.

The group being good at disclosing is also true in the case of disclosing how the testing for impairments of goodwill is made. However, one can question why impairments of goodwill are not disclosed in connection with costs, as that seems more theoretically correct. The placement also makes it very confusing for the reader and the post is easy to overlook, almost as if that was the intention. To make impairments of goodwill hard to see would be beneficial if it is assumed that impairments of goodwill from an external perspective would be seen as a bad sign. Another fact pointing towards goodwill impairments being seen as particularly negative is the statement of the Financial Control Manager of BA C that it is a good strategy to recognize many intangible assets to reduce the risk of goodwill impairments. However, if analysts are disregarding the effect of goodwill impairments on the income statement as suggested by Elwin (2008), it would be beneficial to make impairments of goodwill easy to notice so they can be taken aside from the income statement.

A potential reason for not giving as detailed information concerning the impairment testing of assets other than goodwill might be that the group does not test these assets extensively. Being critical, one can question if the less detail is a way of not having to explain that impairment tests of individual assets other than goodwill are rarely done.

In the acquisition of C1, the Business Controller of BA A was of the opinion that no intangible assets should be recognized since this was how the Business Controller considered best represented the acquisition. However, both the HQ and the auditors were reluctant to this and wanted intangible assets to be recorded despite the fact that this contradicted the prudence principle concerning intangible assets stated by the Group Reporting Manager at the HQ. As this according to the Business Controller was due to external expectations one can conclude that the PPA process can be a very political process. If these external pressures are general for the market it implies that too much intangible assets are recorded. This would then further increase the view that it is less accepted to buy something without substance (i.e. much goodwill) and thus potentially create a vicious circle.

The consideration of the timing of goodwill impairments, in line with Henning and Shaw (2003), is another example of that external pressure is present in the case group. Several of the interviewed persons pointed to the fact that a big bath behavior is preferred during financial crises as it then is externally accepted to present bad results. That impairments during crises mainly are considered based on external factors is evident as crises by the group not are seen as substantially decreasing the value of the assets due to a long term thinking, as mentioned in the

section *Expectations of impairments*. The big bath findings are in line with the findings of Giacomino and Akers (2009) and Sevin and Schroeder (2005) and support the argumentation put forward by Massoud and Raiborn (2003), who argues that the flexibility allowed by the standards might introduce higher volatility in the earnings due to managers adhering to a big bath behavior.

The findings of this study also support the argumentation of Gowthorpe and Amat (2005) stating that the new standards give further opportunities for creative accounting. As mentioned both in the interviews at the case group and by Johansson (2008), the predictability of goodwill is currently lower than compared to when the old standards requiring amortization of goodwill were applied. Potential effects of the decreased predictability are higher volatility in the market and possibly higher market premiums. However, even though it might be hard to compare different years for the group due to volatile results, the application of the new standards should theoretically give a better picture of the yearly performance of the company.

It was in the interviews mentioned that external valuation firms were seen as giving objectivity to the valuations. However, the exclusion of the inventory adjustment suggested by the external firm in the case of C3 raises the question of whether external valuation firms to some extent only are used in order to gain legitimacy. An additional argument for this is, as stated by the Business Controller of BA A, that the internal personnel know the business better and that external advisors mainly cost money and follow a standardized model. However, departing from the previous discussion of external expectations on intangible assets, a standardized model of intangibles can be a way to satisfy the market. If external firms are used to gain legitimacy one can question the practice of using the audit firm as a valuation firm and firms the group has strong relationships with to the extent they are used today. The above reasoning suggests that the increased reliability that the external valuation firms are expected to contribute with might not be that major after all.

Concluding, it is evident that external interest has an impact on the PPA processes and the impairment testing. In general, it seems like the political game gives rise to a worse reflection of the acquisitions in the accounting and tendencies of creative accounting in the impairment testing. Hence, the suggestion of Healy and Wahlen (1999) that companies might manipulate the financials to influence the stock market is supported.

5.2.7 Consequences of internal interest

In some cases, there are incentives at lower levels to act in a way that is beneficial for the specific BA/segment. As stated by Healy and Wahlen (1999) affecting compensation might be a reason for this, but also other reasons such as exaggerating the performance of the unit to attract status and resources are possible. In an organization with an in some areas rather weak formal control, different incentives within the organization can be dangerous.

An example of diverging incentives pointed out by the Group Reporting Manager is that the BA:s have incentives to not revalue the assets. This is since the BA:s and most segments are evaluated on EBIT and the costs of revaluing and carrying intangible assets and goodwill will affect the evaluation of the unit. Also, these types of assets are often irrelevant for the original management in the acquired companies as they have never carried these assets before.

In addition to the incentives to not revalue, there are also incentives for the BA:s/segments to recognize the type of assets that minimize the future costs. In theory, this should not be a

problem as the HQ has the final say in all PPA calculations but the informal discussion processes likely implies that the BA:s/segments have possibilities to influence the HQ in a for the BA:s/segments beneficial direction, especially since they make all the assumptions in the calculations. The BA:s/segments could also chose to allocate goodwill to the CGU:s where impairments are least likely to occur. Whether the practice of these tactics is frequent in the group is hard to comment on, but the personal opinion of the Business Controller of BA A concerning only recognizing goodwill, suggests that is not inconceivable.

Another personal opinion suggesting that private benefits might affect the accounting is the Financial Control Manager of BA C's preference of intangible assets to goodwill in order to decrease the risk of large goodwill impairments. A potential reason to the contrasting opinions of what assets that are preferred to recognize might be different risk situations of the different BA:s. As an example, in a very risky unit, amortization (i.e. recognizing intangible assets) might be preferred to impairments (i.e. recognizing goodwill) as amortizations are easier to forecast. The statement of the Financial Control Manager of BA C is also interesting as it is in great contrast to the cautiousness of recognizing intangibles that the Group Reporting Manager states to be an overall group principle. In addition to noticing that this formal rule not does seem to work very well one can question whether it is correct that the attempts to avoid incentive problems in an organization, as was the aim of formulating the rule, should affect the external accounting.

