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THE IMPACT OF IFRS 15 ON THE TELECOMMUNICATIONS SECTOR - THE CASE OF PORTUGUESE AND SPANISH LISTED COMPANIES

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Abstract

This study aims to investigate the impact of the new revenue standard – International Financial Reporting Standards (IFRS) 15: Revenue from Contracts with Customers - on some of the most important indicators used when analyzing a company's financial performance.

Many papers concluded that the adoption of this standard brings improvement in entities' accountability and quality of accounting information through a uniform set of standards for financial reporting. The objective of this study is to examine whether the adoption of IFRS 15, which supersedes the International Accounting Standards (IAS) 18 and 11 concerning revenue recognition, affected Portuguese and Spanish telecommunications listed companies' more than it affected entities of other sectors of activity.

This study will be an important contribution to the existing literature considering that previous studies on this subject mainly aim to study the expected impact of the adoption of IFRS 15 as the new standard is recent and this study is conducted with data from annual reports after the mandatory first adoption with the effective impacts already reflected in financial statements.

Keywords: Revenue recognition, IFRS 15, Financial reporting, Financial indicators, Telecommunications

Resumo

Este estudo pretende investigar qual o impacto da nova norma internacional de reconhecimento do rédito – Norma Internacional de Reporte Financeiro 15: Receita de Contratos com Clientes – em alguns dos indicadores mais importantes na análise do desempenho financeiro de uma empresa.

Muitos estudos concluíram que a adoção desta norma trouxe melhorias na prestação de contas e na qualidade da informação contabilística através da uniformização das normas de reporte financeiro. O objetivo deste estudo é testar se a adoção da IFRS 15, que substituiu a IAS 18 e 11 no reconhecimento da receita, afetou as empresas cotadas de telecomunicações portuguesas e espanholas mais do que afetou as empresas dos restantes setores de atividade.

Acredito que este estudo pode ser uma importante contribuição para a literatura existente considerando que a maioria dos estudos acerca deste assunto pretendem estudar o impacto esperado da adoção da IFRS 15, uma vez que se trata de uma norma recente, e este estudo foi conduzido com informação do reporte financeiro depois da primeira adoção da norma com os seus impactos efetivos já refletidos nas demonstrações financeiras.

Palavras chave: Reconhecimento da receita, IFRS 15, Reporte financeiro, Indicadores financeiros, Telecomunicações

Abbreviations

- International Financial Reporting Standard (IFRS)
- Financial Accounting Standards Board (FASB)
- International Accounting Standard (IAS)
- United States - Generally Accepted Accounting Principles (US GAAP)
- Statement of Financial Accounting Concepts (SFAC)
- International Accounting Standards Board (IASB)
- International auditing and assurance standards board (IAASB)
- European Securities and Markets Authority (ESMA)
- Ernest & Young (EY)
- PricewaterhouseCoopers (PWC)
- Klynveld Peat Marwick Goerdeler (KPMG)
- Binder Dijker Otte (BDO)
- Portuguese Stock Index (PSI)
- Iberia Exchange Index (IBEX)
- Basic Earnings per Share (BEPS)
- Return on Equity (ROE)
- Return on asset (ROA)
- Return on turnover (ROT)
- Financial Autonomy (AF)
- Operating Fund (OF)
- Extraordinary contribution to the energy sector (CESE)
- Earnings Before Interest, Taxes, Depreciation and Amortization (EBITDA)
- Earnings Before Taxes (EBT)
- Key performance index (KPI)
- Chief Executive Officer (CEO)
- Financial Statements (FS)

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1. Introduction

1.1. Context and motivation

Economics environment is changing faster than ever. As a response to the questions raised by this environmental change, International Accounting Standards Board (IASB) and Financial Accounting Standards Board (FASB) has issued the International Financial Reporting Standards (IFRS) 15: Revenue from Contracts with Customers, which aims to meet business needs and to improve the quality of financial reports and the transparency of information that they contain in a globally applicable and acceptable way.

In summary, IFRS 15 is concerned with the determination of how to recognize revenue by identifying five key steps that aim to support the identification of the real amounts to be recognized as revenue for economic enterprises. This five-model approach will be applied consistently across transactions, industries and capital markets to improve the comparability of financial statements between enterprises worldwide with the objective of greater transparency and integrity in financial statements that are crucial for decision-makers.

While some accounting changes never come to the attention of CEOs or financial analysts, the new accounting standard on revenue recognition, jointly published by the International Accounting Standards Board (IASB) and Financial Accounting Standards Board (FASB), is likely to have unprecedented impacts in the way revenue is recognized, with the expected impacts on telecommunications operators being larger than for most of the other business sectors' entities, with a projected strong impact in these entities' financial information users' attention.

1.2. Objectives and methodology

The accounting information that companies or institutions provide to their users is considered relevant when such information is capable of making differences in the decisions made by these users, even if they do not actually use such information in making decisions (IASB, 2013).

The relevance of this study refers to the extent to which the information in the financial reports supports decision-makers in making appropriate decisions.

Therefore, the present study investigates the impacts of one of the currently most important topics for the accounting standards, as it enriches the scientific research on subjects related to International Financial Reporting Standards (IFRS) 15: Revenue from Contracts with Customers and the effective role of its application in market changes, by analyzing its impact in some of the most important indicators of a listed company's performance.

1.3. Delimitation of the study

The present study analyzes the impact of the recently issued accounting standard IFRS 15 focusing on the telecommunications sector, aiming to study the different impacts in revenue recognition between businesses sectors. Therefore, its objective is not to detail the impact of this new accounting standard in companies in general but in a specific sector chosen due to some particularities that make the impact of IFRS 15 more interesting to examine.

The accounting framework under analysis is the International Financial Reporting Standards (IFRS), which reduces the population to companies applying international standards that normally are listed companies. This study also does not seek to explore the relationship between the stock value of these companies and the impact of the initial adoption of the standard but rather analyses the dimension of this impact.

1.4. Dissertation structure

The rest of this dissertation is organized as follows: In Chapter Two we presents the theoretical context on the accounting standards with an explanation of IAS 18, IFRS 15 and the main differences as well as its fiscal impact. Chapter three presents a review of the existing literature on this topic, aiming to cover the general impact of IFRS 15, the particular case of the telecommunications sector and the main challenges of its adoption. In Chapter Four I present the study of the impact of IFRS 15 in the telecommunication sector compared to the general population. Finally, Chapter Five presents conclusions and Chapter Six concludes with limitations and future researches' perspectives.

2. Accounting normative framework

2.1. IAS 18

IAS 18 was applicable to entities reporting in accordance with International Financial Reporting Standards (IFRSs) for periods beginning on or after 1 January 1984 until 31 December 2017, with some revisions and adjustments introduced during this period. This standard aimed to define the accounting treatment for revenue arising from sale of goods, rendering of services, and use by others of assets yielding interest, royalties and dividends, excluding leases, dividends from associates, insurance contracts, and changes in fair values or construction contracts.

According to this standard, revenue should be understood as the gross inflow of economic benefits (cash, receivables, other assets) arising from the ordinary operating activities of an entity that result in increases in equity, other than contributions from equity holders. It does not include gains on sale of property plant and equipment – unless items were leased out under an operating lease - or other fixed assets neither net finance income or amounts received on behalf of other parties that do not qualify as revenue.

Revenue should be measured at fair value, taking into account any trade discounts or volume rebates allowed and, if its inflow is deferred, the nominal amount future receipts should be discounted to the present moment, with the difference between fair value and nominal amount being recognized as interest.

The timing of revenue recognition differs according to different types of transactions:

- Regarding sale of goods, revenue is recognized when a number of conditions are verified all significant risks and rewards were transferred to the buyer and the entity does no longer have decision power or control over the asset; the amount of revenue and costs incurred related to the transaction can be reliably measured; it is probable that future economic benefits will flow to the entity.
- In service delivery, the key concept for determination of the timing of revenue recognition is based on the concept of stage of completion, if the outcome can be faithfully measured; if not, revenue is recognized by the amount of costs incurred to comply the rendering of the service.

- Interest should be recognized under IAS 39, using effective interest method;
- Royalties should be recognized on an accrual basis accordingly to the relevant agreement;
- Dividends should be recognized when deliberated the decision that gives the entity the right to receive the compensation.

Finally, the standard established disclosure requirements related both to the applicable accounting policy and the amount of revenue per nature (sales of goods, rendering of services, interest, royalties and dividends).

After December 31st 2017 IAS 18 is no longer applicable as it was replaced by IFRS 15, explained in the following section.

2.2. IFRS 15

IFRS 15 is applicable to entities reporting in accordance with International Financial Reporting Standards (IFRSs) for periods beginning on or after 1 January 2018, with earlier application permitted. The new Standard is the result of a joint project by the International Accounting Standards Board (IASB) and the Financial Accounting Standards Board (FASB) to develop a converged set of accounting principles to be applied under both IFRSs and US GAAP. It is relevant across all industries and for most types of revenue transaction and outlines a single comprehensive model of accounting for revenue arising from contracts with customers.

Scope

IFRS 15 applies to all contracts with customers, except for those that are dealt with under other IFRSs, namely:

- Leases (IFRS 16 Leases or, for entities that have not yet adopted IFRS 16, IAS 17 Leases);
- Insurance contracts (IFRS 17 Insurance Contracts, or for entities that have not yet adopted IFRS 17, IFRS 4 Insurance Contracts);
- Financial instruments (IFRS 9 Financial Instruments or, for entities that have not yet adopted IFRS 9, IAS 39 Financial Instruments: Recognition and Measurement); and
- Certain non-monetary exchanges.

It should be noted that it is possible that a contract with a customer will be conjunctly covered by more than one accounting standard due to the complexity of the transaction considered which analysis implies to split it into two categories.

