UNIVERSITA' DEGLI STUDI DI PADOVA

DIPARTIMENTO DI SCIENZE ECONOMICHE ED AZIENDALI "M.FANNO"

CORSO DI LAUREA MAGISTRALE IN BUSINESS ADMINISTRATION

TESI DI LAUREA

INTRODUCTION OF THE IFRS 10: AN ANALYSIS OF THE REACTION OF ITALIAN GROUPS

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ANNO ACCADEMICO 2019 – 2020

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INTRODUCTION

In this thesis we have realized a research aimed at understanding whether there was any association between the introduction of the IFRS 10, in place of the IAS 27, and the investment decisions of Italian groups. If this hypothesis was verified, in fact, we might have understood whether parent companies had been applying properly the consolidation rules or if they had been manipulating them, eventually trying to hide some subsidiaries.

Developing an analysis of this kind is interesting because it allows to understand the way in which companies apply the accounting principles. These rules, in fact, are at the basis of the preparation of the financial statements which are the main instrument that people interacting with economic entities have to know them and, consequently, affect the functioning of the economic environment.

The first economic principle dealing with the regulation of the consolidated financial statement was the IAS 27, which was later accompanied by the SIC 12. Despite the good intentions of regulators, it seemed that this accounting principle was not providing a proper discipline. The literature, in fact, suggested that parents wondering to lie about the entities controlled, had the possibility to do that. The Great Recession somehow confirmed these clues, in fact it took to the failure of entities that were apparently going well.
After this, the IASB has decided to reshape the consolidation rules, in order to not leave any room for manipulations. The result of this work has been the publication of the IFRS 10.

The scope of the analysis presented in this thesis, is that of understanding whether companies have somehow reacted to the new consolidation principles, and whether this one had been unmasking any liar. In particular, if companies had really been lying and if the new standard had left any space for loopholes, we might have expected a modification of parents' investment behavior.

The biggest problem with this analysis has regarded the fact that it was very hard finding a variable that, eventually, would have appropriately shown the change in the investment choices realized. Because of that, in order to not leave anything untested, we have verified six hypotheses, with six relative models. In particular, we have tried to understand whether the relative equity investments, the total linkages connecting the companies being part of the group and the absolute and relative indirect linkages, were negatively associated with the introduction

of the IFRS 10. Then we have verified whether the absolute and relative direct linkages were positively connected with the issuance of the new consolidation rules.

The practical realization of the analysis has started with the collection of the data referring to the balance sheets of thirty-six groups listed in the STAR segment of Borsa Italiana, from 2010 to 2016. The equations have been shaped in such a way that it was possible to control for all the possible factors that might have affected our dependent variables, considering the parent and the group. In this way, in fact, it would have been possible to take into account the drivers of the choices of the parent and the characteristics of the tools at its disposal (its subsidiaries). After having deepened the analyses considering the whole sample first, and then separately big and small groups, we have been able to get answers for our questions.

In particular, it has not been possible to find any association between the introduction of the new consolidation rules and the relative equity investments, the total control and the absolute direct control. Differently, it has been possible to accept the other hypotheses, and to observe a negative association with the absolute and relative indirect control and a positive association with the relative direct control.

Staying at these results, it seems that, after the introduction of the IFRS 10, parents had not addressed less resources to the equity investments, in fact nor their relative amount, nor the total control had decreased; but eventually they had changed the way in which they were investing. The negative association with the indirect control suggests that maybe they had started to divest some indirect participations, leaving more space to the direct ones.
Naturally, these conclusions may be biased by many limits, regarding the sample, or the model, but surely may be considered as a clue for further researches, aimed at understanding how companies deal with economic principles and how those should be structured to represent the reality in the most trustworthy way.

The thesis is organized in three chapters. The first chapter explains the relevance of the annual reports, with a precise focus on the consolidated ones. Then it presents the rules provided by the IAS 27 and the IFRS 10, explaining the differences and the similarities. Finally, it reports some analyses that have tried to define the reaction of groups to the newest rules. It follows the second chapter, with the explanation of the way in which the model has been built. Then it concludes with the third chapter that describes the variables and presents the results, highlighting their eventual causes and limits.

CHAPTER ONE

FROM IAS 27 TO IFRS 10 WITH THE AIM TO IMPROVE THE CONSOLIDATION PRINCIPLE

1.1 The truth as a tool for the proper functioning of the economy

Balance sheets are the instruments that companies use to communicate what they are to the stakeholders that interact with them through financings, investments, sales, purchases and transactions of any kind. The preparation of these documents must be done following specific rules, that generate a language that allows to represent similar situations in the same way, letting users understand what is going on, without being obstructed by the specific codification.
The aim of these rules, the economic principles, is that of portraying the economic condition of the company in a way that is as much adherent as possible to the reality, to give to the ones interacting with the business the possibility to have a realistic idea of what is going on, in order to take proper decisions. It is only knowing the truth, in fact, that those stakeholders will be able to understand the actual risk that they are facing, and to be prepared to deal with whatever may come.

The fact is that such propensity to the total truthfulness may be a problem for companies trying to hide what is really happening to show an image of what they are that is more convenient for the achievement of their objectives. As an example, it is possible to consider a business trying to obtain a financing from an investor, but not fulfilling all the requisites that would allow the closing of the deal. In this case, there might be an incentive to hide the truth, manipulating the rules, in order to be compliant with what the counterpart requires and to obtain the money.
Thus companies may be encouraged to reinterpret the regulation, finding loopholes that make them apparently compliant with the standards, while actually hiding the truth.

It is obvious that no one would like or would expect a behavior like this, the objective and the purpose is that of building the economy with as many (real) information as possible, in order to evaluate properly the businesses, to build solid transactions and to take adequate risks. It is only in an environment like this that it is possible to find a correct functioning of the economy. Whenever the truth is hidden, the economy staggers up to a breaking point, as it has happened during the Great Recession.

Meanwhile it is not either possible to imagine that all companies try to find ways to misrepresent their conditions. Those liars are out there and it is not possible to not think of them when trying to improve the functioning of the economy, but there are also honest companies that allow good and correctly evaluated transactions.

The natural consequence of these attempts to adopt loopholes is the need to find the "black sheep" and to understand where and which standards fail, in order to improve and eventually fix them (thus leaving no spaces for eventual misinterpretations), to have as many "white sheep" as possible.

1.2 Not just standing alone entities: groups and their regulation

Companies do not just work as standing alone entities, in fact they may also choose to acquire portions of equity of other businesses, with the aim of enlarging their activity. The result of these transactions is the formation of groups, in which each entity is legally autonomous, but economically dependent on the others and subject to a unitary management (Campobasso, 2015).

Considering this particular connection, since 1977, regulators have been asking to the parent companies of these groups to prepare the consolidated financial statement, which displays the activity carried by the entities that compose the group looking at them as a whole, and not as separated businesses.

In this way, the results of the actions undertaken as an organization are adequately counterbalanced by the activities owned by the group, and do not just affect the financial statement of the investor, without proper compensation.

Naturally, the necessity of having reliable information, and thus to provide specific regulation, stands also when talking about the economic activity carried by groups. But, in this case, there is an additional problem, in fact regulators also need to create principles that allow to properly identify the investees being controlled by the parent, in order to obtain a realistic identification of the consolidation area.

Thus, when dealing with these particular realities, it is possible to have manipulations of the principles relative to the economic conditions of the entity but also that of those ruling the delimitation of the consolidation perimeter.

As a consequence, when trying to improve the regulation of these aggregations of businesses, the first step to take in order to identify those unproductive black sheep is that of defining, in the best possible way, the consolidation area.

1.2.1 Defining the consolidation area: difficulties and attempts

The realization of the consolidated financial statement is extremely significant because of the higher relevance of the values here disclosed, the higher timeliness and the smaller possibility of earnings management[1] that allow a better predictive capacity of the future outcomes. The simple financial statement of the holding, in fact, would only provide information about the returns of the investments, made without showing the respective counterpart.

Giving a proper definition of the consolidation perimeter is of huge relevance, it is in fact from this concept that comes the financial statement of the group, which represents those different businesses as if they were a unique entity and consequently provides an appropriate disclosure. If even one of those investees, being actually controlled, would not fall within the boards, the operations, the transactions and the results of the group would be misrepresented. Such distorted disclosure would take to inappropriate decisions and evaluations from subjects that interact with the group, such as financiers, investors and analysts, with consequences for the whole economy. An improvement in the identification of the consolidation area may be particularly evident looking at bigger groups, since that those might have been hiding more subsidiaries (Hsu, Pourjalali, 2015).
Summing up, wrong information about the actual composition, and thus about the actual size of the group, does not allow to evaluate it correctly.

Differently from what it may appear, delimiting the boards of a group of entities is not that easy, because of the natural mismatch between the concept of group, and its accounting definition. No matter the principle considered, the economic concept of group does not necessarily fit with the consolidation area, that is the reason why some companies being actually controlled by the parent are not consolidated. It may happen, in fact, that the company is able to exercise its control over an entity, not through the owning of its shares, but through the specific relation that connects the two of them (this is what may happen with the suppliers). Those businesses, even falling out of the consolidation area, are still able to influence the performance of the group (Meyssonnier, Pourtier, 2013).

[1] If an entity is not consolidated, the parent can put in place transactions that allow to transfer amounts out of the group, shaping the results as it prefers. But once that this entity is consolidated, and because of the elimination of the intragroup transactions, no operation would still allow to move out of the group those amounts.

Considered this, the objective can be nothing but that of reducing this discrepancy, in order to have annual reports that represent in the best possible way which are the subsidiaries of the holding.

1.3 Ruling the preparation of the balance sheet: economic principles

With the globalization, it has been possible to observe the formation of more and more groups, which has brought the need to compare their performances on a universal level. In order to do this, it was necessary to level out the economic principles to which making reference when writing the annual report. Such harmonization has allowed to have transparent, interpretable and comparable annual reports (Iannucci, 2018).

On an international level, the most common economic principles are the International Accounting Standards (IAS) and the International Financial Reporting Standards (IFRS). The IAS, released since 1973 by the International Accounting Standards Committee (IASC) have been the first attempt to standardize the economic principles internationally. Then, from 2001, when the IASC was renamed as International Accounting Standards Board (IASB), it started the release of the IFRS, that have revised or replaced some of the IAS. Thus, nowadays IAS and IFRS coexist.

Over than one hundred and twenty countries from all over the world ask their companies to comply with the IAS/IFRS, mainly for the writing of the annual reports of the listed companies, in order to allow a fair comparison with the financial statements of companies from other countries.

A great exception is represented by America which mainly adopts the Generally Accepted Accounting Principles (GAAP), even if since 2002 the Financial Accounting Standard Board[2] (FASB) and the IASB have been cooperating for a convergence of these two sets of principles.

The European Union (EU) has been applying the IFRS since 2002, with the Regulation (CE) n. 1606/2002 which imposes the adoption of these principles to companies whose stocks are traded on public markets (art. 4) for the businesses starting from January 1st, 2005. The regulation also allows the adoption of these economic principles to companies that decide to apply them, after their own valuations (art. 5).

[2] The FASB is the board that issues the GAAP.

Before than being applied, IAS/IFRS economic principles are analyzed by a technical committee, the European Financial Reporting Advisory Group (EFRAG), and a political one, the Accounting Regulatory Committee (ACR). Finally, to be homologated, they need to be approved by the Standards Advice Review Group (SARG).

The first economic principle dealing with the provisions for the preparation of the financial statement of groups and with the definition of the concept of control was the IAS 3, released on June 1976 and entered into force in 1977.
While the first EU provision dealing with group reporting was the directive n. 83/349/CEE.
In 1989, the IAS 3 was replaced by IAS 27 which was modified in 1994, 1998, 2003, and finally in 2008 (Deloitte, 2011).
On May 2011, it was issued the IFRS 10 which has replaced the IAS 27 and has been effective for businesses starting from January 1st, 2013 (Galberti, 2012).

1.4 International Accounting Standard (IAS) 27[3]

The International Accounting Standard 27 must be applied by the parent company when preparing the consolidated annual report of the group, thus referring to it-self and all of its subsidiaries. In fact, the standard defines the consolidated financial statement as "the annual report of a group presented as if it was the annual report of a unique economic entity".
This economic principle may be applied also by companies that choose to or that must (because of a national provision) prepare the separated annual report[4] when accounting for their shares in controlled, related or jointly controlled entities.

[3] The instructions provided in this paragraph refer to the version of the IAS 27 issued on January 10th, 2008, the latest adopted by the European Union through the Regulation (CE) N. 494/2009.

[4] The separate annual report is that prepared by an investor that has significant influence on an investee or that has joint control over it. Differently, the consolidated annual report is the one prepared by the holding when referring to a group, considered as a unique economic entity.

None of the entities controlled by the parent company can be excluded from the consolidation area, no matter the type of entity that it is (investment entities of any kind), how far its activity is from the one exercised by the holding and if there are eventual impediments that do not give the investee the possibility to transfer capitals to the parent[5].

As highlighted in the previous paragraph, this economic principle has undergone several modifications mainly aimed at reducing the possibilities of finding loopholes to avoid the consolidation of the subsidiaries. Among the others, it has been possible to observe the elimination of the provisions regarding the exemption for temporary control[6], potential voting rights and the adoption of different economic principles among subsidiaries.

1.4.1 Presentation of the consolidated annual report

The standard requires that all parent companies must prepare the consolidated annual report, but some exceptions are provided.

Specifically, an entity is exempted from preparing the consolidated financial statement if and only if:

1. It is it-self wholly, or partially, controlled by another entity and the shareholders, included the ones not having voting rights, have been informed and agree with the choice of not presenting the consolidated annual report;
2. Its debt or equity securities are not listed on a public market;
3. The controlling entity has not deposited, nor is about to deposit, its annual report to any entity with the aim of issuing any category of financial securities on a public market;
4. The controlling, or any other intermediate controlling entity prepares a consolidated balance sheet publicly available and compliant with the IFRS.

[5] Despite such provision, many parent companies have continued to exclude from the consolidation area some of their subsidiaries, referring to the economic and financial relevance required by the frameworks of the IASB for the preparation of the annual report.

[6] In the previous versions of the standard, it was provided an exemption from consolidation for investees that were only acquired for temporary control, if there were proofs that those would have been written off within twelve months and that the parent was looking for an acquirer.

If, in these cases, the company chooses to not present the consolidated annual report, but to prepare the separate one, it is required to provide additional information. In fact, the entity must specify that it has chosen to opt for the exemption from the consolidation, that the one that it is presenting is a separate annual report and all the information that regard it as a society. Then, it will have to issue a list of all the shares owned, of any kind, and any specification about such holdings and the relative entities. Finally, it must be specified the criterion chosen to account these shareholdings.

1.4.2 Control: concept, valuation and loss

The consolidated annual report must refer to the entities that the parent company controls.
It is presumed that there is control whenever the holding company owns, directly, or indirectly, more than half of the voting rights, unless it can be clearly proved that there is no control. In these cases, the holding is required to provide supplementary information to explain which are the reasons why its holdings do not allow to have control over the investee.

There is control also if the holding owns less than, or the half, of the voting rights and it has:

1. The control of more than the half of the voting rights because of contractual arrangements with other investors;
2. The power to determine the managerial and financial policies because of a statute or a deal;
3. The power to appoint or disappoint the majority of the members of the board of directors, or its equivalent, and the control of the entity is owned by that board;
4. The power to exercise the majority of the voting rights during meeting of the board of directors, or its equivalent, and that board has the power over the entity.

When evaluating the existence of the control, it is also necessary to take into account the potential voting rights. Those are securities of any kind that, if exercised or converted, would give the entity voting rights or would give it the possibility to reduce the voting rights of other investors.

Such rights must be taken into account only if are currently exercisable[7]. When making such assessments, the entity will evaluate all the facts and circumstances affecting the exercisability, but not the intentions or the financial ability of the investor.

The holding loses control when it loses the power to influence the financial and managerial policies of the investee in order to obtain the benefits coming from its activities.
Such loss may be due to a change of the relative or absolute share, to a single or to multiple deals, or to events which fall outside the intervention of the parent, such as the subjection to a governmental authority.

1.4.3 Consolidation procedures

When preparing the consolidated annual report, the parent company aggregates, voice by voice, its and its investees' balance sheets, that will refer to the same closing date and will follow the same economic principles[8].
This must be done since the very first moment in which the parent obtains the control.
Then, for the consolidated accounts to present information as if they were referring to one unique economic entity, it is required the application of the *acquisition method.* It implies, among the others, the elimination of the intra group transactions and the proportional attribution of any profit, and of all the other components of the income statement, to the investors of the

[7] When evaluating if a potential voting right is currently exercisable, it is necessary to consider the date and the price of the exercise. If we are in the period in which the security can be exercised and if it is in the money, then it is currently exercisable.
As an example, potential voting rights are not to be considered exercisable if cannot be exercised until a future date or until a future event does not occur.

[8] If the two closing dates are different, or if the economic principles adopted are not the same, the subsidiaries will prepare an additional annual report where they will provide the adjustments necessary to level out the differences with the parent's balance sheet.
Anyway, the distance between the two moments in which the balance sheets have been prepared cannot be longer than three months, and it will have to be the same over time.

parent and to the minority ones, even if this implies a negative balance for the non-controlling interests[9] (Parbonetti, 2017).

When determining its share of the profits, the parent will not consider any potential voting right that has not been exercised yet. In fact, the company must always represent the current shareholder structure, which will also reflect the effect of eventual purchases or sales of shares occurred after the obtaining of the control and that of eventual preferred shares issued by the entity and owned by minority investors.

When the holding loses control over an investee, the consolidation must stop and any book value relative to that investee will be eliminated.
When the loss of control occurs, the share must be accounted at its fair value following the IAS 39, *Financial instruments: recognition and measurement*, or at its historical cost if it becomes a related or a jointly controlled entity (Toselli, 2013).

1.4.4 Standing Interpretations Committee[10] (SIC) 12: how to fill the gap of IAS 27

The concept of control provided by the IAS 27 mainly refers to two possible alternative ways through which the parent may have power over an investee, and those are the owning of the majority of the shares and the actual ability to influence the activity of the entity (see paragraph *1.4.2. Control: concept, valuation and loss*).
Such structure implied the presence of limits in this provision, which made it easy for companies to avoid consolidation of some entities, just by being sure that they owned only a minority of their shares, despite the actual exercise of control over them, and that there was no irrefutable proof of the existence of such control.

[9] Any loss attributable to the minority shares that exceeds their stake of equity of the investee must be attributed the parent's investors, for its exceeding part. This does not occur if such minority investors have the obligation to cover the losses with additional investments and they have the ability to do it.
Such losses attributed to the parent will be covered by eventual future profits realized by the entity.

[10] The SIC are the interpretations of the standards issued by the IASB, and aimed at explaining the provisions and at resolving eventual doubts.

It is quite evident that the main problem regarded special purpose entities (SPE), which can be controlled also without the majority of the votes and for which it is quite difficult to show the involvement (Hewer, Davis, Haley, 2011).

The special purpose entities are companies set up by a sponsor to accomplish a very specific and limited business activity. Those are *structured entities*[11], in fact the voting rights are not relevant when determining who controls the entity. These are established with the specific aim of receiving cash flows from the sponsor and use them to repay their loans and provide equity to the investors. This transfer of assets allows the sponsor to monetize illiquid assets and to lower its cost of financing, but not its actual level of risk, since that it will have to provide financial support to the SPE whenever it will need it.

In order to fill the gap left by the IAS 27 about investees like these, on November 1998 the IASB released the SIC 12[12] which identifies additional indicators for the valuation of control, based on risks and rewards.
The provision specifies that the parent must consolidate a SPE when the substance of the relation shows that it controls such entity. Moreover, in order to better explain the point, some examples of cases in which the consolidation must occur are provided, thus when:

- The activities of the SPE are conducted on behalf of the entity, according to its needs, with the aim of providing it benefits;
- Through an "autopilot" mechanism, the entity has the decision-making power to obtain the majority of the benefits;
- The entity has the right to receive the majority of the benefits coming from the activities of the SPE and may be exposed to the relative risks;
- The entity retains the majority of the risks related to the SPE.

[11] A structured entity is "an entity that has been designed so that voting or similar rights are not the dominant factor in deciding who controls the entity, such as when any voting rights relate to administrative tasks only and the relevant activities are directed by means of contractual arrangements" (IFRS 12).
Those entities have some recurring characteristics, such as the restricted activities, the narrow and well-defined objective, the little equity and the being financed by multiple contractually linked instruments.

