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MASTER'S THESIS SUBJECT:

**Did financial reporting quality improve after the adoption of
IFRS in Greece?**

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Abstract

In 2002, the European Union Parliament enforced a common set of accounting regulations for all listed companies across the European Union (EU). The application of International Financial Reporting Standards (IFRS) in Europe was introduced to improve the accounting quality and corporate financial statements. This study examines whether the application of IFRS improved the financial reporting quality in Greece. The sample we use consists of 80 Greek listed firms. The metrics used to evaluate financial reporting quality are earnings management, timely loss recognition, and value relevance. The results showed that firms which adopted IFRS experience less earnings management, more timely loss recognition, but, contrary to our predictions, less value relevance of accounting amounts.

Keywords: IAS, IFRS, accounting quality, earnings management, timely loss recognition, value relevance

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Abbreviations

ASE: Athens Stock Exchange

AUEB: Athens University of Economics and Business

CG: Corporate Governance

EU: European Union

FASB: Financial Accounting Standards Board

GAAP: Generally Accepted Accounting Principles

GASB: Governmental Accounting Standards Board

GDP: Gross Domestic Product

IAS: International Accounting Standards

IASB: International Accounting Standards Board

IASC: International Accounting Standards Committee

ICB: International Classification Benchmark

IFRS: International Financial Reporting Standards

IFRIC: International Financial Reporting Standards Interpretations Committee

KPMG: Klynveld Peat Main Goerdeler

MoU: Memorandum of Understanding

RAS: Russian Accounting Standards

SEC: Securities and Exchange Commission

SMEs: Small-Medium-sized Entities

UK: United Kingdom

US: United States

XBRL: eXtensible Business Reporting Language

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Chapter 1: Introduction

Chapter 1 is divided into four parts. In the first part we make an introduction to the concept of accounting, the definition of agency theory and the phenomenon of asymmetric information, and the existence of principal-agent problem. Then we refer to the necessity of the existence of corporate financial statements and the definition of accounting standard that determines the function of corporate financial statements. The first part concludes with the definition of International Financial Reporting Standards (IFRS). In the second part we refer to the background of IFRS, the difference between IFRS and International Accounting Standards (IAS) and various organizations that deal in matters that concern IFRS. The second part concludes with reference to the difficulty of switching from local General Accepted Accounting Principles (GAAP) to IFRS and the differences between IFRS and Greek GAAP, giving some examples. The third part discusses previous research done on the IFRS and refers to the accounting quality metrics used to evaluate the effectiveness of the adoption of IFRS, the definition of the specific metrics and the final conclusions reached by the researchers. Finally, the fourth part refers to Greece and the structure of the accounting system, the phenomenon of ownership concentration and the concept of corporate governance. The final part concludes with a reference to how Greece is expected to be influenced from the adoption of IFRS according to analysts but also to two reasons why the adoption of IFRS may fail.

1.1 Accounting, agency theory and the need for published financial statements

Accounting is a very important aspect in any business operation. It involves the measurement and provision of accurate financial information to managers, investors, tax authorities, and other stakeholders to help them make decisions about how they should allocate the resources of a company, organization, or public agency. Due to the nature of the accounting function, accounting firms provide critical support to their clientele. Between the most common financial services, accounting firms' offer are estate planning, accounting, taxation and investment, and retirement planning.

Because what they offer are professional services, it is imperative for accounting firms to identify all factors and issues that would significantly impact their profitability and their reputation. Moreover, to increase their efficiency, management of accounting firms should always be ahead of everyone else when it comes to innovating and updating their knowledge and technology. In addition, there is a need for these companies to invest on their employees or workforce, as these people hold the key towards building relationships with clients.

Moreover, accounting refers to the process of bookkeeping that are involved in making the financial records of business transactions. These bookkeeping methods are also used in preparation of statements concerning the assets, liabilities and operating results of a company. It is a very important process in an organization. The information derived from the accounting processes gives complete financial information about the company and conveys its financial standing to the owners and employees of the company. It also shows which products or assets of the company are most profitable and those which are weak. Day to day bookkeeping on the accounting principles helps in keeping record of daily transactions and also helps in preventing any frauds.

In companies the shareholders vote for administrators, who hire managers. Administrators are expected to represent shareholders' interests and to determine the major strategies that the managers will carry out. In order to conduct the complicated business of managing a big firm, a full-time professional management group must be given major powers of decision. Although managerial decisions can be reviewed from time to time, they cannot be controlled in detail. The links between shareholders, administrators, and managers are typically weak enough that it is often top management that really controls the company over long periods of time. Although the managers are officially employed by the shareholders, they remain significantly independent from them. This separation of ownership from management does not matter unless the managers follow interests that are different from the shareholders' interests. Do the interests of the two groups differ? To study this question, we need to look at what is called principal-agent theory.

Agency theory is an idea that explains why behavior or decisions vary when exhibited by members of a group. Specifically, it describes the relationship between one party, called the principal that delegates work to another, called the agent. It explains their differences in behavior or decisions by noting that the two parties often have different goals and, independent of their respective goals, may have different attitudes toward risk. The idea of agency theory was created from the work of Adolf Augustus Berle and Gardiner Coit Means, who were discussing the issues of the agent and principle as early as 1932. Berle and Means explored the ideas of agency and their enforcements toward the development of big companies. They saw how the interests of the administrators and managers of a given entity diverge from those of the owner of the entity, and used the ideas of agency and principal to explain the origins of those arguments. Michael C. Jensen and William Meckling formed the work of Berle and Means in the context of the risk-sharing research famous in the 1960s and '70s to develop agency theory as a formal idea. Jensen and Meckling formed a school of thought arguing that companies are structured to minimize the costs of getting agents to follow the direction and interests of the principals (Jensen, Meckling, 1976). "The directors of such [joint-stock] companies, however, being the managers rather of other people's money than of their own, it cannot well be expected, that they should watch over it with the same anxious vigilance with which the partners in a private copartnery frequently watch over their own. Like the stewards of a rich man, they are apt to consider attention to small matters as not for their master's honour, and very easily give themselves a dispensation from having it. Negligence and profusion, therefore, must always prevail, more or less, in the management of the affairs of such a company" (Adam Smith, 1776). Agency theory basically recognizes that different parties involved in a given situation with the same given goal will have dissimilar incentives, and that these dissimilar incentives can manifest in divergent ways. It states that there will always be partial goal argument between parties, efficiency is inseparable from effectiveness, and information will always be asymmetric between principal and agent. Agency theory has been successfully applied to numerous disciplines including accounting, economics, politics, finance, marketing, and sociology. Research on agency theory has had

several findings. Most notably, an agent is more likely to adopt the goals of the principal, and thus behave in the interest of the principal, when the contract is outcome-based. In addition, when the agent knows a mechanism to be in place that allows the principal to confirm the behavior of the agent, he is more likely to comply with the goals of the principal. Furthermore, outcome uncertainty has a positive relationship on behavior-based contracts, while there is a negative relationship to outcome-based contracts. Goal argument has a negative relationship to behavior-based contracts with a positive relationship toward outcome-based contracts. Outcome measurability is negatively related to behavior-based contracts; there is a positive relationship with respect to outcome-based contracts.

The *principal-agent problem* or *agency dilemma* deals with the difficulties that arise under conditions of incomplete and asymmetric information when a principal hires an agent, such as the problem of potential moral hazard and conflict of interest, as the principal is—probably—hiring the agent to follow personal interests. Various mechanisms may be used to try to bring into line the interests of the agent in unity with those of the principal, such as piece rates/commissions, profit sharing, efficiency wages, performance measurement (including financial statements), the agent posting a bond, or fear of firing. The principal-agent problem is found in most employer/employee relationships. For instance, when stakeholders hire top executives of companies. Several studies in political science have noted the problems inherent in the delegation of legislative authority to bureaucratic agencies. For example, the application of legislation (such as laws and executive directives) is open to bureaucratic interpretation, which creates opportunities and motivations for the bureaucrat-as-agent to deviate from the intentions or preferences of the legislators. Variance in the intensity of legislative omission also serves to increase principal-agent problems in enforcing legislative preferences.

In a concept of ownership and control the phenomenon of *asymmetric information* is inevitable since it is a situation in which one party in a transaction has more or superior information compared to another. This often happens in transactions where the seller knows more than the buyer, although the reverse can happen as well. Probably, this could be a harmful situation because one party can take advantage

of the other party's lack of knowledge. With increased progressions in technology, asymmetric information has been on the decline as a result of more and more people being able to easily access all types of information. Information asymmetry can lead to two main problems:

1. Adverse selection-immoral behavior that takes advantage of asymmetric information *before* a transaction. For example, a person who is not in optimal health may be more inclined to purchase life insurance than someone who feels fine.
2. Moral hazard-immoral behavior that takes advantage of asymmetric information *after* a transaction. For example, if someone has fire insurance they may be more inclined to commit arson to acquire the benefits of the insurance.

To sum up, information asymmetry and agency theory play a central role in corporate finance and have their roots in the information economics literature. Information asymmetry occurs when one group of participants has better or timelier information than other groups. A signal is an action taken by the more informed that provides credible information to the less informed. Typically, the source of the information asymmetry is the superior knowledge that managers have about the firms' prospects, while the investors in the firms comprise the uninformed group. Agency theory derives from the fact that decisions within firms are made by management, who are agents for investors. Conflicting interests between management and investors can lead to suboptimal allocation of resources within the firm. As mentioned by Lambert (2001), agency theory evaluates the impact of the conflict of interest between principals and agents because of (1) shirking by the agent, (2) diversion of resources by the agent for private consumption, (3) differential time horizon of the agent and principal, and (4) differential risk aversion of the agent and the principal.

In order to communicate the superior information and to surpass the problems, at regular period public companies must prepare documents called *financial statements*. Financial statements show the financial performance of a company. The financial statements are worked out with concrete form and content that is determined by the accountant standards. They are used for both internal and external purposes. When they are used internally, the management and sometimes the employees use it for their own information. Managers use it to plan ahead and set goals for upcoming periods.

When they use the financial statements that were published, the management can compare them with their internally used financial statements. They can also use their own and other enterprises' financial statements for comparison with macroeconomical data and forecasts, as well as to the market and industry in which they operate in. The main types are balance sheets, profit and loss accounts and cash flow statements.

Accounting standard is a principle that governs current accounting practice and that is used as a reference to determine the appropriate treatment of complex transactions. GAAP stands for "Generally Accepted Accounting Principles", a collection of commonly followed accounting rules and standards for financial reporting. GAAP specifications include definitions of concepts and principles, as well as industry-specific rules. The purpose of GAAP is to ensure that financial reporting is transparent and consistent from one organization to another.

Many countries around the world have adopted the *International Financial Reporting Standards (IFRS)*. The IFRS are guidelines and rules set by the International Accounting Standards Board (IASB) that companies and organizations can follow when compiling financial statements. The creation of IFRS allows investors, organizations and governments to compare the IFRS-supported financial statements with greater ease.

1.2 The background to IFRS

The European Union (EU) demanded that all public firms adopt IFRS by 1st January 2005. IFRS are recognised worldwide as the most reliable international accounting standards. More than one hundred countries have formally adopted IFRS until 2008. Prior to 2005, most of the firms applied the local accounting standards. Consequently, the adoption of IFRS was undoubtedly the biggest change in financial reporting and thus, created arguments between experts globally. However, analysts have an opportunity to interpret this transition through a large number of countries with different domestic accounting standards. Past research shows that the adoption of IFRS is going to have a significant effect on corporate financial statements, with a bigger change in stakeholder based compared to shareholder based economies (Hung and Subramanyam, 2007). At first they were called International Accounting

Standards (IAS) which are standards for the preparation and presentation of financial statements created by the International Accounting Standards Committee (IASC). They were first written in 1973 and applied until the IASB took over their creation in 2001. IASB, an organization which is based in London, seeks to set and enforce standards for accounting procedures. Over 100 countries currently require or permit companies to comply with IASB standards. It is responsible for developing the IFRS. The organization was preceded by the IASC. Its members (currently 15 full-time members) are responsible for the development and publication of IFRSs including the IFRS for Small-Medium-sized entities (SMEs) and for approving Interpretations of IFRSs as developed by the IFRS Interpretations Committee (formerly called the IFRIC). All meetings of the IASB are held in public and webcast. In fulfilling its standard-setting duties the IASB follows a thorough, open and transparent due process of which the publication of consultative documents, such as discussion papers and exposure drafts, for public comment is an important component. The IASB engages closely with stakeholders around the world, including investors, analysts, regulators, business leaders, accounting standard-setters and the accountancy profession.

