



2017 Southern African Accounting Association
Biennial International Conference Proceedings
Champagne Sports Resort
Drakensberg
SOUTH AFRICA
(ISBN 978-0-620-74762-2)
<http://www.saaa.org.za/>

**FAC017 THE VALUE RELEVANCE OF GOODWILL UNDER IFRS 3: A
SOUTH AFRICAN CONTEXT**

AUTHOR(S): Fatima Zahra University of Fatima.omarjee@wits.ac.za
Omarjee the
Robert Garnett Witwatersrand Robert.garnett@wits.ac.za

ABSTRACT:

This study tests the value relevance of the carrying amount of goodwill under IFRS 3, in a South African context. An adaptation of the Ohlson model was used which found the carrying amount of goodwill to be value relevant. These results are in line with other studies and could be seen to confirm the recognition of goodwill as an asset; since investors perceive goodwill to reflect future economic benefits. These results also suggest that goodwill measured under IFRS 3 provides useful information to market participants since a positive relationship exists between goodwill and the market value of equity of firms. A possible reason for goodwill being value relevant under IFRS 3 is the distinct requirement to impair goodwill as opposed to the previous amortisation requirement. The value relevance of impairment losses is a suggested area for future research in a South African context as this would give additional information regarding goodwill value relevance under IFRS 3.

Key words: Goodwill, intangible assets, Ohlson model, value relevance.

INTRODUCTION

For many years, the accounting treatment for purchased goodwill has been a subject of great controversy as both the nature and source of goodwill cannot be agreed upon (Anderson, Marshall, Carlin, & Finch, 2011). While some accounting theorists define goodwill as residual of a larger asset, which is the investment, after being broken down into its identifiable constituent components (Colley & Volkan, 1988; Johnson & Petrone, 1998). Other accounting theorists, however, consider goodwill as its underlying component which includes items such as a purchase premium for items not recognised in the statement of financial position (Giuliani & Brännström, 2011; Henning, Lewis, & Shaw, 2000; Higson, 1998).

The difference in opinions on the nature of goodwill has further created the difference in opinion regarding the recognition and measurement of goodwill. According to Jennings, Robinson, Thompson, and Duvall (1996), if goodwill is considered part of the larger asset then surely goodwill should be treated as an asset, however, if goodwill is considered an underlying component then goodwill might not be considered as an asset since the components might not meet the definition of an asset. These issues have made goodwill a very complicated, vague and unsettled space (Anderson et al., 2011).

Further interest in goodwill has arisen due to the new requirements of IFRS (International Financial Reporting Standards) being distinctly different to the requirements of any of the previous reporting frameworks on goodwill (Eloff & de Villiers, 2015).

The objective of this study was to test the value relevance of goodwill both to assess the adequateness of its recognition as an asset as well as determining its value relevance based on the initial and subsequent measurement requirements of IFRS. The main research question of this study was:

Is the carrying amount of goodwill under IFRS value relevant?

The main research question can be extended further to the following research questions:

1. *Should goodwill be recognised as an asset?*
2. *Is the initial and subsequent measurement of goodwill adequate to create value relevance?*

This study is helpful to financial statement users, investors or analysts who are interested in how purchased goodwill affects the market value of equity of a firm. This study would also be useful to standard setters in evaluating the current reporting standard on how goodwill is recognised and measured at acquisition and subsequently, in a South African context. A similar study on the value relevance of goodwill has been conducted by Eloff and de Villiers (2015), who studied the difference in the value relevance of goodwill pre-IFRS adoption and post-IFRS adoption. It should be noted, however, that this more recent study eliminates the effects on any implementation and adoption issues and focuses on a longer time period of goodwill under IFRS requirements.

LITERATURE REVIEW

Defining goodwill

Studies on goodwill have dated as far back as the late 1800's and have remained a topic of argument and debate to present day (Cooper, 2007; Curtis, 1983). According to accounting theorists, both the nature and source of goodwill cannot be agreed on (Anderson et al., 2011). As a result, theorists have generated a tangled collection of irreconcilable explanations and have concluded that goodwill is vague, unclear and an unsolvable problem altogether (Anderson et al., 2011; Barton & Bloom, 2009; Gröjer, 2001).

According to Colley and Volkan (1988) and Johnson and Petrone (1998), there are two main perspectives that define goodwill; the top-down and the bottom-up perspective. According to the top-down perspective; goodwill is considered to be a residual of a larger asset, which is the investment, after being broken down into its constituent components. This perspective is in line with current reporting frameworks (Giuliani & Brännström, 2011). Goodwill, being a residual, has two further view-points:

- 1) The residual only exists as a result of not being able to correctly identify and measure all intangibles, whilst,
- 2) The residual simply exists without having any specific qualities.

According to the bottom-up perspective, goodwill is not viewed as a residual but rather viewed as its underlying component; such as a purchase premium for items not recognised in the statement of financial position (Higson, 1998). These items comprise of advantages such as personality, locality, connections, premises, reputation, skill and quality of goods (Giuliani & Brännström, 2011). According to Johnson and Petrone (1998), goodwill constitutes:

1. The excess of fair values over the book values of the acquiree's recognised net assets.
2. Fair values of unidentifiable intangible assets.
3. The fair value of the going concern element of the acquired business.
4. The fair value of the combined synergies of the acquirer and acquire; and lastly
5. The overpayment by the acquirer.

Goodwill approaches

Following the different goodwill definitions, earlier studies on goodwill focused on investigating what the content of goodwill is, in order to determine if it should be recognised as an asset or not. Following, the top-down perspective, researchers believe that since goodwill is a part of a larger asset (the investment) then surely goodwill should be recognised as an asset in line with current conceptual frameworks (Giuliani & Brännström, 2011). From the bottom-down perspective, however, since goodwill is made up of particular components which may not all meet the asset definition of the respective accounting frameworks, then goodwill could or could not be capitalised. This is because certain components within goodwill do not meet the asset definition (Giuliani & Brännström, 2011).

Based on these differences, the treatment of goodwill can be divided into 3 different approaches:

- 1) The immediate write off to goodwill in line with the prudence concept (Spacek, 1964). This approach was used by US standards in the 1940s and the UK standards in the 1980's.
- 2) Goodwill should be amortised systematically over a reasonable time period in line with the accrual concept (Seetharaman, Balachandran, & Saravanan, 2004). This approach was commonly used by most reporting frameworks prior to IFRS adoption. It was used in Canada, UK (maximum write off period of 20 years), the US (maximum write off period of 40 years), Australia (maximum write off period of 20 years) and New Zealand (a write off period between 10 and 20 years).
- 3) Goodwill should only be written off if there is strong evidence to support this (IASB, 2008d; Zeff & Dharan, 1994) which is consistent with the IFRS approach.

The different approaches will be discussed below.