[12] The provisions reported in this paragraph refer to the version of the interpretation provided by the European Union through the Regulation (EC) n. 1126/2008.

It might be possible to notice a problem about the relation between this interpretation and the standard to which it refers. In fact, differently from the IAS 27, which puts an emphasis on the actual ability to manage the operational and financial policies, the SIC 12 mainly refers to control as a consequence of the shared risks and rewards.
Such contradiction was the main reason why the preparators of the consolidated annual reports did not actually took such provision as additional to the rules of IAS 27, but considered it as an alternative model of consolidation, independent from IAS 27. Because of that, groups started to adopt discretionally one or the other consolidation model, still leaving many entities out of the consolidation area.

As this very last point allows us to notice, it is possible to see how, despite the great work made through the years to improve the rules about consolidation, the IAS 27 was leaving some empty spaces. Entities took advantage of these gaps to hide subsidiaries which would have worsen the image of their groups, lowering their assets and increasing their liabilities.

1.5 International Financial Reporting Standard (IFRS) 10[13]

The main issues, coming from the provisions of IAS 27, about the concept of control and the consequent identification of the area of consolidation, and the divergence between IAS 27 and SIC 12 emerged especially during the Great recession (2007 – 2013).
The reactions of companies to such macroeconomic event highlighted the lack of transparency of their annual reports. In fact, it happened that, differently from what could have been forecasted looking at the financial statements, companies were unable to face this unexpected crisis. This situation highlighted the need of improving the disclosure and the information provided by companies, with a special focus on the off-balance sheet vehicles which increased the risks faced by businesses[14].

[13] The provisions that will be reported in this paragraph refer to the first version of the IFRS 10, thus the one published in 2010 by the IASB.

[14] Whenever an amount is not represented adequately on the balance sheet, it misses the usual counterbalance between the liability and the asset, which allows to understand if and in which measure the company is able to face the risk connected to the liability.

Moreover, the ambiguity about the interpretation of the IAS 27 had created a legal vacuum which did not allow to identify which were the entities controlled by the holding in the most complicated cases. This concern allowed groups to hide some of their holdings, reducing even more the transparency of the annual reports.

In order to solve these issues, on May 2011 the IASB published the *consolidation package*, a set of five interactive principles providing rules about how to account for related entities. Such collection included:

1. IFRS 10 *Consolidated financial statement;*
2. IFRS 11 *Joint arrangements;*
3. IFRS 12 *Disclosure of interests in other entities;*
4. IAS 27 *Separate financial statement* (amended);
5. IAS 28 *Investments in associates and joint ventures* (amended).

These standards allow to clarify which is the accounting treatment to provide for companies related by any kind of interconnection.
In particular, if there it is an outright control, then it is necessary to consolidate the entity, applying the provisions reported by IFRS 10.
Anyway, if such control is shared and not exclusive, thus if there is a joint arrangement, the companies will assess which kind of deal there is in order to apply the right principle. In fact, if there is a joint operation[15], IFRS 11 will be applied and the company will prepare a separate annual report; if, instead, there is a joint venture[16] it will be required the application of IAS 28 and IFRS 11 about equity accounting[17].

[15] IFRS 11 defines a joint operation as a joint arrangement in which the parties involved have rights over the assets and obligations over the liabilities relative to the arrangement.

[16] IFRS 11 defines a joint venture as a joint arrangement in which the parties involved have rights on the net assets relative to the arrangement.

[17] The equity accounting, also known as equity method, is a particular consolidation method that substantially provides the same pieces of information given by the consolidation, but practically differs in the form. Considering that the investee does not lose its "personality" as a business, the objective is only that of showing the results of the investment made and the reasons why it has been done.

Actually, there might also not be any kind of control, but still it might exist a significant influence[18]. If this is the case, it will be applied the provisions regarding equity accounting displayed by IAS 28.
In any of these cases, companies will provide information in compliance with the IFRS 12.

Finally, despite the owning of the shares, there might be no relation at all with the investee. If it is the case, the participation will be accounted in compliance with the IFRS 9 *Financial instruments*, which disciplines the accounting of the financial instruments, and the company will be asked to disclose information in compliance with the IFRS 7 *Financial instruments: disclosure.*

As the list shows, IAS 27 has not been completely deleted, in fact it still is applied to entities preparing the separate annual report.

Reading the new IFRS 10, it is possible to observe that it provides a unique consolidation model, thus without making any difference between structured entities and other non-structured entities, differently from what happened with IAS 12 and SIC 12. This is due to the fact that the new standard replaces both provisions and refers to any kind of controlled entity.

The consolidation package was introduced in the European Union through the Regulation (UE) n. 1254/2012 which provided its application, at the latest, for businesses periods starting from January 1st, 2014.
The decision to provide such later application (the IASB, in fact, had established that these standards would have been applied to periods starting from January 1st, 2013) came from the results of the field-tests[19] which pushed the European Financial Reporting Advisory Group (EFRAG)[20], the Foundation for Economic Education (FEE) and the European Union (UE) to

[18] IAS 28 identifies a situation of significant influence whenever an entity has power to participate to the decision process regarding the financial and operative policies, but does not have control over the investee.

[19] These tests were conducted by the EFRAG with the aim of obtaining, from the participating companies, a feedback on the possible issues arising from the implementation of the new standards and an estimate of the relative expected costs and benefits.

[20] Since 2001 the EFRAG, composed of professionals representing the accounting profession, has the task of providing technical expertise to the European Commission for what concerns

postpone their institution to let companies find all the information necessary for their correct application.

1.5.1 The transition from IAS 27 to IFRS 10

The IASB provided that the IFRS 10 should have been applied to annual periods beginning after January 1st, 2013. An earlier application was allowed even if it was also required to declare it and to apply, at the same time, also the other standards that are part of the *Consolidation package*.

The standard requires a retrospective application, as disciplined by IAS 8 *Accounting policies, changes in accounting estimates and errors*, and also provides the publication of comparative information referred to the year previous to the adoption of the new standard that allow to fully understand and evaluate such passage[21].
After its first publication, the standard was amended on June 2012, when it was provided the preparation of the comparative information only for the year previous to the first application of the standard.

Despite the general rule about the retroactivity, some exceptions are provided.

First of all, whenever the evaluation about control takes to a different outcome from the one obtained through the application of IAS 27, but a fully retrospective application is not possible. Another exception regards the case in which the outcome of the valuation in the two different scenarios is the same, but the date in which control has been lost or acquired is different.

Thus, when applying this new standard for the first time, it may or not be necessary to make adjustments.
No adjustment is required if the assessments coming from the application of IFRS 10 are the same that were obtained under IAS 27, which means that the investee continues to be (not to be) consolidated under the new standard.

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the use of IAS in Europe, verifying whether those are in line with the other provisions or if adjustments are necessary.

[21] This provision refers to the amendment published on June 2012 and applicable since January 2013. This modification was also approved by the EU through the Regulation (UE) n. 313/2013.

If, instead, it happens that an entity which was not previously consolidated, has now to be consolidated, different scenarios may occur:

- If the entity is a business, as defined by IFRS 3 *Business combinations*[22], then it must measure its activities, liabilities and minority interests as if it had been consolidated since the date in which it was acquired (considering the definition of control provided by IFRS 10).
  If these measurements are not possible, the parent will apply the measures provided by IFRS 3 starting from the earliest possible period;
- If the entity is not a business, still its activities, liabilities and minority interests will have to be measured as if them had been consolidated since the moment in which control was obtained. But, in this case, any difference between the value of these amounts previously recognized and their current value will be accounted as if it was the corresponding adjustment for the opening balance of equity.
  If these measurements are not possible, the parent will apply the acquisition method provided by the IFRS 3, without accounting for the goodwill. Also in this case the standard will be applied starting from the earliest possible period.

Any difference between the amounts recognized at the deemed acquisition date and the relative value previously recognized because of the involvement with the entity, will be recognized as an adjustment to equity for that period. In addition to this, the investor will provide also all the information required by IAS 28.

Another case is that in which the introduction of IFRS 10 causes a cessation of the consolidation of the investee. If this is the case, the interest in the entity will have to be accounted as if it was accounted in compliance with the new standard since the moment in which it was acquired.
If this is not possible, the application of the standard should start in the earliest possible period. Also in this case, any difference between the amount accounted in this way and the value previously recognized will be accounted as an adjustment for the opening balance if the equity of that period.

[22] "An integrated set of activities and assets that is capable of being conducted and managed for the purpose of providing a return in the form of dividends, lower costs or other economic benefits directly to investors or other owners, members or participants." (IFRS 3, 2004).

Despite the case in which the accounting of the interest does not change, thus it continues to be (not to be) consolidated, any accounting difference can only be recognized starting from the moment in which the new standard is applied and not from a previous time.

1.5.2 Presentation of the annual report and consolidation procedures

Despite some great differences between the IAS 27 and the IFRS 10, there are several points in which the two standards are the same.

First of all, the IFRS 10 identifies the same cases in which the parent can be exempted from consolidation (see paragraph *1.4.1 Presentation of the consolidated annual report*), even if it also adds that its rules do not apply to post-employment benefit plans or other long-term employee benefit plans, being them disciplined by IAS 19 *Employee benefits.*

The provisions regarding the consolidation procedures are not different from the ones provided by IAS 27. This implies that also IFRS 10 asks parent companies to write their consolidated annual reports by assembling, voice by voice, the balance sheets of all the companies of the group, eliminating the intragroup transactions, eliding the participation of the parent with the relative portion of equity of the investee and highlighting separately the interests of the other investors.
This has to be done since the date in which the investor obtains control, and until such control is lost.
Moreover, when making the necessary evaluations, the investor will only consider the actual shareholder structure, without taking into account the potential voting rights, unless those give access to the returns connected to the propriety (like the perception of dividends).
Also with this new standard, it is provided that all the annual reports considered have to be prepared applying the same accounting principles and will have to refer to the same closing date, providing specific adjustments otherwise.
Finally, all the annual reports used for the preparation of the consolidated one must be drafted in the same currency. If this is not the case and conversions are needed, the relative consequences must be reported, in compliance with IAS 21 *The effects of changes in foreign exchange rates.*

Also with the new standard, the parent may lose control over the investee in many ways, such as the sale of its shares, the conclusion of the agreement that gave it rights or the intervention of the government. As provided by IAS 27, if such loss occurs, it is asked to derecognize the

relative assets and liabilities from the consolidated financial statement, to recognize any eventual retained investment in the entity at its fair value and to recognize eventual gains and losses attributable to the amounts that were previously accounted for in the other comprehensive income.

1.5.3 A new concept of control: definition and assessment

Similarly to IAS 27, the IFRS 10 establishes the principles that entities controlling one or more subsidiaries must follow when preparing and presenting the consolidated financial statement. In order to do this, it defines the concept of control, being it the only basis for the definition of the entities to be consolidated.

Parents are required to verify whether they control an entity regardless of the nature of the involvement with it, to reassess whether they still control or not a company whenever one of the elements indicating the subsistence of control change (even if they are not directly involved) and to apply these concepts to any case, such as those in which it owns the majority, or less, of the voting rights, those involving agency relationships and those in which the investor only controls a portion of the assets of the investee.

The new standard establishes that "an investor controls an investee when it is exposed, or as rights, to variable returns from its involvement with the investee and has the ability to affect those returns through its power over the investee. Thus, the principle of control sets out the following three elements of control:

1. Power over the investee;
2. Exposure, or rights, to variable returns from involvement with the investee; and
3. The ability to use power over the investee to affect the amount of the investor's returns."

An investor is considered to have power over an investee whenever it has rights that give it the ability to direct the relevant activities of the entity, no matter whether it is exercising such rights or not.

Such assessments may be straightforward, as in the case in which the power is given by the voting rights, or more complex as in the case in which voting rights have no relevance and power comes from contractual rights. The standard, in fact, provides some examples of sources of power different from voting rights, specifying that it may come from contractual arrangements between the investor and other vote holders which would give it the faculty of exercising voting rights sufficient to let it exercise the power, other contractual arrangements,

potential voting rights, percentage of shares owned and dispersion of other quotes or from a combination of these options. Moreover, even in absence of voting rights, the investor may be able to approve the appointment of the main members of the management team, or may affect the entrance of the entity in a deal that may favor itself. Naturally not all the special relations that the investor may have with the entity imply the existence of control, but those seeing a financial dependence or the involvement of managerial figures may suggest the subsistence of power.

Anyway, when the investor does not hold the majority of the voting rights[23], and it is necessary to understand if those rights that it owns are sufficient to give it power, it is necessary to evaluate:

1. The relative size of the investor's voting rights compared to that of other investors and the dispersion of the other voting rights[24];
2. Potential voting rights held by the investor and by other investors[25];
3. Rights arising from contractual arrangements;
4. Other facts and circumstances which suggest that the investor has the current ability to direct relevant activities.

[23] Or when its voting rights, even being the majority, are not substantive (see paragraph *1.5.4 Substantive rights: the element necessary for the conferment of power*).

[24] The bigger the relative size, the higher the probability that the investor has power. Similarly, the more the investors that need to cooperate to outvote the investor, the higher the probability that such investor has power.

[25] Potential voting rights arise from convertible instruments, or options. The parent is required to evaluate the actual possibility to exercise them, because those may be determining in assessing which investor exercises power. When making these valuations, it is necessary to consider their purpose and design, which means determining terms and conditions, evaluating any possible consideration that might be made by the investor about it (which eventually means distinguishing between significantly and slightly out of the money), their combination with other rights held by the investor and the possibility to exercise them when it comes the moment to take decisions about the relevant activities.

Also these rights, to be considered, need to be substantive (see paragraph *1.5.4 Substantive rights: the element necessary for the conferment of power*).

Even if it may appear obvious that an investor holding the majority of the voting rights is controlling the investee, it is not always the case. It may happen, in fact, that its power is limited because of the involvement of the State, of an administrator or of a regulator. On the other hand, it cannot either be directly assumed that, in these cases, an investor holding the majority of the voting rights does not have power: additional inquiries are necessary.

It may also happen that more than one investor has the ability to direct such relevant activities. If this is the case, the investor that directs the ones that affect the most the returns of the entity is considered to have power.

Being aware of the possibility that such indications about control may not be sufficient to understand whether an entity has it or not, the IASB has also provided a guidance referred to: the proof of the eventual power, the indicators of the eventual power and the incentives to obtain power. This is aimed at facilitating the assessment of control, since that the holding is provided with a list of the factors to be checked.

Before moving on with the other requisites, it is important to focus on the introduction of the new concept of *relevant activities* to which the standard refers for the identification of control and that are defined as the "activities of the investee that significantly affect the investee's returns" (IFRS 10).

In the most complicated cases, as those in which voting rights do not allow to manage relevant activities, such identification may be harder. In order to solve this problem, the standard suggests analyzing the purpose and design of the entity. This means considering "the involvement and decisions made at the investee's inception as part of its design and evaluate whether the transaction terms and features of the involvement provide the investor with rights that are sufficient to give it power" (IFRS 10). Through this analysis it will be possible to identify such relevant activities, how the decision-making process is structured, who can affect it and which is the subject that benefits of the returns coming from such decisions. Especially in cases where power is not exercised though voting rights, this analysis will let the investor identify which are the risks faced by the entity, how and which of them can be passed to third parties and whether it is affected by them. It will also permit to understand if the potential rights are substantive and whether a decision maker is an agent or a principal[26].

In fact, if in the case of ordinary entities, the relevant activities are generally those connected to financial and operating policies, in the case of structured entities the identification of these activities is harder. Such businesses have few and pre-determined activities that depend on the

[26] These two points will be properly explained in the next paragraphs.

reason why the company was set up, and this implies that the ability to express an opinion, and thus to affect relevant activities, is mainly granted by the contractual rights (Acernese, 2015).

To further facilitate the identification of such relevant activities, and the job of those defining the consolidation area, the IFRS 10 also presents some examples of those activities:

- Activities related to the determination of the financial and managerial policies;
- Nomination, withdrawal and definition of the management's retributive policies;
- Direction of purchases and sales of goods and services;
- Management of financial policies and resources;
- Acquisition, selection and management of the operating assets;
- Management of the research and development activities,
- Determination of the funding structure.

One of the possible issues regarding the definition of the controller of a company may regard the case in which we have a franchising. In this condition, in fact, the nature of the deal imposes that the franchisor can take decisions regarding the actions connected to the arrangement. Anyway, such power is limited to these activities, which means that if another investor has the power to take decisions about the relevant activities of the entity, then no power can be attributed to the franchisor, also because its returns would be affected by the decisions of this other investor.
In any case, when assessing the power of the franchisor, it is better to remind that the less the financial support that it provides, the less the power that it can exercise, thus the less the possibility that it controls the franchisee.

An investor is considered to be exposed to the variable returns of an investee whenever such returns vary as a consequence of the performance of the entity. It is important to notice that the standard refers to "returns" meaning that the parent needs to consider both positive and negative results coming from the involvement with the subsidiary. When making this assessment, the investor evaluates the measure of such variability considering the substance of the returns, not their legal form.
The standard suggests considering, as returns, amounts as dividends, compensations for services, taxes and exposition to losses, fiscal benefits, the future access to the liquidity coming from the involvement with the entity and those returns not available to other investors (see synergies).

It is quite obvious that once an investor is largely exposed to these variable returns, it tries to obtain as much power as possible to affect them. Thus, such exposition may be an indicator, especially in the hardest situations, to understand where control lies.

The last element necessary to identify control is the link between power and returns. Specifically there is control whenever an investor has the ability to use its power to influence the returns coming from its involvement with the investee (Cordova, 2017).

Thus, in order to assess control, after having identified all its subordinated entities, the parent will understand whether it owns, wholly or partially, such business and if it is exposed to the variable returns. Then it will identify which are the relevant activities of the investee, how the relative decisions are taken and which are the rights that give the current ability to be involved in such decision making. Finally, it will understand if it has such rights, and if it can use them as a principal to affect its own returns.

1.5.4 Substantive rights: the element necessary for the conferment of power

One of the elements on which the standard mainly focuses when providing how to assess power, is the substantiality of rights. The IFRS 10, in fact, specifies that for a right to be considered as a source of power (and, consequently, control), it must be a *substantive right* which means that the investor must have the practical ability to exercise it when decisions have to be taken[27].

There may be many obstacles preventing the investor from the ability to exercise its right. Those may be of any kind, financial, operational or legal, the investor may also miss information that would be necessary to the exercise, or it might be the case that, for the right to be exercised, it is necessary the approval of many people. Among the others, it will be taken into account the exercise price, the financial ability to exercise the right and the exercise period.

It will be also important to consider substantive rights of other investors, since that those may be used to prevent others from the exercise of their rights. On the other hand, the more the people that are necessary to approve the possibility of exercise the right, the less the probability that it is a substantive right (Dello Strologo, 2011).

[27] Here the standard refers to any kind of right which can be considered when assessing power. This implies that these assessments are needed also when analyzing voting rights since that also them could not be exercised when taking decisions about relevant activities.

A category of rights that surely cannot be defined as substantive is that of the *protective rights.* Those are rights that are only designed to protect an investor, when the activities of the investee are subject to significant changes because of extraordinary events, and the investment may be affected by that. Being like this, these rights do not give any power to their holder, nor to affect the relevant activities or to prevent another investor from doing something.
Also in this case, the standard provides examples of this type of rights (Bianchi, 2014):

- The creditor's right to limit the debtor in activities which may be detrimental for the assets of the entity;
- The minority shares' right to approve investments that overgo specific thresholds, the issuing and the repurchase of equity or debt instruments;
- The creditor's right to exclusively assault the debtor's equity in case of non-compliance with the payments;
- The minority's right to approve the putting in liquidation, the modifications of the statute and the pricing of the transactions with correlated parties.

Naturally, when assessing whether its rights are substantive or merely protective, the investor cannot simply consider that any right which can only be exercised in extraordinary conditions is a protective right. It may happen, in fact, that an entity is designed in such a way that all its relevant activities are predetermined and, when specific circumstances occur, it is necessary to take decisions about the actions to be done. The rights that the investor would exercise in such cases would not be merely protective.

1.5.5 Agency relationships: when the decision maker does not have power

In the valuation process about its power over an investee, the investor with decision-making rights needs to understand whether it is a principal or an agent.
An agent is a decision maker that acts on behalf of another party, the principal. Because of that, when exercising its decision-making authority, it is not controlling the entity.

Once that this point is clear, in the evaluation process of control, the investor will consider eventual delegated decision-making rights as if it was holding them directly.