The question of the disparities among the IAS and IFRS has arisen on several occasions in accounting circles, and in fact, some would question if there is any difference at all. One of the main disparities is that the series of standards in the IAS were issued by the IASC between 1973 and 2001, while, the standards for the IFRS were issued by the IASB, starting from 2001. When the IASB was established in 2001, it was agreed to adopt all IAS standards, and name future standards as IFRS. One main implication worth mentioning is that any principles within IFRS that may be inconsistent will definitely replace those of the IAS. Basically, when contradictory standards are issued, older ones are usually disregarded (Kivumbi Articles).

The IFRS Interpretations Committee is the interpretative body of the IASB. The Interpretations Committee comprises 14 voting members appointed by the trustees and drawn from a variety of countries and professional backgrounds. The mandate of the Interpretations Committee is to review on a timely basis widespread accounting issues that have arisen within the context of current IFRSs and to provide authoritative guidance (IFRICs) on those issues. Interpretation Committee meetings

are open to the public and webcast. In developing interpretations, the Interpretations Committee works closely with similar national committees and follows a transparent, thorough and open due process.

The IFRS Foundation is an independent, not-for-profit private sector organization working in the public interest. Its principal objectives are:

- a) to develop a single set of high quality, understandable, enforceable and globally accepted International Financial Reporting Standards (IFRSs) through its standard-setting body, the IASB;
- b) to promote the use and rigorous application of those standards;
- c) to take account of the financial reporting needs of emerging economies and small and medium-sized entities; and
- d) to bring about convergence of national accounting standards and IFRSs to high quality solutions.

The governance and oversight of the activities undertaken by the IFRS Foundation and its standard-setting body rests with its trustees, who are also responsible for safeguarding the independence of the IASB and ensuring the financing of the organization. The trustees are publicly accountable to a Monitoring Board of public authorities.

The IFRS Foundation and its independent standard-setting body, the IASB, provide public accountability through the transparency of their work, the consultation with the full range of interested parties in the standard-setting process, and their formal accountability links to the public. The leaders of the major economies, through the G20 (South Africa, Canada, Mexico, United States of America, Argentina, Brazil, China, Japan, South Korea, India, Indonesia, Saudi Arabia, Russia, Turkey, European Union, France, Germany, Italy, United Kingdom, and Australia), have confirmed the importance of an independent standard-setter accountable to the public interest.

Public accountability, ensured by the organization's constitution and governance arrangements, is vital to the organization's success. It is the trustees' duty to ensure that appropriate governance arrangements are in place and observed by all parts of the organization.

The trustees' effectiveness in exercising their functions is assessed annually by the Trustees' Due Process Oversight Committee. The cornerstones of the organization's public accountability are:

a) The Monitoring Board

The trustees have established a formal public accountability link to a Monitoring Board of public capital market authorities.

b) The Constitution Review

The constitution of the IFRS Foundation requires the trustees to undertake a formal, public, five-yearly review of the Constitution.

c) Due process

A formal due process for the IASB, the IFRS Interpretations Committee and eXtensible Business Reporting Language (XBRL) ensures extensive outreach, which includes mandatory public consultation. Comment letters received in response to formal proposals that are made public on the website.

d) Public meetings

All meetings (other than meetings on administrative matters) of the bodies of the IFRS Foundation, including the IASB, the Interpretations Committee and its formal advisory bodies, are held in public and are webcast. Meeting notes are available to the public as observer notes.

More than 12,000 firms from one hundred countries have effectively adopted IFRS, and by 2011-2012, every big capital market will apply IFRS apart from the US. Thus, the firms in the US should be preparing for the big change. At the end of 2008, the Securities and Exchange Commission (SEC) issued a road map for the application of IFRS by US municipal firms and early IFRS adopters file until 2011 and the mandatory adoption would start at 2014 (Oracle Corporation, 2010).

In the US, the SEC mandates that financial reports adhere to GAAP requirements. The Financial Accounting Standards Board (FASB) specifies GAAP overall and the Governmental Accounting Standards Board (GASB) specifies GAAP for state and local government. Publicly traded companies must comply with both SEC and GAAP requirements. So, the SEC has released a proposed roadmap for conversion from GAAP to IFRS by 2014. In March 2006, the IASB and the FASB further clarified

their intentions to work together to improve and converge financial reporting standards by issuing a Memorandum of Understanding (MoU), a Roadmap for Convergence between IFRSs and US GAAP - 2006 - 2008. As part of the MoU, the Boards worked jointly on a research project to reduce the complexity of the accounting for financial instruments. This joint effort resulted in the IASB's issuing of the March 2008 discussion paper, reducing complexity in Reporting Financial Instruments, which the FASB also published for comment by its constituents. Focusing on the measurement of financial instruments and hedge accounting, the discussion paper identified several possible approaches for improving and simplifying the accounting for financial instruments.

In a separate project, the FASB issued the June 2008 exposure draft, Accounting for Hedging Activities, an amendment of FASB Statement No. 133. The exposure draft proposed amendments intended to simplify hedge accounting and improve financial reporting.

Even though the transition to IFRS might face obstacles, the benefits will be important to the global enterprises. A global accounting and financial reporting standards that is unique is going to reduce the accounting difficulties and will raise the competitiveness of the US firms and capital markets (Oracle Corporation, 2010). Also, firms that are listed, for example, in the United Kingdom (UK) and US simultaneously, will no longer have to prepare their annual financial statements under both IFRS and US GAAP.

In Figure 1, we can see on the map the countries which have already adopted IFRS and the countries which are going to adopt IFRS in the near future, such as the USA, Mexico, Canada, Alaska, Brazil, Chile, India, and Japan.

The passage to IFRS forced many researchers around the world to look for the effects of this change, using financial statements from 2004, which at first followed the set principles of the national GAAP and then rearranged according to IFRS principles (Bertoni and De Rosa, 2006; Lopes and Viana, 2007; Cordazzo, 2008; Gray et al., 2009; Haller et al., 2009).

Previous research found that the adoption of IFRS offers a number of advantages for the firms. First, before the adoption of IFRS, voluntary changes had a sample

selection bias and it would be made only by managers who observed an advantage in the accounting change (Balsam et al. 1995; Harris and Muller 1999; Leuz and Verrecchia 2000; Barth et al., 2008). The mandatory change for the public firms eliminates any sample selection biases. Second, several previous investigations had a sample selection bias, with only the greatest municipal companies making the adjustment (Beatty, Ramesh and Weber, 2005; El-Gazzar and Jaggi, 1997). All municipal companies in the EU with joined financial statements decrease any sample size bias. Third, the period during the change to IFRS is limited to 2004 and 2005, thus, the existence of any bias to disparities across time periods is removed. Fourth, domestic accounting standards and IFRS refer to the same reporting period (fiscal year). Finally, the option of using the EU transition ensures a general guideline for firms to transfer normally to a regular set of standards. This differs from previous research which contained different countries with different directives on transitions.

It is probable that investors might respond positively to transfer to IFRS if they accepted the fact that the enforcement of IFRS would cause a higher accounting quality, thus lowering information asymmetry among company, investors and risk and, consequently, cost of capital. Moreover, investors may have accepted as true that the adoption of IFRS would be beneficial for them. For example, IFRS adoption might lower the costs of comparing companies' financial place and presentation across countries, and would create a more competitive environment for the European capital markets, with subsequent raises in liquidity for European firms. On the other hand, investors might respond negatively to the IFRS adoption if they considered that IFRS would lower accounting quality and the costs would be higher than benefits. As a whole, generally investors reacted positively to the possibility of the transition from local accounting standards to IFRS and an important reason for this was the fact that the likely profits surpassed the likely costs (Christopher S. Armstrong, Mary E. Barth, Alan D. Jagolinzer, Edward J. Riedl, 2008).

Unfortunately, the transition from domestic GAAP to the IFRS was not an easy process. Generally, the subjects that are related to the first application of IFRS, are covered with IFRS 1 "first application of International Financial Reporting Standards" that was published in its final form on 19 June 2003, by the IASB. This model is

reported to be the way of transition of an enterprise to the IFRS, when it follows other Accounting Standards. IFRS 1 is aimed to give to the enterprises a starting line of application of IFRS in their accountant process. It is also aimed to ensure successful application during the transition to the IFRS and the guarantee of presentation of comparable information between the enterprises. With IFRS 1, the enterprises should explain which consequences are in their economic place, their financial yields and their cash flows.

An important subject during the transition to IFRS constitutes the subject of comparability of economic information that is provided by the financial statements in the year of application (2005) and the previous years of 2004 (year of transition) and 2003. This subject, especially for listed firms, is very important as far as it concerns the information of investors and economic analysts. IFRS 1 is not reported in special cases of comparability of financial statements, which are connected with the first application of IFRS. A special case could also involve the comparability that may exist if such is required of the juxtaposition of financial statements for three or more continual economic periods prepared according to the local standards. This case comes up when the regulating authorities require from the firms that are going to be listed, the apposition of financial statements of many years under certain rules.

For example, a company is required to publish the financial statements for three continual periods and specifically from 2003 to 2005. According to the § 36 of IFRS 1, it will have to report at least one year of comparative information. Consequently, it should definitely include the year 2004. Because the year 2004, according to the IFRS 1, is the year of transition to the IFRS, the companies should keep in their files elements of the local standards that applied in 2004, but also the corresponding reformed elements according to the IFRS. The financial statements of 2003, which have been worked out according to the local GAAP, could be presented without any reformation because they will be comparable to the medium period of 2004, which is presented under the local GAAP and the IFRS.

In an effort to regain the worldwide investors' faith, the Greek government adopted IFRS voluntarily from the beginning of 2003 and forced the Greek listed firms to apply the new standards (law 2992/2002). It was the first EU member state

that enforced IFRS. This application was mandatory for the firms listed on the Athens Stock Exchange (ASE) and optional for firms not-listed on the ASE.

Unfortunately, as we have already mentioned, the change from domestic GAAP to IFRS was not an easy process and firms were not prepared to adjust to the new accounting principles (Spathis and Georgakopoulou, 2007, with reference to Floropoulos, 2006; Grant Thornton and AUEB, 2003). Hence, this fact connected to the problematic auditing, created doubts about the correct application of IFRS by Greek firms. By 2003, listed firms had to readjust only the balance sheet and present it according to IFRS (law 3148/2003). According to law 2190/20, which includes all the directives in detail about the new circumstances, all Greek listed firms should have prepared their financial statements under IFRS and should have published them until the end of March 2006. The difficulties were surpassed and the first annual reports turned out to be available the specified date.

IFRS in addition to Greek GAAP use different accounting methods and arrangements in several matters, for example intangible assets, depreciation, subsidies, income taxes, consolidation and project contracts. The income account is influenced by IFRS. An example we can see is the income account of EFG Eurobank for 2004. It shows a rise of 5 million Euros in operating income and a significant reduction of 28 million Euros in net profit, contrasted to Greek GAAP (Floropoulos, Moschidis, 2004). We can see these results in the following table.

Total IFRS impact in Eurobank Financials in € millions

	Greek GAAP	IFRS	Change	%
31.12.04 Shareholders' Equity	1,940	2,102	+162	+8.4%
2004 Operating income	1,484	1,489	+5	+0.3%
2004 Net profit	368	340	-28	-7.6%
Total assets	31,939	33,046	+1,107	+3.5%

Another example we can see is the operating income account and the net income account under French GAAP and under IFRS. The 2004 financial information has been prepared according to the IFRS standards (and interpretations) existing as of December 31, 2004 and endorsed by the EU Commission and enforced by Capgemini. With regards to the project accounting for the outsourcing contracts, Capgemini has adopted a prudent interpretation of the current IFRS pronouncements in terms of revenue recognition and gross margin determination. These interpretations are the outcome of conversations within the industry and recommendations from the Group's auditors. The 2004 IFRS financial information has been examined by the Group audit committee. Group auditors have conducted audit processes on the 2004 IFRS financial information. The 2004 IFRS financial information might be modified when the final 2005 accounts will be published as an outcome of possible new pronouncements or interpretations issued in 2005. The operating income under French GAAP in 2004 is € 58 millions and the under IFRS is € 280 millions, a difference of € 257 millions. Furthermore, the net income under French GAAP is € 359 millions and under IFRS is € 534 million, a difference of € 175 million (Capgemini, Consulting. Technology. Outsourcing, 2005). The results are presented in the following tables.

