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**The accounting treatment of goodwill:
impairment test procedure and critical
issues on Italian listed companies**

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1 Introduction

The world of accounting is a complex labyrinth, full of issues and interpretations, which enable users to have a greater amount of information about a company's current situation. The IFRS Framework states that financial reports do not report the exact value of a reporting entity: they provide information to help users estimate the value of the reporting entity. This major complexity in measurements arises also from the multitudes of techniques adopted in both IFRS and US GAAP. As Hoogervorst (2012) emphasized, standards employ almost 20 variants on measurement techniques, based on historic cost, current value or other techniques. This will increase investors' uncertainty regarding asset or liability evaluation. In particular, this uncertainty arises with intangible assets measurement. For instance, Instagram's (or any other social network) tangible component is relatively small, but its business concept is extremely valuable.

Intangible assets are critical resources within companies' financial statements, as they do not have a physical substance, they cannot be sold and they are resources that debtholders will not acquire in case of companies' bankruptcy. They are critical also because of their long term ability to generate inflows for the company, so that companies cannot manage them to generate liquidity in the short term. Within intangible assets, most companies disclose a particular item, called goodwill: consistent with IFRS 3, goodwill is defined as an asset representing the future economic benefits arising from other assets acquired in a business combination that are not individually identified and separately recognised. Attracted by the immateriality and the volatility of that item, which does not present a physical substance, but that can generate positive inflows for the company, I decided to conduct an in-depth study on goodwill. Goodwill will be analysed first according to a theoretical approach, where I will present goodwill as an asset, its impairment test and different ways of accounting it according to different accounting principles. A brief digression will cover management's ability to manipulate goodwill for their private interests, analyzing earnings management practices and consequences for companies and external interested users. Another key aspect that will be covered is the importance of goodwill and its impairment test disclosure, by focusing on influences that this item generates to investors. Then I will change the theoretical approach to a more concrete evaluation, implementing my working hypothesis on a concrete sample of Italian listed companies. After the introduction, the first chapter will

focus on different processes for the preparation and disclosure of consolidated financial statements, evaluating the techniques adopted and the principles to follow. Different IAS/IFRS principles will be analyzed, in particular IFRS 3 and IFRS 10.

Then the analysis will move on to the analysis of intangible assets, which will be first analysed according to IAS/IFRS principles together with other studies. In this part, I will report intangible assets' main characteristics, how they are disclosed within a financial statement, their benefits and critical issues connected with them. There are two kinds of intangible assets: those that present definite life and those with an indefinite life. Goodwill belongs to the category of indefinite life intangible assets. Starting from this concept, goodwill will be studied, first by evaluating its origins, the way to account it and different accounting treatment according to different accounting principles (OIC, IFRS, US GAAP). Goodwill needs also to be constantly (mainly annually) tested, to evaluate its current value and to report impairment loss, if present. So there will be a section dedicated to impairment test practices, and the importance of disclosure of all procedures related to goodwill accounting and its impairment test. Disclosure is really important because of its ability to influence stock market prices and investors perspectives on a company's future performance. Goodwill is critical also because of managers' ability to manipulate its value for their own interests.

After this important theoretical analysis, the work will move on to a concrete analysis, transferring the theoretical information on a concrete sample of Italian based companies, listed on Italian stock exchange market, to evaluate the influence of goodwill on their consolidated financial statements. The empirical analysis will study several elements that constitute impairment test procedures, analyzing all these elements on the data acquired on the different financial statements. Another key element that will characterize my study is the distinction of the various industries in which the companies, included in the sample, operate. Ten different industries will be examined, based on the distinctions proposed by the Italian Stock Exchange (Borsa Italiana), as we are considering only Italian companies, listed in the Italian Stock Exchange. The analysis will cover different aspects of the impairment test process, studying companies' trends on number of CGUs to which they allocate goodwill and their characteristics, the typologies and number of discount tax rate and growth rate used, their numerical values, and the cases of impairment losses. Data will always refer to the companies included in

the sample, with some comments also on the different trends in the different industries. The major goal is to demonstrate first, the weight that goodwill has on companies' financial situations and if companies follow IFRS guidelines referreing to impairment test procedures, to disclose all information that users have to study to correctly evaluate goodwill's consistency and possible losses of value. Then the last part will be dedicated to final conclusions, remarks and references.

2 Consolidated financial statements. A review of consolidation theories

To deeply analyze relevance and reliability of intangible assets, and in particular of goodwill evaluation, first we need to have an overview of financial statements characteristics, consolidation techniques and issues that can emerge. The work will continue as follows: first, I will present the expansionistic approach that most companies are adopting in modern economics. This allows me to present business combination theme, when companies are providing these kind of activities: this is strictly connected to consolidation principles. Then I will discuss consolidation techniques purposes, when and how they emerged, their aims and different situations when consolidated financial statements are required and when companies are exempted from the preparation of consolidated statements. This will enable us to have a clear picture of the complexity of the world of consolidation, and prepare the field for a deeper analysis on the world of intangible assets and in particular of goodwill, analyzing its characteristics, impairment test procedures and other peculiarities of that critical item.

Globalisation leads to a progressive integration between markets, increases competitiveness and makes efficiency of economic and financial communication a key factor to better protect market participants and allows a larger degree of transparency. Globalisation opens countries' borders, creates a wider and more open economic environment where companies could exchange raw materials, products and even expand their business by acquiring new companies in foreign countries. Increased globalization, the need to expand business and to acquire new skills and brands are all reasons to justify greater expansion than we are experiencing today. Referring to Caruso, Ferrari and Pisano (2016), acquisitions are typical means of internationalization strategy adopted by firms aiming to expand their scope or achieve new resources. Acquisition is a common case that identifies a situation of business combination, but also mergers, scissions are considered as business combinations: studies excluded all operations of liquidation or transformation from that notion, as they do not include any business combination between related parties. One of the principal objectives of running a business combination is to gain competitive advantage and synergies which are difficult to achieve individually.

Additional advantages arising from a business combination are:

- possibility of achieving economies of scale;
- opportunities of exploring new markets;
- access to new technologies, new skills;
- beginning of R&D activities, by exploiting subsidiaries know-how.
- additional financial advantages of securing profitable results in the upcoming periods.

However, on the other hand, there are also several limitations towards activities of business combination:

- increased conflicts in decision-making;
- delayed decisions;
- lack of consumer confidence;
- higher risks.

Companies have to find a good balance between the pros and cons of a business combination to secure profitable innovations and progressive positive results for the group for the future years. Boost in exchanges between different countries and international dimensions of markets enhance the necessity of a convergence of accounting principles, to align different national accounting principles into a unique set of commonly used and accepted international standards. This process of convergence included the amalgamation of processes of harmonization, to increase compatibility of accounting practices and standardization, to impose a rigid set of rules. International Financial Reporting Standards emerge. IASB (International Accounting Standard Boards) created those principles to develop a single set of high quality, understandable, enforceable and globally accepted financial reporting standards to be used and understood worldwide.

The research starts from a detailed study of IAS/IFRS principles that covers goodwill: in particular, goodwill arises in a business combination, as it is defined as the difference between the price paid by the acquirer (the entity that wants to acquire another company) and the amount assigned to acquired company's assets and liabilities. Goodwill is managed following IFRS guidelines, in particular IFRS 3 (*Business Combinations*) and IFRS 10 (*Consolidated Financial statements*). In fact, consolidation principles are applicable only when two or more entities decide to merge, or when an entity acquires another entity (or more than one) so that economic and financial

situations cannot be disclosed separately, but they have to be included in a unique consolidated financial statement. Consolidated financial statements emerged as a response to the global financial crisis, to commercial developments and multi-state operations (Nobes, 2014).

In goodwill evaluation, we need a series of elements that identifies a business combination, as described within IFRS 3: to be defined as a business combination, we need to have an acquirer, so an entity that decides to purchase another company or part of it, and an acquiree, which is the entity that passes under the control of the acquirer. Assets and liabilities assumed have to constitute a business to meet IFRS definition of business combination. At acquisition date, which is the day when the acquirer started to have control over the acquiree, the acquirer has to recognise assets, liabilities assumed and the portion of non-controlling interests, interests that belong to the previous owners or to minority shareholders. If acquisition was performed during a specific fiscal year, managers have to report the acquisition date, the impact of the acquisition on the current financial situation and expectations about future development of that synergy. These resources belong to the acquirers until the date when the entity ceases to control the subsidiary. An acquirer gains control of an acquiree by transferring cash or cash equivalents, by incurring liabilities or issuing equity interests, and it has to evaluate items acquired at their fair value. Notion of control is the key element that identifies a business combination, because only when the acquirer has power to govern the financial and operating policies of an entity to obtain benefits from its activities, could we have a business combination. Control means that acquirer has power over the investee, it has exposure (or rights) to variable returns from its involvement and the ability to use its power to affect investors' returns, both positive and negative. These three conditions have to be fulfilled simultaneously. This generates a strong connection between power and returns, as demonstrated also in paragraph 17 of IFRS 10, as power gives to the acquirer the ability to affect investors' returns from its involvement, and benefit from these returns, even if they are positive, negative or both. Power rises from substantive rights, those that can effectively be exercised. Examples of rights are voting rights, rights to appoint, reassign or remove members of the investee's key management personnel or to appoint (or remove) relevant activities. These rights give the acquirer the power to direct relevant activities (core operations of a company), such as capacity of

purchasing goods and services, managing financial assets, selecting, acquiring or disposing of assets, commencing research and development activities of new products (or processes) or finding new funding sources. There are different opportunities of providing a business combination, through purchase method (based on consideration transferred) or through acquisition method (based on fair value of the company acquired as a whole).

Once the acquirer obtains control over one or more investee, the acquirer has to represent all economic results in a unique document, combining them within a consolidated financial statement. Corporations have to disclose information as the legal name of firm involved, acquisition date, percentage of voting rights acquired and fair value of assets, liabilities and the potential liabilities purchased. This document achieves greater importance above all from the investors' point of view, because they want to understand what is the true and fair situation of the group as a whole, not just as single economic entities. When a group is created, individual financial report is far from being sufficient to have a clear picture of the current situation of that company. The consolidation process includes the amalgamation of individual financial statements, generating uniform financial statements by establishing one accounting period and only one set of accounting policies and a common currency. Reporting IFRS 10 guidelines, within consolidated financial statements, managers combine items such as assets, liabilities, equity, eliminating in full intragroup assets and liabilities. Separately, managers have to disclose the portion of shares attributable to minority interests, in cases where the acquirer does not obtain the full control of investee's shares. In particular, within the income statement, companies have to report separately the portion of the net income attributable to third parties.

In some cases, companies that belong to a group are exempted from the preparation of a consolidated financial statement: a parent is exempted if it is a wholly-owned (or partially-owned) subsidiary of another entity, if its debt or equity instruments are not traded in public markets or if its ultimate or any intermediate parent produces consolidated financial statements, compliant with IFRS framework. These elements have an obvious effect on the way in which managers define business combinations and prepare financial documents that report procedures, items, and all other elements that describe operations of business combination. In particular, in the analysis developed by

Mard, Hitchner and Hyden (2011), the most important characteristic to find in consolidated financial statement is relevance: it helps identify necessary economic phenomena to be reported and relevant information to be disclosed to decision makers to take good decisions. Relevance is assured if there is comparability, timeliness and understandability over the information reported. Another important principle is reliability, which implies the disclosure of information that faithfully represents a true and fair situation of the company. This information has to be verified, comparable and neutral: only if these conditions are met, then information are trustful and managers can take good decisions. Finally, other key characteristics are traceability and transparency, to give external investors all elements to establish how this information has been originated and managed: this will increase transparency towards company and company's managers. As claimed by Wyatt (2008), information assumes a relevant role as investors base their firm's valuation on information disclosed and on stock prices' reactions. From investors' perspective, the stock price reflects market's expectation of future firm cash flow generated by firms' investments.

Financial statements have two major aims, according to Corsi (2013): one is the disclosure aim, as it is a document that stakeholders study to evaluate the current economic and financial situation of the company. Second, managers use financial documents to influence stakeholders and shareholders' decisions, behaviour, to sustain the decisions that better support managers' actions. Financial statements (above all the consolidated ones), are tools that managers use to reduce the information asymmetry that inevitably exists between managers and external interested people.

Once a parent company acquires one or more subsidiaries, it gains control over both assets and liabilities, both tangible and intangible. Rephrasing IFRS 3, an acquirer shall recognise, separately from goodwill, identifiable intangible assets acquired in a business combination. Separability is a crucial element that characterizes intangible assets that will be evaluated in depth in the following part. Attracted by the volatility, the incapacity of translating in appropriate values, the immateriality that composes them, I will continue the theoretical part of the work by focusing more on intangible assets, with a special digression over goodwill, which is the core element of my research.

3 Intangibles: a hidden asset that changed the economy

Intangibles are now becoming one of the major sources of companies' investments, that exploit them to increase profit, achieve competitive advantage and create a more talented workforce. Intangibles are now becoming so relevant that in some countries – for instance, in US – they represent a higher proportion of assets compared to tangible ones. In this part of the work, I will present first intangible characteristics and major critical aspects, and then I will provide a sort of historical evolution of intangibles, stressing the growing importance of intangibles that also lead, taking Haskel and Westlake concept (2017) to creation of capitalism without capital.

3.1 Rise of intangible economy

In this chapter, I will expose a brief historical analysis to show the growing importance of intangibles in modern economy, basing my statements on researches developed by Corrado, Hulten, Sichel and others. They (Corrado, Hulten and Sichel) were the first intellectuals that acknowledged the greater and growing importance of intangibles. They developed a framework for new intangible investments in 2002, at the conference of Research in Income and Wealth in Washington.

Industrial and, after, IT revolution are considered as the two pillars that gave birth to a new economic dimension, that we can define as intangible. Intangibles' investments have grown more rapidly and more consistently than tangibles ones, as a result of this new economic dimension, mainly driven by technological revolution. This has permitted developments of new products and increased efficiency in production processes. A major debate emerged over the accounting treatment of intangibles. Some considered them as capital, so a durable asset; others accounted them for intermediate good. Some experts account for intangible assets as intermediate capital because of incapacity of transforming intangibles' value into a monetary term, because of scarcity of information on their value. Instead, tangible assets have a physical embodiment, facilitating their evaluation as it is based on a concrete item. Intangibles lack visibility and palpable embodiment: another quality that characterizes them is non-rivality. Non

rivalness refers to intangible's characteristic of being employed by more users simultaneously without reducing its value. All these considerations made experts think of intangibles as asset. The first experts to acknowledge the major importance of intangibles, as mentioned before, were Corrado, Hulten and Sichel, who created an expanded framework to account them (2005) and to study intangibles' role on economic growth (2006) in depth. First, in their framework, they divided intangibles into three broad categories. The first category is R&D, which does not include only classical R&D investments, but also additional scientific knowledge included within patents, licenses, commercial copyrights and designs. The second category is called economic competencies, which include brand names' value, firm-specific human and structural resources. Within this category we can find brand names (advertising expenditures, brand equity expenses, cost of launching new products, market research), human capital. Finally, organizational structure is the ultimate key intangible capital accounted in Corrado et al. framework, which represented managers and employees' commitment to improve business organization's effectiveness. Lev and Radhakrishnan's (2005) analysis demonstrates that organizational capital is an "agglomeration of technologies, business practices, processes and designs, mixed with incentive and compensation systems, that together enable firms to produce a higher value of product compared to competitor's one from a given level of physical and human resources". Roth and Thum (2010) pointed out that knowledge and intellectual capital, which are two of the best intangibles employed by companies, are major determinants of innovation, economic growth, increase in employment rate and in competition within the EU. Firms with higher skilled employees tend to achieve greater results compared to those who do not invest enough in human capital (Corrado et al., 2006). After all these considerations, we can assure that intangible assets should be accounted as assets not just as intermediate capital: an asset that leads not only to the creation of more capital, but also to more output. This makes sense also from a business strategy point of view. Software, R&D, advertising are investments that will sustain company's presence in the market in future years, aiming at achieving greater positive results compared to the actual ones or gaining a competitive advantage. Accounting for intangibles seems mandatory in today's economic environment, as developed economies tend to continuously grow also thanks to investments in intangible assets. European economies' level of capital

investment has been larger once investment in intangible capital has been incorporated. That evaluation is a significant marker between more or less developed countries: less developed countries are unwilling to invest in intangibles because of their industrial structure. Indeed, R&D, advertising expenses, new market exploration are all risky investments, with uncertain results, especially in the long term: these activities could be performed only by highly developed countries, as they have financial structure to survive even in case of investments' failure. Investments in intangibles lead also to creation of a new workforce, better skilled and capable of using these innovations: this also explains the variance in labour productivity growth. The historical evolution of intangible importance is useful to fully evaluate intangible characteristics first, and then to discover intangibles following Westlake and Haskel's book, connected also with the new concept of capitalism without capital.

3.2 Intangible assets: characteristics and critical issues

According to Chareonsuk et al. (2008), 50-90 percent of value created by a firm in today's economy arises from intangible assets rather than from the use and production of material goods. To be sustainable, companies need to understand and to manage intangible factors, such as organizational knowledge and growth, internal processes and customer value proposition.

Intangible assets can be defined as non-monetary assets without physical substance, which are controlled by the enterprise and from which future economic benefits are expected to flow into the company. Examples of intangible assets are activities of R&D, rights, patents, goodwill, licenses. Intangible assets are typically included within the non-current side of assets, such as managers expected benefits from intangible assets in more than one period. These assets grant rights and privileges to their owner.

To be considered as intangible, an asset should meet specific criteria:

- identifiability;
- asset control;
- probability of future economic benefits.

An intangible asset meets the identifiability criterion when it is capable of being

separated from the entity; that assets belongs to the acquirer only if there is a legal contract or any other fiscal document that demonstrates propriety over that asset. Finally, an intangible item is included within the assets side only if managers acknowledge the possibility of achieving economic benefits from it.