Transition options

When first applying IFRS 15, in addition to the choice for the early adoption, entities have two transition methods available and have to choose one of them. The two options are the following:

a. Full retrospective approach

When applying this method, entities must recognize all effects of applying the new standard at the beginning of the earliest period presented. However, there are some practical expedients permitted, namely:

- It is not required to restate contracts that start and end within the same reporting period or contracts completed before the beginning of the earliest period presented.
- For contracts with variable consideration concluded at the transition date, no estimation of variable consideration is needed as the effective amount is already fixed and can be used.
- Regarding contracts with modifications prior to the earliest period presented, it is not required to restate all versions of the contract but only the last version prior to the beginning of the earliest period presented.
- The disclosure requirements are not mandatory for dates prior to the initial application.

Although these practical expedients can be applied, it should be highlighted that they must be applied consistently across all contracts and reporting periods and the entity is required to disclose their use as well as a qualitative assessment of the estimated effect of applying each expedient.

b. Modified retrospective approach:

Also named the cumulative method this option does not require the restatement of comparative period amounts. When an entity opts for this method, it should recognize the cumulative effect of initially applying IFRS 15 as an adjustment to the opening balances of equity and the entity can choose to apply the new revenue standard only to contracts not finished at the date of initial application.

There is also one practical expedient applicable that is, for contracts with multiple modifications, the consideration of the last version of the contract before the date of the first application only is permitted. The disclosure of the practical expedient use as well as of its impact remains applicable.

For the reporting period started in the first application date, a quantitative impact of the new revenue standard in each caption must be disclosed as well as an explanation for the changes occurred.

KPMG (2016b), Revenue Transition Options - What is the best option for your business? IFRS and US GAAP summarizes the differences as follows (Figure 1).

Approach	Pre-adoption	Comparative(s)	Year of initial application	Date of equity adjustment
Full retrospective - no practical expedients	Current GAAP	New GAAP	New GAAP	January 1, 2017*
Retrospective with practical expedients	Current GAAP	Mixed requirements	New GAAP	January 1, 2017*
Cumulative effect	Current GAAP	Current GAAP	New GAAP	January 1, 2018

* If an entity with a calendar year-end provides two years of comparatives, then the date of equity adjustment will be January 1, 2016.

Figure 1 - Differences between the two transition methods

Five-step model

The framework that works as a basis for IFRS 15 application consists of a five-step model that is nothing more than 5 requirements that the entity should follow when evaluating any contract. These five steps should not be understood as sequential guidance for IFRS 15 application as some of them can be expandable in some circumstances and there can be some situations that make it easier to change their order or to evaluate two steps simultaneously. It should also be noted that they can be divided into two groups as steps 1, 2 and 5 are related to the recognition process while the remaining consider the measuring part. This five-step model can be explained as follows:

1. Phase 1: Identify the contract(s) with a customer

The contract can be formal, with a written form, but it can also have implicit form as long as it is in accordance with current market practices. Despite the form, it should comply with some requirements, namely:

- The contract was approved and both parts are committed to its execution;
- Payment conditions can be identified;
- It is probable that the entity will appropriate the return for the transfer of the goods or services to the client;
- The rights of each part involved can be identified;
- It has commercial substance.

A contract is excluded from the scope of IFRS 15 if it is not expected that it will be executed or if each of the parts can unilaterally cancel the contract, without any compensation.

The third requirement above implies an assessment made by the entity on the ability and intention of its client on paying the return on the goods transferred or services rendered, including the possibility of price concessions that should be evaluated under the guidance on variable compensation include in the new standard.

Assessing and reassessing criteria

The contract assessment under the scope of IFRS 15 should be made at an initial point: all contract terms and conditions should be compared to IFRS 15 criteria and its compliance with them should be carefully evaluated. If so, this assessment is valid as long as there are no relevant changes in circumstances around the contact and its execution. If not, reassessments should continue to be made in every relevant contract modification to confirm if the contract entered in IFRS 15 scope.

In case than an assessment was made and requirements of IFRS 15 were met, the entity starts applying the new standard to revenue recognition of the contract. If, after that, due to some changes in relevant circumstances, some requirement is not met anymore, the entity shall stop applying the standard, with no retroactive effects on the revenue recognized before.

Contract combinations

When there is more than one contract made with the same customer in a short period, the possibility of recognizing revenue as it consisted of one single contract should be assessed under the following requirements:

- The contracts have the same commercial purpose and were negotiated as a package;
- The price of one contract depends on the price or execution of other contract or there is one single performance obligation which completion depends on the rendering of services or transference of goods of more than one contract.

If both requirements are met, contracts should be combined and treated under IFRS 15 as one single contract – this approach is denominated as portfolio approach.

2. Phase 2: Identify the performance obligations in the contract

After the identification of each contract, its execution should be divided into one or more performance obligations. The concept of performance obligation does not distinguish goods or services but it unbundles them. Simplistically, a separate performance obligation is:

- A good, a service, a package of goods or a package of services that are distinct; or
- A range of distinct goods or services that do not significantly differ from each other and have the same arrangement of transfer to the customer.

This step is crucial when applying this standard as revenue recognition highly depends of performance obligations completions. Also, this concept is not completely new: it was implicit in revoked standards in other words (such as deliverables, components, elements, etc), but the older standards missed the guidance on how to separate these components.

Nevertheless, it is necessary to do practical thinking when dividing the contract into many performance obligations as this work can be inconsequential in financial situations when the control of multiple goods or services is transferred at the same period on the same basis and there are no specific disclosures associated to each of them. In this situation, the desegregation process

will not change the amount of revenue recognized or both recognition moment, and disclosures will also be the same with unbundling process or without it.

The identification of performance obligations presupposes a deep understanding of promises made to the customer, both promises clearly defined in the contract and or implicit promises (related to customary business practices, public service policies, etc that create a valid expectation on customer's when they enter in the contract). On the other hand, some activities should not be understood of performance obligation only under the argument of being necessary to the contract execution but with no transference of goods or services to the customer (ex: administrative tasks).

<u>Determining whether goods or services are distinct</u>

Goods or services that should be evaluated as separate performance obligations contemplate:

- Sale or resale of goods (produced by the entity or not);
- Resale of rights to goods or services;
- Performance of an agreed task;
- Service of standing ready to provide goods or services depending on the customer needs;
- Acting as an agent arranging a third party to provide the good or service;
- Subcontract to develop, construct or manufacture an asset on behalf of the customer;
- Granting licenses or options to purchase goods or services with a material right.

All these should be evaluated as distinct considering the following criteria:

- The good or service is able to be used distinctly: the customer can use the good or the service separately with the resources generally available and not depending on resources that will be only provided by performance obligation subsequently satisfied; and
- Different promises are separately identifiable from the contract.

On summary, this step is intended to clarify if the contract promises to transfer each good or service or a combined item where components have no meaning separately. If the entity finds out that the aggregate of goods or services under analysis are not distinct, they should not be separate into different performance obligations. In extreme cases, the contract can correspond to one single

performance obligation.

Material rights

Material rights consists in a right that a customer gains to acquire future goods or services in a more favorable condition that it is available in the open market. This "more favorable condition" can have different forms such as credits, points, other discounts, etc. If this is, in fact, a material right to the customer, then it should be understood as the customer made an advance to get this future goods or services and this material right that the customer acquired should be perceived as a separate performance obligation included in the contract.

The evaluation of each option as a material right to the customer is judgmental considers both qualitative and quantitative factors. The part of the transaction price to be allocated to this performance obligation should consider both the probability of the right be exercised and the corresponding expectable consideration.

Non-refundable up-front fees

Sometimes, initial fees are charged at the contract initiation and it should be evaluated if it relates to the transfer of goods or services to the customer or if the up-front payment is an advance for future goods or services and shall be recognized as revenue only when these performance obligations are completed, as cash receipt is meaningless to revenue recognition under IFRS 15.

3. Phase 3: Determine the transaction price

As it is obvious, the transaction price is a key point when an entity decides to enter in a contract or not. However, the transaction price does not only impact the commercial decision but also the accountability of the contract as it has numerous impacts that should be evaluated , affecting both the nature, amount and timing of revenue recognition.

First, it should be noted that the determination of transaction price is a complex exercise and includes not only the compensation defined by the contract but also the one that is defined by the customary business practices. Also, it does not end with the determination of fixed compensations, it also comprises variable compensations, non-cash consideration, consideration payable to the

customer as well as the time value of money. The transaction price can not be determined before evaluation all these components.

In this topic, IFRS 15 makes huge advances when compared to IAS 18 has it is much more complete in what refers to the consideration of variable compensation and introduces the concept of time value of money that was not referred by IAS 18.

The variable consideration is, in fact, one of the most interesting topics discussed by IFRS 15 as it does no end on the compensations specified in the contract but it also depends on customary business practices or other circumstances that can generate a customer's valid expectation that a price concession will be given by the entity.

As it is not so simple, its estimation is highly discussed and two methods can be followed: the "expected value method" (calculated as a sum of probability-weighted possible consideration amounts) or the "most likely amount" (this method may be appropriate when there two possible endings and the most likely one is the basis for the contract accountability). As it depends on uncertainty and uses a lot of historical, current and forecast information, the estimation of variable compensation is not a static exercise and should be reevaluated each reporting period with the most updated information in order to be as accurate as possible considering the available information.

There is also an important part of the transaction price that is the financing component – for example, when a product is transferred to the customer at contract inception and it is not charged as it is included in some mensal amount to be paid during the contract, it should be considered that the entity is financing the customer and the value of this component should be calculated as it should be included in the determination of transaction price.

4. Phase 4: Allocate the transaction price to performance obligations

After the segregation of the contract in performance obligations and the determination of the global price, it should be allocated between these "contract components". The basic concept for this exercise is the stand-alone price which is the price that would be applied by the company if the good or service was traded distinctly.