Immediate write off approach

In support of the first viewpoint, according to Spacek (1964), goodwill should be written off immediately as amortisation and capitalisation of goodwill is an arbitrary allocation which results in unreliable income determination. Additionally, goodwill of a business acquired eventually disappears in time. This together with the fact that goodwill is incapable of being separated creates extreme difficulty in measuring goodwill, which is why goodwill is a very unique asset that cannot be treated similarly to any other asset and needs special attention. Further, since users would not place any relevance on the goodwill carrying amount, in the statement of financial position, due to measurement complexities, it would be more useful to completely write it off at acquisition.

According to Jennings et al. (1996), however, the relationship between the expected benefits from goodwill and the cost of goodwill beyond the acquisition date should be the deciding factor in determining if goodwill should be written off to equity or capitalised in the statement of financial position. If a positive relationship does exist than capitalising the goodwill to the statement of financial position would represent it more accurately. If no relationship exists than it would be better represented by an immediate write off (Jennings et al., 1996). According to Seetharaman et al. (2004) writing off goodwill would also confuse users and lead to users misinterpreting financial statements (Seetharaman et al., 2004). This is because goodwill would be an irregular and usually a once-off write off.

Amortisation approach

Subsequent to the immediate write off approach, most accounting frameworks agreed that goodwill should be recognised as an asset. This led to a large number of studies focusing on the value relevance of goodwill as an asset.

Chauvin and Hirschey (1994), McCarthy and Schneider (1995) and Jennings et al. (1996) all have consistently found a strong relationship between goodwill and firm value. This suggests that since investors recognise that goodwill reflects future economic benefits i.e., value, then it should be rightfully classified as an asset in the statement of financial position (Jennings et al., 1996). In more recent studies performed by Godfrey and Koh (2001) and Shahwan (2004), it was also shown that goodwill appears to be value relevant to users since there was a strong relationship between goodwill values and the market value of equity in firms.

These results are important as the debate on whether goodwill should be recognised as an asset or not still holds despite the evolution of reporting frameworks.

As time progressed, many reporting frameworks agreed that the value within the goodwill asset does deplete as time progresses. As a result, goodwill was generally amortised over a prescribed period or was limited to a specific period (Seetharaman et al., 2004).

Advocates of amortising goodwill recognised that since a fundamental characteristic of accounting frameworks is to match incomes to expenses, in the same period. So based on this, the cost of goodwill should be amortised as a means of matching costs with incomes actually received which arise from goodwill. Another benefit of treating goodwill this way is that it allows for accountability, under stewardship accounting, to justify management's acquisitions by showing that cash inflows from new acquisitions should outweigh the cash outflows (Seetharaman et al., 2004).

According to Jennings et al. (1996), if the value of goodwill declines for all firms and if management's decisions to impair goodwill are not aligned to that of users of financial statements to reflect this decline, then goodwill amortisation best reflects the valuation of goodwill. This is because it forces management to record a decline. This is supported by a strong negative relationship between equity values of firms and goodwill amortisation found in their study.

A problem arising from amortising goodwill, however, is the determination of an adequate useful life as the estimation of useful lives becomes less reliable as the length of a useful life increases; which renders amortisation irrelevant to users of financial statements (Clinch, 1995; Ravlic, 2003; Waxman, 2001). Evidence also showed that managers considered economic consequences when determining amortisation periods (Hall, 1993). For these reasons many reporting frameworks either limited the useful life of goodwill to a prescribed period of usually 20 years or prescribed the useful life of goodwill to be a fixed period. By limiting or prescribing useful lives, further criticism arose as opponents believed that amortising goodwill over a fixed period ignores the fact that some portions of goodwill have indefinite useful lives and can still be wholly intact after this period (Wines, Dagwell, & Windsor, 2007). Also, a fixed period such a 20 years has no relation to the consumption of goodwill; it is a "magical" selection with no basis (Wines et al., 2007). This arbitrary allocation is the main reason standard setters have moved away from goodwill amortisation as it was considered that amortised goodwill has no information value attached to it (Ravlic, 2003).

Goodwill under impairment testing approach

The development of IFRS 3

Prior to South Africa implementing IFRS in 2007, International Accounting Standards 22 (IAS 22) was used as the reporting framework for goodwill. Under this framework, goodwill was permitted to be treated under two alternate methods, the purchase method or the pooling of interest method (Eloff & de Villiers, 2015).

The purchase method required capitalising and then amortising acquired goodwill over its useful life. The value subjected to amortisation was calculated as the excess of the purchase price over the fair value of the assets less liabilities of the acquired firm (Eloff & de Villiers, 2015).

On the other hand, the pooling method did not recognise goodwill at all; instead it recognised all the assets (including intangible assets) and liabilities of the acquired firm in the acquirer's financial statements. Both these methods were criticised by users and analyst as it gave preparers the opportunity to structure transactions to achieve desired results (Eloff & de Villiers, 2015). It also meant that transactions that were so similar in nature could have been treated so economically different which compromised faithful representation (Eloff & de Villiers, 2015).

Following this criticism, the International Accounting Standard's Board (IASB) began a project in 2001 to revise IAS 22 and as a result IFRS 3 was issued. Some fundamental and distinct changes of IFRS 3 were:

- 1) The pooling of interest approach was abolished and only purchase accounting was allowed.
- 2) IFRS 3 requires that all identifiable assets, liabilities and contingent liabilities of the acquired firm must be recognised at acquisition, in determining the goodwill (IASB, 2008a). These identifiable assets even relate to those internally generated intangible assets that were not recognised in the separate records of the acquired firms as per the requirements of IAS 38 (the standard on intangible assets). These include items such as a brand name, a patent or a customer relationship and reacquired rights. This was not explicitly required in any of the previous accounting standards relating to goodwill and as a result the extent of identifiable intangible assets should increase for firms with business combinations while the goodwill values of business acquisitions would decrease under IFRS.
- 3) The requirement to impair the goodwill balance annually instead of amortising the balance over a stipulated useful life (IASB, 2008a). Both the abolishment of the pooling method and the impairment requirement were preceded by requirements in US GAAP in 2001.

The details of IFRS 3 are discussed below.

Recognition and initial measurement

According to IFRS 3:

“Goodwill is an asset representing the future economic benefits arising from other assets acquired in a business combination that are not individually identified and separately recognised.”

The standard measures goodwill as the difference between the aggregate considerations transferred, any non-controlling interest in the acquiree and, in a business combination achieved in stages, the acquisition-date fair value of the acquirer's previously held equity interest less the fair value of net identifiable assets acquired at acquisition date. Accordingly, the excess paid could be attributed to items such as the fair value of the going concern

element as well as the fair value of the synergies expected as such items would enable a business to earn a higher rate of return on the acquisition (IASB, 2008b). The value of an assembled workforce and potential contracts and similar intangibles will also be subsumed into goodwill since these do not qualify the identifiability criterion (IASB, 2008b).

