The Economic Effects of IFRS Goodwill Reporting

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The promotion of the international harmonisation of goodwill accounting has led to the approval of SFAS 141 and 142 and IFRS 3, IAS 36 and IAS 38. The aim was to improve the quality and comparability of financial statements through these standards by eliminating the pooling of interests method and substituting the application of amortisation with an annual impairment test. However, recent decisions by regulating bodies such as the FASB, the IASB and the European Parliament have compromised this harmonisation. Currently, steps are being taken to reintroduce systematic amortisation in conjunction with the impairment test. In this dual normative scenario, where two accounting methods coexist (impairment test or amortisation), we analyse the economic consequences of the application of one method over the other in the information transmitted by the firms listed in the Spanish securities market. The contrast of two periods, pre-IFRS (1998 to 2004) and post-IFRS (2005 to 2011), reveals that the application of either of these methods affects financial statements and the usefulness of the information. Therefore, the possibility of opting for one or the other could distort the quality and comparability of the information transmitted by firms and the accurate assessment of future cash flows.

The approval of International Financial Reporting Standards 3 *Business Combinations* (IFRS 3), International Accounting Standards 36 *Impairment of Assets* (IAS 36) and 38 *Intangible Assets* (IAS 38) by the International Accounting Standards Board (IASB) along with Statement of Financial Accounting Standard 141 *Business Combinations* (SFAS 141) and 142 *Goodwill and Other Intangible Assets* (SFAS 142) issued by the Financial Accounting Standards Board (FASB) has led to a complete change in the international accounting regulation of goodwill. In these standards, both the IASB and the FASB have established that the pooling of interests method should be eliminated, goodwill amortisation should be replaced by an annual impairment test and a fair value should be applied.

Prior to the approval of the new regulations, different accounting alternatives had coexisted for many years, making the comparability of financial statements difficult. In the most generalised standards, a choice was permitted between two reporting methods: the pooling of interests method and the purchase method. Furthermore, legislation in some countries permitted opting for immediate cancellation against reserves, which was popularly applied in the UK; while in others, as occurred in the majority of European countries or in IAS 22 *Business Combinations* (IAS 22), legislation established the application of a systematic amortisation ranging between a maximum period of 20 years, or 40 years as in the case of the US (Accounting Principles Board 17 *Intangible Assets*, APB 17).

In the context of this diversity of standards, authors like Archel et al. (1995), Gore et al. (2000) and Jaafar and McLeay (2007) highlight the problems of comparability of financial information transmitted by companies of different nationalities. At the same time, other authors refer to the problems of comparability, the application of different periods of amortisation and the lack of their value relevance and inopportune recognition (Brown et al. 1999; Chatraphorn 2001; Jennings et al. 2001; Moehrle et al. 2001; Giner and Pardo 2007). All this, in a context where, given the greater complexity and internationalisation of business relations, there was a growing need to facilitate the comparability of financial information. Consequently, the main regulatory bodies tried to harmonise international goodwill accounting and improve the quality of the information transmitted in the financial statements which involved, for example, improving the faithful representation and usefulness of financial statements. The FASB through SFAS 141 and 142 revoked APB 16 *Business Combinations*, APB 17 *Intangible Assets* and SFAS 121 *Accounting for the Impairment of Long-lived Assets and for Long-lived Assets to be Disposed of*; while the IASB revoked IASC 22 through IFRS 3, IAS 36 and IAS 38. Both bodies indicated that such a reform of standards not only eliminated the problems

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associated with the application of two accounting treatments (purchase and pooling of interests methods) for the same economic event, but also avoided having a variety of goodwill amortisation periods, which besides making comparability difficult were very arbitrary. The EU also embraced this harmonisation initiative, opting for the application of IFRS (European Parliament and Council 2002). Recently, the number of countries adopting IFRS has increased, and countries like Australia, Brazil and Russia have also implemented these standards.

Nevertheless, the adoption of this new standard has received some criticism. Several authors have pointed out the lack of clarity in the application of some concepts, making it necessary to make numerous assumptions that lead to a certain subjectivity and ambiguity (Beatty and Weber 2006; Lapointe 2006; Wines et al. 2007; Cordazzo 2008; Jahmani et al. 2010; AbuGhazaleh et al. 2011; Ji 2013; Swanson et al. 2013). Other authors highlight the lack of information about the main hypotheses on which the impairment test is based (Carlin et al. 2010; Calvo 2011; Carlin and Finch 2011; Biancone 2012; Camodeca et al. 2013; D'Alauro 2013; Glaum et al. 2013; Guthrie and Pang 2013; Izzo et al. 2013; Carvalho et al. 2016). Authors like Ramanna and Watts (2012) realise the difficulty in verifying and auditing the fair value of goodwill and Chen et al. (2015) state that goodwill impairment could increase the uncertainty of the analysts' forecasting task.

All these problems have generated a lack of conviction among regulators regarding the current standards, which is producing a reincorporation of systematic amortisation. In this generalised change of strategy, goodwill is being reconsidered as an identifiable useful life asset that is amortised in a maximum of 10 years. A first step toward a return to amortisation was included in the IFRS for SMEs in order to facilitate financial reporting. Later, the EU required all its member states to modify their standards through Directive 2013/34/EU. In drawing up this directive they insist on the incorporation of amortisation to be applied to the financial statements corresponding to the financial year 2016 at the latest. Recently, the FASB has also modified SFAS 141 and 142 (FASB 2014), now codified in the Accounting Standards Codification 805 *Business Combinations* and 350 *Intangibles – Goodwill and Other* (ASC 805 and ASC 350), which also incorporate amortisation. It should also be mentioned that prestigious bodies like the European Financial Reporting Advisory Group (EFRAG), the Organismo Italiano di Contabilità (OIC) and the Accounting Standard Board of Japan (ASBJ) have indicated that they favour the recuperation of amortisation after feedback received in 2015 to their Discussion Paper launched in 2014. Nevertheless, more recently, the ASBJ and the EFRAG have developed a quantitative study to address concerns about goodwill without reaching a consensus (ASBJ 2016; EFRAG 2016).

In any case, this mixed accounting regulation only generates a dual standards system that jeopardises the comparability of accounting data. In addition, drawbacks previously found in each of these two accounting alternatives have not been resolved. Therefore, given the existing perplexity of the standards, there is a need to look further into the economic effects on company financial statements from the application of the impairment test, and specifically IFRS 3, IAS 36 and IAS 38 (hereinafter IFRS). That is to say, their repercussion on the economic, financial and equity situation of companies, which ultimately affects the quality of the information transmitted. Consequently, this study aims to analyse the effects of goodwill amortisation and impairment on the quality of the information contained in a company's financial statements. To do so, a series of variables related to goodwill are calculated under both standards using a sample of 896 company years that present their consolidated annual financial statements to the Comisión Nacional del Mercado de Valores (CNMV), the supervisory body for the Spanish securities markets. The variables analysed are: goodwill, goodwill reduction (goodwill amortisation or impairment according to the period of time of data extraction), goodwill to non-current assets and goodwill reduction to goodwill. We also analyse the differences between both standards in other variables such as current cash flows, future cash flows, net income, equity and size. In order to analyse whether the different values for the variables are statistically significant, and therefore, whether both alternatives – amortisation or impairment – influence the information transmitted in financial statements, the t-Student test is applied to two groups of variable values: those obtained in the pre-IFRS period, 1998 to 2004, and those obtained in the post-IFRS period, 2004 to 2011.

Furthermore, in order to study the economic effects of IFRS in depth, an analysis is made of whether the information provided has been more useful for investors, creditors and others users of the financial statements in making economic decisions after the approval of IFRS. To do so, we study the ability of goodwill numbers to assess future cash flows and whether this ability has been improved after the approval of IFRS. The study of this association has arisen from the move towards the new standards which resulted from the FASB's and IASB's interest in improving the faithful representation of a firm's economic situation in the financial statement, and hence, to improve the ability of users of financial statements to assess profitability and cash flows (FASB 1978; IASB 1992). As Bostwick et al. (2016) note, the motivation behind the shift from systematic amortisation to annual impairment test was to obtain a greater correlation between goodwill write-offs and future cash flows. Moreover, the results in the studies by these authors and others such as Barth et al. (2001), Jarva (2009) and Lee (2011) highlight the role of accruals and, specifically, the significant role that goodwill write-offs play in predicting future cash flows but in the context of the SFAS.