As it is obvious, this stand-alone price is not easy to determine in all cases, so IFRS 15 foresee alternative options such as the analysis of the market for this good or service (by competitors selling a similar option, for example), the consideration of the global margin to the expected costs to fulfill each performance obligation or, in last resort, the residual approach for the remaining goods or services, after all other options being excluded. Sometimes a combination of methods is also applied with the residual approach being used as the last alternative.

Again, this is not a simple exercise and requires the entity to analyze an immense volume of data (the standard requires the consideration of all relevant information available – including information about market conditions, customers and specificities of the entity itself) and this is a huge challenge for which some entities were not prepared.

Additionally, when a discount is included in the transaction price, it should be allocated to performance obligations. Although the possibility of allocating the discount to one single performance obligation is covered by IFRS 15 it is a very unusual situation. The standard foresees that, by default, the discount is proportionally allocated, with some exceptions regarding situations of contracts with 3 or more distinct performance obligations in which a bundle of some (but not all) goods or services include in the contract are normally sold by the entity with a stand-alone price for the bundle that is lower than the stand alone price of the individual goods, all of it being directly observable.

Finally, variable consideration should also be allocated but its association to one or some (but not all) performance obligation in a contract imply an evident relationship between the variable consideration in the contract and these performance obligations in particular.

5. Phase 5: Recognize revenue when (or as) performance obligations are satisfied

The time of revenue recognition is closely connected to the satisfaction of each performance obligation (it does not matter if this completion represents a transfer of a promised good or service). So, when a performance obligation is satisfied, the associated revenue should be recognized. There are also some cases of contracts which performance obligations are satisfied over time and not in a point of time. This distinction is required to be done at the initiation of the contract and is not dispensable under any assumption.

The satisfaction of a performance obligation consists in the transfer of a good or service and the transference of control over the asset. The consideration of this matter does not differ whether the asset is a good or a service and there are three criteria to analyze:

- The customer receives or consumes benefits while the entity is performing the associated performance obligation;
- The customer controls the asset while it is being created or enhanced;
- The asset created does not have an alternative use and the entity has an enforceable right to receipt for performance completed to date.

If one (or more) of these criteria is meet revenue should be recognized over time. Otherwise, the approach of recognizing it at a point in time should be applied.

The recognition over time implies the definition of a method to measure progress, which can be based on an input or an output method, as long as the method faithfully depict the entity's performance in transferring control of goods or services promised to a customer, taking into attention that the same method must be applied all similar circumstances.

<u>Contract costs</u>

One of the main innovations of IFRS 15 is related to the capitalization of contract costs, both costs of obtaining a contract and costs to fulfill the contract.

When analyzing the ability of an entity to capitalize costs of obtaining a contract it should be analyzed if they are incurred irrespective to the success of the contract and if they are chargeable to the customer. In order to a cost to be qualified as an incremental cost and be capitalized, it should be incurred in the effort to obtain a contract with a customer that would not have been incurred if the contract had not been obtained – only costs that would not have been incurred in the effort was not successful are recognized as an asset. However, there is a practical expedient if this topic related to the period: if the asset related to the costs incurred to obtain the contract are amortizable in less than one year, they can be directly recognized as an expense.

Regarding costs incurred to accomplish a contract, they should be analyzed under IFRS 15 criteria

only if they are not under the scope of any other standard. In this case, if they meet the following three requirements they can be recognized as an asset: can be directly associated to a contract; generate resources to fulfil performance obligations; and are expected to be recovered. It should be noted that the practical expedient is not applicable to these costs, so if they met the criteria to capitalized it is not optional for the company to recognize them as an expense right away.

As an asset, costs incurred both to obtain and fulfil a contract that were capitalized should be amortized and the determination of the period of amortization can be a complex accounting estimation as it should accompany the pattern of transfer of goods or services to the customer that is typically very similar to the timing and pattern of revenue recognition. Once again, the entity should consider all the available information related both to the timing of transfer of control of goods or services and pattern of transfer in order to have an estimation of amortization period as accurate as possible.

Despite the progressive reduction on the net amount of these assets, impairment indicators should be considered and if they exist, an analysis should be done to compare the net value of the asset related to contract costs with the residual amount of consideration that the entity is expecting to receive fewer costs that the entity will need to incur to deliver the remaining goods or services to the customer. If the result is negative (the net value of the asset is greater than the expected remaining profit of the contract), an impairment loss should be recognized under IFRS 15.

Disclosures

As stated before in this study, IFRS 15 aims to give clear and comprehensive information, which intends to be relevant in the decision-making process. Therefore, disclosures should enable financial information users to understand the nature, timing, amount, uncertainty and cash flows associated to revenue recognized by disclosing both contracts identified, significant judgments and estimations and capitalized assets arising from costs to obtain or fulfil a contract. The level of detail is not clearly defined by the standard but it should allow the users to have information sufficiently unbundled to be comprehensive but not too detailed with insignificant in a way that can be distractive or confusing. Notwithstanding, it should be noted that there is an important disaggregation to be done between revenue from contracts with customers, impairment losses

associated (both in receivables or contract assets) and other types of impairment losses.

The users of financial information should also be able to understand the movement of contract balances by the disclosure by the entity of the opening and closing balances of receivables and contract assets and liabilities, the revenue deferred and recognized as a liability in last period and now recognized as a profit of the period; and the revenue recognized related to performance obligations satisfied in previous periods (ex: due to transaction prices' modifications).

As quantitative information is often not sufficient, an explanation should be made on the operational cycle (namely how timing of performance obligations' satisfaction relates to receipt time) and contract assets and liabilities' balances as well as relevant changes in these balances between reporting periods should be explained.

There are also some requirements on disclosures related to the characterization of performance obligations, namely if they are satisfied over time or at a point in time, the nature of goods or services transferred, the payment conditions contracted and related obligations (related to warranties, rights to a refund, etc). If there are performance obligations that were not satisfied until the reporting date, its amount should be disclosed as well as the expected time when they will be satisfied and the revenue will be recognized.

According to what is being said in this study, IFRS 15 introduces significant judgments in some areas and disclosure requirements follow these complications of determination of amounts and timings of revenue recognition. So, judgments made in order to determine the continuous satisfaction of performance obligations or its fulfillment at a point in time should be made as well as more detail should be provided namely related to the method chosen when revenue is recognized over time as well as on the conditions that make this method the most appropriable. When a performance obligation is satisfied at a point in time the method chosen should again be explained as well as the factors considered when evaluating the timing of transference of control. In summary, the timing of revenue recognition should be clearly disclosed and justified in financial statements.

Obviously disclosure requirements on significant judgments do not end on the timing of revenue recognition topic but they also cover the valuation part, particularly, it should be clarified how the

transaction price was calculated and how it was allocated to distinct performance obligations, including assumptions made, methods to allocate variable compensation and obligations related. Additionally, the capitalization of contract costs should be combined with disclosures on its amortizations (both on its amount and estimated period) and potential impairments losses recognized. Finally, if any practical expedient was applied it should be clearly disclosed.

2.3. Main differences

When compared to the revoked standards (namely IAS 18 Revenue, IAS 11 Construction Contracts and a number of Interpretations related to those Standards), IFRS 15 increased the complexity associated to revenue recognition with stricter requirements. This change implies changes in the level of judgment involved in the application of the standards, but this topic should be analyzed separately through areas, as the new standard is very prescriptive in some of them and vaguer in others, with significant levels of judgment involved in some of them.

IFRS 15 also aims to reduce numerous doubts with previous standards for revenue recognition, specifying the accounting treatment for all revenue arising from contracts with customers. Furthermore, it applies to all entities that enter into contracts to provide goods or services to their customers, aiming to:

- Eliminate contradictions and weaknesses in the previous standards;
- Deliver a stronger framework related to the revenue recognition concerns;
- Enhance the level of comparability on the application of revenue recognition principles;
- Decrease the number of the relevant standards and clarifications, reducing the difficulty of applying revenue recognition requirements; and
- Provide more valuable information to decision-makers through new disclosure requirements.

Other changes include:

- Its application also covers costs relating to contracts;
- The recognition of interest revenue and dividend revenue that were considered by IAS 18 are now segregated and treated under IFRS 9 Financial Instruments;

- Non-monetary exchanges between entities in the same line of business to facilitate sales to customers or potential customers are not dealt with under IFRS 15: this scope exclusion is different from the related guidance under IAS 18, which refers to exchange transactions that are not regarded as transactions that generate revenue.

Deloitte (2018), Revenue from Contracts with Customers — A guide to IFRS 15 summarizes these changes as follows (Figure 2).

Current requirements

Revenue recognition	
IAS 11	Construction contracts
IAS 18	Sales of goods
IAS 18	Sales of services
IFRIC 15	Real estate sales
IAS 18	Royalties
IFRIC 13	Costumer loyalty programmes
IFRIC 18 SIC 31	Transfer of assets from costumers Advertising barter transactions
	Previously little guidance on costs of obtaining and fulfilling a contract

Other revenue	
IAS 18	Interest
IAS 18	Dividends

New requirements

Revenue from contracts with costumers	
IFRS 15	Point in time or over time
	New guidance on royalty revenue
	New guidance on options for additional goods and services and breakage
	New guidance on non-cash consideration
	New guidance on costs of obtaining and fullfilling a contract

Other revenue	
IAS 39 or IFRS 9	Interest Dividends

Figure 2 - Main differences between IFRS 15 and old requirements

IFRS 15 is also considered as a more detailed standard and some of the most important advances are related to:

- The determination of contract term, as it was very simple in IAS 18, with the probable influx of economics benefits being the only criteria;
- The distinction between different components in one contract was also not very detailed in IAS 18 as it is in IFRS 15 where performance obligations are a key concept of analysis;
- Warranties are also treated differently as an abnormal warranty could result in precluding revenue under IAS 18, with the argument of not all significant risks being transferred to the customer, which is not possible under IFRS 15 – it can even accelerate revenue recognition is some cases;

- As referred before, variable consideration gained more importance with more specific and detailed guidance namely in the allocation of discounts between contract components.
- While in IAS 18 the timing of revenue recognition was mainly base in a risk-and-reward approach, IFRS 15 moves away from this view and it is now much more recurrent to recognize revenue over time (even in cases of goods sold), as revenue recognition under IFRS 15 is much more based on a control transfer approach.
- The capitalization of costs was suffered many developments in this new standard as the concept of an asset originated from the capitalization of incremental costs to obtain a contract did not exist in previous standards.