Another potential tactic to influence the individual evaluation of the BA:s/segments would be to take advantage of the fact that DTL:s are booked at the HQ and increase the balance sheet in line with *Figure 8*. Any signs of this tactic being used were not visible.

Also after the PPA is done, there are possibilities to adapt the accounting so that it suits the personal agenda. One such example would be to be conservative when it comes to making impairments in line with Gowthorpe and Amat (2005). As stated in the section *Expectations of impairments* there are many potential explanations to why so few impairments are done. It might be the case that the avoidance of impairments is a mindful underlying reason to these explanations. In some cases, the preference to avoid impairments might also be an unconscious motivation for some of the choices decreasing the probability of impairments.

It can be concluded that there in many cases are incentives within the group to act in a way that is beneficial for the unit and hence to bias the accounting. In the case group, the possibilities of the lower levels to pursue creative accounting are increased by the fact that the group in many cases is dependent on the good behavior of the decentralized units. When for example taking a final decision of whether to acquire a company, the HQ and the board have to rely on the estimations, expectations and information provided by the BA:s which in line with Wyatt (2005) will be very hard to argument against. Even though this seems reasonable as the BA:s probably are more informed regarding the business and operations, it increases the possibilities of creative accounting.

The possibilities for the BA:s/segments to bias the accounting are further increased by the fact that the dependence of the BA:s in some cases is formal and explicitly stated by the group guidelines. An example of this is the division of goodwill to different CGU:s, a decision which according to the guidelines should be taken by the BA without interference of the HQ. In some cases formal rules and mechanisms are established by the HQ to balance the dependence of the

decentralized units. An example of this is the rule that HQ has the final say in deciding of whether to revalue acquired assets. However, one can question whether a rule that says that HQ should be contacted early in the acquisition process will change anything when these types of formal rules do not seem to work very well in the group, as described in the section *Applications of guidelines and formal control*.

Creative accounting is often discussed in relation to parties external to the group. However, it is in this case shown that there also are incentives and possibilities for the BA:s/segments to pursue creative accounting in relation to the HQ. This implies that when analyzing PPA:s and impairments, it is important to consider that there might be biased accounting at all times and not only in a direction beneficial for the group as a whole. Hence, this supports the conclusion of Wines et al. (2007) that the direction of a possible manipulation cannot be determined in advance.

5.2.8 The case group in relation to the quantitative study

The quantitative study can be used in order to validate that the case group not is an extreme outlier when it comes to the externally reported allocation of the consideration transferred and the externally reported subsequent impairments.

As in most acquisitions in the quantitative study, goodwill was recognized in all case acquisitions. Even though the general level of goodwill was slightly lower in the case than in the quantitative sample, the difference is not major. The number of acquisitions resulting in new intangible assets was in the case sample, just as in the quantitative sample, less than the number of acquisitions resulting in goodwill. Furthermore, the number of revaluations of tangible assets was even lower, both in the case group and in the quantitative study.

In line with the quantitative study, the case group often recognized brands but never intangible assets with an indefinite useful life. As in the quantitative study, aggregation of intangible assets was also present in the case group. Inventory was the most commonly revalued tangible asset in the group cases, whereas the most commonly revalued tangible asset in the quantitative study was PPE. It should be noted that the qualitative study was based on more information why the relevance of the comparison of different asset types recognized and revalued can be discussed.

No impairments were done in the case acquisitions in contrast to 25 percent in the quantitative study. However, this comparison is not entirely correct as the quantitative study measure impairments on the company as a whole whereas in the case group, only a part of the organization is examined.

The number of CGU:s in the case group was slightly higher than what was the most common in the quantitative study. However, the revenue/CGU ratio of the group was close to the median in the quantitative study. Hence, the case group was not one of the companies contributing to the large difference between the average and the median of the ratio.

When it comes to the level of disclosures, the case group can be perceived to be of the general level of the companies in the quantitative study.

It can be concluded that there is no sign of the case group being an extreme outlier in relation to the quantitative sample. Even though this does not say anything about the PPA process and impairment testing in other companies, it gives support to the suggestion that the findings and

conclusions made in the qualitative study can be considered as possible also for other companies. As noted earlier it is not possible to make any generalizations, which neither was the purpose of the study.

6. Conclusions

The investigations of this thesis have resulted in several conclusions regarding the practices and forces affecting the implementation of IFRS 3 with respect to the allocation of the consideration transferred and subsequent impairment tests.

It is evident that both the number and the expectations of impairments, especially concerning goodwill, are low in the case group. Without speculating upon what the major reason to this is, three areas of potential explanations are offered: theoretical, practical and psychological.

Furthermore, it is clear that within the area of formal control there are some discrepancies between the group guidelines and the group practice and a deficient level of formal, general communication and evaluation regarding accounting issues. This partial lack of formal control is to some extent mitigated by dynamic informal processes. However, since this informal control is limited to particular areas and specific difficulties, the informal control cannot be said to be sufficient to counterbalance for the difficulties in formal control. Hence, divergent behavior and creative accounting may be consequences of the partial lack of formal general control.

It is also evident that practicality has an influence on the PPA and the impairment testing processes and that most of the practical choices are based on a reasoning that the costs of doing it more correct are higher than the accompanying benefits. Both practicality and cost considerations are suggested as explanations to the materiality considerations of the group. Even though both practicality and materiality to some extent is necessary in practice, there is an important trade-off as the application of these concepts may result in less informative accounting.

Another conclusion is that when analyzing PPA:s and impairments, it is important to consider that both external and internal pressure might influence the accounting. As incentives might exist on all levels of the organization, it is important to note that creative accounting may be present at all times and not only in a direction beneficial for the group as a whole. Hence, it can be concluded the PPA and the impairment testing are political processes.

By comparing the case group with the quantitative sample, it can be concluded that there is no sign of the case group being an extreme outlier, why the findings and conclusions made in the qualitative study can be suggested as possible also for other companies.