Intangible assets may be classified into three main categories:

- 1) Employee competence: intellectual capacity is one of the most valuable asset of the company, which creates uniqueness and differentiation from competitors. Human skills are now becoming one of the most importance source of differentiation between companies.
- 2) External structure, to express relationship between customers and suppliers (brand-names, trademarks). Another external intangible asset is customer satisfaction, which is the key success in the business, and it has a significant relationship with stock market returns.
- 3) Internal structure, which includes patents, information technology systems and administrative systems or organizational culture.

As intangible assets have to generate positive returns in the long-term perspective, managers have to demonstrate that these intellectual, R&D, patents and other intangible assets generate positive performance, through their ability to generate revenues, positive net income or positive return on equity. If positive results are not achieved, investors could lose confidence over managers' work and withdraw their funds (Sriram, 2008).

Because of the absence of a physical substance, intangible assets are difficult to measure, as there is no concrete element to evaluate or to translate them into monetary terms. Intangible assets, acquired through a business combination, are measured at their fair value. Different processes could be employed to measure the fair price of an intangible asset: the simplest, most accurate and objective is an evaluation based on market estimations of assets' value. This method could be used only in case of the existence of an active market for that asset. In the absence of an active market, entities should transfer intangible assets on the basis of the best information available on the acquisition date; alternatively, entities could negotiate the monetary value for the sale. Once an entity defines the evaluation criteria of implementation, it has to identify the method to implement, as the asset could be evaluated according to the cost method, on the basis of the cost that the entity should bear to obtain it. Instead, intangible assets

could be measured through estimating the benefits expected from it (expected benefit method). The idea behind fair value measurement is transparency: the goal is to provide current market information that will enable users to take more informed decision. Intangible assets are generally unverifiable and uncertain by nature: investors have the problem of decision making under uncertainty. That uncertainty is increased by the major information asymmetry that arises between internal and external sources: getting back to the previous concept, consolidated financial statements have to reduce that asymmetry to enable investors to take decisions that can secure profitable results.

Another important distinction to be made is between intangible assets with a definite life, where managers expect to employ them for a determined timeframe (brands and licenses), and intangible assets with an indefinite life, where without a realistic timeframe their value will expire (goodwill is an example of this) but we will discuss this aspect in depth later. This distinction is also useful for their evaluation in future economic years, as some assets are subject to an amortization process while others to an impairment test.

Intangibles' growing importance has been studied in detail by Haskel and Westlake (2017), who introduced a new term, known as capitalism without capital: focusing on that term, the next section will be dedicated to discussing the role that intangibles have in the modern economy and new characteristics that identify them.

3.3 Capitalism without capital and Haskel and Westlake 4 S of intangibles

In this section, I will develop a study of the concept outlined in Haskel and Westlake's work (2017), which introduced the concept of capitalism without capital and reported the creation of a new economy where tangible capitals are not at the core of that economy, but they have been replaced by intangibles.

Microsoft is considered a crucial example, representing this concept of an intangible economy. Microsoft recorded 70 billion in assets, with tangible assets being only 4 billion: this to say that only 4% of Microsoft's assets were tangibles. Starting from this proof, the concept of capitalism without capital became more and more fascinating, to the point that in some countries, the proportion of intangible components is above that

of tangible components. Experts do not refer to investment in robots, chips, or other tangible items: the vast majority of intangibles are represented by investments in ideas, knowledge, software, brands, networks or relationships (with suppliers or customers). As Haskel and Westlake reported in their work, intangible investments are characterized by 4 major characteristics that now will be highlighted.

An intangible asset could be described as a sunk cost, as it is difficult for the companies that own them to sell them: most of the time, if intangibles do not generate predicted results, or if the business fails, firms encounter greater difficulties in recouping the investment made. Brands, patents or other intangibles may be valuable, but translating their values into monetary terms is tough, as managers have to trust market estimations or negotiate a price with the counterpart. The same consideration could be applied to intellectual properties, knowledge, relationships. Even those intangibles can be sold, but they are difficult to evaluate because they are unique: liquid markets that exist for tangible assets (machinery, land, equipment) have fewer equivalents in the world of intangibles.

Secondly, intangible assets generate spillovers, defined as the tendency to benefit from assets also by other external actors. Spillovers describe intangibles' capabilities of generating benefits not only for the owner of those intangibles, but also for others. They arise when managers' appropriate others' concepts, such as copying a R&D process of another company for instance. A firm cannot use rivals' machineries or lands but they can exploit the same R&D process, similar patents and licences or organizational structure. Another major characteristic of intangible is its scalability, as it can be scaled in different parts of the world (thinking about Coca Cola, as its brand and flavour are globally recognized). Scalability is also referred to intangibles' characteristics of being employed more than once. Indeed, tangible assets are replaced once their useful life is over: on the opposite, intangibles can be used again and again, in multiple places and at different times.

Finally, synergy is the ultimate S that characterizes these assets, as they are more valuable when they are connected and interrelated with other assets – even if these synergies are heavily unpredictable-. Synergies arise also with tangible assets, but the scope is different. Interaction between intangibles, and the higher benefits make intangibles' synergies more valuable than those with tangible factors. Haskel and

Westlake (2017) identified two additional factors attributable to intangibles above the 4 S previously mentioned: uncertainty and contestedness. Any investment, intangible or tangible, is a step into unknown, as managers cannot predict effectively what the achievable results from that investment might be. But these experts report that investments in intangibles seem to present a higher degree of uncertainty. As previously stated, tangible assets are easy to measure and to sell, while intangibles are completely different, also because of an absence of a real market that could perform an appropriate evaluation. If investments generate positive results, because of their scalability and synergies with other assets, companies will achieve possibly greater benefits than those generated by tangible ones. On the opposite, if the investment does not provide positive results, because it is considered as a sunk investment, companies will meet greater difficulties or even impossibilities in finding an acquirer for those intangible assets. In addition, intangibles tend to be contested: managers tend to understand who own those intangibles, or those who can benefit from them, but synergies and spillovers tend to decrease the benefits, and increase contention between market participants. It is hard that intangibles generate benefits only for a single subject: this increases the battle to gain higher benefits.

Another crucial aspect that emerges from Haskel and Westlake's book (2017) is the increasing inequality that investment in intangibles generates. Also the analysis developed by Chen (2016) demonstrated that there is a positive association between the level of economic development of a country and the intensity of the investments in intangibles, confirming the importance that intangible capital has in modern economy. Intangibles achieved greater importance after the fall in investments that experts demonstrated since 1970s, also because of recent financial crisis. But one of the most surprising aspects is that investments decrease even if there is a drop in interest rates in the same period. In the past, central bankers thought that when investments become nervous, because of unpredictability about the future, and companies reduce investments, lowering interest rates and making money cheaper could be a great help in solving the problem. Cheap money makes it less costly for businesses to raise financing and for consumers to borrow. But this approach seems to have stopped working. This is justified because the demand for investments has fallen. This gives rise to a major discrepancy between leaders – successful firms that achieve great size – and laggards –

firms that do not exploit scalability of investments and cannot generate benefits generated by intangibles -. Scalability and synergies of intangible investments also play a role in making leading firms more willing to invest. Leaders are more likely to be larger, to grow faster and to be able to take advantage of the scalability of intangibles. That discrepancy augments the concept that inequality is spread all over the world as one of the major responses to investments in intangibles. Alternative reasons to support inequality theory is the rise of modern technology, of globalization and the tendency of individual to save more money than in the past. Development in technologies could be considered as the major cause of the increase of inequality worldwide: machines replace workers in low-skilled activities, and so the employment rate has fallen, causing a reduction on people's wealth. Differences in wages between different companies and between different industries, the continuing rise of 1% (accumulation of wealth in higher paid workers) are other factors to justify this theory of Haskel and Westlake. This rise of the 1% is a direct consequence of the growing importance of intangibles, as particular workers are paid more because they are worth more, their skills are greatly valued in an intangible-intensive economy: they are considered more useful in a division of labour compared to lower skilled employees. This is another demonstration of the concept expressed before, that a talented workforce is one of the major intangible resources that companies exploit to differentiate themselves and gain competitive advantage against their competitors. Intangibles explain the long-term rise of inequality of wealth as well as inequality of income: they have helped drive the increase in property prices, explaining the chunk of the increase in wealth of world's richest people. In addition, the fact that intangible capital tends to be geographically mobile has made it harder to redistribute wealth via taxation. The sunkness property of intangibles and the inability of being able to translate it into monetary terms because of the scarcity of liquid markets for them, make it much harder to offer loans to companies that intend to invest heavily in intangibles. This concept finds evidences on companies' leverage ratios: firms with a higher proportion of tangible investments tend to have a higher amount of debt compared to equity, while for companies that operate in an intangible-intensive world, it is the opposite (more equity than debt).

What would a country do differently to create better conditions for an intangible-intensive economy? Create conditions where businesses can benefit from intangible

spillovers or synergies: encourage financial reforms, in order that companies can set loans to get funds to promote their businesses. Governments should encourage new forms of debt investments, allowing companies to borrow money to invest in intellectual properties or other intangibles. Indeed, debt financing sources give greater benefits for companies, it is cheaper and there is taxation deductibility.

After this broad picture on intangible assets, the following part will be dedicated to a major analysis of a particular category of intangible assets, those with an indefinite life, linked to a process of business combination previously studied: goodwill.

4 Literature review on goodwill

Once an acquirer has determined the accounting value of assets (tangible and separately, intangibles) and liabilities assumed during a process of business combination, the final step is the determination of goodwill.

Accounting for goodwill is a critical issue that has generated arguments for longer periods: one of the most talked-about aspects was the evaluation of goodwill, as an asset or not. Godfrey and Koh's (2001) findings suggest that investors attribute major importance to reported goodwill. This part of the work will be dedicated to analyzing goodwill's characteristics, major limitations and risks associated with its evaluation and as well as a final focus on the ability of management of manipulate it for personal interests.

4.1 Goodwill's characteristics and issues

Goodwill emerging from business combinations is equal to the difference between the price paid by the acquirer for the controlling share and the fair value of the acquired entity's net assets. It can be translated into a higher cost paid by the acquirer expecting future economic benefits arising from synergies or from intangible assets that cannot be evaluated separately. It is an intangible asset which arises only in cases of mergers, acquisitions, scissions: it is a volatile item that is generated by assets which are not individually identified and separately recognized. It is a surplus to the cost of an acquisition: when recognized, that item has to be accounted for within assets. Goodwill cannot be separated from a business entity, so it is impossible to acquire goodwill without acquiring a company or a part of it. Getting back to the characteristics that an intangible asset must have, goodwill is identified, as it is a value which is generated by a premium price paid over the net capital of the company acquired. It comes under the control of the acquirer, once the acquisition has been completed. Finally, an acquirer purchases one or more subsidiaries only if he acknowledges the possibility of gaining future economic benefits, represented by the major price paid to acquire the company. Goodwill is typically attributed to intangible assets such as reputation, a well-trained

workforce, favourable location and other features. The purchase goodwill (so called because it resulted from an acquisition process), can be divided into different elements:

- difference between fair value of net assets acquired and their accounting value;
- fair value of intangible assets not emerging on the financial statements of the entities acquired;
- internally generated goodwill of the acquired company;
- indivisible synergies.

As we have described, goodwill is an excess premium paid for an acquisition: but there could be an opposite situation, where the acquirer pays an amount which is lower than the net value of equity capital acquired. This situation is called badwill, and it has to be accounted for the revenue side of the consolidated income statement, as it is a gain for paying a lower price. It represents a situation where the acquiree is willing to sell its company even if the price received is lower compared to the net value of equity capital. Badwill could be generated by an overvaluation of the assets or an undervaluation of the liabilities, or more simply, by the buyer finding beneficial conditions to perform the acquisition. As it is a good deal, managers have to report badwill value in the revenue side of the income statement. This difference between equity capital and negotiated price, see Angiola (1997), is justified by different conditions of the negotiation, which could be subjective (contractual power or different capabilities of negotiation) or objective (company's value, firm's strategy, R&D processes, company's mission and values).

In his book (2009), Zanoni reported two distinct types of goodwill: business goodwill, which relates to business areas where the company operates and corporate goodwill, which is focused more on corporate resources. In detail, a business area is the core section of the company, where managers take decisions related to competitive activities and targets to be met, to the segment of clients to whom the company's value proposition will be addressed and all different decisions regarding its types of product, its quality, level of technologies to implement, marketing activities and so on. Considering these aspects, so-called "business goodwill" depends on company's combination of clients, functions, technology, strategic choices between leadership cost or differentiation strategy. In particular, companies can take strategic decisions to diversify its product, to create a good which is different from that of the competitors',

because of different colour, different shape, different price which gave birth to a differentiation approach. Alternatively, companies could decide to gain a competitive advantage based on companies' capabilities to exploit their higher production rates by reducing time and raw materials employed: employing economies of scale, these companies based their competitive strategies on a leadership cost approach. The first method can be linked to the position of the company in the market and to customers' preferences, while the second one is mainly based on its presence in the competitive system, on the capability of the company to generate a product with standardized characteristics and with a lower price. The first capability generates positional goodwill; the second generates system goodwill. As it is a volatile and difficult to measure and arises only in specific cases, goodwill gains greater importance also in the notes of financial statements. Within them, managers have to report the gross value of goodwill and all changes since the beginning of the fiscal year, such as adjustments, losses, currency changes and other variances. Additionally, in the notes, managers should report the operative sectors in which companies operate, as goodwill is referred to operative sectors, to increase the reliability of information disclosed. So, briefly summarizing, goodwill is a sort of premium that buyer pays to secure control over a company (or part of it), a control that will generate positive results for the company for the upcoming period and because of that, it has to be included within assets, in particular on the non-current side because of its indefinite life characteristic.

There are different consolidation theories to account for goodwill:

- proprietary theory, which defines assets and liabilities as the propriety of the owner of the company (acquirer), and goodwill is represented only in the part attributable to him;
- parent company theory, where the acquirer has the power to control subsidiaries assets and liabilities;
- entity theory, where parent and subsidiaries are viewed as two separate entities; because of that, subsidiaries' assets and liabilities (and goodwill too) are considered at their full values at the acquisition date in consolidated balance sheets, regardless of the percentage owned by the acquirer.

The ultimate way of accounting for goodwill is based on the full-goodwill method, deeply analysed by Welc (2015). Following this approach, goodwill is accounted for in consolidated assets at its full value and incorporates both goodwill of the parent entity

and the portion owned by minorities. As a consequence, accounted goodwill will be higher and a significant accounting problem may arise, because IFRS imposes the distinction between parent's portion of goodwill and the one attributed to non-controlling interests. This is another justification for why the full goodwill method is the least used way of accounting for goodwill.

There are different approaches for the evaluation of goodwill, according to the different accounting principles. Considering evidence reported by Biancone in his book (2006), different accounting standards (US GAAP, IFRS and Italian accounting principles) define goodwill primarily in the same way, as they coherently evaluate it as any surplus that the acquirer pays over net assets (and liabilities) assumed in a process of business combination. As we disclosed before, intangible assets are differentiated because of their expected duration, as there are intangibles with definite and indefinite life. Goodwill belongs to intangible assets with indefinite life: indeed, since 2005, IASB has suggested that goodwill's useful life is not possible to predict. Because of that, goodwill is not subject to a constant process of amortization but it is annually (or more than once a year) subject to a process of evaluation called impairment, that is the central theme of the following section.

4.2 Impairment test procedure

As mentioned before, goodwill generates benefits through synergies with other assets, so the first process to implement is the allocation of goodwill to a small organizational business unit called CGU (acronym for Cash Generating Unit). CGUs should not be larger than an operating segment before aggregation. These CGUs have the peculiarity of generating cash flows independently from the cash flows generated by other assets or group of assets. At acquisition date, goodwill has to be allocated to those CGU that could benefit from synergies arising from the acquisition. This is one of the most important step that managers have to complete, as they have to decide to how many CGUs goodwill will be allocated, if they want to allocate it to operative segments or legal entities. Goodwill is a volatile item, which is influenced by several factors, internal or external from the organizations' boundaries: because of that, companies are obliged

to constantly test goodwill's value through a process called Impairment test. Goodwill impairment seems relevant when there is strong asymmetry of information between managers and investors or when managers do not disclose relevant and reliable information. Impairment test has to be performed at least once a year, or each time there is a situation that indicates a need for impairment. Several situations could claim a need for impairment, such as loss of a key customer or key personnel, significant changes in legal factors or in the business environment. Referring to Seetharaman et al.'s work (2006), we can distinguish between external and internal factors which could generate a need for impairment.

Examples of external sources are:

- changes in the business climate (reduction of consumer acquisitions or different environmental or industrial conditions);
- different competitor activity (new competitors that enter in the market or competitors that change their value proposition);
- changes in political and legal factors;
- changes in regulatory fields.

Conversely, internal factors that enhance the possibility of impairment are:

- failure in budgeting forecasts;
- negative results arising from variance analysis;
- losses of key personnel or key assets (tangible or intangible ones);
- failure in managing acquisition (issues of communication, delay in delivery).