In view of this treatment, IFRS 3 measures goodwill as a combination of the top-down approach and the bottom-up approach (Giuliani & Brännström, 2011). Since goodwill is considered as an excess of consideration transferred over the net of the acquisition-date amounts of the identifiable assets acquired and the liabilities assumed (IASB,2008a), it is the part of the purchase value that is not possible to allocate to the purchased identifiable assets. This Identifies with the top-down approach. Further, since there is there is a need to disclose to users information that enables users to evaluate the financial effect of the business combination, which ultimately is the disclosure behind what is hidden within the goodwill (components of goodwill) (Giuliani & Brännström, 2011), this identifies with the bottom-up perspective.

Since goodwill under IFRS contains traces of the bottom-up approach which this casts doubt on goodwill being recognised as an asset or not. The IASB considered what constitutes core goodwill and if these constituents can be controlled⁶⁷ by the entity. Further an assertion was made that goodwill does constitute factors such as a well-trained work force and loyal customers. These factors, however, cannot be regarded as controlled by the entity. For this reason, the IASB has followed this approach:

“Control of core goodwill is provided by means of the acquirer’s power to direct policies and management of the acquiree.” (IASB, 2008b, p. BC 323 ,BC 323)

When measuring goodwill, the consideration transferred includes the sum of the fair value of assets transferred, liabilities incurred, equity issued by the acquirer as well the fair value of any assets or liabilities arising from a contingent consideration (IASB,2008a). The standard further allows that within the measurement period of IFRS 3, the goodwill can be adjusted as to reflect new information relating to facts and circumstances that did exist at acquisition date and would have had an effect on the value of goodwill. Included in these measurement period adjustments are fair value changes to assets and liabilities and fair value changes to contingent considerations (IASB,2008a). The rules regarding contingent considerations have been among other important changes to measuring goodwill as previous reporting frameworks did allow goodwill to be recognised as a provisional value (IASB, 2008a).

Subsequent measurement of goodwill

According to IFRS 3, goodwill is not amortised subsequently; however, entities are required to test goodwill annually for impairment and whenever there is an indication that goodwill may be impaired. Impairments are carried out in accordance with of IAS 36 which is the standard that deals with asset impairments. As such, goodwill is carried at cost less accumulated impairment losses which may not be subsequently reversed (IASB, 2008d).

⁶⁷ Control is an essential requirement for an item to be recognised as an asset as per the IFRS conceptual framework.

Indicators of goodwill impairment according to IAS 36 as a minimum include:

- External information that show observable indications that an asset's value has declined abnormally in the period.
- Significant changes taking place in the year or near future with an adverse effect on the entity
- A decline in market interest rates or rates of return on assets and when the carrying amount of the net assets of an entity is more than its market capitalisation (IASB,2008d).

From internal sources of information, these indicators include:

- Evidence of physical damage and obsolescence of an asset
- Significant changes taking place in the year or near future with an adverse effect on the entity such the asset becoming idle
- Evidence that the economic performance of an asset will be worse than expected
- Total dividends declared from an investment being greater than its total comprehensive income, and
- The carrying amount of an investment in its separate financial statements exceeding the carrying amount in the consolidated financial statements in the investees records including goodwill (IASB, 2008d).

The process for impairment testing is a two-step mechanism where the first step is to allocate goodwill to cash generating units (CGU's). The second step is then recording the difference between the recoverable amount and the carrying amount of the cash generating unit as an impairment loss, if the recoverable amount is less than the carrying amount (IASB, 2008d).

The impairment testing requirement has eliminated many concerns marked with the previous two approaches of accounting for goodwill. According to Donnelly and Keys (2002), goodwill impairments adequately capture goodwill value declines in a more meaningful manner than previous accounting treatments. From a statement of financial position perspective; the valuation of goodwill in terms of IFRS is a better assessment of asset value as goodwill declines are not automatic but instead takes consideration of individual entity circumstances. While from a statement of comprehensive income perspective, goodwill valuations will be more closely aligned to real economic value rather than an arbitrary amortisation calculation. Both of these values should provide more useful and relevant information to users (Schipper, 2005; Wines et al., 2007).

This new and fairly different measurement method is not viewed as positively by all researchers as many implementation and application issues are prevalent. Among the many issues is the excessive time and cost of carrying out impairment tests (Massoud & Raiborn, 2003; McGreachin, 1997; Watts, 2003). This promotes management to identify cash generating units at higher levels (by allocating more assets to a CGU, whereby, the CGU is not the smallest identifiable group of assets that generates cash inflows that are largely independent of the cash inflows from other assets or groups of assets) which are not necessarily correct, in order to save time and costs. This could also result in goodwill

recorded on the statement of financial position that are not impaired as management could be incentivised not to record impairments at all (McGreachin, 1997).

The provisions for impairment testing are also marked with huge complexities, both from a technical and judgmental perspective (Khokan Bepari, F. Rahman, & Taher Mollik, 2014; Wines et al., 2007). These complexities include identification of CGU'S, particularly when an acquired entity has many subsidiaries or divisions (Wines et al., 2007), allocating goodwill to these CGU's (Hayn & Hughes, 2006; Petersen & Plenborg, 2010; Wines et al., 2007), determining the method of impairment, determining the key estimates and assumptions such as the appropriate discount and growth rates, terminal values and forecast periods (Khokan Bepari et al., 2014) and valuing assets that are not homogeneous to any other (Stefano Zambon, Caruso, Ferrari, & Pisano, 2016). To no surprise, impairment testing of goodwill has been identified as one of the five most challenging requirements of the IFRS transition (Hoogendoorn, 2006).

These complex impairment testing requirements are also highly reliant on management estimates and judgements which naturally leads to the estimates being subject to management bias, ambiguity and discretion which are open to abuse (Cearns, 1999; Hoogendoorn, 2006; Massoud & Raiborn, 2003; Watts, 2003; Wines et al., 2007). Studies have shown that management subjectivity and bias have led to opportunistic timing and amounts of impairment write offs (Beatty & Weber, 2006; Hayn & Hughes, 2006; Ramanna & Watts, 2012; Zhang & Zhang, 2015). According to Hayn and Hughes (2006) these write offs can be lagged by an average of three to four years.

Disclosure

When goodwill arises, the entity needs to disclose a qualitative description of the factors that make up goodwill such as the synergies expected to arise from the business combination as well as intangible assets that do not qualify for separate recognition (IASB,2008a). The entity also needs to disclose, in the notes of financial statements, a reconciliation of gross goodwill and accumulated impairment losses from the beginning of the period to the end of the reporting period; disclosing increases, transfers to disposal groups, exchange differences and impairment losses on goodwill as current period movements.

Since goodwill needs to be allocated to a CGU in order for it to be tested for annual impairments. The entity should disclose the description of each CGU and the change in composition of the CGU if applicable (IASB, 2008d). If an impairment loss has taken place in the period then the related impairment loss needs to be disclosed together with events and circumstances that led to the impairment (IASB, 2008d). These disclosures need to be disclosed for both segmental and non- segmental reporting (IASB, 2008d).

