

Goodwill and accounting discretion

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Abstract

Purpose: The aim of the paper is to investigate earnings management practices related to goodwill accounting, focusing on its first recognition as well as its write-offs, due to the impairment test.

Design/methodology/approach: The study refers to a sample of Italian listed firms and the analysis covers three years, with a total of 591 firm-year observations. The modified Jones' regression model has been used in estimating discretionary accruals, as a proxy of earnings management practices.

Findings: A positive relationship between discretionary accruals and yearly changes in goodwill has been proved. Findings also show an incidence of leverage and performance.

Research limitations/implications: The study focuses on a single context (Italy) and it is essentially based on financial-economic variables.

Practical implications: Findings of the study could be relevant for standard-setters in future revisions of goodwill accounting.

Social implication: The study could support investors in evaluating the incidence of first recognition as well as goodwill impairment on the quality of earnings.

Keywords: Goodwill; impairment test; earnings management; accounting discretion; discretionary accruals.

Article classification: Research paper

1. Introduction

According to EU Regulation 1606/2002, since January 2005 all listed EU firms are required to prepare their consolidated financial statements (and, in the Italian context, also their separate financial statements) in accordance with IFRS; therefore, they are required to use the IAS 36, IAS 38 and IFRS 3 to recognise the goodwill as well as to evaluate whether it has to be impaired. In fact, according to the above-mentioned accounting standards, goodwill is not amortised but is subject to an annual impairment test; more specifically, IAS 36 prescribes that goodwill must be written down if its carrying value exceeds the recoverable amount (expressed by the higher of fair value less costs to sell and the value in use).

Even though IASB decided to prohibit amortization in order to express the “true” value of goodwill in the balance sheet, contrasting earnings management behaviour, scholars argue that both the first recognition of goodwill value as well as its impairments provide managers with a substantial accounting discretion (Bloom 2009). In fact, this discretion can relate firstly to the identification of

goodwill within the whole price of an acquisition (thus goodwill is considered as a residual value) and, secondly, to the determination of its recoverable amount as well as its allocation within cash generating units (Wong & Wong 2001). More specifically, the decision of writing down goodwill, the time of this decision and the magnitude of the impairment loss provide managers with a good opportunity to manipulate earnings. The magnitude of this discretion is expected to be larger in periods of financial crisis, where a more frequent impairment of goodwill should occur. Furthermore, a recent study (ASBJ et al. 2014) highlights that impairment losses often come too late and this effect has been made evident in recent years in which many entities recognised impairment losses of goodwill several years after the financial crisis; as a consequence, it concludes that reintroduction of goodwill amortisation would be appropriate, because it reasonably reflects the consumption of the economic resources acquired in a business combination over time.

The aim of the paper is to investigate this timely topic by analysing the association between discretionary accruals and yearly changes of goodwill (due to its first recognition because of new acquisitions and to its impairments), referring to a sample of Italian listed firms. By this way, this study will try to add new knowledge to this intriguing accounting issue by considering not only accounting discretion provided by impairment test procedure but also that yielded by the initial recognition of goodwill, as a residual value emerging after allocating the price of acquisition within a business combination.

From a methodological point of view, we adopted the modified Jones' regression model, which is largely used in many studies investigating earnings quality. Findings provided by this model support the idea that goodwill accounting offers several possibilities to manipulate earnings.

The remainder of the paper is structured as follows. The second section focuses on goodwill accounting treatment over time, while the third one reviews the literature on the topic introducing the hypotheses of the study. The fourth section presents and discusses the results while the fifth one concludes, also summarising further developments of the research.

2. Goodwill accounting

Acquired goodwill is one of the most problematic accounting issues, largely debated from both researchers and standard setters (Shahwan 2011). In fact, several accounting treatments have been suggested over the years: immediate write off against reserves; capitalisation and subsequent amortisation over a predefined period; capitalisation with the annual impairment test (Alves 2013).

Focusing on FASB's as well as IASB's pronouncements, the following table summarises the evolution of these accounting treatments.