Consequently, given the objective of the new standards, in our second analysis we carried out three multiple linear regression models to compare the associations between one-, two- and three-year-ahead cash flows (dependent variables of each regression model) and goodwill valuations (independent variables) – goodwill and goodwill reduction over the pre- and post-IFRS periods. Additionally, in all regressions we include control variables: current cash flows, equity, size, sector, auditor and profit. Based on the results obtained in previous research developed in the context of the SFAS, after the adoption of IFRS we expected goodwill numbers to provide more useful information in the assessment of future cash flows in the Spanish context.

Overall, the results indicate that the adoption of IFRS has economic effects on balance sheet accounts and profit and loss accounts. Primarily, the t-Student test shows that adopting an impairment test increases goodwill figures and simultaneously the amount of goodwill impairments is lower in comparison to goodwill amortisations reported in the pre-IFRS period. Consequently, the goodwill value acquires higher relevance in a company's balance sheets while in goodwill impairment, relevance in the profit and loss accounts declines. In addition, our regression models show that goodwill numbers, goodwill and goodwill reduction significantly explain future cash flows. Furthermore, impairment has a stronger association than amortisation although goodwill impairments are more infrequent. The findings also show that current cash flows only influence future cash flows in the post-IFRS period, and other control variables like PROFIT, SIZE and AUDITOR. Therefore, consistent with the IASB's aim to improve the faithful representation of a firm's economic situation, these findings suggest that the information in terms of assessing future cash flows has become more useful.

These results illustrate additional insights into the differences between the two standards that affect the information transmitted by the annual accounts and could also be of great interest to a wide range of users and regulators. In this sense, this research contributes to the ongoing debate about amortisation versus impairment. Similarly, the economic effects that have been identified regarding the application of IFRS provide new and relevant information to academics and open up a new line of research since most of the previous studies analyse the association between goodwill numbers and share prices. In line with Barth et al. (2001) and Lee (2011), we focus on future cash flows, which present a new dimension to the change in the value relevance of information provided by goodwill numbers after the enactment of the impairment test, but in contrast to these authors we do so in the context of IFRS. Furthermore, cash flows are an important variable to be considered since as Barth et al. (2001) point out, they influence firms' share prices. Also, the findings obtained are interesting for investors

and the different users of financial statements, since they will base their economic decisions on the information drawn up for the companies that depend on the standard applied.

Related Literature and Hypotheses

The studies that examine the value relevance of goodwill reported by companies suggest that a decrease in the value of goodwill is important for investors (Hirschey and Richardson 2002; Chen et al. 2004; Lapointe-Antunes et al. 2009; Van Hulzen et al. 2011; Xu et al. 2011). They even point out that investors lend more importance to goodwill recognised by companies than many other balance sheet items (McCarthy and Schneider 1995; Jennings et al. 1996; Henning et al. 2000; Jennings et al. 2001; Churyk and Chewing 2003; Chen et al. 2004; Bugeja and Gallery 2006; Giner and Pardo 2007; Baboukardos and Rimmel 2014). These findings indicate that the accounting treatment of goodwill has important economic consequences when information is transmitted about companies, and equity market participants appreciate recognised goodwill when they make their decisions.

Various studies show that the application of a specific valuation method of goodwill has economic consequences for companies (Larrán et al. 2000; Navarro 2004; Callao et al. 2007; Chalmers et al. 2011; Hamberg et al. 2011). Furthermore, the possibility of being able to choose from different treatments allows companies to act discretionally according to their own interests (Grinyer et al. 1991; Gore et al. 2000; Giner and Pardo 2004), and as some authors have found, discretion can be used within the same treatment. For example, Kung et al. (2013) indicate that Australian companies had more incentives to allocate a higher amount of the cost of business combinations to intangible assets. Thus, the remaining amount allocated to goodwill was lower, so they managed to avoid goodwill amortisation and distribute higher dividends. In another study, Bugeja and Loyeung (2011) show a greater willingness of Australian companies to pay higher premiums for those companies with higher goodwill since now, under IFRS, they are no longer obliged to amortise goodwill. In the Spanish context, Navarro (2004) observes that large Spanish companies with debt financing and high magnitudes of goodwill on their balance sheets opted for an extended amortisation period of goodwill.

Other studies by Chen et al. (2004) and Lapointe-Antunes et al. (2009), for example, determine that the usefulness of accounting information for investors increased after the adoption of SFAS 142. In the context of IFRS, Van Hulzen et al. (2011) point out that reporting impairment is more opportune, and Baboukardos and Rimmel (2014) maintain that IFRS only have a positive

impact on the market's valuation of companies when they present a high level of compliance with mandatory requirements to reveal information about goodwill. Other studies illustrate the importance of goodwill numbers for the different users of financial statements when forecasting future cash flows, and hence, in making economic decisions (Barth et al. 2001; Jarva 2009; Lee 2011; Bostwick et al. 2016).

However, other authors do not support these results and show that there is a decrease in relevance and an increase in the bias of goodwill valuation after the impairment test is applied (Carlin and Finch 2009, 2010; Bens et al. 2011; Guthrie and Pang 2013; Hamberg and Beisland 2014; André et al. 2015). Several authors affirm that in determining goodwill impairment, companies use discretion to transmit certain information (Watts 2003a, b; Beatty and Weber 2006; Lapointe 2006; Jarva 2009; Verriest and Gaeremynck 2009; AbuGhazaleh et al. 2011; Li et al. 2011; Ramanna and Watts 2012; Camodeca et al. 2013; Ji 2013; Giner and Pardo 2015). Specifically, these studies are based on the 'big bath' hypothesis, the 'income smoothing' hypothesis and agency theory.

To sum up, previous research highlights the importance of goodwill for markets and that the application of a certain accounting method influences accounting data. This influence according to the method applied to goodwill affects the usefulness and faithfulness of the financial information transmitted by companies and its comparison. Consequently, several studies indicate that the availability of different alternatives leads companies to choose those that better suit their own objectives. Therefore, given that goodwill has significantly increased its relevance in financial statements in recent years and that IFRS have been applied over a greater number of years, it is important to know the costs and benefits of substituting amortisation with an impairment test. Likewise, since the last standards review, which permitted the coexistence of both methods for reporting goodwill, this issue has become very important. In addition, subsequent to the application of IFRS, there have been fewer studies that analyse its effects through a comparison of the two valuation methods in the context of IFRS, thereby validating the opportunity and significance of this study. Unlike previous studies, this study analyses the economic effects of IFRS by contrasting two periods – pre- and post-IFRS. Another difference is that the reference period (from 1998 to 2011) is more extensive and up to date, which reduces the problems associated with lack of experience in the application of the impairment test. Under these considerations, the following hypothesis is proposed:

H1: IFRS rules do not affect the information transmitted in financial statements through the valuations made in goodwill.

Additionally, in order to advance the research on goodwill impairment, an analysis is made about whether the information transmitted is more useful in assessing future cash flows after the approval of IFRS. To analyse this, we hypothesise that if IFRS's aim to achieve faithful representation has improved, that is, if the substitution of systematic goodwill amortisation by an annual impairment test has improved the accuracy in assessing future cash flows, then that association between goodwill numbers and future cash flows should be higher after adopting IFRS. On the other hand, if the information transmitted is less useful, then the association between the valuations ascribed to goodwill numbers and future cash flows should be lower after its approval. Therefore, the second hypothesis is as follows:

H2: The association between goodwill valuations and future cash flows is stronger during the post-IFRS period.

Like Jarva (2009) and Lee (2011), we focus on future cash flows, which add a new perspective to the study of the usefulness of the information and its relevance but, unlike them, in the context of IFRS. It is important to mention that the geographical area of influence this study covers is continental Europe. In line with authors like Nobes and Parker (2004), Ball (2006), Callao et al. (2007), Hung and Subramanyam (2007) or Hamberg and Beisland (2014), it is likely that the effects are more significant in these contexts for several reasons. Unlike the studies related to SFAS, in these contexts there is no transition period and the amortisation period is considerably shorter. Likewise, they have not used the concept of fair value, as in the areas under the influence of Anglo-Saxon countries, and they are oriented more toward those interested in financial information about companies than toward shareholders. It is also important to highlight that unlike the majority of studies, for example, those by McCarthy and Schneider (1995), Chatraphorn (2001), Beatty and Weber (2006) and Li et al. (2011), this study is not based on variables of equity markets nor is it carried out in the context of the SFAS, so it brings a new dimension to the study and avoids the problems associated with the use of market values, as pointed out by authors such as Ramanna (2008), Jarva (2009), Lee (2011) and Hamberg and Beisland (2014).

