ISSN: 2755-0214

Journal of Economics & Management Research

SCIENTIFIC Research and Community

Review Article

Open Access

Exploring Financial Motives for Earnings Management in the Economic Crisis. Evidence from Greek and German Listed Companies

Sotirios Rouvolis

Ministry of Finance, Athens, Greece

ABSTRACT

The study examines the impact of economic crisis and focuses on the reasons for cases of earnings management. More specifically, it analyses whether executive compensation, analysts' forecasts and violation of debt covenants are important motives for accounting fraud. It also examines whether voluntary disclosure of financial information could improve the quality of financial information or confuse investors.

The paper examines listed companies in the Greek and German stock markets from 2007 to 2009 to find out how these two economies reacted after the introduction of IFRS. Thus, it would be interesting to find out whether Germany, a strong EU economy, was able to eliminate earnings management motives, as most would predict, while also examining whether Greece, a weak economy, was able to achieve similar results.

The results of the study provide useful insights as they confirm that companies that provide additional accounting disclosures perform better in both countries. However, the remaining results suggest that credit covenant violations, executive compensation and bonuses, and analyst forecasts remain strong motivators for earnings management in both countries studied. In this order, it seems that IFRS need to introduce and maintain improved mechanisms to overcome such phenomena.

***Corresponding author**

Sotirios Rouvolis, Ministry of Finance, Athens, Greece.

Received: November 25, 2024; **Accepted:** November 27, 2024; **Published:** December 10, 2024

Keywords: IFRS, Earnings Management, Executives Compensation, Debt Covenants, Analysts' Forecasts, Volunteer Accounting Disclosure

Introduction

Companies operate in a dynamic and changing environment and often have to fulfil conflicting interests. In some cases, they tend to adopt practices that manipulate their financial picture [1]. Earnings management is a tool used by managers to manipulate financial reports with the aim of misleading stakeholders and investors about a company's economic performance [2]. This involves not only artificially increasing or decreasing revenues, profits or earnings, but also the use of questionable revenue recognition techniques, inappropriate accruals and estimates of liabilities, the creation of excessive provisions, over-generous reserves and much more. Of course, managers have many tools at their disposal to carry out these intentions, as they have access to information that is not available to outsiders.

In fact, there seem to be several common reasons for the motives behind earnings management. For example, firms might engage in earnings management to gain access to capital providers, to increase their debt options on better terms, or to avoid breaching contractual obligations [3]. Similarly, companies may have a significant incentive to meet analysts' earnings estimates in order to increase their stock performance [4]. Meeting or even exceeding analysts' estimates is an important goal that must be met for the status and prosperity of the company. This increases the performance of the shares, which means better credit conditions and higher bonuses for the managers. On the other hand, many companies seem reluctant to disclose voluntary information that reflects their actual economic performance. They provide additional information to explain their financial decisions, clarify possible points of contention and much other explanatory information. In this way, they reduce uncertainty and information asymmetry for investors, which improves financing opportunities, reduces market uncertainty and leads to higher stock returns [5].

Although many countries outside the European Union (EU) have also adopted IFRS, such as Canada, China, and Malaysia, studies continue to yield mixed results. Some studies suggest that IFRS adoption increases earnings management, while others argue that the accounting quality under IFRS is higher due to strong enforcement [6-7]. Hence, the impact of IFRS implementation remains a contemporary issue, as indeed the results of the analysis suggest that the publication and citation trends of the interplay of the IFRS and earnings management fields show an upward trend over time [8].

The study aims to contribute to the existing literature by examining the relationship between motives for earnings management and IFRS during a crisis. It is crucial for all countries implementing IFRS to understand whether IFRS has reduced motives for earnings management during a crisis. Therefore, this paper explores the motives for earnings management and investigates whether these motives have been eliminated under IFRS, considering the impact of a crisis as a determining factor.

In this way, the study focuses on Greek and German listed companies to determine whether the cases of earnings management and accounting fraud have decreased after the introduction of IFRS. The study focuses on these two countries for two reasons. First, because both countries used to have the same low level accounting system, and second, because Greece is one of the weakest economies in the EU, while Germany is the strongest. Overall, the paper aims to critically examine and observe the relationship between voluntary financial reporting disclosure, credit covenant violations, executive compensation, financial analysts' forecasts and earnings management after the adoption of IFRS and during the 2008 financial crisis. For this reason, the paper examines the period from 2007 to 2009 to add an additional variable to IFRS adoption, namely the impact of the financial crisis.

The structure of the paper is as follows. Section 2 reviews the literature, section 3 discusses the research hypotheses and tests, section 4 refers to the data set and descriptive statistics, section 5 discusses the empirical results and section 6 presents the conclusions of the study.

Literature Review

The Pros and Cons of Implementing IFRS

The implementation of International Financial Reporting Standards (IFRS) has been a significant regulatory change in recent years. Numerous studies suggest that adopting IFRS has a positive impact on firms [9]. Companies that adopt IFRS tend to exhibit improved information transparency and better investment opportunities [10,11]. This is particularly true for companies operating in environments with lower quality information [12].

Moreover, firms that adopt IFRS experience higher-quality and more timely management information. The adoption also leads to greater harmonization and streamlining of internal and external reporting. As a result, IFRS adopters show less evidence of earnings smoothing and managing their earnings towards a target [13]. They also demonstrate more timely recognition of losses and a stronger association with share prices [14]. Overall, the introduction of IFRS has improved firms' balance-sheet values and financial ratios.

However, there are also some drawbacks to consider. Early indications suggest that IFRS may not provide sufficient information to users and investors, calling for the need to offer more incremental information [15]. Some studies even argue that there are no significant improvements in accounting figures after the adoption of IFRS. Additionally, there have been cases of high earnings management during the transition period from the old Generally Accepted Accounting Principles (GAAP) to IFRS [16]. Furthermore, the adoption of IFRS has been associated with an increase in discretionary accruals, indicating an increase in earnings management by firms. This raise concerns that high-quality standards alone may not be effective without strong investor protection laws and rights [17].

Motives for Earnings Management

Earnings management has never been a simple process. On the contrary, it requires serious consideration and forecasting of all possible outcomes, as a slight deviation from the original plan could have devastating consequences. Due to the extreme financial conditions that have prevailed in recent years, some governments have imposed additional taxes on companies based on their revenues. In this order, many managers have tried to smooth their earnings to avoid paying these additional taxes. On the other hand, companies needed additional liquidity due to this difficult social and economic environment. But by hiding their profits, it proved extremely difficult for them to borrow. There are many similar cases in the global economic literature that suggest that companies need to find a point of equilibrium where the advantages of earnings management outweigh the disadvantages. The literature focuses on the following cases.

Contractual Motivations

The theory distinguishes two contractual cases that may be of interest for earnings management techniques: managerial compensation and debt obligations. Both provide fertile ground for research. Indeed, several studies have examined managers' compensation contracts to identify potential incentives for earnings management. In most cases, managers receive additional bonuses based on reported earnings. The literature suggests that managers are likely to manipulate firms' earnings when earnings targets have not been met in order to receive the maximum allowable bonuses [18].

Although assumed that these results could be methodological effects of the studies, went a step further and discovered that it is crucial for managers to stay between the lower and upper limits set by the bonus plan [19,20]. Thus, they showed that companies with a cap on bonus awards were more likely to engage in earnings management to avoid exceeding the bonus cap than companies that did not have a bonus cap. However, these studies did not provide any indication of which provisions were most likely to be managed. More recent studies from this period confirmed this correlation between earnings management and bonuses, arguing that executives behave in this way to enhance their reputation, career prospects and job security [21].

In terms of debt contracts, the theory suggests that companies manipulate their finances to avoid this violation. Early studies argue that companies prefer to meet the dividend constraint simply by cutting dividends rather than resorting to accruals [22]. However, debt is a key determinant of a company's performance and violating it can lead to several negative problems. It increases the volatility of accounting measures and ratios, such as liquidity, worsens the economic condition of the company and may even lead to bankruptcy [23]. In addition, it becomes more difficult for the company to obtain financing as the conditions for financing are more onerous [24]. It will also send a negative signal to the company's performance, affecting both the company's stock behaviour and the managers' reputation.