Table 1: Key developments concerning goodwill accounting

Period	Standard setter	Standard	Key developments
1970	APB (USA)	Opinion no. 17	Amortisation of goodwill over a period not exceeding 40 years
1983	IASB	IAS 22	Amortisation of goodwill over a period not exceeding 20 years (also permitting to charge goodwill to equity at the acquisition date)

1993	IASB	IAS 22 revised	Charging goodwill to equity at the acquisition date is not longer permitted
1999	FASB (USA)	ED	Proposal of shorten the maximum amortisation goodwill period from 40 to 20 years
2001	FASB (USA)	SFAS 141/142	The pooling-of-interest method is abolished. Amortisation of goodwill is prohibited, requiring a regular impairment test
2004	IASB	IFRS 3	Alignment with US GAAP (introduction of impairment test ending amortisation)
2012	IASB	PIR	The Board decided to review the important issues that had been identified as contentious during the development of the pronouncement, also considering any unexpected costs or implementation problems that had been encountered.
2013	FASB (USA)		The Board votes to permit amortisation of goodwill for private companies

APB (Accounting Principles Board); FASB (Financial Accounting Standard Board); IASB (International Accounting Standard Board); IAS (International Accounting Standard); IFRS (International Financial Reporting Standard); SFAS (Statement of Financial Accounting Standard); ED (Exposure Draft); PIR (Post-implementation Review)

Source: ASBJ, EFRAG and OIC, 2014.

The main reason why standard setters decided to substitute amortisation with impairment is that the first approach is expected to be based on an arbitrary time period, failing to provide useful information to the users of financial statements (Jennings et al. 2001; Moehrle et al. 2001): requiring amortisation of a fixed amount of goodwill every year implicitly requires that goodwill decreases on a systematic basis, but this is not necessarily the case.

Accordingly – and focusing on the IASB’s pronouncements – the IFRS 3:

- Replaces the IAS 22, opting for the purchase method to be accounted business combinations and requiring goodwill (acquired individually or in a business combination) to be recognized as an asset;
- Prohibits amortisation of acquired goodwill, introducing the impairment test for acquired intangible assets; therefore, it amends both the IAS 36 (Impairment of assets) and the IAS 38 (Intangible assets).

Recognition of goodwill as an asset implies that managers, having defined the purchase price, have to reevaluate the acquirer’s assets and liabilities based on fair value measurements, which should be market-based. However, a large portion of both assets and liabilities does not have “active market prices”, thus their fair values are calculated on unobservable inputs (Palea 2014). This means that managers have discretion in both defining the purchase price (Kim et al. 2011) as well as in allocating it on assets and liabilities. As a consequence, there is a large discretion in defining goodwill value (Takefumi et al. 2015), which is essentially a residual value.

Furthermore, according to the revised version of the IAS 36, assets have to be drawn at no more than their recoverable amount, i.e. the higher of fair value less costs of disposal and value in use. If an asset is carried at more than its recoverable amount, an impairment loss has to be recognised. In some circumstances, it is not easy or possible to estimate the recoverable amount of a single asset; therefore, the IAS 36 requires the estimation of the recoverable amount of the cash-generating unit to which the asset belongs. In the specific case of goodwill, as an indefinite useful life asset, a test of impairment is annually required. Moreover, according to the IAS 36, goodwill must be allocated to each of the acquirer’s cash-generating units, or groups of cash-generating units, that are expected to benefit from the synergies of the combination. Each unit or group of units to which the goodwill is so allocated shall:

- Represent the lowest level within the entity at which the goodwill is monitored for internal management purposes; and
- Not be larger than an operating segment determined in accordance with IFRS 8 *Operating Segments*.

Even though IAS 36 provides guidance on the topic, it is worth noticing that at least three issues depend on the judgement of the management:

- The identification of goodwill within the whole price of an acquisition;
- The definition of the boundaries of cash-generating units (CGUs);
- The allocation of goodwill to the CGUs.

In fact, in these three cases, the required estimate are not verifiable (Ramanna & Watts 2012) and consequently the impairment of goodwill can make possible significant earnings manipulations.

Recently, the Accounting Standard Board of Japan (ASBJ), the European Financial Reporting Advisory Group (EFRAG) and the Italian Standard Setter, named “Organismo Italiano di Contabilità” (OIC), published a paper significantly named: “Should Goodwill still not be amortised?” (ASBJ et al. 2014). The main findings of this study is that both preparers and auditors are concerned about the cost and subjectivity of the impairment testing; in addition, they found that frequently firms recognize impairment losses too late, sometimes years after the financial crisis i.e. when financial markets had already taken them into account. Accordingly, this study proposes the reintroduction of the amortisation of goodwill.