As we declared, an impairment test is a periodical verification according to which physical and non-physical (intangible) assets have to be recorded in the financial statements at a value that cannot be higher than their recoverable value. IAS 36 reported that the recoverable amount of an asset or a Cash-Generating Unit is the higher of its fair value less costs of disposal and its value in use. Here the concept of fair value is the same as the one previously mentioned, defined as the price that two or more market participants are willing to pay for an asset at the measurement date. The concept of value in use is defined as the present value of future cash flows expected to be derived from an asset or CGU. To calculate value in use, companies should implement a discount rate, as it reflects market assessment of time value of money and takes into account specific risks connected to the volatility of future cash flows. To estimate all

these values, which is a challenging process, companies can adopt different techniques: two are the most common and most used. The first method is the DCF method (discounted cash flow), which makes projections about future cash flows using an internal interest rate. WACC is the most employed interest rate, which is a weighted average of the cost of debt and equity capital. It is the most employed interest rate as it takes into account market conditions and specific risks too, that investors are interested in, both as shareholders or bondholders. But managers do not have to consider only what is the typology of discount tax rate to adopt, but also if they want to adopt a single tax rate for the entire set of CGUs or if they want to adopt one rate for each CGUs. And, again, managers have also to assign numerical values to these rates, so they have to consider if they want to adopt a unique value or different for the different CGUs, if values are specific or comprise between ranges,

Once they identify the interest rate, managers have to identify also a growth rate, to give the most accurate estimation about future cash flows that companies can generate. This growth rate, which corresponds to the growth rate employed in a perpetuity growth model, is typically derived by business or strategic plans that companies have created, or it could be zero, if managers adopt a prudential approach. The alternative method is employing market multiples, which involves multiplication of some key items (EBITDA for instance) with some market multiples, to generate a reasonable and more accurate evaluation of the item. Again, consistent to what I reported before for discount tax rates, also for growth rates, managers need to estimate the number of growth rates to implement, the numerical values: this information will have a strong impact to the impairment test process' results. After choosing the most appropriate method to test goodwill value, companies have to report, if present, impairment losses: always rephrasing IAS 36, an impairment loss arises when an asset's carrying amount exceeds its recoverable amount. If companies recognize an impairment loss, they have to reduce the carrying amount of assets and account for that loss. Within notes to financial statements, companies have to illustrate the entire impairment test procedure, criteria and parameters to reduce information asymmetry between external investors and internal users and increase reliability over information reported. Detailed disclosures, including circumstances that lead to an impairment test are required. These shall include key assumptions that managers employ to make cash flow predictions, growth and

discount rates, the number of CGUs to whose goodwill is allocated to, types of CGU (legal entities, business areas, geographical areas). An additional set of information that could support reliability is a sensitivity analysis. An entity shall disclose a sensitivity analysis to reveal reasonable changes in key assumptions on which management has based its determination for CGUs' values measurement, if these changes could generate an increase in CGU's value that could exceed its recoverable amount. Within these assumptions, managers hypothesize on future values of sales, on some key margins (EBITDA or EBIT for instance), and on growth percentage. Sensitivity analysis' aim is to provide greater amount of information to investors, to permit an estimation of future possible impairment losses. Wyatt (2008) enhances the centrality of the role of information disclosure, declaring that goodwill impairment helps investors because it provides useful information that interested users employ to evaluate company's forecasts.

Several differences arise when we refer to impairment test procedure according to different accounting principles. IFRS principles recognizes impairment test as the procedure to evaluate current goodwill value, by comparing the value of goodwill with its recoverable value. FAS (the US GAAP accounting principle) defines impairment as the process that have to verify the recoverable value each time a triggering event indicates the need of an impairment (decreases in market prices, cash flow losses).

4.3 Goodwill Impairment test according to Italian accounting principles

According to Italian accounting principles, in particular OIC 24 (Intangible assets), goodwill is considered as in the International principles, as a surplus of the price paid for the acquisition of a subsidiary, from which the parent company expects to achieve positive returns in future fiscal years. Consistently with International principles, also OIC principles establish that goodwill cannot be evaluated separately from the company that belongs to. The major difference arises for the evaluation of the recoverable amount of goodwill, above all for what concerns the process to calculate this value: indeed, companies that follow OIC principles can calculate the recoverable amount using the amortization process, considering the intangible assets as a common tangible assets and

not implement impairment test procedures. Managers of these companies have to estimate the possible duration of goodwill, the period on which the parent company could appreciate synergies arising from goodwill's value and, based on this period, provide an amortization scheme for the entire useful life. To estimate the useful life of goodwill, managers could consider:

- the period within the company expect to benefit from synergies created by the business combination;
- the period within which the company expect to recover, in financial or economic terms, the investment performed (defined as payback period);
- the weighted average of core assets acquired in the business combinations.

If managers cannot evaluate appropriately the useful life, goodwill is amortized with a time limit of 10 years: if the conditions previously disclosed prove that useful life of goodwill is higher than 10 years, the time horizon could be extended until 20 years, which is the ultimate limit for goodwill's amortization. Consistently with procedures reported in this OIC, some experts take into considerations the possibility to go back to the amortization process of goodwill even for listed companies, that perform impairment process. This study will be evaluated in next paragraph.

4.4 Should goodwill still not be amortized?

A Research Group composed by experts of EFRAG (European Financial Reporting Advisory Group), ASBJ (Accounting Standards Board of Japan) and OIC (Organismo Italiano Contabilità), in July 2014 conducted an interesting research on the possibility to reinstate the amortization process for goodwill. Indeed, these experts report how impairment test procedure includes a series of personal assumptions on discount rate, growth rate, future cash flows that do not permit a coherent evaluation on the real recoverable amount of goodwill. FASB is one of the first major accounting board that let private companies the option to choose the amortization process, on a straight line with a time limit of 10 years (or less, if managers acknowledge the possibility of a useful life lower than 10 years). One of the major thesis that these experts highlight in

their study is that entities are required to estimate the useful life of tangible assets as lands, properties, equipment even if the estimation of their recoverable life is not always so reliable, while for goodwill is not possible: they sustain that there is not a conceptual reason for this “discrimination” for goodwill’s evaluation. Another critical issue that experts report, based their results on answers received by stakeholders on some surveys they proposed, is the higher level of subjectivity in the judgment of key variables used to calculate goodwill’s recoverable amount. Preparers of financial statements, in additions, explains higher costs in implementing an impairment test process consistently with IAS guidelines. Hoogervorst reports another major issue connected to impairment test procedure, as it a complex process that implies a series of assumptions that require a higher period of time for managers to estimate the reliable value: this has been another element that caused major difficulties during financial crisis.

After the report of the major critical issues connected to impairment test process, experts report a possible solution to overcome this problem, which is an amortization and impairment approach. This because amortization process could be implemented to evaluate goodwill coherently with properties, lands or equipment, even if it the estimation of the time period is not so accurate. This combination will limit the subjective judgments on goodwill’s evaluation, reduce the time period, maintain the same uncertainty that managers feel even when they have to calculate the amortization period for tangible assets, but also reducing the costs connected to goodwill’s evaluation. Goodwill amortization reasonably reflects the consumption of the economic resource acquired in the business combination over time, and because of that, managers should also consider this method to calculate the recoverable amount. Another critical element connected to impairment test procedure is the possibility that managers manipulate the procedure, or the different values, to achieve positive results for the companies or for themselves.

4.5 Goodwill manipulation and EM practices

Goodwill is unverifiable and managers exploit this uncertainty to promote private interests or to disclose misleading information about the current situation of the

company, which have a direct impact on investors' perspectives. There will be investors who fully comply with legislator obligations, and report the nature and value of intangible asset acquired (brand, patent, IT system, new relationship with customers or suppliers). Instead, there are managers who make opportunistic choices with the aim of reporting higher (or lower) amount of intangible assets and consequently of goodwill, to take advantage of them or of the company, generating misleading expectations towards investors' eyes.

This important aspect was exhaustively studied by Caruso, Ferrari and Pisano in 2016, who based their work on the correlation between goodwill impairment and earnings management practices.

EM (which stands for earnings management) occurs when managers use proper judgements in financial reporting to modify results, economic performances or to influence investors' perspectives, who base their assumptions on accounting value disclosed. Typically, EM policies are divided into real earnings management and disclosure earnings management: REM directly impacts income as management can influence revenue or cost values, while DEM gives discretion to management to use different estimations or assumptions in financial statement preparation. Real earnings management can generate major effects in the development of the company, as they include several processes that can modify investors' perspectives. Within REM, we consider practices as income smoothing, which tends to standardize growth in order not to create greater expectations for investors. Another practice is income maximization (or minimization), with the intent of maximizing (or minimizing) the profit for the year, to increase (or reduce) targets and investors' projections for the upcoming period. These practices are employed to get positive conditions, such as lower taxes and lower shares' costs or greater bonuses and trust from investors. Finally, REM emerges also in atypical situation called big bath accounting, a tendency to worsen the current situation when managers acknowledge the possibility of not meeting annual targets, whereby they lower results to create better conditions for the future year. Caruso et al. (2016) reported that managers could write-off goodwill to apply big bath policies, in cases of bad performances, in two typical situations:

- when CGUs are too large, rising problems of allocation of goodwill to CGUs;
- when CGUs are too fragmented or incomplete, causing difficulties of generating cash,

reducing capabilities of spread efficiently the synergies between CGUs and single assets.

These situations increase the importance given to impairment test procedure. The big issue between impairment tests and earnings management practices occurs because of higher discretion let to managers to establish parameters for the impairment procedures. That freedom to operate allows managers to manipulate procedures or results consistently with their aim, which could be a maximization or minimization of profit or other practices mentioned before. Another key factor that augments EM practices is information asymmetry between internal managers and outside interested users. M&A represent great opportunities for enhancing EM policies, as these operations reflect managers' behaviour and their tendency to manipulate goodwill value: higher incidence of goodwill on total assets supports a higher chance of influencing accounting results. Companies can adopt some key mechanisms that can curb earnings management, one of which is firm specific.

In concrete terms, companies could establish several boards to control managers' operations to reduce possibilities of earnings management. A board of directors, an audit committee, internal or external audits are all mechanisms within (or outside) a company that can efficiently overview management practices to align them with organizational guidelines. Capacities to manipulate goodwill impairment results could be motivated by the fact that managers' incentives or bonuses are based on firms' results: a reduction in goodwill value could reduce their salaries. Consistently with evidences reported by Schatt et al. (2016), there are two alternatives for managers to operate in an M&A context: first they could implement a conservative approach, as they could decide to postpone impairment test results because external investors could misevaluate the deal, considering goodwill as an excessive premium paid for the transaction. Conversely, managers could massively impair goodwill by reducing the net income of the period, and implement a big bath approach to increase perspectives for the following period. As managers operate in a very volatile environment, and there is strong information asymmetry between them and market participants, these experts suggest that goodwill impairments convey negative news about firm's future growth and profitability. Morricone et al. (2009) sustain this hypothesis, as they clearly demonstrate that, with a weak corporate governance and a low level of transparency,

such as the Italian one, impairment test and discretion in goodwill estimation might not disclose useful information to external investors because of EM practices. In a context of asymmetric information, goodwill impairment signals to investors that future cash flows will be lower than those expected when the goodwill was recognized in the balance sheet. This evidence is reinforced by Chalmers et al (2011) research. These authors found a negative association between firms' IOS (investment opportunities) and goodwill impairment treatment in an IFRS regime. An impairment regime enables firms with greater (lower) investment opportunities to maintain (reduce) goodwill in their balance sheets. They underline the importance of goodwill impairment test, as its adoption enhances the usefulness of financial statements for decision-makers' purposes. When they are not able to make coherent estimations about future development of the company, or when they do not possess reliable numbers (because of possible manipulation by managers), this is where goodwill impairment disclosure achieves a greater role. Indeed, goodwill impairment procedure may convey useful private information to investors and force managers to disclose reliable data (Schatt et al., 2016). The first part of this work has been dedicated to a theoretical representation of what is goodwill, situations where it emerges, appropriate financial statements that have to represent the consolidated situation of two or more companies when they decide to merge or when a company (acquirer) foresees the purchase of another entity (acquiree). As we have seen, goodwill is comprised within intangible side of non-current assets of consolidated financial statements, and we studied all different conditions, characteristics and critical issues connected with intangibles. Finally, we have studied goodwill, the ability of managers of manipulate this item and the centrality of impairment test procedure, a process that allows the evaluation of the coherency of value accounted, cases of impairment losses and all different elements that companies should disclose in the notes to consolidated financial statements. To have a detailed picture of goodwill evaluation and its impact on companies' financial statements, the following chapters will be dedicated to an empirical analysis, in which we will analyze goodwill and its impact on a sample of Italian-based listed companies, with a deeper analysis of information that those companies disclose over goodwill and their impairment test procedures.

5 Accounting evaluation on goodwill: an empirical analysis

After an in- depth theoretical analysis on intangibles and goodwill in a theoretical way, the next chapter is dedicated to an empirical analysis on the accounting treatment of goodwill. This will allow us to specifically evaluate the major issues arising from goodwill evaluation, impairment test results and different ways of disclosing it. The translation of the theoretical approach into an empirical sample gives us evidence about the work provided, as with a concrete demonstration, the work achieves greater reliability. This is essentially what companies do within their financial statements, as they translate their strategic decisions, R&D and marketing activities, mission and values into a detailed analysis, based on empirical results achieved during each fiscal year.

5.1 Sample construction

To generate the empirical sample, we took consolidated balance sheets directly from companies' websites, as the IR section of these companies is the most suitable section to find empirical information about companies' current economic and financial situation. Data downloaded from companies' websites have been compared to data disclosed by AIDA, a server that reports financial, commercial and personal information of more than 1.200.000 companies. That additional test was performed to test the consistency of the data disclosed. Unfortunately, AIDA does not disclose, separately, goodwill's value from the value of differences from the consolidation for all the companies included in the sample. This was one of the major problems in collecting data, as for some companies, there was data both from companies' annual report that could be verified consistently with the one published by AIDA, while for others it was impossible to provide this double check because there was not information over the value of goodwill only. After that verification, I decided to take data only from companies' annual reports. The sample is composed only of companies listed on the Italian Stock Exchange, and only Italian based companies are considered. From the sample, I exclude companies that are listed on the Italian market but have their legal or fiscal headquarters in foreign

countries because I want to limit my research to those within Italian borders. Examples of companies excluded from the sample are Facebook, Edison, Kering: Ferrari and the FCA group are excluded too, as they are based and do business in Italy, but their fiscal offices are based in the Netherlands. Another filter that I set is on the business sector in which the sample companies operate, as I exclude banks, insurance companies and all other companies that provide financial services because of different impairment test procedures and different accounting procedures that they implement. Exor, Generali and all banks are not included. Another limitation is on timeframe, as I do not consider companies founded in 2017 or later because of the scarcity of data available. Finally, I exclude from the sample all companies that do not generate consolidated financial statements, because we want to focus our analysis only on goodwill arising from the consolidation process, in particular the one that rise from business combinations. I consider only active companies. In particular, the data of consolidated financial statements regarding 2016 and 2015 are analysed. After collecting all data and analyze all notes to financial statements, I exclude all companies that do not perform impairment test procedure according to IFRS principles. These companies perform an amortization process to calculate the carrying amount of goodwill, in both periods considered or only in one. This accounting method is different from the common method implemented by all companies that perform impairment test procedures consistently with IFRS framework, so companies such as PLT Energia, Health Italia, Illa and few more are not taken into account. As I was interested in discovering the reasons behind the amortization process, I also contacted the IR offices of these companies, but only 2 answered me. They told me that goodwill has been amortized because they prepare consolidated financial statements consistently with OIC principles, the Italian principles, so this inconsistency with my methodology and with the IFRS principles studied so far, leads me to exclude these companies. Finally, we exclude companies who disclose goodwill not derived by the process of business combinations, as commercial goodwill or other forms of goodwill not generated from acquisitions, mergers or other forms of business combinations.

All data are expressed in thousands of Euro. After all these considerations, the sample generated includes 153 companies. This table will present the total companies taken into considerations, divided into the industrial sectors to which they belong.