OPERATING INCOME RECONCILIATION

2004 OPERATING INCOME UNDER FRENCH GAAP	58
- Pensions benefits	-13
- Revenue recognition	-56
- Net impact on carry-back receivable (*)	-3
- Foreign Exchange gains / losses	-6
- Goodwill reclassified as intangible assets - Amortization	-5
- Other	2
2004 INCOME FROM CURRENT OPERATIONS	-23
- Restructuring costs reclassification	-220
- Goodwill amortization reclassified as impairment	-19
- Stock Options	-4
- Other (gain on disposal of activities, discounting of restructuring...)	-14
2004 OPERATING INCOME UNDER IFRS	-280

(*) Relates to un-discounting of carry-back receivable

NET INCOME RECONCILIATION

NET INCOME UNDER FRENCH GAAP as of December 31, 2004	-359
- Revenue recognition (IAS18)	-56
- Pensions benefits (IAS19)	-19
- Income tax (IAS12) (*)	-112
- Goodwill amortization	26
- Others (OCEANE, Stock Options...)	-14
NET INCOME UNDER IAS/IFRS as of December 31, 2004	-534

(*) Relates to the cancellation of the discounting impact recorded in French GAAP

1.3 Prior research on the impact of IFRS on accounting quality (Metrics – Studies)

In our research, we use accounting quality metrics for companies enforcing IFRS and we compare them in the pre-adoption period and in the post-adoption period. The results from other studies show that the accounting quality is higher in the post-adoption period than it is in the pre-adoption period. And the fact that the economic environment can vary from time to time, leads us to examine if the raise in the accounting quality for companies enforcing IFRS is higher than companies that do not. Although the discrepancies in accounting quality metrics are not so important, there is a greater raise in accounting quality for firms enforcing IFRS.

The accounting quality metrics that are used in other studies in order to evaluate the effectiveness of the adoption of IFRS are cost of capital, earnings management, timely loss recognition, and value relevance.

Cost of capital is the price required by investors as an expected return. As a matter of fact it is difficult to be measured. Generally, the cost of capital controls the functions of a firm and consequently its productivity. It is correlated to the risk of the investment, so because it eliminates the risk, the result should be lowered cost of capital. In addition, risk ranges from many factors, such as the technological risk. David Easley and Maureen O' Hara studied the force of information to the cost of capital and found that it is very important for the accounting information to be specific. Accurate accounting information helps a company to lower the cost of

capital because it decreases the risk of the asset to be obtained. Thus, if accounting risk is decreased, then the cost of capital should be affected significantly.

As we have already mentioned, the cost of capital is difficult to be measured. So, investigators found some roundabout ways to determine it. At first, the local GAAP of each country is made for common law or code law practices (e.g. continental European countries, Japan). A code is a type of legislation that purports to exhaustively cover a complete system of laws or a particular area of law as it existed at the time the code was enacted, by a process of codification. Though the process and motivations for codification are similar in common law and code law systems, their usage is different. In a code law country, a code typically exhaustively covers the complete system of law. By contrast, in a common law country a code is a less common form of legislation, which differs from usual legislation that, when enacted, modifies the existing common law only to the extent of its express or implicit provision, but otherwise leaves the common law intact. By contrast, a code entirely replaces the common law in a particular area, leaving the common law inoperative until the code is repealed. Undoubtedly, code law countries will be affected significantly through the transition to IFRS compared to common law countries. That is because assets of accounting information are different between these two types and there is bigger timeliness to common law systems (Ray Ball, S.P. Kothari, and Ashok Robin, "The effect of International Institutional Factors on Properties of Accounting Earnings", 2000). Second, some countries, which adopted IFRS voluntarily, were recognized as transparent countries and the accounting quality was high (Holger Daske, Luzi Hail, Christian Leuz, and Rodrigo S. Verdi, "Mandatory IFRS Reporting Around the World: Early Evidence on the economic Consequences", 2008). Signaling Theory is a possible explanation for this fact (A. Michael Spence et al.). Signaling theory takes into account the sensible fact that not all investors have equal quantity of information. All investors are not rational. Owners and managers of a company (insiders) know more about it than ordinary outside investors. When a company's future looks good (i.e. high forecasted cash flows, earnings, net income, and Return Of Equity) then managers will choose to raise financing through debt (or bonds or loan) because they do not want to share the financial gain with more shareholders.

They would rather prefer to take on debt and pay a small interest to the debt holders. There is almost no risk of default. When the company's future looks bad, then managers will choose to raise capital by issuing equity (or stock) to be able to share the possible losses between more shareholders (owners). If they took on debt and could not repay it, they might default and be forced to go bankrupt. Thus, the impacts may be measured easily from the IFRS adoption for this attitude. Finally, many foreign firms have chosen to settle stockholders' equity and net profit under IFRS. They have more investor protection and accepted the risk of charges. This fact should result to lower cost of capital (John C. Coffee, Jr., "Racing towards the Top?: The impact of Cross-Listings and Stock Market Competition on International Corporate Governance" 2002; Craig Doidge, G. Andrew Karolyi, and Rene M. Stulz, "Why are Foreign Firms Listed in the U.S. Worth More? ", 2004).

Lee and Chen (2010) studied the consequences of IFRS adoption on cost of capital and disclosure quality. They found that: (1) in greater asset liquidity, the IFRS adoption controls efficiency, and cost of capital is lower for IFRS adopters than for non-IFRS adopters; (2) in higher asset liquidity, the value of asset liquidity controls are economical, and cost of capital is lesser for a reduction in cost of processing information (or lesser informational complication). In their study they use a big sample of German entities from 12 industries with different asset liquidity. The outcomes of their analysis using cross-industry and cross-firm regressions powerfully support the expectations, and are forceful to the Heckman's correction model for self-selection problem. They find that asset liquidity and IFRS, are important when they are run together or separately with the firm-specific control variables. This fact shows that the observed cost of capital is driven mainly by the united and separate shifts in the strength of asset liquidity.

To sum up, cost of capital may be difficult to be measured but according to other research, adopting IFRS has positive results. The former chairman of the United States SEC, Arthur Levitt, once said that: 'The truth is, high standards lower the cost of capital' (Levitt 1998).

Earnings are the most significant thing in financial statements. They show the degree to which a firm has connected in value-added actions. They are a sign that

alleviates the straight resource allocation in capital markets. The present value of future earnings of a firm is the theoretical value of its stock.

The impact of IFRS on earnings management is very important. Earnings management is the reasonable and officially permitted management decision making and reporting aimed to attain permanent and expected financial outcomes. Earnings management should not be connected with illegal actions to influence financial statements and report outcomes that are opposed to reality. These actions are known as "cooking the books" and contain misrepresenting financial outcomes.

Many administrators deal with a lot of pressure in order to cross the line from earnings management to cooking the books. A study by CFO Magazine discovered that 78 percent of the administrators who participated had been asked to present financial outcomes with transparency, although using the local GAAP. Almost half of them met the terms of the specific application. On the other hand, 45 percent of these administrators testified that they had been asked to misrepresent the financial outcomes of their firms and 38 percent confessed that they did.

Analysts interpret earnings that show evidence of less earnings management to have a greater quality. The metrics they use for earnings management are based on the variance of the change in net income, the proportion of the variance of the change in net income to the variance of the change in cash flows, the correlation among accruals and cash flows, and the regularity of small positive net income. So, analysts confirm less earnings management when they find a higher variance of change in net income, higher proportion of the variances of the change in net income and change in cash flows, lower negative correlation among accruals and cash flows, and lesser regularity of small positive net income.

Moreover, earnings management is also related to the capability of earnings that reflect losses to be announced on a timelier basis, that is, to timely loss recognition. Especially, earnings smoothing causes large losses to be relatively infrequent, so that timely loss recognition can be measured in terms of willingness of managers to identify large losses as they arise rather than expand their effects over numerous periods (Lang et al., 2006; Barth et al., 2008). In addition, timely loss recognition is also related to the greater extent of confirmation for identifying good news (or

positive economic presentation) compared to that used for identifying bad news (or negative economic presentation) in earnings (Basu, 1997). Generally, a rise in timely loss recognition is connected with increasing accounting quality.

The metric that analysts use for timely loss recognition is the regularity of large negative net income. They interpret timely loss recognition when they find a greater regularity of large negative net income.

Value relevance is a theoretically different dimension of accounting quality, even though equally significant. It is regarded as one of its main characteristics (Francis et al., 2004) and it is included between the five most important regions of capital market research (Beaver, 2002, p. 459). Value relevance expresses the capability of financial statement information to capture or summarize information that has an effect on share values. Regularly, it is signified by the statistical association among accounting information and market prices or returns (Francis and Schipper, 1999). So, accounting quality improves as long as this statistical association rises.

The metrics analysts use for value relevance are the helpful powers of equity book value and net income for prices, and stock return for profits. The accounting sums which are more value relevant have a greater quality.

The findings about the firms applying IFRS are that they face less earnings management, more timely loss recognition, and more value relevance of accounting sums than firms that do not apply IFRS (Barth et al., 2008) Specifically, firms enforcing IFRS have a greater variance in the change in net income, less negative correlation among accruals and cash flows, greater regularity of large negative net income, and greater value relevance of net income and equity book value for share prices, with very important differences. They also have a greater proportion of the variances in change in net income and change in cash flow, lesser regularity of small positive net income, and greater value relevance of net income for stock returns. But these discrepancies are not so important.

It is very important to examine the accounting quality for some reasons when the change from domestic accounting standards to IFRS takes place. First, the transition to IFRS orders large changes in accounting practices while suggesting a variety of option during the first adoption. So, earnings management during the transition will

impair the quality of first IFRS financial statements. Second, if earnings management exists, analysts may check on managers' attitude when they are challenged with the new standards. Third, earnings management during the transition may create one effect at the time of the adoption in the transition year (i.e. a raise in earnings) and the reverse effect over a longer time period. For instance, a company deciding on a fair value option for some of its property plant and equipment exclusively to profit from its greater valuation at the transition will have to account for the possible reductions in its value in the following reporting periods. Fourth, earnings management under the IFRS may decrease the earnings management prospects in the future. Unlike managing earnings under the similar set of standards where the options are similar in each reporting period, the options suggested by the transition are not offered in the following reporting period. Finally, the earnings market value and book market compromises are visible just in the transition year because that is when financial statements are set simultaneously under domestic accounting standards and IFRS. The market is also going to be grateful for extra information set under IFRS, if the earnings and/or book value compromises are value-relevant. These settlements of value relevance show that the quality of IFRS accounts is greater and so, the EU may establish IFRS for public companies normally and without any unpleasant events. As a result, the possible costs of the change such as earnings management and straight costs from the application of IFRS, are offset by the profits.

Cai, Rahman, and Courtenay (2008) investigate the influence of IFRS and its application on earnings management in financial reporting using over 100,000 firm-year observations from 2000 to 2006 across 32 countries. They accomplish this examination by using a modified measure of application developed by Hope (2003). Their results show that earnings management after the adoption of IFRS has been reducing in latest years. The outcomes also show that countries with stronger application have less earnings management in general.

Aussenegg, Inwinkl, and Schneider (2008) analyze earnings management for a great sample of 17 European countries. This is very interesting because many companies adopted IFRS, even before the IFRS Regulation (EC) was instituted. In order to have a complete picture, they estimate a great class of 15 measures for

earnings management. They discover that earnings management reduces among domestic GAAPs and IFRS. These results vary depending on the legal origin. Although this outcome holds for German and French legal origin countries (except for some Southern European countries), there is no change in earnings management in English and Scandinavian legal origin countries. Also, it turns out that the volatility of earnings management through time is higher for companies which have adopted IFRS than for companies that prepare their financial statements according to local GAAPs. They also exhibit that time period and company size have no impact on earnings management. Moreover, growth firms tend to connect more with earnings management than the same forces for companies with greater financial leverage. On the other hand, companies with more cash flows from operations tend to connect less with earnings management. They have a tendency to be less risky and can, therefore, - on average - achieve certain earnings goals more easily. Finally, in comparing the outcomes for all of their 15 earnings management measures they conclude that dissimilar measures seem to capture dissimilar dimensions of earnings management.

Houqe, Zijl, Dunstan, and Karim (2010) use a sample of forty-six countries around the world and investigate the impacts of obligatory IFRS adoption and investor protection on the accounting quality of earnings. The outcomes suggest that earnings quality rises for obligatory IFRS adoption when the system of a country about investor protection provides stronger protection, at least based on the earnings feature considered in their research. The specific research expands the existing literature showing that accounting procedures are affected by country level macro settings. The outcomes emphasize the significance of investor protection to financial reporting quality and the need for regulators to create mechanisms that will limit managerial earnings and management procedures.