Understanding whether a decision maker is a principal or an agent is not as straightforward as it may seem. The fact that others may benefit of the decisions taken and the oblige to act in someone else better interests, are not elements that, alone, can allow the identification of an agent. Because of these eventual issues, the standard provides a guidance for investors

analyzing their position. In particular, the following factors must be taken into account, still heeding that whenever a party holds a substantive right to remove the decision maker, even without cause, the decision maker does not have any power:

1. The scope of the decision-making authority.
   This implies considering the activities that it can perform, in particular taking into account the agreement to which it refers and its discretion when taking decisions.
   It is better to consider also the purpose and design of the investee, in order to assess correctly the risks to which the decision maker is exposed and the way in which those may be passed to other parties;
2. The rights held by other parties.
   Substantive rights held by other parties may restrict the authority of the decision maker or may even allow its removal. When those are held by just one party, this element, even in isolation, implies that the decision-maker is an agent. Differently, if those rights are held by more than one party, a deeper analysis is necessary, still keeping in mind that the more the parties that should exercise their rights to affect the power of the investor, the more the probability that it is a principal;
3. Its remuneration.
   The investor shall consider that the greater its exposure to the variable returns coming from the activities of the investee, the higher the probability that it is a principal.
   It should also consider whether its remuneration is commensurate to the service provided and if the remuneration agreement presents terms and conditions that are typical of an agent-principal agreement;
4. Its exposure to variability of returns from other interests.
   Finally, the investor shall consider the magnitude and the variability associated with other interests that it holds in the entity, and whether those may affect its actions. The greater this exposure is, the higher the probability that such investor is a principal.

It might also happen that a party is an agent also if no agreement exists. It is the case of a *de facto agent,* which is a party that is pushed to act on the investor's behalf.
These situations can be identified considering the nature of the relation between the party and the investor and their interaction.

Such assessments are necessary whenever there are changes in the overall relationship among the party and other investors.

1.5.6 Silos: when the investor only controls specified assets

There are cases in which, even when the company holds only some assets of the investee, still it must proceed with their consolidation. This is what happens when these assets are such that can be considered to constitute a separate entity, which is when those are the only source of payment for specified liabilities and any other party, different from those involved with these specified liabilities, cannot claim any right on these assets.
From a technical point of view, such portion of assets, liabilities and equity is *ring-fenced* from the rest of the business and represents a separate entity that is named as *silo*.

Once that this particular condition is defined, the investor must understand how the decisions about the relevant activities of the silo are taken and whether its rights give it the possibility to be involved in such decision-making process.
If this is the case and the investor controls the silo, it must proceed with the consolidation of this portion of the entity.
Other eventual investors controlling the remaining portion of the entity will consolidate it, excluding the assets, liabilities and equity referable to the silo.

1.5.7 Investment entities: the only case of a parent exempted from consolidation[28]

On October, 2012 the IASB published an amendment to the IFRS 10, providing an exception from consolidation for the investment entities, because of the low relevance of the informativeness connected to these businesses.

The standard defines as *investment entity* all those businesses that:

1. Obtain funds from investors to provide them with managerial services;
2. Commit to its investors that the only scope of their activity is that of investing to obtain an equity return;
3. Measure and value the performance of their investments at fair value.

Generally those entities have more than one investment and more than one investor.

[28] The provisions illustrated in this paragraph have not been homologated yet by the EU.

It is quite evident that the reason why those entities buy shares of other companies is that of obtaining positive returns, thus not that of controlling them. This causes the absence of the unitary direction that is typical of a group and, because of this, the new standard provides an exception from the consolidation requirements for those entities.
It is established that the accounting of the investments held by these companies must be made in compliance with the IFRS 9 *Financial instruments*, and thus at fair value through profit and loss.

Considering the great relevance of this exception, it is very important to assess correctly whether a company is or not an investment entity. In order to this, first it will be checked if the requirements are met, then if the common elements are there and, finally, additional analyses will be made to confirm the results obtained.
Actually, an entity may be an investment one even if it held only one investment or if it only had one investor (it may be at the beginning of its activity), if the investors were correlated parties that have established a parallel fund to finance these investments and if the investors were not owning equity instruments, but debt instruments, whose reimbursement was subject to the fair value variations. Moreover, considering the reason why investments are made, their life should be predetermined and the entity should provide ways out for them. Anyway, even if the absence of the common characteristics does not prevent an entity from being defined as an investment one, in these cases the standard requires a higher disclosure for the identification of the entity (Grant Thornton, 2017).

1.6 A comparison between old and new: how consolidation has changed

The presentation of the two standards and the relative explanations allow to start to understand which are the similarities and the differences between the two of them, but in this paragraph it will be provided a deeper and full analysis of these dissimilarities.

1.6.1 Same issue, different definitions: what is a consolidated annual report

These two principles discipline the same issue, that is the preparation of the consolidated annual report, but the two face this deal in different ways, starting from defining differently what a consolidated annual report is.

The IAS 27 defined this document as the annual report of a group presented as if it was the annual report of a single economic entity.
Differently, the IFRS 10 defines it as "The financial statement of a group in which the assets, liabilities, equity, income, expenses and cash flows of the parent and its subsidiaries are presented as those of a single economic entity".

It is already possible to highlight a deeper and more precise approach of the latest standard, which will then come to leave less space for misunderstandings.

1.6.2 When and how the parent must consolidate: similarities and differences

The two standards do not differ that much in the provisions about when an entity should consolidate or should be exempted from this oblige. In fact both provide that the holding does not have to consolidate when it is not listed, nor about to be listed, when the parent is itself the subsidiary of another entity that is already preparing the consolidated financial statement, or when the controlling entity is preparing an annual report that is compliant to the IFRS' provisions[29]. Similarly, both standards provide the same consolidation procedures.

Despite this, it is possible to identify a difference about the exemptions provided for the consolidation. In fact, both IAS 27 and IFRS 10 provide that a sub-holding can choose to not consolidate but it is only IAS 27 that allows the exemption also to these entities that, even holding the majority of the voting rights, are not actually controlling the investee.

On the other hand, it is only the newest standard which gives to investment entities the possibility to not consolidate its investees. The issue regarding those businesses was not considered at all by the previous regulation, thus it is a new entry in the consolidation world. The IASB, in fact, has considered that the investments of those entities cannot be considered to fall in the consolidation concept, since that are acquired only for the obtainment of positive returns.

[29] In both cases, it is necessary to remember that the final word about these dispositions is the one carried by the national and EU provisions, which requires at least (each country can extend the oblige to other parents) to holdings being or controlling capital companies or to entities being particular legal entities to prepare the consolidated financial statement.

Once that the parent has defined the consolidation area, both standards require the application of the *acquisition method* for the consolidation procedures.
This implies that the accounting values of the subsidiary must be accounted at the fair value at the date in which control is acquired, meanwhile the parent will account for goodwill applying the rules provided by IFRS 3 *Business combinations.*

1.6.3 Different concepts of control

As already explained, the main reason why it came out the necessity to issue a new standard about consolidation was connected to the different interpretations about the rules to define the consolidation area due to the gaps left by IAS 27.

First of all, it is important to notice that the old standard did not give any definition of control, but just explained which were the situations in which it was supposed to exist.
Differently, the new standard first defines what control is and then identifies the guide lines to delimit the consolidation area.

The old standard identified control in every case in which the company held the majority of the voting rights or in those in which, even holding less than the majority, still it was exercising control, considered its involvement in the investee.
Differently, the new standard provides a broader concept of control, defining it as every condition in which the investor is subject to the variable returns of the investee and has rights which give it the possibility to take decisions about the relevant activities of the entity, thus influencing such returns.

The IAS 27 mainly focused on the *de jure* control, without establishing proper rules for those cases in which the parent exercised control through the owning of less than the majority of the voting rights. Because of this approach, it came out a series of different interpretations about the *de facto* control and, as a consequence, companies being in the same situation applied different accounting approaches, thus producing annual reports that could not be compared.
Because of these issues and because of the failure of the clarifying disposition amended in 2005, the IASB decided to focus more on the *de facto* control through the IFRS 10, thus considering all the cases in which control is exercised, no matter if through the owning of more or less than the majority of the voting rights. It is not supposed anymore that the owning of the majority of the voting rights implies the exercise of control over the investee, because there is a higher focus on the substance rather than on the form. The standard, in fact, requires verifying the

subsistence of the control also in cases in which the investor holds less than the majority of the voting rights, considering also the size of its shares compared to that of the other investors, and the level of dispersion of the other ownings, the substantive potential voting rights and those rights coming from contractual agreements. This approach also allows a higher level of comparability, since that there are more specific rules about how to define the consolidation area, and this leaves less space for subjective interpretations.

Moreover, IAS 27 identified control only connecting it to cases in which the holding was obtaining benefits from the subsidiary. In a totally different way, IFRS 10 defines control referring to the possibility of the investor to obtain *returns* from its investee, thus without focusing only on positive returns but including both positive and negative outcomes of the activity of the entity.

The wider definition provided by the IFRS 10 allows to take into account all the situations in which control is exercised, from the easiest to the toughest to assess. Being more generic, the new standard is able to identify every condition in which control is exercised and does not leave much room for loopholes. In this way, entities should have less opportunities to avoid consolidation and this should take to more transparent annual reports.
It also misses a distinction between common investees and special purpose entities, that were previously disciplined separately by the IAS 27 and the SIC 12. The principle proposes a unique set of rules, for all investees, thus not leaving any space for misunderstandings and ambiguous interpretations by the users which may leave such entities out of the consolidation area, providing wrong information to the readers.

In this way, the latest provision offers a unique model for the preparation of the consolidated financial statement, through the establishment of clear and unambiguous rules for the detection of the *de facto* control, and eliminating the inconsistencies due to the different interpretations (before coming from the inconsistencies between IAS 27 and SIC 12).

One of the concepts introduced by the IFRS 10 for the correct identification of the consolidation area is that of the *relevant activities*.
Actually this concept should not be considered completely new. It is possible to find a similar idea in the IAS 27, when it is provided that investors managing the financial and operating policies have to be considered as having control over the entity. But also in this case, the new provision expands the concept, now including all the activities that have a significant impact on the returns of the entity, no matter what those regard.

1.6.4 Different approaches to rights: when those can give control

Among the elements that both standards take into account when providing guidelines for the identification of the consolidation area there are the potential rights. As already explained, those are rights owned by the investor that, if exercised, can give it more power and that eventually may give control to an investor which would not have power over the entity without them.

But, despite the apparent similarity, the two standards have a different approach to these rights. IAS 27, in fact, considers that potential rights have to be considered only when being currently exercisable. Differently, the new standard is more focused on the substantiality of the right, evaluating whether it can be exercised when it is required to take decisions about the relevant activities.

It may happen, in fact, that a right being currently exercisable cannot be exercised by the investor in the moment in which a decision must be taken, thus control would be wrongly attributed. It is possible to understand the difference only when additional elements are considered, for example looking for eventual barriers to the exercise or for disincentive clauses. The previous standard did not either allow the possibility to consider the financial ability of the investor, thing that is now provided by the IFRS 10 when evaluating the exercisability of the potential rights (Rizzi, 2013).

It is even true that, despite the higher adherence to the reality, these new rules may be harder to apply because of the necessity to know more about the circumstances around the investors and other investors' rights. Moreover, the new provisions also require higher subjectivity which may undermine the truthfulness of the annual reports.

The second requirement presented by the IFRS 10 for rights to be considered when assessing control is that of their substantiality. The latest standard, in fact, considers only substantive rights as providers of control.

This is a requisite completely new for the consolidation provisions. The previous standard, in fact, did not wonder whether rights held by the investor were actually exercisable, but just cared about their possession.

1.6.5 Disciplining consolidation through the definition of new concepts

The IFRS 10 faces the concept of consolidation, starting from what had been disciplined by the IAS 27, but then improving some concepts or even introducing new notions that allow to better define the relations among the investor and its investees.

One of the new ideas that the latest standard has introduced is that of the *agency relations*, which are introduced, explained and disciplined. This is an issue that was not absolutely considered by the previous principle that, in this way, was leaving a further empty space that gave more room to parents trying to avoid consolidation or to hide the reality.

Among the others, the new principle introduces also the concept of *silo*, whose consolidation was not provided before.

1.7 From theory to reality: the reaction of companies to the new standard

As it has been possible to observe, over the years regulators have been trying to provide a faithful accounting representation of what a group is. They have been doing this also by recurring at different theories that try to explain this concept from different points of view. They had at their disposal the *proprietary theory*, with a specific focus on what the parent actually owns; the *parent theory*, that tries to give its attention to both, what the parent holds and what it controls, counterbalancing the need to show the parent's result and that of understanding what is happening at a group level; the *entity theory*, that considers the whole entity without any distinction between what is possessed by the holding and what by the minority investors, looking at the group as an unicum; and the *modified parent theory*[30] which stands on the same concept of the entity theory, but requires the holding to only recognize its own goodwill (Grasso, Terazzi, 2009). As it is possible to understand, choosing one or the other path, would have lead regulators to different representations of these groups.

After having wondered which would have been the best way to deal with this issue, through the IAS 27, the IASB had tried to provide a concept of control which was wider than the one proposed by the proprietary theory, and that was more oriented toward the parent theory, focusing on the power that the holding could exercise on its subsidiaries. The first analyses showed that such approach carried good results, especially for those groups with a simple

[30] These theories are introduced and explained in the IFRS 3.

shareholder structure. The standard was shaped in such a way that companies were obliged to consolidate only when those were owning the majority of the voting rights. As a consequence of this provision, it was very easy to not consolidate investees which they could control even without having such amount of shares, as in the case of special purpose entities.
After having understood such issue, the IASB tried to solve it by publishing the SIC 12, which required companies to consolidate those entities whose risks and returns it was exposed to. The problem was that holdings took these provisions as an alternative consolidation model, such that they ended up choosing, for the preparation of their consolidated financial statement, what was required by IAS 27 or by SIC 12 (when, instead, they should have applied the two of them contemporaneously).
The final (at least until this moment) solution to these problems came in 2011, with the IFRS 10, especially because of the Great Recession which highlighted the huge lack of transparency of many consolidated financial statements. Such standard provides the adoption of a *step by step approach* for the definition of the consolidation area, and has a wider field of application. It also offers a guide with detailed rules and examples which are aimed at easing the job of the preparators of the consolidated annual reports. The idea is that, in this way, businesses have less room for subjective evaluations and the consolidation area is actually adherent to the reality.

At this point, considering the necessity to assess the honesty of groups, from which it comes the truthfulness of the consolidated financial statements that they prepare, it is interesting to understand how parents have actually reacted to these new rules.
On the other hand, it is also important to have an objective analysis of the new standard, aimed at testing its power. It is not possible to forget, in fact, that the first problem to be solved to not leave room for misinterpretations is the ability of the regulation to rule adequately the situation.

1.7.1 Proving the efficiency of the new standard: Shapley – Shubik and Bazhaf indexes

In order to obtain a more critic view about the new standard, it is possible to test the effectiveness of its rules through the adoption of the Shapley-Shubik and Bazhaf indexes (Ben-Shahar, Sulganik, Tsang 2016).
As already highlighted, the main issue of these consolidation principles, regards their ability to identify which are the investees over which the investor can actually exercise its power.

Those indexes measure the actual power that a voter is able to exercise in a voting system and, because of that, those may not be the most proper tools to measure the power of the new IFRS.

That is because, as the principle itself emphasizes, control does not necessarily come from voting rights, thus the instruments proposed should be considered as an approximative measure of the ability of the IFRS 10 to correctly define the consolidation area.

Stated this, it is yet interesting to take into account the doubts arising from the results obtained from this analysis. It appears, in fact, that the standard concludes for the absence of control where, instead, the indexes identify it.
It may be interesting to conduct further analyses to understand whether those conclusions bring to light an actual problem or if, instead, these doubts have no reason to exist.

1.7.2 Applying the standard: expected and actual consequences

After having released the new rules, the IASB had stated that it expected no consistent changes in the consolidated financial statements that companies would have published from that moment on. However, it might also have been possible that the performance of groups would have gotten worse, since that there might have been an extension of the consolidation area, which might have included bad companies that had not reacted well to the recent economic crisis. Despite this, Lopes and Lopes (2019), have proven that the IASB's provisions were right.

Apart from the natural and small modification of the consolidation area (new companies entered into this perimeter and others, previously being within it, exited it), in fact, it was not possible to identify relevant variations in the financial and economical indexes of the groups.
The only relevant observation was the one regarding the consolidation of the SPEs, that had registered a relevant change, which was something quite predictable considering the duality between IAS 27 and SIC 12.

Above this, companies were also asked to provide their opinion about the new principle through the Field Test.
The only downside that came out from this analysis was the difficulty that preparators met while finding the information necessary to understand which companies should have been within the consolidation area.
Despite that, the new standard was positively accepted, thanks to the higher level of clarity compared to the previous regulation, the introduction of one single consolidation model and the possibility to collect more information about the contractual arrangements, and the consequent risks, among companies (EFRAG, 2012).

If only those in-depth analyses were taken into account, it would be possible to conclude that, despite the eventual doubts relative to the new standard, it is actually able to erase any possibility of finding tricks to avoid consolidation. But it is not either possible to forget about the propensity to the lie of some companies, which pushes toward further researches.

1.7.3 Over the rules: resistance

The main reason why companies had been exploiting the gaps left by the IAS 27 is that they have an incentive to lie about the investees that they actually control, since that those can be used to hide liabilities. In particular, once that a business does not fall within the consolidation area, it can be used as a bucket where to shift undesired liabilities. In this way it seems that the group is good at managing its activities and liabilities, being the latter adequately (or even more than what would be enough) counterbalanced, and the general activity sustainable. As a consequence, this allows getting better rates and more favorable financing deals (those being more convenient and more flexible). On the other hand, as already noticed, lying about the actual composition of the group, also gives more space for the earning management, which allows to inflate the income.

It is because of this reason that it is interesting to understand if holdings have still been trying to find loopholes also after the introduction of the IFRS 10 (Maroun, van Zijl 2016).
The main problem that the new standard had to solve was the reduction, or even the elimination, of every possibility to avoid consolidation. Despite the new structure, and the reduction of the room for preparators' judgment, the users interviewed have highlighted that they could still find loopholes to not include in their consolidated financial reports some of their subsidiaries. It is possible to see how users present what the authors identify as *resistance*, that is the attempt to find a way to get around consolidation. This is what may let think that even the new provisions are not enough to properly delimitate the consolidation area.

The main concern for those dishonest preparators is that of understanding which is the legal interpretation to be given to the IFRS 10 in order to avoid the consolidation of subsidiaries, especially of SPEs. Obviously it is not possible to simply exclude a subsidiary from the consolidation area, even just because of the pressures that would be exercised by investors or by the audit committee, but yet it is possible to find a way to disregard it, apparently following the rules provided by the standard. Such resistance may be implemented, for example, by finding even the smallest and most irrelevant dissimilarities between the explanatory cases

provided by the IFRS 10, and the actual situation of the group, or by trying to prove that there is no exposition to the variable returns of a particular investee since that those are perfectly hedged through specific financial derivatives.

The possibility to find such loopholes is a natural consequence of the fact that the standard is based on rules, rather than on principles, and this makes harder for it to perfectly fit on all of the possible complicated transactions that companies may put in place. On the other hand, it would not either be good to follow a principle-based approach, since that, despite its flexibility and its adaptation to every possible deal, it would be subject to individual interpretations and manipulations led by the specific incentives of the preparators. As a consequence, those annual reports would be difficult to be compared (Psaros, 2007).

1.7.4 A further look at what has been going on

The analyses that have been proposed until this moment open the way to new questions regarding the introduction of the IFRS 10 and the way in which companies have dealt with it. Among the others, it may be possible to wonder how it is possible that the size of the groups has not consistently changed, considering their continuous attempt to find loopholes that allow to consolidate as little subsidiaries as possible.

Parents, in fact, might have found the escapes they were looking for. This might have given them the possibility to apparently leave unchanged, or almost unchanged, the dimensions of the groups.

On the other hand, they might have not found such loopholes. This might have implied another reaction, that requires analyses deeper than the ones that stop at the "appearance", and that only focus on the sizes of the groups. Parents, in fact, might have understood to not be able to manage adequately groups that might have enlarged, and thus they might have directly chosen to dismiss some of their participations, rather than running the risk of consolidating other entities.
Having understood to not be able to hide their subsidiaries anymore, they might have chosen to divest entities that were controlled through little shares and that now, considering the new rules, should have been consolidated.

In the following chapters it will be developed an analysis aimed at answering these questions and at trying to understand as much as possible what has been going on after the introduction of the new rules.

This may be a step useful for the understanding of the ability of this new standard to completely transform the black sheep in white ones, eliminating all the possible escapes that they could use.