The literature assumes that firms have enormous incentives to avoid breaching a loan covenant, including through earnings management. studied a sample of firms that had violated their loan covenants [25]. DeFond and Jiambalvo (1994) found that firms smoothed their earnings a year before the breach, while Sweeney (1994) found that firms increased their earnings only after the breach. Many consider this evidence inconsistent, but in my professional experience, managers tend to engage in earnings management long before the breach if the company has recently experienced financial difficulties or is on the verge of doing so. In this case, Sweeney (1994) examined companies' intentions to reduce the likelihood of future covenant breaches rather than to avoid the previous breach [26]. She also found that the incidence of using earnings management for credit covenant reasons was low in a random sample, but this was a generalisation as she focused only on firms that had violated credit covenants.

So, it seems that credit covenants are a crucial factor as more and more studies suggest that the main economic function of financial

reporting should be to help creditors Not only do creditors pay close attention to financial reporting figures, but they have also begun to introduce additional control methods to counteract managers' incentives to manipulate their reports. More specifically, they go beyond the traditional methods of measuring the health and profitability of a business [27]. Banks tend to require more guarantees on loans by excluding intangible assets and including goodwill in the net asset base of corporate borrowers provided evidence from the UK and argued that lenders require information such as profit and loss accounts and cash flow statements in addition to balance sheet figures in order to reduce any impact of earnings management [28-30].

Capital Market Motivations and Analysts' Forecasts

The literature suggests that managers may engage in earnings management to influence short-term stock price performance and consider what would be profitable for the company and how it could do so. As discussed earlier, enhancing market value has many benefits, particularly around capital market events such as takeovers, share offerings and IPOs. In such cases, managers overestimate or underestimate returns to achieve their goals, using a variety of methods [31]. However, the studies from this period have not provided convincing evidence on financial account management. Only a few researchers, such as found that companies followed depreciation and debt amortisation policies that affected the firm's earnings in the year of the IPO and in several subsequent years [32]. Nevertheless, many questions were raised about the sample selection of these authors as it seemed to maximise the likelihood of detecting earnings management.

Other studies focused on banking and insurance companies and examined cases that could relate to critical assets and liabilities. Some of them found that loan loss reserves in banks depend on management judgement and thus could be used for earnings management purposes. However, other studies found no clear evidence to support this view [33,34]. On the other hand, studies examining the claims reserves of casualty insurers found evidence of profit management, but were not clear on whether this should influence stock market performance [35]. Closely related to market performance are analysts' forecasts, which have been used in many studies to assess the quality of IAS. However, this also seems to be a motivation for earnings management. Early studies could not find a significant correlation between future returns and analysts' forecasts but in my work experience, a company's market performance always increases when it announces earnings that meet or exceed analysts' consensus estimates [36].

have indeed found that such firms achieve higher stock returns, about three percent more per quarter than similar firms that do not meet analysts' estimates. Companies are therefore under enormous pressure to meet these expectations, even if they have to resort to earnings management [37]. Several studies confirmed this opinion and provided evidence that many firms would make provisions to increase their earnings if they were at risk of not meeting analysts' financial forecasts [38-40]. On the other hand, many felt that earnings management was of no use in any case, as they questioned the characteristics and accuracy of analysts' estimates. Who wanted to extend study, concluded that analysts are not able to present all financial statement information in their reports [41]. This is of course quite normal, as analysts do not have access to the financial data of companies. Nevertheless, it remains a disadvantage as investors may not fully utilise the considerations in their reports [42]. However, there is evidence that earnings manipulation can lead to opposite results. For example, in studies of equity issues as described earlier, firms with earnings smoothing activities performed worse [43]. Thus, it seems that earnings management is related to stock market performance, as companies can attract investors and improve their market performance by increasing their earnings. However, no evidence was found for the opposite effect, that managers could speculate on market prices and thus improve a company's financial position.

Voluntary Accounting Disclosures

Given the motives for earnings management described in the previous sections, many firms make voluntary disclosures about financial reporting in order to reduce ambiguities arising from such motives. In this way, they aim to provide their stakeholders with more detailed information about the company's operations and financial data. Although the information and extent of disclosures vary from company to company, the literature suggests that this is an important step in reducing information asymmetry [44]. Early results suggest that not only information asymmetry is reduced but also market liquidity is increased when the level of disclosure is increased [45]. In addition, firms with more analytical disclosure policies would have more accurate earnings forecasts and less dispersion between individual analyst forecasts, while receiving concentration from more analysts [46]. Thus, it appears that analysts favour firms that provide voluntary accounting disclosures more than firms that report the minimum required information [47].

However, many researchers point out that voluntary disclosures provide a more optimistic view of company performance by withholding non-desirable issues [48]. Companies are unwilling to disclose information that damages their financial image, but they tend to disclose positive information by concealing negative facts that could damage their market image [49]. In addition, research suggests that companies with more conservative accounting estimates and methods tend to disclose more information even though they are not required to do so.

Overall, it appears that not many studies have examined the significance of voluntary disclosures under IFRS. Many should have assumed that investors would have all the necessary information under IFRS. However, it appears that in many cases managers do not have an incentive to increase their disclosures as this could reduce the effectiveness of their earnings management capabilities. In this way, limiting information symmetry between management and shareholders is a necessary condition for reducing earnings management, even under IFRS. For this reason, the paper aims to investigate this relationship, as there are few studies that have attempted to answer this question. In this way, we are able to determine not only the effectiveness of voluntary information in preventing earnings smoothing, but also how this additional information has helped companies to overcome any crisis effects. However, many researchers point out that voluntary disclosures provide a more optimistic view of company performance by withholding undesirable issues. Companies are unwilling to disclose information that is detrimental to their financial image, but they tend to disclose positive information by withholding negative facts that could damage their market image. In addition, research suggests that companies with more conservative accounting estimates and methods tend to disclose more information even though they are not required to do so.

Research Hypotheses and Tests

Earnings Management and Debt Covenant Violation

In the first test, the study examined the potential of earnings management, focusing on the volatility of the change in net profit in relation to total assets (ΔNP/TA) and the volatility of the change in net profit in relation to the volatility of the change in cash flows

from operating activities (ΔNP/ΔOCF) of the companies [50]. The higher the volatility, the lower the earnings management prospects.

In the second test, the study examined a Pearson correlation between discretionary accruals and cash flows from operating activities. A negative correlation would mean that managers tend to increase their accrual when companies are close to exceeding the debt limit, reflecting the possibility of using earnings management.

Finally, the study used an Ordinary Least Square (OLS) regression to examine the relationship between discretionary accruals and cash flows, profitability, leverage and size. The regression model used is as follows:

In a loan agreement, it is crucial not to violate loan covenants and agreements, as this would have devastating consequences for the company's performance, reputation and credibility. Therefore, managers may be inclined to engage in earnings management in order to comply with the covenants agreed with lenders and reduce the possibility of financial distress [51]. For this reason, the following hypothesis was tested in the study.

H1. Companies that are about to Breach Debt Covenants are Likely to Engage in Earnings Management.

For this hypothesis, the study conducted the following three tests. The first test examined the potential of earnings management, focusing on the volatility of the change in net profit relative to total assets (ΔNP/TA) and the volatility of the change in net profit relative to the volatility of the change in cash flow from operating activities (ΔNP/ΔOCF). The higher the volatility, the lower the earnings management prospects. In the second test, the study examined a Pearson correlation between discretionary accruals and cash flow from operating activities. A negative correlation would mean that managers tend to increase their provisions when firms are close to exceeding the debt limit, reflecting the possibility of using earnings management.

Finally, an Ordinary Least Square (OLS) regression was used in the study to examine the relationship between discretionary accruals and cash flow, profitability, leverage and size. The regression model used is as follows:

$DACi,t = a_0 + a_1 DV\ i,t + a_2\ DV\ OCFi,t + a_3\ DV\ Sizei,t + a_4\ DV\ Profitabilityi,t + a_5\ DV\ Levarege\ i,t + ei,t$

Where,

DACi,t is the discretionary accruals that are estimated using the cross-sectional Jones model [52].