Christensen and Lee (2008) analyze the effect of motivations on accounting quality change nearly the IFRS adoption. Specifically, they study earnings management and timely loss recognition. They find that earnings management reduces and timely loss recognition rises after the adoption of IFRS. Their results reveal that the accounting quality of firms with motivations to adopt IFRS improves.

In general their outcomes denote that motivations control accounting standards in determining accounting quality.

Hung and Subramanyam (2007) discover that net profit comprises a less significant valuation role under IFRS than national GAAP while book value entails a more significant valuation role under IFRS. So, the changes under IFRS are value relevant for book value while they are value irrelevant for net profit. Analogous outcomes are found by Schiebel (2007) and Jermakowicz, Prather-Kinsey, and Wulf (2007). However, another examination finds that financial statements prepared under German GAAP are of lower value relevance than IFRS earnings (Bartov et al., 2005). The combined effects are due to the fact that some German firms adopted IFRS voluntarily.

Using a sample of Russian listed firms the period 2000-2006, Ragaeva (2009) investigates if the financial reports of Russian listed companies prepared under IFRS conclude in an improved accounting quality than the financial reports of Russian listed firms prepared under Russian Accounting Standards (RAS). The incentive to use the Russian data is due to the subsequent reasons: Russia offers exclusive and transitional environment and has a growing market which affects the international economy. Using the Russian data conduce to the study the effect of IFRS on quality of accounting information globally. Ragaeva makes use of the methodology suggested by Barth et al. (2008) based on earnings smoothing metrics and managing in the direction of small positive earnings. She also examines value relevance of book value and income under IFRS and RAS. The results show that companies which have adopted IFRS experience higher accounting quality, as they reveal less earnings smoothing than RAS companies. She does not find strong proof that the use of IFRS improves value relevance of book value of equity and net income accounting in listed Russian companies, but she finds a limited support of book value of equity value relevance improvements.

A different group of studies examine the accounting quality under IFRS and the accounting quality under national GAAP. In Sweden, after the adoption of IFRS the quality of financial reporting documents a reduction in relative value relevance (Paananen, 2008). In Finnish firms, the profits from the adoption of IFRS settlement

changes are value relevant. In fact, the coefficient, with regard to shareholders' equity settlement change, is negative.

Paola Paglietti (2009) analyzes the effect of the adoption of IFRS in Italy's accounting quality, which is a code law country. She concludes that accounting quality after the adoption of IFRS is reduced, if believed, in respect to earnings management and timely loss recognition. The analysis shows a rise of earnings smoothing and a decline of earnings timeliness, especially of the timeliness of the identification of large losses. However, the tests of value relevance show an improvement of the capability of accounting numbers offering investors valuable information in order to decide properly. The specific results are significant. It could be assumed that moving accounting rules in the direction of great accounting quality standards is not enough in order to ensure improvements in the accounting quality. Even though the connection between accounting numbers and share prices after the application of IFRS proves that investors think that accounting information is valuable concerning their decisions, the persistence of earnings management methods possibly proposes that intrinsic flexibility in the principles of IFRS do not guide managers in the direction of publication of financial statements described by improved accounting quality, at least in the initial three years after the obligatory adoption of IFRS.

Studies find that Italian GAAP is more conservative than IFRS, but it is not so powerful (Bertoni and De Rosa, 2006). Under Italian GAAP we have lower net income and shareholders equity than under IFRS (Cordazzo, 2008). Portuguese listed companies through the transition to IFRS, present lower proceeds (Lopes and Viana, 2008). Firms that adopted IFRS, which were connected closely with the US GAAP, faced significant differences between the two systems. In the UK, the local GAAP is of lower quality compared to US GAAP (Gray et al., 2009).

Agostino, Drago, and Silipo (2010) examined how the value relevance of accounting information changed in the prices of bank shares in the EU. The result was that the value relevance of earnings rose after the adoption of IFRS. The greatest outcome was in Italy and Germany and the least in the United Kingdom (UK). This fact is connected with the general opinion that IFRS demand more revelation than

domestic standards in the continental European countries and also, that the UK GAAP is approximately as great as IFRS (Christensen et al., 2007).

In China, experts formed two types of markets in order to facilitate domestic and foreign investors. Firms reported to domestic investors under local GAAP and to foreigners under IFRS (Eccher and Healy, 2000). They also find that financial reports stated under IFRS do not provide important information to domestic or foreign investors over the local GAAP. In another study, Lin & Chen (2005), agree with Eccher and Healy. But Sami and Zhou (2004) and Liu and Liu (2007), find that IFRS provide more value relevant information than each country's local GAAP.

Bellas, Toudas, and Papadatos (2008) discover that book value of equity is more value relevant under IFRS than under Greek GAAP. However that is not the benefit they are looking for after tax. Moreover the settlement changes for net income, not referring to shareholders equity, are value relevant. They do not mention the distinctive changes for the firms they use in their model and they do not investigate division among large and small firms.

Ismail, Dunstan, and Zijl (2010) investigate the effect of IFRS adoption on the quality of reported earnings. They concentrated on two characteristics of high quality of earnings, in terms of lower level numbers of earnings management practices and higher value relevance of earnings. Their outcomes prove that IFRS adoption is connected with higher quality of reported earnings. In particular, they discovered that earnings, reported during the period after the adoption of IFRS, are connected with lower amount of earnings management. Using price-earnings and return-earnings models together, their results also show that earnings reported during the post-adoption period are more value relevant. Their outcomes are based on Malaysian data, where some IFRS standards are yet to be implemented. However, the outcomes are of important benefit for local standard setters and other emerging countries that have comparable capital market and institutional features. More research could be carried out in other environment so that the effect of the adoption of IFRS in dissimilar environment can be revealed. Other than that, the reliable changes in the level of absolute abnormal accruals and the value relevance of earnings throughout the period before and after the adoption of IFRS in Malaysia propose that there is a probability

that investors give better evaluation for earnings that have lower level of earnings management. Moreover, further research can also consider other characteristics of earnings quality such as earnings conservatism, predictability, comparability, persistence and timeliness.

Clarkson, Hanna, Richardson, and Thompson (2010) examine the effect of the adoption of IFRS in Europe and Australia on the relevance of book value and earnings for equity valuation. They use a sample of 3,488 firms that primarily adopted IFRS in 2005, and they can contrast the numbers initially reported for the 2004 fiscal years to the IFRS numbers that were given in 2005 as the 2004 IFRS relative numbers. The linear pricing models that they use recommend that numbers of earnings per share (*EPS*) and book value per share (*BVPS*), estimated consistently with IFRS, have similar explanatory power for company stock price as do *EPS* and *BVPS* estimated according to the original requirements of domestic GAAP. When the companies are divided into Common Law and Code Law origin groups, these similar linear pricing models imply a reduction in price relevance for firms in Common Law countries and a rise in price relevance for Code Law countries. When they introduce a cross-product term into the linear pricing models, equivalent to the product *EPS* and *BVPS*, which allows the pricing model to indicate nonlinearities in the relationship among *EPS*, *BVPS* and prices, the result is an increased nonlinearity in the data following the adoption of IFRS. This rise is most pronounced for companies in Common Law countries. These nonlinear impacts do not reveal any change in price relevance for companies in either Code Law or Common Law countries, as opposed to the outcomes from the linear pricing models.

Studies which took place in the past, investigated if the accounting quality is affected by the accounting obligations through an environment of taxes as in Greece and the result was that the new accounting principles are more value relevant than the ordinary and complicated European accounting rules (Ball, 2006). Also, profits between large and small firms are measured differently. Looking for significant differences in the value relevance of accounting information, it was found that more changes are value relevant for small firms.

Barth, Landsman, and Lang (2008) examine whether enforcement of IAS is connected with higher accounting quality. The enforcement of IAS reflects the combined effects of characteristics of the financial reporting system, including standards, their interpretation, application, and litigation. Their results exhibit that companies enforcing IAS from 21 countries generally evidence less earnings management, more timely loss recognition, and more value relevance of accounting amounts than do a matched sample of companies applying non-US local standards. Disparities in accounting quality among the two groups of companies in the period before the IAS companies adopt IAS do not account for the post-adoption disparities. They also find that companies enforcing IAS generally evidence an improvement in accounting quality among the pre- and post-adoption periods. Even though they cannot be sure that their results are attributable to the change in the financial reporting system rather than to changes in companies' motivations and the economic environment, they include research design characteristics to mitigate the effects of both.

On the other hand, some researchers in 15 European countries, observed that after the adoption of IFRS firms present leveled earnings and lower timely loss recognition of great losses (Chen et al., 2009).

Dobija and Klimczak (2010) present a general idea of the development of accounting in Poland from 1994 to 2008 and an empirical valuation of its effects on the value relevance of earnings. Outcomes exhibit that there is positive proof in both respects but no improvement took place after the year 2000, when new accounting regulation was established, nor did any improvement result after 2005, when Poland adopted IFRS. Two different conclusions regarding information environment in Poland can be drawn from the specific outcomes. First, the outcomes show that market efficiency and value relevance were attained early, despite possible insufficient accounting regulations and professional standards of practice. Second, the outcomes show that, once main market institutions are established, further developments in regulation may not lead to noticeable improvements in value relevance. Since new regulations set up in Poland after in 2000 and 2005 were part of the international harmonization procedure, their primary effect may have been in

helping foreign investment in Poland and in the later international expansion of Polish companies, rather than in improving the national information environment.

Vanstraelen and Van Tendeloo (2005) examine if the adoption of IFRS is connected with lower earnings management. Ball et al. (2003) argue that the adoption of IFRS might be a required condition for high quality information, but not essentially a sufficient one. In Germany, which is a code-law country and the investor's protection is limited, a relatively great number of firms have chosen to adopt IFRS. They studied whether German firms that have applied IFRS experience less earnings management compared to German firms that prepare their financial statements under German GAAP. Simultaneously they investigated for other disparities in earnings management motivations. Their sample, which consists of German listed companies, includes 636 firm-year observations associating to the period 1999-2001. The outcomes suggest that adopting IFRS does not comprise an important limitation on earnings management, as estimated by the level of discretionary accruals. On the contrary, the adoption of IFRS raises the amount of discretionary accruals. Furthermore, companies that have adopted IFRS associate more with earnings smoothing, although this result is significantly decreased when the company has a Big Four auditor. However, when hidden reserves are taken into consideration, the adoption of IFRS does not present dissimilar earnings management behavior compared to companies reporting under German GAAP. These findings conduce to the recent debate on whether high quality standards are sufficient and successful in countries with weak investor protection rights. Their inference is that the adoption of IFRS cannot be connected with lower earnings management.

Lin and Paananen (2007) examine the features of accounting sums using a sample of German firms reporting under IAS during 2000-2002, and IFRS during 2003-2004 (voluntary period) and 2005-2006 (obligatory period). Particularly, their study focuses on whether there is a difference in accounting quality during these three time periods, as IASB improves existing IAS and issues new IFRS to prepare a set of high quality international accounting standards for worldwide financial reporting purposes. According to previous studies, they examine accounting quality using earnings smoothing, timely loss recognition, and value relevance metrics. Contradictory to

their forecasts, they find a reduction in accounting quality after the obligatory adoption of IFRS in 2005. Their results on earnings management and timely loss recognition confirm mainly their results to value relevance of accounting information. They find that earnings and book value of equity are turning out to be less value relevant during the obligatory period of IFRS compared to the IAS and the voluntary period of IFRS together. Their findings show that accounting quality has got worse over time. When using a matched sample they cannot discover any clear signal of either an improved or a worsened quality of financial reporting. Further analysis of the period of 2005 to 2006 gives some weak signals that this might have been partly driven by new adopters of IFRS in 2005, however, only the disparity in value relevance is statistically significant. Overall, the reduction in accounting quality is primarily driven by changes in accounting standards, not the new adopters in 2005. The allusion of this is that the last revisions of IASs and the addition of new IFRSs have caused a reduction in the accounting quality of financial reporting in Germany.

It seems rational to suppose that GAAP whose aim is to inform investors, exhibit a higher connection with share prices (value relevance) than GAAP aimed at protecting creditors. The majority of empirical research supports this statement. Schiebel (2007) investigates the value relevance of IFRS and German GAAP. Regression analyses are applied to firms which are listed on the Frankfurt Stock Exchange and publishing solely either IFRS or German GAAP merged financial reports over the period 2000-2004. Due to the Regulation (EC) No 1606/2002, comparative research becomes impossible after 2004: German GAAP will no longer exist on European stock exchanges. The specific research is limited to a single capital market because it wants to abolish pricing disparities among capital markets based in different countries; this is consistent with prior research. Improved circumstances for studying value relevance contrasted with previous research are, though, the selection measures for the listed firms (emphasis on global transparency obligations, free float and free float market capitalization) and the share prices used (average price around the end of the fiscal year when the data of financial reporting is not yet published). The conclusion is that German GAAP is importantly more value relevant statistically

than IFRS. These results have to be interpreted according to the selection measures. This result was unexpected.