CHAPTER TWO

UNDERSTANDING THE BEHAVIOR OF GROUPS: THE DEVELOPMENT OF THE ANALYSIS

2.1 How to build an analysis that properly answers our question

In the first chapter, is has been possible to have a foretaste of how complex the behavior of groups can be. They, in fact, may be pushed by good or bad purposes. In the first case, they will follow properly the guidelines provided by the economic principles, representing in the most realistic possible way their condition. In the second case, they will try to manipulate the rules, in order to shape their actual economic situation for their scopes, presenting a better, even if fake, image of what they are (Maroun, van Zijl 2016).

The main issue, when analyzing groups, is that it is not so easy to understand whether they are honest or not, because those manipulations that they may put in place are well hidden, such that apparently it seems that they are following what the standard requires. It is because of this reason, that whenever there is the attempt to understand what is actually going on with them, it is important to find a way to develop an analysis that does not stop at the appearances, but goes further, trying to reach the hearth of the truth.

It is starting from this reasoning, that it may be possible to understand what may be wrong with the analysis, previously illustrated[31], which evaluates the possible effects of the new rules, looking at the variations of the groups' size after the introduction of the IFRS 10 (Lopes, Lopes 2019). This research, in fact, may be superficial considering how cunning groups can be. This doubt becomes even stronger when considering the resistance that they generally put in place when adopting new principles, especially when those are not convenient for their interests (Maroun, van Zijl 2016).

Considering those facts, it arises the necessity to find other ways to understand whether and, eventually, how groups have changed their attitude after the introduction of the consolidation package.

[31] Look at paragraph *1.7.2 Applying the standard: expected and actual consequences*.

It is a question for which it is not so straightforward to build an analysis that provides an answer, because there is the necessity to find the quantitative representation of a qualitative issue, that is the behavior of groups. In particular, it is necessary to understand which is that quantity that describes such attitude and that, meanwhile, is not affected by eventual manipulations.

On the other hand, the construction of the linear regression that will describe the analysis, presents also other issues. Among the others, in fact, it is not possible to forget the identification of a proper sample and the individuation of adequate control variables.

Considered all these points, it follows an explanation of the way in which the research presented in this work has been realized.

2.2 Hypotheses development

As just explained, finding that value that could clearly show the reaction of groups to the new consolidation rules was not that easy, considering the loopholes that they might have been looking for. Their size, in fact, had remained unchanged, suggesting for the absence of relevant modifications, but other amounts might have been adjusted.
Our first clue was that of finding the dependent variable among the equity investments held, but those might have been recorded in different possible ways. None of the solutions at our disposal have been a priori excluded, and this because of the awareness of how clever groups might have been and of the different information that each of these amounts provides. Naturally sometimes the facts collected my overlap, but in other cases what is told by one of the values cannot be understood looking at one of the others. Thus, in order to not leave any possible doubt unsolved, it has been decided to run six different analyses, each with its dependent variable and its relative hypothesis.

2.2.1 First hypothesis: analysis of the relative equity investments

The first hypothesis analyzes the eventual reaction of parents to the introduction of the IFRS 10, focusing on the relative equity investments.

What we know about clever parents that prepare the annual reports is that there are cases in which they want to hide some of the subsidiaries controlled. Those, in fact, may be used for the realization of bad purposes, such as the hiding of undesired liabilities. But, this missed

consolidation, is something that only affects the consolidated financial statement, since that it will include less companies. If, instead, we look at the equity investments purchased by the parent, we should observe a measure that is not affected by these accounting policies. Here, in fact, the company is putting together the amounts owned, no matter whether those are to be consolidated or not.

Now, if the IFRS 10 has really been able to eliminate any possibility of manipulations, and considered that the size of groups (measured by Lopes and Lopes looking at the total activities) has remained unchanged, parents willing to continue to not include these companies in their perimeter of consolidation should have dismissed them. As a consequence, the portion of activities used to purchase the equity investments should have decreased.

Starting from this reasoning, it is possible to test the following hypothesis:

H_1: the weight of the equity investments on the activities is negatively associated with the introduction of the IFRS 10

2.2.2 Second hypothesis: analysis of the total control

After having verified whether parents have reacted to the issuance of the IFRS 10 through a reduction of the equity investments owned, we have looked at the total linkages connecting the companies of the group.

As we know, looking at the accounting size of groups, it is possible to conclude that the introduction of the new consolidation principle has not affected in any way the investment decisions of parent companies (Lopes, Lopes 2019). But, if we go deeper, there is another information that we can analyze in order to understand if any modification has occurred. In their consolidated annual reports, in fact, companies report the structure of the group or they list the companies that compose it and the relative percentage of shares owned. These amounts do not necessarily fit with the consolidation area since that, because of the low percentage owned, the parent may be able to exercise a mere significative influence on it. But, as we know, the amount of shares owned is not an objective indicator of the power exercised.

On the other hand, the IAS 27 left the consolidation of these entities controlled through a little portion of shares to the honesty of investors. And we also know that if they want, and if they can, they lie (Maroun, van Zijl 2016).

This implies that, if companies wanted to represent these companies, that were actually controlled, as entities on which they were only exercising their influence, they could.

At this point, if the IFRS 10 had been really able to uncover hidden subsidiaries, parents would have had to consolidate all the subsidiaries that they were controlling, even through little amounts of shares. Consequently, if they wanted to continue to not introduce these companies in their consolidation perimeter, they should have dismissed them, and we would have observed a reduction of the linkages connecting the companies of the group.

Starting from this reasoning, it is possible to test the following hypothesis:

H_2: the total linkages connecting the companies composing the group are negatively associated with the introduction of the IFRS 10

2.2.3 Third and fourth hypothesis: analysis of direct and indirect control

The previous hypotheses are mainly focused on the way in which the overall equity investments have eventually changed after the introduction of the new consolidation rules, but they do not focus on the dichotomy between direct and indirect investments. As we know, in fact, parents can expand their power directly, thus personally purchasing the shares of companies, or indirectly, letting their subsidiaries buying other entities' shares. We may think that direct investments are made for "industrial" reasons, such as the ability of reaching new markets or to start the activity in a new industry. Differently, indirect investments may be more focused on riskier activities (the parent has to consolidate just the percentage owned, which is eventually little), may be the ones used to hide undesired liabilities and may be the ones easier to be not consolidated. If so it is, it may be that the introduction of the IFRS 10 has somehow influenced the way in which those investments are made. It may be, in fact, that, being the parent unable to continue to hide these subsidiaries, it has decided to divest the indirect investments. On the other hand, it might have preferred to acquire them directly, in order to personally control those risky activities.

Starting from this reasoning, it is possible to test the following hypothesis referred to direct investments:

H_3: the total linkages connecting directly the companies of the group is positively associated with the introduction of the IFRS 10

It may seem that this last hypothesis is contradictory in comparison to what is stated in the first one. We may wonder, in fact, how we could expect an increase of the direct linkages when, instead, the relative equity investments are expected to decrease. Well, this would be possible because parents would reduce the indirect investments, completely dismissing them (which is the reason why we can expect a reduction of the overall investments) or transforming these participations in direct ones (which is why we expect an increase of the direct holdings).

Then, the reasoning has been furtherly tested through this additional hypothesis:

H_4: the total linkages connecting indirectly the companies of the group is negatively associated with the introduction of the IFRS 10

2.2.4 Fifth and sixth hypothesis: analysis of relative direct and indirect control

The reasoning that has been explained in the previous paragraph may be tested in another way. In particular, we may think that the choice between direct and indirect investments can be analyzed more adequately looking at the way in which their proportion has eventually changed considering the whole linkages connecting the companies of the group. In this way, in fact, we would eventually appreciate the way in which companies have preferred the direct participations to the indirect ones. In particular, also if the overall linkages had not changed, if the relative direct investments had increased, we might have thought that there had been a dismissal of the indirect ones, such that the direct had assumed a higher weight.
The analysis of these amounts in relative terms better highlights the way in which the company has eventually decided to shift toward the direct investments because it does not suffer of the dimensionality of the specific company considered.

Starting from this reasoning, it is possible to test the following hypothesis referred to the direct investments:

H_5: the weight of the direct linkages on the total ones connecting the companies of the group is positively associated with the introduction of the IFRS 10

Then, the reasoning has been furtherly proven through the following hypothesis:

H_6: the weight of the indirect linkages on the total ones connecting the companies of the group is negatively associated with the introduction of the IFRS 10

2.3 Definition of the sample

Building an analysis, no matter the kind of question it should answer to, needs, first of all, the identification of a sample that can represent the behavior of the entire population in the best possible way. Word of the inferential statistic.

In the case of this analysis, the first requisite was that of looking at groups listed in the stock markets placed in one of those one hundred and twenty countries adopting the IFRS. Differently, in fact, those entities are not obliged to follow the rules provided by this set of principles[32], and this would have made harder the creation of a proper sample since that it would have implied the research for these groups among all the possible entities that would have been found. Moreover, whenever a company decides for the listing, the relative market asks it to comply with specific requirements that unlisted companies, that voluntarily choose to adopt the IFRS, do not necessarily present. This implies that, analyzing a sample not composed of listed companies, would not allow the generalization of the results obtained that, instead, is what we are looking for.

Stated this, it has been necessary to choose the specific stock exchange to be considered. The choice fell on the domestic Borsa Italiana, one of the biggest in Europe, aimed at "optimizing liquidity, transparency, competitivity and efficiency"[33] with the idea that it would have allowed an easier collection of the data.

Then, once chosen the stock exchange, it was necessary to choose the specific market and the relative segment[34] from which picking up the sample.

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[32] For deeper insights about the adoption of these rules look at paragraph *1.3 Ruling the preparation of the balance sheet: economic principles*.

[33] This is the description that Borsa Italiana it-self provides on its website *borsaitaliana.it*.

[34] Borsa Italiana manages different types of markets, in particular: stock markets (such as MTA and MIV), bond and fixed income markets (such as MOT and SeDex), derivatives markets (such as IDEM and IDEX) and the EFTplus, that is a ETP market. Each of these markets provides the trading of specific financial instruments and has its own rules.
Then, those markets can be furtherly divided in segments.

The decision to operate in this way, rather than analyzing the whole amount of groups listed, was simply carried by the awareness that it would have been impossible to manage appropriately a bigger amount of data, and this would have not allowed an acceptable quality of the relative results. In the same way, if the groups to be analyzed had been chosen randomly taking them from all the markets, with all the relative possible segments, it would have been impossible to control for all the elements, specific of each division, affecting their behavior and the results of the analysis would have been biased.

Considered all these elements, it has been decided to make reference to the segment STAR (Segmento Titoli con Alti Requisiti).
It is part of the MTA (Mercato Telematico Azionario), an order-driven market on which, among the others, it is possible to trade every type of shares, convertible bonds and warrants. It is divided in different segments, on the basis of the capitalization of the instruments to be traded; those are the blue chips, the STAR and the ordinary one.

On the STAR, traders have the possibility to exchange shares whose capitalization is between € 40 million and € 1,000 million, issued by companies committed in complying with specific requirements regarding the corporate governance, the public disclosure and the liquidity. More specifically, those entities must present independent directors, an internal committee and another one for the remuneration; moreover, they have to publish quarterly reports, must be ready to provide information to the public and their free float[35] must be kept at least at its 20%.

Having to comply with these requirements, it is immediately clear how those entities can be considered of good quality, thus we would expect them to behave properly, without looking for loopholes that might be aimed at avoiding a truthful consolidation.
Moreover, in this way, we are not verifying our hypothesis looking at bad companies, which may be more inclined to behave unproperly and which may mistakenly lead us to accept the hypothesis.

[35] The free float is that portion of shares that can be actually traded on the market, thus is does not include the control shares that cannot be traded on the stock market. It is because of this, that for companies requiring the entrance in the STAR, it is required a level of free float that is higher (35%) than the one to be kept during the permanence in this segment.

The definition of the sample to be analyzed was not as straightforward as it could be imagined. In particular, it was necessary to get the catalog of the groups listed in the STAR during the period over which the analysis has been carried[36], thus from 2010 to 2016.

The first issue consisted in the precise identification of the list updated at 2016. Being it impossible to be found, considered the tools at our disposal, it has been decided to refer to a catalog updated at 2017. This one has then been refined, eliminating those entities that had listed in the segment of our interest only in 2017.

After having obtained this raw sample, it started the definition of the final one, through the application of different criteria.
First of all, it was necessary to understand which, of the entities considered, had been listed during the whole period. This step has allowed to remove fourteen groups from the initial list, since that they had entered STAR during, or even after, 2010. If those observations had not been eliminated, the analysis would have not referred to a homogeneous sample. In fact, the eventual change of the behavior of the parent might have been affected by the fact that the group had accessed the segment, and not by the introduction of the new standard. Moreover, being the years of access all different, it would have neither been possible to adopt a variable that would have controlled this effect.
Finally, the elimination of the entities listed in 2010 was considered to be appropriate because those had not entered STAR on January, 1st but later in the year, even during December, which meant that those would have still not been homogeneous with the others, that had been listed during the entire period.

The subsequent pace consisted of the elimination of those groups operating in the financial sector. This decision came from the idea that their investment activity follows a very particular path, mainly aimed at gaining money rather than at enlarging the industrial activity, satisfying new needs or, as another example, reaching new geographical areas. It is even true that this peculiarity of theirs, might have been controlled introducing a dummy in the regression, but it was not considered enough. The fear, in fact, was that the final results would still have been biased by the data regarding those entities.

[36] The definition of the period will be later explained.

After the elimination of these other nine elements, the final definition of the sample came collecting the data[37]. In particular, it was not possible to collect all the balance sheets from which the data have been collected. There were cases in which it was not possible to find both, the consolidated and the separate annual reports, and others in which the separate financial statement was the only missing. In some cases, this unavailability was due to the fact that the archives did not reach the period of our interest, but stopped before. In other cases, this was due to an incorporation of the group in another entity that had not provided to put at the public disposal the old documents.

Considered all these elements, at the end the sample was composed of thirty-six groups, observed over seven years, for a total of two hundred and fifty-two observations[38].

[37] The accounting data have been collected from the annual reports published in the relative websites, in the investor relations section (specifically listed in a dedicated section of the sitography). In some cases it has been necessary to consult specific newspaper articles to properly understand which was the year in which the company had entered the STAR segment. The data regarding the price of the actions have all been collected from the *Investing.com* website.
Before than processing the data, those have been standardized through a conversion in Euro (the reference exchange rate is the one recorded on December, 31st of the corresponding year, available on the *cambio-euro.it* website). The choice of the final currency simply came from the fact that the majority of the records was in the European legal tender, thus there would have been few transformations to be made, and this would have reduced eventual errors.
The further adaptation necessary for the standardization of the values, has consisted in their transformation in thousands. The decision to adopt this unit of measure has come from the fact that there were cases in which the company presented its records in thousands. As a consequence, if rather than considering our data in thousands, we had just multiplied the amount relative to these companies for one thousand, the data collected would have not been uniform, thus we have preferred to divide for one thousand the other companies' records.
Finally, the data have been organized in an Excel file suitable for the software Stata.

[38] In the *Appendix*, in the ***Table A.1*** *Definition of the sample* it is possible to find the description, in detail, of which were the groups initially composing the sample, which of them were excluded, with a specification of the relative reason, and which, instead, have been kept for the definition of the final sample.

As anticipated, the observations regarding the sample have been collected referring to the period 2010-2016.
Identifying the period over which realizing the analysis is of extreme relevance. It may be, in fact, that companies had anticipated the effect coming from the introduction of the new standard, thus modifying the composition of their investment portfolios. It should also be remembered that the standard was introduced with all the other principles being part of the *consolidation package*, and this might have pushed groups to furtherly modify their behavior, in response of these new rules.
Thus, it is important to collect data over a period, earlier to the introduction of the IFRS 10, long enough to show and eventually absorb the possible reactions.

On the other hand, it is necessary as well to look at a consecutive period long enough to show all the eventual responses put in place by the groups. In fact, if they had somehow decided to dismiss some of their equity investments (or to buy new ones) as a consequence of the new provisions, they might have not been able to do that immediately.

Considered these points, and what generally happens when studying the functioning of an economic entity, it has been chosen to conduct the analysis observing the data collected at least over three years before, and three years after, the adoption of the consolidation package.

The final issue that cannot be ignored, regards the year in which the group starts to prepare its financial statement applying the new economic principles.
The IASB, in fact, had required its introduction starting from 2013 but, as already explained, the European Union had provided a later application, starting from 2014, even allowing an earlier adoption. This implied that there would have been groups introducing the new rules in 2013, and others in 2014.
Looking in detail at our sample, the earlier application was very rare, but still occurring. Because of that, it has been decided to start the collection of the data since 2010, in order to cover at least the three previous years that we were looking for, considering those entities deciding for the anticipated adoption. Similarly, the collection of the data stops at 2016 to observe the three necessary subsequent years for the other companies.

2.4 Definition of the models analyzed

Having clarified the sample adopted for the realization of the analysis, we will now present the equations developed in order to test the hypotheses previously illustrated.

The first hypothesis, the one focusing on the relative equity investments, has been tested through the following model:

$$\begin{aligned}REL.EQ.INV. = {} & \beta_0 + \beta_1 * IFRS_{10} + \beta_2 * ROE_G + \beta_3 * LNTOTACT_G + \beta_4 * DEBRAT_G + \\ & + \beta_5 * ROE_P + \beta_6 * LNTOTACT_P + \beta_7 * DEBRAT_P + \beta_8 * MBR_P + \\ & + \beta_9 * DIMBOD + \beta_{10} * CONPAR + \varepsilon\end{aligned}$$

[*Equation 2.1*]

The second hypothesis, the one referred to the total control, has been tested through the following model:

$$\begin{aligned}TOT.CON. = {} & \beta_0 + \beta_1 * IFRS_{10} + \beta_2 * ROE_G + \beta_3 * LNTOTACT_G + \beta_4 * DEBRAT_G + \\ & + \beta_5 * ROE_P + \beta_6 * LNTOTACT_P + \beta_7 * DEBRAT_P + \beta_8 * MBR_P + \\ & + \beta_9 * DIMBOD + \beta_{10} * CONPAR + \varepsilon\end{aligned}$$

[*Equation 2.2*]

The third hypothesis, focusing on the absolute direct investments, has been tested through the following model:

$$\begin{aligned}DIR.CON. = {} & \beta_0 + \beta_1 * IFRS_{10} + \beta_2 * ROE_G + \beta_3 * LNTOTACT_G + \beta_4 * DEBRAT_G + \\ & + \beta_5 * ROE_P + \beta_6 * LNTOTACT_P + \beta_7 * DEBRAT_P + \beta_8 * MBR_P + \\ & + \beta_9 * DIMBOD + \beta_{10} * CONPAR + \varepsilon\end{aligned}$$

[*Equation 2.3*]

The fourth hypothesis, focused on the absolute indirect investments, has been tested through the following model:

$$\begin{aligned}IND.CON. = {} & \beta_0 + \beta_1 * IFRS_{10} + \beta_2 * ROE_G + \beta_3 * LNTOTACT_G + \beta_4 * DEBRAT_G + \\ & + \beta_5 * ROE_P + \beta_6 * LNTOTACT_P + \beta_7 * DEBRAT_P + \beta_8 * MBR_P + \\ & + \beta_9 * DIMBOD + \beta_{10} * CONPAR + \varepsilon\end{aligned}$$

[*Equation 2.4*]

The fifth hypothesis, focused on the relative direct investments has been tested through the following model:

$$\text{REL.DIR.CON.} = \beta_0 + \beta_1 * \text{IFRS}_{10} + \beta_2 * \text{ROE}_G + \beta_3 * \text{LNTOTACT}_G + \beta_4 * \text{DEBRAT}_G + \\ + \beta_5 * \text{ROE}_P + \beta_6 * \text{LNTOTACT}_P + \beta_7 * \text{DEBRAT}_P + \beta_8 * \text{MBR}_P + \\ + \beta_9 * \text{DIMBOD} + \beta_{10} * \text{CONPAR} + \varepsilon$$

[*Equation 2.5*]

The sixth, and last, hypothesis referred to the relative indirect participations has been tested through the following model:

$$\text{REL.IND.CON.} = \beta_0 + \beta_1 * \text{IFRS}_{10} + \beta_2 * \text{ROE}_G + \beta_3 * \text{LNTOTACT}_G + \beta_4 * \text{DEBRAT}_G + \\ + \beta_5 * \text{ROE}_P + \beta_6 * \text{LNTOTACT}_P + \beta_7 * \text{DEBRAT}_P + \beta_8 * \text{MBR}_P + \\ + \beta_9 * \text{DIMBOD} + \beta_{10} * \text{CONPAR} + \varepsilon$$

[*Equation 2.6*]

2.5 Explanation of the variables

The models introduced in the previous paragraph present a series of variables which will now be properly explained.