Research Design

Selected sample

The application of IFRS and its effects on the economic, financial and equity situation reflected in companies' financial statements is determined by comparing the figures related to goodwill and its amortisation or impairment in the pre-IFRS period, 1998 to 2004, and in the

Table 1 Distribution of sample per sector

Sectors	Pre-IFRS		Post-IFRS		Total	
	Company years	%	Company years	%	Company years	%
Petroleum and energy	52	13.01%	58	11.69%	110	12.28%
Basic materials, industry and construction	122	30.50%	162	32.66%	284	31.70%
Consumer goods	96	24.00%	119	23.99%	215	24.00%
Consumer services	72	18.00%	94	18.95%	166	18.53%
Finance and real estate services	21	5.25%	28	5.65%	49	5.47%
Technology and telecommunications	37	9.25%	35	7.06%	72	8.04%
Total	400	100.00%	496	100.00%	896	100.00%

post-IFRS period, 2005 to 2011. As in the majority of previous studies, this study is based on consolidated goodwill reflected in annual consolidated balance sheets, which contain a greater presence of this asset than individual balance sheets and are more relevant for financial analysts.

As the first companies to apply IFRS are those listed and consolidated in the Spanish market, this study focuses on a sample from these companies. This means access to a larger amount of data, to be precise, from the first year of the application of the new accounting policy in 2005. Furthermore, as argued by Biancone (2012), this study has been limited to Spanish companies to guarantee greater comparability and to ensure that the accounting treatments chosen by them, prior to the unification of IFRS, are homogeneous. The data have been obtained from the annual consolidated balance sheets presented in the CNMV of the companies that have recognised goodwill as a consequence of business combinations in both periods. As argued by Navarro (2004), 1998 is used as the first year of study because in this year Law 37/1998 of the Securities Market extended the goodwill amortisation period to a maximum of 20 years. This modification meant a change in the magnitude of goodwill on the balance sheets and the expenditure reported in the profit and loss accounts. Likewise, as in similar studies, finance entities and insurance companies have been excluded because these groups have certain special characteristics and have a specific standard that differs from the accounting policies that are applied to the rest of the companies, so their inclusion in the sample would make it difficult to compare the data obtained.

A simple random sample, consisting of 85 companies, has been extracted from the total number of companies listed and consolidated in the Spanish securities market. All the annual balance sheets from 1998 to 2011 have been compiled for this group of companies. However, as not all companies presented annual balance sheets for all the years covered by this study, or because they did not present positive figures in goodwill for some of the selected years, this generation process has produced 896 observations (company years) corresponding to a

sample error of 6% and significance of 95%, distributed in the six sectors defined by the CNMV and as shown in Table 1.

The composition of the sample in the two periods covered by this analysis is quite homogenous. There are 400 company years in the pre-IFRS period and 496 company years in the post-IFRS period. Nevertheless, data distribution among the sectors is not so uniform. Most data are concentrated in the sector for 'basic materials, industry and construction', more than 30%, followed by 'consumer goods' and 'consumer services', around 24% and 18% respectively. 'Finance and real estate services' has the lowest percentage of representation, below 6%, although this is due to the exclusion of finance services companies.

Selected variables

Once the study sample was selected, the aim was to be able to visualise the importance of the accounting values of the items related to goodwill reported in the financial statements of the companies in the pre- and post-IFRS periods. To carry out the first hypothesis, the goodwill values and goodwill reduction (amortisation and impairment) were obtained from the financial statements of the companies in the pre- and post-IFRS periods. Afterwards, a series of ratios were defined to relate goodwill with non-current assets and goodwill reduction (amortisation or impairment) with goodwill.

The definition and introduction of these variables in the study are of interest since the valuations made about goodwill depend on items that make up the assets and income or companies' performance. A study by Zang (2008) maintains that companies with high amounts of goodwill in relation to asset composition are more likely to report goodwill impairment. Therefore, the proportion of goodwill to non-current assets is analysed, since goodwill is included within this group, and consequently, the relation is stronger with respect to total assets. Also, the decrease in the value of goodwill depends on the magnitude of goodwill, so it is also of interest to analyse

Table 2 Variables analysed

Variables	Abbreviation[a]
Goodwill	GW
Goodwill reduction (amortisation or goodwill impairment)	GWR
Goodwill/Non-current assets	GW/NCA
Goodwill reduction/Goodwill	GWR/GW
Cash flow	CF
Future cash flow$_{t+k}$	FCF$_{t+k}$
Net income	NI
Equity	E
Size	SIZE

[a]Where for firm i at year t: GW = goodwill deflated by total assets; GWR = goodwill reduction, amortisation or impairment, deflated by total assets; GW/NCA = goodwill/non-current assets; GWR/GW = goodwill reduction/goodwill; CF = current cash flows deflated by total assets; FCF = future cash flows deflated by total assets at year t+k (k = 1, 2, 3); NI = net income minus goodwill reduction deflated by total; E = equity minus goodwill deflated by total assets; SIZE = natural logarithm of total assets.

how the change in standards influences the amortisation or impairment to goodwill ratio. In line with results from previous studies (Zang 2008; Jarva 2009; Chalmers et al. 2011; Lee 2011; Biancone 2012; Glaum et al. 2013; Chen et al. 2015; EFRAG 2016), we also include another series of variables that could indicate systematic differences between valuations made by different companies. Therefore, current cash flows, net income excluding goodwill reduction – amortisation or impairment – equity excluding goodwill and size are included. In this study, we also include our dependent variables from the second hypothesis since it is also interesting to analyse the difference in them. In this way, one-, two- and three-year-ahead cash flows are included, and all the variables analysed to determine Hypothesis 1 are given in Table 2.

For the second hypothesis, three multiple linear regression models are carried out to compare the associations between one-, two- and three-year-ahead cash flows (dependent variables of each regression model) and goodwill valuations (independent variables), goodwill and goodwill reduction over the pre- and post-IFRS periods. Additionally, in all regressions we control for current cash flows and equity excluding goodwill and size. We include three dummy variables: the variable SECTOR, corresponding to the six sectors defined by the CNMV; the variable AUDITOR, to control any influence from the auditors' membership on the Big 4 (PwC, Deloitte, KPMF and E&Y); and PROFIT. We therefore control companies with profits from those with losses. Finally, to compare both periods, pre- and post-IFRS, we add the variable POST and its interaction with the variables GOODWILL, GOODWILL REDUCTION and CURRENT CASH FLOWS, in order to investigate whether, after the approval of IFRS, goodwill numbers are more useful in assessing future cash flows. Therefore, the regression model defined for our second hypothesis is as follows:

$$FCF_{t+k} = \alpha_0 + \beta_1 GW_{it} + \beta_2 GWR_{it} + \beta_3 CF_{it}$$
$$+ \beta_4 POST_{it} + \beta_5 POST^*GW_{it}$$
$$+ \beta_6 POST^*GWR_{it} + \beta_7 POST^*CF_{it}$$
$$+ \beta_8 NI_{it} + \beta_9 E_{it} + \beta_{10} SIZE_{it} + \beta_{11} SECTOR_{it}$$
$$+ \beta_{12} AUDITOR_{it} + \beta_{13} PROFIT_{it} + e_{it}$$

where for firm i at year t: FCF = future cash flows deflated by total assets at year t+k (k = 1, 2, 3); GW = goodwill deflated by total assets; GWR = goodwill reduction, amortisation or impairment, deflated by total assets; CF = current cash flows deflated by total assets; POST = one if the observation is in the post-IFRS period, and zero otherwise; NI = net income minus goodwill reduction deflated by total; E = equity minus goodwill deflated by total assets; SIZE = the natural logarithm of total assets; SECTOR = one of six sectors defined by the CNMV (SECTOR1 = petroleum and energy; SECTOR2 = basic materials, industry and construction; SECTOR3 = consumer goods; SECTOR4 = consumer services; SECTOR5 = finance and real estate services; SECTOR6 = technology and telecommunications); AUDITOR = one if the auditor is one of the Big 4, and zero otherwise. PROFIT = one if the company has registered profits, and zero otherwise.