Finally, even though standards often are considered as the determinants of accounting, this thesis shows, in line with Hjelström and Schuster (2011), that company culture, management control systems and external influences might be of great importance in the reasoning when implementing the IFRS 3 with respect to the allocation of the consideration transferred and subsequent impairment tests. The conclusions of this thesis are illustrated in *Figure 10*.

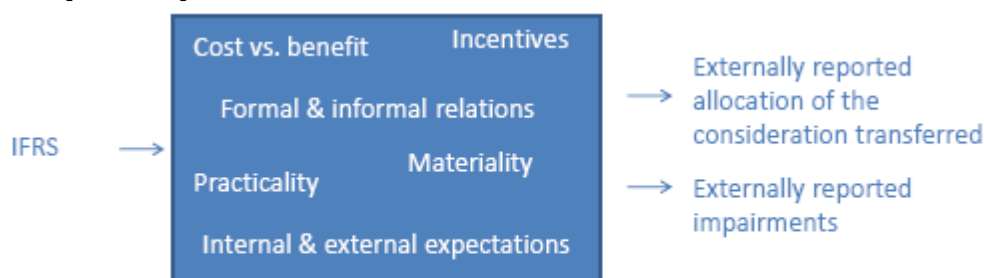


Figure 10 The conclusions of the thesis

7. Reliability

The reliability of the thesis concerns the extent to which a repeated investigation would give the same results as those presented in this thesis.

In the quantitative study, the reliability is relatively high as the investigation can be argued to have a high degree of objectivity. The material has been collected carefully and several controls have been made. Additionally, the calculation of percentages implies that unreasonable figures likely should have been detected. A factor decreasing the reliability is the sometimes deficient level of disclosures, leaving the authors with missing values and the necessity to make assumptions. However, the assumptions have been made in an as objective manner as possible. In addition, due to the recent revisal of the standards covering transaction costs, some observations exclude this amount in the consideration transferred. This implies that in these cases the goodwill amount would be slightly lower. As this figure in relation to the consideration transferred is minor, this issue has been disregarded.

When it comes to the qualitative study, the reliability is somewhat weaker as the collection of empirics is strongly dependent on the authors' perceptions and interpretation. In order to minimize the risk of misunderstanding and misinterpretation, the interviews has been recorded and transcribed, supplementary questions have been asked and the collected empirics have been discussed with the Group Reporting Manager.

Additional difficulties in the qualitative investigation have been that the current group guidelines in some cases not were effective when all acquisitions were made, that old guidelines were hard to find and that the acquisitions were made a while ago resulting in that the interviewees sometimes had a hard time to remember all details. However, in order to capture the development of the acquired companies and the impairment testing, and due to higher secrecy regarding the most current acquisitions of the company, it was thought that the most beneficial procedure was to investigate acquisitions made some years ago. Another factor relevant to consider is the possibility that the interviewees deliberately presented false information as the investigated issues in many cases are very sensitive. This risk was partially mitigated by asking several persons at different units and levels within the group the same questions.

8. Validity

The internal validity of the thesis concerns the degree to which the thesis assesses the specific concepts that is attempted to measure. External validity assesses the degree to which the findings of the thesis can be generalized.

Keeping a high internal validity in the quantitative study is complicated by a few factors. For example, the collected information of impairments and amortization does not only relate to assets acquired as a part of an acquisition and as mentioned the disclosures were sometimes deficient. It can be questioned whether it would have been better to investigate fewer companies, but instead having contacted each of the companies and made sure that the collected information better related to the purpose of the thesis. However, due to the purpose of identifying tendencies and also doing deep a qualitative study, the used method was considered as the best as it gave the possibility to include the highest number of observations. However, the fact that many observations were made implies that the external validity is higher than the internal validity.

The term validity takes a somewhat different expression for the qualitative study. The three weeks visit of the company gave major possibilities to ensure sufficient depth of the data to provide a clear picture of the research questions explored, thus resulting in a high internal validity. Furthermore, the internal validity of the research method was increased by means of triangulation of different sources of data. The external validity, on the other hand, limits itself to theoretical generalization. Given the small sample size, the results cannot be generalized to the greater population, as in most qualitative research, since the investigated group is a specific case of a heterogeneous sample. However, for this particular research issue, and given the current state of the previous research in this area, it is the authors' beliefs that this exploratory method is most suitable to fulfill the purpose of the thesis. The findings of the thesis will hopefully help to improve current theory on this research issue, and lay the groundwork for further empirical testing with the help of more robust statistical methods in the future. As such, the study can be said to have a high external validity.

9. Final remarks

The conclusions of this thesis give rise to some questions and implications for the future in order to increase the market efficiency. As an example, would it be possible for standard setters to increase the interaction with companies? In order to avoid improper interpretation by companies it seems as if standard setters have to understand the practical considerations of companies to a greater extent. However, not only the standard setters have to gain a greater understanding of the difficulties a company encounter in the accounting. In order to make reliable forecasts, to evaluate investments based on solid facts and to evaluate the performance of the operations, analysts and investors have to realize the complexity of accounting. This is especially important when it comes to the allocation of the consideration transferred in an acquisition and in the subsequent impairment testing.

In extension of this thesis, there are several areas worth to further investigate. Firstly, in order to strengthen the conclusions of this study, qualitative investigations of additional companies within Sweden would be desirable, both when it comes to the same and other industries.

Secondly, it would be interesting to make quantitative studies to investigate whether some of the findings of the case study can explain the observations of the quantitative study. As an example, the qualitative study supported the suggestion in the discussion of the quantitative study that a possible reason for not revaluing tangible assets is due to the principle of materiality. However, the qualitative study offered an additional suggestion in the form of practicality considerations. It was also suggested in the quantitative discussion that on the individual level, creative accounting concerning goodwill impairment might be the case, which is in line with the conclusions of the qualitative study. To examine these matters on a more general level would be interesting.

Thirdly, also outside the boundaries of this study there are interesting areas to investigate. As suggested in this thesis, external pressure might have an impact on the proportion of the different asset classes recognized in a PPA. Studies to validate this proposal are suggested. In a few years' time when the long term consequences of the change in the goodwill treatment of IFRS 3 have stabilized, it would also be interesting to see whether the suggested increase in goodwill levels is general and significant.