Guenther, Gegenfurtner, Kaserer, and Achleitner (2009) concentrate on a specific country and keep the institutional framework constant which allows them directly to observe if motivations or IFRS standards were drivers of earnings quality in Germany. The purpose of their research was to estimate consequences of voluntary versus obligatory IFRS adoption on earnings quality. As we have already mentioned, Barth et al. (2008) find more timely loss recognition and less earnings smoothing under IFRS across countries. Their findings are contrasted by Ahmed et al. (2009) who find that income smoothing rises and conditional conservatism declines under IFRS. The results of these studies are not inconsistent with those of Barth et al. (2008) and concentrate on voluntary adopters while results in Ahmed et al. (2009) are originated from mandatory adopters. For voluntary adopters though, as we also have already mentioned, Van Tendeloo and Vanstraelen (2005) find that discretionary accruals are not importantly influenced by IFRS adoption, even though there is a reduction in income smoothing among German companies that voluntarily adopt IFRS. In a following study Christensen et al. (2008) find a reduction in income smoothing and a rise in timely loss recognition for voluntary but not for mandatory adopters among German firms. They suggest that mandatory adopters could recognize only some benefits from a shareholder orientated set of accounting standards and thus avoid costs to transit to IFRS. They assume that, in contrast to voluntary adopters, mandatory adopters did not have motivations to adopt IFRS and also to improve earnings quality. In contrast to prior research, Guenther, Gegenfurtner, Kaserer, and Achleitner find that conditional conservatism rises under IFRS for both groups of adopters. As far as earnings management is concerned, they find a reduction in income smoothing by voluntary, but not for mandatory IFRS adopters, but they find no reduction in accruals under voluntary as in under mandatory IFRS adoption. They assume that this result is justified by the impact of financial market developments and economic cycles rather than IFRS standards or the choice to adopt IFRS voluntarily. Concerning the value relevance of accounting quality, they find no significant improvement for voluntary and mandatory adopters in the post-adoption period. In

general, their results match with prior research but advise that the particular proof depends on the proxies used for earnings quality and that their outcomes on earnings management, measured by income smoothing and accruals, are sensitive to the capital market environment and economic cycles during the adoption process. Finally, this means that proof on earnings quality under IFRS found in prior research should be interpreted carefully.

A research in New Zealand shows that earnings quality is not improved after the adoption of IFRS. This result is opposed to those findings in previous literature (Cuijpers and Buijink 2005, Gassen and Sellhorn 2006, Barth et al. 2008). The specific outcome proposes that the adoption of IFRS is not going to have similar influence in all settings.

This is due to the differences in the institutional framework and the Corporate Governance (CG) of each individual country.

The following table summarizes most of the studies that have been mentioned so far, exhibiting the name of the researchers, the sample or the country and the accounting quality metrics which have been used for each research, and the final results that have arisen from these studies.

<u>RESEARCH PAPER</u>	<u>RESEARCH SAMPLE</u>	<u>QUALITY METRICS</u>	<u>RESULTS</u>
<i>Cai, Rahman, and Courtenay (2008)</i>	32 countries	Earnings management	Earnings management after the adoption of IFRS has been reduced in recent years
<i>Aussenegg, Inwinkl, and Schneider (2008)</i>	17 European countries	Earnings management	Earnings management declines among domestic GAAPs and IFRS. These results vary depending on the legal origin. They conclude that dissimilar measures seem to capture dissimilar dimensions of earnings management
<i>Houqe, Zijl, Dunstan, and Karim (2010)</i>	46 countries around the world	Earnings quality	Earnings quality rises for obligatory IFRS adoption when the system of a country about investor protection provides stronger protection, at least based on the earnings feature

<i>Christensen and Lee (2008)</i>	German firms and Switch firms	Earnings management, and timely loss recognition	Earnings management decreases and timely loss recognition rises after the adoption of IFRS
<i>Hung and Subramanyam (2007)</i>	German firms	Value relevance	The changes under IFRS are value relevant for book value while they are value irrelevant for net profit
<i>Ragaeva (2009)</i>	Russian listed firms	Earnings smoothing and value relevance	Companies which have adopted IFRS experience higher accounting quality, as they reveal less earnings smoothing than RAS companies. She does not find strong proof that the use of IFRS improves value relevance
<i>Paola Paglietti (2009)</i>	Italian firms	Earnings management, timely loss recognition, and value relevance	Accounting quality after the adoption of IFRS diminishes in respect to earnings management and timely loss recognition. However, the tests of value relevance show an improvement of the capability of accounting numbers
<i>Agostino, Drago, and Silipo (2010)</i>	Prices of bank shares in the EU	Value relevance	The value relevance of earnings rose after the adoption of IFRS
<i>Bellas, Toudas, and Papadatos (2008)</i>	Greek firms	Value relevance	Book value of equity is more value relevant under IFRS than under Greek GAAP
<i>Ismail, Dunstan, and Zijl (2010)</i>	Malaysian firms	Earnings management and value relevance	Earnings, reported during the period after the adoption of IFRS, are connected with lower amount of earnings management. Also earnings reported during the post-adoption are more value relevant
<i>Clarkson, Hanna, Richardson, and Thompson (2010)</i>	Europe and Australia (3,488 firms)	Relevance of book value and earnings for equity valuation	The linear pricing models imply a reduction in price relevance for firms in Common Law countries and a rise in price relevance for Code Law countries. The nonlinear impacts do not reveal any change in price relevance for companies in either Code Law or Common Law countries

<i>Barth, Landsman, and Lang (2008)</i>	21 countries around the world	Earnings management, timely loss recognition, and value relevance	Their results exhibit that firms enforcing IAS from 21 countries generally evidence less earnings management, more timely loss recognition, and more value relevance of accounting amounts. They also find that firms enforcing IAS generally evidence an improvement in accounting quality among the pre- and post-adoption periods
<i>Dobija and Klimczak (2010)</i>	Polish firms	Value relevance of earnings	First, the outcomes show that market efficiency and value relevance were attained early, despite possibly insufficient accounting regulations and professional standards of practice. Second, the outcomes show that, once main market institutions are established, further developments in regulation may not lead to noticeable improvements in value relevance
<i>Vanstraelen and Van Tendeloo (2005)</i>	German firms	Earnings management	The adoption of IFRS cannot be connected with lower earnings management
<i>Lin and Paananen (2007)</i>	German firms	Earnings smoothing, timely loss recognition, and value relevance	Accounting quality has got worse over time
<i>Schiebel (2007)</i>	German firms	Value relevance	German GAAP is importantly more value relevant statistically than IFRS
<i>Guenther, Gegenfurtner, Kaserer, and Achleitner (2009)</i>	German firms	Earnings management, and value relevance	Earnings management decreases for voluntary but not for mandatory IFRS adopters. Concerning the value relevance of accounting quality, they find no significant improvement for voluntary and mandatory adopters in the post-adoption period

1.4 The adoption of IFRS in Greece

Greece became a member of the EU in 1981. This fact and the important influences from France on the accounting and commercial law, affected the country and a harmonisation was attained with Western organizations (Ballas, 1994; Ballas et al., 1998). However these countries do not supply strong protection to shareholders and creditors and have the weakest application of laws (La Porta et al., 1998).

The structure of the Greek accounting system is a stakeholder-oriented system, tax-driven (Spathis and Georgakopoulou, 2007) and conservative (Ballas, 1994). This means that Greece is affected by organizational actions. Stakeholders are the parties and institutions that are interested in the success of a firm. Stakeholders include shareholders, management, employees, the greater community, and even the government. Although stakeholders may not have a direct financial holding in the firm, they would still stand to benefit if the firm succeeds. For example, the domestic government may wish to see a firm succeed because it provides tax revenue, even though the domestic government does not directly own any part of the firm. Hence, the differences among the Greek GAAP and IFRS are significant. Greece has the greatest problem in the application of IFRS among the 30 countries, because most of the subjects concerning IFRS are missing from the domestic GAAP (Ding et al., 2007). What's more, Greece holds the 10th place out of 28 countries concerning the deviation from IFRS (Ding et al., 2007; Spathis and Georgakopoulou, 2007).

Deviation is tightly correlated to the distinctive Greek environment (Ding, Jeanjean, & Stolowy, 2005). Furthermore there is a positive connection among deviation and ownership concentration and there is a negative connection among deviation and the equity market (Ding et al., 2007).

Ownership concentration is a specific characteristic of the local market. It is high and corporate owners are involved with the management, so they stimulate and monitor staff easily without incentive methods. Moreover, the lack of financial statements is not a problem in order to communicate with owners (Tzovas, 2006). Hence IFRS demands more disclosures than Greek GAAP does. Consequently, managers try to adopt methods that will reduce taxes, since their position does not lead to an important decrease of costs (Venieris, 1999). Furthermore, stakeholders

desire lower volatile earnings because of the influence of payout preferences (Ball, Kothari, & Robin, 2000).

The Greek accounting system has many similarities to continental European countries. Hence, the IFRS adoption was supposed to offer useful and understandable financial reports, because the low value relevance is characteristic for the continental European countries which have tax manipulated and debt-oriented accounting frameworks (Ali & Hwang, 2000; King & Langli, 1998).

Greece has a distinctive culture and financial reporting system. For instance, Greece has the greatest score for uncertainty avoidance (out of 52) (Hofstede, 1983). Additionally the accounting law is weak (La Porta, Lopez-de-Silanes, Shleifer & Vishny, 1998; Baralexis, 2004) and creative accounting is common (Spathis, 2002; Spathis, Doumpos, & Zopounidis, 2002; Baralexis, 2004). The differences between the Greek GAAP and IFRS are very important and many creative accounting performances which are used widely under Greek GAAP are forbidden under IFRS. Thus, it is easy for someone to understand that Greek firms and their financial statements, would be influenced after the adoption of IFRS. Besides, Leuz, Nanda, and Wysocki (2003) categorize Greece as the country (out of 31) with the greatest earnings management, which means lower accounting quality, and lower audit attempt. This fact is connected with the absence of the Big Four auditors (Price-Waterhouse-Coopers, Ernst & Young, Deloitte & Touche, and KPMG)¹ in Greece (Caramanis and Lennox, 2008). It has come to light that the firms audited by the Big Four have complied with IFRS earlier (and to a larger degree) than firms audited by other auditing firms (Street and Gray, 2002). According to Tsalavoutas (2010), the transition to IFRS positively affected Greek firm and shareholders net income and equity. On the other hand, this change negatively affected the liquidity and the gearing. The fact that the transition to IFRS for the majority of firms led to higher gearing and lower liquidity ratios than might have been expected and became a significant issue for Greek companies which are largely debt-financed, since as pointed out by Aisbitt (2006), such changes to a company's financial positions may have an effect on contractual requirements. Gearing and equity had a major effect on all firms but the effect on liquidity and net income is more pronounced on firms with

non-Big Four auditors. This result is a specific characteristic of the Greek market because of the evidence of lower earnings management for firms with Big Four auditors. These results advocate that the application of IFRS improves the accounting quality of firms.

The Greek stock market was a developed market since 2000 (Mantikidis, 2000). So, the interest in the quality of Greek listed firms was global. Till March 2006, about 50% of the market capitalization was bought by foreign investors. So, the interest in the financial statements of Greek listed companies was not only national but international as well.

Greek listed firms according to the processes of CG are required to publish their quarterly and yearly financial reports. CG was introduced in Greece in 2002. CG is the set of processes, customs, policies, laws, and institutions affecting the way a corporation (or company) is directed, administered or controlled. CG also includes the relationships among the many stakeholders involved and the goals by which the corporation is governed. The principal stakeholders are the shareholders, the board of directors, employees, customers, creditors, suppliers, and the community at large. An important theme of CG is to ensure the accountability of certain individuals in an organization through mechanisms that try to reduce or eliminate the principal-agent problem.