Although many can adjective IFRS 15 as a complex standard, whereas IAS 18 provides separate revenue recognition criteria for goods and services, this distinction is removed under IFRS 15: it aims to unify revenue recognition requirements across industries, entities, jurisdictions and capital markets reducing the number of standards applicable to revenue in general.

2.4. Fiscal impact of IFRS 15

One of the key implications of any accounting normative change is its tax treatment. Analyzing IFRS 15, the main conclusion is that so far there is no specific tax legislation on this matter, so effects in accounting net profit will be reflected in taxable income, with some exceptions.

Starting by the possible impact of IFRS 15 on the timing of revenue recognition, it will affect tax payable in each period, as there is no specific rule that annuls that effect. Regarding the capitalization of contract costs as an asset, as once again there is no specific tax rule, the accounting treatment prevails, although the possible impairment on these assets is not accepted as a fiscal cost, causing a temporary difference that can give rise to a deferred tax asset. As for the financing component of the transaction price, the treatment will also cause a temporary difference as the relevant amount for taxes purposes will remain the nominal value of the good sold or service rendered.

To conclude, it is also important to refer the possible impact in equity at the transaction date, as it can be a patrimonial change not reflected in the profit and loss statement, and there are two possible outcomes: (i) the variations related to profit and losses previously recognized in profit and

loss statements have already been subject to taxes and should not have any impact at the transition date; (ii) on the other side, the capitalization of costs previously incurred, shall be taxable as the costs incurred before were tax deductible before.

3. Literature review

3.1. Impact of IFRS 15

Firstly, the importance of this new standard is related to its main topic: revenue is considered an important measure of an entity's performance because it is used by both investors and others to make decisions about investments (Tong, 2014). In fact, revenue is considered one of the most decisive items of financial reporting (Aladwan, 2019), as it can be easily examined and is one of the primary earnings subjects to discretion (Stubben, 2010).

The importance of this new standard is was clearly stated by Russel Golden, Chairman of the FASB "The revenue recognition standard represents a milestone in our efforts to improve and converge one of the most important areas of financial reporting." However, the author also admits that there is still a long way to go "The issuance of this standard is a major first step, but it is not the end of the process".

The new revenue standard changes its core event from the transference of the risks and rewards to the customer to the transference of control of the same goods or service. Therefore, as it primarily results in a change in revenue recognition time, the long-term effects are less evident than the short-term ones, which can inclusively impact dividend policy, creditworthiness and current tax obligations (Brozović & Pavić, 2018).

Regarding the impact in the amount of revenue, there is also some evidence that there is a significant difference between the value of revenue before and the value after the new standard, and that the market captures these changes so that impact is reflected on stock prices (Aladwan, 2019).

In summary, IFRS 15 may have a significant impact as the amount of revenues and contract costs and the timing of their recognition may differ significantly from the current practice, considering also, that this standard requires some additional disclosures (Mattei & Paoloni, 2018).

One of the topics that generated more discussion among the issuance of IFRS 15 was the degree of professional judgment now involved in revenue recognition as the principle-base model will require accountants to use additional professional judgment in measuring companies' performance

obligations and the timing of the satisfaction of these obligations (Jones & Pagach, 2013).

This high level of judgment rises questions related to the financial reporting quality. Many studies showed that by adopting IFRS, firms act optimally and promote financial reporting quality and investor interests (Fields *et al.*., 2001). Other researchers, some with empirical evidence, show that the adoption of the IFRS reduces the level of earnings management (Rudra & Bhattacharjee, 2011; Cai *et al.*., 2008) since this set of standards limits the management's opportunistic discretion (Barth *et al.*., 2008) and, consequently, the adoption of IFRS decreases the use of discretionary accruals (Guenther *et al.*., 2009).

Many studies aim to answer the question of how the new revenue standard affected earnings quality, which refers to the relevance of information in decision-making (Statement of Financial Accounting Concepts No. 1 (SFAC No. 1)). However, earnings quality is an abstract concept, and thus is very hard to accurately measure (Rutledge *et al.* 2016). For example, Dechow *et al.*. (2010) referred to various earnings quality proxies as measures of accounting quality such as earnings persistence, accrual qualities, volatilities and relevance of earnings and earnings restatements. Some of the most common arguments in favor of the increase of earnings quality with the application of IFRS are i) the comparability of information between industries which reduces the difficulty in identifying opportunistic behavior (Tutino *et al.*., 2019); and ii) the greater level of disclosures required, that reduces the possibility of management to have an opportunistic behavior (Leuz and Verrecchia, 2000, Ashbaugh and Pincus, 2001 and Leuz, 2003).

Notwithstanding the relevance of this question, the most common conclusion is that this impact is not yet determinable as there are arguments in both sides: whereas the increased opportunity of some executives to manage earnings can lower earnings quality, the comparability of the principle-base approach across industries and the greater level of disclosers can improve the usefulness of financial information, improving earnings quality (Rutledge *et al.*, 2016).

Judgment is involved across all five steps of the model, which is reflected right in the start in the identification of contracts, in the disaggregation into different performance obligations and also in price estimations – especially when it involves variable consideration. This level of subjectivity entails more pressure into many departments within companies, impacting its internal control structure and generating many implementation challenges (Chen, 2019), as discussed next.

It is widely accepted that if earnings quality is impacted by IFRS 15, this impact increases as the level of judgment gets higher. In addition, the statistical analysis available so far brought to light that earnings management practices are "commonly adopted" in the telecommunications industry, which is an industry strongly impacted by the introduction of IFRS 15. This fact raises questions about the monitoring process of the new principle, written to discipline the accountancy of revenues, and its consequences (Tutino *et al.*, 2019).

3.2. Impact of IFRS 15 in the telecommunications industry

In many studies carried out by "Big-4" companies in relation to the forecast of the impact that IFRS 15 would have in various sectors, it was unanimous among their conclusions that the telecommunications industry would record greater impacts than other industries in what concerns the application of the new standard, as summarized in Table 1 below.

Sector	KPMG	EY	Deloitte	PWC
Insurance	Medium	Medium/ Low	N/A	N/A
Building and construction	Medium	Medium/ High	Medium	Medium
Retail and consumer goods	Medium	Medium	Medium	Medium
Licensors (media, life science, franchisors)	Medium/ High	N/A	Medium	Medium
Real estate	Medium	N/A	Medium	Medium
Technology	Medium	N/A	Medium/ Low	High
Telecommunication	High	High	High	High
Energy (mining, oil and gas)	Medium	Medium	Medium	Low
Transport	Medium	N/A	N/A	Low

Table 1 - Forecast of the impact of IFRS 15 by sectors

This impact can be verified from the beginning, even before January 1st, 2018. When ESMA recommended companies to disclose the expected impact of IFRS 15, it was noted that there was a direct correlation between the potential impact of IFRS 15 and the quantity and quality of information provided in the annual reports elaborated by telecommunications companies for the two years prior to the adoption of the new standard. However, it was also found that the information that could be found in the documents is more detailed from a qualitative point of view than from the quantitative one (Mattei & Paoloni, 2018).

However, the relevance of the telecommunications sector can be even more evident when you analyze the contribution of the telecommunications sector to the IASB "Due Process", as Kohler and Le Manh did in 2018. Their choice of the telecommunications sector was based in what was previously stated and they actually stated numerous disadvantages of the new standard for telecommunications like the usefulness of the additional information, its estimation difficulty, the level of subjectivity involved (that would cause damages to information comparability) or the complexity and cost of implementation. In summary, telecommunications' companies were expecting serious consequences in operational implementation and financial reporting so they tried to get involved in the IFRS 15 standard setting process in order to their arguments be considered. However, they did not manage to constitute a solid group to represent their interests and IASB was not pleased to start opening exceptions just because there was one specific sector that felt that the new standard did not tailor its specifies. As this group did not find other industries to join their cause, they did not take up its cause. According to these authors, the explanation for this failure was the insufficient representative legitimacy of the industry's designated spokespersons.

In what concerns the concrete impacts of IFRS 15, there are some topics already advanced by some authors, namely: i) changes in the timing of revenue recognition due to the requirement of the allocation price to each performance obligation in case of free handsets related to postpaid plans, for example; ii) evaluation of the significance of the financing component due to the extension of contracts that often exceed a twelve month period; iii) updates in IT system as it used to recognize revenue based on monthly billing amount; iv) different treatment to recurrent contract modifications as these modifications will need to be assessed as possible new contracts; v) capitalization of incremental costs of obtaining a new contract as a contract asset; (vi) finally, the amortization of non-refundable upfront fees during the contract duration (Clarin, 2016).

3.3. IFRS 15 implementation – main challenges

Although the new standard may not affect all industries in the same extent, disclosure requirements increased in all industries, mainly in what concerns judgments such as the ones that refer to the timing of revenue recognition, as well as the allocation of transaction price between performance obligations. This improvement is widely seen as a possible key to success for the new revenue standard (Rutledge *et al.*, 2016).