The entity should also disclose the recoverable amount stating if it is the fair value less cost to sell or value in use irrespective of an impairment taking place or not (IASB, 2008d). If the recoverable amount is the fair value less cost to sell, the entity needs to disclose the level of the fair value hierarchy together with valuation techniques and key assumptions used to determine the fair value. On the other hand, if the recoverable amount is the value in use then the discount rates and assumptions and estimates used to determine this value need to be disclosed (IASB,2008d).

Additionally, if circumstances arise where an entity needs to change a key estimate relating to the determination of the recoverable amount of the CGU, which would cause the unit's carrying amount to exceed its recoverable amount; additional disclosures are also then required. These disclosures consist of disclosing the amounts by which the unit's recoverable exceeds its carrying amount, the value assigned to the key assumptions and the amount by which the value assigned to the key assumption must change after incorporating any consequential effects (IASB, 2008d).

Value relevance studies of goodwill under IFRS

The adoption of IFRS was the biggest step toward global accounting harmonisation has received much focus in the recent decade and has had a mixed reception. Many researchers perceive the adoption as a positive step towards a convergence of accounting standards which improves information content and disclosures as well as enhances comparability and intermediation in capital markets (Barth, Landsman, & Lang, 2008; Horton, Serafeim, & Serafeim, 2013; Schipper, 2005). Other researchers, however, have seen many disadvantages to the adoption, which include the extensive use of fair values and complex institutional factors surrounding its adoption (Ball, 2006; Sahut, Boulerne, & Teulon, 2011; Schipper, 2005). The actual value relevance studies on the IFRS adoption have had mixed results as well. These results are mainly attributable to the absence of suitable unified enforcement mechanisms as well as country specific legal, regulatory, political and market factors (Ball, 2006; Devalle, Onali, & Magarini, 2010; Horton & Serafeim, 2010; Sahut et al., 2011; Schipper, 2005).

Since intangible assets have such pronounced valuation information attached to it, the adoption of IFRS has naturally led to a large amount of intangible asset value relevance studies focusing on the pre-IFRS as opposed to post-IFRS relevance. Majority of these studies were conducted in an Australian setting where the previous goodwill standard (prior to IFRS adoption) required goodwill to be amortised over a period not exceeding 20 years. While for intangibles, both acquired and internally generated intangibles were allowed to be recognised and could even be revalued upwards on an annual basis.

Goodwin, Ahmed, and Heaney (2008) found the IFRS change to goodwill had increased in relevance, post-IFRS, in Australia because of the amortisation reversal transactions. This is consistent with investors' perceptions of value changes for this asset. This study used an adaptation to the Ohlson model. Similarly Chalmers, Clinch, and Godfrey (2008) also found goodwill to be more relevant due to the removal of the subsequent amortisation requirement in Australia. These results are consistent to those of Oliveira, Rodrigues, and Craig (2010) who also found that the relevance of goodwill has increased with IFRS adoption due to the annual impairment testing requirement instead of the amortisation requirement. This study tested the value relevance of intangibles over the pre-IFRS and post-IFRS adoption periods in Portugal, using the Ohlson model. Sahut et al. (2011) also did a pre-IFRS and post-IFRS comparison to the value relevance of intangibles in European countries including the UK, France, Norway, Belgium & Luxembourg, Sweden, Italy, Finland, and Ireland using an adaptation of the Ohlson model. The results show that many firms have reclassified all intangible assets that no longer meet the intangible asset definition as goodwill. As a result, investors pay less attention to goodwill. The study owes the difference in results from country to country to constitutional factors as well as non-compliance to IFRS. Ji and Lu (2014) found no improvement to the relevance of goodwill post -IFRS adoption.

In studies focusing on the value relevance of goodwill impairment, Ahmed and Guler (2007) found that goodwill and goodwill impairments are value relevant because goodwill is closely related to economic factors. The study further found both goodwill and goodwill impairment is more value relevant for firms with greater number of segments. Similarly, Duangploy, Shelton, and Omer (2005) also found that goodwill impairments are not completely ignored by users as was the previous amortisation requirement. There are multiple reasons for this: firstly, the impact on impairment losses is large enough to affect an entity's debt to equity ratio that signal solvency risks. Secondly, goodwill impairments are disclosed as segmental reporting which as shown to be more useful than consolidated data. Lastly as opposed to the arbitrary amortisation calculations, impairments are based on fair values which are more relevant in current volatile markets. Both these studies used the adaptations of the Ohlson model to test the value relevance.

Contrary to this, Hayn and Hughes (2006), using a hazard model similar to bankruptcy prediction models, found that the information in financials to predict impairments are limited due to the low quality of segmental disclosures. According to this study, certain acquisition characteristics such as, the premium paid, percentage of the purchase price assigned to goodwill and the mode of consideration are in fact better goodwill predictors. Similarly, according to Magni, Malagoli, Bini, and Della Bella (2007), goodwill impairments show limited value relevance as declining share prices prior to the disclosed impairment have already captured investor expectations and the disclosed impairment is merely a rubber stamp of these expectations. This study was performed by surveying other studies.

METHODOLOGY

Background to value relevance studies

The primary objective of the IASB in developing IFRS is to provide useful information for investors, lenders and other creditors to make future economic decisions (IASB, 2008c). As a result of Neoclassical economics, the purpose of accounting information was seen to be information that is predictive of market security prices, rather than being information reflecting past performances of profit making enterprises which had been its previous function (Beaver, 1971). Based on this, accounting information is seen to be value relevant if it has some relation to capital markets, i.e. to share prices or market values (share price multiplied by the number of total equity shares outstanding) of securities (Wyatt, 2008).

Value relevance studies use various valuation models to structure their tests, and typically use equity market value as the valuation benchmark to assess how well particular accounting amounts reflect information used by investors (Barth, 2000; Swartz & Negash, 2006). The tests often focus on the coefficients on the accounting amounts in the estimation equation (Barth, 2000). These studies follow an autoregressive process under the premise that past values (those reflected in financial statements) have an effect on current market prices. This follows from the efficient market theory that assumes investors are free in making their decisions and these investors' decisions affect prices, or in other words, that the stock prices must reflect the preferences of market participants (Abdel-Khalik, Wong, & Wu, 1999). The stock market should therefore be free from manipulation by the authorities

and restrictions on trading must not be too strict or subject to authorities' discretion (Abdel-Khalik et al., 1999).

Value relevance studies are particularly of interest to a wide spectrum of individuals including; standard setting bodies such as the IASB, regulators including security exchanges and reserve banks and users of financial statements because it usually addresses broad questions raised by these groups (Barth, 2000).