Accounting principles and taxation are connected closely and this bond creates opportunities for earnings management performances and avoidance of tax (Baralexis, 2004; Polychroniadis, 2002; Spathis, 2002; Spathis et al., 2002; Leuz et al., 2003; Caramanis and Spathis, 2006; Burgstahler et al., 2006; Ghikas et al., 2008). Tax evasion is a common phenomenon in Greece. It is estimated that tax evasion comprises almost 0.2% of annual Gross Domestic Product (GDP) in the two months that include the official Greek pre-election period (40 days). This practice is extensive and appears in direct and indirect taxation together, which results in great fiscal losses for the government. However it is generally accepted that it is difficult to perceive variation in tax evasion from low regularity revenue data because important changes in tax codes that take place every few years confuse the distort this issue. Moreover, because tax evasive practices usually increase before elections, and drop significantly

immediately after cancel out to some degree the low regularity data. Added to this the phenomenon of extensive corruption further perplexes matters in Greece. Greece is recognized as one of highest corrupt of EU countries. The anti-corruption watchdog claimed that "Greece's poor score shows that joining the EU does not automatically translate into a reduction in corruption. Immediate and sustained efforts are required to ensure the country lives up to acceptable levels of transparency and accountability".

Banks are the most important suppliers of funds for Greek firms and an alternative choice is the debt-orientated capital markets. (Baralexis, 2004; Tzovas, 2006). The ASE has been regarded as a developed market since 2000 (Mandikidis, 2000). However, it collapsed in the period 2000-2003. By the end of 2006, total market capitalization of €158 million corresponded to 317 listed firms. The ASE's main indices are: FTSE 20, FTSE Mid 40 and Small Cap 80. Foreign investors possessed 52.31% of FTSE 20, 39.80% of FTSE Mid 40 and, 15.63% of Small Cap 80 firms (Central Security Depository, 2006). We may see through these elements that foreign investors are interested only in the larger Greek firms. Moreover, the ASE is brought into line with the International Classification Benchmark (ICB) and Greek firms are set into the 17 'supersectors'. Due to this fact, companies can be compared to similar international areas.

Greek accounting standards are more extensive than IFRS during the interpretation of accounting outcomes (Barth et al., 2008). The application of IFRS is going to limit the hiding of economic losses and the ability of managers to control provisions (Ball, 2006). In accordance to these views, Polychroniadis (2002) found that the shareholder equity would be negatively affected, but the adoption of IFRS would lead to more transparent financial statements.

Generally, according to analysts, the accounting quality is expected to develop in Greece after the enforcement of IFRS. The factors that strengthen this argument are that investors are thought of as the most important operators of accounting reports and also that the new standards will provoke optimism. Specifically, IFRSs concentration on more timely loss recognition of assets and liabilities would help Greek firms to increase their net income and book value of equity. Nevertheless, value relevance may be influenced more significantly by some foundational and social factors than IFRS.

Moreover, according to Barth et al. (2008), "the inherent flexibility in principles-based standards could provide greater opportunity for firms to manage earnings".

In general, prior research has established that firms which mandatorily adopted IFRS experienced forecast accuracy and fostered a quality information environment compared to those firms which adopted IFRS voluntarily or they did not at all. Furthermore, the assurance that the improvement of the quality of information environment is due to the adoption of IFRS, results from the fact that forecast accuracy improves more for firms with accounting treatments that diverge the most from IFRS. (Joanne Horton, George Serafeim, Ioanna Serafeim, 2009).

However, there are at least two reasons why the adoption of IFRS may fail. First, the quality of IFRS may be lower than the local standards. For instance, restraining administrative judgment concerning accounting could reduce a company's ability to mention accounting quantities that offer more insight into the company's financial position. The intrinsic elasticity in principles-based standards could also offer a bigger chance for companies to manage earnings, thus reducing accounting quality. Secondly, besides the standards themselves, the effects of the IFRS characteristics could remove any development in accounting quality resulting from higher quality accounting standards which could happen if the application of IFRS is not strict.

The adoption of IFRS might demand more thoughtful and realistic practices than the usual empirical methods because of the IFRSs' endogenous nature. Research used many indicators such as returns, accounting quality and forecast errors in order to find if the application of IFRS has been indeed valuable to a country and useful to the improvement of the accounting quality.

Chapter 2: Data and Methodology

Chapter 2 presents the data used in our research, and the database from where we found the necessary elements. Chapter 2 also presents the methodology we followed and the accounting quality metrics that were chosen in order to evaluate the effectiveness of the adoption of IFRS in Greece. We exhibit the regression models separately for each accounting quality metric and how the specific models are calculated.

The sample we used in order to find the necessary elements consists of 80 Greek listed firms that adopted IFRS from 2005. The initial sample consisted of 100 Greek listed firms but due to missing data, the final sample is 80 listed firms.

Insert Table 1

The specific firms are those with the biggest capitalization. We excluded the financial sector. We made use of Worldscope database in order to find the particular sample in the years 2003 - 2006. Worldscope recognizes the set of accounting standards a company uses to prepare its financial statements. Panel A of Table 2 presents the listed firms. Panel B of Table 2 presents the sectors companies belong to.

Insert Table 2

Table 3 exhibits descriptive statistics of earnings smoothing, timely loss recognition, and value relevance connecting to the control variables used in our research. Even though the specific descriptive statistics do not control other features, they imply that companies after the adoption of IFRS are less possible to manage earnings in the direction of a goal and more possibly to realize losses in a short period of time. As for the control variables, the companies in the post-adoption period mainly have greater development than they have in the pre-adoption period, but the disparity is not important.

Insert Table 3

We followed Lang, Raedy, and Yetman (2006) and Barth, Landsman, and Lang (2008) when examining our predictions of higher quality of accounting of the firms. We divided our study period into two periods: the pre-adoption period ranging from 2003 to 2004 and the post adoption period ranging from 2005 to 2006. So, following previous research, we investigated three features of accounting quality that are used widely in modern studies, which are earnings management, timely loss recognition, and value relevance.

The experimental metrics of accounting quality that we use in our research mirror the financial reporting system's outcomes. We also incorporated the motivations for companies to apply IFRS and the economic environment. In order to alleviate the outcomes mentioned, when we used the accounting quality metrics concerning the earnings management and the timely loss recognition, we incorporated controls for factors which are recognized from previous research as correlated with company voluntary accounting decisions and controls for economic environment.

There is no specific approach in order to investigate the extent to which this study design characteristically alleviates the outcomes of motivations for companies and the economic environment on the metrics. This conclusion agrees with previous research (Ashbaugh, 2001; Ashbaugh and Pincus, 2001; Lang, Raedy, and Yetman, 2003; Leuz, Nanda, and Wysocki, 2003; Lang, Raedy, and Wilson, 2006; Barth, Landsman, Lang, 2007).

According to Lang, Raedy, and Yetman (2003) and Lang, Raedy, and Wilson (2006), in order to create the sample, it is necessary to determine the adoption year of IFRS of the companies.

After that, in the analyses we contrast accounting quality for the same companies both pre- and post-adoption periods in order to see if the enforcement of the IFRS is connected with greater accounting quality. When we compare the accounting quality of the companies between the two periods, we would be able to notice a significant change or progress in the accounting quality due to the variations in the economic environment of these companies.

According to previous studies (Lang, Raedy, Yetman, 2003; Leuz, 2003; Lang, Raedy, Wilson, 2006; Barth, Landsman, Lang, 2008), the accounting quality metrics we used, are based on cross-sectional data.

Another method according to Dechow (2004), Leuz, Nanda, and Wysocki (2003), is to use a time series of exclusive data of the companies and compare different metrics; but this method was discarded due to the limitation of data. Otherwise we would have had to construct a time series of elements for every company individually which was not possible to do for the pre- and the post-adoption periods. However, if this method were possible, it would have probably result in unreliable inferences due to the few number of elements the metrics would be based on, a fact that would have led to an error.

2.1 Accounting Quality Metrics

2.1.1 Earnings Management

The metrics that we used for earnings management are four. Three of them are used for earnings smoothing and one for managing earnings in the direction of a goal. According to Lang, Raedy, and Wilson (2006) and Barth, Landsman, and Lang (2008), the initial metric for earnings smoothing is supported by the variability of the change in net income scaled by total assets, ΔNI . The operating income that we use does not consist of unexpected objects and other non-operating income. A high variability of earnings is consistent with less earnings smoothing. In spite of this, there is a possibility that change in net income is vulnerable to a range of factors unrelated to the financial reporting system, for example the motivations to apply IFRS and the economic environment. So, in order to have control over other economic factors that influence earnings variability unrelated to the financial reporting system and in accordance with previous literature (Ashbaugh, 2001; Pagano, Roell, and Zechner, 2002; Lang, Raedy, and Yetman, 2003; Tarca, 2005; Lang, Raedy, and Wilson, 2006; Barth, Landsman, Lang, 2008), ΔNI is regressed on a quantity of control variables and the earnings variability metric that we use is the variance of the

residuals from the regression of change in net income. The ΔNI is calculated as follows:

$$\Delta NI_{it} = a_0 + a_1 SIZE_{it} + a_2 GROWTH_{it} + a_3 EISSUE_{it} + a_4 LEV_{it} + a_5 DISSUE_{it} + a_6 TURN_{it} + a_7 CF_{it} + a_8 AUD_{it} + \varepsilon_{it} \quad (1)$$

where:

SIZE: the natural logarithm of total assets;

GROWTH: the percentage change in sales;

EISSUE: the percentage change in common stock;

LEV: the end of year total liabilities divided by end of year shareholders' equity;

DISSUE: the percentage change in total liabilities;

TURN: the sales divided by end of year total assets;

CF^2 : the annual net cash flow from operating activities scaled by total assets;

AUD: a dummy variable that equates one if the entity's auditor is PwC, KPMG, Arthur Andersen, E&Y, or D&T, or else zero;

The equation (1) is calculated by pooling observations in each of the two periods that we examine and contrast the variances of the residuals of the regression for each time period. For instance, when we contrast the companies among the two periods, we combine the experiment years we chose. The variability of this association for ΔNI is the respective variance of residuals for the companies among the two periods.

The second metric for earnings smoothing is depended on the mean ratio of the variability of the change in net income, ΔNI , to the variability of the change in operating cash flows, ΔCF . Companies which have more unstable cash flows also have more unstable net income, and the second metric tries to control for this. When a company uses accruals in order to deal with earnings, the variability of the change in net income comparing to operating cash flows should be at a lower level. There is a possibility that ΔCF , such as ΔNI , may be vulnerable to a variety of features unrelated to the financial reporting system. So, in order to control for economic factors that

influence cash flows variability, ΔCF is regressed on a quantity of control variables such as equation (1), but the dependent variable is ΔCF :

$$\Delta CF_{it} = a_0 + a_1 SIZE_{it} + a_2 GROWTH_{it} + a_3 EISSUE_{it} + a_4 LEV_{it} + a_5 DISSUE_{it} + a_6 TURN_{it} + a_7 CF_{it} + a_8 AUD_{it} + \varepsilon_{it} \quad (2)$$

Like in equation (1), we pool observations that are suitable for the specific comparison. The variability of the change ΔCF is the variance of residuals from equation (2). The outcome of the second metric is the ratio of the variability of ΔNI to the variability of ΔCF .

The third metric for earnings smoothing is the Spearman correlation among cash flows and accruals. Like in the two previous metrics, we contrast correlations of residuals from equations (3) and (4). In order to control for economic factors unrelated to the financial reporting system, like in equations (1) and (2), CF and ACC together are regressed on the control variables, and we run independent regressions, except CF :

$$CF_{it} = a_0 + a_1 SIZE_{it} + a_2 GROWTH_{it} + a_3 EISSUE_{it} + a_4 LEV_{it} + a_5 DISSUE_{it} + a_6 TURN_{it} + a_7 AUD_{it} + \varepsilon_{it} \quad (3)$$

$$ACC_{it} = a_0 + a_1 SIZE_{it} + a_2 GROWTH_{it} + a_3 EISSUE_{it} + a_4 LEV_{it} + a_5 DISSUE_{it} + a_6 TURN_{it} + a_7 AUD_{it} + \varepsilon_{it} \quad (4)$$

In order to estimate ACC , we subtract cash flows from operating income.