Industries	Companies
Oil & Gas	ENI, Gas Plus, Saipem, Saras
Basic Materials	Aquafil, Intek group, Isagro
Industrials	Aeroporto di Bologna, Ambientthesis, Ansaldo Sts, Astaldi, Atlantia, Avio, Bastogi, Beghelli, Biancamano, Biancamano, Biesse, Buzzi unicem, Caltagirone, Cembre, Cerved, Cofide, D'amico, Datalogic, El En, Enav, Fidia, Fiera Milano, Fincantieri, Gruppo ceramiche Ricchetti, Indel B, Interpump, Irce, Italmobiliare, Leonardo, Nice, Poligrafica san Faustino, Prima industrie, Pysmian, Reno de Medici, Sabaf, Saes Getters, Salini Impregilo, Servizi Italia, Sias, Tesmec, Trevi finanziaria industriale, Zignago vetro
Consumer goods	Aeffe, B&C speakers, Bialetti, Bioera, Brembo, Brunello cucinelli, Caleffi, Campari, Centra del latte, De longhi, Elica, Emak, Geox, Immsi, La doria, Landi Renzo, Luxottica, Massimo Zanetti beverage group, Moncler, OVS, Parmalat, Piaggio, Pininfarina, Piquadro, Pirelli, Safilo, Salvatore Ferragamo, Sogefi, Stefanel, Technogym, Tod's
Health care	Amplifon, Diasorin, Eukedos, Recordati
Consumer services	Autogrill, Basicnet, Cairo communication, CHL, Class editori, Dmail, Eprice, FNM, Gamenet, Gedi, Il sole 24 ore, Marr, Mediacontech, Mediaset, Mondo TV, Monrif, Snaitech
Telecommunications	Acotel group, Retelit, Telecom Italia
Utilities	A2A, Acea, Acsm Agam, Alerion, Ascopiave, Enel, ERG, Hera, Iren, K.R. Energy, Snam, Terna, Ternienergia
Technologies	Best union, Cad it, EEMS, Esprinet, Eurotech, Exprivia, Fullsix, Itway, Reply, Tas, Tiscali, Txt
Others	Bio on, Carraro, Clabo, Dada, Digitouch, Energica motor company, FOPE, Gambero rosso, Giglio group, Iniziative bresciane, Italian independent group, Italian wine brands, Ki group, Leone film group, Lucisano media group, Mailup, Mondadori editore, Prelios, Safe bag, Siti B&T, Smre, Toscana aeroporti, Triboo, Vetrya, Yoox

Table 5.1: List of companies included in the analysis

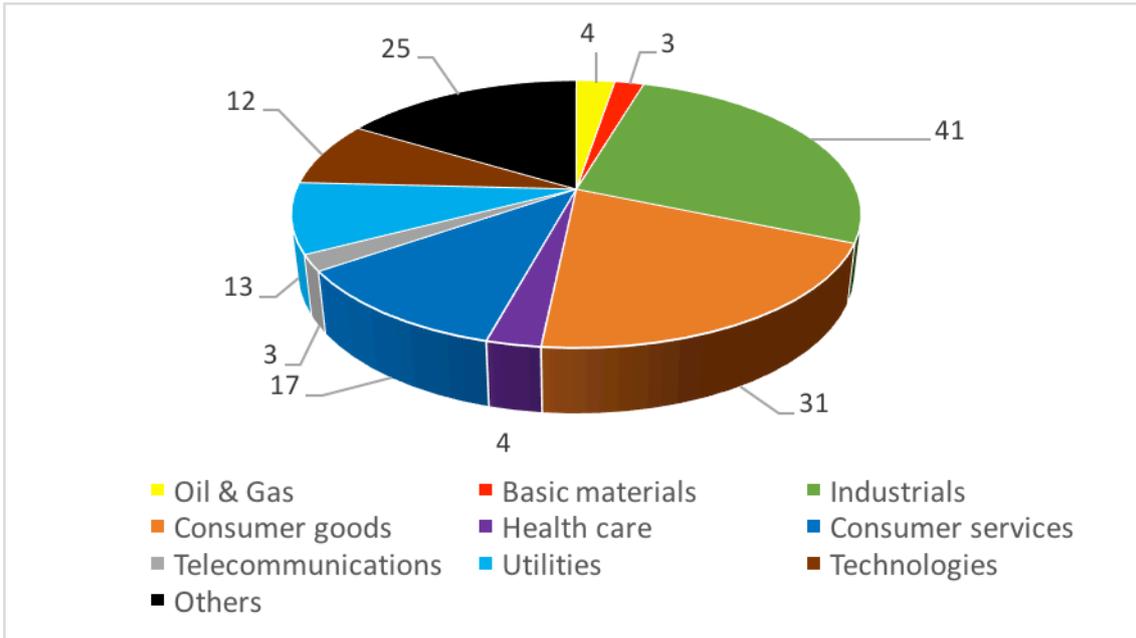
Consistently with the ESMA approach, the sample is divided into the different industries in which the listed companies operate. The industries are based on the

distinction proposed by Borsa Italiana website: this differentiation allows me to understand the composition of the different industries, how many companies compose these sectors and the proportion of goodwill of each industry. In the following table, I show the composition of the different industries, by disclosing the amount of companies that compose each industry and the overall amount of goodwill recognised for each industry.

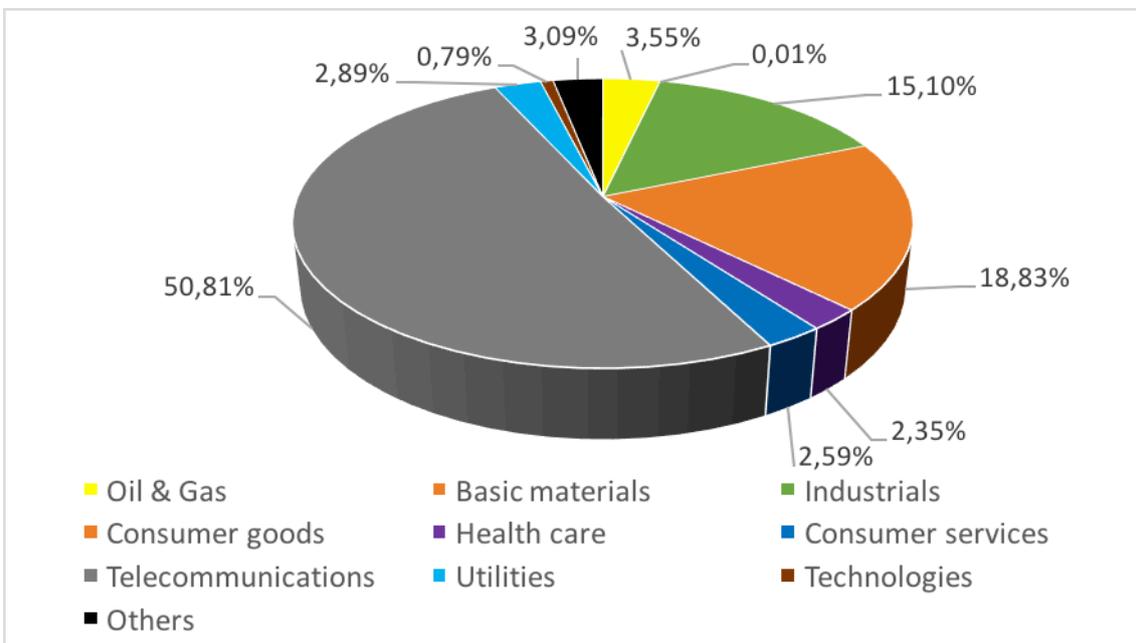
Industry	Goodwill recognised (in thousands of Euro)	N° of companies within that industry
Oil and Gas	2.070.659,00	4
Basic Materials	3.599,00	3
Industrials	8.798.209,89	41
Consumer goods	10.972.430,57	31
Healthcare	1.372.496,00	4
Consumer services	1.511.851,70	17
Telecommunications	29.612.000,00	3
Utilities	1.681.706,60	13
Technology	459.364,80	12
Others	1.801.161,96	25
TOTAL	58.283.479,52	153

Table 5.2: Number of companies divided by industries to which they belong

To emphasize the data disclosed, I show also this data on graphs, which gives a better representation of the relationship between the number of companies and the amount of goodwill of each industrial sector.



Graph 5.3: Number of sample companies divided by industrial sector



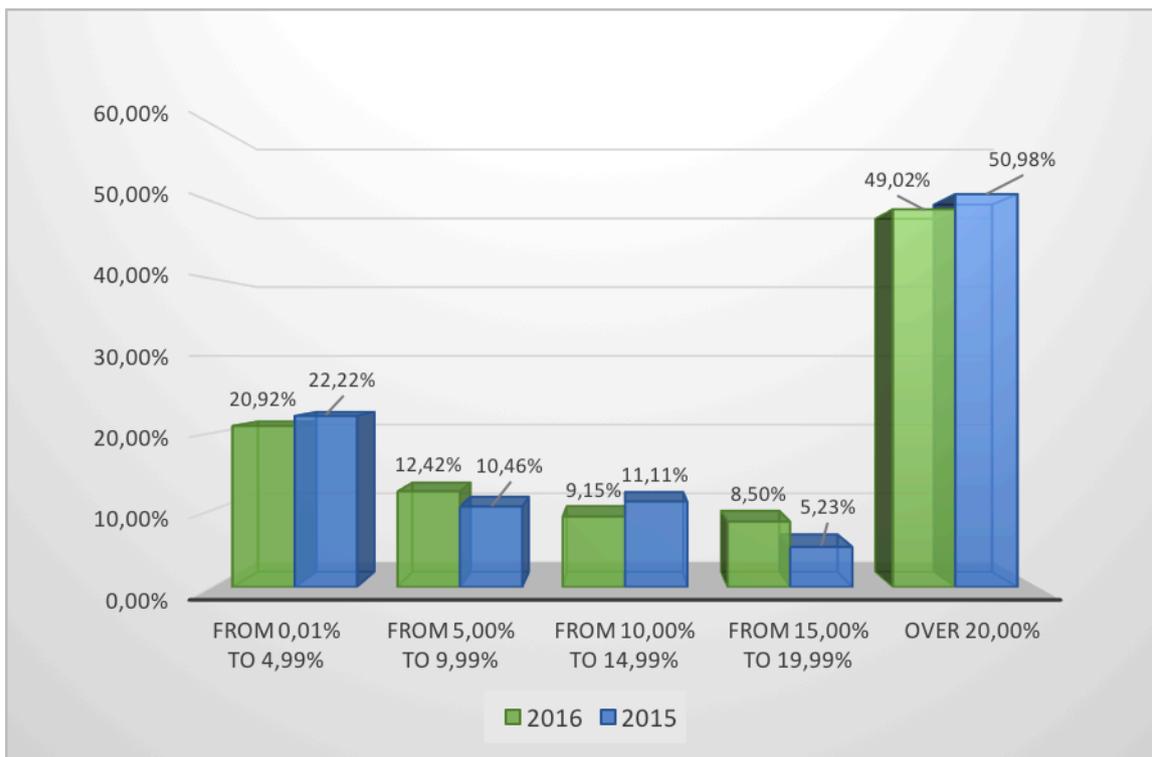
Graph 5.4: Percentage of companies' goodwill divided by industries

The graphs report that industrials, consumer goods and consumer services are the most populated industries in numerical terms: in detail, industrials' sector is composed of 41 companies, the consumer goods industry is composed of 31 while consumer services' industry is composed of 17 companies. This first distinction is important because it shows that the majority of the sample is composed by companies that typically use tangible assets in performance of their business, to generate industrial elements, foods or beverage and others. This is the reflection of the Italian economy, as it is considered a country where there are a lot of companies which manufacture material goods, implementing properties, lands or machineries all of which belong to the tangible asset side of a company.

The second graph reports the percentage of companies' goodwill, divided by industries in which they operate, compared to the total goodwill of the overall sample. Here we can see that quite half of the overall goodwill is absorbed by telecommunications' industry, followed by the industrials and consumer goods industries. In particular, telecommunications' goodwill is 50,81% of the overall goodwill, followed by 18,83% of goodwill of the consumer services' sector and 15,10% of industrials industry goodwill. These graphs prove how the numerical composition of different industries does not always reflect on different weights that the goodwill of each industry has over the overall amount of goodwill. The telecommunications industry is the best exemplification of that statement: within that industry, there are only 3 companies but the amount of goodwill represents 50% of the overall amount of total goodwill of the sample, mainly driven by the higher goodwill's value of Telecom Italia. Only consumer goods and industrials industries disclose relevant values in numerical terms and in goodwill percentage too.

As I stated before, goodwill belongs to the intangible side of non-current assets, assets that do not present any concrete substance but even they produce benefits for the company. Patents, copyrights, research & development activities, market research, hours of employee training are all examples of intangible resources that will produce positive results in the future. In the theoretical part, I explored how intangibles are now becoming one of the major sources of investment by companies, that will lead to a big change in the modern economy, expressed by the term of a capitalism without capital (Haskel and Westlake, 2017). But, is this case replicated even in Italian economy, and

particularly in the Italian listed companies that compose our sample? This graph reports this information. For the creation of the different values, I take into consideration all intangible items that are included in each balance sheet of every single company of the sample. I take into account both intangibles with definite and with indefinite life, being goodwill, brands, licenses or any other intangible item. These values have been summed up, and divided by the total assets. Data are expressed in percentage terms.



Graph 5.5: Percentage of intangibles of sample companies

As data shows, almost 50% of companies in both fiscal years present a percentage of intangibles over the total assets which is above 20,00%. It is a major result that is consistent to the theories reported before, because the graphs show that intangibles cover an important role in companies included in the sample. 75 companies in 2016 while 78 companies in 2015 reported a ratio above 20,00%: this justifies the term “the rise of an intangible economy”. Indeed, we have to consider that these ratios are calculated comparing intangibles’ value with the total amount of assets, both being current or non-current ones. On one hand, having a proportion of intangibles above 20,00% compared to the proportion of tangibles, cash and cash equivalents, trade receivables, is consistent to the theories mentioned before. On the other hand, this

generates lots of problems for managers, because they have to deal with resources which are not available immediately, or that can be transformed into cash in case of necessities. Analyzing in depth this data, 23 companies in 2016 and 21 companies in 2015 present a ratio between intangibles and total assets above 50%, heavily increasing the issues reported before.

As we have studied, within intangibles there is the particular item called goodwill. The following part will be dedicated to the empirical analysis of goodwill. This analysis takes inspiration from Fabio Rizzato's book "*Goodwill e IAS/IFRS nei bilanci dei gruppi quotati europei*" published in 2008. In this book, he reports the critical issues arising from the accounting treatment of goodwill, analyzing its impact on a sample of companies listed in 5 different Stock exchanges markets in Europe. In particular, the author took into account companies that were listed on the Spanish, Italian, British, German and French Stock Exchange markets. He performed the analysis by disclosing data on several fields for all companies, differentiating them by the markets in which they operated: within these fields, we can find information on the disclosure (or not) of goodwill value, if companies performed business combination operations during a fiscal year, the way of calculating the recoverable amount of goodwill, the number of CGUs and other information. His major objective was to define how listed companies approached IFRS guidelines, if they respected the guidelines imposed and how they disclosed data consistently with International principles. This is the major source that I considered in my analysis, implemented by Corsi (2013) and ESMA (2013) studies. Corsi performed an analysis on the impact of goodwill within notes to financial statements, while the ESMA study is important for my analysis because it is an international study where the authors analyzed the impact of goodwill on companies' financial situations, dividing their consideration on the different industrial sectors to which the companies in their sample belonged to. Putting together all these studies, I decided to perform an analysis of goodwill and its impact on Italian based listed companies, dividing my considerations on industries where these industries belong to.

5.2 The disclosure of goodwill

5.2.1 Presence of goodwill in different industries

For the analysis of my sample, I decided to consider the 153 companies previously mentioned, taking into consideration 2016 and 2015 fiscal years, and then analyze information on goodwill and its impairment test procedure, to discover how goodwill impacts their financial statements and how important it is. I consider only goodwill arising from business combinations, not the one internally generated or the one generated by the differences from consolidations. The next part of work will report all different data collected with some explanations on them. The first element that I will discover is the presence, or not, of goodwill within consolidated financial statements of companies taken into consideration. As I take into account only consolidated financial statements, goodwill disclosed is referred only to goodwill emerging from business combinations operations, as they could be acquisitions, mergers or scissions. I read all different annual financial reports for every company considered, and I collected goodwill dividing it by industries in which companies operate. This table will present data in a better and simpler way.

2016				
INDUSTRIES	YES	NO	TOT	%
Oil & Gas	4	0	4	100,00%
Basic materials	1	2	3	33,33%
Industrials	34	7	41	82,93%
Consumer goods	25	6	31	80,64%
Health care	4	0	4	100,00%
Consumer services	14	3	17	82,35%
Telecommunications	1	2	3	33,33%
Utilities	11	2	13	84,62%
Technologies	10	2	12	83,33%
Others	17	8	25	68,00%
TOTAL	121	32	153	79,08%

Table 5.6: Goodwill reported for industries in 2016

2015				
INDUSTRIES	YES	NO	TOT	%
Oil & Gas	4	0	4	100,00%
Basic materials	2	1	3	66,67%
Industrials	33	8	41	80,49%
Consumer goods	24	7	31	74,19%
Health care	4	0	4	100,00%
Consumer services	14	3	17	82,35%
Telecommunications	2	1	3	66,67%
Utilities	12	1	13	92,31%
Technologies	10	2	12	83,33%
Others	17	8	25	68,00%
TOTAL	122	31	153	79,74%

Table 5.7: Goodwill reported for industries in 2015

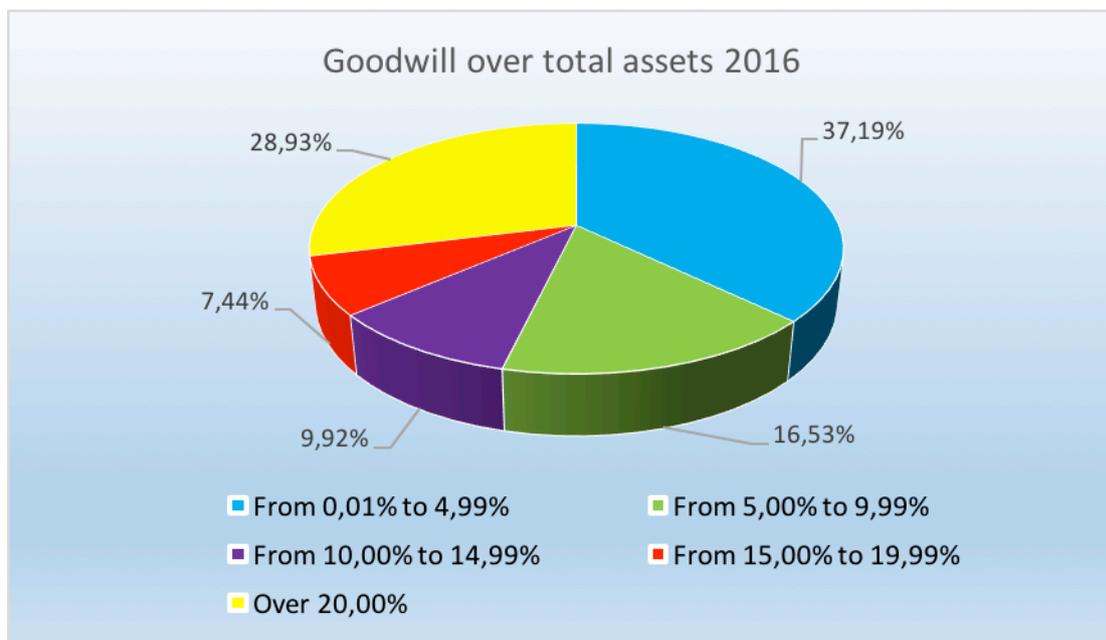
As this data shows, goodwill represents one of the most important item that is included in the vast majority of consolidated financial statements. The total amount of companies that disclose goodwill is repeated, as 121 companies disclosed goodwill in 2016 while 122 companies disclosed goodwill in 2015. This is mainly due to the fact that goodwill is not subject to the amortization process, so its value will not decrease from one fiscal year to the other if its impairment test is positive. Indeed, goodwill is considered as an intangible asset with an indefinite life, so companies keep its value until it expires when companies do not achieve synergies or positive results from it. Because of that, most of the companies reported goodwill both in 2015 and 2016. In detail, all companies included in Oil & Gas and Health & Care industries disclosed goodwill in 2016 (and 2015 too).