Research method

This study has tested value relevance by means of association in a statistical manner. Value-relevance research determines the association between accounting information and some measure of value. The objective is to provide an assessment of the usefulness to investors of accounting information in valuing the firm. In line with existing research on the value-relevance of accounting information, this study used regression analysis to test and compare the value relevance of total net goodwill, by using the valuation framework developed by Ohlson (1995) together with its later refinements by Barth, Beaver, and Landsman (2001). This theoretical model, which has been used extensively in the value-relevance literature, suggests the market value of securities of a firm is a function of the book value of equity and earnings of the firm, operationalised in model 1 below.

$$\text{Model (1): } MVE_{i,t} = \alpha_0 + \alpha_1 BVE_{i,t} + \alpha_2 NI_{i,t} + \varepsilon_{i,t}$$

Where:

MVE = the market capitalisation of firm i 3 months after year-end reporting date t

BVE⁶⁸ = the book value of firm i net assets at year-end reporting date t

NI⁶⁹ = net income of firm i for year t

$\varepsilon_{i,t}$ = Book to market residual.

In this model, the market value of equity is a summary measure of information relevant to users while the book value of equity and net income are summary measures of accounting information reflected in financial statements (Barth & Clinch, 1996). Earnings is a proxy for variables in the statement of financial position omitted due to it not being recognised by accounting frameworks (Barth, 2000; Barth & Landsman, 1995). This model is consistent with the methodology followed by Francis and Schipper (1999), Al Jifri and Citron (2009), Bugeja and Gallery (2006), Bugeja and Gallery (2006); Sami, Wang, and Zhou (2011); (Sami & Zhou, 2004), Oliveira et al. (2010).

By adapting model (1), the book value of equity can be isolated in its different constituent components in order to assess value relevance of each individual component of equity on market prices which is operationalised in model (2) In model (2), one can assess if total intangible assets are value relevant by separating it from the total book value of equity as follows.

⁶⁸ The book value of equity (BVE) is the total equity disclosed in the statement of financial position.

⁶⁹ The net income (NI) is the profit/loss for the period after interest, tax, discontinued operations, preference share dividends, and minority interests which is attributed to ordinary shareholders.

Model (2): $MVE_{i,t} = \alpha_0 + \alpha_1 BVE_{i,t} + \alpha_2 NI_{i,t} + \alpha_3 TIA_{i,t} + \epsilon_{i,t}$.

Where:

BVE_{IA}= the book value of equity less the amount of recognised intangible assets (including goodwill) per share of firm *i* at the end of year *t*;

TIA⁷⁰= total intangible assets including goodwill at year-end reporting date *t* for firm *i*

Whilst in model (3) the value relevance of identifiable intangible assets as well as goodwill can be assessed for value relevance separately by following the same approach used in model (2). These adaptations are consistent with that used by Bugeja and Gallery (2006), Al Jifri and Citron (2009) Dahmash, Durand, and Watson (2009) Oliveira et al. (2010) Jennings et al. (1996), Choi, Kwon, and Lobo (2000) and Henning et al. (2000) in their studies on intangibles who used either the same or similar adaptations in their studies.

Model (3): $MVE_{i,t} = \alpha_0 + \alpha_1 BVE_{i,t} + \alpha_2 NI_{i,t} + \alpha_3 IIA_{i,t} + \alpha_4 GWT_{i,t} + \epsilon_{i,t}$.

Where:

GWT⁷¹= total net goodwill

IIA= identifiable intangible assets

This model assumes that asset, liability, and income amounts are implicitly assessed by investors when valuing as users decisions determine share prices based on the efficient market hypothesis (Abdel-Khalik et al., 1999; Klimczak, 1999). By making this assumption, accounting amounts summarise information that investors use to set share prices (Barth, 2000).

The independent variables are all those variables to the right of model (1), (2), (3), whilst the dependent variable is the share price of the firm lagged for 3 months. The lagging of the share price allows for sufficient time to deflate any market reactions to earnings announcements.

A common problem relating to this type of study is a spurious effect of scale, as large security prices are often related to large book values and large earnings (Brown, Lo, & Lys, 1999). In order to mitigate this size-related heteroscedasticity, all variables (including the intercept) were scaled to a per share values, in line with other studies.

⁷⁰ Total intangible assets (TIA) is the sum of the carrying amounts of the recognised identifiable intangible assets and goodwill in the statement of financial position.

⁷¹ Total net goodwill (GWT) is the carrying amount of goodwill in the statement of financial position. This is the cost of goodwill less accumulated impairment charges together with foreign exchange movements.

Sample

This study focused on the top 100 companies consistently listed on the Johannesburg Stock Exchange (JSE) between 2008 -2015⁷² and which had at least one goodwill acquisition between the period of 2010 and 2013. This meant that only group companies were included in the sample. A listing of the top 100 companies for the sample period was obtained directly from the JSE research data division. Microsoft excel was the used to obtain the recurring listed companies for the sample period of 2008 to 2015. The annual financial statements for each of these recurring companies were then inspected to determine if goodwill acquisitions took place between 2010 and 2013. Only those firms that had goodwill acquisition in this period were included in the sample

Data

Data for models (1) - (3) was collected (from Inet BFA) for every year in which a firm had an acquisition (between 2010-2013) and additionally the two year's prior to any acquisition and for a period of two years post an acquisition. This ensured only goodwill intensive entities were included in the study. This data was collected and captured in Microsoft Excel.

Since there was a pooling of observations of a cross section of firms over several time periods, the data collected resulted in panel data. This type of data allows for a greater number of data points, which enables more informative data, less collinearity between variables, more degrees of freedom and more efficiency (Oliveira et al., 2010). Panel data is also seen to be more advantageous, as opposed to time series data or conventional cross sectional data, as it allows for measuring effects which are undetectable in time series data. (Baltagi, 2008; Hsiao, 1986).

RESULTS

Once the data was obtained, descriptive statistics and classical regression analysis was performed. The results are discussed below.

Descriptive statistics

Table 1

	Mean	Median	Standard Deviation	Minimum	Maximum
MVE- Share price 3 months after year end	116.874	109.270	70.701	20.249	294.294
BE-net value of assets	49.801	34.607	43.541	5.038	156.333
NI-net income	8.314	6.305	6.903	.920	27.635
Eit- book to market residual	59.616	44.171	50.844	-4.443	185.466
TIA- total intangible assets including goodwill	7.963	4.102	8.838	.319	35.421
BVExIA-book value of equity less total intangible assets	40.220	26.560	40.104	-3.537	137.326
GWT-Net goodwill	4.405	2.269	4.518	.127	14.509
IIA- identifiable intangible assets	3.465	1.537	4.991	.039	20.492

⁷² Consistent listings were used to avoid market pricing movement due to listings and de-listings.

Table 1 presents the descriptive statistics for all the variables. There were a total of eight negative observations for the book to market residual. It should be noted, however, that for these observations, only one instance reflected a market value of shares which is significantly less than the book value. This further confirms that since the statement of financial position does correlate with the market value of equity, the research model being used to test goodwill included in the statement of financial position would be valid. For identifiable intangibles (IIA) and total net goodwill (GWT), the median results were (1.537 and 2.269 respectively)⁷³. This result shows that total net goodwill represents a large portion of total intangible assets (TIA) which amounts to 4.102. On closer inspection, it was noted that even though total net goodwill represents a greater portion of total intangible assets, all firms within the sample did have some sort of identifiable intangible assets.