The greater evidence of the dimension of IFRS 15 implementation issues was its deferral for a year by the IASB due to the feedback of issues arising from preparers (IASB, 2015b). Understanding how preparers experience the implementation of a new accounting standard is of both practical and academic importance (Ball, 2006; Morris *et al.*., 2014) and IFRS 15 is a greater example as its implementation is nontrivial for entities with many costs involved (Davern *et al.*, 2018).

As the new standard requires detailed contract information from the very beginning of the process of the application of the five-step approach, this first step has a significant impact in the ones that follow, even though it generally does not have the intervention of accounting's personnel. This simple conclusion implies that companies establish more effective communication and improve internal control procedures and policies when compared to the processes implemented before the issuance of IFRS 15 (Chen, 2019).

Impacts may be reflected in many business aspects, such as professional training, bank covenants, KPIs, compensations to employees, dividends payable amounts, tax payable and stakeholders' knowledge of IFRS 15 to understand its impact. As the business impacts are wider, so has to be the involvement of entities personnel from the accounting department, to operations, procurement, tax, treasury, investor relations and, of course, information technology. In this complex scenario with so many changes required at the same time, external consulting may also be an option for many entities (Deloitte, 2018).

Finally, Davern *et al.*, 2018 identified another possible concern that is related to proprietary costs associated with the new accounting standard as some companies believe that the new disclosures will be useful to competitors.

4. Study

The main goal of this study is to analyze the impact of the new revenue standard in the telecommunications sector when compared to other sectors of activity in Portugal and Spain, using listed companies that integrate PSI 20 and IBEX 35, respectively. The evaluation performed of such impacts consists in the assessment of both the level of disclosures related to the transition from the previous standards to IFRS 15 and the quantitative effect of this new standard in some of the key indicators used in financial analysis.

In this chapter we describe the methodology used, determine and characterize the sample, present some qualitative disclosures related to IFRS 15 and some descriptive statistics and finally report the quantitative results of the measures used to assess the impact of the new revenue standard in Portuguese and Spanish entities.

4.1. Methodology

The methodology used in this study is an exploratory quantitative approach based on the analysis of the information disclosed in the Audited Financial Statements and accompanying notes of the entities that constitute the selected sample, as described below.

The information used was the Annual Reports and Audit Reports publicly available in companies' websites as well as in Portuguese and Spanish Stock Market Regulators' websites for the economic period ended in 2018, which was the first year that the implementation of IFRS 15 was mandatory (data for 2017 was used in cases of early adoption as explained below). In each Annual Report the following information was gathered:

- Economic period;
- Statutory auditor, opinion in audit report and inclusion of IFRS 15 as a key audit matter[1] in the audit report;
- Total assets, total liabilities, equity, turnover, net profit before income tax and extraordinary

[1] Key audit matter is defined by IAASB in International Standard on Auditing 701 as "Those matters that, in the auditor's professional judgment, were of most significance in the audit of the financial statements of the current period. Key audit matters are selected from matters communicated with those charged with governance".

contribution to the energy sector (CESE) and net profit;

- Net income attributable to shareholders and net income attributable to noncontrolling interests;
- Weighted average of outstanding shares;
- Number of employees;
- Mention to IFRS 15 in annual report, option for the early adoption, transaction method and quantitative impacts of the first application of IFRS 15 in financial statements.

This information is necessary not only to characterize the sample, but also to assess the impact of the new revenue recognition standard in the financial statements.

Consistently with previous works on this matter (Aladwan, 2019), this study analyzes the hypothesis of the impact of IFRS 15 in Spanish and Portuguese listed companies be greater in the telecommunications sector when compared to other activity sectors, and in order to evaluate such hypothesis a set of ratios, containing both a stock market index, profitability indexes and structural indicators, were calculated and analyzed (Table 2). There are some important definitions, concepts and assumptions related to these metrics that may be taken into account, described in Annex I.

Stock market index	Basic earnings per share $= \frac{\text{Net income attributable to equity holders}}{\text{Number of shares}}$
Profitability indexes	Return on equity $= \frac{\text{Net income}}{\text{Equity}}$ Return on asset $= \frac{\text{Net income}}{\text{Asset}}$ Return on turnover $= \frac{\text{Net income}}{\text{Turnover}}$
Structural indicators	Financial autonomy $= \frac{\text{Equity}}{\text{Asset}}$
	Operating Fund = Current assets – Current liabilities

Table 2 – Summary of ratios used

4.2. Definition of the sample

As previously explained, this study aims to conclude on the impact of IFRS 15 in Portuguese and Spanish listed companies. The limitation of the sample to listed companies is related to the accounting standards applied by these companies, as only companies applying International

Financial Reporting Standards (IFRS) would be useful for the this study. The sample is composed by the highest ranking companies in terms of free float market capitalization in Portugal and Spain that are stipulated by PSI 20 index and IBEX, respectively.

According to Euronext, the PSI 20 index is made up of shares issued by maximum 20 highest-ranking companies in terms of free float market capitalization, eligible companies are required to fulfil the minimum free float velocity threshold and included companies should have a minimum Free Float market capitalization of € 100 million.

According to *Bolsa de Madrid,* the IBEX 35 is the index made up by the 35 most liquid securities traded on the Spanish Market, used as a domestic and international benchmark and as the underlying index in the trading of derivatives. Technically, it is a price index that is weighted by capitalization and adjusted according to the free float of each company comprised in the index.

	IBEX 35	**PSI 20**	**Total**
Listed entities	**35**	**18**	**53**
Entities that did not release financial statements or audit reports for the periods under analysis	1	0	1
Initial sample	**34**	**18**	**52**

Table 3 - Initial sample composition

Additionally, some criteria about the sufficiency of IFRS 15 related disclosures were taken into consideration in order to assure that the final sample would be able to fulfill all requirements needed for the calculation of the ratios as defined in the previously.

Firstly, the sample was disaggregated by the reference to IFRS 15 in the accompanying notes of the financial statements: only one company did not mention the new revenue standard at all. Therefore, this entity was excluded from the sample.

The second criterion analyzed was the disclosure of the transition method option and the impact of IFRS 15 in the financial statements. Fifteen entities of the initial sample previously presented did not disclose the first information and one entity did not disclose the impacts of the application of the new standard. These entities were excluded from the sample.

To conclude on the criteria used to define the final sample, another topic was covered, related to

the disclosure of the quantitative impacts. As the analysis covers both performance and structural indicators, only entities that disclose quantitative impacts on both balance sheet and income statement were eligible for analysis. Four entities did not disclose the impact in the income statement and one entity presented incomplete disclosures on this matter, not allowing an analysis of all the ratios previously defined. These five entities were also removed from the final sample. The final sample is then composed of 30 entities as explained bellow in Table 4.

Sample as defined in Table 3	**52**
Entities that do not mention IFRS 15 in Financial Statements (FS)	1
Entities that do not disclose the transition option	15
Entities that do not disclose the impact of IFRS 15	1
Entities that do not disclose the quantitative impact of IFRS 15 in Income Statement	5
Final sample	**30**

Table 4 – Final sample definition

The composition of the final sample per activity sector is detailed in Table 5. In summary, the final sample is composed by entities from eight different activity sectors, with the telecommunications industry, which will be the focus of this study, representing 10% of the total entities.

Sector of activity	Number of entities	Relative weight
Basic Materials	2	7%
Consumer Cyclical	8	27%
Energy	1	3%
Financial services	2	7%
Industrials	6	20%
Technology	3	10%
Telecommunications	3	10%
Utilities	5	17%
Total	**30**	**100%**

Table 5 – Composition of sample per sector

The complete list of entities within the sample is presented in Annex II.

Regarding the period used for the financial statements' analysis, as stated above, it was the year of

2018, with the used specific date being determined by each entity reporting period, which varies as described in the Table 6. Regardless of the differences in the date of the end of the reporting period between the different entities, the sample remains unchanged as all the entities reported a 12-month-period, which makes all the indicators detailed above comparable for the purpose of this study.

Reporting period	Number of entities
30-09-2018	1
31-12-2018	28
31-01-2019	1
Total	**30**

Table 6 - Composition of final sample by the date of reporting period analyzed

4.3. Sample characterization

This chapter aims at presenting and describing the sample characterization through the analysis of some indicators and available data and information on the entities that compose the sample.

First, we analyzed the audit report and concluded that all entities are audited by Big4 firms with the distribution per firm presented below in Figure 3. Another relevant information related to the audit report is that all entities have an unqualified opinion in the audit report.

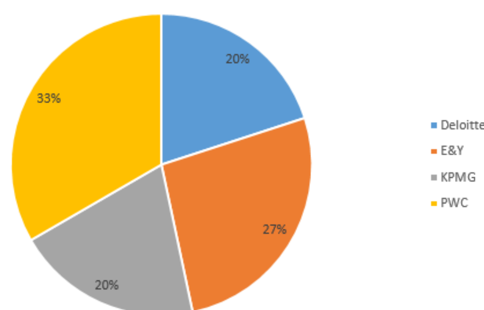

Figure 3 - Composition of sample by audit firm

One of the most relevant characteristics of an entity is its size, which can be measured in several different ways. Thus, the following information was considered in order to measure an entity size: number of employees, amount of total assets and turnover.

In what concerns the number of employees, Table 7 a great amplitude of results, with the average

around 33 thousand employees although there is a great dispersion of values. Regarding the level of assets, it is predominantly over one billion with only 7% of the entities having a total assets balance which explains the average above 18 billion Euros although, as expected, this is the metric with greater amplitude and standard deviation.

When analyzing the level of turnover of the entities on the sample a great variety of intervals shows up. This dispersion of amounts was expected and can be explained by the wide range of activity sectors included in the sample.