Descriptive Statistics and Effects of the Goodwill Post-IFRS Standard on Information Transmitted

The mean, median and standard deviation values for the variables defined in this study were obtained from the information extracted from the annual consolidated balance sheets of the sample companies. Table 3 presents the values corresponding to the pooled sample, the pre-IFRS sample and the post-IFRS sample. The last column presents the t-Student test results from the comparison of the samples corresponding to the pre- and post-IFRS periods defined in the first hypothesis. This is done to verify whether the value of the variables in the pre- and post-IFRS periods show statistically significant differences after the change in the accounting policy of goodwill established by IFRS. Starting from the null hypothesis that the previously defined variables for the pre-IFRS period and those for the post-IFRS period are similar, this hypothesis has been rejected by a level of significance lower than 0.01.

Table 3 shows that for the pooled sample, the values obtained in the mean and median are all positive. In the pre- and post-IFRS periods, positive values are also observed in the statistics, although the t-Student test (last column) shows that statistically significant differences can be determined between the pre- and post-IFRS

Table 3 Descriptive statistics (thousands of euros) and statistical results of the differences in pre- and post-IFRS

Variables[a]	Pooled sample n = 896			Pre-IFRS sample n = 400			Post-IFRS sample n = 496			Mean difference
	Mean	Median	Std. dev.	Mean	Median	Std. dev.	Mean	Median	Std. dev.	Post-periods - Pre-periods
GW	0.089	0.045	0.110	0.062	0.027	0.086	0.112	0.070	0.122	0.050*
GWR	0.005	0.000	0.021	0.007	0.003	0.024	0.003	0.000	0.018	−0.004*
GWR/GW	0.311	0.013	4.158	0.662	0.084	6.255	0.035	0.000	0.179	−0.627*
GW/NCA	0.164	0.090	0.182	0.126	0.067	0.162	0.194	0.117	0.192	0.067*
CF	0.066	0.066	0.125	0.078	0.075	0.142	0.055	0.059	0.108	−0.023*
FCF_{t+1}	0.063	0.065	0.115	0.077	0.074	0.119	0.051	0.058	0.111	−0.025*
FCF_{t+2}	0.059	0.062	0.121	0.076	0.073	0.126	0.045	0.052	0.115	−0.031*
FCF_{t+3}	0.054	0.060	0.120	0.075	0.070	0.115	0.037	0.048	0.121	−0.038*
NI	0.033	0.038	0.114	0.043	0.042	0.124	0.026	0.032	0.104	−0.017*
E	0.288	0.288	0.216	0.354	0.346	0.210	0.235	0.221	0.206	−0.120*
SIZE	5.936	5.852	0.808	5.760	5.677	0.774	6.079	6.003	0.807	0.319*

[a]Where for firm i at year t: GW = goodwill deflated by total assets; GWR = goodwill reduction, amortisation or impairment, deflated by total assets; GW/NCA = goodwill/non-current assets; GWR/GW = goodwill reduction/goodwill; CF = current cash flows deflated by total assets; FCF = future cash flows deflated by total assets at year t+k (k = 1, 2, 3); NI = net income minus goodwill reduction deflated by total; E = equity minus goodwill deflated by total assets; SIZE = natural logarithm of total assets.
*Significance at the 1% level based on two-sided tests.

periods for all the variables studied. The results obtained, in line with the results presented by Biancone (2012) and EFRAG (2016), indicate that the application of the new standards permits companies to recognise a higher amount of goodwill, as can be observed in GW and GW/NCA, and also permits them to report impairment by a much lower amount than that allocated to amortisation, as revealed in GWR and GWR/GW. Consequently, the goodwill value acquires a higher relevance in company balance sheets with respect to the rest of the non-current assets. As stated by Bugeja and Loyeung (2011), this greater relevance of goodwill could be a consequence of acquirer companies' greater willingness to pay higher premiums because they are no longer required to amortise goodwill. Or, in view of previous evidence obtained by authors such as Carlin and Finch (2011), Biancone (2012) and Guthrie and Pang (2013), it could be an inappropriate application of the impairment test that has led them to maintain greater magnitudes in goodwill and to avoid the recognition of goodwill impairment.

However, contrary to what one may think in light of the economic crisis characterising the post-IFRS period, impairment is considerably lower than amortisation, and at the same time becomes less important in the profit and loss accounts. The variable GWR/GW decreases substantially during the post-IFRS period, the value recorded in the mean is very close to zero and in the median it is zero. However, the results obtained for the EFRAG (2016), which also show a decrease in impairments, posit that European companies recognised greater impairments during the post-IFRS period when performance of the financial market was negative, but only a few companies recognised it. Our attention is also drawn to the result in GWR/GW, which shows a higher

standard deviation in the pre-IFRS period, which could be making the variety in the amortisation periods applied by the companies to their goodwill more visible. In the case of the post-IFRS period, the standard deviation is much lower because the majority of the firms do not recognise an impairment. Regarding the other variables analysed, CF, FCF, NI and E are higher in the pre-IFRS period, indicating that the firms' performance is poorer during the post-IFRS period. This result is consistent with the severe economic crisis that has characterised some of the years within the post-IFRS period. However, this situation has not affected the firms' size as it has increased during the post-IFRS period.

It is important to highlight the null median value obtained in the post-IFRS period for the variables GWR and GWR/GW, which, along with the high standard deviations registered and in line with previous studies (Chalmers et al. 2011; Biancone 2012; Hamberg and Beisland 2014; EFRAG 2016), indicate that the majority of the companies estimate that goodwill has not suffered any type of impairment. The results obtained indicate that only a reduced number of companies consider goodwill value impaired and the amount of impairment is less significant than amortisation. Under the old standards all the companies with a positive value in goodwill would have recognised amortisation until its cancellation, but after adopting IFRS, only the companies that consider the goodwill value to be impaired report this loss. Therefore, as argued by Chalmers et al. (2001), Jarva (2009) and Lemans (2009), it could be said that impairment is more flexible and can be better adapted to the companies' circumstances and is only recognised when the goodwill value is really impaired. Nevertheless, in line with Ji (2013), who did not find greater

impairments after the start of the economic crisis, and as various authors argue (Beatty and Weber 2006; Lapointe 2006; Verriest and Gaeremynck 2009; AbuGhazaleh et al. 2011; Li et al 2011; Ramanna and Watts 2012), although impairment allows companies to adapt impairment to the economic situation, they can act opportunely. Consequently, if they act diligently, the impairment test allows them to not recognise a loss when in fact the goodwill value has not suffered a decrease. Also, by acting with diligence, companies could make erroneous calculations based on positions that are too optimistic. On the other hand, on the bases of the 'big bath' hypothesis, the 'income smoothing' hypothesis or agency theory, the impairment test would also allow them to either avoid or delay recognition according to their income targets or agency cost incentives.

Effects of Goodwill Post-IFRS Standards on the Assessment of Future Cash Flows

Pearson correlations

Table 4 shows the Pearson correlations of the dependent and independent variables to the data collected in the post-IFRS and pre-IFRS periods. All variables have a statistically significant relation to FCF_{t+k}, except the variable AUDITOR. Moreover, for FCF_{t+2}, only GWR presents associations that are not statistically significant at the 0.01 and 0.05 levels. In FCF_{t+3}, besides GWR, a significant association with GW is not observed. We can highlight the negative association with the variables ascribed to goodwill (GW, GWR), except for the positive association between GW and FCF_{t+3}. These results posit that the amounts recorded in goodwill and their impairment explain future cash flows, despite the fact that their association decreases when the forecast horizon of cash flows increases. Regarding the association between the independent variables, there is a certain association between NI and CF that could generate a multicollinearity problem. To check for multicollinearity, we inspect Variance Inflation Factors (VIF) and tolerance scores (untabulated) for the independent variables and find that multicollinearity is not a concern for the regression analyses reported in this study. Therefore, as suggested by Barth et al. (2001) who point out that cash flows have more predictive ability for future cash flows than several lags of aggregate earnings, we have excluded the variable NI from the regression model, and following a process of backward selection, we have also been able to obtain greater explanatory power in the model.