Regarding the industries that included the highest number of companies, more than 75% of companies disclosed goodwill in each of the two accounting periods. Starting from this evidence, we can be assured that goodwill represents one of the major items owned by companies. Even if it is an intangible asset, an asset that companies cannot manage appropriately, that cannot translate into liquidity in case of emergencies, the increased globalization and the need to expand their businesses, companies are willing to provide

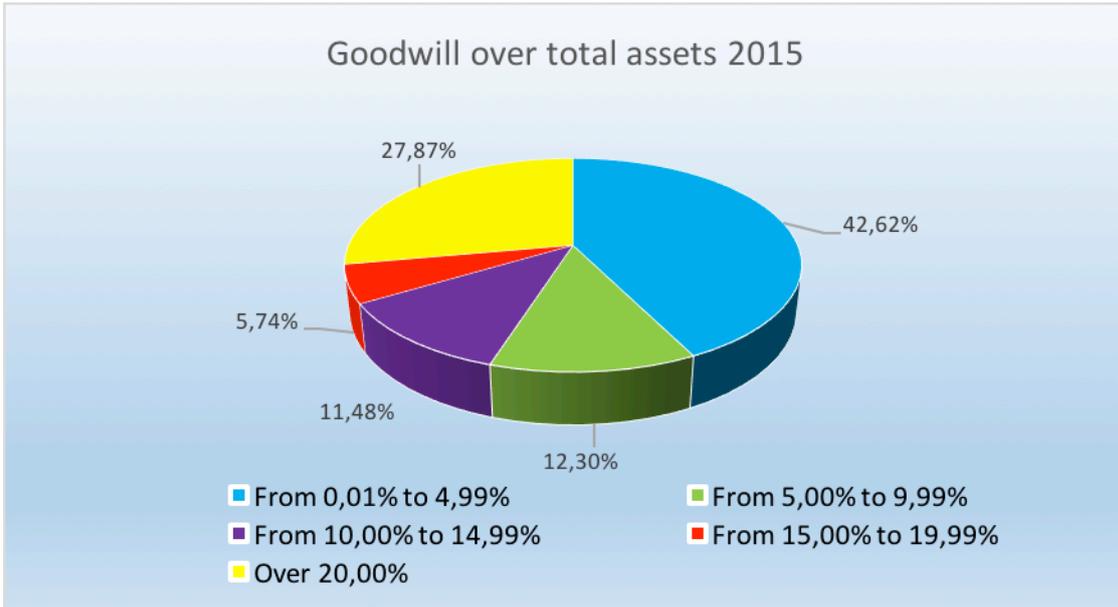
operations of business combinations that inevitably generate goodwill.

5.2.2 Goodwill's weight on companies' balance sheets

Another important aspect to discover is the weight that goodwill has on companies' balance sheets. Recalling what we have previously said about goodwill's characteristics, it is an indivisible intangible asset, so companies that keep goodwill within their assets are conscious of the risks connected to maintaining goodwill within their balance sheets. In case of bankruptcy, or if companies need liquidity to pay lenders or provide exceptional expenses, a higher proportion of goodwill could be a big issue for a company. The following tables study the role of goodwill within sample companies balance sheets, studying its weight with a ratio between goodwill and the total value of assets that the different companies own. To generate these graphs, I simply take the goodwill of each company and divide it over the total asset of every single company. This permits me to understand what is the percentage that goodwill represents over the total resources available for a company. Ranges for the creation of the graphs have been created in a random way, but they are important in showing the results of our thinking: graphs do not consider companies that do not report any goodwill.



Graph 5.8: Goodwill over total assets for sample companies in 2016



Graph 5.9: Goodwill over total assets for sample companies in 2015

These graphs demonstrate how goodwill plays a central role in the economic situations of companies today. Even if the range between 0,01% and 4,99% is the range where we have the highest density of firms (42,62% of companies in 2015 and 37,19% of companies in 2016 disclose a goodwill over total assets value within this range), we can see that the amount of companies that report this lower value of goodwill, compared to the total amount of assets that companies own, decreased from 2015 to 2016. More important evidence is the fact that the range where we have the second highest density of companies is the range over 20%. This means that 28,93% of companies in 2016 and 27,87% of companies maintained a very high percentage of goodwill over total resources.

In numerical terms, 35 companies in 2016 and 34 companies in 2015 reported a goodwill over total assets' value higher than 20%: it is a huge amount of companies, as we consider that it is only goodwill value, not the entire amount of intangible asset. These results could be the consequence of an expansionistic approach that companies have, a consequence of the increasing globalization that pushes companies to try to find new markets, to acquire new companies, to possess new assets and new knowledge to secure profitable results for the company.

5.2.3 Goodwill development index

Another important curiosity to discover, is the development that goodwill was subject to from one fiscal year to the other: this information is important to study what are the fluctuations of goodwill's value, if it increases or decreases from one year to the next. Consistently with Rizzato (2008), I called this ratio as the goodwill development index. To calculate this index, I took into consideration only the second fiscal year (2016), and I calculated the variances of goodwill value from 2015 to 2016. This is the equation that I used in my calculation:

$$\text{Goodwill development index} = \frac{\text{Goodwill (2016)} - \text{Goodwill (2015)}}{\text{Goodwill (2015)}}$$

In brief, I calculated what the increase (or decrease) of goodwill's value in 2016 compared to 2015 was. The values are expressed in percentage terms, and they are included within ranges whose values are randomly created. We are still only considering companies who disclosed goodwill value.

	2016	
	N° of companies	% over sample
From 0,00% to 1,00%	49	40,50%
From 1,01% to 3,00%	7	5,79%
From 3,01% to 6,00%	6	4,96%
From 6,01% to 10,00%	2	1,65%
Above 10,00%	27	22,31%
Negative delta	30	24,79%
Total	121	100,00%

Table 5.10: Goodwill development index

The data shows that there is not a great variance between the goodwill value of 2016 and that of the previous year. Indeed, if we consider the sum between companies who register a delta between 0,00 and 1,00 and those who register a negative delta, we can say that 79 companies (equal to 65,29% of the sample) do not report an increase in

goodwill value of more than 1 percent compared to the 2015 goodwill value. What is important to observe too, is that almost 1 company in 4 reports a negative delta, meaning that 2016's value is lower than that of 2015: this is not strictly due to an impairment loss, because there are numerous factors that can lead to a reduction of goodwill value (for instance, variances in foreign currencies). Another important thing to underline is that changes in goodwill value contribute to generate a major delta value between the two years considered. Indeed, there are a limited number of companies who report a delta between 1,01 and 10% (only 15 companies). This is to underline that, once a company performs a business combination and recognize goodwill arising from this operation, goodwill value generates a major change, and this is underlined by the fact that 27 companies disclosed a delta value above the 10% from 2016 value and 2015. Still concerning industries' distinction of the companies considered, it is interesting to discover which industries report major changes for this index.

	2016
Oil & Gas	0,15%
Basic materials	-48,80%
Industrials	1,69%
Consumer goods	4,15%
Health care	43,01%
Consumer services	79,53%
Telecommunications	-49,61%
Utilities	65,82%
Technologies	4,33%
Others	492,16%

Table 5.11: Goodwill development index divided by industries

Values have been generated by taking the single goodwill development index for every company for every industry, sum all the different values and calculating the average by dividing the sum with the number of companies that disclose goodwill value in their financial statement. I consider both positive, negative values and values equal to 0.

Table 5.11 demonstrates that others industry is the one that achieve greater results with this index, mainly driven by the increasing amount of goodwill that the Giglio group company reported in 2016 compared to 2015. In second place we find the consumer services industry, where the goodwill index registers an increase of the 79,53% in goodwill value compared to that of 2015, followed by Utilities industry (65,82%) and health care (43,01%). On the contrary, Basic materials and Telecommunications industries report a negative value for that index, caused by the divestments that some of the companies included within them, performed in 2016.

5.3 Business combinations and the relationship with goodwill disclosure

5.3.1 Business combinations performed in both fiscal years

As I reported before, companies are now facing a challenging economic environment, mainly due to the increased level of globalization. Because of that, companies are trying to find new ways of surviving or new ways of creating competitive advantage over rivals within the same industry or with companies operating in foreign countries. One way companies use to overcome globalization's impact, is to provide operations of business combinations, so they can benefit from synergies arising from the combination. As this could be one of the possible solutions, I want to discover how many companies performed operations of business combinations in each of the two fiscal years considered. The data is reported in the table 5.12.

Business combinations	2016		2015	
	N° of companies	% over total companies	N° of companies	% over total companies
Yes	51	42,15%	34	27,87%
No	70	57,85%	88	72,13%
Total	121	100,00%	122	100,00%

Table 5.12: Operations of business combinations performed in 2016 and 2015

From table 5.12, we can see that a large number of the companies included in our sample provided business combinations in 2016, almost one company over two. Indeed, 42,15% of companies performed a merger or an acquisition in 2016. This data is greatly increased compared to the data of 2015, where only 27,87% of companies that report goodwill within their financial statements, performed at least one operation of business combination. The lower value of 2015 could be justified by the higher uncertainty in the macroeconomic context, as companies still felt the negative effects generated by the

economic crisis of 2008-2009, so only big companies were willing to provide these operations to enter new markets and achieve increased positive results. Alternatively, companies could not find suitable economic conditions to perform business combinations, so they did not acquire other companies or merge with others, even if they reported goodwill value because of combinations previously done. This trend changed in fiscal year 2016, when there was a higher number of companies that provided these operations. Another important evidence to discover is the tendency of companies of perform business combinations in both periods or only in one of the two fiscal years considered. The next table will disclose number of companies that performed business combinations only in 2016, only in 2015 or in both periods.

	N° of companies	TOT 2016	TOT 2015	% over 2016	% over 2015
Companies that performed business combinations in both periods	24	51	34	47,06%	70,59%
Companies that performed business combinations only in 2016	27	51		52,94%	
Companies that performed business combinations only in 2015	10		34		29,41%

Table 5.13: Business combinations divided by fiscal years

From this table, we recognize that 70,59% of companies that performed business combinations in 2015, performed them in 2016 too. This is consistent with that expressed before, as listed companies tend to provide combinations to achieve greater positive results or competitive advantages. This is also explained by the fact that listed companies were more willing to perform these kind of operations, as they have more capital to invest to secure profitable results for the future development of the firm. On the opposite side, 29,41% companies preferred not to complete business combinations also in 2016, while 52,94% performed combinations only in 2016, possibly because they found beneficial conditions to perform them.

For a better explanation, table 5.14 shows number of business combinations performed by companies divided by the different industries where they belong, along with the percentage that reports the ratio between companies that performed business combinations for each industry over total amount of companies that performed combinations in each of the two fiscal years.

INDUSTRIES	2016		2015	
	N° of companies	% over 2016	N° of companies	% over 2015
Oil & Gas	1	1,97%	0	0,00%
Basic materials	0	0,00%	0	0,00%
Industrials	15	29,41%	9	26,47%
Consumer goods	6	11,76%	4	11,76%
Health care	3	5,88%	1	2,94%
Consumer services	6	11,76%	6	17,65%
Telecommunications	1	1,97%	1	2,94%
Utilities	7	13,72%	6	17,65%
Technologies	5	9,81%	2	5,88%
Others	7	13,72%	5	14,71%
Total	51	100%	34	100,00%

Table 5.14: Business combinations performed in 2016 and in 2015 divided by industries

The data shows how fiscal year 2016 was a very intensive year for business combinations, as there were 17 business combinations more than in the previous year. In particular, 24 companies performed business combinations in both periods, while 27 performed them in 2016 and only 10 only in 2015. Fiscal year 2016 was more intensive especially for the industrials' industry, as industrials' firms performed almost 30% of the overall business combinations for that year: this trend was also replicated in 2015, where the industrials' industry was the most active sector. Biesse, Cerved, Cofide, Fincantieri, Interpump, Nice, Prysmian and Servizi Italia were the most active companies, those who performed business combinations in both periods within the industrials' sector. Even if these companies produced mainly tangible products, employing tangible assets, these companies performed activities of business

combinations, for instance to find beneficial economic conditions to perform economies of scale and reduce costs of production. Consumer services, consumer goods and others are the other industries which performed the higher number of business combinations. Campari, Emak, Luxottica (consumer goods), Marr and Mediaset (consumer services) Dada and Mondadori (others) are the most active firms within these sectors.

On the opposite side, Oil & Gas, Basic materials and Telecommunications seem to be the least engaged in activities of business combinations, as only Telecom (the only company for the Telecommunications' industry who performed combinations both in 2016 and in 2015) and Gas Plus (Oil & Gas) provided operations in each of the fiscal years considered. These results are also the consequence of the smaller composition of these industries, as they are composed of less than 5 companies.

As we have acknowledged before, when companies provide these types of operations, they have to account goodwill (or badwill) generated from the operations, if present. In the following part, we will discover companies' tendency of disclosing these types of information in their notes.

5.3.2 Goodwill/badwill recognized after business combinations

Typically, when companies perform operations of business combinations, they have to evaluate assets, liabilities and other elements that subsidiaries, they want to acquire, own. This is one of the most critical aspects in a process of business combination, because managers have to analyze in great depth the composition of subsidiaries' assets, liabilities and equity. Mistakes in this phase could generate an overvaluation or an undervaluation of the subsidiaries' conditions that could have negative consequences on the conclusion of the operation. Different scenarios could emerge. If companies pay a higher amount compared to the current value of companies' acquired, they have to recognize that surplus within goodwill. On the contrary, if companies pay a lower sum respect to the fair value of assets, liabilities and potential liabilities assumed through the acquisition of the subsidiary, companies need to report this value as badwill. In this part, we will discover if the 51 companies that performed business combinations in 2016 and the 34 companies that performed them in 2015 disclosed goodwill, badwill or an

absence of this information in their notes to financial statements. The results are presented in this table.

	2016		2015	
	N° of companies	% over business combinations	N° of companies	% over business combinations
Goodwill	43	84,32%	31	91,18%
Badwill	3	5,88%	0	0,00%
Absence of goodwill/badwill	5	9,80%	3	8,82%
Total	51	100,00%	34	100,00%

Table 5.15: Goodwill/badwill accounted after business combinations

The table demonstrates that, in the vast majority of business combinations, acquirers tend to overvalue the current values of assets acquired and liabilities assumed, and report this value as goodwill item in their balance sheet. Specifically, 84,32% of business combinations performed in 2016 generated goodwill, while only 5,88% of them generated badwill and the remaining 9,80% of combinations (5 operations) did not generate any goodwill or badwill. Gas Plus, Atlantia, Autogrill, ERG and Hera are all the companies that acquired another entity (or merged with another) without generating any goodwill or badwill, as they exactly paid a sum equal to the current value of assets and liabilities assumed through the acquisition of the subsidiary. Prysmian, Enel and Ternienergia are the companies that found beneficial conditions that permit them to account badwill in their income statement. In fact, badwill is defined as a revenue for the acquirer, because he found beneficial conditions that let him to pay a lower sum compared to the real value of assets and liabilities purchased.

Considering now 2015, there were no companies that accounted for badwill, only three presented an offer that was perfectly equal to the acquiree's value, while the other 31 companies (91,18% of the overall companies of the sample) that performed business combinations accounted goodwill. This data emphasizes the greater importance of goodwill within consolidated financial statements. In fact, if we consider the sum of business combinations that generated goodwill, compared to the total amount of

business combinations in both fiscal years, 87,01% of the business combinations generated goodwill. This result could be explained by the choice of companies to pay a higher amount compared to the current value of the acquiree's net assets and liabilities to benefit from the synergies that these combinations could generate in the following periods (IFRS 3). In fact, badwill or the absence of goodwill/badwill are rare situations, because business combinations are typically operations led by strategic decisions, opportunities of growth, of access to new markets or of benefitting from synergies that individually could not be achieved. This is the reason why companies are willing to pay a higher amount compared to the acquiree's value.

5.3.3 Goodwill's disclosure and the impact on the net result

The major reason highlighted so far, that pushes companies to perform business combinations that generate goodwill is the possibility of achieving positive results in future years. From this introduction, it is interesting to observe in how many cases, after a business combination performed in the first fiscal year considered (2015), companies report in the second fiscal year (2016) an increase on the net profit for the period. I take into consideration this item as it is an indication of an improvement of a company's ability to generate profits for shareholders. This comparison emphasizes the positive consequences that goodwill could bring to the organization. In particular, I take into consideration only companies that perform business combinations in 2015 and report only goodwill value arising from them. These companies could be companies that have already reported goodwill within their financial statements (so goodwill arising from business combinations in 2015 increase the already existing value) or they could be companies that reported goodwill value for the first time within their balance sheets. Then I compared the net result that companies achieved in 2015 and compared this value with that of 2016, to evaluate whether there was an increase (or a decrease) in the net result of the following period.