REL.EQ.INV. stands for relative equity investments. This variable has been computed as:

$$Relative\ equity\ investments = \frac{equity\ investments}{total\ activities}$$

[*Equation 2.7*]

The aggregate has been considered in relative terms, with the aim of eliminating any possible effect coming from the specific dimensionality of the observation considered.

Looking at this variable allows to take into account all the shares held by the parent, without any exclusion due to the eventual little amount invested or to other eventual reasons.

But, on the other hand, it is even true that in this way it is not possible to analyze the path followed by the investments held directly or indirectly (companies do not specify how much of this amount regards the first or the second type of relation).

The other pitfall comes from the fact that here we are not properly considering the effect of the consolidation principle, since that the company may be holding an equity investment that does not require to be consolidated, no matter the rule adopted.

Despite these problems and their relevance, it would have not been possible to eliminate this variable, considered its relevance and reliability. Above all, accepting them allows to analyze an amount that, most of all, cannot be affected by hiding strategies of any kind.

One of the problems regarding the relative equity investments is that it does not perfectly fit with the actual expansion of the consolidation area. Considered this, it has been decided to run other analyses, verifying other hypotheses, considering other possible dependent variables that would have not been biased by this factor.

TOT.CON. stands for total control. It is the amount of linkages that connect the companies being part of the group.
When computing this amount, it was not considered the size of the participation in the relative company. Thus, all connections were involved, no matter how small they could be.
The other point is that if the shares of one of the companies consolidated were held by more than one of the other entities included in the consolidation perimeter, than all the relative linkages were considered. This means that if, being companies A, B and C part of the group α, A's shares were purchased by B and C, we would have been computing two linkages and not just one.

The reason behind this choice is that the aim of the research is not that of looking at how many companies are part of the group, the objective is that of understanding how the relation among these connected entities have eventually been changing after the passage to the IFRS 10.

The only problem connected to this variable (which, from another point of view, may be seen as an advantage) is that it may also include entities that are not to be consolidated, such as the related enterprises. There are cases, in fact, where the information presented in the annual report do not allow to understand whether the relation with the corporation allows to exercise control, or whether such power is obstructed by the significant influence of another investor.
The consequence of this issue is that we might observe fluctuations that would be mistakenly attributed to the adoption of the new consolidation principle, when instead it is not related at all with these kinds of investments.

DIR.CON. stands for direct control. It is the amount of linkages that directly connect the companies being part of the group.

IND.CON. stands for indirect control. It is the amount of linkages that indirectly connect the companies being part of the group.

The distinction between the direct and the indirect control has been considered to be a deepening relevant for the improvement of the quality of the research. It may be, in fact, that the management of the equity investments held directly differs from that of those owned indirectly. In particular, we may observe that the direct participations are the ones held for the pure intention of enlarging the industrial activity. Differently, the ones held indirectly, especially if referring to long and complex linkages, may be merely aimed at the attempt to disperse the liabilities, trying to hide the inconvenient truth.
Considered this eventual difference, it was not possible to consider just one or the other information and, on the other hand, it was not either possible to ignore both of them.

REL.DIR.CON. stands for relative direct control. This variable has been computed as:

$$Relative\ amount\ of\ p.h.d. = \frac{amount\ of\ participations\ held\ directly}{amount\ of\ total\ participations\ held}.$$

[*Equation 2.8*]

REL.IND.CON. stands for relative indirect control. This variable has been computed as:

$$Relative\ amount\ of\ p.h.i. = \frac{amount\ of\ participations\ held\ indirectly}{amount\ of\ total\ participations\ held}.$$

[*Equation 2.9*]

The participations held directly and indirectly have also been considered in their relative forms in order to eliminate eventual biases coming from the specific dimensionality of the groups observed.

$IFRS_{10}$ is the research variable. It refers to the introduction of the new consolidation standard. Since that the one referred by this variable is a qualitative information, the most immediate way to bring it in the model was that of transforming it into a dummy[39]. This solution was adoptable also because the only need was that of specifying whether the IFRS 10 was adopted or not.

The variable has been built in such a way that it assumes a value equal to one when the IFRS 10 was adopted, and equal to zero otherwise.

ROE_G is the return on equity computed considering the whole group. As known, this variable is calculated as:

$$ROE = \frac{income}{equity}$$

[*Equation 2.10*]

As many other factors included in the model, this one has been computed looking at both, the group as a whole and the parent company only. In this, and all the other cases, the choice has been made considering that all the decisions regarding the way in which the participations composing the group have been purchased or sold may be affected by the specific characteristics of the group, and by the specific needs of the parent. In fact, the latter may decide to put in place transactions with companies being part of the group, and those would be naturally affected by the financial results of the parent, being the originator of the deal, and of the group, since that it will depend on these values the choice of the parent on how to specifically shape the business.

The return on equity has been included in the analysis because it is one of the main indicators of the financial profitability of the activity of the company. This index, in fact, synthetically shows the impact of the company management on the returns of the investors[40]. It is, for sure, one of the elements that affects the actions undertaken by an entity.

[39] A dummy is a variable that can only assume two values, zero and one. It is generally used when there is the necessity to introduce a qualitative variable in the model whose information conveyed can be reduced to a dichotomous language. For example, we can use it to say whether the observations being part of the sample are male or female (Stock, Watson 2008).

[40] The value obtained allows to deepen the knowledge of the return of the capital provided by the investors. More precisely, an investor willing to buy new shares in a company, will compare the amount here obtained with the cost of equity of that entity.

$LNTOTACT_G$ is the natural logarithm of the total activities. This variable is obtained considering the whole group.

This amount has been introduced in the model as an indicator of the size of the group, since that this is an element that may influence the way in which decisions are taken.
As an example, we may expect a small company to be willing to expand its dimension, which would imply relevant and continuous investments; on the contrary, following the same reasoning, we would expect a bigger company to be slow in its trading activity.

Once collected the data regarding the total of the activities, and after having converted them were necessary, the amounts have been linearized, computing their natural logarithm. This was a solution necessary to reduce eventual distortions that might have affected negatively the quality of the analysis[41].

Any business man, in fact, when deciding where to place his money, will first decide whether he wants the activity to be risky or not. In both cases, the relative level of remuneration will be measured through the interest rate: to the zero-risk operation, it will be associated the risk-free rate (r_f) that only reflects the systematic risk, the one strictly inherent to the economy, which is impossible to be avoided.
The remuneration of the other activity, instead, will be measured through the cost of equity. Such interest rate, given by the equation $k_e = r_f + \beta(r_p - r_f)$, displays, in addition to the systematic risk, the risk premium (r_p) connected to the return of the entity, to the disinvestments and to the reimbursement of the equity; then, trough the β coefficient, it also considers which may be the reaction of the enterprise to the shocks of the industry in which it operates (Berk, De Marzo 2013).
At this point, a risk-neutral investor, will choose to invest in a company only when its ROE will be above the cost of equity, since that in this case the possibility to obtain positive returns will be higher (Sostero, et al., 2018).

[41] These adaptations are made when the independent variable is correlated with the dependent one through a non-linear relation. Because of that, it is necessary to linearize its data in order to reduce the distortions that may influence negatively the results. The transformation of this reasoning in mathematical terms requires to compute the natural logarithm of the value, being this the function that allows the transformation of a curve into a line (De Giorgi, 2018). The result is a linear-log relation, which states that to each marginal variation of the dependent variable, corresponds a one-hundred percent variation of the independent amount. Without this adjustment, the construction of the variable would have said that to each marginal variation of

$DEBRAT_G$ is the debt ratio of the group. This variable could be computed in two possible ways:

$$Debt\ ratio = \frac{total\ activities - equity}{equity}$$

[*Equation 2.11*]

This formulation allows to collect information about the level of capitalization and indebtedness of the company.
Specifically, in this way, it is possible to better understand in which measure the entity uses its own financial sources to finance its activities. Because of that, it is a measure of the financial soundness.

The second computation has been obtained through the following formula:

$$Debt\ ratio = \frac{third\ parties'\ equity}{equity}$$

[*Equation 2.12*]

It is quite evident how this second version of the ratio, even if apparently providing the same information, is now telling us something different. Through this solution, in fact, it is possible to focus on the measure in which the entity relies on third parties' sources to finance its activity. In particular, in our analysis, the amount of *third parties' equity* has been obtained as the summation of all the financial sources provided from operators external to the company, without including any kind of commercial, legal or fiscal debt. Moreover, all the amounts coming from relations with related parties were excluded.
The idea was that of obtaining a measure as pure as possible of how much the group and the parent were relying on external financings.

No matter the way in which the ratio is computed, it allows to get information about the financial sustainability of a company[42] and, because of that, it may be the driver of the decisions

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the dependent variable it corresponded a marginal variation of the independent one, which would have not been possible considering the dimension of the total activities (Stock, Watson 2008).

[42] Even if this ratio allows to know more about the financial condition of the company, it is not possible to make general considerations of the results obtained. Whenever trying to evaluate the financial soundness of a company looking at this ratio, it will only be possible to make comparisons with the results obtained over the years by the specific company and to ask it to

that it takes. Among the others, it may have a strict connection with the eventual attempts of adopting loopholes realized by the economic entity. What we may expect, in fact, is that a company being in a sustainable economic condition, is more prone to be honest in the preparation of its documents, without particular attempts of finding ways to hide the truth. On the other hand, a company being in an unfavorable financial condition, may be more likely to adopt loopholes to not show its real condition. In order to better understand this point, we may think of an entity, trying to obtain financings from third parties, while being in a bad economic situation. This entity will be incentivized to hide its real condition, in order to obtain that money.

These alternatives at our disposal are not providing the same pieces of information, and this is the reason why it was very hard to choose between one or the other version.
It is even true that it might have also been possible to include both the computations, the one highlighting the financial independence and that focusing on the dependency. But, despite the difference, the model might have still been affected by the redundancy of what the variables were saying, after all we were always talking about the debt ratio.

Because of that, it has been decided to test the model running it in the two different ways, each of them considering only one of the two variations. But, after the first analyses, it was possible to observe how the results obtained through the adoption of the version of the debt ratio more focused on the financial dependence were not as good as the ones obtained in the other case. Even when both regressions were providing acceptable results, in fact, the ones connected to this formulation were weaker.

Above this, there was the issue regarding the way in which the data relative to this computation had been collected. In fact, even if those had been taken by the official documents published by our sample, could not be considered totally reliable.

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keep the debt at a sustainable level (Sostero et al., 2018). This issue is due to the fact that the level of debt depends on the economic activity carried on. It may be possible to solve this issue by making comparisons with other companies operating in the same industry. But, even in this case, there might be differences that might interfere with the judgments. Those problems may come from the different financing choices of the specific companies, since that one may decide to raise funds through the listing, while others may opt for the bank lending. Because of this last point, it would not be impossible to have a level of debt that exceeds of even four or five times the equity.
Despite this, it will be important for companies to control their level of debt, making sure that it will always be sustainable, considered their capitalization.

That was because of the way in which the information had been presented in the annual reports and what was necessary for our interests. In particular, the idea was that of adding only those financings coming from third, unrelated, parties. Because of that, in most of the cases, it has been possible to pick only those debts, listed among the financial liabilities, excluding those provided by related parties. But, in many other cases, these specifications were not provided, neither in the notes, and it was necessary to come out with an interpretation of what was missing. This obstacle is something that cannot be left apart, especially when the objective is that of obtaining as reliable as possible results.

Keeping in mind these considerations, it has been considered better to introduce in the final model the first computation of the ratio, illustrated in the *Equation 2.11*.

ROE_P, $LNTOTACT_P$ and $DEBRAT_P$ are, respectively, the return on equity, the natural logarithm of the total activities and the debt ratio, all computed looking at the parent company only.

MBR_P is the market to book ratio. This amount has been computed as follows, looking at the parent company only:

$$Market\ to\ book\ ratio = \frac{price\ of\ the\ action * outstanding\ shares}{equity}$$

[*Equation 2.13*]

After having considered the variables that might affect the attitude of the company from the inside, we have shifted our considerations toward the external environment.
One of the ratios that allows to have a clue about the idea that the market has about the company is the market to book ratio[43]. It may be, in fact, that the incentive to make one or another choice comes from this outer judgment, thus it cannot be omitted from our research.

[43] Considered the way in which it is structured, the ratio allows to compare the accounting evaluation of the company, with the one provided by the market.
If the ratio is above (below) one, it means that the market value is higher (lower) than the accounting one, implying that the valuation provided by the market is better (worse) than the one directly given from the company. This may be the result of an under-estimation (over-estimation) of the entity, eventually due to specific information that it has and that may justify the amount. On the other hand, it may also come from an over-estimation (under-estimation) of

As the *Equation 2.13* explains, the computation of this variable requires the collection of three data. Two of these, the equity and the outstanding shares, have been recorded considering the amount registered at the end of the year.
Differently, the information about the price of the action has been recorded looking at the last amount available for that year. The eventual mismatch could not be avoided, since that the stock markets are not open during holidays.

DIMBOD stands for dimension of the board of directors.
The decision to include this amount comes from the awareness of the huge impact that the board of directors has on the activities carried by the entity.

Actually, the information provided by this variable might have been deepened, considering that the quality of the activity that this body exercises improves whenever the heterogeneity of its composition increases. In this case, in fact, it would be possible to enjoy the contribution of people with ideas that differ one from the other, because of different ages, genders, social or educational backgrounds (Erhardt, Werbel and Shrader, 2003).

Moreover, when thinking about the impact that the board of directors might have had on the decision about how to shape the consolidation area, it has been initially thought that there was a specification that should have not been omitted. This specification regarded the independence of the people composing it.
Many researches, in fact, have proven how strong the positive impact of independent directors can be on the performance of the entity (Duppati, Scrimgeour and Sune 2019). Observing this positive influence mainly in those cases in which it was necessary to control the possible abuses that might have been put in place by related parties (Khosa 2016).

Considered this, it might have been possible that the behavior of the groups here analyzed would have been strongly impacted by the presence of this type of directors. We might have expected, in fact, that those had been able to control the attempts of adopting tricks for a favorable interpretation of the economic principles.

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the market, which has a preferential view, being able to look at all the enterprises operating in a specific industry and to identify opportunities that may be hidden to the short-sighted perspective of the company.
Finally, the value computed may also be equal to one, meaning that there is a coincidence between the two evaluations at our disposal.

As a consequence, not including this information in the regression might have biased the results. In fact, we would have been evaluating in the same way the path followed by the equity investments held by a company with no independent directors, and that realized by another entity with independent components of the board. This might have led us to think that (in case of refusal of the null hypothesis) groups had honestly followed the provisions of the consolidation principles when, instead, any eventual bad intention was stopped by their directors.

At that point, we had to consider the sample that was being used for this specific analysis. As already highlighted in paragraph *2.3 Definition of the sample*, the observations are collected considering the groups listed in the STAR segment of the Italian stock exchanges. Among the other requisites that those entities have to comply with for their permanence in the segment, there is the one regarding the composition of the board of directors. In particular, they are required to have a minimum amount of independent members in this body.
This specific condition might have made useless the introduction of the relative variable in our model. No matter the percentage of independent directors, in fact, all groups would have had those members, meaning that each of them might have been stopped from the endeavor to manipulate the rules. The only additional information would have regarded the specific weight that these people had in the body, but this addition might have been useless, especially considering the final aim of this research.

Another condition that prevented us from the inclusion of this variable was the unavailability of the relative data. Reading the annual reports of our observations, in fact, sometimes it was not possible to understand how many independent components they had in their board. Because of this, taking this amount in our regression, would have required a further reduction of the size of the sample and this might have not allowed to obtain acceptable results.

Despite this, we still have verified which would have been its impact on our results, but we concluded for any improvement of them.

As a result, also considering that the final objective of this research is not strictly connected to the effects of the composition of the board of directors on the corporate performance, it has been decided to not introduce these further specifications in our final models and it has been evaluated as enough the introduction of these factors through a more generic amount, that is the size of the body. This one, in fact, may be a good approximation of its diversity, since that we may think that the more the people composing it, the higher its heterogeneity.

CONPAR stands for control of the parent. This variable is a dummy which states whether the parent company is it-self controlled by another holding or not.

The decision to include this information has come from the awareness that if the company is controlled, then the decisions about the investments to be acquired or dismissed are not necessarily taken on the basis of its interests. It may be, in fact, that it is being used by its investor as a puppet to realize specific transactions. In that case, those trades could not be judged in the same way in which those realized by "independent" parents are. The entity that we are analyzing, in fact, would be subject to a bigger design that we are missing, not being aware of the superior management that shapes its behavior.

The construction of the variable is such that it is equal to zero if the parent is controlled by another entity, to one otherwise.
Before moving on, it is important to understand how this information has been defined. The first intention was that of considering as controlled all those parents for which the majority of the shares was owned by one investor only. Applying this reasoning, all the cases in which this majority investor had been a member of the founder family, the parent would have not been considered as controlled, since that it would not have been subject to the direction of another holding.
But, when putting in practice this general idea, it has been possible to observe that this kind of deduction was not always correct. There were cases, in fact, were the parent declared to be controlled also if the holding held less than the 51% percent of shares which we would have referred to; then, there were other situations in which, even holding the majority of the shares, the entity was not controlling our parent.
Taking these observations into account, it has been decided to report the punctual information whenever it was provided, and to opt for the deduction in those few cases in which this eventual submission to a third party's control was not explicitly stated.

2.6 Deepening of the model

In the first chapter, while going through the theoretical basis for the assessment of our research, it has been possible to observe how the behavior of big groups could differ from that of smaller ones (see paragraph *1.2.1 Defining the consolidation area: difficulties and attempts*). In particular, it may be that bigger groups are able to hide more subsidiaries (Hsu, Pourjalali, 2015).

Considering our analysis, we may think that, by only focusing on bigger groups we would have more chances to observe a strict correlation between the path followed by the equity investments and the introduction of the IFRS 10.

Because of these points, it has been considered better to not neglect this distinction and its eventual consequences. Thus, all the models introduced until this moment, have been tested by considering the whole sample first, and then separately, the big and the small groups only. This has allowed us to obtain three different versions of each of the equations run.

The practical application of this reasoning has started by the computation of the median of the logarithm of the total activities. It has not been considered appropriate to opt for the average since that it may be affected by the extreme values, leading to an uninformative result (Borra, Di Ciaccio 2014).

The decision to look at this amount to classify the observations simply came from the awareness that this is the only accounting value that allows to describe the size of a firm.

After this, all the groups that, for all the years considered, presented a dimensional value that was above the median, were considered to be big. All the others were considered as small.
In some cases, the value assumed did not allow an immediate classification of the observation. In order to solve these issues, it has been chosen to consider as big those groups that, for the majority of the years, accounted a value above the median. When neither this consideration was enough for the categorization, the focus was on the 2013-2014 period, since that it should have been the most important point in time for our analysis.

2.7 Additional tests to prove the robustness of the model

Before than evaluating the results of the analyses, we have run tests specifically aimed at understanding whether it was possible to improve our research.

2.7.1 Relevance of group and parent-related variables

The first test has regarded the need of controlling for both, the parent and the group.
When defining the variables to be collected and the entity (the group or the parent) to which to look at, it was wondered whether it was necessary to look at both, the group in its entirety and the parent company only.

Since the first moment, it appeared to be an unfounded doubt, since that it seemed obvious that the answer that we were looking for could only be obtained by looking at both, the "player" and the "toy", to properly understand what was happening.

We have to think, in fact, that the parent is the one that, from the top, decides how to shape the group. It has an overview on all its controlled entities, and this eventually allows a malicious parent to understand how to properly place the earnings or how it is better to operate to hide undesired liabilities.
On the other hand, it is not possible to leave apart the group, since that it is just its performance the factor that mainly impacts the guide lines decided by the parent.

Despite this awareness, it has been considered better to verify this suspicion but, as expected, we have noticed how the results of the relative analyses were only worsening. This suggested that, when excluding the parent or the group from the analysis, we were missing relevant information.

Considered these facts, it has been decided that, in the final versions of our models, we would have included the observations regarding both realities.

2.7.2 Robust standard errors

The other test has regarded the possibility of adopting robust standard errors.

When running the linear regression, it is of absolute importance to look at what happens to the errors. In particular, it is necessary to look at the dispersion of their distribution[44], described by the standard errors (Stock, Watson 2005).