Regression results

Table 5 shows the results of the multivariate regression for the analysis of the association between goodwill

valuations and future cash flows defined in the second hypothesis. Each column shows the results obtained in the regressions of the dependent variables corresponding to one-, two- and three-year-ahead cash flows. Given that the sample under study is composed of a heterogeneous group of companies belonging to different sectors of activity listed on the Spanish Stock Exchange for the period 1998–2011, a contrast of the equations proposed in the hypotheses was carried out using a linear regression analysis with panel data. In the panel data model, two approaches – fixed effects and random effects – are considered, depending on the behaviour of the individual and temporal effects α_i. When deciding which of these two approaches best fit the behaviour of the sample, the Hausman test was applied. The results of the test revealed the absence of random effects in the analysed model, concluding that the model indicated was fixed effects. For the effects of the unobservable heterogeneity corresponding to the specific characteristics of each individual and period, a dummy variable α_i was introduced for company and year.

The variable POST is the indicator that captures the changes in accounting standards following the mandatory adoption of IFRS. The coefficient of the POST indicator is negative in the three regressions, indicating that future cash flows are lower in the post-IFRS period compared to the pre-IFRS period. The main coefficients of interest are: on one side, β_1, β_2 and β_3, which captures the association of goodwill, goodwill amortisation and current cash flows with future cash flows in the pre-IFRS period; and on the other side, the two sums of the coefficients $\beta_1+\beta_5$, $\beta_2+\beta_6$ and $\beta_3+\beta_7$, which captures whether the ability to assess future cash flows improves after adopting IFRS. Therefore, the effect of mandatory IFRS adoption is that it improves the quality of the information transmitted in the financial statements. In accordance with previous research, adjusted R^2s are above 0.36 in all columns, except for column 1, which is above 0.432. This suggests that the regression models exhibit reasonable goodness-of-fit for the observed sample data.

In general, the results obtained in the regressions indicate that goodwill numbers, goodwill and goodwill reduction, firmly explain future cash flows, although for three-year-ahead cash flows there is no value for the coefficients of GWR, POST∗GW and POST∗GWR. The estimated coefficients for goodwill, β_1, are negative and statistically significant for one- and two-year-ahead cash flows (–0.447 and –0.640), but positive for three-year-ahead cash flows (0.266). The estimated coefficients for goodwill reduction, β_2, only exist for two-year-ahead cash flows and they are positive and statistically significant (0.628). In the post-IFRS period, the estimated coefficients of POST∗GW are statistically significant and positive for one- and two-year-ahead cash flows (0.443 and 0.634), thus the sum of $\beta_1+\beta_5$ is –0.004 for FCF_1 and –0.006 for FCF_2. However, for three-year-ahead cash

Table 4 Pearson correlation matrix

Variables[a]	FCF$_{t+1}$	FCF$_{t+2}$	FCF$_{t+3}$	GW	GWR	CF	NI	E	SIZE	SECTOR 1	2	3	4	5	6	AUDITOR	PROFIT
GW	−0.111**	−0.099*	0.003		0.338**	−0.102**	−0.115**	−0.516**	−0.036	−0.102**	−0.147**	−0.031	0.281**	−0.118**	0.121**	0.053	−0.181**
GWR	−0.097**	−0.017	−0.007	0.338**		−0.317**	−0.289**	−0.185**	−0.079*	−0.043	−0.037	−0.048	0.132**	0.009	−0.008	−0.017	−0.260**
CF	0.438**	0.298**	0.251**	−0.102**	−0.317**		0.935**	0.450**	0.131**	0.076*	0.001	0.063*	0.084**	−0.157**	−0.140**	0.002	0.527**
NI	0.385**	0.194**	0.187**	−0.115**	−0.289**	0.935**		0.438**	0.124**	0.051	−0.007	0.007	0.093**	−0.045	−0.156**	0.015	0.524**
E	0.278**	0.214**	0.116*	−0.516**	−0.185**	0.450**	0.438**		−0.202**	0.155**	−0.102**	0.177**	−0.074*	−0.004	−0.181**	−0.120**	0.272**
SIZE	0.076*	0.087*	0.120**	−0.036	−0.079*	0.131**	0.124**	−0.202**		0.269**	0.062*	−0.210**	−0.061*	−0.040	0.025	0.202**	0.152**
SECTOR1	0.060	0.066	0.081*	−0.102**	−0.043	0.076*	0.051	0.155**	0.269**		−0.249**	−0.207**	−0.178**	−0.133**	−0.106**	−0.198**	0.106**
SECTOR2	0.002	0.004	−0.002	−0.147**	−0.037	0.001	−0.007	−0.102**	0.062*	−0.249**		−0.346**	−0.299**	−0.222**	−0.178**	0.014	0.079**
SECTOR3	0.072*	0.080*	0.093*	−0.031	−0.048	0.063*	0.007	0.177**	−0.210**	−0.207**	−0.346**		−0.248**	−0.185**	−0.148**	0.094**	0.008
SECTOR4	0.078*	0.059	0.030	0.281**	0.132**	0.084**	0.093**	−0.074*	−0.061*	−0.178**	−0.299**	−0.248**		−0.159**	−0.128**	0.078*	−0.010
SECTOR5	−0.177**	−0.189**	−0.172**	−0.118**	0.009	−0.157**	−0.045	−0.004	−0.040	−0.133**	−0.222**	−0.185**	−0.159**		−0.095**	−0.038	−0.136**
SECTOR6	−0.107**	−0.095**	−0.102**	0.121**	−0.008	−0.140**	−0.156**	−0.181**	0.025	−0.106**	−0.178**	−0.148**	−0.128**	−0.095**		0.003	−0.115**
AUDITOR	0.018	0.021	−0.017	0.053	−0.017	0.002	0.015	−0.120**	0.202**	−0.198**	0.014	0.094**	0.078*	−0.038	0.003		−0.070*
PROFIT	0.430**	0.279**	0.197**	−0.181**	−0.260**	0.527**	0.524**	0.272**	0.152**	0.106**	0.079**	0.008	−0.010	−0.136**	−0.115**	−0.070*	

[a]Where for firm i at year t: FCF = future cash flows deflated by total assets at year t+k (k = 1, 2, 3); GW = goodwill deflated by total assets; GWR = goodwill reduction, amortisation or impairment, deflated by total assets; CF = current cash flows deflated by total assets; NI = net income minus goodwill reduction deflated by total; E = equity minus goodwill deflated by total assets; SIZE = natural logarithm of total assets; SECTOR = one of six sectors defined by the CNMV (SECTOR1 = petroleum and energy; SECTOR2 = basic materials, industry and construction; SECTOR3 = consumer goods; SECTOR4 = consumer services; SECTOR5 = finance services and real estate services; SECTOR6 = technology and telecommunications); AUDITOR = 1 if the auditor is one of the Big 4, and zero otherwise; PROFIT = one if the company has registered profits, and zero otherwise.
*Significance at the 5% level based on two-sided tests. **Significance at the 1% level based on two-sided tests.