	2016	
	N° of companies	% over sample
Increase in net profit	22	70,97%
Decrease in net profit	9	29,03%
Total	31	100,00%

Table 5.16: Goodwill and improvement (or not) of net profit

Without considering those companies who do not disclose any goodwill, or who reported badwill for business combinations performed in 2015, the sample comprises 31 companies. Of those companies, only 22 companies improved their net profit for fiscal year 2016 after the allocation of goodwill in 2015. It is a good result, but it reports that the correlation between goodwill and an improvement of net profit of the following periods for a company is not automatic. Indeed, 9 companies did not improve their results in 2016, even if the business combination performed have provided possibly better conditions for them. These results emphasize how tricky the accounting treatment of goodwill is, which could lead to positive consequences for the companies but not automatically. We have to consider the long term results, not only the short term ones. As it is a multi-year expense, that could generate benefits in more than one period, companies need to disclose some information regarding its recoverable amount and all factors considered in the impairment test procedure. The next chapters will be dedicated to the analysis of all different factors considered by the sample's companies in their impairment tests, analyzing major trends and differences between different industries.

5.4 Analysis on CGUs to which goodwill is allocated

5.4.1 Analysis on CGUs' characteristics

Once the goodwill (or badwill) has been recognized after a business combination, it has to be allocated to units of assets: this is a crucial moment for goodwill evaluation, because managers need to identify what are the assets (or group of assets) that will benefit from the synergies generated by the acquisition. Because of the centrality of the role of these assets, this becomes one of the most important pieces of information that must be disclosed, because potential investors want to understand what will be the assets that, according to managers' predictions, will benefit from the allocation of goodwill. This is referred to the centrality of the role of what we have previously defined CGU, acronym of Cash Generating Unit, which is the smallest part to which goodwill could be allocated and that can benefit from goodwill's allocation and synergies arising from it. The following table will show if companies disclose data related to the number of CGUs.

	2016		2015	
	N° of companies	% over sample	N° of companies	% over sample
Yes	114	94,22%	111	90,98%
No	7	5,78%	11	9,02%
Total	121	100,00%	122	100,00%

Table 5.17: Disclosure of CGUs to which goodwill has been allocated

As the data reveals, companies that disclose goodwill within their consolidated financial statements tend to disclose the allocation of goodwill to CGUs too. In particular, 2016 reports better results compared to 2015, as almost 95% of companies that in 2016 reported goodwill, reported the allocation of goodwill to CGUs while in 2015, the portion is a bit lower, as 91% of companies disclosed the allocation of goodwill to CGUs. If we consider the percentage of companies that do not disclose the allocation of

goodwill to CGUs, companies included in the others' industry are those which tend to do not disclose an appropriate impairment test procedure that discloses the allocation of goodwill to CGUs. In fact, 4 of 7 companies that did not disclose the allocation of goodwill to CGUs in 2016 belong to Others (Leone Film Group, Lucisano Media group, Siti B&T and Triboo), followed by 2 companies of the Consumer Goods' industry (Centrale del Latte d'Italia and Geox) and 1 company of the Oil & Gas industry (Gas Plus). That portion is higher in 2015, when 5 of 11 companies that did not disclose goodwill's allocation to cash generating units belong to Other sectors (Giglio Group, Leone Film Group, Lucisano Media Group, Mailup and Triboo), followed by 2 companies of the Consumer Goods' industry (Centrale del latte and Geox), and one of the Oil & Gas (Gas Plus), Basic Materials (Intek group), Consumer Services (Gamenet) and Utilities' industries (Acsm Agam). But the most important aspect is that in both years, the ratio between the companies that allocate goodwill to CGUs and the total amount of companies that report goodwill within their financial statements is above 90%, leading to the conclusion that companies understand the greatest importance of disclosing allocation of goodwill to CGUs because, thanks to the disclosure of this information, investors could understand the true and fair value of goodwill booked within company's financial statements. Indeed, the number of companies that disclose this information is increasing from one year to the next, underlining the greater importance that managers assign to the allocation of goodwill to CGUs and, above all, the disclosure of this information for external users.

The IAS 36 reports that CGUs are considered as the smallest part to which goodwill could be allocated; the second choice that managers typically implement is on the characteristics of each CGU, as there are different types of CGUs. The two most important categories to which goodwill could be allocated are legal entities and operating segments. The first reports a situation where goodwill is allocated to companies that belong to the group, so any subsidiaries to which goodwill is allocated is considered as a legal entity. Differently, goodwill could be allocated to different operative segments, represented by the different sectors in which a company operates, the different countries in which a company operates or the different typologies of activities that the company performs. The following part will be dedicated to the analysis of the characteristics of CGUs to which goodwill is allocated, trying to

understand if the sample companies disclose the typology of CGU to which they allocate goodwill, if companies tend to allocate goodwill to operative segments more than to legal entities or viceversa, with an analysis differentiated by industries too.

	2016		2015	
	N° of companies	% over sample	N° of companies	% over sample
Operative segments	72	59,50%	64	52,46%
Legal entities	37	30,58%	45	36,88%
Mix	4	3,31%	2	1,64%
No indications	8	6,61%	11	9,02%
Total	121	100,00%	122	100,00%

Table 5.18: Categories of CGUs to which goodwill has been allocated

From the data reported in the previous table, we could state that operative segments are the primary source to which goodwill is allocated. In fact, in both fiscal years, more than 1 company in 2 allocates goodwill to a segment of activities, geographical areas where the company operates, or other segments: in detail, 59,50% of companies in 2016 and 52,46% of companies in 2015 allocated goodwill to operative segments. Alternatively, around 30% of companies allocate goodwill to legal entities, so they allocate this item to subsidiaries, to companies acquired through process of business combinations or they consider the entire company as a single CGU and test it as a legal entity. This second solution could be easier to control for the parent company because, since the subsidiaries are single legal entities that have to prepare their financial statements and all different notes, the parent company can easily evaluate goodwill value by monitoring the economic and financial situation of every single subsidiary owned (consistently with IFRS principles, that impose to parent company the representation of the economic and financial situation of the overall group). Despite this easier way to account goodwill, the majority of the companies allocate goodwill to operative segments. This way of allocating goodwill is more difficult because

companies have to create different informational systems that have to consider each operating segment as a single unit, and evaluate whether the single unit is capable of generating cash independently. A possible explanation of this phenomenon is connected to the application of another IAS principle, in particular the IAS 14 called segment reporting. According to this principle, companies that have to prepare consolidated financial statements, have to report also the operative segments within which they have operated. As an operative segment is the largest part to which goodwill could be allocated, and goodwill belongs to asset side of the balance sheet, by allocating goodwill to operative segments, companies respond to two information obligations in a simple and practical way. In fact, in this case, an external interest user can understand what are the operative segments in which a company operates and also understand where goodwill has been allocated, respecting the information's obligation of two distinct IAS principles, IAS 14 and IAS 36.

With the term “mix”, I consider the cases where companies allocate goodwill not just to a single source (legal entities or operative segments) but they implement a mix of the two alternatives, by allocating a portion of goodwill to a legal entity and another part to an operative segment. This is the rarest case, as 4 companies in 2016 and only 2 companies in 2015 allocated goodwill to both categories. Finally, there are also situations where companies do not disclose any information related to the nature of CGUs to which goodwill is allocated: also this situation is quite unusual, as less than 10% of the companies, included in the sample, did not disclose the characteristics of CGUs. Another interesting element to discover is the tendency to allocate goodwill to legal entities or to operating segments by the different industries comprised in our sample. This table will show every single industry and its choices of allocating goodwill to operating segments or to legal entities.

Industries	2016					2015				
	Operating segments		Legal entities		TO T	Operating segments		Legal entities		TO T
	N° of groups	% over sample	N° of groups	% over sample		N° of groups	% over sample	N° of groups	% over sample	
Oil & Gas	2	2,78%	1	2,70%	3	2	3,13%	1	2,22%	3

Basic materials	0	0,00%	0	0,00%	0	1	1,56%	0	0,00%	1
Industrials	23	31,94%	9	24,32%	32	18	28,12%	14	31,11%	32
Consumer goods	14	19,45%	7	18,93%	21	14	21,87%	8	17,78%	22
Health care	2	2,78%	2	5,41%	4	2	3,13%	2	4,44%	4
Consumer services	9	12,50%	5	13,51%	14	9	14,06%	4	8,89%	13
Telecommunications	1	1,39%	0	0,00%	1	2	3,13%	0	0,00%	2
Utilities	9	12,50%	2	5,41%	11	9	14,06%	2	4,44%	11
Technologies	5	6,94%	5	13,51%	10	2	3,13%	7	15,56%	9
Others	7	9,72%	6	16,21%	13	5	7,81%	7	15,56%	12
Total	72		37		109	64		45		109

Table 5.19: Typologies of CGUs divided by industries

For the creation of the table above, I obviously did not consider any companies who did not disclose any goodwill value or any companies who disclosed goodwill, but did not disclose the typologies of CGUs to which they allocated goodwill. Additionally, I exclude also all these companies that allocate goodwill to a mix of the two alternatives: in particular, for 2016 I excluded 1 company that belongs to Basic Materials' industry, 1 that belongs to Consumer Goods' industry and 2 companies of Industrials, while for 2015, I excluded 1 company for Industrials' industry and 1 from the Technologies' industry.

The data reveals that there was an increasing tendency to allocate goodwill to operative segments in 2016, especially for companies who operate in the industrials' sector (where 5 more companies allocated goodwill to operative segment compared to the previous year) and for the Technologies industry (3 companies more than in 2015). There are also some cases where we can find the same amount of companies who equally allocate goodwill to operative segments and to legal entities: this is the case of the Health care industry in both periods, and for the Technologies industry in 2016. Within industries where we there is the highest density of companies (industrials, consumer goods, consumer services), we can observe a clear prevalence of allocating

goodwill to operating segments compared to legal entities. Indeed, the majority (above 50%) of companies included in these industries, allocated goodwill to operative segments compared to legal entities.

5.4.2 Analysis on the number of CGUs

Finally, the last key element to evaluate CGUs characteristics is the amount of CGUs to which goodwill is allocated, because managers can decide to allocate goodwill to a single entity (or a single operative segment), or they can allocate goodwill to more than one legal entity or operative segment. In the following table, I will present managers' decisions for goodwill allocation, by putting the number of CGUs in different ranges (generated in a random way) and then I will provide some explanations for the results that emerged.

	2016			2015		
	N° of companies	% over sample	Cumulated frequency	N° of companies	% over sample	Cumulated frequency
From 1 to 3	71	58,68%	58,68%	70	57,38%	57,38%
From 4 to 7	33	27,27%	85,95%	33	27,05%	84,43%
From 8 to 11	6	4,96%	90,91%	7	5,74%	90,17%
Above 11	3	2,48%	93,39%	1	0,81%	90,98%
No indications	8	6,61%	100,00%	11	9,02%	100,00%
Total	121	100,00%		122	100,00%	

Table 5.20: Number of CGUs to which goodwill is allocated

The allocation of goodwill to CGUs is crucial, as a misleading allocation could reduce (or cancel) the meaning and the reliability of accounting value reported. From this table, we see that the majority of companies, included in the sample considered, allocated goodwill from 1 to maximum 3 cash generating units (58,68% in fiscal year 2016 and 57,38% in fiscal year 2015). The range from 4 to maximum 7 CGUs is the second most populated, where 27,27% of companies in 2016 and 27,05% of companies in 2015 allocate goodwill within this range. If we shift our attention to the cumulated frequency, we observe that 85,95% of the sample in 2016 and 84,43% of the sample in 2015 allocated goodwill to a range of CGUs which is comprises from 1 to a maximum of 7. The number of companies that allocated goodwill to a larger number of CGUs is lower: indeed, 7,44% of companies in 2016 and 6,55% of companies in 2015 allocated goodwill to 8 or more CGUs.

The allocation of goodwill to a larger number of CGUs could generate greater issues in investors' eyes, as the assets' value or equity capital allocated to CGUs cannot be separated by the company or the operative segment they belong to. Allocating goodwill to a higher amount of CGUs could generate misleading information or incapacity of understanding the real value of goodwill and the characteristics of CGUs to which it is allocated. So, we can say that managers of the companies included in the sample that have goodwill value are disclosing data in a more understandable way, as they tend to allocate goodwill to a lower number of CGUs. This allows to investors to have a clearer picture and enhances the transparency of information reported.

Once managers identified and disclose the CGUs to which goodwill is allocated, their characteristics and the number of CGUs to which goodwill is allocated, then they have to study in depth CGUs. This means that they have to verify its recoverable amount and compared it to the carrying amount of goodwill, and in doing so, managers need to consider several variables, such as the duration plan they take into consideration, the typology and the value of discount rates, growth rates assumed and other characteristics. The next parts will be dedicated to this analysis.

5.5 Goodwill's recoverable amount estimation and correlation with financial plans

Almost the entirety of the sample's companies performed the impairment test analysis following IAS guidelines, especially with regard to the steps needed to calculate goodwill's recoverable amount. Consistent with these guidelines, companies could use, arbitrarily, the fair value less cost of disposal method, the value in use method, or a combination of the two alternatives. With the first method, managers have to evaluate goodwill by estimating its value as it would be generated by the sale of the items that generate goodwill between related parties. With the value in use method, managers estimate goodwill's recoverable amount by estimating the benefits that it could generate in the future, according to the estimations of budgets (or forecasts) that managers prepare: then, these benefits, reported in numerical values, have to be discounted back, using one (or multiple) discount rate. Finally, the ultimate solution is a comparison between the fair value and the value in use. According to this method, managers calculate the recoverable amount as the higher between the net selling price that managers could get from the sale of these items (fair value method) and the present value of future cash flows that are generated by the assets that benefit from goodwill's allocation (value in use method). Both methods oblige managers to estimate the recoverable amount of goodwill, which will be compared to the amount reported on balance sheets (carrying amount), to estimate possible impairment losses. If one method demonstrates that the recoverable is still higher than the carrying amount, it is not mandatory to perform also the alternative method. If the recoverable amount is higher than the carrying amount, managers do not to modify goodwill's value: on the opposite, if the recoverable amount is lower than the carrying amount, managers have to account a loss in the income statement.

With the following table, I report managers' choices related to three possible methods of calculating recoverable amount.

	2016		2015	
	N° of companies	% over sample	N° of companies	% over sample
Fair value	0	0,00%	0	0,00%
Value in use	93	76,86%	88	72,14%
Fair value and value in use	14	11,57%	17	13,93%
No indications	14	11,57%	17	13,93%
Total	121	100,00%	122	100,00%

Table 5.21: Goodwill recoverable amount methods

Table 5.21 shows how the value in use method is the most employed method to estimate goodwill's recoverable amount. The fair value method, alone, is never taken into consideration, mainly because of the scarcity of information that this method could generate, and because of the absence of information about the future development of goodwill. Value in use is the most employed because this method induces managers to estimate the future economic development of goodwill. They have to estimate future cash flows that companies expect to achieve from that asset, variations, price for bearing the uncertainty related to that asset and the time value of money. The second most employed method is the comparison between the fair value and the value in use method, employed by less than 15% of the companies included in the sample in both years. This choice could be justified because of the numerous steps needed to evaluate the recoverable amount, as managers have to estimate both the price at which assets that benefit from goodwill's allocation could be sold, and its value in use. The value in use method implies the estimation of a series of elements, and one of the most important steps is the estimation of the future cash flows that could be generated. As it is an asset with an indefinite life, it is impossible to estimate the durability of that asset, to estimate when this asset will expire so the process of amortization is inefficient to implement. This is the reason that leads me to exclude all companies that perform the impairment test using the amortization process, even if these are the same reasons that led those

experts (2014)¹ to conclude that goodwill could be still amortized, as there are the same evaluation difficulties that arise when managers have to estimate the useful life of some tangibles (lands, properties), who are effectively subject to amortization process. The impairment test procedure imposes a series of elements based on management assumption over the future development of the company. One of the most important steps is the estimation of future cash flows, which could be based on reasonable and supportable assumptions or, better, on the financial budgets or forecasts that management has prepared and the entire board has approved. IAS 36 reports that these budgets (or forecasts) must not to be longer than 5 years. The next table shows the tendency of companies to use (or not) a budget (or forecasts) as a bottom element to perform the cash flow estimation. We are still only considering companies that disclosed goodwill within their financial statements (121 companies in 2016 and 122 companies in 2015).

	2016		2015	
	N° of companies	% of sample	N° of companies	% of sample
Yes	102	84,30%	104	85,25%
No	19	15,70%	18	14,75%
Total	121	100,00%	122	100,00%

Table 5.22: Indication of use (or not) of financial plans

From table 5.22, we note that there was a high percentage of companies that disclosed information related to the implementation of a budget or forecast for the future economic periods that will be used to estimate the cash flows. The data is symmetrical, as in both periods, around 85% of companies reported the use of a budget in their process of calculation of goodwill's recoverable amount. This is an important result, as

¹ EFRAG, ASBJ, OIC, July 2014, *Should goodwill still not be amortized? Accounting and disclosure for goodwill.*

investors or other financial report readers have a concrete demonstration that the calculation of the future cash flows are based on a material element, a budget that managers have prepared and that is typically approved by the board of the company. This increases the reliability and the confidence in information reported. Indeed, a potential investor who can read the financial plan, together with the estimation of discount tax rates and growth rates, together with their numerical values, possesses all the elements to determine goodwill value in use.

A second important distinction is the employment of 1 or more budgets, as managers could decide to create a specific plan for the company and another one for one of the subsidiaries, or generate different plans for different countries where the parent operates, or generate a unique financial plan that imposes the guidelines for the parent and subsidiaries too. The following table reports the tendency of managers to prepare a single budget for the entire impairment test procedure or to create different plans.

	2016		2015	
	N° of companies	% over sample	N° of companies	% over sample
Unique financial plan for all CGUs	96	94,12%	100	96,15%
Different financial plans for different CGUs	6	5,88%	4	3,85%
Total	102	100,00%	104	100,00%

Table 5.23: Typologies of financial plans identified for CGUs

Table 5.23 demonstrates that few companies tend to identify more than one budget with different durations. Indeed, only 5,88% of 2016 companies and 3,85% of 2015 companies reported budgets of more than one duration, or created more than one budget. Other companies kept only one budget, this could be an easier solution because the accounting system only having to consider one plan in their future estimation and so generating fewer issues.