Finally, it would also be of interest to conduct both the quantitative and qualitative study within other countries applying IFRS.

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10.2 Standards

IFRS Framework

IAS 12 Income Taxes

IAS 16 Property, Plant and Equipment

IAS 36 Impairment of Assets

IAS 38 Intangible Assets

IFRS 3 Business Combinations

IFRS 7 Financial Instruments: Disclosures

10.2.1 Guidance to interpretation

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10.3.1 At the case group

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Business Controller, BA C, March 22, 2011.

Executive Vice President Finance, BA B, March 14, 2011.

Financial Control Manager, BA C, March 16, 2011.

Former CFO, BA B (currently Vice President of Group Assurance), March 23, 2011.

Group Reporting Manager, HQ, March 8 and March 24, 2011.

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10.4 Databases

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Appendix
Quantitative Study: Table of Acquisitions

Company	Year	Acquisition	Holding, method	Cons.Transf.	GW (-negative GW)	Minority	Type of new IA	New IA	Useful life	DTL due to acq.	Type of revalued TA or debt	Revalued TA/D
ABB MUSD	1	2009 No	1	100%	513	427	0,83	Total	114	0,22	6 y	No info
		2008 Kuhlman						Customer relationships	63			
								Order backlog	20			
								Trademark and trade names	16			
								Technology	15			
Alfa Laval MSEK	1	2007 Total	1		54	23	0,43	No info		0,00	4 y	No info
		2006 No										
		2009 LHE Co						Total	595			
								Patents and un-patented know-how	297			
								Trademark	298			
Alliance Oil Company	1	HES GmbH	1	100%	112	59	0,53	Total	83	0,74	10 y	No info
								Patents and un-patented know-how	83			
		Onnuri Industrial Machinery Co						Total	79			
								Patents and un-patented know-how	40			
								Trademark	39			
Asa Abloy MSEK	1	Two companies	1		532	189	0,36	Total	291	0,55	10 y	No info
								Patents and un-patented know-how	40			
		2008 Hutchison Hayes						Trademark	291			
								Total	144			
								Patents and un-patented know-how	95			
AstraZeneca MUSD	1	Standard Refrigeration	1	100%	373	152	0,41	Trademark	49	0,63	10 y	No info
								Accrued gross margin in work in progress	1			
								Total	166			
								Patents and un-patented know-how	166			
								Accrued gross margin in work in progress	5			
Atlas Copco MSEK	1	2007 Fincoil	1	100%	479	241	0,50	Total	233	0,49	1 y	No info
								Patents and un-patented know-how	233			
		Helpman						Trademark	36			
								Total	451			
		2006 Tranter						Patents and un-patented know-how	36			
Autoliv MUSD	1		1	100%	1224	530	0,43	Total	180	0,37	10 y	Properties
								Trademark	265			
								Accrued gross margin in work in progress	6			
Axfood MSEK	1	2009 Ditec etc.	1	100%	1107	637	0,58	Total	163	0,15	*4 to 5 y	20 Other assets and liabilities
		2008 Rockwood, Gardesa, Valli&Valli, Shenfei etc.						Total	233			
		2007 Pemko, Aontec, Baodean etc.						Total	328			
		2006 Fargo						Total	708			
		Adams Rite, Baron etc.						Total	118			
AstraZeneca MUSD	1	2009 No	1	96%, No info	15653	8757	0,56	Total	7882	0,50	No info	PPE
		2008 No										
		2007 Medimmune										
Atlas Copco MSEK	1	Arrow Therapeutics + Atlantis Components	1	100%	220	0	0,00	Total	347	1,58	No info	Other not current assets
		2006 Cambridge Antibody Technology						Total	1235			
								Humira royalty system	675			
								Other intangible assets	560			
								Total	285			
Autoliv MUSD	1	KuDOS Pharmaceuticals	1	100%	206	12	0,06	Total	285	1,38	No info	85
Atlas Copco MSEK	1	2009 Made by Compressor Technique	1	(25%->)100%	154	55	0,36	Total	48	0,31	5 to 10 y	12,75 PPE
		2008 Made by Compressor Technique						Total	337			
		2007 Made by Compressor Technique						Total	498			
Atlas Copco MSEK	1		1	25%->100%	4676	4437	0,95	Total	-132	-0,03	No info	Assets held for sale
								Old goodwill	-1336			
								Trademark and brand loyalty	1204			
								Total	157			
								Total	235			
Autoliv MUSD	1	Made by Industrial Technique	1	100%	181	61	0,34	Total	157	0,87	No info	50,5 Other liabilities and provisions
		2006 Made by Compressor Technique						Total	235			
		Made by Mining Technique						Total	47			
		Made by Industrial Technique						Total	33			
Autoliv MUSD	1	2009 Delphi North America & Europe	1	<100%, PGM	34	0	0,00	No info		0,00	No info	5,9 PPE
		2008 Tyco Electronics						No info				
		2007 Autoliv IFB Private Limited						No info				
		2006 No										
Axfood MSEK	1	2009 No	1	100%	400	286	0,72	Total	109	0,27	3 to 5 y	28 PPE
		2008 PrisXtra						Trademarks	80			
								Customer relationships	15			
								Leaseholds	14			
		2007 No										

[illegible]