Regression results and analysis

The classical regression results, using the Ohlson model, relating to the value relevance of net goodwill is presented below.

Model	Unstandardised Coefficients		Standardised Coefficients	T	Sig.	Collinearity Statistics tolerance
	B	Beta				
(Constant)	43.117	7.968		5.412	.000	
BVExIA_book value of equity less recognised intangible assets	.321	.180	.180	1.782	.077	.393
NI_net income	4.014	1.079	.390	3.720	.000	.364
IIA_identifiable intangible assets	3.335	1.068	.231	3.123	.002	.733
GWT_Net goodwill	3.484	1.172	.220	2.972	.004	.729

a. Dependent Variable: MVE_Share price 3 months after year end

Model (3) separates total intangibles into identifiable intangible assets (IIA) and total net goodwill (GWT) to test the value relevance between identifiable and non-identifiable intangible assets which is relevant to this study. The results show that both identifiable intangible assets and total net goodwill are significant ($p=0.002$ and $p=0.004$ respectively).

According to Beaver (1971) if an accounting number (an independent variable) is significantly related to the dependent variable, then it is regarded as value relevant. Based on this, since net goodwill is significant, it is value relevant to users of financial statements.

⁷³ There is an insignificant difference between the median of total intangible assets and the sum of the median of identifiable intangibles and total net goodwill. This difference arises from the statistical programme determination of median rather than mean values

This answers the research question of this study positively. In extending the main research question, it also further implies that:

1. *Goodwill should rightfully be recognised as an asset and*
2. *The initial and subsequent measurement requirements of goodwill are adequate to create value relevance?*

This result is consistent with earlier studies performed by Chauvin and Hirschey (1994), McCarthy and Schneider (1995), Jennings et al. (1996) Godfrey and Koh (2001), Shahwan (2004), Dahmash et al. (2009) who investigated if goodwill was relevant in order to determine if goodwill should be recognised as an asset or if goodwill should be written off. Similarly, this study confirms that goodwill should be recognised as an asset since investors recognise that goodwill reflects future economic benefits i.e. value. Accordingly, goodwill should be rightfully classified as an asset in the statement of financial position (Jennings et al., 1996).

This result is also consistent with more recent studies performed by Oliveira et al. (2010) Goodwin et al. (2008), Chalmers et al. (2008), Ji and Lu (2014), Sahut et al. (2011), who studied the value relevance of goodwill pre-IFRS and post-IFRS adoption, respectively. The results for the pre-IFRS and post-IFRS value relevance studies have consistently found that goodwill is relevant in both periods.

According to Ellis (2001), from an investors point of view, goodwill is the premium paid for a business which signifies value creation to be obtained from the acquisition. So despite the changing reporting frameworks, the market sees through the accounting fog and is only interested in the value which is implicit in the goodwill (Ellis, 2001). This interest in goodwill, by the market, can be seen in all the above mentioned studies since there is a strong relationship between reported goodwill and the market value of equity. Further, the relevance in goodwill is seen to be relevant from as early as 1982 to as recent as 2015, under the multiple different reporting frameworks examined. The reporting frameworks studied ranged from amortising goodwill recognised (basic purchase accounting-pre IFRS) over various write off periods, not amortising goodwill or impairing goodwill at all and lastly impairing goodwill when needed under the stricter purchase accounting in terms of IFRS 3. This proves that despite the different accounting rules, the market sees through this and manipulates the information accordingly to assess the value implicit in the reported goodwill. This means that goodwill amounts reflect information used by investors which makes goodwill value relevant and support the asset recognition of goodwill.

According to Oliveira et al. (2010) Goodwin et al. (2008), Chalmers et al. (2008), and Bepari and Mollik (2017) it was found that goodwill was not only value relevant under IFRS, but was also more relevant than the previous reporting frameworks (Portuguese and Australian GAAP). From the links made between the studies conducted, researchers attribute this to the IFRS requirement of impairing the asset when a need arose as opposed to the previous amortisation requirement.

Another contributing factor for goodwill being increasingly relevant is due to the IFRS 3, at acquisition accounting, requirements. Under this standard, goodwill only consists of unidentifiable components since all identifiable assets and liabilities need to be separately recognised in the statement of financial position (IASB, 2008a). This would suggest that goodwill represents only the future value to be derived from the acquisition (Ellis, 2001), and

users could better assess the future economic benefits associated with it as all other identifiable assets can individually be analysed.

CONCLUSION

Results

The test results for this study showed that total net goodwill⁷⁴ is value relevant. This result further implies that goodwill should rightfully be recognised as an asset and that the current reporting requirements on initial and subsequent measurement are adequate to create value relevance of goodwill. These results were expected and are justifiable given the information content of goodwill and the results with prior studies which consistently found total net goodwill to be relevant. These results confirm that goodwill should be recognised as an asset since investors recognise that goodwill reflects future economic benefits (Jennings et al., 1996).

In line with other studies who found similar results post-IFRS adoption, possible reasons for total net goodwill being value relevant is the requirement of IFRS not to systematically amortise goodwill but instead to impair the asset when a need arises (Goodwin et al., 2008; Oliveira et al., 2010). This eliminates the arbitrary annual amortisation and conveys a more meaningful measurement of goodwill. Another contributing factor for goodwill could be due to the IFRS 3 requirement of separately identifying assets and liabilities at acquisition. This results in goodwill only consisting of unidentifiable components since all identifiable assets and liabilities need to be separately recognised in the statement of financial position. This means that goodwill represents only the future value to be derived from the acquisition and is thus value relevant (Ellis, 2001). From the results it can also be seen that despite the challenges in carrying out impairment tests and the excessive timing and costs, this approach of measuring goodwill still proves to be value relevant.

Areas for future studies

Since the total net goodwill is seen to be value relevant to users in this study and since the study did not test the relevance of goodwill impairments, a possible area for study is the effects of goodwill impairments on market prices. This would test the relevance of the impairment requirement under IFRS 3. Similar studies of this nature were performed by Ahmed and Guler (2007) and Duangploy et al. (2005), in Australia and the UK respectively, however no similar studies have been conducted in a South African context.

Additionally, since identifiable intangible assets were also found to be significant. Further studies in this area should be considered, particularly on testing the relevance of the different types of intangible assets in terms of IAS 38 (International accounting standards 38). Similar studies have been performed by Oliveira et al. (2010) and (Sahut et al., 2011) in Portugal and a variety of European countries, however, no similar studies have been conducted in a local context.