Metric	Average	Minimum	Maximum	Standard deviation
Total assets (million €)	18.428	172	114.047	28.096
Number of employees	33.048	176	191.823	49.648
Turnover (million €)	10.426	149	48.693	12.801

Table 7 - Descriptive statistics of metrics used to determine size of sample entities

As this study is focused in some key ratios chosen to allow a complete figure of an entity's financial performance, the following table (Table 8) shows the average and standard deviation values of each ratio by activity sector and in general terms for economic periods presented in Table 6.

The first indicator presented is the operating fund (OF) and the amounts considered vary greatly according with the company size, as, unlike all other indicators, basic earnings per share and operating fund are not relative ratios. Despite this limitation, it can be inferred that the sectors with the worst structural situation are the three last sectors (technology, telecommunications and utilities) while the energy sector is clearly in a better situation. It can also be highlighted the connection between the two structural indicators as the sector with the worst operating fund also presents the worst financial autonomy.

Regarding the second structural indicator (financial autonomy) presented, the top half of the table shows a more positive situation in comparison with the remaining sectors, with the financial sector having the only entity in which the equity amount exceeds the amount of liabilities. On the other hand, telecommunications and industrial sectors are the only sectors with entities in which their financial autonomy is below 30%.

When analyzing return on turnover (ROT), financial services sector stands up with the best performance, mainly explained by the two real estate companies included in this sector that

represent outliers and explain the standard deviation of the sector in this indicator. On the other hand, the telecommunications sector is the only activity sector below the average value (calculated excluding financial services sector) in all performance indicators.

Regarding performance indicators (return on turnover, return on assets and return on equity), it is worth noting the great performance of the industrials sector, above the average (calculated excluding financial services sector) in all performance indicators.

Lastly, the analysis of the stock index indicator (EPS) should also be refined considering the great standard deviation. Once again, an outlier, that is a state-owned company that manages airports and heliports, explains the high standard deviation value. Excluding this company, the average of basic earnings per share in the industrial sector decreases from 2,4 to 1,1 euros and the standard deviation decreases from 3,04 to 1,05, while the aggregate average decreases from 1,02 to 0,95 Euros and the standard deviation to from 1,77 to 1,02. However, with the data not influenced by this outlier, the average of basic earnings per share in the industrial sector remains higher than in any other sectors, as well as when compared with the average of all entities, even though the difference is insignificant when compared with technology and consumer cyclical sectors.

Sector of activity	OF	FA	ROT	ROA	ROE	BEPS
Basic Materials	688.053.300	46%	9%	7%	15%	0,59
Consumer Cyclical	349.288.916	47%	9%	8%	19%	1,00
Energy	2.092.000.000	48%	5%	7%	15%	0,89
Financial services	80.018.888	52%	72%	3%	7%	0,91
Industrials	271.484.722	27%	13%	6%	24%	2,40
Technology	(244.354.000)	32%	9%	5%	19%	1,05
Telecommunications	(2.145.527.000)	24%	5%	3%	8%	0,26
Utilities	(957.022.200)	33%	10%	2%	7%	0,09
General	(130.112.999)	37%	14%	6%	16%	1,02
Average excluding financial services	(145.122.419)	36%	9%	6%	16%	1,03

Table 8 – Average per sector of calculated ratios

Sector of activity	OF	FA	ROT	ROA	ROE	BEPS
Basic Materials	523.695.701	0%	5%	3%	4%	0,27
Consumer Cyclical	2.004.853.812	15%	5%	4%	10%	0,73
Energy (1)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Financial services	101.661.112	1%	72%	5%	7%	0,91
Industrials	906.822.707	11%	12%	5%	13%	3,04
Technology	787.023.829	12%	8%	4%	10%	0,93
Telecommunications	2.948.908.212	10%	5%	3%	8%	0,26
Utilities	1.546.339.534	4%	15%	5%	13%	1,53
General	1.847.302.525	14%	26%	5%	12%	1,77
Standard deviation excluding financial services	1.911.062.811	14%	10%	5%	13%	1,81

Table 9 – Standard deviation per sector of calculated ratios

(1) The standard deviation was not calculated for activity sectors represented by only one entity.

4.4. IFRS 15 – qualitative disclosures

As previously mentioned in chapter 4.1., regarding the first application of IFRS 15 both qualitative and quantitative data have been collected. In this chapter, some qualitative information is analyzed in order to understand the transition process.

As referred in chapter 2, although IFRS 15 is mandatory for periods beginning on or after 1 January 2018, earlier application is permitted. The disaggregation of the sample between companies that used that option of early adoption and companies that applied the new revenue standard only when it became mandatory concludes that only 3% opted for the early adoption.

The small percentage of entities that applied the accounting standard earlier than the mandatory date was expected due to the operational difficulties of its application, namely in what concerns the information needed to comply with the required disclosures as stated in chapter 3.3..

Regarding the option between the modified retrospective method and the full retrospective method, the vast majority of the companies chose the modified retrospective method in which disclosure requirements are very limited compared to the full retrospective method (see chapter 2.2.) that was the option of only 20% of the entities in the sample.

Continuing with the analysis on qualitative disclosures, the sample can also be disaggregated in

three different groups according to the disclosure of the impacts of IFRS 15 in financial statements.

Impact disclosed	Number of entities
No impact	4
Not significant (1)	11
Yes	15
Total	**30**

Table 10 – Type of disclosure on the impact of IFRS 15

(1) There are entities referring that the impact of IFRS 15 on financial statements is either not significant or not material. For the purpose of this study all of them will be analyzed as having zero impact in all captions.

Another indicator about the importance of IFRS 15 in financial statements is the inclusion of the transition of IFRS 15 as a key audit matter in the audit report.

As shown in the graph below (Figure 4), only seven entities have one topic related to IFRS 15 in the key audit matters, of which 71% are telecommunications or industrial companies. The information also shows that the telecommunications industry is the only sector in which more than 50% of the entities have a key audit matter related to the new revenue standard. As previously disclosed in Figure 2, all entities are audited by a Big4 firm and, thus, this information is consistent with the forecast of the impact of IFRS 15 by sectors presented in Table 1 in chapter 3.2. of this study.

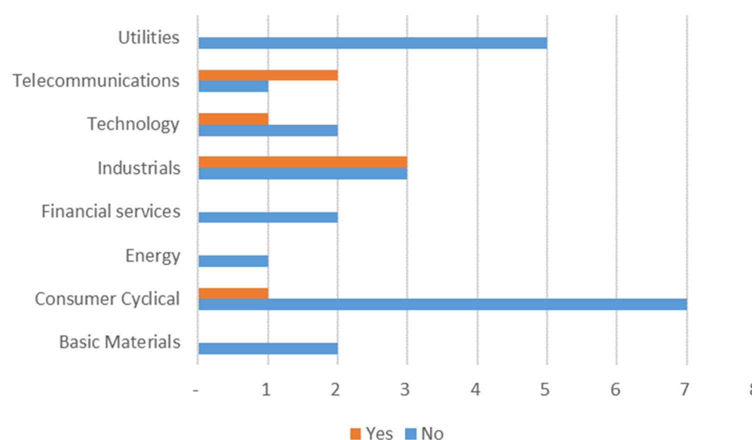

Figure 4 - Reference to IFRS 15 as a key audit matter

4.5. Descriptive statistics

In this chapter it is conducted a descriptive analysis of the metrics in study, however before discussing the numbers, it is rather important to note that, depending on the transition method and on the option for the early adoption, the period for which each entity discloses the quantitative impacts of IFRS 15 in financial statements varies. As the ratios presented in Table 2 include both balance sheet and income statement information, the period defined for analysis is the period for which impacts on both balance sheet and profit and loss statement were fully disclosed, and is distributed as shown below in Figure 5. However, as previously referred, all indicators refer to a 12-month-period and this criterion is met by the all reporting periods covered.

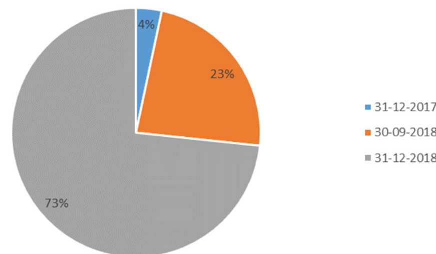

Figure 5- Reporting period used for the analysis of quantitative impacts of IFRS 15 in FS

Table 11 shows some descriptive statistics of data that are presented for each ratio covered by this study, namely the minimum and maximum value, the mean and the standard deviation before and after the application of IFRS 15 for the telecommunications sector as well as for the whole sample.

As expected, all ratios show a great amplitude, which is much more expressive in panel B, as it is composed by a wide range of sectors with significantly different characteristics.

Regarding the telecommunications industry, the operating fund is the ratio that reports a greater amplitude while profitability ratios based on assets and turnover have a much smaller amplitude. Analyzing financial autonomy and return on equity it is possible to conclude that the financing structure greatly varies between companies affecting the amplitude of both ratios. Finally, the stock market index presented also shows a great variance within the sector.

In what concerns to Panel B, although the magnitude of amplitude and standard deviation is much greater, the conclusion on the ratios that shows greater variance remains similar, except for the

return on turnover ratio that now has the greater standard deviation between the three profitability ratios presented due to the inclusion of financial sector which have a different type of business where the magnitude of turnover is below any other sector for the same level of net profit.

Finally, an important observation is that the only ratios whose standard deviation varies with the introduction of IFRS 15 are the structural indicators, suggesting that the application of this standard increases the discrepancy between companies in what concerns their financing structure.