DVi,t is a dummy variable representing the provision of voluntary accounting disclosures. *VIi,t* = 1 for voluntary information providers and VIi,t = 0

VI OCFi,t is a variable used to examine the impact of information quality on the association between discretionary accruals and cash flows. It is the multiplication of VI and operating cash flows (OCF),

Sizei,t

Profitability i,t (Appendix, Table 1)

Leveragei,t

ei,t is the error term

The paper considered as discretionary accruals the residuals of the following regression, based on the cross-sectional Jones-Model [53,54].

$ACi,t = a0\ (1/Ai,t\text{-}1) + a1\ REVi,t + a2\ PPEi,t + ei,$

Where,

ACi,t is accruals in year t scaled by lagged total assets (total assets in year t-1). Accruals equal the annual change in current assets (excluding cash) minus current liabilities (excluding short-term debt and income tax payable) minus depreciation,

Ai,t-1 is total assets in year t-1,

REVi,t is the annual change in revenues in year *t* scaled by lagged total assets,

PPEi,t is property, plant and equipment in year *t* scaled by lagged total assets,

ei,t is the error term.

Table 1: Ratios

Ratios	Variables	
Size	SALESHA	Sales per share
	NAVSH	Net asset value per share
	SALETAS	Sales/Total Assets
	RESTAS	Reserves/ Total Assets
	RESSF	Reserves/ Shareholder Funds
	LNMV	Natural Logarithm of Market Value
Profitability	PLOWB	Plowback ratio
	OPM	Operating profit margin
	NPM	Net profit margin
	ROSC	Profit after tax/ Equity + Reserves
	EPS	Earnings per share
	ROCE	PBIT/Equity + Reserves + Lt loans
Leverage	DEBT	Debtor turnover
	ETL	Taxes/ Pre tax profits
	TLSFU	Total Liabilities/ Shareholders Funds
	CGEAR	T.L./Capital Employed-Intagibles+S.L.
	CLSFU	Current Liabilities/ Shareholders Funds
	INTCOV	Interest coverage
	IGEAR	Interest Charge/ Operating Profit
	DEBTE	Debt/ Equity
	DSFU	Debt/ Shareholders Funds

The classification of firms into those that are about to breach their loan covenants and those that are not, was based on the interest coverage ratio. Companies with an interest coverage ratio of lower than 1 were classified as being at risk of breaching the debt covenant, while firms with an interest coverage ratio of more than 1 were classified as not at risk. The analysis focused on the period 2007-2009.

Earnings Management and Executive Remuneration

Executive remuneration is important and is closely linked to company performance. Undoubtedly, higher profitability leads to higher bonuses and vice versa. Therefore, managers are inclined to

use discretionary accruals to maximise their compensation [55,56]. The study tested the following hypothesis.

H2. Executive Compensation is Likely to be Positively Related to Earnings Management.

The study conducted the same empirical tests as in the case of H1. The companies in this hypothesis were categorised based on the median of executive compensation from the annual reports. Accordingly, they were divided into companies with high management remuneration and those with low management remuneration. The dummy variable DVi,t took the value 1 for firms with high management remuneration and the value 0 for firms with low management remuneration. The analysis focused on the years from 2007 to 2009.

Earnings Management and Forecasts by Financial Analysts

Nowadays, most investors worldwide are guided by analysts' forecasts and reports. Therefore, meeting financial analysts' forecasts is crucial for a company as it can be the key to stability and growth potential. There are many cases where even a small deviation in reported earnings has led to a significant loss in the capitalization of the company. So, it seems that firms need to meet analysts' forecasts in order to gain access to market capital. However, in this endeavour, they may be inclined to engage in earnings management [57]. The hypothesis that was tested is as follows.

H3. Companies that Strive to Meet Analysts' Forecasts are Likely to Engage in Earnings Management.

The same empirical tests were used in the study as for the previous hypotheses. Companies were categorised on the basis of earnings per share figures.

The study assumes that companies have met their forecasts if their reported earnings per share (EPS) are equal to or higher than the forecast EPS. Conversely, companies that report lower EPS than analysts' forecasts are considered to have missed their targets. It is important to note that analysts only provide forecasts for certain listed companies, usually those with a high capitalization. Therefore, the sample size for both countries may be smaller compared to the other hypotheses. In addition, analysts base their estimates on a specific year, which can significantly affect EPS forecasts. In this study, the forecasts for three periods prior to the study were used as a reference. A dummy variable, DVi,t, was used, which takes the value 1 for companies that met or exceeded analysts' forecasts and 0 for companies that did not. The analysis focused on the period from 2007 to 2009.

Earnings Management and Voluntary Disclosure of Financial Reporting

Companies consider it essential in many cases to provide additional accounting disclosures regarding management's behaviour, actions and prospects to assist interested parties in their evaluation of the company. Therefore, providing voluntary disclosures would increase investor awareness and tend to reduce the potential of earnings management. The hypothesis was tested as follows:

H4. Companies that Provide Voluntary Accounting Disclosures are Likely to have Lower Discretionary Accruals.

The study used the previous empirical tests of H1. The categorization of companies into voluntary and non-voluntary disclosures is based on the quality and quantity of accounting information reported [58]. More specifically, companies that content themselves with the minimum disclosures required by law were labelled as non-voluntary accounting disclosures. Companies that provide more details than required, such as corporate governance, risk profile, debt obligations, changes in accounting policies, etc., were labelled as voluntary disclosures. Of course, these additional details should be easily accessible to all, as in some cases companies restrict participation in conference calls by targeting specific reporters and listeners [59]. The dummy variable DVi,t took a value of 1 for voluntary accounting disclosures and a value of 0 for firms that did not provide additional information. The analysis focused on the years from 2007 to 2009.

Dataset and Descriptive Statistics

Sample and Data Collection

As described in the introduction, the study focuses on Greek and German listed companies. The sample consists of all listed companies on the ASE (Athens Stock Exchange) and the DAX (Frankfurt Stock Exchange), excluding the banking and insurance sectors, as they follow a different path of accounting standard procedures and their accounting ratios are not always comparable to those of industrial companies. We have also preferred to exclude listed companies that have their headquarters in countries other than Germany or Greece in order to obtain comparable data between the two countries, such as LG Company, which is listed on the DAX but has its headquarters abroad. We have also excluded companies that operate in sectors that are not related to both countries, such as the automotive industry, which does not exist in Greece. Overall, the empirical analysis focuses on the years from 2007 to 2009. 240 Greek and 295 German companies were examined in the study. The annual reports and statements that all listed companies are required to publish were used for data collection in the study. These were obtained from the companies' official websites and the official stock exchange websites (www.ase.gr and http://deutsche-boerse.com). In addition, data from newspapers (Naftemporiki, Kathimerini, Isotimia), business websites (Bloomberg, Market Watch, Morningstar) and international databases (Mergent Online, Datastream) were used, while we focused on detailed information from the footnotes of financial statements and disclosure reports where necessary.

Descriptive Statistics

Table 2: (Appendix) contains the descriptive statistics for the period 2007 – 2009. Panel A shows the results for Greek companies. They indicate that companies that are close to the debt limit have lower profitability ratios, so this could be a reason for further problems. In addition, all leverage variables are higher for companies that are close to breaching the debt covenant, which is to be expected because the higher a company's leverage, the more likely it is to breach the critical leverage point. Provisions are lower for companies that are far from debt problems, suggesting that these companies are less likely to resort to earnings management. In terms of management compensation, the results show that in Greece there is a positive relationship between the size of companies and the compensation of their managers, meaning that larger companies compensate their managers better. Of course, the same results are also found for companies with higher profitability. The paradox, however, is the fact that Greek companies that are highly leveraged pay higher executive salaries. This fact could be a sign of imprudent use of credit, which means that managers could sometimes force their companies to borrow to cover their remuneration. Finally, large and profitable Greek companies seem to have more opportunities to exceed analysts' forecasts, while highly leveraged companies also seem to have more potential.