3. Literature review and research hypothesis

Since the shift from amortisation to impairment test, literature has investigated the accounting treatment of goodwill from different perspectives and several streams of research can be noted (Quagli 2011).

A first path of research concerns the identification of goodwill within the whole price of an acquisition and its further allocation to different reporting units. As stated above, goodwill is considered as a residual value, identified after the allocation of the purchase price of an acquisition between assets previously recognized in the financial statements as well other emerging intangible assets; therefore, the identification of goodwill and its value could be a consequence of opportunistic behaviour (Takefumi et al. 2015), since goodwill is no longer amortised but impaired (Zhang & Zhang 2007). In the same way, the subsequent allocation of goodwill to different reporting units could depend on the management’s discretion, influencing future impairments and resulting in opportunistic behaviour (Watts 2003).

The second stream of research deals with the mandatory level of disclosure required by the IAS 36: due to the complexity of the test, a firm that has impaired goodwill is expected to provide any detailed information concerning this procedure, in order to guarantee stakeholders about the reliability of the test itself and, consequently, that no opportunistic behaviour has been carried out. Literature (Petersen & Plenborg 2010) highlights that the level of disclosure is low in comparison with the required information; in the same vein, scholars (Hayn & Hughes 2006) show that stakeholders are not able to predict impairment due to low level of disclosure concerning reporting units to which goodwill was allocated.

The third path of research aims to investigate the relationship between impairment losses and the value-relevance of goodwill. In fact, standard setters decided to move from amortisation to impairment because the latter is expected to provide more appropriate accounting information

compared with the former. Nevertheless, findings do not provide a clear evidence: for example, a recent study concerning listed firms of several European countries (Laghi et al. 2013) highlights that goodwill impairment is significant only for two years out of the four investigated, while according to other research (Morricone et al. 2009) the reliability of the impairment test in context with weaker corporate governance (they investigated Italian listed firms) could lead to more opportunistic behaviour than those characterising the amortisation era.

A fourth stream of research concerns the relationship between financial and management accounting due to the impairment test. Literature (Quagli 2011) highlights that management accounting literature concerning goodwill, both before and after the introduction of the impairment test, is very scarce. Even though literature (Quagli 2011) recognizes how difficult it can be to relate impairment losses to reporting unit which managers are responsible for, he underlines that on one hand, management accounting can give structural and operating inputs to financial accounting for impairment testing; on the other hand, financial accounting mandatory rules concerning the impairment of goodwill should influence both the managerial structure of the firm (i.e. the identification of CGUs) and the approach used in calculating the data (i.e. discounting-back free cash flow forecasts for each CGU). The Author proposes an interesting model of integration between financial and management accounting in impairment testing which can reduce the risks of opportunistic behaviour in the recognition or not of impairment losses.

The *fil rouge* of all the above-mentioned research streams is the manipulation of earnings, which can occur in two critical moments, relating respectively to the initial recognition of goodwill as an asset in the balance sheet and to the identification (or not) of an impairment loss. Indeed, in both cases, a relevant level of managers' discretion can be assumed. As such, a fifth path of research aims to investigate accounting discretion in goodwill recognition and in impairment testing, in order to understand if there is a relationship with discretionary accruals.

Regarding the initial recognition, it is worth recalling again that the purchase price allocation (PPA) is an accounting choice issue, which depends on managers' discretion since it could be used to attribute more value to goodwill than to other more specific assets. In the US context, several studies (Zang 2008; Shalev et al. 2013) have shown the opportunistic use of PPA as a consequence of the SFAS 142.

Regarding the decision to write-off goodwill as a consequence of impairment, earlier studies have investigated the relationship between the write-off of assets and the managers' incentives (Elliott & Shaw 1988; Zucca & Campbell 1992). Starting from these seminal papers, the study of Francis et al. (Francis et al. 1996) highlights the influence on asset write-offs of both managers' incentives to manipulate earnings or changing economic circumstances of the firm. According to other research (AbuGhazaleh et al. 2011), and consistently with the contracting theory of accounting (Christie and Zimmerman 1994; R. Watts and Zimmerman 1986; R. L. Watts and Zimmerman 1990), managers may overstate, understate, or simply avoid to recognize an existing impairment depending on their reporting incentives, due to the inherent IFRS 3 discretion.