Table 5 Association between goodwill valuations and future cash flows

Variables[a]	Dependent variable		
	FCF_{t+1}	FCF_{t+2}	FCF_{t+3}
Intercept	0.058	0.076	0.139
	(4.327)**	(2.240)*	(5.810)**
GW	−0.447	−0.640	0.266
	(−7.614)**	(−7.445)**	(4.434)**
GWR		0.628	
		(2.586)**	
POST	−0.073	−0.100	−0.060
	(−7.617)**	(−7.917)**	(−4.466)**
POST∗GW	0.443	0.634	
	(6.541)**	(6.598)**	
POST∗GWR	1.894	1.777	
	(5.975)**	(3.823)**	
POST∗CF	0.516	0.632	0.524
	(8.208)**	(7.816)**	(5.568)**
SIZE		0.012	
		(2.311)*	
AUDITOR			−0.032
			(−2.527)*
PROFIT	0.044	−0.410	−0.060
	(3.667)**	(−2.381)*	(−2.743)**
Other control variables	Included	Included	Included
n	758	620	484
Adj. R^2	0.432	0.369	0.363

[a]Where for firm i at year t: FCF = future cash flows deflated by total assets at year t+k (k = 1, 2, 3); GW = goodwill deflated by total assets; GWR = goodwill reduction, amortisation or impairment, deflated by total assets; POST = one if the observation is in the post-IFRS period, and zero otherwise; CF = current cash flows deflated by total assets; SIZE = natural logarithm of total assets; AUDITOR = one if the auditor is one of the Big 4, and zero otherwise; PROFIT = one if the company has registered profits, and zero otherwise. Corrected t-statistics are in parentheses. *Significance at the 5% level based on two-sided tests. **Significance at the 1% level based on two-sided tests.

flows, FCF_3, there is no value for the coefficient of the variable POST∗GW, hence adoption of IFRS does not improve the ability of GW to assess three-year-ahead cash flows. In the case of POST∗GWR, as in previous empirical studies (Barth et al. 2001; Jarva 2009; Lee 2011), the estimated coefficients are positive and statistically significant, but only for one- and two-year-ahead cash flows (1.894 and 1.777), indicating that goodwill reduction under IFRS significantly improves the ability to assess one- and two-year-ahead cash flows. Nevertheless, for three-year-ahead cash flows there is no value for this coefficient. According to Jarva (2009), who obtained similar results, the insignificant coefficient in three-year-ahead cash flows can be attributed to the opinion that there is a delay in the recognition of goodwill impairment. However, the positive and statistically significant association of this variable (β_6) and the positive sum of $\beta_2 + \beta_6$ for FCF_1 (1.894) and for FCF_2 (2.405) suggest that adoption of IFRS improves the ability of goodwill reduction to assess future cash flows.

As in other studies (Barth et al. 2001; Jarva 2009), future cash flows are positively associated with current cash flows and increase from 0.516 in FCF_1 to 0.632 in FCF_2, but for FCF_3 decrease again to a similar value to FCF_1 (0.524). However, these associations do not exist in the pre-IFRS period. There are associations among the other variables: SIZE is positive and significant on two-year-ahead cash flows, AUDITOR is positive and significant on three-year-ahead cash flows, and PROFIT is positive and significant on one-year-ahead cash flows, but negative on two- and three-year-ahead cash flows.

Overall, we find that goodwill is associated with future cash flows in both the pre- and post-IFRS periods, but goodwill reduction has a greater association with future cash flows in the post-IFRS period although goodwill impairments are more infrequent than goodwill amortisations. These results generally suggest that the information transmitted is more useful for assessing future cash flows after IFRS approval and they are consistent with the objective of the IASB to improve the faithful representation of the firm's economic situation in the financial statement. Hence, the shift from systematic amortisation to annual impairment test improves the ability of investors, creditors and other users of financial statements to assess future cash flows and make their economic decisions.

Conclusions

Both the approval of IFRS 3, IAS 36 and IAS 38 and the approval of SFAS 141 and SFAS 142 place companies under an obligation to account for goodwill in business combinations. They also require them to only decrease this intangible asset if an impairment test shows that a loss of value has occurred. The reason for this is to reduce the lack of relevance of goodwill valuations registered under prior standards and to improve the quality of the information. Conversely, due to the complexity of the new standards and the scope for managerial discretion in making assessments, critics argue that the impairment test is more subjective and confusing.

Owing to these problems, the latest decisions about standards adopted by regulators are leading to a reintroduction of systematic amortisation without eliminating the impairment test. This generates a legislative duality about goodwill which, in view of the results obtained, would make comparability and comprehension of financial statements difficult. In this context, this paper analyses the differences between both methods and, therefore, the effects on the comparability of the information to make economic decisions. Furthermore, since one of the objectives of the new regulation is to improve the usefulness and faithfulness of the information, an analysis is also made about whether the accounting data of goodwill under IFRS are more associated with future cash flows.

This study reveals that, overall, the application of IFRS has statistically significant effects on the accounting data contained in company financial statements. The principal results obtained in the first empirical analysis carried out in this paper show that IFRS allow higher levels of goodwill to be maintained in assets, which affects company balance sheets. Additionally, as this standard exempts companies from mandatory recognition of a loss of value in goodwill, the impairment recognised is significantly lower than the amortisation reported in the pre-IFRS period. Moreover, despite the economic crisis that characterised the post-IFRS period, only a few firms recognise a goodwill impairment during the post-IFRS period. Furthermore, the results show that current and future cash flows, net income and equity are higher in the pre-IFRS period, indicating that the firms' performance is poorer during the post-IFRS period, which is consistent with the economic crisis of this period. Nonetheless, this situation has not affected the firms' size since it has increased during the post-IFRS period.

In the regression models, it has been detected that the main variables of interest, goodwill and goodwill reduction, firmly explain future cash flows. In general, goodwill has a negative and significant association with future cash flows, and goodwill reduction has a positive and greater association with future cash flows in the post-IFRS period although goodwill impairments are more infrequent than goodwill amortisations. Meanwhile, influence of the current cash flows on future cash flows has also been detected in the post-IFRS period alone, and other control variables like PROFIT, SIZE and AUDITOR.

Overall, the results obtained indicate that the new goodwill regulation in IFRS affects the financial information transmitted by companies. Not having to report amortisation, which does not correspond to an effective decrease in its value, should have a favourable impact on the faithful representation of the financial statements of companies and their usefulness. The results of this paper suggest that the enactment of IFRS affects the usefulness of the information of goodwill numbers and their accuracy in assessing future cash flows, and these results are consistent with the IASB's aim to improve the faithful representation of the firm's economic situation in the financial statement. Therefore, the shift from systematic amortisation to annual impairment test improves the quality of the information transmitted in the financial statement in terms of improving the ability of investors, creditors and other users of financial statements to assess future cash flows and make their economic decisions. Nonetheless, given the differences between both alternatives, amortisation and impairment, the existence of a dual legislation that allows adoption of an amortisation or an impairment could hinder the comparability among companies that apply one alternative rather than the other. Likewise, the variety of amortisation periods adopted by companies that apply amortisation and the flexibility in the recognition of goodwill impairments could equally be an obstacle to comparability between companies that apply the same method. In the numerous studies mentioned, the value of amortisation is found to be arbitrary and lacking in significance, while for impairment the results are mixed.

In line with the arguments presented, there is no sense in going back to recognising a systematic amortisation that has been so widely criticised, and even more so, in conjunction with the application of an impairment test. Before once again adopting amortisation, the international regulating bodies should open up a process of debate and reflection. One consideration is the possibility of improving the impairment test by adopting measures that may reduce its complexity and subjectivity, establishing more restricted guidelines that limit the companies' margins of conduct and improving transparency by increasing compliance in the information transmitted about goodwill valuations and the chosen criteria.

References

AbuGhazaleh, N.M., Al-Hares, O.M. and Roberts, C. 2011, 'Accounting Discretion in Goodwill Impairments: UK Evidence', *Journal of International Financial Management & Accounting*, 22 (3): 164–204.

Accounting Standard Board of Japan (ASBJ) 2016, *Quantitative Study on Goodwill and Impairment*. Available at: https://goo.gl/Gr8NLB, accessed 2 June 2016.

American Institute of Certified Public Accountants (AICPA) 1970a, *Accounting Principles Board Opinion No. 16: Business Combinations*, AICPA, Norwalk.

American Institute of Certified Public Accountants (AICPA) 1970b, *Accounting Principles Board Opinion No. 17: Intangible Assets*, AICPA, Norwalk.

André, P., Filip, A. and Paugam, L. 2015, 'The Effect of Mandatory IFRS Adoption on Conditional Conservatism in Europe', *Journal of Business Finance and Accounting*, 42 (3–4): 482–514.

Archel, P., Robleda, H. and Santamaria, R. 1995, 'Una Aproximación Empírica al Estudio de las Eliminaciones en las Cuentas Consolidadas', *Spanish Journal of Finance and Accounting*, 24 (82): 59–79.

Baboukardos, D. and Rimmel, G. 2014, 'Goodwill under IFRS: Relevance and Disclosures in an Unfavorable Environment', *Accounting Forum*, 38: 1–17.

Ball, R. 2006, 'International Financial Reporting Standards: Pros and Cons for Investors', *Accounting and Business Research*, 36 (Supplement 1): 5–27.