Table 2: Descriptive Statistics: Pooled Data 2007-2009

Panel A: Greece								
Test Variables	**Near to Violation**		**Far from Violation**		**High Emoluments**		**Low Emoluments**	
	Mean	**Standard Deviation**	**Mean**	**Standard Deviation**	**Mean**	**Standard Deviation**	**Mean**	**Standard Deviation**
ΔNP/ΔOCF	0,6403	3,7722	0,6148	5,649	0,374	2,6159	0,7506	3,6215
Accruals	0,0383	0,1089	-0,0394	0,7509	0,013	0,1235	-0,028	0,649
OCF	5,8776	15,2696	11,1944	19,7778	13,476	23,0765	7,3559	23,4447
Control variables								
Size								
SALESHA	2,6105	2,5058	3,1727	3,8303	3,0286	2,6731	2,7361	3,7218
NAVSH	2,3898	2,5645	2,8608	2,7742	2,9669	2,8867	2,4062	2,4894
SALETAS	0,6076	0,5305	0,8672	1,3518	0,9082	1,1256	0,6614	0,9901
RESTAS	0,2758	0,3524	0,2718	0,382	0,224	0,1772	0,2968	0,4261
RESSFU	0,4228	0,2685	0,3971	0,1996	0,4282	0,1825	0,4012	0,257
LNMV	3,3925	1,5086	4,0918	1,8549	5,0765	1,6865	3,1323	1,3634
Profitability								
PLOWB	0,8302	3,0875	1,2854	2,3662	1,1989	2,3866	1,0631	3,271
OPM	-0,1612	0,8026	0,1594	0,6962	0,0066	0,3824	-0,0005	0,8908
NPM	-0,135	0,7894	0,1256	0,6696	-0,0065	0,3449	-0,0007	0,8667
ROSC	-0,0549	0,216	0,1361	0,4019	0,1068	0,4212	0,0122	0,2866
EPS	-0,1385	0,4592	0,3679	1,0549	0,2999	1,157	0,035	0,6569
ROCE	-0,0068	0,1382	0,1134	0,2965	0,0968	0,3248	0,0346	0,1854
Leverage								
DEBT	2,9864	1,7019	2,4194	2,47	3,1094	2,3531	2,4779	1,9522
ETL	0,7699	1,1084	1,0326	1,6066	0,671	1,0596	1,2058	4,5287
TLSFU	1,6507	1,6843	1,3328	1,5723	1,8633	1,7648	1,2949	1,4901
CGEAR	0,868	1,8053	0,6306	0,5873	0,762	0,6754	0,6733	0,5271
CLSFU	1,0044	1,2534	0,8471	1,1463	1,2486	1,4726	0,7968	1,1213
IGEAR	0,7572	2,558	0,2529	0,4793	0,286	1,5376	0,7188	2,6671
DEBTE	1,1955	1,7724	0,8879	1,3316	1,3458	1,7745	0,897	1,4462
DSFU	0,6736	0,8294	0,4857	0,6601	0,7605	0,9074	0,4936	0,6543
Test Variables	EPS Higher		EPS Lower		Non-Voluntary Disclosers		Voluntary Disclosers	
	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
ΔNP/ΔOCF	0,5099	2,4089	0,8884	3,5231	0,8502	4,4189	1,2382	7,9357
Accruals	0,033	0,2314	-0,0096	0,3897	0,0391	0,2687	0,0019	0,4024
OCF	10,8079	19,8099	7,938	20,0817	7,055	16,7175	11,5721	21,2622
Control variables								
Size								
SALESHA	3,661	2,8977	2,7865	4,7965	3,4755	4,1514	4,6105	6,4564
NAVSH	3,4435	2,8386	2,7037	4,9686	2,2724	2,1977	3,4442	3,5801
SALETAS	0,8255	0,9921	0,7246	1,0488	0,7058	0,8414	0,7989	1,3196
RESTAS	0,2285	0,1743	0,2817	0,3911	0,2576	0,2386	0,3022	0,5214
RESSFU	0,4563	0,1635	0,4016	0,2459	0,4109	0,2521	0,4076	0,2057
LNMV	6,23	1,5109	3,3147	1,3594	3,3333	1,4508	4,4772	1,927
Profitability								
PLOWB	1,4362	2,3197	1,1169	3,3218	0,9742	2,8241	1,2525	2,4173

OPM	0,1017	0,4512	-0,0157	0,8084	-0,0311	0,8865	0,0594	0,4865
NPM	0,0792	0,3803	-0,0168	0,7876	-0,0396	0,8202	0,0626	0,575
ROSC	0,1724	0,5554	0,0195	0,2776	0,0216	0,2681	0,0784	0,432
EPS	0,3858	0,7062	0,0723	0,8716	0,0938	0,9708	0,1631	0,6022
ROCE	0,1382	0,435	0,0396	0,183	0,032	0,1253	0,0935	0,3595
Leverage								
DEBT	3,5269	2,6629	2,579	2,0878	2,5591	1,9817	3,0812	2,5986
ETL	0,856	1,4092	1,0679	4,0735	0,8623	1,3454	0,9757	1,4638
TLSFU	1,8314	1,9002	1,4293	1,5783	1,3698	1,67	1,5569	1,5675
CGEAR	0,8145	0,6744	0,7356	1,4222	0,7708	1,6128	0,706	0,6029
CLSFU	0,9914	1,1466	0,9309	1,2794	0,8478	1,3149	0,9922	1,1537
IGEAR	0,4681	1,0379	0,6072	2,3903	0,5975	2,1619	0,521	2,8395
DEBTE	1,5153	0,84	0,9134	1,205	1,0566	1,6543	1,1029	1,7316
DSFU	1,7607	1,0946	0,5324	0,6674	0,5862	0,7473	0,5639	0,7655
Panel B: Germany								
Test Variables	Near to Violation		Far from Violation		High Emoluments		Low Emoluments	
	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
ΔNP/ΔOCF	1,2127	3,2253	0,5879	3,4357	0,5671	3,1265	1,3062	5,1336
Accruals	0,0312	0,439	0,0158	1,1854	0,064	0,1218	0,0566	0,2991
OCF	4,5245	14,3765	11,5361	19,4434	12,451	18,0365	10,8098	20,011
Control variables								
Size								
SALESHA	0,6541	2,5064	2,0316	1,7142	0,7638	1,1199	0,3218	0,6653
NAVSH	0,8238	1,3085	1,6327	2,9848	1,8441	2,4398	1,1686	2,9375
SALETAS	1,0352	0,8164	1,2782	1,3063	1,2658	0,9306	1,0805	1,215
RESTAS	0,3832	0,8593	0,2988	0,9094	0,2422	0,738	0,3621	0,9703
RESSFU	0,3366	0,3055	0,2502	0,7072	0,2457	0,1953	0,2863	0,2593
LNMV	4,1402	2,0573	5,2974	2,0851	6,7061	2,0419	3,9959	1,4623
Profitability								
PLOWB	-0,024	2,0747	2,1402	3,0772	1,8349	2,8243	1,3303	2,7604
OPM	-0,1671	0,7139	0,207	1,5143	0,0594	0,2657	0,0407	0,6773
NPM	-0,2143	0,6372	0,1914	1,4487	0,0379	0,2549	-0,0029	0,629
ROSC	-0,1462	0,4642	0,1545	0,4867	0,1138	0,4702	0,0229	1,0206
EPS	-0,7639	2,1869	2,0704	2,7187	1,77	2,7596	1,3736	3,7783
ROCE	-0,0078	0,1542	0,1455	0,5308	0,0947	0,1064	0,0906	0,209
Leverage								
DEBT	4,1784	0,9186	0,8848	3,0387	0,8598	1,2121	4,1108	3,3215
ETL	1,7065	1,6131	1,0097	4,5108	0,8613	0,904	1,4296	1,7314
TLSFU	1,3792	1,7711	1,2243	1,6499	1,4861	1,3878	1,0017	1,1981
CGEAR	0,7599	1,5458	0,7984	1,1102	0,7095	1,5862	0,8572	1,0683
CLSFU	0,5938	1,3307	0,779	1,8148	0,7755	1,2287	0,7228	2,1113
IGEAR	0,1741	2,116	0,0113	0,2166	0,2643	1,5286	0,0525	1,3071
DEBTE	1,0996	1,7076	0,7181	1,3214	0,7636	1,341	1,0908	2,274
DSFU	0,6999	1,2085	0,6121	1,558	0,4488	1,0171	0,8044	1,0078
Test Variables	EPS Higher		EPS Lower		Non-Voluntary Disclosers		Voluntary Disclosers	