		King Concepts	1	No info, PGM	126	71	0,56	Old goodwill	-1774			Other operating liabilities	937
		Klippo	1	No info, PGM	222	160	0,72	Total	66	0,52	10 to 13 y	57,3	
		2006 McQuat	1	100%	193	121	0,63	Patents	66				
		Dixon	1	100%	240	146	0,61	Total	41	0,18		57,3	
		Jikai	1	80%, PGM	125	35	0,28	Trademark	41				0,00
								Total	58	0,24		22	
								Trademark	58	0,00			
Industriliv		Financial company											
Investor		Financial company											
Kinnevik		Financial company											
Latour		Financial company											
Lundbergföretagen		Financial company											
Lundin mining	1	2009 No											
MUSD		2008 No											
		2007 Tenke	1	100%	1333	0	0,00			0,00		No info	
		Rio Narcea Gold Mines	1	85,5%, PGM	922	159	0,17			0,00		No info	
		EuroZinc Mining Corporation	1	100%	1668	501	0,30			0,00		No info	
		NAN	1	37,1%>100%	37	0	0,00			0,00		No info	
Meda	1	2009 No											
MSEK		2008 Valeant	1	100%	2803	755	0,27	Total	1433	0,51		174	
		Ellem läkemedel	1	100%	105	11	0,10	Product rights	1433		10 to 15 y		
		2007 3M's European pharma division	1		5679	1530	0,27	Total	116	1,10		32	
		MedPointe Inc	1	100%	5241	3601	0,69	Product rights	116		10 to 15 y		
								Total	4171	0,73	Ma x 15 y	12	Non-current receivables
								Product rights	4171			5	Non-current liabilities
								Total	-94	-0,02		587	Deferred tax assets
								Product rights	1401			-17	Inventories
								Old goodwill	-1495			3	Other current assets
												-67	Other current liabilities
		Recip AB	1	100%	2311	1252	0,54	Total	-55	-0,02		368	Trade receivables
								Product rights	1316		Ma x 15 y	-14	Other current assets
								Old goodwill	-1371			14	
		2006 Viartis group	1	100%	5463,6	5097,9	0,93	Total	579	0,11		647	Deferred tax assets
								Product rights	1194,9		Ma x 15 y	-392,2	
								Software	9,1			5	Current liabilities
								Old goodwill	-625				
Melker Schörfling		Financial company											
Millicom	1	2009 No			49	38	0,78						
MUSD		2008 Amnet	1	100%	546	340	0,62	Total	136	0,25		42	PPE
													Other current assets
													Other current liabilities
		2007 No											
		2006 Colombia Móvil	1	50% + 1 vote, PGM	124	62	0,50	No info	Total	105	0,85		PPE
													Financial assets
													Cash and cash equivalents
													Contingent liabilities
MTG	1	2009 No											
MSEK		2008 Gymgrossisten	1	100%	198	89	0,45	Total	701	3,54		15	
								Immaterial rights	55				
								Broadcasting licence	153				
								Trademarks	493				
		Nova Televiza	1	100%	6044	5321	0,88			0,00		65	
		2007 Playahead	1	89%, PGM	102	79	0,77	3 Total	32	0,31		9	
								Immaterial rights	11				
								Trademarks	21				
		2006 P4 Radio Hele Norge ASA	1	40->100%	658,3	445,6	0,68	Total	265,7	0,40		74,4	
								Trademarks	265,7				
NCC	1	2009 No											
MSEK		2008 No											
		2007 No											
		2006 No											
Nordea		Financial company											
Oriflame	1	2009 No											
MEUR		2008 No											
		2007 No											
		2006 No											
Peab	1	2009 Total	1	PGM	474	1	0,00	1 Total	3	0,01	*3-10 y	12	Tangible fixed assets
MSEK						-3							Deferred tax recoverables
						-133							Project and development property
													Accounts receivables
		2008 Total	1	PGM	767	90	0,12	Total	38	0,05	*3-10 y	18	Tangible fixed assets
						-464							Deferred tax recoverables
													Project and development property
													Accounts payable and other liabilities
		2007 Total	1	PGM	208	31	0,15	5 Total	38	0,18	*3-10 y	47	Tangible fixed assets
													Project and development property
													Accounts payable and other liabilities

		2006 Total	1	PGM	666	173	0,26	Total	138	0,21	*3-10 y	86 Tangible fixed assets Accounts receivables Accounts payable and other liabilities	151 30 5
Saab MSEK	1	2009 No 2008 No 2007 No 2006 No											
Sandvik MSEK	1	2009 Total	1	PGM	3272	1647	0,50	Total	525	0,16	*3-20 y	140 PPE Inventories Non-interest bearing liabilities	138 50 171
		2008 Total	1	PGM	764	474	0,62	Total	38	0,05	*3-20 y	10 PPE Inventories Non-interest bearing liabilities	1 1 16
		2007 Total	1	PGM	6549	3886	0,59	Total	1318	0,20	*3-20 y	489 PPE Financial investments Inventories Current receivables Non-interest bearing liabilities	506 17 77 -71 497
		2006 Total	1	PGM	1188	526	0,44	Total	115	0,10	*3-20 y	30 PPE Financial investments Inventories Current receivables Non-interest bearing liabilities	26 6 -17 -11 37
SCA MSEK	1	2009 No 2008 P&G European tissue operations 2007 P&G European tissue operations 2006 No	1 1	100% 100%	1663 3192	346 653	0,21 0,20			0,00 0,00			
Scania MSEK	1	2009 No 2008 No 2007 Total 2006 No	1	PGM	269	131	0,49			0,00			
SEB		Financial company											
Seco Tools MSEK	1	2009 No 2008 ALG (Russia) 2007 No 2006 No	1	100%	100	59	0,59	Total Brands	-3 -3	-0,03		Acquired net assets Inventories Trade receivables	9 10 1
Securitas MSEK	1	2009 No 2008 No 2007 G4S Cash Services Other 2006 PSI	1 1 1	100% PGM 100%	283,1 163 250	140,2 17,2 142,8	0,50 0,11 0,57	Total Total	59,3 109,5	0,21 0,67	*3-5 y *3-5 y *3-5 y	Operating fixed assets Other liabilities Operating fixed assets Accounts receivables Other assets and liabilities Operating fixed assets Other liabilities	9,2 11,6 0,2 2,4 -16,1 -0,8 123,2
Skanska MSEK	1	2009 No 2008 No 2007 No 2006 McNicholas Holding PLC	1	100%	695	550	0,79	Total Service contract	112 112	0,16	3-6 y	34	
SKF MSEK	1	2009 No 2008 PEER Bearing Company 2007 Société de Mécanique Magnétique SA ABBA Group 2006 SNFA S.A.S.	1 1 1 1	100% 12,52%->100% 100% 100%	1094 513 417 1761	387 239 264 368	0,35 0,47 0,63 0,21	Total Order backlog Trademark and trade names Total	315 149 166 268	0,29 0,52	Indefinite	PPE Net working capital and current taxes 104 Financial liabilities Net working capital and current taxes 11 PPE Financial liabilities Net working capital and current taxes 185 PPE Net working capital and current taxes	11 13 19 14 -1 12 7 176 78
SSAB MSEK	1	2009 No 2008 No 2007 No 2006 No											
Stora Enso MEUR	1	2009 No 2008 No 2007 No 2006 Brazilian Arapoti Group	1	100%	320	0	0,00			0,00		Tangible fixed assets	75,5
Swedbank		Financial company											
Swedish match MSEK	1	2009 No 2008 No 2007 Bogaert Cigars Cigars International 2006 No	1 1 1	100% 100%	409 807	375 493	0,92 0,61	Total Trademarks Total Customer lists, computer systems etc.	34 34 149 149	0,08 0,18	*10-20 y	11 56	