When realizing an analysis, it is not possible to know which is the distribution presented by the errors. And, on the other hand, the standard errors generally computed, consider a homoscedastic distribution of the errors.
These two factors together may take to harbinger results.

[44] The distribution of the errors can be of two types:

1. Homoscedastic: in this case, errors do not follow any particular distribution, they are dispersed uniformly in the whole quadrant;
2. Heteroscedastic: in this case, errors follow a particular distribution.

In order to solve this eventual problem, and to improve the quality of the research run, we have tested the robustness of our models adopting robust standard errors. Those ones, in fact, take into account the specific distribution of the errors, avoiding possible misunderstandings.

The results of the two versions of the models (with and without standard errors) did not differ that much but, in the final version of the research., we have still decided to apply the robust standard errors in order to improve the quality of the analysis.

CHAPTER THREE

THE RESULTS OF THE ANALYSIS

3.1 Statistical description of the variables

The realization of the analysis has been possible thanks to the different variables that we have selected for our equations. Before than presenting the results of the research, we now introduce a quantitative description of those amounts.

The following table shows the statistical measures[45] to consider for the description of the quantitative variables adopted in our research.

[45] We will first look at the minimum and the maximum values to understand the amplitude of the amounts collected, and to have a better knowledge of our sample.
Other tools are represented by the arithmetic mean, which describes the distribution of the variable through one synthetic value, and the median, a specific version of the mean, the one that is the least sensitive to the extreme amounts, which can also be adopted when the variable is a qualitative one. Given a list of values ordered following a specific criterion, in fact, it provides its central unit.
Finally, we can refer to the standard deviation. This is a measure that allows to know the measure in which the variable disentangles from the mean value. Through this amount, we can furtherly get the level of dispersion of the data collected (Stock, Watson 2008).
When dealing with the qualitative amounts we will look at the different shapes that the frequency can assume. First of all, we will analyze the absolute frequency that allows to know how many times it is possible to count a characteristic in the sample. Then we can rationalize the amount, obtaining the relative frequency. This version enables to know how many times that character is observed, considering the size of the whole sample. It is computed, in fact, as the ratio between the absolute frequency and the total of the observations collected. Finally, we will consider the relative percentage frequency which reports the same information of the relative frequency, but in percentage terms (Borra, Di Ciaccio 2014).

	Minimum	Maximum	Mean	Median	Standard deviation
Relative equity investments	1,21%	95,29%	32,52%	29,09%	0,215
Total control	2	117	21,49	16	17,849
Direct control	2	117	11,92	9	13,616
Relative direct control	6,35%	100%	64,36%	64%	0,271
Indirect control	0	61	9,826	4	12,972
Relative indirect control	0,00%	93,65%	35,45%	36%	0,271
ROE (groups)	-73,88%	59,52%	6,01%	6%	0,144
LN of total activities (groups)	10,261	14,705	12,791	12,77	0,905
Debt ratio (groups)	18,74%	620,89%	164,99%	149%	1,006
ROE (parent)	-76,80%	66,62%	5,00%	4,00%	0,144
LN of total activities (parent)	10,363	14,529	12,497	12,56	0,843
Debt ratio (parent)	0,68%	545,76%	130%	121%	0,882
Market to book ratio (parent)	0,118	14,044	1,699	1,08	1,901
Board of directors	5	15	9,186	9	2,372

Table 3.1 *Description of the quantitative variables*

The first variable is the one referring to the relative equity investments. Its smallest value is 1,21%, while the highest is 95,29%.
The first amount refers to the equity investments held by La Doria in 2013, a medium sized company, with a discrete ROE, that over the years until 2013 had been constantly decreasing the participations held, for then starting, in 2014, to invest higher amounts.
The other value instead, the maximum one, is recorded looking at D'Amico in 2010, still a medium sized entity, with a ROE surely not worthy of note. It is not possible to precisely define the path followed by these investments, they have always been very high over the period, never going below the 77%, but without following a particular decreasing trend.
Continuing the description, we can focus on the mean, which equals 32,52%, on the median which records a value of 29,09% and on the standard deviation, equal to 0,215.
These data suggest how variable the choices made by the parents of our sample can be. It is not possible to say that they have always been strict, or large on the contrary, in their investments, that is what the minimum and maximum value may suggest. On the other hand, if we stop for a while on the average values, we can say that they have tried to be prudent in these purchases, generally investing a relatively small portion of their activities in the acquisition of other entities' shares. This is not a behavior that can be, somehow, judged. We know, in fact, that these decisions can be influenced by various factors, such as the future plans or the desired size of the group, and it is not possible to understand what has been going on without specifically analyzing the managerial choices made over the years.

The other dependent variable that we have analyzed is represented by the total linkages connecting the companies within the group. In this case the range of values covered is even bigger, in fact it goes from a minimum of two, to a maximum of 117.
The smallest value is recorded by Centrale del Latte d'Italia in 2013, a small group that has never had delusions of grandeur. Its size, in fact, has always been between four and two companies. This may be the attitude of a group not willing to conquer huge markets, but trying to improve as much as possible its industrial activity.
The highest value, instead, is accounted by Reply in 2016, a big group that has been continuously growing over the years, going from 43 to 117 companies. Being in the IT industry, maybe it has been trying to acquire as many companies as possible to not lose any innovative idea, or maybe it just wanted to increase its size and its power. Again, not knowing the specific managerial plan, we cannot say that much.
Concluding this description, we can observe the mean value, equal to 21,49, the median equal to 16, and the standard deviation being 17,849.

Then we shift to the amount of participations directly held. In this case the minimum and the maximum value equal the ones that we have observed looking at the total of the participations held. This is simply due to the fact that both companies have decide to only invest directly in their subsidiaries.
Differently, the mean equals 11,92, the median 9, and the standard deviation 13,616.
These last amounts suggest that generally companies choose to directly invest in a relatively small number of companies. This choice may come from an eventual better ability of managing them appropriately.

Still remaining on the direct control, we can now look at its relative version. Its minimum value equals 6,35% while its maximum, unsurprisingly, 100%.
The extreme upper value is reported by fifty of our observations, about one fifth of the whole amount. Even if for not the whole period, the following companies have only held direct participations: Ascopiave, Centrale del Latte d'Italia, Esprinet, Irce, La Doria, Mondo Tv, Reply, Sabaf and Servizi Italia. Considering their diversities, it is not possible to say why they have made such choice, it may only be possible to hypothesize that those parents have tried to control their subsidiaries as much as they could.
The smallest amount, instead, refers to Cementir in 2012, a big group with a non-relevant performance, that has always preferred to spread its activity through indirect participations.
Its mean equals, instead, 64,36%, its median 64%, and its standard deviation 0,271.
Despite the extreme values that we have just recorded, the average ones suggest that generally our groups are not that extreme in the direct investments, in favor of the indirect ones. They try, in fact, to control directly a bit more than the half of their participations, but nothing more. Even without knowing the specific intentions, we may think that this is the consequence of the attempt to spread the activity without undertaking an unmanageable ton of work.

At this point, we can shift to the opposite variable, that is the amount of participations held indirectly. We cannot be surprised by its minimum value, being it zero, differently from what happens with its maximum, which equals 61.
Continuing the description, we can record the average equal to 9,826, the mean equal to 4, and the standard deviation equal to 12,972.
Neglecting the extreme values, that have already been discussed in the previous paragraph, we can notice how various this variable can be. Anyway, generally groups try not to indirectly invest in many companies, maybe because of the lower control that they would be able to exercise.

Finally, we can conclude by looking at the relative version of the latter variable: the relative indirect control. In this case the smallest amount is, naturally, 0,00% and its maximum 93,65%. Then we have the mean that records a value of 35,45%, the median with 36%, and the standard deviation that equals 0,271[46].

Something that should not surprise us is the missing match between the descriptive values referred to the relative equity investments, and the ones regarding the total control. It is not strange, in fact, that the companies that record the highest and the lowest amount of relative participations are not the same reporting extreme values in terms of linkages unifying the group. The width of the group, in fact, is not necessarily linked to the investments made: a company may control many small companies, and its group would be big while recording small relative equity investments.
We cannot either forget that the first of the ratios illustrated depends also on the amount of activities held by a company, which may be huge and invest a small portion of this value in many companies. Anything is relative.

As known, the good functioning of the linear regression depends on the control variables that selected. We will now describe each of them, in order to improve the understanding of the sample that has allowed our research.

Before moving on, we can notice that it misses the description of the research variable, that is the dummy describing the introduction of the IFRS 10. This is not an accidental forgetfulness, but a precise choice. Being this a qualitative variable, we could have only described it through the frequency values, but it is quite obvious that this information would have been totally inappropriate.
The only thing that we can say to describe it is that all groups, with the only exception of Gefran, that has opted for an earlier adoption, have decide to apply the standard in 2014. It is quite impossible to judge this observation, we can just suppose that groups did not choose to follow the rules of the standard earlier because it was quite hard finding the information they would have needed, thus they have decided to exploit this additional time at their disposal.

The first control variable considered is the ROE referred to the groups. This variable assumes, as highest value, 59,52% and as minimum -73,88%.

[46] Any consideration about this variable would be useless, since that it simply is the opposite of the relative direct control, which has just been commented.

The low extreme value was reported by Acotel in 2015, a small group that has never been accountable for its good performance. Over the years, in fact, this has always been negative, with very bad results for the last three years analyzed. Without knowing the specific condition, it is impossible to know what has happened to this entity which may have faced a violent crisis because of a bad management that has eventually been substituted or because of a bad shot relative to its industrial activity.
The other value, the extremely positive one, is recorded looking at Cairo Communication in 2013, a big group, mainly expanded through direct participations, that has always reported great results. Despite that, it is impossible to not notice the slip made over the last two years observed. Even in this case, we cannot know what has taken this company to worsen so much (it has reached an ROE of 18%) its performance, after its great results.
Then, we can report an average value of 6,01%, a median of 6%, and a standard deviation of 0,144.

We can now look at the natural logarithm of the total activities of the groups. The smallest amount recorded in this case equals 10,261, while the highest 14,705.
The smallest dimension is the one recorded by Acotel in 2016. We already know this group, and it is quite hard to be surprised by the fact that also its activities have been consumed, over the years, by its performance.
The biggest value, instead, is reported by Cementir in 2016, the group that we already know for its small amount of participations directly held. Over the period observed, its dimension has always been notable (the natural logarithm of the total activities has never gone below 14,4), but this cannot surprise us, considering the huge amount of indirect participations that characterize its structure. The group, in fact, has never had less than fifty indirect subsidiaries.
The average value of this variable is 12,791, its median is 12,77, and its standard deviation is 0,905.

It now follows the presentation of the debt ratio of groups. The lowest value here is 18,74%, while the highest is 620,89%.
The first of these two amounts is reported by Cembre in 2015, a relatively small group, with a moderate performance over the years, that has always managed to contain the level of debt. This ratio, in fact, has never gone above 33%. We do not know if this company has decided to operate in this way because it has preferred to increase the number of investors rather than that of financiers, or because it has simply decided to stay independent. The fact is that, almost surely, its problems have never dealt with debts (at least during the period observed).

On the totally opposite side we find Ima in 2014, a big group that has always registered a great performance and has always heavily relied on debt, being always at least 3,5 times the equity. Even in this case we cannot know what has led the company toward this huge dependence from the financiers but, anyway, considered its performance and its dimension, we may think that they have never had much problems in sustaining their debt.
Neglecting these extremes, we can also have a look at the mean equal to 164,99%, the median equal to 149%, and the standard deviation which equals 1,006. Those last amounts let us understand that, despite their huge variety, generally our groups have preferred to rely on debt, rather than on equity.

At this point, we can shift toward the control variables relative to the parent companies. The first amount to be described is their ROE. In this case, the lowest value is -76,80%, while the highest 66,62%.
The upper extreme is reported by our Acotel in 2016. Apparently nor the group or the parent have ever been able to perform positively.
The inferior extreme, instead, is observed looking at Ima in 2014. Again, we are not surprised, we have already known and appreciated the group, and it seems that we can say the same about its parent.
Above these amounts, it is also possible to consider the mean equal to 5%, the median equal to 4%, and the standard deviation equal to 0,144. It seems that, on average, the groups have been performing better than their parents, but it is even true that they were advantaged because of their size and of the higher possibilities at their disposal.

The size of the parents, instead, still described by the natural logarithm of the activities, goes from a minimum of 10,363 to a maximum of 14,529.
The smallest parent is, unsurprisingly, Acotel in 2016. Even in the case of the parent, in fact, the bad performance, maybe among the other factors, has been consuming the activities which have continuously decreased over the years.
The biggest company, instead, is Igd Siiq in 2016, a parent that has always maintained its size at a high level. Despite this, it has always reported a barely positive performance, both as a standing alone entity and as a group. Maybe it is the case of a company that has a high, but unexpressed, potential or that of an entity that has been making many investments and is now waiting for their returns to arrive.
We can furtherly know the size of our parents looking at the mean, equal to 12,497, the median equal to 12,56, and the standard deviation equal to 0,843.

The other control variable which we have referred to is the debt ratio, whose lowest value is 0,68%, and its highest 545,76%.
Here the smallest amount is reported by D'Amico in 2013, the company that we already know for its great investments in its subsidiaries. Here we have quite a big group, that has never been noticeable for its great performance, nor in terms of group or parent, but that is surely accountable for its level of debt, always kept quite low. Maybe, considering the way in which the ratio is computed[47], this is just the consequence of the huge amount of its activities, maybe there is something else.
The other value, instead, refers to Ima in 2013. Also in this case, there is a similarity between the group and the parent and it does not surprise us, in fact we may expect that the parent suggests the same behavior that it adopts to its subsidiaries.
Finally, we can see that the mean of this variable is 130%, the median is 121%, and the standard deviation is 0,882. Also the parents have chosen to quite heavily rely on debt.

We now go to the way in which the market looks at our parents. The minimum value reported by the market to book ratio is 0,118, while the maximum is 14,044.
The parent which the market has the worst consideration of is Mondo Tv in 2011, a tiny group with almost always positive performances. We cannot know why the market has rated it so badly (the price of its shares at the end of 2011 was less than seventy cents of euro), maybe it was weak in its industry and its managers could not see it.
On the contrary, the best rated parent is Ima in 2014. We already know this company, but now we can also notice how, over the years, the market has been increasingly appreciating it, pricing its actions until almost fifty-eight euros (2016).
Despite these extremes, we can also see that the mean value of this variable is 1,699, its median is 1,08, and its standard deviation is 1,901. We can just observe how, despite the great variety, the parents of our sample have always been generally overrated (in comparison to their own accounting estimation) by the market.

At this point, we can consider the dimension of the board of directors managing the parent. In this case, the smallest value is 5, while the highest 15.
The parents with the lowest amount of directors are Irce and Reno De Medici. It is quite impossible to say why these companies have decided to keep their boards so small, maybe they were already well-assorted, despite the tiny dimensions, or maybe they did not want their

[47] Look at *Equation 2.12*.

decision-making process to be too slow. An appropriate consideration could only be obtained looking at their specific conditions.
A totally opposite decision was the one taken by Igd Siiq from 2010 to 2014, a company whose board has never been particularly small (in the following years, in fact, it is composed of thirteen directors) and that, maybe because of its dimensions, maybe because of the advantages coming from these numbers, has always tried to maintain this size.
We cannot either forget the others, thus we can notice the mean being equal to 9,186, the median to 9, and the standard deviation to 2,372. Despite the variety, companies have always tried to have quite big groups of directors managing them.

Having completed the description of the quantitative variables, the following table allows the description of the last, qualitative, amount adopted.

	Absolute frequency	**Relative frequency**	**Percentage relative frequency**
Control of the parent	84	$\frac{1}{3}$	33,33%

Table 3.2 *Description of the qualitative variable*

This is the dummy referred to the eventual control exercised on the parent.
The absolute frequency that recorded is 84, meaning that twelve parents were subsidiaries themselves. The relative frequency is $\frac{1}{3}$, and the relative percentage one equals 33,33%.
Actually it is not possible to say anything about these amounts, if not that not including this control variable, we would have missed quite a huge part of information since that one third of our parents is controlled and this has surely influenced their decisions.

3.2 Correlation among the variables

Another statistical tool that is very useful for the understanding of the variables and for an appropriate evaluation of the model applied is the correlation matrix[48].

Before than analyzing the specific level of correlation among the variables considered in the different models, it is possible to see how, of all the six analyses run, we can just analyze two correlation matrixes.
As the following tables[49] highlight, in fact, the level of correlation was the same if we considered, as dependent variables, the relative equity investments and the total control. Similarly, we could observe the same values considering the direct control, the relative direct control, the indirect control and its relative version too.
Naturally, in any case, the values connected to the dependent variable considered change.

The model, despite the version assumed, does not suffer of excessive correlation. In most of the cases, in fact, this amount is below $\pm 0{,}5$ meaning that the variables are not extremely correlated. Considered the information that this ratio conveys, we may think that our model has been built appropriately.

However, going deeper, it is possible to notice how some variables are quite strongly correlated, no matter the model considered.

[48] The correlation explains if, in which measure and in which direction a variable changes in response to a variation of another variable. This index can assume values in an interval between minus one and one.
If the amount is close to minus (plus) one, it means that the variables are connected by a strong and negative (positive) correlation. As a consequence, it happens that after an alteration of one variable, the other changes of the same amount but in the opposite (same) direction.
If the value is close to zero, it means that it is not possible to observe any correlation between the two variables, and any change of one of them does not affect the other (Borra, Di Ciaccio 2014).

[49] Look at *Table 3.3* and *Table 3.4*. In these charts, the first rows refer to the correlation of the dependent variables considered. This representation is aimed at not reporting six tables were only the first rows would have been different.

First of all, it is possible to have a look at the strong connection between the ROE of the groups and that of the parents. In both analyses, in fact, this level of correlation equals 0,845.
An even stronger dependency is the one that connects the natural logarithm of the activities of groups and of their parents. In the first two analyses, in fact, this relation is described by a correlation equal to 0,960 while in the others it amounts to 0,948.
Finally, it is possible to look at the debt ratio of groups and that of parents, that in the first two analyses are linked by a correlation of 0,850 and of 0,749 in the others.

Leaving apart for a moment the implications that these amounts have on the way in which we evaluate our models, it is possible to stop thinking about what these interdependencies mean. What they say is that the performance, the size and the financial dependency of the group is correlated wit that of its parent. But can we really be surprised by that? Maybe not, since that it is possible to imagine how the parent somehow influences the choices of the group and vice versa.

Above this natural explanation, it is impossible to forget the implications for the quality of the results of the research. These values, in fact, are suggesting that some variables should be eliminated from the model, in order to improve the quality of the results.
Considered this, while running the various regressions, we have tested this deduction, realizing analyses that controlled only for the group or only for the parent. The result has been a worsening of our p-values, which suggested a further worsening of our regressions.

Considered this, we will continue to analyze our data controlling for the groups and the parents, but keeping in mind the levels of correlation observed while commenting the results.

	REL. EQ. INV.	TOT. CON.	IFRS 10	ROE_G	LN TOT ACT_G	DEB RAT_G	ROE_P	LN TOT ACT_P	DEB RAT_P	MBR_P	DIM BOD	CON PAR
Dependent Variable	1,000	1,000										
IFRS 10	0,057	0,073	1,000									
ROE_G	-0,348	0,201	-0,007	1,000								
$LNTOTACT_G$	0,084	0,436	0,052	0,345	1,000							
$DEBRAT_G$	-0,013	0,227	-0,039	0,179	0,350	1,000						
ROE_P	-0,322	0,141	-0,017	0,845	0,281	0,186	1,000					
$LNTOTACT_P$	-0,063	0,382	0,041	0,322	0,960	0,367	0,269	1,000				
$DEBRAT_P$	-0,283	0,295	-0,048	0,288	0,345	0,850	0,255	0,435	1,000			
MBR	-0,056	0,342	0,208	0,526	0,252	0,381	0,503	0,211	0,470	1,000		
DIMBOD	0,122	0,147	-0,001	0,175	0,395	0,158	0,155	0,353	0,101	0,149	1,000	
CONPAR	0,079	0,365	0,011	0,211	0,405	0,281	0,199	0,383	0,322	0,154	0,200	1,000

Table 3.3 *Correlation matrix of the first two models*

	DIR. CON.	REL. DIR. CON.	IND. CON.	REL. IND. CON.	IFRS 10	ROE_G	LN TOT ACT_G	DEB RAT_G	ROE_P	LN TOT ACT_P	DEB RAT_P	MBR_P	DIM BOD	CON PAR
Dependent Variable	1,000	1,000	1,000	1,000										
IFRS 10	0,073	-0,005	0,028	0,005	1,000									
ROE_G	0,178	0,083	0,099	-0,083	-0,007	1,000								
$LNTOTACT_G$	0,131	-0,363	0,455	0,363	0,061	0,341	1,000							
$DEBRAT_G$	0,106	-0,149	0,204	0,149	-0,003	0,201	0,377	1,000						
ROE_P	0,159	0,119	0,037	-0,119	-0,017	0,845	0,279	0,194	1,000					
$LNTOTACT_P$	0,175	-0,249	0,344	0,249	0,041	0,322	0,948	0,373	0,269	1,000				
$DEBRAT_P$	0,305	0,004	0,104	-0,004	-0,048	0,288	0,354	0,749	0,255	0,435	1,000			
MBR	0,149	-0,179	0,315	0,179	0,208	0,526	0,255	0,366	0,503	0,211	0,470	1,000		
DIMBOD	-0,067	-0,209	0,260	0,209	-0,001	0,175	0,411	0,171	0,155	0,353	0,101	0,149	1,000	
CONPAR	0,320	-0,071	0,185	0,071	0,011	0,211	0,389	0,270	0,199	0,383	0,322	0,154	0.200	1,000

Table 3.4 *Correlation matrix of the last four models*

3.3 The results of the analysis

After having introduced all the models that have been applied, explaining and describing the variables, we can finally present the results of our analyses.