⁷⁴ Total net goodwill (*GWT*) is the carrying amount of goodwill in the statement of financial position. This is the cost of goodwill less accumulated impairment charges together with foreign exchange movements

Limitations of study

This study was conducted in a South African only context. Further only firms within the JSE top 100 companies (consistently listed between 2008- 2015) that have had goodwill acquisitions between the periods of 2010-2013 were looked at. Thus, care should be taken in generalising the results to other companies in South Africa (including companies that have internally generated goodwill that is not recognised) and stock markets in other countries due to regional economic influences.

This study does have additional limitations. It should be noted that the effect of price movements that are unrelated to goodwill could not be controlled for in this period. These price movements could have arisen due to the changes in the general market conditions that were time specific, industry specific trends or the even just firm specific movements that are not related to information presented in financial statements.

It is however reasonable to assume that capital market participants collectively form their opinions regarding the valuation of shares with all the information at their disposal (Eloff & de Villiers, 2015) and since the entities within the sample consisted of only publicly listed entities, a bulk of this information would come from financial statements. Further since business combinations are an important means of value creation to investors, users would be interested in goodwill disclosures (Ellis, 2001).

REFERENCES

- Abdel-Khalik, A. R., Wong, K. A., & Wu, A. (1999). The information environment of China's A and B shares: Can we make sense of the numbers? *The international journal of accounting*, 34(4), 467-489.
- Ahmed, A. S., & Guler, L. (2007). Evidence on the Effects of SFAS 142 on the Reliability of Goodwill Write-offs. *Available at SSRN 989056*.
- Al Jifri, K., & Citron, D. (2009). The value-relevance of financial statement recognition versus note disclosure: Evidence from goodwill accounting. *European Accounting Review*, 18(1), 123-140.
- Anderson, H. D., Marshall, B. R., Carlin, T. M., & Finch, N. (2011). Goodwill impairment testing under IFRS: a false impossible shore? *Pacific Accounting Review*, 23(3), 368-392.
- Ball, R. (2006). International Financial Reporting Standards (IFRS): pros and cons for investors. *Accounting and Business Research*, 36(sup1), 5-27.
- Baltagi, B. (2008). *Econometric analysis of panel data* (Vol. 1): John Wiley & Sons.
- Barth, M. E. (2000). *The relevance of value relevance research*. School of Business, Stanford University.
- Barth, M. E., Beaver, W. H., & Landsman, W. R. (2001). The relevance of the value relevance literature for financial accounting standard setting: another view. *Journal of Accounting and Economics*, 31(1), 77-104.
- Barth, M. E., & Clinch, G. (1996). International Accounting Differences and Their Relation to Share Prices: Evidence from UK, Australian, and Canadian Firms*. *Contemporary Accounting Research*, 13(1), 135-170.
- Barth, M. E., & Landsman, W. R. (1995). Fundamental issues related to using fair value accounting for financial reporting. *Accounting Horizons*, 9(4), 97.

- Barth, M. E., Landsman, W. R., & Lang, M. H. (2008). International accounting standards and accounting quality. *Journal of Accounting research*, 46(3), 467-498.
- Barton, A., & Bloom, M. (2009). Double Accounting for Goodwill: A Problem Redefined: JSTOR.
- Beatty, A., & Weber, J. (2006). Accounting discretion in fair value estimates: An examination of SFAS 142 goodwill impairments. *Journal of Accounting research*, 44(2), 257-288.
- Beaver, W. H. (1971). *The behavior of security prices and its implications for accounting research (methods)*.
- Bepari, M. K., & Mollik, A. T. (2017). Regime change in the accounting for goodwill: goodwill write-offs and the value relevance of older goodwill. *International Journal of Accounting & Information Management*, 25(1).
- Brown, S., Lo, K., & Lys, T. (1999). Use of R² in accounting research: measuring changes in value relevance over the last four decades. *Journal of Accounting and Economics*, 28(2), 83-115.
- Bugeja, M., & Gallery, N. (2006). Is older goodwill value relevant? *Accounting & Finance*, 46(4), 519-535.
- Cearns, K. (1999). Impairment: understanding CGU's. *Accountancy*, 123(1267), 104-105.
- Chalmers, K., Clinch, G., & Godfrey, J. M. (2008). Adoption of international financial reporting standards: impact on the value relevance of intangible assets. *Australian Accounting Review*, 18(3), 237-247.
- Chauvin, K. W., & Hirschey, M. (1994). Goodwill, profitability, and the market value of the firm. *Journal of Accounting and Public Policy*, 13(2), 159-180.
- Choi, W. W., Kwon, S. S., & Lobo, G. J. (2000). Market valuation of intangible assets. *Journal of Business Research*, 49(1), 35-45.
- Clinch, G. (1995). Capital markets research and the goodwill debate. *Australian Accounting Review*, 5(9), 22-30.
- Colley, J. R., & Volkan, A. G. (1988). Accounting for goodwill. *Accounting Horizons*, 2(1), 35-41.
- Cooper, J. (2007). Debating accounting principles and policies: The case of goodwill, 1880–1921. *Accounting, Business & Financial History*, 17(2), 241-264.
- Courtis, J. K. (1983). Business goodwill: conceptual clarification via accounting, legal and etymological perspectives. *The Accounting Historians Journal*, 1-38.
- Dahmash, F. N., Durand, R. B., & Watson, J. (2009). The value relevance and reliability of reported goodwill and identifiable intangible assets. *The British Accounting Review*, 41(2), 120-137.
- Devalle, A., Onali, E., & Magarini, R. (2010). Assessing the value relevance of accounting data after the introduction of IFRS in Europe. *Journal of international financial management & accounting*, 21(2), 85-119.
- Donnelly, T., & Keys, R. (2002). Business combinations and intangible assets. *Australian CPA*, 72(4), 68-69.
- Duangploy, O., Shelton, M., & Omer, K. (2005). The value relevance of goodwill impairment loss: while the market discounts the importance of goodwill amortization, it does not disregard goodwill impairment loss as irrelevant. *Bank Accounting & Finance*, 18(5), 23-29.
- Ellis, M. (2001). Goodwill Accounting: Everything has changed and nothing has changed. *Journal of Applied Corporate Finance*, 14(3), 103-112.
- Eloff, A.-M., & de Villiers, C. (2015). The value-relevance of goodwill reported under IFRS 3 versus IAS 22. *South African Journal of Accounting Research*, 29(2), 162-176.