*Useful life not shown for the specific asset but for the company in general
GW = Goodwill
PGM = Purchased goodwill method

Appendix
Quantitative Study: Table of Impairments and Amortizations

Company		CGU	Revenue	Revenue MSEK/CGU	Impairment of GW	GW	Impairment of GW/GW	Impairment of GW/Revenue	Amortization of IA	IA	Amortization of IA/IA	Amortization of IA/Revenue	Impairment IA	IA	Impairment of IA/IA	Impairment of IA/Revenue		
ABB MUSD	2009	7	31 795	32604	0	2 817			155	1	566	27%	2%	0				
	2008	6	34912	44988	0	3026			154	1	597	26%	2%	0				
	2007	7	24816	22835	7	1 2428	0%	0%	125	1	395	32%	1%	0				
	2006	7	19503	19115	0	2369			134	1	420	32%	1%	0				
Alfa Laval MSEK	2009	2	26039	13020	0	6143			233	1	2719	9%	1%	0				
	2008	2	27850	13925	0	5383			143	1	2029	7%	1%	0				
	2007	2	24849	12425	0	4459			249	1	1520	16%	1%	0				
	2006	2	19802	9901	0	3706			243	1	1432	17%	1%	0				
Alliance Oil Co	2009								No info		5936							
	2008								No info		8554							
Assa Abloy MSEK	2009	5	34963	6993	64	1 20397	0%	0%	162	1	2153	8%	0%	0				
	2008	5	34829	6966	0	1 2117			124	1	2117	6%	0%	0				
	2007	5	33550	6710	0	1 17271			317	1	2446	13%	1%	0				
	2006	4	31137	7784	0	1 16683			92	1	1641	6%	0%	0				
AstraZeneca MUSD	2009	1	32804	235470	0	9889			729	1	13370	5%	2%	415	1	13370	3%	1%
	2008	1	31601	244329	0	9874			807	1	13761	6%	3%	631	1	13761	5%	2%
	2007	1	29559	190398	0	9884			554	1	12141	5%	2%	120	1	12141	1%	0%
	2006	1	26475	181634	0	1097			325	1	3449	9%	1%	17	1	3449	0%	0%
Atlas Copco MSEK	2009	20	63762	3188	16	1 8270	0%	0%	685	1	5133	13%	1%	23	1	5133	0%	0%
	2008	20	74177	3709	0	7902			597	1	5121	12%	1%	7	1	5121	0%	0%
	2007	20	63355	3168	0	7902			481	1	4244	11%	1%	0				
	2006	17	50512	2971	0	2571			375	1	2108	18%	1%	5	1	2108	0%	0%
Autoliv MUSD	2009	3	5120,7	12252	0	1614,4			23,1	1	137,4	17%	0%	0				
	2008	3	6473,2	16683	0	1607,8			23,6	1	161	15%	0%	0				
	2007	3	6769	14534	0	1613,4			20,3	1	166,4	12%	0%	0				
	2006	3	6188	14151	0	1537,1			18,9	1	158,1	12%	0%	0				
Axfood MSEK	2009	5	32378	6476	0	1539			78	1	682	11%	0%	0				
	2008	5	31663	6333	0	1536			64	1	560	11%	0%	0				
	2007	4	29189	7297,25	0	1182			147	1	466	32%	1%	0				
	2006	4	28808	7202	0	1131			109	1	345	32%	0%	0				
Boliden MSEK	2009	5	27635	5527	0	3328			5	1	36	14%	0%	0				
	2008	5	30987	6197	0	3303			6	1	34	18%	0%	0				
	2007	5	33204	6641	0	3173			6	1	30	20%	0%	0				
	2006	5	35213	7043	0	3049			6	1	34	18%	0%	0				
Castellum MSEK	2009		2694			0					0							
	2008		2501			0					0							
	2007		2259			0					0							
	2006		2014			0					0							
Electrolux MSEK	2009	4	109132	27283	0	2274			594	1	3593	17%	1%	0				
	2008	4	104792	26198	3	1 2098	0%	0%	481	1	3347	14%	0%	43	1	3347	1%	0%
	2007	3	104732	34911	0	2024			413	1	3327	12%	0%	16	1	3327	0%	0%
	2006	4	103848	25962	0	1981			474	1	2847	17%	0%	-1	1	2847	0%	0%
Elekta MSEK	2009	6	7392	1232	0	2224			151	1	3031	5%	2%	0				
	2008	6	6689	1115	0	2390			134	1	3284	4%	2%	0				
	2007	7	5081	726	0	1973			104	1	790	13%	2%	0				
	2006	5	4525	905	0	1586			66	1	678	10%	1%	0				
Ericsson MSEK	2009	3	206477	68826	0	27375			4209	1	29439	14%	2%	4412	1	29439	15%	2%
	2008	3	208930	69643	0	24877			5006	1	28937	17%	2%	562	1	28937	2%	0%
	2007	3	187780	62593	0	22826			5433	1	33068	16%	3%	16	1	33068	0%	0%
	2006	1	179821	179821	0	6824			4237	1	25123	17%	2%	242	1	25123	1%	0%
Fabergé MSEK	2009		2194			0					0							
	2008		2214			0					0							
	2007		2066			0					0							
	2006		2343			0					0							
Getinge MSEK	2009	3	22816	7605	0	11319			796	1	6967	11%	3%	0				
	2008	3	19272	6424	0	14183			446	1	5106	9%	2%	0				
	2007	3	16445	5482	0	8128			220	1	2488	9%	1%	0				
	2006	3	13001	4334	0	4707			84	1	893	9%	1%	0				
Hakon invest Financial company																		
HM MSEK	2009	2	101393	50697	0	424			182	1	1432	13%	0%	0				
	2008	No info	88532		0	431			109	1	1334	8%	0%	0				
	2007	No GW	92123		0	0			50	1	316	16%	0%	0				
	2006	No GW	80081		0	0			45	1	267	17%	0%	0				
Hexagon MSEK	2009	6	11811	1969	0	10196			472	1	6668	7%	4%	-4	1	6668	0%	0%
	2008	6	14479	2413	0	10522			418	1	6724	6%	3%	-4	1	6724	0%	0%
	2007	Approx 6	14587	2431	0	9523			305	1	5128	6%	2%	195	1	5128	4%	1%
	2006	Approx 6	13469	2245	0	5973			261	1	4344	6%	2%	15	1	4344	0%	0%
Holmen MSEK	2009	No GW	18071			0			9	1	36	25%	0%	0				
	2008	No GW	19334			0			13	1	119	11%	0%	0				
	2007	No info	19159		569	1	569	100%	3%	12	1	54	22%	0%	0			