Accordingly, the first hypothesis of this study is:

HP1: Identification of goodwill and subsequent write-offs are positively related to earnings management.

Apart from the studies that probed the impairment of assets, literature has investigated the determinants of goodwill write-offs.

According to Watts and Zimmerman (Watts & Zimmerman 1986), managers of highly leveraged firms are more prone to adopt income-increasing accounting methods compared with their less leveraged counterparts, in order to avoid costly violations of debt covenants. This could imply that managers are inclined to attribute more value to goodwill (which is not subject to amortization, so it does not reduce post-acquisition earnings per share) than to other (amortizable) assets. More specifically, increasing the value allocated to goodwill and reducing the portion allocated to other net identified assets allows acquirers to present higher post-acquisition earnings per share, also anticipating greater discretion in future goodwill assessment to avoid reporting impairment (Zang 2008). As a consequence, it is expected that highly leveraged firms are less likely to record goodwill impairment losses to avoid costly violations of debt covenants (Beatty and Weber 2006; Lapointe-Antunes, Cormier, and Magnan 2008). Accordingly, a positive relationship between leverage and yearly changes in goodwill should be expected, stating the following hypothesis:

H2: There is a positive association between yearly changes of goodwill and the leverage.

4. Research design and methodology

Sample description

In order to test the above-mentioned hypotheses, the study analyzed the financial statements and other available data pertaining to a sample of Italian listed firms. According to previous studies (Opler & Titman 1994), we did not include in our sample companies belonging to finance and banking industries, since their financial statements are subject to different rules and their accounting ratios are not comparable with those recorded by firms in other sectors. Even though the analysis of a specific sector of activity can lead to better results (McGurr & DeVaney 1998; Amendola et al. 2011), the sample consists of firms belonging to different sectors, because only firms of a single industry had been selected, the analysis would have been reduced to very few units, with the consequence of obtaining non statistically significant results (Bisogno & De Luca 2015).

A time series analysis was performed, investigating financial statements of three years (2011, 2012 and 2013); after excluding 36 firms, because of lack of data, the study focused on 197 listed companies, with a total of 591 firm-year observations.

All the data was gathered from the AIDA Italian database (a Bureau Van Dijk database), which includes financial statements of all Italian limited liability and stock corporation companies.

Methodology

Among the different methodologies adopted in discovering earnings manipulation, this study adopted the modified Jones' regression model (Jones 1991), considering the discretionary components of total accruals as a measure of financial statements' reliability. According to an indirect formula, based on balance sheet and income statement items, total accruals at the time t (TA_t) are expressed as the difference between accounting earnings and operating cash flows.

$$TA_t = (\Delta \text{Current Assets}_t - \Delta \text{Cash}_t) - (\Delta \text{Current Liabilities}_t) - \text{Depreciation and Amortization Expenses}_t \quad (1)$$

According to other research (Alves 2013), the magnitude of the accruals is likely to be affected by goodwill impairment losses, which in turn reduced the reported earnings with no influence on the cash flows from operations, in this way providing significant scope for earnings management.

The modified Jones' model relaxes the original assumptions about the value of sales: following previous studies (Dechow et al. 1995), revenues are considered as discretionary accruals as well. Additionally, the model was further adjusted in the wake of Kasznik (Kasznik 1999), including the yearly changes in cash flow from operations: according to other studies (Siregar & Utama 2008), this approach best detects earnings management actions, providing a high R².

Total accruals (TA) can be articulated into a discretionary (DA) and a non-discretionary (NDA) component; therefore, the same distinction can be assumed by taking into account total accruals changes:

$$\Delta TA_t = (TA_t - TA_{t-1}) = (DA_t - DA_{t-1}) + (NDA_t - NDA_{t-1}) \quad (2)$$

Total accruals can be expressed in the following terms:

$$\frac{TA_t}{A_{t-1}} = \alpha + \frac{\beta_1}{A_{t-1}} + \frac{\beta_2 (\Delta REV_t - \Delta REC_t)}{A_{t-1}} + \frac{\beta_3 (PPE_t)}{A_{t-1}} + \frac{\beta_4 (\Delta PPE_t)}{A_{t-1}} + \frac{\beta_5 (\Delta CF_t)}{A_{t-1}} + \varepsilon_t \quad (3)$$

Where: TA_t is total accruals in year t; ΔREV_t is revenues in year t less revenues in year t-1; ΔREC_t is receivables in year t less receivables in year t-1; PPE_t is property, plant and equipment in year t; ΔPPE_t is property, plant and equipment in year t less property, plant and equipment in year t-1; ΔCF_t is Operating Cash flow in year t less operating cash flow in year t-1; A_{t-1} is total assets in year t-1; ε_t is the Error term in year t.