- Francis, J., & Schipper, K. (1999). Have financial statements lost their relevance? *Journal of accounting Research*, 319-352.
- Giuliani, M., & Brännström, D. (2011). Defining goodwill: a practice perspective. *Journal of Financial Reporting and Accounting*, 9(2), 161-175.
- Godfrey, J., & Koh, P. S. (2001). The relevance to firm valuation of capitalising intangible assets in total and by category. *Australian Accounting Review*, 11(24), 39-48.
- Goodwin, J., Ahmed, K., & Heaney, R. (2008). The effects of International Financial Reporting Standards on the accounts and accounting quality of Australian firms: A retrospective study. *Journal of Contemporary Accounting & Economics*, 4(2), 89-119.
- Gröjer, J.-E. (2001). Intangibles and accounting classifications: in search of a classification strategy. *Accounting, Organizations and Society*, 26(7), 695-713.
- Hall, S. C. (1993). Determinants of goodwill amortization period. *Journal of Business Finance & Accounting*, 20(4), 613-621.
- Hayn, C., & Hughes, P. J. (2006). Leading indicators of goodwill impairment. *Journal of Accounting, Auditing & Finance*, 21(3), 223-265.
- Henning, S. L., Lewis, B. L., & Shaw, W. H. (2000). Valuation of the components of purchased goodwill. *Journal of Accounting research*, 38(2), 375-386.
- Higson, C. (1998). Goodwill. *The British Accounting Review*, 30(2), 141-158.
- Hoogendoorn, M. (2006). International accounting regulation and IFRS implementation in Europe and beyond—experiences with first-time adoption in Europe. *Accounting in Europe*, 3(1), 23-26.
- Horton, J., & Serafeim, G. (2010). Market reaction to and valuation of IFRS reconciliation adjustments: first evidence from the UK. *Review of Accounting Studies*, 15(4), 725-751.
- Horton, J., Serafeim, G., & Serafeim, I. (2013). Does Mandatory IFRS Adoption Improve the Information Environment?*. *Contemporary accounting research*, 30(1), 388-423.
- Hsiao, C. (1986). *Analysis of Panel Data*, Econometric Society Monograph No. 11: Cambridge: Cambridge University Press.
- IASB. (2008a). Business Combinations *International Financial Reporting Standard 3*. London: International Accounting Standards Committee Foundation.
- IASB. (2008b). Business combinations *Basis of Conclusions*. London: International Accounting Standards Committee Foundation.
- IASB. (2008c). The conceptual framework for financial reporting. London: International Accounting Standards Committee Foundation.
- IASB. (2008d). Impairment of Assets *International Accounting Standard 36 (IAS 36)* London: International Accounting Standards Committee Foundation.
- Jennings, R., Robinson, J., Thompson, R. B., & Duvall, L. (1996). The relation between accounting goodwill numbers and equity values. *Journal of Business Finance & Accounting*, 23(4), 513-533.
- Ji, X.-D., & Lu, W. (2014). The value relevance and reliability of intangible assets: Evidence from Australia before and after adopting IFRS. *Asian Review of Accounting*, 22(3), 182-216.
- Johnson, L. T., & Petrone, K. R. (1998). Commentary: is goodwill an asset? *Accounting Horizons*, 12(3).
- Khokan Bepari, M., F. Rahman, S., & Taher Mollik, A. (2014). Firms' compliance with the disclosure requirements of IFRS for goodwill impairment testing: Effect of the global financial crisis and other firm characteristics. *Journal of Accounting & Organizational Change*, 10(1), 116-149.

- Klimczak, K. M. (1999). Testing value relevance of accounting earnings: theory and method. *Leon Kozmiski Academy of Entrepreneur and Management*.
- Magni, C. A., Malagoli, S., Bini, M., & Della Bella, C. (2007). Determinants of market reactions to goodwill write-off after SFAS 142. *Managerial Finance*, 33(11), 904-914.
- Massoud, M. F., & Raiborn, C. A. (2003). Accounting for goodwill: are we better off? *Review of business*, 24(2), 26.
- McCarthy, M. G., & Schneider, D. K. (1995). Market perception of goodwill: Some empirical evidence. *Accounting and Business Research*, 26(1), 69-81.
- McGreachin, A. (1997). Bringing impairment under one umbrella. *Accountancy*, 120(1247), 66-69.
- Ohlson, J. A. (1995). Earnings, book values, and dividends in equity valuation*. *Contemporary Accounting Research*, 11(2), 661-687.
- Oliveira, L., Rodrigues, L. L., & Craig, R. (2010). Intangible assets and value relevance: Evidence from the Portuguese stock exchange. *The British Accounting Review*, 42(4), 241-252.
- Petersen, C., & Plenborg, T. (2010). How do firms implement impairment tests of goodwill? *Abacus*, 46(4), 419-446.
- Ramanna, K., & Watts, R. L. (2012). Evidence on the use of unverifiable estimates in required goodwill impairment. *Review of Accounting Studies*, 17(4), 749-780.
- Ravlic, T. (2003). Goodwill hunting. *Australian CPA*, 73(3), 69-70.
- Sahut, J.-M., Boulerne, S., & Teulon, F. (2011). Do IFRS provide better information about intangibles in Europe? *Review of Accounting and Finance*, 10(3), 267-290.
- Sami, H., Wang, J., & Zhou, H. (2011). Corporate governance and operating performance of Chinese listed firms. *Journal of International Accounting, Auditing and Taxation*, 20(2), 106-114.
- Sami, H., & Zhou, H. (2004). A comparison of value relevance of accounting information in different segments of the Chinese stock market. *The international journal of accounting*, 39(4), 403-427.
- Schipper, K. (2005). The introduction of International Accounting Standards in Europe: Implications for international convergence. *European Accounting Review*, 14(1), 101-126.
- Seetharaman, A., Balachandran, M., & Saravanan, A. (2004). Accounting treatment of goodwill: yesterday, today and tomorrow: Problems and prospects in the international perspective. *Journal of intellectual capital*, 5(1), 131-152.
- Shahwan, Y. (2004). The Australian market perception of goodwill and identifiable intangibles. *Journal of Applied Business Research (JABR)*, 20(4).
- Spacek, L. (1964). The treatment of goodwill in the corporate balance sheet. *Journal of Accountancy (pre-1986)*, 117(000002), 35.
- Stefano Zambon, D., Caruso, G. D., Ferrari, E. R., & Pisano, V. (2016). Earnings management and goodwill impairment: An empirical analysis in the Italian M & A context. *Journal of intellectual capital*, 17(1), 120-147.
- Swartz, G., & Negash, M. (2006). An empirical examination of the Ohlson (1995) model. *South African Journal of Accounting Research*, 20(1), 67-82.
- Watts, R. L. (2003). Conservatism in accounting part I: Explanations and implications. *Accounting Horizons*, 17(3), 207-221.
- Waxman, R. N. (2001). Goodwill convergence. *The CPA Journal*, 71(10), 18.
- Wines, G., Dagwell, R., & Windsor, C. (2007). Implications of the IFRS goodwill accounting treatment. *Managerial Auditing Journal*, 22(9), 862-880.

- Wyatt, A. (2008). What financial and non-financial information on intangibles is value-relevant? A review of the evidence. *Accounting and Business Research*, 38(3), 217-256.
- Zeff, S. A., & Dharan, B. G. (1994). *Readings and notes on financial accounting: issues and controversies*: McGraw-Hill Companies.
- Zhang, I. X., & Zhang, Y. (2015). Accounting discretion and purchase price allocation after acquisitions. *Journal of Accounting, Auditing & Finance*, 0148558X15598693.