Barth, M.E., Cram, D.P. and Nelson, K.K. 2001, 'Accruals and the Prediction of Future Cash Flows', *The Accounting Review*, 76 (1): 27–58.

Beatty, A. and Weber, J. 2006, 'Accounting Discretion in Fair Value Estimates: An Examination of SFAS 142 Goodwill Impairments', *Journal of Accounting Research*, 44 (2): 257–88.

Bens, D.A., Heltzer, W. and Segal, B. 2011, 'The Information Content of Goodwill Impairments and SFAS 142', *Journal of Accounting, Auditing and Finance*, 26 (3): 527–55.

Biancone, P.P. 2012, 'IFRS: Italian Experience on Impairment Test of Goodwill', *International Journal of Advances in Management Science*, 1 (3): 57–85.

Bostwick, E.D., Krieger, K. and Lambert, S.L. 2016, 'Relevance of Goodwill Impairments to Cash Flow Prediction and Forecasting', *Journal of Accounting, Auditing & Finance*, 31 (3): 339–64.

Brown, W.D., Tucker, K.J. and Pfeiffer, R.J. 1999, 'A Prospective Look at the Usefulness of Separately Reporting Goodwill Charges: An Evaluation of Cash Earnings', Working Paper, University of Massachusetts. Available at: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=201788, accessed 2 June 2016.

Bugeja, M. and Gallery, N. 2006, 'Is Older Goodwill Value Relevant?', *Accounting and Finance*, 46 (4): 519–35.

Bugeja, M. and Loyeung, A. 2011, 'Goodwill Accounting and Takeover Premiums: Pre- and Post- IFRS'. Available at SSRN: https://ssrn.com/abstract=1941459, accessed 2 June 2016.

Callao, S., Larne, J. and Laínez, J. 2007, 'Adoption of IFRS in Spain: Effect on the Comparability and Relevance of Financial Reporting', *Journal of International Accounting, Auditing and Taxation*, 16: 148–78.

Calvo, J. 2011, 'El Fondo de Comercio y la Información Financiera', PhD Thesis, Universidad Nacional de Educación a Distancia.

Camodeca, R., Almici, A. and Bernardi, M. 2013, 'Goodwill Impairment Testing under IFRS Before and After the Financial Crisis: Evidence from the UK Large Listed Companies', *Problems and Perspectives in Management*, 11 (3): 17–23.

Carlin, T.M. and Finch, N. 2009, 'Discount Rates in Disarray: Evidence on Flawed Goodwill Impairment Testing', *Australian Accounting Review*, 51 (19): 326–36.

Carlin, T.M. and Finch, N. 2010, 'Evidence on IFRS Goodwill Impairment Testing by Australian and New Zealand Firms', *Managerial Finance*, 36 (9): 785–98.

Carlin, T.M. and Finch, N. 2011, 'Goodwill Impairment Testing under IFRS: A False Impossible Shore?', *Pacific Accounting Review*, 23 (3): 368–92.

Carlin, T.M., Finch, N. and Khairi, K.F. 2010, 'FRS36 and Post-transition Compliance Quality among Singapore Firms', *Asian Review of Accounting*, 18 (3): 221–44.

Carvalho, C., Rodrigues, A.M. and Ferreira, C. 2016, 'The Recognition of Goodwill and Other Intangible Assets in Business Combinations. The Portuguese Case', *Australian Accounting Review*, 26 (1): 4–20.

Chalmers, K.G., Godfrey, J.M. and Webster, J.C. 2011, 'Does a Goodwill Impairment Regime Better Reflect the Underlying Economic Attributes of Goodwill?', *Accounting and Finance*, 51 (3): 634–60.

Chatraphorn, P. 2001, 'Accounting for Business Combinations: A Test for Long-term Market Memory', PhD Thesis, Virginia Polytechnic and State University.

Chen, C., Kohlbeck, M. and Warfield, T. 2004, 'Goodwill Valuation Effects of the Initial Adoption of SFAS 142', Working Paper, University of Wisconsin. Available at: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=534484, accessed 2 June 2016.

Chen, L.H., Krishman, J. and Sami, H. 2015, 'Goodwill Impairment Charges and Analyst Forecast Properties', *Accounting Horizons*, 29 (1): 141–69.

Churyk, N.T. and Chewining, E.G. 2003, 'Goodwill and Amortization: Are They Value Relevant?', *Academy of Accounting and Financial Studies Journal*, 7 (2): 57–69.

Cordazzo, M. 2008, *The Impact of IAS/IFRS on Accounting Practices: Evidences from Italian Listed Companies*, 31st Congress of European Accounting Association, Rotterdam.

D'Alauro, G. 2013, 'The Impact of IAS 36 on Goodwill Disclosure: Evidence of the Write-offs and Performance Effects', *Intangible Capital*, 9 (3): 752–99.

European Financial Reporting Advisory Group (EFRAG) 2016, 'What Do We Really Know about Goodwill and Impairment? A Quantitative Study'. Available at: https://goo.gl/Ox5xEt, accessed 2 June 2016.

European Financial Reporting Advisory Group (EFRAG), Organismo Italiano di Contabilità (OIC) and Accounting Standard Board of Japan (ASBJ) 2014, 'Should Goodwill Still Not Be Amortized? Accounting and Disclosure for Goodwill', Discussion Paper.

European Financial Reporting Advisory Group (EFRAG), Organismo Italiano di Contabilità (OIC) and Accounting Standard Board of Japan (ASBJ) 2015, 'Responses to the Discussion Paper "Should Goodwill Still Not Be Amortised? Accounting and Disclosure for Goodwill"', Feedback Statement.

European Parliament and Council 2002, *Regulation 1606/2002/EC on the Application of International Accounting Standards*, European Parliament and Council, Strasbourg.

European Parliament and Council 2013, *Directive 2013/34/UE on the Annual Financial Statements, Consolidated Financial Statements and Related Reports of Certain Types of Undertakings, Amending Directive 2006/43/EC of the European Parliament and of the Council and Repealing Council Directives 78/660/EEC and 83/349/EEC*, European Parliament and Council, Strasbourg.

Financial Accounting Standards Board (FASB) 1978, *Statement of Financial Accounting Concepts No. 1: Objectives of Financial Reporting by Business Enterprises*, FASB, Norwalk.

Financial Accounting Standards Board (FASB) 1995, *Statement of Financial Accounting Standards No. 121: Accounting for the Impairment of Long-lived Assets and for Long-lived Assets to be Disposed of*, FASB, Norwalk.

Financial Accounting Standards Board (FASB) 2001a, *Statement of Financial Accounting Standards No. 141: Business Combinations*, FASB, Norwalk.

Financial Accounting Standards Board (FASB) 2001b, *Statement of Financial Accounting Standards No. 142: Goodwill and Other Intangible Assets*, FASB, Norwalk.

Financial Accounting Standards Board (FASB) 2007a, *Accounting Standards Codification No. 350: Intangibles – Goodwill and Other*, FASB, Norwalk.

Financial Accounting Standards Board (FASB) 2007b, *Accounting Standards Codification No. 805: Business Combinations*, FASB, Norwalk.

Financial Accounting Standards Board (FASB) 2014, *Intangibles – Goodwill and Other (Topic 350), Accounting for Goodwill a Consensus of the Private Company Council. An Amendment of the FASB Accounting Standards Codification*, FASB, Norwalk.

Giner, B. and Pardo, F. 2004, 'La Elección del Método Contable en las Fusiones Empresariales: Análisis Empírico desde una Perspectiva Contractual', *Spanish Journal of Finance and Accounting*, 33 (122): 669–703.

Giner, B. and Pardo, F. 2007, 'La Relevancia del Fondo de Comercio y su Amortización en el Mercado de Capitales: Una Perspectiva Europea', *Spanish Journal of Finance and Accounting*, 36 (134): 389–419.

Giner, B. and Pardo, F. 2015, 'How Ethical Are Managers' Goodwill Impairment Decisions in Spanish-listed Firms?', *Journal Business Ethics*, 132 (1): 21–40.

Glaum, M., Schmidt, P., Street, D.L. and Vogel, S. 2013, 'Compliance with IFRS 3- and IAS 36-required Disclosures Across 17 European Countries: Company- and Country-level Determinants', *Accounting and Business Research*, 43 (3): 163–204.