The coefficient on small positive net income, $SPOS$, is the metric we use for managing with regard to positive earnings in the regression specified by equation (5). When comparing the companies in the two periods, we calculate the following equation, pooling observations from the sample years.

$$POST(0,1)_{it} = a_0 + a_1 SPOS_{it} + a_2 SIZE_{it} + a_3 GROWTH_{it} + a_4 EISSUE_{it} + a_5 LEV_{it} + a_6 DISSUE_{it} + a_7 TURN_{it} + a_8 CF_{it} + a_9 AUD_{it} + \varepsilon_{it} \quad (5)$$

The indicator variable $POST(0,1)$ equals one for observations in the post-adoption period and zero for observations in the pre-adoption period. $SPOS$ is a binary variable equate to 1 if yearly net income scaled by total assets is among 0 and 0.01 (Lang, Raedy, and Yetman, 2003; Lang, Raedy, and Wilson, 2006; Barth, Landsman, Lang, 2008). A negative coefficient on $SPOS$, reveals that companies manage earnings in the direction of small positive sums more regularly in the pre-adoption period than they do in the post-adoption period.

2.1.2 Timely Loss Recognition

According to Lang, Raedy, and Yetman (2003), Lang, Raedy, and Wilson (2006), and Barth, Landsman, and Lang (2008), timely loss recognition is measured as the coefficient on large negative income, $LNEG$. It is regressed by the equation (6).

While we compare the companies in the two periods, we calculate the following equation pooling observations for these companies from the sample years.

$$POST(0,1)_{it} = a_0 + a_1 LNEG_{it} + a_2 SIZE_{it} + a_3 GROWTH_{it} + a_4 EISSUE_{it} + a_5 LEV_{it} + a_6 DISSUE_{it} + a_7 TURN_{it} + a_8 CF_{it} + a_9 AUD_{it} + \varepsilon_{it} \quad (6)$$

$LNEG$ is binary variable equate to one for observations where yearly net income scaled by total assets is smaller than -0.20, and zero if it is bigger than -0.20. A positive coefficient on $LNEG$, reveals that companies realize great losses more regularly in the post-adoption period than they do in the pre-adoption period.

2.1.3 Value relevance

The test of relative value relevance is based on valuation framework presented by Ohlson (1995), where a company's share price is a function of net income and equity book value together. We regress the residuals from the specific regression, P , on net income per share, $NIPS$, and equity book value per share, $BVEPS$, for the firms in the pre-adoption period and the post-adoption period.

According to Lang, Raedy, and Yetman (2003), Lang, Raedy, and Wilson (2006), and Barth, Landsman, and Lang (2008), to guarantee that accounting information is in public area, P is determined three months after the end of fiscal year. The regression that gives the first metric, which is the adjusted R^2 , is the following:

$$P_{it} = \beta_0 + BVEPS_{it} + \beta_2 NIPS_{it} + \varepsilon_{it} \quad (7)$$

where:

P : the market price per share three months after end of fiscal year t of company

$BVEPS$: book value of shareholder's equity per share

$NIPS$: net income per share

ε_{it} : the other value-relevant information of company i in year t

The regression model's R^2 signifies the power of the connection among the respective accounting variables and stock price. I.e., R^2 explains what percentage of the variability of the dependent variable is explained by the variability of independent variables. Adjusted R^2 matters if a model has more than one independent variable, and gives a penalty in R^2 and reduces it.

Chapter 3: Results

Chapter 3 presents the final results between the pre-adoption period and the post-adoption period. Also, the specific chapter refers to the interpretation of these results.

Table 4 illustrates the results of accounting quality among the pre- and the post-adoption periods. The change in variability of net income (ΔNI) rises considerably from the pre- to the post-adoption period, which is consistent with decreased earnings management. The change in variability of net income relative to the variability of cash flows from operations ($\Delta NI/\Delta CF$) among the pre-adoption and the post-adoption periods increases significantly. That is also proof of decreased earnings management. The negative correlation among accruals (ACC), calculated as operating income minus cash flows from operations scaled by total assets, and cash flows (CF) is also reduced in the post-adoption period, which is also a sign of decreased earnings management. These changes are all statistically significant at the 5% level (p-values < 0.01). The coefficient on small positive net income ($SPOS$) in the regression of equation (5) is negative, a fact that is consistent with less earnings management in the direction of a goal in the post-adoption period had it been statistically significant (p-value 0.00). These outcomes are consistent in the direction with those reported in previous research (Barth, Landsman, Lang; 2008). The significantly positive coefficient on $LNEG$ in the equation (6) implies that companies are more likely to recognize great losses in the post-adoption period than in the pre-adoption period even though this result is not statistically significant (p-value 0.4317). This fact is connected with the control variables. The precise result shows that companies in the pre-adoption period postpone the outcomes of large negative results in order to smooth earnings. Particularly, a possible explanation for the exact outcome of both $SPOS$ and $LNEG$ in the pre-adoption period is that managers smooth away from great negative earnings and in the direction of small positive net income. This fact concludes in less timely loss recognition of losses. So, the specific outcomes provide evidence of a decrease in earnings management and an increase in the timeliness of loss recognition after the adoption of IFRS.

The value relevance test is measured in terms of the capability of accounting quantities to justify stock prices. Contrary to our predictions, the adjusted R^2 decreases in the post-adoption. This implies that the accounting quality worsens after the adoption of IFRS.

Insert Table 4

The descriptive statistics on the control variables propose that there is a rise in growth among the pre-adoption period and the post-adoption period, but the disparity is not important. Moreover, companies after the enforcement of IFRS are more likely to issue equity (median but not mean disparity is important), and issue debt (mean but not median disparity is important). This could be probably connected to the fact that firms after the adoption of IFRS are less capital market oriented and more dependent on debt in the post-adoption period. Furthermore, companies are less highly levered (mean but not median disparity is important). There is an increase in the asset turnover (*TURN*) among the two periods. The cash flow from operations increased among the pre-adoption period and the post-adoption period due to the improved economic conditions in the post-adoption period. In addition, companies are more likely to be audited by one of the large auditing firms. Finally, the size of the sample firms increases importantly between the two periods. This is associated to the fact that in the pre-adoption period there was an importantly lesser frequency of reporting of large negative earnings.

The outcomes that are exhibited in table 4, as we have already mentioned, arise from the comparison of the quality of accounting sums in the pre-adoption period and in the post-adoption period. According to these results, Greek companies in the post-adoption of IFRS demonstrate less earnings management, more timely loss recognition, but less value relevance of accounting sums than they do in the pre-adoption period.

The first result relating to earnings management points out that variability of change in net income rises significantly from 0.0016 to 0.0036. This disparity of residual variances of 0.0020 denotes 56 percent of the entire variance of the change in

net income, ΔNI^* ($0.0020/0.06^2$), and about 77 percent of the residual variance ($0.0020/0.0026$), using the average among the two residual variances. The second result is in accord with the first. It shows that the ratio of the variance of the change in net income, ΔNI^* , relative to the variance of the change in cash flows, ΔCF^* also rises notably from 0.0010 to 0.0030. The correlation among accruals and cash flows in the post-adoption period, -0.1248, is less negative than in the pre-adoption period, -0.3208. In the same way, as showed by the *SPOS* coefficient of -0.2428, the regularity of small positive net income reduces after the adoption of IFRS. As far as timely loss recognition is concerned, as indicated by *LNEG* coefficient of 7.6861, the regularity of large negative net income is greater in the post-adoption period than in the pre-adoption period.

Finally, the very last result, which is exhibited in table 4, is about value relevance of accounting sums. The adjusted R^2 for companies in the pre-adoption period, 0.8851, is considerably greater than the one in the post-adoption period, 0.6252. We can observe this result through the regressions of price on equity book value and net income for the two periods. We are also able to see through these regressions that the coefficients on equity book value and net income are considerably positive for the two periods but both of them are greater in the pre-adoption period.

Insert Table 5 and 6

Chapter 4: Conclusion

Chapter 4 highlights some important elements with regard to IFRS and the results that have arisen from other studies. Particularly, it refers to the purpose of the specific study, the sample and the accounting quality metrics that were used to evaluate the effectiveness of the adoption of IFRS, and the final results of the research.

The European Union (EU) demanded that all public firms adopt International Financial Reporting Standards (IFRS) by 1st January 2005. IFRS, which are recognised worldwide as the most reliable international accounting standards, are guidelines and rules that companies and organizations can follow when compiling financial statements. More than one hundred countries have formally adopted IFRS until 2008. At first they were called International Accounting Standards (IAS) which are standards for the preparation and presentation of financial statements created by the International Accounting Standards Committee (IASC). They were first written in 1973 and applied until the International Accounting Standards Board (IASB) took over their creation in 2001. Prior to 2005, most of the firms applied the local accounting standards. This study compares how the accounting quality of Greek firms is influenced by the adoption of IFRS, using a sample of 80 Greek listed firms which adopted IFRS in 2005. The intention of this research is to investigate if IFRS lead to accounting quality improvements. The periods are separated into the pre-adoption period which includes the years from 2003 to 2004 and the post-adoption period which includes the years from 2005 to 2006. In particular, we examine if there is a change in accounting quality during these two time periods as IASB improves IAS which already exist and issues new IFRS to create a set of high quality international accounting standards for worldwide financial reporting target. Following previous studies, the metrics we use in order to operationalize accounting quality are earnings smoothing, timely loss recognition, and value relevance. According to prior literature, the findings about the firms applying IFRS are that they face less earnings management, more timely loss recognition, and more value relevance of accounting sums than firms that do not apply IFRS. Specifically, firms enforcing IFRS have a

greater variance in the change in net income, less negative correlation among accruals and cash flows, greater regularity of large negative net income, and greater value relevance of net income and equity book value for share prices, with very important differences. They also have a greater proportion of the variances in change in net income and change in cash flow, lesser regularity of small positive net income, and greater value relevance of net income for stock returns. But these discrepancies are not so important. Consistent with prior research we find that earnings management decreases and timely loss recognition rises after the adoption of IFRS. But contrary to our predictions, we find that value relevance diminished after the adoption of IFRS. Our results consistently show that accounting quality of Greek firms concerning earnings management and timely loss recognition has improved after the adoption of IFRS, but value relevance the accounting quality has worsened in the post-adoption period.

Footnotes

¹The Big Four are the four largest international accountancy and professional services companies, which handle the huge majority of audits for publicly traded firms as well as many private companies, creating an oligopoly in auditing large companies. This group was once known as the "Big Eight", and was reduced to the "Big Five" by a series of mergers. The Big Five became the Big Four after the near-demise of Arthur Andersen in 2002, following its involvement in the Enron scandal.

²Because of not-available data the years before the adoption of IFRS, we calculated CF using the following way:

EBITDA-Change in accounts receivable-Changes in inventories+Change in accounts payable

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APPENDIX**Table 1**

Sample Selection Process

	Firms
From Worldscope	100
Excluded observations due to missing data	<u>-20</u>
Total sample	80

Table 2

Descriptive Statistics Relating to Application of IFRS

Panel A: Listed Firms

<u>FIRM'S NAME</u>	<u>SHARE'S CODE</u>
COCA COLA HBC	EEK
JUMBO SA	ΜΠΕΛΑ
HELLENIC TELECOM ORG	ΟΤΕ
OPAP S.A.	ΟΠΑΠ
VIOHALCO COPPER & AL	ΒΙΟΧΚ
PUBLIC POWER CORP	ΔΕΗ
ELLAKTOR SA	ΕΛΛΑΚΤΩΡ
HELLENIC PETROLEUM	ΕΛΠΕ
MOTOR OIL	ΜΟΗ
TITAN CEMENT CO	ΤΙΤΚ
INTRALOT S.A.	ΙΝΛΟΤ
MITILINEOS HOLDING	ΜΥΤΙΑ
FOLLI- FOLLIE S.A.	ΦΟΛΙ
FORTHNET SA	ΦΟΡΘ
FOURLIS SA	ΦΡΛΚ
FRIGOGLASS S.A.	ΦΡΙΓΟ
ELVAL - HELLENIC	ΕΛΒΑ
ATHENS WATER SUPPLY	ΕΥΔΑΠ
ATHENS MEDICAL CNTR	ΙΑΤΡ
INTPACOM HOLDINGS	ΙΝΤΚΑ
MICHANIKI	ΜΗΧΚ
HELLENIC DUTY FREE	ΚΑΕ
METKA SA	ΜΕΤΚ
J. BOUTARIS & SON SA	ΜΠΟΚΑ
GR SARANTHS S.A.	ΣΑΡ
SIDENOR SA	ΣΙΔΕ
HALCOR METAL WORKS	ΧΑΚΟΡ
ALAPIS S.A.	ΑΛΑΠΙΣ
J & P AVAX SA	ΑΒΑΞ
AUTOHELLAS SA	ΟΤΟΕΛ
BYTE COMPUTER SA	ΒΥΤΕ
CYCLON HELLAS SA	ΣΑΙΚΛ
EURODRIP	ΕΔΡΙΠ
FLEXOPACK SA	ΦΛΕΞΟ
INFO-QUEST SA	ΚΟΥΕΣ
INFORM LYKOS	ΛΥΚ
EVROFARMA SA	ΕΒΡΟΦ
KLEEMAN HELLAS SA	ΚΛΕΜ
LAVIPHARM SA	ΛΑΒΙ
LAMBRAKIS PRESS S.A.	ΔΟΛ
MLS MULTIMEDIA SA	ΜΛΣ
NEXANS HELLAS SA	ΑΛΚΑΤ
RILKEN S.A.	ΡΙΛΚΕ