	2006	No info	18592		0		557		7	1	77		9%		0%	0				
Hufvudstaden	2009		1371,7				0				0									
MSEK	2008		1347,6				0				0									
	2007		1276,2				0				0									
	2006		1152,5				0				0									
Husqvarna	2009	5	34074	6815	0		6461		300	1	4805		6%		1%	94	1	4805	2%	0%
MSEK	2008	5	32342	6468	0		6788		237	1	5028		5%		1%	2	1	5028	0%	0%
	2007	>2	33284	16642	0		5467		299	1	4557		7%		1%	4	1	4557	0%	0%
	2006	4	29402	7351	0		1780		208	1	950		22%		1%	1	1	950	0%	0%
Industriiv	Financial company																			
Investor	Financial company																			
Kinnevik	Financial company																			
Latour	Financial company																			
Lundbergföretagen	Financial company																			
Lundin mining	2009	2	746	2677	0		250				0									
MUSD	2008	2	835	3228	237	1	480	49%			0									
	2007	2	1060	3414	350	1	854	41%			0									
	2006	2	540	1852	0		616				0									
Meda	2009	3	13178	4393	0		13260		1364	1	28817		5%		10%	0				
MSEK	2008	3	10675	3558	0		14256		1035	1	30644		3%		10%	0				
	2007	3	8145	2715	0		11584		695	1	13216		5%		9%	0				
	2006	2	5256	2628	0		5082		298	1	3841		8%		6%	0				
Melker Schörling	Financial company																			
Millicom	2009	8	3373	3026	0		548		88	1	585		15%		3%	0				
MUSD	2008	7	3151	3480	3	1	510	1%	66	1	549		12%		2%	0				
	2007	6	2631	2825	0		184		49	1	333		15%		2%	0				
	2006	6	1576	1802	0		196		40	1	326		12%		3%	0				
MTG	2009	5	14173	2835	3252	1	8491	38%	76	1	1540		5%		1%	41	1	1540	3%	0%
MSEK	2008	5	13166	2633	76	1	8874	1%	105	1	1704		6%		1%	16	1	1704	1%	0%
	2007	>3	11351	3784	0		2491		66	1	1189		6%		1%	13	1	1189	1%	0%
	2006	>3	10136	3379	38	1	2273	2%	87	1	1014		9%		1%	50	1	1014	5%	0%
NCC	2009	3	51817	17272	0		1750		21	1	136		15%			-5	1	136	-4%	0%
MSEK	2008	3	57465	19155	32	1	1804	2%	25	1	147		17%				147			
	2007	2	58397	29199	90	1	1741	5%	29	1	147		20%			22	1	147	15%	0%
	2006	2	55876	27938	20	1	1720	1%	21	1	134		16%				134			
Nordea	Financial company																			
Oriflame	2009	4	1317	3382	0		5		3	1	15		20%		0%	0				
MEUR	2008	4	1320	3609	0		5		3	1	10		30%		0%	0				
	2007	4	1109	2622	0		5		1,933	1	9,428		21%		0%	0				
	2006	4	918	2075	0		5		1,478	1	7,473		20%		0%	0				
Peab	2009	12	35140	2928	9	1	1758	1%	61	1	588		10%		0%	4	1	588	1%	0%
MSEK	2008	12	34132	2844	0		1781		18	1	349		5%		0%	0				
	2007	13	31977	2460	39	1	552	7%	3	1	149		2%		0%	0				
	2006	9	26132	2904	0		335		0		136					19	1	136	14%	0%
Saab	2009	9	24647	2739			3457		858	1	4524		19%		3%	15	1	4524	0%	0%
MSEK	2008	9	23796	2644	103	1	3541	3%	663	1	5165		13%		3%	250	1	5165	5%	1%
	2007	9	23021	2558			3404		566	1	5210		11%		2%	108	1	5210	2%	0%
	2006	9	21063	2340	15	1	3309	0%	299	1	4906		6%		1%	80	1	4906	2%	0%
Sandvik	2009	11	71937	6540	0		11135		312	1	3115		10%		0%	-67	1	3115	-2%	0%
MSEK	2008	11	92654	8423	0		9831		265	1	2544		10%		0%	74	1	2544	3%	0%
	2007	10	86338	8634	0		8933		408	1	2900		14%		0%	0				
	2006	6	72289	12048	0		5156		283	1	1441		20%		0%	62	1	1441	4%	0%
SCA	2009	6	110857	18476	0		19147		348	1	3534		10%		0%	24	1	3534	1%	0%
MSEK	2008	6	110449	18408	0		19374		316	1	3775		8%		0%	0				
	2007	6	108144	18024	0		18161		299	1	3909		8%		0%	228	1	3909	6%	0%
	2006	7	103744	14821	0		16997		227	1	3020		8%		0%	4	1	3020	0%	0%
Scania	2009	No info			0		1296		307	1	1328		23%			0				
MSEK	2008	No info			0		1307		519	1	1543		34%			0				
	2007	No info			0		1221		466	1	1756		27%			0				
	2006	No info			0		1041		404	1	1827		22%			0				
SEB	Financial company																			
Seco Tools	2009	1	4889	4889	0		227		21	1	151		14%		0%	0				
MSEK	2008	1	6536	6536	0		243		39	1	173		23%		1%	0				
	2007	1	6034	6034	0		157		43	1	130		33%		0%	0				
	2006	1	5451	5451	0		151		34	1	133		26%		1%	0				
Securitas	2009	>5	62666,7	12533	0		13558,3		76,3	1	354,7		22%		0%	0				
MSEK	2008	>5	56571,6	11314	0		14104,3		68,2	1	323,4		21%		0%	0				
	2007	>5	62907,6	12582	349,9	1	14143,4	2%	174	1	1040,9		17%		0%	8,5	1	1040,9	1%	0%
	2006	>5	60532	12106	41,2	1	14072,8	0%	190,7	1	819,4		23%		0%	-8,2	1	819,4	-1%	0%