Panel A: Telecommunications

	Minimum	Maximum	Average	Standard deviation
OF_Before	(6.988.000.000)	144.077.000	(2.350.677.667)	3.282.232.750
OF_After	(6.309.000.000)	144.077.000	(2.118.912.333)	2.966.010.978
FA_Before	12%	37%	24%	10%
FA_After	12%	37%	24%	10%
ROT_Before	-2%	8%	5%	5%
ROT_After	-2%	8%	5%	5%
ROA_Before	0%	4%	2 %	2%
ROA_After	0%	4%	2%	2%
ROE_Before	-3%	15%	8%	8%
ROE_After	-3%	15%	8%	8%
BEPS_Before	(0,06)	0,56	0,25	0,26
BEPS_After	(0,06)	0,57	0,25	0,26

Panel B: Total sample

	Minimum	Maximum	Average	Standard deviation
OF_Before	(6.988.000.000)	5.237.000.000	(155.321.732)	1.882.861.046
OF_After	(6.309.000.000)	5.237.000.000	(194.793.699)	1.775.801.732
FA_Before	10%	73%	38%	14%
FA_After	10%	73%	37%	15%
ROT_Before	-11%	145%	13%	26%
ROT_After	-11%	145%	13%	26%
ROA_Before	-6%	16%	5%	5%
ROA_After	-6%	16%	5%	5%
ROE_Before	-18%	42%	15%	12%
ROE_After	-18%	42%	16%	12%
BEPS_Before	(2,82)	8,85	0,98	1,76
BEPS_After	(2,82)	8,85	0,98	1,76

Table 11 – Descriptive statistics of in each ratio before and after IFRS 15 implementation

Additionally, Annex III summarizes the information described by sector before the application of IFRS 15 divided by panels according to the six ratios considered for analysis and Annex IV shows the same type of information with ratios calculated after the application of IFRS 15.

4.6. Results Discussion

The conclusion of this research is presented as the absolute and relative change of each ratio selected in terms of the calculated average for the telecommunications sector and the sample as a whole. As previously explained, the sample is composed by 30 entities of which only 10% are from the telecommunications sector, which implies that is less likely to have significant statistic results by using any other methodology as the number of observations for the research focus sector is very low.

In summary, the results consist in the calculated difference between Panel A and Panel B of table 11 and can be summarized in table 12 below.

	Telecommunications		Total sample	
	Absolute average change	Relative average change	Absolute average change	Relative average change
OF	231.765.333	-5,85%	(39.471.967)	0,84%
FA	0,26%	n.a.	-0,54%	n.a.
ROT	0,01%	n.a.	0,06%	n.a.
ROA	-0,04%	n.a.	0,02%	n.a.
ROE	-0,22%	n.a.	0,52%	n.a.
BEPS	0,00	-0,08%	0,00	0,84%

Table 12 – Absolute and relative change in ratios calculated average

From the analysis of Table 12 it is clear that the indicator that shows the greatest absolute and relative changes in the calculated average is the operating fund. This can be explained by the capitalization of contract costs that are very common in this industry that are generally classified as a current asset and there are no greater impacts in current liabilities, thus this result was expected. Another consequence of the capitalization of these assets is the decrease in return on assets. Although slightly, this ratio decreased more than the average due to the increase in assets that resulted from the incorporation of contract costs in total assets.

Regarding the other performance indicators presented (return on turnover and return on equity),

the change is lower in telecommunications than average, showing that the change in return on assets is mainly explained by the change in the denominator, with the net profit not causing significant changes in other indicators. It is also important to refer that return on assets and return on equity vary in opposite directions in telecommunications when compared to the total sample. As previously stated, assets have increased, and so has equity, so this direction of change can only be explained by a decrease in net profit due to a deferment of revenue recognition combined with an increase of depreciation of the recognized contract assets. Therefore, although in average the EBITDA of the sector has increased 0,12% , the net profit of the year decreased 0,08%, worsening the performance indicators referred. The positive sign of the average change in Return on Turnover (ROT) confirms that turnover and net profit changed in the same direction as Panel C of table 13 shows.

To close the performance indicators topic, it is also important to highlight that both return on turnover and return on equity show a greater average change in either technology or building & construction sectors when compared to the remaining sectors, as can be concluded from Annexes III and IV.

Returning to the structural factors analysis, it was expected that financial autonomy changed more than the average in the telecommunications sector when compared to the total sample, which did not happen. Once again, building & construction sector have an important contribution while now there is another player which is consumer cyclical sector due to an hotels group that had an unexpected high impact in non-current liabilities related to deferred income related to outstanding obligations undertaken with customers.

To conclude, analyzing the stock index indicator, too little can be concluded as the analysis with two decimal digits shows no changes in both cases, with a very small relative average change explained by the technology sector.

Panel A: Metrics before IFRS 15 adoption

Before IFRS 15	Telefonica, SA	NOS SGPS	Cellnex
Turnover	48.728.000.000	1.548.935.000	867.449.000
EBITDA[2]	15.495.000.000	1.841.232.000	516.397.000
EBT	5.506.000.000	141.701.000	-36.181.000
Net profit	3.897.000.000	124.221.000	-17.742.000

Panel B: Impact of IFRS 15 adoption

Impact IFRS 15	Telefonica, SA	NOS SGPS	Cellnex
Turnover	-35.000.000	-5.717.000	-
EBITDA	76.000.000	-2.448.000	-
EBT	65.000.000	-2.969.000	-
Net profit	53.000.000	-1.989.000	-

Panel C: Relative impact of IFRS 15 adoption

Impact IFRS 15	Telefonica, SA	NOS SGPS	Cellnex	Average
Turnover	-0,07%	-0,37%	0,00%	-0,15%
EBITDA	0,49%	-0,13%	0,00%	0,12%
EBT	1,18%	-2,10%	0,00%	-0,30%
Net profit	1,36%	-1,60%	0,00%	-0,08%

Table 13 - Impact of IFRS in profit and losses statement of telecommunications companies

[2] EBITDA = Results from operating activities - Impairment and gains/(losses) on disposal of fixed assets - Amortization and depreciation – losses on fixed assets

5. Conclusions

In the actual economic context and considering the key indicators used for financial analysis of listed companies, changing the revenue recognition accounting standard applicable would inevitably generate great curiosity and discussion within the related literature and business environment. The main issue related to the new accounting standard corresponded to this expectation, considered by many authors as a revolutionary event. The importance attributed to this matter motivated this research, which in turn is focused in one industry where the impacts, based on the existing literature, namely studies carried out by Big-4 firms summarized in table 1, were expected to be disruptive.

The main conclusion of this study and its greater contribution is on the identification of the change in operating fund as the main impact of IFRS 15 on the telecommunications industry companies. Although the existing literature does not clearly predict the financial ratio more impacted by the new revenue standard, the accounting normative framework determines that, if some criteria is met, contract cost should be capitalized. As costs of obtaining a contract are very common in the telecommunications industry, and as it is classified as a current asset, together with the expected little change in current liabilities captions, this outcome is consistent with the expectation.

Regarding the other sectors highlighted in chapter 4.6 and considering the forecast presented in table 2 earlier in this study, both building & construction and technology sectors were identified by at least one Big-4 firm as a sector in which it would be expected to have high impacts of IFRS 15. This fact shows that these results are also consistent with the existing literature. On the other hand, it was also identified some impact on the consumer cyclical sector that was not expected based on the existing literature.

To conclude, it is worth to note the general increase on EBITDA and the decrease in EBT explained by the depreciation of contract assets in the telecommunications industry as the profitability ratios show. In summary, this study contributed to the current research finding that the greatest impact of IFRS 15 in the telecommunications industry is related to the concept of contract costs and its depreciation, as well as with the conclusion of the decline of net profit in the same sector, varying in the opposite sign of the total sample.

6. Limitations and future researches

This study focuses on a recently issued international financial reporting standard, which increases the relevance of the research but also limits the study in some aspects, namely in what concerns the lack of empirical information available and existing literature on this topic.

Another limitation of this study is the quality of available disclosures in the accompanying notes of the financial statements that make the process of assessing the impacts of the recently issued standard difficult, mainly in quantitative aspects and that considerably reduced the initial sample. The fact that these disclosures do not follow a standard model also hampered the collection of comparable information and limited the number of entities analyzed.

Finally, the fact that the first mandatory application of this standard was on January 1st 2018 did not allow the follow up of the analysis as there is almost no information about the progress of the impacts examined.

The previously exposed limitations may act as suggestions for future research such as extending the dimension of the sample to allow different methodologies of study.

This dissertation can be the starting point for other researches and shall provide some guidance in interesting points to approach in future researches, for example in other activity sectors that were identified as also having a relevant impact of the new revenue standard.

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Annex I – Definition of metrics used

- Basic earnings per share amounts are calculated in accordance with the criteria established by IAS 33, by dividing the profit for the year, corresponding to interrupted operations, attributable to equity holders of the parent, adjusted
    - by fair value adjustments;
    - for the net coupon corresponding to the undated deeply subordinated securities;
    - to interest expense on subordinated perpetual bonds;
    - by the profit after tax in equity of contingent convertible preferred shares;
    - by the after-tax amount of the remuneration of contingently convertible preference shares recognized in equity;
    - for the after-tax amount corresponding to remuneration recognized in equity in connection with the contingent convertible bonds;
    - for preference share coupon amount;
    - by remuneration in other equity instruments.

  by the weighted average number of ordinary shares outstanding during the year plus the weighted average number of ordinary shares that would be issued upon the conversion of the said mandatorily convertible notes from the date of their issuance excluding, where applicable, the treasury shares acquired by the entities.

- Turnover: include to the revenue from sales and services rendered, revenue from construction of concession assets and, in the case of the entities operating in financial services sector, interest income and other incomes.
- Number of employees: corresponds to the average number of employees during the economic period under analysis or, in the cases that it is not disclosed, the number of employees at the end of the period under analysis.