Once managers identify the way of calculating the recoverable amount, the process of estimating it, the definition of the plan and its duration (and, commonly, after having the approval of the plan by the board of directors), then they have to establish other key

elements that have to be considered in the estimation of future cash flows. These elements are the tax to discount the recoverable amount at the current value, its numerical value, estimation of growth rate and other elements that will form the central elements of the future sections.

5.6 Analysis on discount rates employed

5.6.1 Typologies of discount rate

This chapter will be dedicated to an analysis on those elements that are essential for the estimation of the future cash flows that managers expect to generate, which is one the most crucial elements to estimate the recoverable amount of goodwill that is essential to test it and demonstrate if there is an impairment loss or not. As we have previously stated, managers have two alternatives to estimate goodwill's carrying amount. The market multiples' method, which is the least employed in my sample, and the most common used which is the process of discounting the various cash flows, using an appropriate discount tax rate. One of the most critical aspects in the process of the determination of the carrying amount of goodwill is the definition of the tax rate used to discount it. This rate could be expressed as a generic discount rate or, as in the majority of the cases, it is an interest rate which is internally generated and typically considered specific risks, internal and external of the organization, that can influence the various estimations. This is the Weighted Average Cost of Capital (WACC) which is, as data will show later, the most employed discount rate that companies use in the calculation of goodwill's current value. Indeed, WACC considers all sources of capital, including stocks, bonds or any other form of debts. A company finances its assets through debt or equity: WACC is an average of the costs of these types of financing, which are weighted by their proportionate use in a given situation. This is why WACC is the most employed, because it considers risks that both internal or external interested users have to bear, both they are bondholders or shareholders.

WACC could be considered net of taxes or gross of taxes, and this is another alternative that managers need to consider and disclose in the impairment test process. Table 5.24 reports the choices of managers of sample companies regarding the use of a generic discount rate or the use of WACC, and its use net or gross of taxes.

	2016		2015	
	N° of companies	% over sample	N° of companies	% over sample
WACC	102	84,30%	96	78,69%
Pre-tax WACC	9	7,44%	13	10,65%
Generic discount rate	1	0,82%	2	1,64%
No indications	9	7,44%	11	9,02%
Total	121	100,00%	122	100,00%

Table 5.24: Indication of discount rate used to evaluate goodwill's carrying amount

Starting from a simple consideration, the data demonstrates that 112 out of 121 companies in 2016 (92,56%) and 111 companies out of 122 in 2015 (90,98%) indicated the tax rate used to calculate present value of goodwill. This is an important element, because without the indication of the tax rate implemented, investors cannot evaluate appropriately CGU's value in use.

Table 5.24 reports a situation where more than 75% of companies use WACC as discount rate to evaluate current value of goodwill (in particular, 84,30% of companies in 2016 and 78,69% of companies in 2015 used WACC). If we extend the evaluation also to the portion of companies that use a pre-tax WACC, the data demonstrates that around 90% of companies in both periods used WACC, in a pre or post tax way. Companies that use pre-tax WACC typically use the pre-tax rate because it is consistent with their way of forecasting cash flows for the future fiscal years, because for example they estimate cash flows using an item which is calculated before the imposition of taxes (EBITDA for instance), and most of them disclose this element in their notes. Only 1 company in 2016 and 2 companies in 2015 used an alternatively tax rate, while 9 companies in 2016 and 11 companies in 2015 did not report any indications regarding the discount rate employed.

5.6.2 Analysis on the number of discount rates applied

Further important information to discover is the amount of discount rate used, as managers can decide to use a single discount rate for all CGUs, they can use different tax rate for different CGUs, or they can employ one discount rate for each CGU. In addition, managers can decide to use a specific value for the discount rate, or they can decide on an interval of values within which is the discount rate. Finally, the final solution could be to use a mix of the various alternatives, as managers can decide to allocate a specific discount rate value for some CGUs while for other CGUs, they can decide on a range of values. These are all arbitrary choices that managers have to make and disclose to increase the reliability of the information reported.

The following table reveals the choices of the managers of sample's companies, as it will show how many managers chose a single discount rate, multiple discount rates, and if they attribute a specific value to these discount rates or if they use a range of values or if they provide a sort of mix of the two alternatives.

	2016		2015	
	N° of companies	% over sample	N° of companies	% over sample
Unique tax rate	49	40,50%	50	40,98%
Different tax rates, with the indication of a specific value	6	4,96%	5	4,10%
Different tax rate, with the indication of a range of values	52	42,97%	52	42,62%
Mix	4	3,31%	2	1,64%
No indication	10	8,26%	13	10,66%
Total	121	100,00%	122	100,00%

Table 5.25: Indication of one or more discount rates

Why is the analysis of the number (and, after, over the numerical term) of discount rates adopted by an organization in its impairment test process so important? Essentially, the discount rate implemented by managers to calculate CGU's value in use equals the hypothetical return that an alternative investment (with the same risk of the CGU) could

generate. Studying discount rate is crucial to understand if the returns that goodwill could generate in terms of benefits (arising from synergies generated by a business combination) could be more (or less) profitable than the investment in an alternative source (with the same risk profile). According to that reasoning, the discount rate should be specific for each CGU, as characteristics (and risk profiles) are specific to each CGU. Managers' choices are almost similar in each of the two fiscal years, and they are divided mostly between two alternatives: the adoption of a single discount rate for all CGUs or consideration of more than one discount tax rate, commonly one discount rate for each CGU and typically the tax rate's value is a specific numerical term. In detail, 40,50% of companies adopted a unique tax rate in 2016, while 42,97% adopted different tax rates, in particular assigning a specific numerical tax rate for each CGU to which goodwill was allocated. Moving to 2015, the data is repeated, as 40,98% of companies considered a single tax rate for every CGUs while 42,62% of companies used a different set of tax rates for the different CGUs, expressing it in numerical terms. Some of the companies that previously disclosed the method that they implemented in the impairment test's process, did not report any details over the number of discount rate adopted, and this is the reason for the increasing number of companies that do not report the indications over the adoption of one, or more, tax rates.

The adoption of a single discount tax rate for every CGU is quite critical, because the adoption of a single tax rate means that every CGU presents the same:

- risk free rate, so same market's expectations related to the investment without any risk;
- risk premium, so any CGU generates the same premium to investors, independently to the specific risk associated to it.

The implementation of a unique tax rate could lead to misleading conclusions for investors, but it remains a common practice adopted by the sample companies, as 40% of companies, in both fiscal years, adopted a unique tax rate. Consistent with what has been said previously, the companies that adopted different tax rates for different CGUs, from a theoretical point of view, report more reliable and verifiable information. In that way, the investor is assisted in his process of evaluation of the current economic and financial situation of the company because, through the specific discount tax rate adopted for the calculation of the present value of the company, he can calculate

autonomously the value in use of that CGU. Different considerations could be reported for those CGUs that report a discount tax rate for each CGU but they do not assign a specific value, as it is expressed in a range of values, assuming that this value is between a minimum and a maximum value. Regarding this method, only 6 companies in 2016 and 5 companies in 2015 adopted a discount tax rate included within a range: we have to add also those companies which adopted a mix of the two alternatives, as some of the discount tax rates were expressed in specific terms while others were expressed in a range. So, the total sum of companies that adopted values in a range were 10 in 2016 and 7 in 2015. We can conclude that this misleading and uncertain method of allocating discount tax rate to CGU is the least employed. The fact that companies that expressed discount tax rate in a range of values, remained constant from 2015 to 2016, is a positive aspect. In fact, if the value were higher, investors would not have the appropriate information to the specific value used to discount back the future cash flows of the CGU.

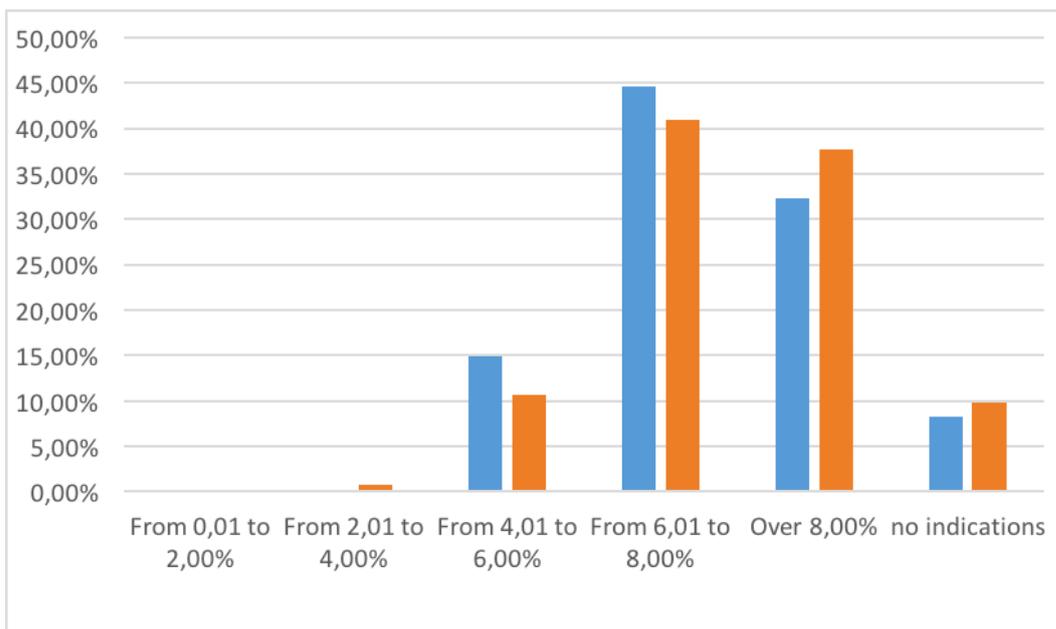
5.6.3 Analysis on numerical values of discount rates

A related element to the choices of discount tax rate adopted is the numerical term referred to each CGU. This is another central element to study, because a minimum variance of the discount rate could completely change the current value of goodwill and, consequently, the comparison between value in use and carrying amount and the potential impairment loss. For that reason, I analyzed the specific values assigned to the discount rates adopted by the companies in the evaluation of the current value of goodwill. For those companies that disclosed more than one discount rate, I calculated an average of the overall amount assigned to the different CGUs. The same process was adopted in the calculation of the value of the discount rate for those companies that included tax rates within a range: I calculated the average between the maximum and the minimum level of the range within managers included the discount rate.

	2016			2015		
	N° of companies	% over sample	Cumulated frequency	N° of companies	% over sample	Cumulated frequency
From 0,01 to 2,00%	0	0,00%	0,00%	0	0,00%	0,00%
From 2,01 to 4,00%	0	0,00%	0,00%	1	0,82%	0,82%
From 4,01 to 6,00%	18	14,88%	14,88%	13	10,66%	11,48%
From 6,01 to 8,00%	54	44,63%	59,51%	50	40,98%	52,46%
Over 8,00%	39	32,23%	91,74%	46	37,70%	90,16%
No indications	10	8,26%	100,00%	12	9,84%	100,00%
Total	121	100,00%		122	100,00%	

Table 5.26: Discount tax rate values accounted by companies

From table 5.26, the data demonstrates that there is not a range within which we can find the majority of the sample companies (more than 50,00%); however, there are two ranges where we can find 76,86% of companies in 2016 (the sum of 44,63% of the range from 6,01 to 8,00% and 32,23% of the range over 8,00%) and the 78,68% of companies in 2015. Consistently, these data are reported in the following graph.



Graph 5.27: Discount tax rate employed by companies

The data shows that low tax rates are never taken into consideration, as only 1 company in 2 years used a discount tax rate lower than 4,00%. Also for what concerns the numerical data, there were some companies who did not disclose these data: in particular, 10 companies in 2016 (8,26% of the overall sample) and 12 companies in 2015 (9,84% of the overall sample) did not report any indications on the numerical value of the discount tax rate that they employed. This data is consistent with that previously disclosed, reporting that some companies did not report any information on their impairment test procedure. Some of them disclosed partial information, such as the typology of the discount rate employed, while the others did not report any information on impairment test procedures. This is ambiguous from an investor's perspective, as they do not possess any information over the recoverability amount of goodwill. In 2016, 44,63% of companies adopted a discount tax rate between 6,01 and 8,00% and it represents the range in which we can find the majority of companies; secondly, 32,23% of companies used a discount rate which was higher than 8,00%. Consistently, the same ranges are the ones where we can find the highest number of companies also in 2015, as 40,98% of companies (50 firms) and 37,70% (46 companies) employed a discount rate between 6,01 and 8,00% or higher than 8,00%. Another aspect that emerges from the analysis of this data is the coherence demonstrated by the managers throughout the different years considered. In fact, if we consider the numerical values adopted by the

companies, the typology of discount rate and the number of discount rates employed too, we can observe how the results are similar in both periods. This aspect confirms that entities, once they identify key variables and implement their information systems to calculate the different values, they tend to keep the same variables in different years. Changes are possible, above all regarding the numerical value of discount rate, but changes are very small, as a big variance could generate strong variations towards the impairment test procedure and the real carrying amount of goodwill, leading investors to misleading information. This is a monitor for investors, as they have to control discount tax rate each year because there could be new risks within CGUs to take into account, generating different assumptions to be considered in the evaluation of goodwill's carrying amount.

To have a coherent evaluation over the comparison between the carrying amount goodwill and its value in use, another element to be studied is the growth rate assumed when calculating the future cash flows expected to be achieved in the future years. The following chapter will be dedicated to the analysis of the growth rate adopted by the sample companies.

5.7 Analysis on growth rate employed

5.7.1 Disclosure (or not) of growth rate

Another key element in the impairment test process is the estimation of the growth rate, above all the one that goes beyond the end of the business plan. Indeed, managers have to identify the growth rate that they adopt to estimate the future value of cash flows that CGUs, to which goodwill is allocated, could generate in future fiscal years. As IAS 36 states, managers can estimate cash flow projections beyond the period covered by the most recent budgets/forecasts, by extrapolating the projections based on the budgets, using a steady or declining growth rate for subsequent years. For this aspect, managers could be less or more risk averse, and this element reflects the prudential or aggressive behaviour that characterizes managers first and, secondly, the entire company development. As I have previously done with discount tax rates, now I will provide a brief analysis on the major trends adopted by the companies included in the sample regarding the adoption of growth rate, the number of growth rates adopted and their numerical values. Table 5.28 demonstrates the inclination of companies to disclose any information on the use (or not) of a growth rate.

	2016		2015	
	N° of companies	% over sample	N° of companies	% over sample
Yes	99	81,82%	97	79,51%
No	22	18,18%	25	20,49%
Total	121	100,00%	122	100,00%

Table 5.28: Indication of growth rate

Growth rate is another key element in the impairment test process and also data reveals this aspect, as 81,82% of companies in 2016 and 79,51% of companies in 2015 disclosed information related to the growth rate implemented for the estimation of the

cash flows above the ones estimated within the budgets or forecasts. But, one of the most important aspects that emerges from this table, is the lower tendency to disclose growth rate information compared to the disclosure of discount tax rates. Indeed, only 9 groups in 2016 and 11 groups in 2015 did not disclose any information related to the discount rate adopted. However, if we shift these considerations to growth rate, there we can find major issues. 22 companies in 2016 and 25 companies in 2015 did not report any indications towards the growth rate implemented to estimate the cash flows above the budgets. This is a critical element, always linked with investors' issues of evaluating the current economic situation of the company. Investors (and the potential ones too) should have all elements necessary to understand the future possible developments of the company, to understand how profitable an investment (or a potential one) could be and the risks that could emerge. A positive aspect is that there is an increasing inclination to disclose this element, as the amount of companies that disclosed information over the adoption of growth rate increased from 2015 to 2016 (delta = + 2,31%).

5.7.2 Analysis on number of growth rates applied

As I have previously done for discount rate, now I will discover the trend of managers to use a single growth rate or different growth rates assigned to different CGUs, and if the growth rates are disclosed in specific terms or within a range or as a mix of the two alternatives.

	2016		2015	
	N° of companies	% over sample	N° of companies	% over sample
Unique growth rate	70	57,85%	73	59,84%
Different growth rates, with the indication of a specific value	27	22,31%	23	18,85%
Different growth rate, with the indication of a range of values	1	0,83%	1	0,82%
Mix	1	0,83%	0	0,00%
No indication	22	18,18%	25	20,49%
Total	121	100,00%	122	100,00%

Table 5.29: Indication of number of growth rates adopted by companies

As with the discount tax rates, so also for growth rates, for companies that allocates goodwill to more than one CGUs, managers should implement one growth rate for every CGU, as the capacity to generate future cash flows is specific to every single unit and it is not the same for the overall group. However, the data shows a completely different situation, because the majority of the companies included in the sample adopted a unique growth rate, independently from the number of CGUs to which goodwill was allocated. This trend is augmented compared to the choice of discount tax rates, because before only around 40% of companies adopted a unique discount rate, but then, more than 55% of companies assigned a single growth rate for every CGUs, both in 2016 and 2015 (specifically, 57,85% of companies in 2016 and 59,84% of companies in 2015). Companies that adopt the most appropriate way of disclosing growth rates, by assigning one growth rate for each CGU, are only 22,31% of the sample in 2016 and 18,85% in 2015. The increasing amount of companies that adopt one growth rate for each CGU is a beneficial element, as this means that companies acknowledge the greater importance and the higher level of transparency that this information could generate. Indeed, investors understand a greater reliability of the information disclosed, as it is specific for each CGU, and allows them to formulate an autonomous opinion of

the coherence and transparency of the overall procedure. Fortunately, it is rarely the case that companies adopt a growth rate whose value is included within a range: only 1 company adopted this method in both years, and only 1 company used a mix of the two alternatives, indicating a specific growth rate value for some CGUs while using a range of values for other CGUs. This is a beneficial choice, because the investor is always capable of determining the specific growth rate value assigned to CGUs, even if it is different for the different CGUs or if it is unique for the entire group.