Skanska MSEK	2009	7	136803	19543	210	1	4573	5%	0%	109	1	934	12%	0%	0	779	2%	0%
	2008	7	143674	20525	0		4442			91	1	895	10%	0%	0			
	2007	7	138781	19826	0		4584			106	1	779	14%	0%	15			
	2006	7	125603	17943	0		4490			63	1	803	8%	0%	0			
SKF MSEK	2009	6	56227	9371	0		293			222	1	1396	16%	0%	0	1188	0%	0%
	2008	6	63361	10560	40	1	344	12%	0%	257	1	1188	22%	0%	2			
	2007	5	58559	11712	13	1	240	5%	0%	130	1	692	19%	0%	6			
	2006	5	53101	10620	128	1	266	48%	0%	61	1	1513	4%	0%	7			
SSAB MSEK	2009	2	29838	14919	0		19701			907	1	8503	11%	3%	0			
	2008	2	54239	27120	0		21101			934	1	9065	10%	2%	0			
	2007	2	47651	23826	0		30203			476	1	10921	4%	1%	0			
	2006	2	31054	15527	0		0			1	1	11	9%	0%	0			
Stora Enso MEUR	2009	7	9117,9	13379	0		208,3			0		44,3			0	217	9%	0%
	2008	9	11149	13546	236	1	443,6	53%	2%	0		68,7			0			
	2007	9	13487,4	14170	233	1	735,7	32%	2%	37,5	1	217	17%	0%	20,4			
	2006	7	13322,1	17204	9	1	915,8	1%	0%	-39	1	136,5	-29%	0%	5,1			
Swedbank Financial company																		
Swedish match MSEK	2009	9	25483	2831	0		2609			128	1	1311	10%	1%	0			
	2008	9	22793	2533	0		3166			139	1	1675	8%	1%	0			
	2007	No info	22852	0	0		2799			135	1	1755	8%	1%	0			
	2006	No info	21991	0	0		1991			132	1	1610	8%	1%	0			
Tele2 MSEK	2009	9	39265	4363	5	1	10184	0%	0%	597	1	2826	21%	2%	0	2261	14%	1%
	2008	9	38272	4252	986	1	12459	8%	3%	804	1	2261	36%	2%	322			
	2007	9	43420	4824	1315	1	13918	9%	3%	910	1	3549	26%	2%	550			
	2006	9	43098	4789	3300	1	21791	15%	8%	1042	1	4395	24%	2%	0			
TeliaSonera MSEK	2009	8	109161	13645	4	1	85741	0%	0%	2688	1	17299	16%	2%	109	17299	1%	0%
	2008	8	103585	12948	0		84431			2450	1	19082	13%	2%	95			
	2007	5	96344	19269	10	1	71182	0%	0%	2615	1	15564	17%	3%	212			
	2006	6	91060	15177	5	1	62643	0%	0%	2403	1	13950	17%	3%	13			
Tieto Corporation MEUR	2009	3	1723,8	5902	0		402			22,1	1	68,9	32%	1%	0			
	2008	3	1876,5	6840	0		389,3			20,8	1	73,9	28%	1%	0			
	2007	3	1772,4	5586	40	1	455,7	9%	2%	32,7	1	99,1	33%	2%	0			
	2006	3	1646,5	4961	0		448,4			21,4	1	104	21%	1%	0			
Trelleborg MSEK	2009	4	27059	6765	0		10 478			167	1	971	17%	1%	0	882	2%	0%
	2008	4	31263	7816	0		10901			157	1	1089	14%	1%	0			
	2007	4	30810	7703	53	1	9434	1%	0%	149	1	882	17%	0%	16			
	2006	5	26875	5375	157	1	9125	2%	1%	114	1	681	17%	0%	0			
Volvo MSEK	2009	7	218 361	31194	0		23 837			3526	1	21415	16%	2%	0	21047	0%	0%
	2008	7	303667	43381	0		24813			3286	1	22431	15%	1%	0			
	2007	7	285405	40772	0		19969			2719	1	19258	14%	1%	0			
	2006	6	258835	43139	1712	1	10561	16%	1%	1850	1	21047	9%	1%	80			
Average (Revenue(MSEK)/No of CGU)				18868	No of GW Impairments 38		Average (GW Impairment/GW)		12%	No of IA Amortizations 149				No of IA Impairments 56		Average (IA Impairment/IA)		3%
Median (Revenue(MSEK)/No of CGU)				7202			Average (GW Impairment/Revenue)		3%	Average (IA Amortization/IA)				Average (IA Impairment/Revenue)		0,3%		