Annex II – Sample composition per index and activity sector

Entity	Index	Activity sector
RED ELECTRICA CORPORACION, S.A.	IBEX 35	Utilities
NATURGY ENERGY GROUP, S.A.	IBEX 35	Utilities
IBERDROLA, S.A.	IBEX 35	Utilities
ENDESA, SOCIEDAD ANONIMA	IBEX 35	Utilities
EDP	PSI 20	Utilities
TELEFONICA, S.A.	IBEX 35	Telecommunications
CELLNEX TELECOM, S.A.	IBEX 35	Telecommunications
NOS, SGPS	PSI 20	Telecommunications
AMADEUS IT GROUP, S.A.	IBEX 35	Technology
INDRA SISTEMAS, S.A., SERIE A	IBEX 35	Technology
NOVA BASE SGPS	PSI 20	Technology
GALP ENERGIA-NOM	PSI 20	Energy
VISCOFAN, S.A.	IBEX 35	Consumer Cyclical
INDUSTRIA DE DISEÑO TEXTIL, SA "INDITEX"	IBEX 35	Consumer Cyclical
CIE AUTOMOTIVE, S.A.	IBEX 35	Consumer Cyclical
MELIA HOTELS INTERNATIONAL, S.A.	IBEX 35	Consumer Cyclical
CORTICEIRA AMORIM	PSI 20	Consumer Cyclical
IBERSOL,SGPS	PSI 20	Consumer Cyclical
J.MARTINS,SGPS	PSI 20	Consumer Cyclical
SONAE	PSI 20	Consumer Cyclical
ACERINOX, S.A.	IBEX 35	Basic Materials
THE NAVIGATOR COMP	PSI 20	Basic Materials
ACS,ACTIVIDADES DE CONST.Y SERVICIOS S.A	IBEX 35	Industrials
SIEMENS GAMESA RENEWABLE ENERGY, S.A.	IBEX 35	Industrials
AENA, S.M.E., S.A.	IBEX 35	Industrials
INTERNATIONAL CONSOLIDAT. AIRLINES GROUP	IBEX 35	Industrials
ALTRI SGPS	PSI 20	Industrials
MOTA ENGIL	PSI 20	Industrials
MERLIN PROPERTIES, SOCIMI, S.A.	IBEX 35	Financial services
SONAE CAPITAL	PSI 20	Financial services

Annex III - Descriptive statistics before the application of IFRS 15

	Panel A: Financial autonomy			
Activity Sector	**Minimum**	**Maximum**	**Average**	**Standard deviation**
Basic Materials	46%	46%	46%	0%
Consumer Cyclical	29%	73%	48%	15%
Energy	48%	48%	48%	0%
Financial services	51%	53%	52%	1%
Industrials	10%	40%	28%	12%
Technology	17%	47%	32%	12%
Telecommunications	12%	37%	24%	10%
Utilities	29%	39%	33%	4%
General	**10%**	**73%**	**38%**	**14%**

	Panel B: Return on turnover			
Activity Sector	**Minimum**	**Maximum**	**Average**	**Standard deviation**
Basic Materials	4%	13%	9%	5%
Consumer Cyclical	2%	16%	9%	5%
Energy	5%	5%	5%	0%
Financial services	0%	145%	72%	72%
Industrials	0%	32%	12%	12%
Technology	2%	21%	9%	8%
Telecommunications	-2%	8%	5%	5%
Utilities	-11%	36%	10%	15%
General	**-11%**	**145%**	**13%**	**26%**

	Panel C: Return on assets			
Activity Sector	**Minimum**	**Maximum**	**Average**	**Standard deviation**
Basic Materials	5%	9%	7%	2%
Consumer Cyclical	3%	16%	8%	4%
Energy	6%	6%	6%	0%
Financial services	0%	7%	3%	3%
Industrials	0%	13%	6%	4%
Technology	2%	13%	6%	5%
Telecommunications	0%	4%	2%	2%
Utilities	-6%	6%	2%	4%
General	**-6%**	**16%**	**5%**	**5%**

	Panel D: Return on equity			
Activity Sector	**Minimum**	**Maximum**	**Average**	**Standard deviation**
Basic Materials	10%	19%	15%	4%
Consumer Cyclical	8%	42%	19%	10%
Energy	12%	12%	12%	0%
Financial services	0%	13%	7%	7%
Industrials	0%	37%	21%	11%
Technology	4%	38%	21%	14%
Telecommunications	-3%	15%	8%	8%
Utilities	-18%	21%	7%	13%
General	**-18%**	**42%**	**15%**	**12%**

	Panel E: Operating Fund			
Activity Sector	**Minimum**	**Maximum**	**Average**	**Standard deviation**
Basic Materials	164.357.599	1.211.749.000	688.053.300	523.695.701
Consumer Cyclical	(2.226.019.000)	5.237.000.000	340.884.916	2.006.409.440
Energy	1.817.000.000	1.817.000.000	1.817.000.000	-
Financial services	(21.642.224)	181.680.000	80.018.888	101.661.112
Industrials	(385.016.000)	1.820.563.000	275.051.055	711.002.723
Technology	(1.062.500.000)	234.449.000	(258.220.333)	573.495.090
Telecommunications	(6.988.000.000)	144.077.000	(2.350.677.667)	3.282.232.750
Utilities	(2.612.907.000)	1.323.000.000	(912.697.600)	1.508.526.727
General	**(6.988.000.000)**	**5.237.000.000**	**(155.321.732)**	**1.882.681.046**

	Panel F: Basic Earnings per share			
Activity Sector	**Minimum**	**Maximum**	**Average**	**Standard deviation**
Basic Materials	0,31	0,86	0,59	0,27
Consumer Cyclical	0,12	2,66	0,99	0,73
Energy	0,74	0,74	0,74	-
Financial services	0,00	1,83	0,91	0,91
Industrials	(0,03)	8,85	2,23	3,08
Technology	0,12	2,29	1,05	0,92
Telecommunications	(0,06)	0,56	0,25	0,26
Utilities	(2,82)	1,33	0,09	1,52
General	**(2,82)**	**8,85**	**0,98**	**1,76**

Annex IV - Descriptive statistics after the application of IFRS 15

	Panel A: Financial autonomy			
Activity Sector	**Minimum**	**Maximum**	**Average**	**Standard deviation**
Basic Materials	46%	46%	46%	0%
Consumer Cyclical	29%	73%	47%	15%
Energy	48%	48%	48%	0%
Financial services	51%	53%	52%	1%
Industrials	10%	40%	27%	12%
Technology	16%	47%	32%	13%
Telecommunications	12%	37%	24%	10%
Utilities	29%	39%	33%	4%
General	**10%**	**73%**	**37%**	**15%**

	Panel B: Return on turnover			
Activity Sector	**Minimum**	**Maximum**	**Average**	**Standard deviation**
Basic Materials	4%	13%	9%	5%
Consumer Cyclical	2%	16%	9%	5%
Energy	5%	5%	5%	0%
Financial services	0%	145%	72%	72%
Industrials	0%	32%	12%	12%
Technology	3%	22%	10%	8%
Telecommunications	-2%	8%	5%	5%
Utilities	-11%	36%	10%	15%
General	**-11%**	**145%**	**13%**	**26%**

	Panel C: Return on assets			
Activity Sector	**Minimum**	**Maximum**	**Average**	**Standard deviation**
Basic Materials	5%	9%	7%	2%
Consumer Cyclical	3%	16%	8%	4%
Energy	6%	6%	6%	0%
Financial services	0%	7%	3%	3%
Industrials	0%	13%	6%	4%
Technology	3%	13%	6%	5%
Telecommunications	0%	4%	2%	2%
Utilities	-6%	6%	2%	4%
General	**-6%**	**16%**	**5%**	**5%**

Activity Sector	Panel D: Return on equity			
	Minimum	Maximum	Average	Standard deviation
Basic Materials	10%	19%	15%	4%
Consumer Cyclical	8%	42%	19%	10%
Energy	12%	12%	12%	0%
Financial services	0%	13%	7%	7%
Industrials	0%	37%	23%	12%
Technology	6%	38%	22%	13%
Telecommunications	-3%	15%	8%	8%
Utilities	-18%	21%	7%	13%
General	**-18%**	**42%**	**16%**	**12%**

Activity Sector	Panel E: Operating Fund			
	Minimum	Maximum	Average	Standard deviation
Basic Materials	164.357.599	1.211.749.000	688.053.300	523.695.701
Consumer Cyclical	(2.226.019.000)	5.237.000.000	340.099.916	2.006.567.269
Energy	1.815.000.000	1.815.000.000	1.815.000.000	-
Financial services	(21.642.224)	181.680.000	80.018.888	101.661.112
Industrials	(385.016.000)	202.584.000	6.089.055	189.663.028
Technology	(1.062.500.000)	198.669.000	(270.147.000)	563.408.646
Telecommunications	(6.309.000.000)	144.077.000	(2.118.912.333)	2.966.010.978
Utilities	(2.737.413.000)	1.323.000.000	(957.022.200)	1.546.339.534
General	**(6.309.000.000)**	**5.237.000.000**	**(194.793.699)**	**1.775.801.732**

Activity Sector	Panel F: Basic Earnings per share			
	Minimum	Maximum	Average	Standard deviation
Basic Materials	0,31	0,86	0,59	0,27
Consumer Cyclical	0,12	2,66	0,99	0,74
Energy	0,74	0,74	0,74	-
Financial services	0,00	1,83	0,91	0,91
Industrials	(0,03)	8,85	2,23	3,08
Technology	0,15	2,29	1,06	0,90
Telecommunications	(0,06)	0,57	0,25	0,26
Utilities	(2,82)	1,34	0,09	1,53
General	**(2,82)**	**8,85**	**0,98**	**1,76**