	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
ΔNP/ΔOCF	0,4193	2,5144	1,3697	4,9408	0,8643	2,61	0,6003	3,0415
Accruals	0,058	0,1673	0,0503	0,2553	0,0757	0,1672	0,0458	0,308
OCF	8,6	20,68	11,4244	33,1507	9,1038	16,3272	4,6425	18,6894
Control variables								
Size								
SALESHA	0,6952	1,1271	0,5016	1,3351	0,4437	0,977	0,6336	1,7387
NAVSH	1,5819	1,622	1,1158	2,2265	0,9926	1,4742	1,3325	3,9272
SALETAS	1,1698	0,852	1,1896	1,0921	1,2593	1,2668	1,1352	0,9567
RESTAS	0,1421	0,1896	0,3383	0,7937	0,3004	0,6227	0,3159	0,9856
RESSFU	0,2125	0,1735	0,2943	0,2533	0,2723	0,2297	0,3013	0,5375
LNMV	6,3138	2,3163	4,5224	1,8774	3,9597	1,6092	5,9046	2,1321
Profitability								
PLOWB	2,1284	2,3193	1,4999	4,2783	1,4061	2,6103	1,6974	3,3396
OPM	0,1083	0,1192	0,0291	0,6426	0,0413	0,4811	0,0526	0,637
NPM	0,0761	0,0981	-0,0078	0,599	0,0041	0,4629	0,018	0,5831
ROSC	0,1401	0,3268	0,0603	0,5376	0,0282	0,4705	0,0786	1,1129
EPS	2,7187	2,8426	0,8535	2,2884	0,7334	1,7794	1,904	3,2095
ROCE	0,1668	0,1786	0,0889	0,5251	0,0781	0,2117	0,1047	0,1442
Leverage								
DEBT	4,7314	3,2656	5,3332	5,2066	3,8374	3,1618	5,065	3,319
ETL	1,0659	1,1273	4,4598	3,3734	1,4299	1,7347	1,234	2,1528
TLSFU	1,3141	1,2661	1,2028	1,8147	1,1538	1,414	1,2562	1,4118
CGEAR	0,799	1,3693	0,7694	1,1254	0,7703	0,9874	0,8101	1,4597
CLSFU	0,649	0,9725	0,6901	1,3852	0,6159	0,9803	0,7069	1,4915
IGEAR	0,1415	0,9443	0,1799	1,44	0,1094	0,9633	0,1874	1,372
DEBTE	0,8426	1,0915	0,7215	1,0631	0,7276	1,0841	0,7865	1,1125
DSFU	0,6972	1,3181	0,5096	0,7862	0,5212	0,8142	0,6098	1,04

As for voluntary accounting disclosure, it seems that companies using this option have gained investors' trust without the intention of engaging in earnings management. More specifically, the results show that companies using voluntary disclosure tend to have higher profitability ratios (EPS, OPM). Thus, it appears that companies which disclose more details about their financial policies gain investor interest and achieve better earnings performance. This higher profitability could be a perfect motive for managers to disclose voluntary accounting information. Other results also follow the profitability ratios. Greek companies that disclose additional information also show better size and leverage ratios. Thus, it seems that larger companies would make voluntary disclosures to strengthen their financial performance and further increase their growth potential. Similarly, companies with higher leverage ratios would tend to provide additional information in order to build a trusting relationship with their borrowers. Naturally, borrowers, for their part, would be more willing to negotiate with companies that provide additional information that increases their leverage prospects. On the other hand, many insist that this disclosure could conceal instances of earnings management. However, the lower use of discretionary accruals among volunteers may be a response to those who believe that volunteers are reluctant to engage in earnings management.

Panel B shows the results for the German companies. The results for firms that are close to the debt limit are similar to those for Greek firms. More specifically, it is possible for large German companies to refrain from issuing debt. Furthermore, the results suggest that highly leveraged and low profitable German firms are more prone to debt covenant violations. Provisions are lower for companies that are far from debt problems, which means that their use of them is limited. In terms of executive pay, large German companies appear to have higher compensation opportunities. German companies seem to be more balanced compared to Greek companies in terms of executive compensation in highly leveraged and less profitable companies. Indeed, the results show that German companies tend to pay their managers less when they have low profits and high debt. Again, the results show that larger companies are able to outperform analysts' estimates, as in the case of Greece. Furthermore, highly leveraged companies do not manage to exceed EPS estimates, while highly leveraged companies do. Accruals are always lower for companies that did not manage to beat analysts' estimates as they prefer not to engage in earnings management.

Finally, Germany seems to achieve similar results to Greece in terms of voluntary sponsors. Descriptive statistics show that volunteers have set aside fewer provisions and have higher profitability ratios. Thus, it seems that companies use the additional information they provide to increase their profits without resorting to earnings management. The other results are also consistent with those of Greece, suggesting that voluntary accounting disclosure could be an excellent solution for limiting earnings management. It has

a direct impact on the accuracy of reported financial statements, while it has had a positive impact on both the economies and market participants studied. Indeed, German companies that provide voluntary disclosures tend to have more profitable ratios. In contrast, companies with higher leverage variables tend to use voluntary accounting information to maintain mutual trust with lenders and organisations.

Empirical Findings

Violation of the Debt Covenant (H1)

Although many researchers suggest that firms under IFRS tend to reduce the use of earnings management, it is necessary to specify the strong motives that might influence a manager's decision on this issue, starting with firms that are about to breach the debt covenant. The results suggest that H1 holds, meaning that companies seeking to avoid the devastating consequences of a debt covenant violation are likely to resort to earnings management (Fields et al., 2001). More specifically, the results of the first test (Table 1) show that the volatility of the change in net income scaled by total assets (ΔNP/TA) and the volatility of the change in net income relative to the change in operating cash flows (ΔNP/ΔOCF) are lower for firms on the verge of a debt covenant violation in both countries. What is impressive, however, is the fact that there are proportionately many more companies in Greece that are close to complying with the debt covenant than in Germany. Another interesting observation in relation to Germany is that while volatility is higher among companies that are far from violation, there is no significant difference in the figures, as in the case of Greece. But even in Greece, volatility is higher year-on-year among companies close to the debt covenant, which is a first indication that there is a tendency towards less earnings management.

Table 1: Earnings Volatility (H1/Test 1)

	2007			2008			2009		
Greece	**Near to Violation**	**Far from Violation**	**F-test**	**Near to Violation**	**Far from Violation**	**F-test**	**Near to Violation**	**Far from Violation**	**F-test**
Δ(NP/TA)	1,8109	2,54	*	2,81	4,9929	**	2,0399	3,1947	*
Δ(NP/OCF)	3,8898	6,52	**	3,6944	4,5346	*	3,7321	5,8917	*
Germany	Near to Violation	Far from Violation	F-test	Near to Violation	Far from Violation	F-test	Near to Violation	Far from Violation	F-test
Δ(NP/TA)	1,5163	3,8326	*	1,7311	1,9409	*	2,1887	2,7013	*
Δ(NP/OCF)	2,2233	2,7762	*	4,1781	4,1726	*	3,2743	3,3581	*
(*), (**), (***) indicate statistically significant factors at 10%, 5% and 1% (two-tailed) level respectively.									

As a second test, the study conducted a Pearson correlation between discretionary accruals and operating cash flows. The results presented in Table 2 show a negative correlation between the previous variables for companies that are close to breaching debt covenants in the three years and in both countries. This fact indicates that firms with debt problems are likely to resort to earnings management to meet their debt obligations and avoid financial distress. On the other hand, companies which are far from violation show a positive correlation, suggesting that the possibility of earnings management has decreased significantly.