	Coefficient	Robust st. error	p-value	Confidence interval	
IFRS 10	-0,012	0,019	0,529	-0,050	0,025
ROE$_G$	-0,517	0,138	0,000	-0,790	-0,243
LN total activities$_G$	0,296	0,068	0,000	0,162	0,430
Debt ratio$_G$	0,097	0,021	0,000	0,056	0,138
ROE$_P$	-0,215	0,131	0,103	-0,474	0,043
LN total activities$_P$	-0,284	0,075	0,000	-0,432	-0,136
Debt ratio$_P$	-0,154	0,030	0,000	-0,214	-0,093
Market to book ratio$_P$	0,025	0,008	0,002	0,009	0,041
Dimension BoD	0,003	0,004	0,458	-0,005	0,012
Control of the parent	0,062	0,022	0,007	0,017	0,107

Table 3.5 *Results of the first model (relative equity investments as d. v.)*

	Coefficient	Robust st. error	p-value	Confidence interval	
IFRS 10	0,371	2,134	0,862	-3,833	4,577
ROE$_G$	-4,598	13,396	0,732	-30,987	21,790
LN total activities$_G$	21,143	6,227	0,001	8,875	33,410
Debt ratio$_G$	-5,418	3,292	0,101	-11,904	1,067
ROE$_P$	-11,751	10,978	0,285	-33,376	9,873
LN total activities$_P$	-16,638	6,636	0,013	-29,712	-3,565
Debt ratio$_P$	8,186	4,485	0,069	-0,649	17,021
Market to book ratio$_P$	1,784	0,935	0,058	-0,058	3,626
Dimension BoD	-0,308	0,336	0,361	-0,971	0,354
Control of the parent	6,629	2,201	0,003	2,292	10,966

Table 3.6 *Results of the second model (total control as d. v.)*

	Coefficient	Robust st. error	p-value	Confidence interval	
IFRS 10	2.494	1,857	0,180	-1,163	6,153
ROE_G	6,394	9,009	0,479	-11,352	24,141
LN total $activities_G$	-0,474	2,781	0,865	-5,953	5,004
Debt $ratio_G$	-2,922	2,313	0,208	-7,480	1,635
ROE_P	2,639	6,749	0,696	-10,656	15,934
LN total $activities_P$	0,575	3,015	0,849	-5,363	6,514
Debt $ratio_P$	5,585	3,087	0,059	-0,224	11,941
Market to book $ratio_P$	-0,340	0,587	0,563	-1,497	0,817
Dimension BoD	-0,644	0,170	0,000	-0,981	-0,308
Control of the parent	6,682	1,659	0,000	3,413	9,952

Table 3.7 *Results of the third model (direct control as d. v.)*

	Coefficient	Robust st. error	p-value	Confidence interval	
IFRS 10	-2,664	1,361	0,052	-5,347	0,017
ROE_G	-4,311	9,879	0,663	-23,773	15,150
LN total $activities_G$	13,735	4,850	0,005	4,180	23,290
Debt $ratio_G$	0,924	1,153	0,424	-1,348	3,196
ROE_P	-19,730	8,960	0,029	-37,381	-2,079
LN total $activities_P$	-8,552	5,100	0,095	-18,600	1,495
Debt $ratio_P$	-2,827	1,653	0,089	-6,085	0,429
Market to book $ratio_P$	2,633	0,604	0,000	1,443	3,823
Dimension BoD	0,198	0,315	0,530	-0,423	0,820
Control of the parent	1,327	1,728	0,443	-2,076	4,730

Table 3.8 *Results of the fourth model (indirect control as d. v.)*

	Coefficient	Robust st. error	p-value	Confidence interval	
IFRS 10	0,067	0,030	0,025	0,008	0,126
ROE$_G$	0,362	0,170	0,035	0,026	0,699
LN total activities$_G$	-0,300	0,109	0,006	-0,515	-0,085
Debt ratio$_G$	-0,034	0,034	0,311	-0,102	0,032
ROE$_P$	0,409	0,158	0,010	0,098	0,721
LN total activities$_P$	0,191	0,118	0,109	-0,042	0,426
Debt ratio$_P$	0,082	0,049	0,094	-0,014	0,178
Market to book ratio$_P$	-0,051	0,012	0,000	-0,075	-0,026
Dimension BoD	-0,002	0,006	0,668	-0,016	0,010
Control of the parent	0,011	0,035	0,749	-0,058	0,080

Table 3.9 *Results of the fifth model (relative direct control as d. v.)*

	Coefficient	Robust st. error	p-value	Confidence interval	
IFRS 10	-0,067	0,030	0,025	-0,126	-0,008
ROE$_G$	-0,362	0,170	0,035	-0,699	-0,026
LN total activities$_G$	0,300	0,109	0,006	0,085	0,515
Debt ratio$_G$	0,034	0,034	0,311	-0,032	0,102
ROE$_P$	-0,409	0,158	0,010	-0,721	-0,098
LN total activities$_P$	-0,191	0,118	0,109	-0,426	0,042
Debt ratio$_P$	-0,082	0,049	0,094	-0,178	0,014
Market to book ratio$_P$	0,051	0,012	0,000	0,026	0,075
Dimension BoD	0,002	0,006	0,668	-0,010	0,016
Control of the parent	-0,011	0,035	0,749	-0,080	0,058

Table 3.10 *Results of the sixth model (relative indirect control as d. v.)*

3.3.1 Significative variables

The significative variables are all those that, even without being the tool used for the obtaining of the answers, still show a low p-value[50], suggesting the association of the relative amount with the dependent variable.

Looking at our models, it is possible to notice that the significative variables change from one equation to the other. The only variable that is always associated to an acceptable p-value is that measuring the debt ratio of the parent, even if not always in the same way.
It is possible to see, in fact, that the total control, and the direct control both, in its absolute and relative versions, are negatively associated with the debt ratio of the parent. Differently, we observe a positive association when looking at the relative equity investments and at the indirect control, both in its absolute and relative version.
Eventually it happens that, rather than asking financings to third parties, parents prefer to directly acquire these new entities in order to exploit their activities while obtaining further financings.

Then, it is also possible to focus on the natural logarithm of the total activities of groups. In particular, it is possible to conclude for a positive association between this variable and the relative equity investments, the total control, the indirect control, both in its absolute and relative form. This may appear an obvious result, since that we might expect that bigger groups are those making more equity investments and enlarging their consolidation area.
The only case in which we account for a negative association is that in which the dependent variable is the relative direct control. In this case the information is different than the previous one, and tells about the choice between investing directly rather than indirectly. Thus it is possible to observe how bigger groups prefer to invest more in indirect participations.

Finally, looking at the previous tables, it is also possible to observe the market to book ratio. Also in this case, there is a positive association with the relative equity investments, with the total control, and with the absolute and relative indirect control. This may mean that the more the market value of the company is higher than the accounting one, the more the acquisition of participations increase. Maybe, this is just a confirmation of the fact that the market is able to

[50] The p-value shows the significance level of the estimations provided by the model. In particular, for the null hypothesis to be accepted, it is necessary to have a p-value smaller than 0,1 or 0,05, on the basis of the significance we are looking for (the smaller the amount, the higher the significance level) (Borra, Di Ciaccio 2015).

see more opportunities, which imply a higher value, than what the company, through its accounting amounts, can see.
Differently, it is possible to highlight a negative association with the absolute direct control.

Those are not all the significative variables, but just the most recurring.

On the other hand, we could analyze these levels of significance to understand whether it was possible to improve the quality of the model by eliminating any variable that was characterized by its low p-value. Since that the intention was that of keeping the same independent variables for all the equations adopted, we would have eliminated the amounts only if they were not significant in all the versions of the model.
But, as it could be noticed looking at the previous tables, it is not possible to identify any variable that is remarkable for its low significance in all of the versions analyzed. Sometimes, in fact, the control of the parent resulted not to be that significant, some other times it was the dimension of the board of directors or the ROE of the parent. Anyway, any of these was always insignificant, and sometimes neither its exclusion from the specific regression in which it resulted to not be relevant, improved the results.
Therefore, we concluded that it was not possible to exclude any of our variables, and all of them were approved for the final model.

3.3.2 Comments on the results of the models

Going through the charts that report the results of the analyses, it is possible to see that the values assumed by the p-value associated to the research variable guide toward different conclusions.

The first three models, the ones analyzing the relative equity investments, the total control and the direct control, present unacceptable levels of p-value. Because of that, we conclude for the refusal of the hypotheses one, two and three.
All the values assumed, in fact, are above the threshold value of 0,1 which implies that the estimation of the relative coefficient[51] is not trustworthy.

[51] The model provided by the inferential statistic is constructed in such a way that it describes the correlation among the variables through the relative slopes. But those amounts, being computed just by looking at a part of the whole population, are nothing but an estimation of the

If we go back to our hypotheses, we can better understand what these statistical results are telling us.

The refusal of the first hypothesis implies that we have not observed any association between the relative equity investments and the introduction of the IFRS 10. Thus, it seems that parents have not reduced the portion of activities addressed to the purchase of equity investments.

The refusal of the second hypothesis, instead, implies the absence of an association between the total linkages connecting the companies being part of the group and the introduction of the IFRS 10. Thus it seems that, as Lopes and Lopes had concluded, the size of groups has not changed, no matter whether we measure it looking at accounting values such as the total activities or analyzing the connections among the subsidiaries.

Since that the change in the consolidation rules seemed to have not implied any modification in parents' investment decisions, we may conclude that the IFRS 10 had not revealed anything that was previously hidden. These two results may mean that parents had never been trying (or that they had never managed) to manipulate the consolidation principles and that they had always been honest in the accounting presentation of their perimeter of control.
On the other hand, eventually this result is also suggesting the good quality of the IAS 27. Since that the accounting results are not particularly changing, maybe the practical functioning of the two sets of rules is the same, and the IFRS 10 has just brought slight additional improvements.

It is even true that this result may be seen from a negative perspective. As a consequence, we may think that parents had always been hiding some of their investments and, now that the new rules had been introduced, they had found new loopholes. This behavior would have had no consequence on the accounting results, that is the reason why we conclude for the refusal of the hypotheses. Moreover, if this last reasoning was true, it would also imply that the introduction of the new standard had not particularly improved the consolidation procedures.
But the truthfulness of this explanation is extremely undermined by the small time that companies have had at their disposal. It is quite hard to imagine that they have been able to manipulate the new rules since the very first moment in which they were introduced.

Finally, we may think that we have not observed a period that was long enough for the companies to react to the new rules. Anyway, this commentary would be more founded if we had not looked also at the width of the consolidation area. Just because the relative equity

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value regarding the entirety. In order to prove whether the results obtained can be generalized, it is required to have an acceptable value of the p-value (Borra, Di Ciaccio 2015).

investments of the group had not changed yet, if the IFRS 10 had revealed some hidden subsidiaries, the size of the group would have changed.

Analyzing the results, we also have to conclude for the refusal of the third hypothesis. Thus it seems that, after the introduction of the new consolidation rules, parents have not increased the absolute investments in the direct participations. Going back to our reasoning[52], this means that it has not been possible to assist to a transformation of the indirect investments in direct ones.
The peculiarity of this specific model is that its result changes significantly once that we shift from the version that does not consider the robust standard errors to the one that includes them. In the first case, in fact, the p-value was below the threshold value of 0,1.
What this important change lets us think is that there might be a problem in the structure of the model, which becomes evident once that it is furtherly checked considering the distribution of the errors. The first tool necessary to fix this problematic model is the analysis of the correlation matrix[53] in which it is possible to see how some of the variables considered are strictly correlated one with the other. But, even after this adjustment, the results are extremely different which suggests further problems that have not been identified yet.

Differently from the results related to the models just analyzed, the ones obtained from the other three models lead us toward a completely different direction. Looking at the indirect control and at the relative direct and indirect control, in fact, we observe acceptable levels of p-value which allows an acceptance of the hypotheses four, five and six.
Because of that, in these cases we can observe an association between the dependent and the research variable.

Looking at the indirect control, both in its absolute and in its relative form, we can observe a negative association with the variable stating the introduction of the IFRS 10. This result may suggest that, even if parents had not changed that much the size of their whole investments, they had changed the way in which they were investing. This is something that becomes even more evident looking at the positive effect exercised by the introduction of the new standard on the relative direct control. It seems that these new rules have led companies to invest more in direct participations rather than in the indirect ones, maintaining unchanged the overall amount invested (which is something that we have observed looking when refusing the first hypothesis).

[52] Look at paragraph *2.2.3 Third and fourth hypothesis: analysis of direct and indirect control*.

[53] See *Table 3.4.*

A first possible explanation of this result may be found in the way in which companies choose how to invest and in the higher relevance that the IFRS 10 has given to the *de facto* control. It might have been, in fact, that the parent was actually controlling these indirect investments, but through small participations, that allowed to avoid consolidation. Once that the rules had changed, and that they were obliged to consolidate these investments too, they ended up dismissing the shares.

We may think, in fact, that the direct investments are the ones through which the parent expands its activity, while furtherly extending it with these indirect participations that may be hard to control. Perhaps the latter are tools adopted to explore new markets, to test new segments or to carry on any other activity which may be too risky to be tested directly by the group. Just because of that, parents may not be willing to introduce these companies in their consolidated annual report and, when obliged to do that, have opted for their dismission. It is better to directly run risky activities rather than consolidating entities that may be underperforming.

Moreover, since that the parent delegates the management of these indirect ownings to its subsidiaries, it may be unsatisfied by such direction and may prefer to directly control them, in order to keep the company, while trying to improve its management itself, and to not hurt that much the performance of the whole group through its consolidation.

On the other hand, if they had had no problems in explicitly stating their power, they would have already included these entities in their consolidated annual report, since that this "voluntary" consolidation was already provided by the IAS 27.

Another possible explanation stays in the eventuality that, when trying to hide their liabilities, or to dislocate some undesired activities, companies build these indirect relations. Again, these may be entities that did not have to be consolidated, because of the small investment that the parent held, but things changed with the new rules. The most recent consolidation principle, in fact, goes beyond the simple equity investments owned when assessing whether an entity needs to be consolidated or not. Because of that, parent would have had to incorporate these companies in the consolidated financial statement, and the activities and the liabilities that had been left behind, now had to come back and to be brought to light. At this point, keeping the shares of these companies was useless and they preferred to invest more in direct participations.

These reasonings, whether true, are furtherly proven by the fact that this negative association is still true only when looking at big groups, and not only at small ones[54]. Actually, if we remind

[54] As anticipated in the paragraph *2.5 Deepening of the model*, we have run our analyses also considering separately small and big groups. The tables reporting the way in which the sample

the research run by Hsu and Pourjalali in 2015[55], this last result should not surprise us. They had already noticed, in fact, how the improvement of the definition of the consolidation area was more evident when looking at bigger groups, eventually because they had been hiding more subsidiaries.
A further confirmation, then, comes from the fact that, when looking at big groups only, we can accept our null hypothesis also when considering the model whose dependent variable is the one expressing the direct control. Eventually, it was just the different behavior of small and big groups that caused the malfunctioning of the model that considered the whole sample.

It can be noticed that, in all the possible explanations provided, we always refer to this "new" necessity of consolidating these entities, which is a statement that may leave room for misunderstandings. The IFRS 10, even with its new rules, has not introduced the oblige to consolidate, but has eventually made it inevitable. The IAS 27, in fact, in those cases in which a company was controlling an entity, but without owning the majority of its shares, left to the honesty of the parent the decision to consolidate it. In that way, their consolidation could easily be avoided. With the new rules this was not possible anymore.
This is why we dare talking about this event as a "new" necessity of consolidating.

3.3.3 The limits of the analysis

Despite all the concern that we have had in the realization of our models, it is impossible to say that the results that we have obtained are the absolute truth. Our analysis surely presents some limits that cannot be forgotten when evaluating the reliability of the answers that we are providing.

The first limit stays in the definition of the sample.
The groups that we have analyzed, even if observed over a long period of seven years, can be considered too little. Even if the considerations that we have made should not be biased by this issue, considered that the p-value would have been negatively affected by that, maybe we might have improved the results of the other models. But, it is even true that if we had considered

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has been categorized and the results of these additional researches are all reported in the *Appendix*.

[55] Look at paragraph *1.2.1 Defining the consolidation area: difficulties and attempts.*

more groups, than their behavior might have been affected by more variables that we might have been not able to control.
Another issue connected to our sample regards the way in which the groups observed have been selected. The definition of the list of the entities listed in STAR during the period 2010-2016 was obtained through an operation of reverse engineering that might have taken us to exclude groups that should have been observed, and to include others that should have been excluded. The main problem, here, would regard the heterogeneity of the sample analyzed.

The construction of the model may present another limit, in this case connected to the control variables. There might be, in fact, other factors that have not been included in these independent variables, but that still are exercising an influence on our research variable.

Then, still considering the quality of the model, it is not either possible to forget about the correlation among some of the control variables adopted. This connection between them, in fact, might have somehow affected our results.

Another limit may be represented by the fact that the IFRS 10 was not published as a standing alone principle, but was part of the *consolidation package*. All the provisions introduced in that occasion, in fact, regarded the accounting behavior to be adopted when reporting the relation with other companies. Because of that, the behavior that we have observed may be a reaction to the other principles introduced, or to the whole consolidation package, and not just to the IFSR 10.
It is even true, anyway, that we have considered variables that were as much pertinent as possible to the IFRS 10 only, which should have avoided any influence due to the other principles of the consolidation package.

Another limit that cannot be ignored regards the choice of the dependent variable.
We have already presented this issue: no matter how we try to measure the control really exercised by the parent, there might always be at least another way that the entity has taken to hide it. Thus, maybe we have had to refuse our null hypothesis because we were not considering the right amounts, and maybe we have concluded for a relation with the introduction of the new consolidation principle when it was due to something else. The main problem here is that, if parents are really trying to cleverly hide some controlled entities, any amount shown in the annual report will be able to uncover it.
On the other hand, what we have seen as a mole of our analysis, can instead be seen as a resource. One of the problems of our dependent variables, in fact, may be that they do not distinguish between a controlled entity and another one on which the parent is exercising a mere

influence. If, in fact, we turn the medal, it is possible to see how in this way we might also be including those investments on which the parent declares to have significant influence when, instead, is controlling them. Because of that, the results relative to the effect on the choice between direct and indirect investments may be even stronger since that we would be looking at all companies being actually controlled, and not just at the ones that the parent wants to show us.

The last limit that can be highlighted regards one of the possible instruments that might have been adopted to improve the truthfulness of the results of the analysis. It was the observation of a group of control.

The application of this tool would have consisted in the realization of the same analysis, but considering a set of observations that had not been impacted by the introduction of the IFRS 10. In this way, in fact, it would have been possible to furtherly test the solidity of our results, especially in case of acceptance of the null hypothesis.
In particular, if the research run on this group of control had carried the same results, it would have meant that what we had concluded, looking at our sample, was not necessarily the consequence of the new rules introduced by the new standard. On the contrary, if the results had been different, then we would have confirmed, with a higher level of relevance, that the changes in the amount of equity investments held was actually due to the impact coming from the consolidation package.