Total accruals include changes in working capital components, such as receivables, inventory and payables, which are influenced by changes in revenues (ΔREV_t). Property, plant and equipment as well as changes in revenues are included in the model in order to control changes in non-discretionary accruals caused by altered external conditions. Revenues are also included in the model because they can be interpreted as a rationale and objective measure of the operation of a firm before managers' manipulations, even if they are not completely exogenous (they are used in order to control the economic environment of the firm). Gross property, plant and equipment (PPE_t) are included with the aim of controlling the portion of total accruals related to non-discretionary depreciation expenses. The AIDA database does not provide the gross value of these accounts; as a consequence, their net values was used. Even though they seem to be significantly explicative variables of the regression equation (Mariani et al. 2010), the model also included changes in these accounts, in order to reduce potential biases. Additionally, according to Kasznik (Kasznik 1999), the yearly changes in cash flows from operations were enclosed. Finally, in order to reduce heteroskedasticity, all variables comprised in the model are scaled by the lagged value of their assets (Piot & Janin 2007).

The general approach adopted in estimating discretionary accruals via a regression model consists in considering them as the unexplained (i.e. the residual) components of total accruals (Riahi-Belkaoui 2005). In other words, the error term ε in equation (3) represents the estimated discretionary accruals [$E(DA_t)$]:

$$E(DA_t) = \frac{TA_t}{A_{t-1}} - \left[\alpha + \frac{\beta_1}{A_{t-1}} + \frac{\beta_2(\Delta REV_t - \Delta REC_t)}{A_{t-1}} + \frac{\beta_3(PPE_t)}{A_{t-1}} + \frac{\beta_4(\Delta PPE_t)}{A_{t-1}} + \frac{\beta_5(\Delta CF_t)}{A_{t-1}} \right] \quad (4)$$

In accordance with previous studies concerning earnings quality (Balsam et al. 2003; Jenkins et al. 2006; Ding & Jia 2012), the model considered the absolute value of discretionary accruals (estimated in equation 4) as a proxy for the level of earnings management. The main test variable is the yearly changes in goodwill value.

Goodwill recognition and impairment are not the only possible factors affecting earnings management; therefore, in addition to the leverage, which refers to the second hypothesis, several control variables were included in the model in order to isolate other factors that may affect managers' accounting choices. Previous literature suggests that political costs (Size), operating cash flows (Cash flows) and performance (ROA) can be associated with earnings management practices.

Accordingly, the final equation is:

$$|E(DA_{it})| = \alpha + \beta_1 \Delta GW_{it} + \beta_2 LEV_{it} + \beta_3 SIZE_{it} + \beta_4 CF_{it} + \beta_5 ROA_{it} + \beta_6 ATA_{it} + \varepsilon_{it} \quad (5)$$

Where:

- $|E(DA_t)|$ is the absolute value of estimated discretionary accruals;
- ΔGW_{it} is the yearly changes in goodwill. Consistent with the idea that managers can manipulate earnings both in attributing the value to the goodwill (instead of other more specific assets) and in evaluating if goodwill has (or has not) to be written off, the main independent variable of the model has been calculated as yearly changes, expecting that they will be positively correlated with the dependent variable (expected sign: +);
- LEV expresses the leverage ratio of firms included in the sample (represented by the ratio Total debts to Total assets). According to the above-mentioned studies, accounting manipulation seems to be more frequent in firms with high leverage; therefore, it is expected that the higher the leverage ratio, the more frequent earnings management practices will be (expected sign: +);
- SIZE, calculated as the natural logarithm of the total assets value. According to previous literature (Burgstahler et al. 2006), the sign of this test variable is expected to be negative, highlighting that earnings management practices are more pervasive in small firms (expected sign: -);
- CF expresses the operating cash flows. Several studies (Chen et al. 2007; Dechow et al. 1995; DeFond & Jiambalvo 1994; Yang et al. 2008) provide evidence that operating cash flows are

negatively associated with discretionary accruals, arguing that the higher the operating cash flows, the lower the likelihood to use discretionary accruals in manipulating earnings (expected sign: -);