Table 2: Discretionary Accruals and OCF (H1/Test 2)

	2007		2008		2009	
Greece	**Pearson Correlation of DAC-OCF**	**Sig**	**Pearson Correlation of DAC-OCF**	**Sig**	**Pearson Correlation of DAC-OCF**	**Sig**
Near to Violation	-0,248	***	-0,18	**	-0,462	***
Far from Violation	0,997	***	0,457	***	0,217	**
Germany	Pearson Correlation of DAC-OCF	Sig	Pearson Correlation of DAC-OCF	Sig	Pearson Correlation of DAC-OCF	Sig
Near to Violation	-0,98	***	-0,672	***	-0,958	***
Far from Violation	0,53	***	0,763	***	0,258	***
(*), (**), (***) indicate statistically significant factors at 10%, 5% and 1% (two-tailed) level respectively.						

Table 3: shows the results of the OLS regression. Greek companies show a positive DV value for the year 2007. This dummy variable indicates whether firms are on the verge of violating credit covenants or not. The fact that this variable is positive indicates that firms that are at the debt limit tend to have higher accruals, which implies a high use of earnings management. In addition, the results for all years examined (SALESHA, RESTAS) show a positive relationship between discretionary accruals and firm size, implying that large firms on the verge of breaching the debt covenant may use smoothing procedures to avoid breaching the covenant. The results also show that the variables used to observe the impact of a possible breach of the debt covenant on the relationship between discretionary accruals and leverage are also positive for the years 2007 – 2009 (NPM, ROCE, PLOWB). This fact would imply that highly leveraged firms tend to use earnings management techniques more easily when they are about to debt covenant violation than firms that are in the same difficult situation but have less leverage. Finally, the results show a negative relationship between accruals and profitability (IGEAR, CGEAR, ETL) for firms on the verge of covenant violation. Thus, companies with low profitability would be more likely to engage in

earnings management when they are close to their debt covenant limit.

Similar considerations apply to the results for German firms. German companies show a positive DV value for 2009, which indicates that companies at the debt limit make higher provisions. Furthermore, the results show that German firms have a positive relationship between accruals and size (LNMV, SALETAS, SALESHA), a negative relationship with profitability ratios (ROCE, PLOWB) and a positive relationship with leverage ratios (CLSFU, ETL, DEBT) in all years analysed. Therefore, large German companies with low profitability and high leverage tend to resort to earnings management in the presence of debt covenant violations. The overall results show that H1 applies to both countries.

Table 3: OLS Regression of Accruals (H1/Test 3)

Greece	**2007**		**2008**			**2009**		
Variables	**Coefficients**	**Sig.**	**Variables**	**Coefficients**	**Sig.**	**Variables**	**Coefficients**	**Sig.**
DV	0,368	**	DV	-0,112		DV	-0,043	
	-0,141			-0,034			-0,026	
SALESHA	0,032	***	RESTAS	0,108	**	SALESHA	0,01	***
	-0,006			-0,043			-0,004	
NPM	-0,403		ROCE	-0,324	***	PLOWB	-0,001	**
	-0,144	**		-0,041			0	
IGEAR	0,004		CGEAR	0,124	***	ETL	0,008	**
	-0,002	**		-0,016			-0,004	
Constant	-1,6		Constant	2,23		Constant	-1	
	-0,021			-0,007			-0,003	
R2 adj.	0,472		R2 adj.	0,595		R2 adj.	0,72	
Sample size	237		Sample size	236		Sample size	238	
Germany	2007	2008	2009					
Variables	Coefficients	Sig.	Variables	Coefficients	Sig.	Variables	Coefficients	Sig.
DV	-0,2		DV	-0,107		DV	4,594	***
	-0,011			-0,022			-0,564	
LNMV	0,028	***	SALETAS	0,052	***	SALESHA	0,034	***
	-0,001			-0,007			-0,007	
ROCE	-0,729	***	ROCE	-0,655	***	PLOWB	-0,003	*
	-0,026			-0,033			-0,002	
CLSFU	0,03	***	ETL	0,014	***	DEBT	0,002	*
	-0,001			-0,004			-0,001	
Constant	-3,2		Constant	-0,36		Constant	-1,3	
	-0,001			-0,003			-0,076	
R2 adj.	0,969		R2 adj.	0,767		R2 adj.	0,484	
Sample size	278		Sample size	288		Sample size	293	
(*), (**), (***) indicate statistically significant factors at 10%, 5% and 1% (two-tailed) level respectively								

Remuneration of Executives (H2)

As mentioned earlier, in order to increase their compensation, managers are likely to smooth the company's profits because the better a company performs, the higher their bonus would be (Kadan and Yang, 2005; Shuto, 2007). Indeed, the results of this hypothesis suggest that H2 is true. Table 4 shows that the volatility of the change in net income scaled by total assets (ΔNP/TA) and the volatility of the change in net income relative to the change in operating cash flows (ΔNP/ΔOCF) are lower for companies with high executive compensation for both countries and all years analysed.

Table 4: Earnings Volatility (H2/Test 1)

	2007			2008			2009		
Greece	**High Emoluments**	**Low Emoluments**	**F-test**	**High Emoluments**	**Low Emoluments**	**F-test**	**High Emoluments**	**Low Emoluments**	**F-test**
Δ(NP/TA)	1,153	1,5528	*	1,8611	2,5243	*	1,5463	1,9438	**
Δ(NP/OCF)	2,3535	3,1324	*	2,1985	2,8292	*	3,2958	4,9027	*
Germany	High Emoluments	Low Emoluments	F-test	High Emoluments	Low Emoluments	F-test	High Emoluments	Low Emoluments	F-test
Δ(NP/TA)	0,6625	1,4889	*	1,0127	1,5319	**	0,9598	3,0918	*
Δ(NP/OCF)	1,4649	2,5462	*	3,6851	4,9616	*	4,2293	7,8931	*
(*), (**), (***) indicate statistically significant factors at 10%, 5% and 1% (two-tailed) level respectively.									

The second test is similar: companies with higher executive remuneration tend to use smoothing procedures. More specifically, they show a negative correlation between discretionary accruals and operating cash flows (Table 5) for both countries and the entire period analysed. This means that managers tend to increase a company's accruals to improve cash flows and financial performance in order to keep their compensation high. In contrast, companies with low management salaries show a positive correlation, i.e. a negative relationship with earnings management.

Table 5: Discretionary Accruals and OCF (H2/Test 2)

	2007		2008		2009	
Greece	**Pearson Correlation of DAC-OCF**	**Sig**	**Pearson Correlation of DAC-OCF**	**Sig**	**Pearson Correlation of DAC-OCF**	**Sig**
High Emoluments	-0,247	**	-0,594	***	-0,325	***
Low Emoluments	0,158	**	0,292	***	0,275	***
Germany	Pearson Correlation of DAC-OCF	Sig	Pearson Correlation of DAC-OCF	Sig	Pearson Correlation of DAC-OCF	Sig
High Emoluments	-0,521	***	-0,21	**	-0,338	***
Low Emoluments	0,18	**	0,77	***	0,841	***
(*), (**), (***) indicate statistically significant factors at 10%, 5% and 1% (two-tailed) level respectively.						

Table 6: shows the results of the OLS regression analysis. Greece shows a positive significant coefficient for the DV variable for the year 2007. This fact is an indication of the positive relationship between accruals and firms paying high managerial salaries available for earnings management. There is also a positive correlation between discretionary accruals and company size (LNMV, RESSFU) in both countries. This would imply that executives of large companies with high management pay may have used misleading methods to increase their bonuses. Companies from both countries also show positive coefficients between provisions and gearing (ETL, CGEAR, DEBTE). Apart from the sometimes catastrophic results, the gearing ratio has an impact on several ratios in the companies' accounts. In this context, it is difficult for highly leveraged companies to meet managers' plans for higher remuneration.

For this reason, there is evidence that highly leveraged firms tend to smooth earnings so that managers can be paid highly. Finally, the results show that profitability ratios have a negative impact on discretionary accruals (OPM, ROCE, ROSC) for both Greece and Germany over the period analysed. This result is to be expected as companies with high profitability do not need earnings management support in order for their managers to be highly paid. On the other hand, companies with low profitability might have high accruals, which increases the possibility of a potential earnings management decision. In general, the results provide strong evidence that managerial compensation is positively related to earnings management, especially for companies that exhibit the above characteristics.