This group of control might have been selected in different ways, for example looking at the American groups applying the GAAP, or at the Italian ones that, even not being listed, had chosen for the adoption of the IFRS.

Unfortunately, the problems connected to this eventual comparison would have been too big to be ignored. First of all, we might have chosen to refer to the overseas groups since that, as the domestic ones, they were listed and the decision processes might have been similar.
But, if we turn the medal, we see how, beyond this similarity, the two sets of data would have presented differences that might have strongly impacted their activity. Operating in different countries, in fact, is not just a matter of geographical difference, it also requires interacting with different markets. The most relevant difference would have regarded the different criteria of access to the credit market, a factor that might strongly influence the way in which the parent decides to structure its group, above all the possible manipulations which we could maliciously think of.

In addition to this, it cannot either be forgotten the fact that the GAAP and the IFRS differ in many points, and this may affect the whole financial statement, as much as the behavior of the entity. Moreover, one of these differences is just about the way in which the consolidation principle is constructed. Differently from what is the leading idea of the IASB, in fact, the FASB does not give much relevance to the *de facto* control. The regularization of this concept, in fact, is not properly disciplined, despite being quite common in practice (PWC, 2008).

Neither coming back in our country it was possible to solve the issues coming from those differences. In this case, in fact, we would have had met other obstacles.
First of all, it is very difficult to compare the financial management operated by a listed company and that put in place by another enterprise which does not place its shares on the public market. If, for example, we look at their financial necessities, we see how a company being listed mainly needs to satisfy its investors, while the other one would also need to satisfy financiers, like banks. This is not a tiny difference, and has consequences on the strategical choices made.
The other point regards the specific way in which the STAR selects its companies. As already highlighted, for an entity to place its shares on this segment, it is necessary the fulfillment of specific requisites. Probably, being those mainly quantitative, it would have been possible to identify some companies similar to the ones listed, but it might have been an impossible mission, especially considering that it might have been very hard to collect all the necessary data.

It is quite evident, at this point, the fact that even if the analysis of a group of control might have allowed an improvement of the results, this was practically impossible to be realized. In fact, there might have been so many different elements impacting their attitude, that it would have been impossible to properly compare the results obtained.

Those are the possible limits that we have identified. Eventually they have not affected in any way the results, or there may be others, still highly relevant, that have not been determined. The truth is that we would really be able to find an appropriate answer for our question only knowing, one by one, what the parents have been doing, without stopping at the accounting amounts presented. Those, in fact, may be influenced by the interpretation of the user or, more simply, may be leaving something relevant along the way, just because their regulation is not disciplining it.

3.3.4 Clues for future researches

Despite the many flaws that the analysis here presented may have, it is not possible to completely underrate the results that it has carried.

It is absolutely true that the tools at our disposal do not allow to conclude for a relation of causality between the introduction of the new consolidation principle and the change in the way in which companies were choosing between direct and indirect investments. But this does not mean that we can completely neglect what the result of the analysis is suggesting. On the contrary, it should be appropriate starting from this point to conduct further researches that allow to deepen this argument.

Eventually it is possible to run other analyses, broadening the sample, analyzing other measures of the actual control exercised, including other variables or trying to collect first-hand information, by interviewing the managers and trying to understand the policies that they realize and the way in which they deal with the regulation.
It is interesting, in fact, to fully understand how economic principles affect the decisions regarding the management of an economic activity.
On the other hand, for regulators, it is of absolute relevance understanding the relation of companies with the standards, since that those should provide the application of a treatment that ends up with an accounting representation that must be as close as possible to the reality. It is evident that, if companies do not properly comply with the rules, the main objective of these norms fails.

CONCLUSION

In this work we have analyzed the reaction of Italian groups to the issuance of the IFRS 10, the accounting principle that has substituted the IAS 27 in the regulation of the consolidated financial statement.
In particular, the objective was that of verifying whether there was any association between the introduction of the latest accounting principle and the investment decisions made by companies. We have started from the clues, provided by the accounting literature, which suggested that parent could prefer to not consolidate some of their subsidiaries to hide undesired liabilities. But, since that the new regulation had made these policies harder to be put in place, we have hypothesized that parents had preferred to divest some of their investees.

The research has been run testing six hypotheses, in order to analyze the behavior of parents from different points of view.

On the basis of the relative results, it has been possible to conclude for the absence of any association between the issuance of the new rules and the portion of total activities used for the equity investments and the total linkages connecting the companies being part of the group.
Since it was not possible to observe any change after the application of the IFRS 10, it seemed that groups had never lied about the entities that were controlling. In this case, the IAS 27 was already working properly, and the IFRS 10 was just an additional improvement of what we already had.
But it may also be that companies were still lying and, because of that, it was not possible to observe any change. In this case, in fact, they might have been able to manipulate also the latest rules and this would have allowed to continue to hide some of their investees. Since that this reasoning would also affect the judgment of the way in which the IFRS 10 works, it would be better to specifically verify it.

Then, it has not either been possible to observe any association between the introduction of the new consolidation standard and the amount of participations held directly by the parent.
On the contrary, it has been possible to conclude for the presence of a negative association between the introduction of the IFRS 10 and the indirect participations (considered in absolute and relative terms) and of a positive association between the application of the latest consolidation standard and the relative direct participations.

What these further results seem to suggest is that, after the issuance of the new standard, it seems that parents (especially those of bigger groups) have dismissed some of their indirect participations, and this has increased the weight of the direct ones. Thus, they have not changed the overall investments, but have modified the management of the dichotomy between direct and indirect ownings.

Summing up, the analysis developed in this thesis has allowed to improve the knowledge of the way in which parent companies, committed in the preparation of the consolidated financial statement, deal with the relative accounting principles.

This research may have many limits, regarding the definition of the sample, the selection of the variables and the development of the analysis but, despite that, it allows to observe an interesting association between the issuance of the IFRS 10 and the investment behavior of companies. Since it seems that parents have reduced the indirect participations in favor of the direct ones, it may be that they used their indirect participated companies to run risky activities, such as the testing of specific markets or products, and eventually tried to avoid their consolidation to not affect excessively the performance of the group. But, once that their consolidation had become inevitable, they have decided to acquire them directly (in order to better monitor their management) or to definitely dismiss them.
On the other hand, they might have really been using these investments as buckets for their undesired liabilities and, now that their consolidation was inevitable and that these amounts would have come back in their annual reports, they had preferred to dismiss the entities.

This analysis does not provide definitive results, and surely further researches are needed. Anyway it has been useful to put in evidence the way in which the investment behavior of parent companies has changed after the issuance of the IFRS 10 and may be considered a good starting point for future analyses aimed at improving the regulation of the consolidated financial statements.

APPENDIX

1. Definition of the sample

It follows a chart that allows to properly identify the way in which it has been realized the choice of the groups to be included in the sample for the analysis.

Group	***Included in the sample***	***Excluded because of late listing***	***Excluded because of missing data***	***Excluded because of the type of activity***
Acotel Group	✓			
Aeffe	✓			
Aeroporto Guglielmo Marconi Di Bologna		✗		
Amplifon			✗	
Ansaldo Sts	✓			
Ascopiave	✓			
Astaldi			✗	
Avio		✗		
B&C Speakers		✗		
Banca Finnat				✗
Banca Ifis				✗
Banca Sistema				✗
Bb Biotech				✗
Be		✗		
Biesse	✓			

Cad It			✘	
Cairo Communication	✓			
Cembre	✓			
Cementir Holding	✓			
Centrale Del Latte D'Italia	✓			
D'Amico	✓			
Dada Spa			✘	
Datalogic	✓			
Dea Capital				✘
Digital Bros	✓			
Ei			✘	
El.En.	✓			
Elica	✓			
Emak	✓			
Eprice		✘		
Esprinet	✓			
Eurotech	✓			
Exprivia	✓			
Falck Renewables		✘		
Fidia			✘	
Fiera Milano			✘	
Fila		✘		

Gefran	✓			
Igd - Siiq	✓			
Ima	✓			
Interpump Group	✓			
Irce	✓			
Isagro	✓			
La Doria	✓			
Landi Renzo	✓			
Marr	✓			
Massimo Zanetti Beverage		✗		
Mondadori Editore		✗		
Mondo TV	✓			
Mutuionline				✗
Nice			✗	
Openjobmentis		✗		
Panariagroup Industrie Ceramiche	✓			
Poligrafica San Faustino			✗	
Prima Industrie	✓			
Reno De Medici	✓			
Reply	✓			
Retelit		✗		

Sabaf	✓			
Saes Getters	✓			
Servizi Italia	✓			
Sesa		✘		
Sogefi	✓			
Tamburi Investment Partners				✘
Tecnoinvestimenti				✘
Ternienergia		✘		
Tesmec		✘		
Txt			✘	
Vittoria Assicurazioni				✘
Zignago Vetro			✘	

Table A.1 *Definition of the sample*

2. Categorization of the sample

It follows a chart that clarifies which groups have been considered as big and which, instead, as small.

Group	***Small group***	***Big group***
Acotel Group	✓	
Aeffe		✓
Ansaldo Sts		✓
Ascopiave		✓
Biesse		✓
Cairo Communication	✓	
Cembre	✓	
Cementir Holding		✓
Centrale Del Latte D'Italia	✓	
D'Amico		✓
Datalogic		✓
Digital Bros	✓	
El.En.	✓	
Elica	✓	
Emak		✓
Esprinet		✓
Eurotech	✓	
Exprivia	✓	

Gefran	✓	
Igd - Siiq		✓
Ima		✓
Interpump Group		✓
Irce	✓	
Isagro	✓	
La Doria		✓
Landi Renzo	✓	
Marr		✓
Mondo TV	✓	
Panariagroup Industrie Ceramiche		✓
Prima Industrie		✓
Reno De Medici		✓
Reply		✓
Sabaf	✓	
Saes Getters	✓	
Servizi Italia	✓	
Sogefi		✓

Table A.2 *Categorization of the groups*

3. Results of the analyses run on small and big groups separately

As anticipated in chapter three, it now follow the tables of the analyses run referring to the big and the small groups separately.

First it will be presented the tables referred to the small groups.

	Coefficient	Robust st. error	p-value	Confidence interval	
IFRS 10	-0,013	0,027	0,636	-0,067	0,041
ROE$_G$	-0,558	0,168	0,001	-0,893	-0,224
LN total activities$_G$	0,063	0,090	0,484	-0,115	0,242
Debt ratio$_G$	0,068	0,034	0,046	0,001	0,136
ROE$_P$	-0,256	0,170	0,136	-0,594	0,082
LN total activities$_P$	0,047	0,103	0,644	-0,156	0,252
Debt ratio$_P$	-0,162	0,047	0,001	-0,256	-0,067
Market to book ratio$_P$	0,011	0,012	0,361	-0,013	0,036
Dimension BoD	0,036	0,007	0,000	0,021	0,051
Control of the parent	-0,122	0,032	0,000	-0,186	-0,059

Table A.3 *Results of the first model (relative equity investments as d. v.)*

	Coefficient	Robust st. error	p-value	Confidence interval	
IFRS 10	-1,166	1,421	0,414	-3,984	1,652
ROE$_G$	-21,375	9,754	0,031	-40,710	-2,040
LN total activities$_G$	18,247	4,997	0,000	8,342	28,152
Debt ratio$_G$	-4,229	2,551	0,100	-9,287	0,828
ROE$_P$	2,170	9,322	0,816	-16,308	20,648
LN total activities$_P$	-15,417	5,350	0,005	-26,023	-4,812
Debt ratio$_P$	2,865	3,573	0,424	-4,218	9,950
Market to book ratio$_P$	-0,393	0,846	0,643	-2,070	1,284
Dimension BoD	-0,718	0,344	0,040	-1,401	-0,034
Control of the parent	5,040	1,760	0,005	1,550	8,529

Table A.4 *Results of the second model (total control as d. v.)*

	Coefficient	Robust st. error	p-value	Confidence interval	
IFRS 10	0,106	0,546	0,846	-0,976	1,188
ROE$_G$	-8,483	3,999	0,036	-16,410	-0,556
LN total activities$_G$	8,736	2,142	0,000	4,489	12,982
Debt ratio$_G$	-2,389	1,157	0,041	-4,683	-0,095
ROE$_P$	3,075	4,016	0,446	-4,886	11,036
LN total activities$_P$	-5,681	2,352	0,017	-10,345	-1,017
Debt ratio$_P$	3,153	1,555	0,045	0,069	6,237
Market to book ratio$_P$	-0,631	0,312	0,046	-1,250	-0,012
Dimension BoD	-0,387	0,139	0,006	-0,663	-0,111
Control of the parent	-,364	1,016	0,001	1,349	5,380

Table A.5 *Results of the third model (direct control as d. v.)*

	Coefficient	Robust st. error	p-value	Confidence interval	
IFRS 10	-1,272	1,060	0,233	-3,375	0,830
ROE$_G$	-12,891	6,589	0,053	-25,953	0,169
LN total activities$_G$	9,511	3,179	0,003	3,208	15,831
Debt ratio$_G$	-1,839	1,507	0,225	-4,826	1,147
ROE$_P$	-0,905	6,168	0,884	-13,132	11,321
LN total activities$_P$	-9.736	3,374	0,005	-16,424	-3,047
Debt ratio$_P$	-0,287	2,304	0,901	-4,856	4,281
Market to book ratio$_P$	0,238	0,604	0,694	-0,959	1,436
Dimension BoD	-0,330	0,241	0,174	-0,809	0,147
Control of the parent	1,675	1,045	0,112	-0,396	3,746

Table A.6 *Results of the fourth model (indirect control as d. v.)*

	Coefficient	Robust st. error	p-value	Confidence interval	
IFRS 10	0,055	0,039	0,166	-0,023	0,133
ROE$_G$	0,373	0,236	0,116	-0,094	0,842
LN total activities$_G$	-0,232	0,096	0,017	-0,423	-0,041
Debt ratio$_G$	0,054	0,045	0,227	-0,034	0,143
ROE$_P$	0,142	0,222	0,523	-0,298	0,584
LN total activities$_P$	0,261	0,106	0,016	0,049	0,473
Debt ratio$_P$	-0,016	0,073	0,826	-0,161	0,128
Market to book ratio$_P$	-0,026	0,021	0,222	-0,070	0,016
Dimension BoD	0,005	0,010	0,607	-0,015	0,025
Control of the parent	-0,027	0,043	0,527	-0,113	0,058

Table A.7 *Results of the fifth model (relative direct control as d. v.)*

	Coefficient	Robust st. error	p-value	Confidence interval	
IFRS 10	-0,055	0,039	0,166	-0,133	0,023
ROE$_G$	-0,373	0,236	0,116	-0,842	0,094
LN total activities$_G$	0,232	0,096	0,017	0,041	0,423
Debt ratio$_G$	-0,054	0,044	0,227	-0,143	0,034
ROE$_P$	-0,142	0,222	0,523	-0,584	0,298
LN total activities$_P$	-0,261	0,106	0,016	-0,473	-0,049
Debt ratio$_P$	0,016	0,073	0,826	-0,128	0,161
Market to book ratio$_P$	0,026	0,021	0,222	-0,016	0,070
Dimension BoD	-0,005	0,010	0,607	-0,025	0,015
Control of the parent	0,027	0,043	0,527	-0,058	0,113

Table A.8 *Results of the sixth model (relative indirect control as d. v.)*

It will now follow the list of the tables relative to the big groups.

	Coefficient	Robust st. error	p-value	Confidence interval	
IFRS 10	-0,023	0,024	0,338	-0,072	0,025
ROE$_G$	-0,264	0,170	0,124	-0,602	0,073
LN total activities$_G$	0,226	0,110	0,043	0,007	0,446
Debt ratio$_G$	0,099	0,020	0,000	0,059	0,140
ROE$_P$	-0,484	0,229	0,036	-0,938	-0,031
LN total activities$_P$	-0,277	0,107	0,011	-0,489	-0,065
Debt ratio$_P$	-0,172	0,035	0,000	-0,242	-0,102
Market to book ratio$_P$	0,041	0,011	0,000	0,019	0,064
Dimension BoD	-0,006	0,006	0,285	-0,019	0,005
Control of the parent	0,136	0,033	0,000	0,069	0,203

Table A.9 *Results of the first model (relative equity investments as d. v.)*

	Coefficient	Robust st. error	p-value	Confidence interval	
IFRS 10	1,388	4,115	0,736	-6,758	9,535
ROE$_G$	33,241	25,306	0,191	-16,856	83,338
LN total activities$_G$	16,465	7,564	0,031	1,491	31,439
Debt ratio$_G$	-6,465	4,386	0,143	-15,149	2,217
ROE$_P$	-40,390	27,079	0,138	-93,996	13,216
LN total activities$_P$	-17,011	7,952	0,034	-32,754	-1,268
Debt ratio$_P$	8,261	6,083	0,177	-3,780	20,303
Market to book ratio$_P$	2,712	1,760	0,126	-0,772	6,197
Dimension BoD	0,083	0,516	0,872	-0,939	1,107
Control of the parent	8,215	3,640	0,026	1,009	15,421

Table A.10 *Results of the second model (total control as d. v.)*

	Coefficient	Robust st. error	p-value	Confidence interval	
IFRS 10	5,940	3,432	0,086	-0,854	12,735
ROE$_G$	13,705	15,087	0,365	-16,161	43,572
LN total activities$_G$	-0,069	4,869	0,989	-9,709	9,569
Debt ratio$_G$	-10,243	3,794	0,008	-17,754	-2,732
ROE$_P$	12,281	15,087	0,417	-17,585	42,147
LN total activities$_P$	-5,712	5,355	0,288	-16,314	4,889
Debt ratio$_P$	14,986	5,387	0,006	4,322	25,651
Market to book ratio$_P$	-1,627	1,468	0,270	-4,533	1,278
Dimension BoD	-0,053	0,316	0,866	-0,680	0,573
Control of the parent	10,039	2,734	0,000	4,626	15,453

Table A.11 *Results of the third model (direct control as d. v.)*

	Coefficient	Robust st. error	p-value	Confidence interval	
IFRS 10	-4,552	2,258	0,046	-9,023	-0,080
ROE$_G$	19,535	18,390	2,290	-16,869	55,941
LN total activities$_G$	16,534	10,019	0,101	-3,300	36,369
Debt ratio$_G$	3,777	2,162	0,083	-0,503	8,059
ROE$_P$	-52,671	22,653	0,022	-97,515	-7,826
LN total activities$_P$	-11,299	9,770	0,250	-30,639	8,041
Debt ratio$_P$	-6,725	3,164	0,036	-12,989	-0,461
Market to book ratio$_P$	4,339	1,156	0,000	2,049	6,629
Dimension BoD	0,137	0,429	0,750	-0,713	0,987
Control of the parent	-1,824	3,035	0,549	-7,833	4,184

Table A.12 *Results of the fourth model (indirect control as d. v.)*

	Coefficient	Robust st. error	p-value	Confidence interval	
IFRS 10	0,068	0,038	0,078	-0,007	0,144
ROE_G	0,463	0,281	0,102	-0,093	1,019
LN total $activities_G$	-0,218	0,172	0,207	-0,559	0,122
Debt $ratio_G$	-0,147	0,031	0,000	-0,209	-0,084
ROE_P	1,176	0,372	0,002	0,439	1,913
LN total $activities_P$	0,135	0,170	0,428	-0,201	0,473
Debt $ratio_P$	0,200	0,057	0,001	0,086	0,313
Market to book $ratio_P$	-0,094	0,022	0,000	-0,138	-0,050
Dimension BoD	-0,001	0,008	0,882	-0,018	0,016
Control of the parent	0,052	0,053	0,323	-0,052	0,158

Table A.13 *Results of the fifth model (relative direct control as d. v.)*

	Coefficient	Robust st. error	p-value	Confidence interval	
IFRS 10	-0,068	0,038	0,078	-0,144	0,007
ROE_G	-0,463	0,281	0,102	-1,019	0,093
LN total $activities_G$	0,218	0,172	0,207	-0,122	0,559
Debt $ratio_G$	0,147	0,031	0,000	0,084	0,209
ROE_P	-1,176	0,372	0,002	-1,913	-0,439
LN total $activities_P$	-0,135	0,170	0,428	-0,473	0,201
Debt $ratio_P$	-0,200	0,057	0,001	-0,313	-0,086
Market to book $ratio_P$	0,094	0,022	0,000	0,050	0,138
Dimension BoD	0,001	0,008	0,882	-0,016	0,018
Control of the parent	-0,052	0,053	0,323	-0,158	0,052

Table A.14 *Results of the sixth model (relative indirect control as d. v.)*

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