- ROA (Return on Assets) represents a control variable expressing the performance of the investigated firms. Previous literature (Chen et al. 2006) has proven that firms with lower performance are more prone to manipulate earnings; accordingly, the coefficient of this variable is assumed to be negative (expected sign: -);
- ATA is the natural logarithm of total accruals absolute value; in line with Francis et al. (Francis et al. 1999), a positive coefficient for this variable is expected, since firms with high discretionary accruals should have high absolute value of total accruals (expected sign: +);
- ε_t is the error term in year t.

According to the econometric literature (Verbeek, 2012), a panel analysis was adopted, since estimators from a panel dataset seem to work best with longer time series.

5. Results and Discussion

Table 1 shows the descriptive statistics.

Table 1: Descriptive statistics

Variables	2011			2012			2013		
	Mean	Median	Std. Dev.	Mean	Median	Std. Dev.	Mean	Median	Std. Dev.
E(DAT)	0.048	0.040	0.249	-0.021	-0.008	0.198	-0.062	-0.021	0.322
Δ GW	-26718.37	0.000	383968.94	-17414.05	0.000	287722.16	-11569.96	0.000	155859.64
LEV	0.557	0.559	0.226	0.584	0.583	0.264	0.609	0.591	0.389
SIZE	12.623	12.513	1.793	12.614	12.539	1.811	12.606	12.580	1.833
CF	104350.47	8499.00	635580.35	125488.63	5698.00	866952.92	110007.82	5885.00	612503.52
ATA	229855.43	17968.00	1375776.88	220196.89	17515.00	998249.11	260547.69	29160.00	1104785.41

The median of absolute value of discretionary accruals is positive in the first year of the period covered by the analysis, which means that firms included in the sample have overestimated accruals. However, the sign becomes negative in the two subsequent years (i.e. firms have underestimated earnings).

It is also worth noticing that the mean value of the leverage ratio has been growing progressively from 2011 to 2013; as highlighted by previous studies concerning the Italian context (Viganò 2012), the majority of the Italian firms are characterized by a high level of indebtedness and this variable is often considered relevant in explaining earnings management behaviour.

Table 2 shows correlation coefficients between the independent variables of the model.

Table 2: Correlation matrix

	ΔGW	LEV	SIZE	CF	ATA
ΔGW	1,0000				
LEV	-0,0377	1,0000			
SIZE	-0,1985	-0,1721	1,0000		
CF	-0,0035	-0,4274	0,2210	1,0000	
ATA	-0,5334	-0,0101	0,4098	0,0383	1,0000

The table shows a moderate correlation between the independent variables, therefore they can be included in the regression model, since – according to previous literature (Niemi 2005) – only correlation coefficients greater than the 0.8 threshold indicate multicollinearity problems.

Table 3 illustrates the estimation results (equation 5).

Table 3 – Association between discretionary accruals and yearly changes of goodwill

Variables	Expected sign	Estimate	Std error	t value	p-value	
(Intercept)		0,246053	0,0881371	2,7917	0,00550	***
ΔGW_{it}	+	5,97443e-08	3,50814e-08	1,7030	0,08937	*
LEV_{it}	+	0,257227	0,0376706	6,8283	<0,00001	***
$SIZE_{it}$	-	-0,0195595	0,00661887	-2,9551	0,00332	***
CF_{it}	-	-2,09442e-08	1,82244e-08	-1,1492	0,25117	
ROA	-	-0,00198583	0,000849076	-2,3388	0,01985	**
ATA_{it}	+	3,05278e-08	1,09183e-08	2,7960	0,00543	***
Sum squared resid	12.55311					
R ²	0.53928					
Adjusted R ²	0.218092					
F(202, 388)					4.26e-12	

$$|E(DA_{it})| = \alpha + \beta_1 \Delta GW_{it} + \beta_2 LEV_{it} + \beta_3 SIZE_{it} + \beta_4 CF_{it} + \beta_5 ROA_{it} + \beta_6 ATA_{it} + \varepsilon_{it} \quad (5)$$

$|E(DA_{it})|$ = absolute value of discretionary accruals; ΔGW = yearly changes in goodwill; LEV = ratio total debt / total assets; SIZE = natural logarithm of total assets; CF = operating cash flow; ROA = Return on Assets; ATA = natural logarithm of absolute value of total accruals.