Table 6: OLS Regression of Accruals (H2/Test 3)

Greece	**2007**		**2008**			**2009**		
Variables	**Coefficients**	**Sig**	**Variables**	**Coefficients**	**Sig**	**Variables**	**Coefficients**	**Sig**
DV	0,258	*	DV	-0,154		DV	-0,199	
	-0,131			-0,047			-0,028	
LNMV	0,007	*	RESSFU	0,439	***	LNMV	0,03	**
	-0,005			-0,104			-0,004	
ROCE	-0,61	***	ROCE	-0,699	***	ROSC	-0,452	***
	-0,07			-0,066			-0,118	
ETL	0,043	***	CGEAR	0,126]	***	ETL	0,01	***

	-0,008			-0,012			-0,003	
Constant	1,77		Constant	3,34		Constant	2,01	
	-0,003			-0,004			-0,003	
R2 adj.	0,505		R2 adj.	0,623		R2 adj.	0,637	
Sample size	237		Sample size	236		Sample size	238	
Germany	2007	2008	2009					
Variables	Coefficients	Sig.	Variables	Coefficients	Sig.	Variables	Coefficients	Sig.
DV	-4,324		DV	-0,054		DV	-0,165	
	-1,187			-0,016			-0,038	
LNMV	0,819	***	LNMV	0,008	***	LNMV	0,022	***
	-0,107			-0,002			-0,004	
OPM	-10,646	*	ROCE	-0,076	**	ROCE	-0,069	
	-6,709			-0,036			-0,029	**
DEBTE	4,277	***	ETL	0,025	***	ETL	0,033	***
	-1,237			-0,005			-0,01	
Constant	-3,9		Constant	8,36		Constant	-2,2	
	-0,101			-0,002			-0,005	
R2 adj.	0,452		R2 adj.	0,093		R2 adj.	0,682	
Sample size	278		Sample size	288		Sample size	293	
(*), (**), (***) indicate statistically significant factors at 10%, 5% and 1% (two-tailed) level re-spectively.								

The Forecasts of Financial Analysts (H3)

Analysts play a crucial role in the global financial market. Their reports are crucial to a company's operational and market performance. In this framework, firms would tend to use methods that facilitate them to meet or exceed analysts' expectations [60]. The results of this hypothesis provide evidence that H3 is true. More specifically, in the first test (Table 7), the volatility of the change in net income scaled by total assets (ΔNP/TA) and the volatility of the change in net income relative to the change in operating cash flows (ΔNP/ΔOCF) are lower for companies whose actual earnings per share exceeded forecasts for both countries.

Table 7: Earnings Volatility (H3/Test 1)

	2007			**2008**			**2009**		
Greece	**EPS Higher-Equal than Forecast-ed**	**EPS Lower than Forecasted**	**F-test**	**EPS Higher-Equal than Forecast-ed**	**EPS Lower than Forecasted**	**F-test**	**EPS Higher-Equal than Forecast-ed**	**EPS Lower than Forecasted**	**F-test**
Δ(NP/TA)	0,763	1,8026	*	3,6199	3,9224	*	1,5257	1,8187	***
Δ(NP/OCF)	2,1182	3,6788	*	1,8836	3,2532	*	3,2249	3,6375	***
Germany	EPS Higher-Equal than Forecast-ed	EPS Lower than Forecasted	F-test	EPS Higher-Equal than Forecast-ed	EPS Lower than Forecasted	F-test	EPS Higher-Equal than Forecast-ed	EPS Lower than Forecasted	F-test
Δ(NP/TA)	0,5931	2,865	**	1,6125	1,8747	*	2,4993	3,3284	*
Δ(NP/OCF)	0,6464	3,9719	*	3,5379	4,1763	*	3,3589	6,6741	***
(*), (**), (***) indicate statistically significant factors at 10%, 5% and 1% (two-tailed) level respectively.									

In the second test (Table 8), the companies that met or exceeded analysts' forecasts also show a negative Pearson correlation between discretionary accruals and operating cash flows. This fact indicates that these companies may have pursued earnings management policies to achieve their intention. On the other hand, the companies that did not meet market expectations show a positive correlation for the years 2007 to 2009 for both countries.

Table 8: Discretionary Accruals and OCF (H3/Test 2)

	2007		2008		2009	
Greece	Pearson Correlation of DAC-OCF	Sig	Pearson Correlation of DAC-OCF	Sig	Pearson Correlation of DAC-OCF	Sig
EPS Higher-Equal than Forecasted	-0,562	***	-0,472	***	-0,539	***
EPS Lower than Forecasted	0,965	***	0,144	**	0,592	***
Germany	Pearson Correlation of DAC-OCF	Sig	Pearson Correlation of DAC-OCF	Sig	Pearson Correlation of DAC-OCF	Sig
EPS Higher-Equal than Forecasted	-0,935	***	-0,252	**	-0,895	***
EPS Lower than Forecasted	0,558	***	0,27	***	0,138	**
(*), (**), (***) indicate statistically significant factors at 10%, 5% and 1% (two-tailed) level respectively.						

Table 9 presents the results of the third test.

Table 9: OLS Regression of Accruals (H3/Test 3)

Greece	**2007**		**2008**			**2009**		
Variables	**Coefficients**	**Sig.**	**Variables**	**Coefficients**	**Sig.**	**Variables**	**Coefficients**	**Sig.**
DV	2,354	***	DV	-0,059		DV	0,439	***
	-0,265			-0,055			-0,5	
SALESHA	0,048	***	NAVSH	0,009	***	SALESHA	0,015	***
	-0,007			-0,002			-0,003	
EPS	-0,131	**	EPS	-0,073	***	ROCE	-0,554	***
	-0,057			-0,013			-0,148	
DEBTE	0,088		DSFU	0,06	***	CGEAR	0,001	*
	-0,03	***		-0,019			0	
Constant	1,17		Constant	5,33		Constant	4	
	-0,005			-0,001			-0,003	
R2 adj.	0,724		R2 adj.	0,815		R2 adj.	0,601	
Sample size	128		Sample size	128		Sample size	128	
Germany	2007	2008	2009					
Variables	Coefficients	Sig.	Variables	Coefficients	Sig.	Variables	Coefficients	Sig.
DV	-0,108		DV	0,002		DV	-0,055	
	-0,024			-0,009			-0,071	
SALETAS	0,015	***	LNMV	0,003	**	LNMV	0,03	***
	-0,009			-0,001			-0,007	
ROCE	-0,535	***	OPM	-1,216	***	PLOWB	-0,006	**
	-0,09			-0,129			-0,003	
ETL	0,02	***	DSFU	0,005	***	TLSFU	0,412	***
	-0,004			-0,002			-0,11	
Constant	4,02		Constant	1,62		Constant	4,66	
	-0,002			-0,001			-0,005	
R2 adj.	0,896		R2 adj.	0,605		R2 adj.	0,449	
Sample size	219		Sample size	219		Sample size	219	
(*), (**), (***) indicate statistically significant factors at 10%, 5% and 1% (two-tailed) level respec-tively.								

This sample is limited because, as described above, analysts do not follow all listed companies, but only some of them. The results of the OLS regression are again closely related and consistent with theory. More specifically, the Greek companies that met or exceeded the analysts' forecasts show a positive correlation with their accruals. This result may suggest that companies that increase their reported earnings and meet their target tend to also increase the use of earnings practices. The results of this test are too revealing of the characteristics of companies using such practices. In particular, there is a positive correlation between accrual and size ratios (SALESHA, NAVSH, SALETAS, LNMV) for both countries and all years on which the study focused. This would imply a positive correlation between discretionary accruals and size for companies that exceeded analysts' forecasts between 2007 and 2009. This suggests that companies with high size may tend to engage in earnings management in order to meet analysts' forecasts and enjoy all the privileges that this fact entails.

In addition, highly leveraged companies might also be willing to use ambiguous practices to boost their earnings when trying to meet analysts' estimates. This fact could be an indication of the positive association between accruals and leverage (DEBTE, DSFU, TLSFU, ETL) for both countries and for the whole period analyzed, proving that highly leveraged firms make high accruals. Finally, the results show that the relationship between accruals and profitability (EPS, ROCE, OPM, PLOWB) is significantly negative for the years 2007-2009. For this reason, Greek and German companies that have low profitability seem to engage in earnings management in order to improve their financial figures and reach analysts' estimates. All these results suggest that H3 is true and that companies need to meet analysts' targets if they want to enjoy market stability, even if they are likely to engage in earnings management.