SCIENS INTERNATIONAL	ΣΙΕΝΣ
SPRIDER STORES SA	ΣΠΡΙ
VELL GROUP SA	ΒΕΛΛ
YALCO - CONSTANTINOU	ΥΑΛΚΟ
ALOYMIL-MILONAS ALUM	ΑΛΜΥ
VARDAS SA	ΒΑΡΔΑ
VOGIATZOGLOU SYS	ΒΟΣΥΣ
DIAS AQUA CULTURE	ΔΙΧΘ
DOMIKI KRITIS SA	ΔΟΜΙΚ
EKTER SA	ΕΚΤΕΡ
HELLENIC SUGAR IND.	ΕΒΖ
ELASTRON S.A.	ΕΛΣΤΡ
ELVE SA	ΕΛΒΕ
ELGEKA SA	ΕΛΓΕΚ
HELLENIC CABLES	ΕΛΚΑ
ELTON SA	ΕΛΤΟΝ
ETEM LIGHT METALS	ΕΤΕΜ
ELINOIL S.A.	ΕΛΙΝ
ILEKTRONIKI ATH	ΗΛΕΑΘ
IKTINOS HELLAS SA	ΙΚΤΙΝ
INTERTECH S.A.	ΙΝΤΕΤ
KARELIA TOBACCO CO	ΚΑΡΕΛ
KAPATZI SA	ΚΑΡΤΖ
KLONATEX GROUP	ΚΛΩΝΚ
SFAKIANAKIS SA	ΣΦΑ
HAIDEMENOS SA	ΧΑΙΔΕ
PEGASUS PUBLISHING	ΠΗΓΣ
THRACE PLASTICS SA	ΠΛΑΘ
SELMAN HELLENIC	ΣΕΛΜΚ
STELIOS KANAKIS S.A.	ΚΑΝΑΚ
TECHNICAL OLYMPIC SA	ΟΛΥΜΠ
MINOAN LINES SA	ΜΙΝΟΑ
NEORION HOLDINGS	ΝΕΩΡΣ
NIREFS AQUACULTURE	ΝΗΡ
KIRIACOULIS SHIPPING	ΚΥΡΙΟ
KTIMA KOSTAS LAZ	ΚΤΗΛΑ
PETROS PETROPOULOS	ΠΕΤΡΟ

Table 2

Descriptive Statistics Relating to Application of IFRS

Panel B: Industry Specialization

Beverages	3
Chemicals	3
Construction and Materials	9
Electricity	1
Electronic and Electrical Equipment	1
Financial Services (Sector)	1
Fixed Line Telecommunications	1
Food Producers	6
Gas, Water and Multiutilities	1
General Industrials	3
General Retailers	6
Health Care Equipment and Service	1
Household and Home Constructions	4
Industrial Engineering	5
Industrial Metals and Mining	7
Leisure Goods	1
Oil and Gas Producers	2
Personal Goods	5
Pharmaceuticals and Biotechnology	2
Software and Computer Services	4
Support Services	3
Technology Hardware and Equipment	3
Tobacco	1
Travel and Leisure	5
Total	80

Table 3

Descriptive Statistics Relating to Variables used in Analyses

Test Variables	Pre-adoption period			Post-adoption period		
	Mean	Median	Standard Deviation	Mean	Median	Standard Deviation
<i>ΔNI</i>	0.01	0.00	0.06	0.00	0.00	0.06
<i>ΔCF</i>	-0.25	-0.02	1.12	-0.16	-0.01	2.23
<i>ACC</i>	0.01	0.02	0.13	0.03	0.03	0.20
<i>CF</i>	0.04	0.03	0.10	0.07	0.05	0.10
<i>SPOS</i>	0.53	0.00	0.50	0.53	0.00	0.50
<i>LNEG</i>	0.53	0.00	0.50	0.53	0.00	0.50
<i>P</i>	4.94	2.70	7.50	6.59	3.33	10.94
<i>BVEPS</i>	1.30	1.29	2.01	2.11	1.24	3.09
<i>NIPS</i>	0.37	0.15	0.98	0.43	0.17	1.42
Control Variables						
<i>SIZE</i>	5.25*	5.28	0.63	5.34	5.35	0.65
<i>GROWTH</i>	0.10	0.07	0.28	0.11	0.08	0.30
<i>LEV</i>	1.72*	1.43	16.12	1.09	1.42	16.05
<i>EISSUE</i>	0.12	0.05*	0.33	0.13	0.08	0.39
<i>DISSUE</i>	0.12*	0.10	0.31	0.25	0.13	0.99
<i>TURN</i>	0.89	0.77*	0.71	0.93	0.83	0.67
<i>CF</i>	0.04	0.03	0.10	0.06	0.04	0.10
<i>AUD</i>	0.35	0.00	0.48	0.38	0.00	0.49

* Significantly different among the pre- and the post-adoption periods

ΔNI is the change in annual earnings scaled by total assets

ΔCF is the change in cash flow from operating activities scaled by total assets

ACC is operating income less cash flow from operating activities scaled by total assets

SPOS is a dummy variable that equals 1 for observations with annual earnings scaled by total assets among 0.00 and 0.01, and 0 otherwise

LNEG is a dummy variable that equals 1 for observations with annual earnings scaled by total assets less than -0.20, and 0 otherwise

P is the market price per share three months after end of fiscal year *t* of company

BVEPS is book value of shareholder's equity per share

NIPS is net income per share

SIZE is the natural logarithm of total assets

GROWTH is the percentage change in sales

LEV is the end of year total liabilities divided by end of year shareholders' equity

EISSUE is the percentage change in common stock

DISSUE is the percentage change in total liabilities

TURN is the sales divided by end of year total assets

CF is the annual net cash flow from operating activities scaled by total assets

AUD is a dummy variable that equates one if the entity's auditor is PwC, KPMG, Arthur Andersen, E&Y, or D&T, or else zero;

Table 4

Comparison of Firms' Accounting Quality in the Pre- and the Post-Adoption Periods

Panel A:			
<u>Earnings management</u>			
<u>Metric</u>	Prediction	PRE N=80	POST N=80
Variability of ΔNI^*	PRE<POST	0.0016	0.0036*
Variability of ΔNI^* over ΔCF^*	PRE<POST	0.0010	0.0030
Correlation of ACC^* and CF^*	PRE<POST	-0.3208	-0.1248
Small positive NI ($SPOS$)			-0.2428
Panel B:			
<u>Timely Loss Recognition</u>			
<u>Metric</u>		PRE N=80	POST N=80
Large negative NI ($LNEG$)			7.6861 [#]
Panel C:			
<u>Value relevance</u>			
	Prediction	PRE N=80	POST N=80
Regression adjusted R^2			
Price	PRE>POST	0.8851	0.6252

*Significantly different among the pre- and the post-adoption periods

[#]Significantly different from zero

ΔNI^* is the variance of residuals from a regression of the ΔNI on the control variables.

ΔCF^* is the variance of residuals from a regression of the ΔNI on the control variables.

Variability of ΔNI^* over ΔCF^* is the ratio of ΔNI^* divided by ΔCF^* .

Correlation of ACC^* and CF^* is the partial Spearman correlation among the residuals from the ACC and CF regression.

$SPOS$ is a dummy variable taking on the value 1 for observations for which the annual earnings scaled by total assets is between 0 and 0.01, and 0 otherwise.

$LNEG$ is a dummy variable taking on the value 1 for observations for which the annual earnings scaled by total assets is less than -0.20, and 0 otherwise.

The regression is $P_{it} = \beta_0 + \beta_1 BVEPS_{it} + \beta_2 NIPS_{it} + \varepsilon_{it}$ where P is the market price per share three months after end of fiscal year t of company, $BVEPS$ is book value of shareholder's equity per share, and $NIPS$ is net income per share.

Table 5

Regression of Price (P) on Book Value of Shareholder's Equity Per Share ($BVEPS$)
and Net Income Per Share ($NIPS$) in the pre-adoption period

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.255489	0.286392	4.383811	0.0000
<i>BVEPS</i>	<i>0.619656*</i>	0.101706	5.805144	0.0000
<i>NIPS</i>	<i>6.902238[#]</i>	0.208884	33.04342	0.0000
<i>R-squared</i>	<i>0.886587</i>	Mean dependent var		4.938601
<i>Adjusted R-squared</i>	<i>0.885124</i>	S.D. dependent var		7.506568
S.E. of regression	2.544228	Akaike info criterion		4.724337
Sum squared resid	1003.330	Schwarz criterion		4.782487
Log likelihood	-370.2226	F-statistic		605.8456
Durbin-Watson stat	0.688534	Prob(F-statistic)		0.000000

The regression model's R^2 signifies the power of the connection among the respective accounting variables and stock price. I.e., R^2 explains what percentage of the variability of the dependent variable is explained by the variability of independent variables. Adjusted R^2 matters if a model has more than one independent variable, and gives a penalty in R^2 and reduces it.

*The coefficient of $BVEPS$ in the pre-adoption period

[#]The coefficient of $NIPS$ in the pre-adoption period

Table 6

Regression of Price (P) on Book Value of Shareholder's Equity Per Share ($BVEPS$)
and Net Income Per Share ($NIPS$) in the post-adoption period

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.747937	0.653998	4.201753	0.0000
<i>BVEPS</i>	<i>0.590420*</i>	0.172830	3.585345	0.0004
<i>NIPS</i>	<i>5.827581[#]</i>	0.375885	15.50363	0.0000
<i>R-squared</i>	<i>0.629977</i>	Mean dependent var		6.588813
<i>Adjusted R-squared</i>	<i>0.625263</i>	S.D. dependent var		10.93973
S.E. of regression	6.696841	Akaike info criterion		6.659721
Sum squared resid	7041.086	Schwarz criterion		6.717380
Log likelihood	-529.7777	F-statistic		133.6488
Durbin-Watson stat	1.870122	Prob(F-statistic)		0.000000

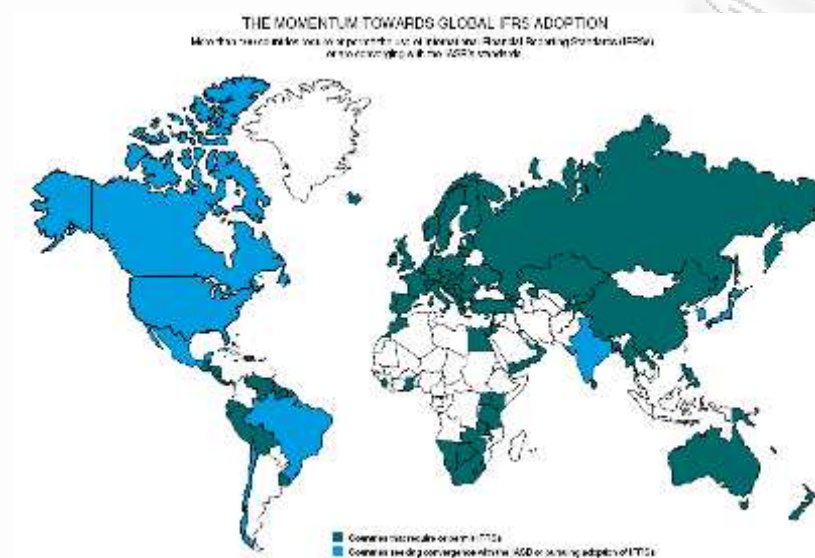
The regression model's R^2 signifies the power of the connection among the respective accounting variables and stock price. I.e., R^2 explains what percentage of the variability of the dependent variable is explained by the variability of independent variables. Adjusted R^2 matters if a model has more than one independent variable, and gives a penalty in R^2 and reduces it.

*The coefficient of $BVEPS$ in the post-adoption period

[#]The coefficient of $NIPS$ in the post-adoption period

Figure 1

The countries which have already adopted IFRS and the countries which are going to adopt IFRS in the near future



The Momentum Towards Global IFRS Adoption (Source: The Journal of the IASB and the IASC Foundation, Insight Newsletter, Q3, 2007)