Gore, P., Taib, F.M. and Taylor, P. 2000, 'Accounting for Goodwill: An Examination of Factors Influencing Management Preferences', *Accounting and Business Research*, 30 (3): 213–25.

Grinyer, J.R., Russell, A. and Walker, M. 1991, 'Managerial Choices in the Valuation of Acquired Goodwill in the U.K.', *Accounting and Business Research*, 22 (85): 51–5.

Guthrie, J. and Pang, T.T. 2013, 'Disclosure of Goodwill Impairment under AASB 136 from 2005–2010', *Australian Accounting Review*, 66 (23): 216–31.

Hamberg, M. and Beisland, L. 2014, 'Changes in the Value Relevance of Goodwill Accounting Following the Adoption of IFRS 3', *Journal of International Accounting, Auditing and Taxation*, 23: 59–73.

Hamberg, M., Paananen, M. and Novak, J. 2011, 'The Adoption of IFRS 3: The Effects of Managerial Discretion and Stock Market Reactions', *European Accounting Review*, 20 (2): 263–88.

Henning, S.L., Lewis, B.L. and Shaw, W.H. 2000, 'Valuation of the Components of Purchased Goodwill', *Journal of Accounting Research*, 38 (2): 375–86.

Hirschey, M. and Richardson, U.J. 2002, 'Information Content of Accounting Goodwill Numbers', *Journal of Accounting and Public Policy*, 21: 173–91.

Hung, M. and Subramanyam, K.R. 2007, 'Financial Statement Effects of Adopting International Accounting Standards: The Case of Germany', *Review of Accounting Studies*, 12 (4): 623–57.

International Accounting Standards Board (IASB) 1992, *International Accounting Standard No. 7: Statement of Cash Flows*, London, IASB.

International Accounting Standards Board (IASB) 2004a, *International Financial Reporting Standard No. 3: Business Combinations*, London, IASB.

International Accounting Standards Board (IASB) 2004b, *International Accounting Standard No. 36: Impairment of Assets*, London, IASB.

International Accounting Standards Board (IASB) 2004c, *International Accounting Standard No. 38: Intangible Assets*, London, IASB.

International Accounting Standards Board (IASB) 2009, *International Financial Reporting Standard for Small and Medium-sized Entities (IFRS for SMEs)*, London, IASB.

International Accounting Standards Committee (IASC) 1998, *International Accounting Standard No. 22: Business Combinations*, London, IASC.

Izzo, M.F., Luciani, V. and Sartori, E. 2013, 'Impairment of Goodwill: Level of Compliance and Quality of Disclosure During the Crisis. An Analysis of Italian Listed Companies', *International Business Research*, 6 (11): 94–121.

Jaafar, A. and McLeay, S. 2007, 'Country Effects and Sector Effects on the Harmonization of Accounting Policy Choice', *Abacus*, 43 (2): 156–89.

Jahmani, Y., Dowling, W.A. and Torres, P.D. 2010, 'Goodwill Impairment: A New Window for Earning Management?', *Journal of Business and Economics Research*, 8 (2): 19–24.

Jarva, H. 2009, 'Do Firms Manage Fair Value Estimates? An Examination of SFAS 142 Goodwill Impairments', *Journal of Business Finance and Accounting*, 36 (9–10): 1059–86.

Jefatura del Estado 1998, *Ley 37/1998, de 16 de Noviembre, de Reforma de la Ley 24/1988, de 28 de Julio, del Mercado de Valores*, Madrid.

Jennings, R., Leclere, M. and Thompson, R.B. 2001, 'Goodwill Amortization and the Usefulness of Earnings', *Financial Analyst Journal*, 57 (5): 20–8.

Jennings, R., Robinson, J., Thompson, F.B. and Duvall, L. 1996, 'The Relation between Accounting Goodwill Numbers and Equity Values', *Journal of Business Finance and Accounting*, 23 (4): 513–33.

Ji, K. 2013, 'Better Late than Never, the Timing of Goodwill Impairment Testing in Australia', *Australian Accounting Review*, 23 (67): 369–79.

Kung, F., James, K., Cheng, C. and Jaafar S.B. 2013, 'The Association between Goodwill Amortization and the Dividend

Payout Ratio', *Asian Journal of Business and Accounting*, 6 (2): 1–32.

Lapointe, P. 2006, 'Causes and Consequences of Transitional Goodwill Impairment Losses', PhD Thesis, Concordia University. Available at: http://spectrum.library.concordia.ca/8947/1/NR16304.pdf, accessed 2 June 2016.

Lapointe-Antunes, P., Cormier, D. and Magnan, M. 2009, 'Value Relevance and Timeless of Transitional Goodwill Impairment Losses: Evidence from Canada', *The International Journal of Accounting*, 44: 56–78.

Larrán, M., Monterrey, J. and Mulero, E. 2000, 'Una Evaluación Empírica del Fondo de Comercio', *Revista de Contabilidad*, 3 (3): 101–26.

Lee, C. 2011, 'The Effect of SFAS 142 on the Ability of Goodwill to Predict Future Cash Flows', *Journal of Accounting and Public Policy*, 30: 236–55. Available at: https://doi.org/10.1016/j.jaccpubpol.2010.11.001, accessed 2 June 2016.

Lemans, J. 2009, 'Goodwill Impairment as a Tool for Earnings Management'. Available at: http://hdl.handle.net/2105/5375, accessed 2 June 2016.

Li, Z., Shroff, P.K., Venkataraman, R. and Zhang, I.X. 2011, 'Causes and Consequences of Goodwill Impairment Losses', *Review of Accounting Studies*, 16 (4): 745–78.

McCarthy, M.G. and Schneider, D.K. 1995, 'Market Perception of Goodwill: Some Empirical Evidence', *Accounting and Business Research*, 26 (1): 69–81.

Moehrle, S.R., Reynolds-Moehrle, J.A. and Wallace, J.S. 2001, 'How Informative Are Earnings Numbers that Exclude Goodwill Amortization?', *Accounting Horizons*, 15 (3): 243–55.

Navarro, J.C. 2004, 'Cambios en la Normativa Sobre el Fondo de Comercio: Algunas Evidencias Empíricas', *Revista de Contabilidad*, 7 (14): 113–33.

Nobes, C. and Parker, R. 2004, *Comparative International Accounting*, 8th edition, London, Prentice Hall.

Ramanna, K. 2008, 'The Implications of Unverifiable Fair-value Accounting: Evidence from the Political Economy of Goodwill Accounting', *Journal of Accounting and Economics*, 45 (2–3): 253–81.

Ramanna, K. and Watts, R.L. 2012, 'Evidence on the Use of Unverifiable Estimates in Required Goodwill Impairment', *Review of Accounting Studies*, 17: 749–80.

Swanson, Z.L., Singer, R. and Downs, A. 2013, 'Goodwill Impairment: A Comparative Country Analysis', *Academy of Accounting and Financial Studies Journal*, 17 (1): 25–46.

Van Hulzen, P., Alfonso, L., Georgakopoulos, G. and Sotiropoulos, I. 2011, 'Amortization versus Impairment of Goodwill and Accounting Quality', *International Journal of Economic Sciences and Applied Research*, 4 (3): 93–118.

Verriest, A. and Gaeremynck, A. 2009, 'What Determinates Goodwill Impairments', *Review of Business and Economics*, 54 (2): 106–28.

Watts, R.L. 2003a, 'Conservatism in Accounting Part I: Explanation and Implications', *Accounting Horizons*, 17 (3): 207–23.

Watts, R.L. 2003b, 'Conservatism in Accounting Part II: Evidence and Research Opportunities', *Accounting Horizons*, 17 (4): 287–301.

Wines, G., Dagwell, R. and Windsor, C. 2007, 'Implications of the IFRS Goodwill Accounting Treatment', *Managerial Auditing Journal*, 22: 862–80.

Xu, W., Anandarajan, A. and Curatola, A. 2011, 'The Value Relevance of Goodwill Impairment', *Research in Accounting Regulation*, 23 (2): 145–48.

Zang, Y. 2008, 'Discretionary Behavior with Respect to the Adoption of SFAS 142 and the Behavior of Security Prices', *Review of Accounting and Finance*, 7 (1): 38–68.