Voluntary Disclosure (H4)

Voluntary accounting disclosure could be characterised as the effort to obtain more accurate accounting figures from the corporate sector. The results suggest that H4 is true, i.e., voluntary accounting disclosure has a lower need for earnings management [61]. Table 10 shows that the volatility of ΔNP/TA and ΔNP/ΔOCF is higher in both countries when companies make voluntary disclosures. For Greece in particular, there is a significant difference for voluntary disclosures in 2007, while this difference has weakened in 2009. This could therefore be an indication that investors require more information. The results for Germany follow the same path. Voluntary sponsors are more volatile than non-voluntary sponsors, although the difference in numbers is not as great as in Greece. This could be due to the fact that most German listed companies also have their shares listed on other international stock exchanges, so more accurate information is needed. In fact, more than half of German companies have voluntarily disclosed more information.

Table 10: Earnings Volatility (H4/Test 1)

	2007			**2008**			**2009**		
Greece	**Non-Voluntary Disclosers**	**Voluntary Disclosers**	**F-test**	**Non-Voluntary Disclosers**	**Voluntary Disclosers**	**F-test**	**Non-Voluntary Disclosers**	**Voluntary Disclosers**	**F-test**
Δ(NP/TA)	1,6956	4,4704	*	2,2887	3,4049	*	2,3898	2,4361	*
Δ(NP/OCF)	3,7214	13,7709	*	4,9172	5,4082	**	4,6182	4,6278	*
Germany	Non-Voluntary Disclosers	Voluntary Disclosers	F-test	Non-Voluntary Disclosers	Voluntary Disclosers	F-test	Non-Voluntary Disclosers	Voluntary Disclosers	F-test
Δ(NP/TA)	2,2672	2,5536	*	1,2357	1,6704	*	1,9754	2,6923	***
Δ(NP/OCF)	1,829	2,4216	*	3,0246	3,738	**	2,9764	2,9648	***
(*), (**), (***) indicate statistically significant factors at 10%, 5% and 1% (two-tailed) level respectively.									

In the second test (Table 11), the Pearson correlation between discretionary accruals and operating cash flows for non-disclosed companies is negative in both countries. This negative correlation is an indication of earnings management. Companies tend to increase accruals in order to report better balance sheet figures [62,63]. On the other hand, the companies from both countries that provided additional information show a positive correlation.

Table 11: Discretionary Accruals and OCF (H3/Test 2)

	2007		2008		2009	
Greece	Pearson Correlation of DAC-OCF	Sig	Pearson Correlation of DAC-OCF	Sig	Pearson Correlation of DAC-OCF	Sig
Voluntary Disclosers	0,488	***	0,251	**	0,561	***
Non-Voluntary Disclosers	-0,574	***	-0,396	***	-0,743	***
Germany	Pearson Correlation of DAC-OCF	Sig	Pearson Correlation of DAC-OCF	Sig	Pearson Correlation of DAC-OCF	Sig
Voluntary Disclosers	0,517	***	0,442	***	0,183	**

Non-Voluntary Disclosers	-0,554	***	-0,345	***	-0,755	***
(*), (**), (***) indicate statistically significant factors at 10%, 5% and 1% (two-tailed) level respectively.						

The dummy variable DV, which is used to indicate the provision of voluntary and non-voluntary accounting information, is significantly negative for Greece and Germany for the year 2007. This fact indicates that companies that provide additional information tend to have lower accruals, which means less earnings management. For the other test ratios, Greek and German companies show a negative coefficient for size (SALESHA, LNMV, RESTAS). Since there is a negative relationship between discretionary accruals and size for voluntarily disclosed companies, larger companies would not engage in earnings management. Similarly, the negative relationship between accruals and leverage (ETL, DEBT, DEBTE) is representative of the fact that voluntarily disclosing companies with high leverage would not tend to increase their accruals. The same considerations apply to the results between discretionary accruals and profitability (EPS, OPM, NPM), where both countries show a positive relationship, implying that low profitability ratios and low accruals coexist for voluntarily disclosing companies. The overall results in Table 12 indicate that companies that voluntarily disclose financial statements have realised that they limit the use of accruals to increase their profits and escape a difficult financial situation. This means that H4 applies to both countries.

Table 12: OLS Regression of Accruals (H4/Test 3)

Greece	**2007**		**2008**			**2009**		
Variables	**Coefficients**	**Sig.**	**Variables**	**Coefficients**	**Sig.**	**Variables**	**Coefficients**	**Sig.**
DV	-0,143	***	DV	-0,06		DV	0,189	
	-0,027			-0,158			-0,1	
SALESHA	-0,003	***	LNMV	-0,098	***	LNMV	-0,051	***
	-0,001			-0,02			-0,01	
ROSC	0,373	***	OPM	0,946	**	NPM	0,051	***
	-0,054			-0,384			-0,018	
ETL	-0,001	*	DEBT	-0,048	***	ETL	-0,022	*
	0			-0,007			-0,012	
Constant	-1,2		Constant	3,19		Constant	-1,5	
	-0,002			-0,015			-0,009	
R2 adj.	0,623		R2 adj.	0,598		R2 adj.	0,471	
Sample size	237		Sample size	236		Sample size	238	
Germany	2007	2008	2009					
Variables	Coefficients	Sig.	Variables	Coefficients	Sig.	Variables	Coefficients	Sig.
DV	-0,728	***	DV	0,001		DV	0,042	
	-0,169			-0,02			-0,046	
SALESHA	-1,837	**	RESTAS	-0,072	***	RESTAS	-0,034	***
	-0,809			-0,017			-0,015	
EPS	3,062	***	ROSC	0,007	**	OPM	0,046	***
	-0,999			-0,002			-0,011	
ETL	-2,728	*	DEBTE	-0,015	**	DEBTE	-0,045	***
	-1,498			-0,006			-0,011	
Constant	4,29		Constant	3,66		Constant	3,27	
	-0,39			-0,005			-0,01	
R2 adj.	0,78		R2 adj.	0,518		R2 adj.	0,903	
Sample size	278		Sample size	288		Sample size	293	
(*), (**), (***) indicate statistically significant factors at 10%, 5% and 1% (two-tailed) level respec-tively.								

Conclusions

The introduction of IFRS aimed to change the map of global accounting standards. Although a difficult endeavour, the literature suggests that IFRS has succeeded in increasing the transparency and accuracy of corporate finances such that even weak economies such as Greece have been able to perform equally well in terms of earnings management compared to strong economies such as Germany. However, the results suggest that debt covenant violations, executive compensation and bonuses, and analysts' forecasts remain strong motivators for earnings management. On the other hand, even in the cases of earnings management attributable to the above motives, there are slight signs of improvement. For example, German companies on the verge of debt exhibit higher volatility in the variables analysed, meaning that they are less speculative in their earnings from year to year. For all these reasons, there is a need for further research on some critical aspects that shed more light on the motives of earnings management. In addition, the study shows that companies that have made voluntary accounting disclosures have better balance sheet figures and less earnings management. In the long term, these companies have gained the trust and interest of investors, which shows the right way forward for more transparency.

In this order, all market participants, such as financial authorities, academics, auditors and investors, should focus on how companies can publish more objective and reliable information to contribute to the efficient and cost-effective functioning of the capital market. The paper should serve as a basis for further research, especially by standard setters and authorities, as they have a great responsibility not only to improve accounting methods and enhance their information, but also to provide all stakeholders with a simple, objective and reliable accounting system. Therefore, it seems that the authorities still have a lot to do to broaden the voluntary perspectives, simplify the market procedures and strengthen the audit control mechanisms in order to eliminate the cases of profit management.

Overall, the results of the study provide useful insights into the motives of earnings management under IFRS, but there are two limitations that need to be considered in light of the insights gained from the results. Namely, the study focuses on a three-year period and examines only two European countries. Accordingly, future studies in this area should consider extending the study period to include additional facts that might influence the relationship between earnings management and IFRS, and at the same time increase the countries studied in order to broaden the basis for generalizing the results.

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