***, **, *, Statistical significance at the 0.01, 0.05 and 0.10 levels.

R² as well adjusted R² show a good fit of the model, which is able to explain a significant part of the total variability of the phenomena investigated.

The main hypothesis of this study can be accepted, with the variable ΔGW being statistically significant (even though at 10% level) also showing the expected positive sign. This means that the first recognition of goodwill as well as the subsequent written-offs due to impairments are positive related to earnings management behavior, reducing the quality of earnings, consistent with previous literature (Giacomino & Akers 2009).

In the same wavelength, the variable LEV is statistically significant at a level of 1%, highlighting that the higher the leverage ratio of a firm, the higher the likelihood that managers manipulate earnings in order to avoid debt covenant violations, according with findings of previous studies on the topic (Beatty and Weber 2006; Lapointe-Antunes, Cormier, and Magnan 2008). Therefore, the second hypothesis of the study can be accepted.

Table 3 also shows that the dimension of a firm is a relevant factor in explaining earnings management practices, since the variable SIZE is statistically significant (at 1% level) also showing the expected negative sign. This means that the higher the dimension, the lower the likelihood of manipulating earnings on the part of the management (Burgstahler et al. 2006).

Statistics also show the significance at a 5% level of ROA, pointing out that – according to previous literature (Chen et al. 2006) – performance is one of the main variables in understanding and explaining earnings management manipulations: therefore, the lower the performance, the higher the likelihood that management is inclined to manipulate earnings.

6. Conclusions and limitations of the study

Goodwill accounting is one of the main problematic issues as highlighted by the frequent modifications of the suggested accounting treatments. Standard setters such as the US FASB as well as the IASB have progressively moved from amortization over a period not exceeding 40 years to a period not exceeding 20 years and, finally, to impairment test, which has replaced the annual depreciation.

This last accounting treatment has been adopted in the European context, therefore all firms listed on regulated capital markets within the EU have been required to adopt international accounting standards (IFRS) issued by the IASB. Consequently, regarding goodwill accounting and impairment, Italian listed companies have been required to use both IFRS 3 and IAS 36.

The main reason for substituting amortization with a test of impairment is to reduce managers' discretion; however, according to IAS 36, managers have wide discretion in assessing the value of goodwill both when they have to allocate PPA (i.e. the first recognition of the value of goodwill acquired in business combinations) as well as when they have to estimate parameters used in calculating the recoverable amount of goodwill.

In accordance with this idea, this study has investigated whether Italian listed firms are inclined to manipulate earnings through the accounting treatment for goodwill. The analysis has covered three years (from 2011 to 2013) investigating a sample of 197 firms, with a total of 591 firm-year observations.

The results of the study provide evidence that goodwill yearly changes are positively related to discretionary accruals, as a proxy for earnings management behavior, supporting the hypothesis that IFRS 3 and IAS 36 provide managers wide discretion for both defining goodwill value through the

PPA allocation as well as for the amount of goodwill impairment loss. Accordingly, it can be argued that IFRS 3 and, especially, IAS 36 may induce managers to manipulate earnings.

These findings support the idea that goodwill impairment offers earnings management opportunities, even though this accounting treatment has been considered as a tool for reducing managers' discretion, replacing annual depreciation.

Along this way, findings of this study are consistent with the results of the EFRAG questionnaire (ASBJ et al. 2014), according to which goodwill amortization should be reintroduced, referring to impairment test as a second best way to determine the "true" value of goodwill. In this way, these findings could be relevant for standard-setters in future revisions of goodwill accounting.

From a more pragmatic viewpoint, the study could support investors in evaluating the incidence of goodwill impairment on the quality of earnings.

However, goodwill accounting remains a complex issue, thus further efforts are needed in order to gain a more in-depth understanding of the effect of different accounting treatments on earnings quality. Future developments of this study will try to investigate this point, adding other European countries to the research.

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