5.7.3 Analysis on growth rate numerical values

After analyzing strategic choices made by managers over the choice of implementing a single growth rate (or different ones), now I will provide an analysis of the numerical values assigned to growth rates. Also in this case the data is contained within ranges which are created in a random way. For companies that use more than one rate, and for those who use values within a range, I calculated an average of the overall values.

	2016			2015		
	N° of companies	% over sample	Cumulated frequency	N° of companies	% over sample	Cumulated frequency
0,00%	31	25,62%	25,62%	34	27,87%	27,87%
From 0,01 to 1,00%	17	14,06%	39,68%	14	11,47%	39,34%
From 1,01 to 2,00%	41	33,88%	73,56%	38	31,15%	70,49%
Over 2,00%	10	8,26%	81,82%	11	9,02%	79,51%
No indications	22	18,18%	100,00%	25	20,49%	100,00%
Total	121	100,00%		122	100,00%	

Table 5.30: Growth rate values assigned to CGUs by companies

The first element that we can easily note is that there is not a range that includes the majority of the companies (50% + 1 of the companies). The range from 1,01 to 2,00 is the most populated, where 41 companies in 2016 and 38 companies in 2015 implemented a rate within 1,01 and 2,00. The second most populated range is that in which the growth rate is equal to 0, where 31 companies in 2016 and 34 companies in 2015 adopted a zero growth rate. This represents prudential behaviour by managers, who do not have enough tools to correctly estimate the possible growth of a company, so they prefer to not set any growth rate. Important conclusions that we can extract from this data are that there is a decreasing tendency to use a zero growth rate, followed by a major tendency to use growth rates that range from 0,01 to 1,00 and from 1,01 to 2,00, together with a major tendency of disclosing this set of information, as there is a smaller number of companies that do not report any information on the numerical value of growth rate (22 companies do not report any numerical value of growth rate adopted, compared to 25 companies in 2015). Even if it is a decreasing amount, it is still a common trend to not report any numerical indication of the growth rate adopted, as almost 1 company over 5 did not report this element in both years. The fact that company are decreasing the use of zero growth rate, together with the increase in companies that adopt a growth rate from 0,00 to 2,00 could be justified by the fact that, during the two years considered, managers' growth expectations were increasing. Changes in the economic field, or in macroeconomic conditions, possibilities of entering new or emerging markets could increase managers' confidence in the potentially positive evolution of the firm. There was a small number of companies who were so confident as to adopt a growth rate above 2,00%: in detail, 10 companies in 2016 and 11 companies in 2015.

Consistent with the analysis performed before, the next section will be dedicated to a study of the numerical trends of growth rates divided by industries included in our sample. This will enable me to make same considerations about the most confident industries, where the growth rates are higher or industries where managers are more prudent, and prefer a lower growth rate to maintain a lower standard and to not inflate investors' expectations. The values have been generated by taking the numerical values that every company disclosed (if companies adopt more than one growth rate, I consider the average of all values). Then I added all the different values and divided them by the

number of companies that disclosed information on the numerical value of growth within those industries, and generate the average growth rate for each industry. This data is reported in the following table.

	2016	2015
Oil & Gas	0,67%	0,67%
Basic materials	0,00%	0,00%
Industrials	1,16%	1,08%
Consumer goods	1,58%	1,65%
Health care	1,37%	1,62%
Consumer services	0,66%	0,62%
Telecommunications	1,84%	1,03%
Utilities	0,86%	0,65%
Technologies	1,15%	1,10%
Others	0,44%	0,46%

Table 5.31: Growth rate values for different industries

The data shows interesting results about the perspectives of growth that each industry presents. Indeed, there are industries where managers are more confident, where they disclose a higher growth rate because they are confident about the positive and growing development of the industrial sector. For instance, Consumer Goods, Telecommunications, Industrials, Technologies and Health Care are all industries where managers expect positive and growing results in the future, as they disclosed, on average, a growth rate above 1,00% in both fiscal years. Indeed, these are all manufacturing industries, and Italian economy is strongly influenced by the presence and the results that these industries generate. A positive and increasing growth rate underlines the great feelings that managers have about the future development of the various industries in the future. On the contrary, Basic Materials industry or others are the two sectors where managers disclosed more prudential estimations about the future, as they are the two sectors with the lowest growth rates on average (but note that, within Basic Materials' industry, there was only 1 company in 2016 and 2 in 2016 that reported goodwill within their financial statements, so the average result was greatly influenced

by the choice of only 1 (or 2) company). Summarizing then for growth rate, we can say that growth rate was an element less disclosed compared to that of the discount tax rate, in both fiscal years considered. The number of growth rates adopted by companies was also different, as there was a higher percentage of companies that adopted a single growth rate compared to assign a specific growth rate for every single CGU: on the contrary, regarding the discount tax rate, companies assigned one discount rate for each CGU more frequently instead of assigning a single discount rate for all CGUs. We observed that managers were more prudent, because there was a higher percentage of companies that did not report any growth rate. Finally, we noted the different trends over numerical values of growth rates for the different industries that compose the sample, recognizing some industries which are more confident about the future development and results, while others are more prudent and prefer to report lower growth rates.

5.8 Performance of sensitivity analysis

Another related element to rates' analysis is the sensitivity analysis, an analysis that managers perform to evaluate differences that could emerge in the impairment test process from changes in the value of growth or discount tax rates. This analysis allows the understanding of possible changes if, for instance, a growth rate (or a discount tax rate) increases (or, conversely, decreases) by half a percentage point or by 1 percentage point. It is an important analysis also to evaluate what the values have to be that will generate a value in use equal to the carrying amount of goodwill, which will generate a difference of the two equal to zero. This information is still not mandatory, but a legislative act of the Borsa Italiana (the Italian Stock Exchange) indicates that companies should report this analysis for a more appropriate disclosure. It is an additional element that investors can analyze to have a more detailed overview of the current situation of a company, of the possible scenarios that could be generated by changes of numerical values of growth or discount tax rates and to have additional information to evaluate risks on the development of the company. This table shows the trend of companies in disclosing this information.

	2016		2015	
	N° of companies	% over sample	N° of companies	% over sample
Yes	91	75,21%	90	73,77%
No	30	24,79%	32	26,23%
Total	121	100,00%	122	100,00%

Table 5.32: Indication (or not) of sensitivity analysis performed

Table 5.32 shows that the majority of the companies included in the sample disclosed a sensitivity analysis of the variables used in the impairment test process. This trend increased, as the data for companies that disclosed a sensitivity analysis in 2015 (73,77%) rose in 2016 (75,21% of companies disclosed this information in 2016). 75% was positive data, but this value should increase, as this would be an additional set of information to increase trustfulness and reliability of the information reported, above all from the investors' point of view, as they would have major information on the current situation of the firm.

5.9 Impairment losses

The overall process of impairment test procedure leads to the final result of comparing goodwill recoverable amount with its carrying amount. The process leads to two possible alternatives: if recoverable amount exceeds its carrying amount, goodwill is fully recoverable and there is no need for a reduction of value. On the contrary, as IAS 36 states, if the recoverable amount of an asset is less than its carrying amount, the carrying amount of the asset shall be reduced to its recoverable amount. That reduction is called impairment loss, and it shall be allocated to reduce the carrying amount of the assets of the unit (or group of units) in the following order:

- first, to reduce the carrying amount of any goodwill allocated to the cash-generating unit (or group of units);
- then, to the other assets of the unit (group of units) pro rata on the basis of the carrying amount of each asset in the unit (group of units).

As IAS 36 reports, this loss has to be recognised in the P&L statement.

Impairment loss should be a rare case, as companies that report goodwill in their financial statements, are companies that expect to achieve benefits from the allocation of goodwill. Goodwill should increase companies' profits, create synergies, create possibilities to access in foreign markets, which are all solutions that should generate positive results in the future. These positive results should generate positive cash flows, and so the recoverable amount should exceed its carrying amount as a consequence of the possible synergies arising from business combinations. Impairment loss is not constant along different periods, but it subject to some conditions that could happen (or not) in specific years, and these conditions could lead to a recoverable amount that is lower than goodwill's carrying amount, and here is when impairment loss has to be accounted.

The following table reports the number of companies that had impairment losses in the two fiscal years considered.

	2016		2015	
	N° of companies	% over sample	N° of companies	% over sample
Yes	18	14,88%	16	13,11%
No	103	85,12%	106	86,89%
Total	121	100,00%	122	100,00%

Table 5.33: Impairment losses (or not) of sample companies

As the data from table 5.33 reveals, coherent with that previously stated, impairment loss is not a common situation for the companies included in the sample in both years considered. Indeed, only 14,88% of companies in 2016 and 13,11% of companies in 2015 reported a case of impairment loss, and for some of them, this impairment loss was connected only to one or few CGUs where goodwill was allocated. The majority of the companies did not record any impairment losses in both periods. As I have already discussed in the first part, there are multiple reasons that could lead to an impairment loss, such as changes in business climate or in competitors' activities, failure in budgeting forecasts or losses of key personnel or assets (SeetharamanA. et al, 2006). This result emphasizes the importance of the changes introduced by the adoption of IAS 36 related to the evaluation of the consistency of goodwill value. Indeed, before the introduction of this financial principle, companies provided a process of amortization of goodwill value: this solution induced a constant loss of goodwill value (and higher costs allocated in the income statement). Now, with the implementation of IAS 36, goodwill impairment loss is not always subject to a decrease of value, but only if specific conditions emerge, with beneficial impacts in annual results for companies, as there are lower costs to record (if no impairment losses emerge).

Going back to our first distinction of sample companies in the various industries in which they operate, the next table will demonstrate if there are industries which are more subject to impairment losses, and differences between the two fiscal years considered.

INDUSTRIES	2016		2015	
	N° of companies	% over 2016	N° of companies	% over 2015
Oil & Gas	0	0,00%	1	6,25%
Basic materials	0	0,00%	1	6,25%
Industrials	3	16,67%	4	25,00%
Consumer goods	4	22,22%	4	25,00%
Health care	1	5,55%	2	12,50%
Consumer services	3	16,67%	0	0,00%
Telecommunications	0	0,00%	1	6,25%
Utilities	5	27,79%	2	12,50%
Technologies	1	5,55%	0	0,00%
Others	1	5,55%	1	6,25%
Total	18	100,00%	16	100,00%

Table 5.34: Impairment losses divided by industries

This table emphasizes the major industries where there are companies who booked impairment losses in their financial statements in both periods considered. As we can easily observe, industrials and consumer goods are the industries where there are most cases of impairment losses reported by companies: this could be due also to the higher density of companies' compared to other industries, as they are the two industries where the highest number of companies reside. Another important result that we can observe is the increasing amount of companies that record impairment losses within the Utilities industry, changing from only 1 company in 2015 to 5 companies that recorded impairment losses. But, again, the important fact to stress is the fact that the total amount of companies that book impairment losses within financial statements is very low, leading to the final conclusion that, as the empirical analysis demonstrates, goodwill generates higher benefits than issues for a company.

6. Conclusions

This work was dedicated to perform an analysis on the intangible world that characterizes today's modern economy, in particular focusing to one of the major items that characterizes intangibles, which is goodwill. As we have seen, goodwill is generated in some specific operations, defined as business combinations, where the acquirer (the company that wants to purchase another company) pays a higher sum compared to the current values of assets and liabilities of the acquiree (the company that passes under the control of the acquirer). In the first part, we highlighted the characteristics that lead managers to perform these operations, underlining the globalization, the need to access new markets and the willingness to acquire a competitive advantage as the major sources that managers take into consideration when they have to acquire (or merge, or liquidate) another entity. Once an acquisition (or a merger, or a liquidation) has been performed, a group of entities is created. A group is created only when the acquirer has the effective control over acquiree. There, the acquirer, need to disclose the overall financial and economic situation of the various companies that compose the group (parent and all the subsidiaries under its control). We acknowledged that goodwill belongs to a broader category of assets, particularly on the side of intangible non-current assets. Then we highlighted the major issues connected with intangibles, the fact that they do not have any physical substance, which presents difficulties in their evaluation. Westlake and Haskel's book inspired me to conduct an in-depth analysis on this intangible world, and I discovered the major 4 S that characterize intangible assets (scalability, sunkness, spillover and synergies) which are all characteristics that we can find in intangibles. The authors provided also some evidence about the growing importance of intangibles in the modern economic environment, such importance that they coin a new definition to describe this new modern economy: capitalism without capital. This term refers to the condition into which the modern economy is developing, an economy characterized more by ideas, brands, licenses, goodwill, all elements that have not a physical substance, but that managers acknowledge to be the first sources for gaining competitive advantages. As we have learned also goodwill is within those intangible assets. We understand how goodwill is generated; the opposite situation, where managers find beneficial conditions to acquire one or more subsidiaries, paying a lower sum compared to the real value of

subsidiaries' assets and liabilities, is called badwill. Goodwill is a sort of surplus, a higher sum paid by the acquirer because he expects to achieve positive results in the future. It is a value that belongs to companies for more than one fiscal year, as it is considered such as an intangible asset with indefinite life. Because of this peculiarity, this value has to constantly been verified by managers, to evaluate if it remains constant from one year to the other, if it has increased or decreased. There could be multiple causes that lead to an increase (or decrease) of goodwill value, such as foreign currency changes, new acquisitions, depreciations or losses of values. The process of evaluating goodwill value is called impairment test, and we highlighted the major steps of this process, the objectives of it and the centrality of this process.

To demonstrate the importance of this item, its major threats and opportunities, the difficulties arising from managing it, and if goodwill (and broader, intangibles) covers an important role in modern economy, I decided to translate the theoretical observations into a concrete sample of companies. Within this sample, there are only Italian based listed companies. The analysis was performed first, to discover what is the percentage of companies that disclose goodwill within their financial statements, then to discover what is the information disclosure that managers provide over the entire impairment test process. The analysis followed the work of Rizzato (2008) and research published by ESMA (2013), which led me to an evaluation differentiating the data by industries in which the companies operate. If we consider the broader category of intangibles, we saw that 50% of companies included in both fiscal years (2016 and 2015) represented a percentage of intangibles over total assets above 20,00%. This is important data, which underlines how intangibles are becoming one of the major item in the assets side of companies' balance sheets. Then the analysis shifted to an impairment test analysis of the sample companies. The major results that we can take from this analysis, is that goodwill is included in almost 4 out of 5 companies of the sample, that companies do not perform operations of business combinations in every single year, as they have to find beneficial conditions to perform them. Only 24 companies of the sample performed at least one business combination in both fiscal years considered. Cases are rare where companies register badwill or cases where companies pay a sum which is exactly equal to the resources acquired. Once companies announce goodwill value, they have to verify its value at least once a year. This process, called impairment test, has been verified for

every single company. The most interesting result is that the vast majority of the companies included in the sample disclose every single element connected to the impairment test procedure. This is an important aspect because it enables investors (or potential ones) to have all elements to correctly evaluate the procedure and the value reported, increasing reliability and transparency of financial statements. Returning to numerical evidence, acquisitions performed in 2015 generated an improvement on companies' net results in 2016 in 71% of the cases. This is another concrete element to sustain the positive result that goodwill generates. The first step of the impairment test process is the allocation of goodwill to CGUs, the smallest part to which goodwill could be allocated, capable of generate cash flows in future years. More than 90,00% of companies, in each fiscal year, reported this information, preferring to allocate goodwill to operative segments instead of legal entities. Commonly, companies assign goodwill to 1 to 3 CGUs. Next, we saw how value in use is the most employed method for calculating goodwill's recoverable amount, which is the value that has to be compared to carrying amount to evaluate whether an impairment loss has occurred. To calculate value in use, managers should follow a specific financial plan as a benchmark in the preparation of the various assumptions. Data acquired showed that the majority of sample companies disclosed information on the financial plan considered for their work, and they tended to adopt a single financial plan with a common duration for the entire group and the entire group of CGUs. Once the company identifies the plan to estimate the future development of the company, managers need to estimate the tax rate to discount cash flows at the current period. The data demonstrates that WACC is the most employed tax rate, applied by more than 78% of companies in both periods, because of the peculiarities of this rate, that take into account both internal and external risks that companies are exposed to. Regarding the numbers of discount rate applied, companies are almost equally divided in their choices, as the number of companies that adopted a unique tax rate and the number of companies that allocated a tax rate for every single CGU was similar. Instead, disclosure of growth rate used to estimate the future cash flows that CGUs could generate, tended to be disclosed in fewer cases compared to discount tax rate information. Indeed, less than 10% of companies did not report discount rate information, while almost 20% of companies do not report the growth rate employed in their estimations. For this category of information, companies tended to

adopt a unique growth rate for entire set of CGUs, and managers tended to use a rate whose value was lower than 2,00%. The entire impairment process leads to a final comparison between the carrying amount of goodwill and its recoverable amount, to evaluate the consistency of the value reported or a loss of value. For the companies included in the sample, impairment loss was not a usual situation, as less than 15% of the companies reported impairment losses, above all for companies included in consumer goods, industrials and utilities industries.

After this major analysis, I can affirm that the level of disclosure of impairment test process is very high for the Italian listed companies that composed my sample. They follow the different IFRS guidelines, and implement them coherently to evaluate goodwill value and increase the level of transparency, above all for the external users. Goodwill is now becoming one of the principal elements within the intangibles of a company, and because of the continuous changes in the modern economy, and the creation of this intangible economy, we have to focus more on it, because even if it so complex, full of different factors to consider, it is a crucial element to correctly evaluate a company's economic situation.

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IFRS 3: Business combinations

IFRS 10: Consolidated financial statements

IAS 27: Consolidated and separate financial statements

IAS 36: Impairment of assets

OIC 24: Intangible assets