

IFRS Adoption Effects in Greece: Evidence from the Industrial & Commercial Sector

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Abstract

This study examines the effects of the transition from the Greek GAAP to the IFRS on the financial results of Greek firms of the Industrial and Commercial sector, listed on the Athens Exchange. In order to analyze the possible impact from the IFRS adoption at the sample firms, the study analyses the financial statements of these firms for three years before and after the IFRS adoption in Greece with some financial and cash flow ratio analysis. Also, a further analysis is applied in order to estimate the exact influence of IFRS adoption effects in a different time interval and is compared the year 2002 (the year that was firstly announced the IFRS adoption in E.U.) with the year 2005 (the first year of IFRS official adoption on firms' financial statements). The received results revealed that the IFRS adoption effects on accounting-based information and performance from financial statements lead, in general, the sample firms to a better performance, at some ratios, but not in the case of different time intervals or sub-samples.

Keywords: IFRS, IAS, Greek GAAP, Financial statement effects

JEL classifications: G18, G30, M41, M49

Introductory comments

During the last years the process of internationalisation has increased the need for world-wide comparable accounting standards and regulations in all the financial markets (Meek and Saudagaran, 1990; Zarzeski, 1996; d'Arcy, 2001; Baker and Barbu, 2007; Iatridis and Rouvolis, 2010). Within this internationalization process, starting from 2005 all the listed firms in the European Union (EU) member

states were required to prepare their financial statements according to the International Financial Reporting Standards - IFRS¹ (see, EU Regulation 1606/2002 for the mandatory adoption of IFRS from 2005 onwards).

Within this aspect, compliance with IFRS is compulsory for firms in Greece listed on the Athens Exchange since January 2005, while other firms that are not obliged to apply IFRS still use Greek GAAP (Karagiorgos and Petridis, 2010). This transition from Greek GAAP to IFRS may have an effect on firms' financial results (Iatridis and Rouvolis, 2010). Several studies worldwide document anticipated as well as actual economic consequences of IFRS adoption (Armstrong et al., 2007; Daske et al., 2008; Prather-Kinsey et al., 2008).

In Greece there are many past studies that examined the impact of adoption of IFRS at the Greek firms from many aspects (Schleicher et al., 2010; Prather-Kinsey, 2010; Floropoulos and Moschidis, 2004; Ballas et al., 2010; and others). However some of them have examined several sectors of Athens Exchange (Georgakopoulou et al., 2008; 2010; Dimitras et al., 2010), but none of them a sector with special peculiarities and particular interest: the industrial and commercial sector. Thus, this study examines the impact of the adoption of IFRS on the financial statements of listed firms on the Athens Exchange at the industrial and commercial sector, as a whole and then, separately.

The structure of the paper is as follows: the next section presents the literature review of IFRS studies for Greece. The following section presents the research design of this study (sample and data; selected accounting ratios; methodology and hypothesis). The next one analysed the results. Finally, the last section concludes the paper.

Related research studies

Diachronically, and especially in the last years, several past studies have examined the impact of adoption of IFRS at the Greek firms from many aspects, such as: shareholder value and performance (Floros, 2007), cash flow analysis (Schleicher et al., 2010; Prather-Kinsey, 2010), impact on tangible assets (Ginoglou et al., 2008), managers' opinions and considerations (Floropoulos, 2006), SME firms and their possible IFRS adoption (Floropoulos and Moschidis, 2004), etc. The most important studies that are examined the impact of IFRS at Greek firms on their financial statements and performance (in comparison with the Greek GAAP period) are the following:

Georgakopoulou et al. (2010) studied whether the adoption of IFRS standards affects the financial statements and the chartered auditors' certificates, using a sample of Greek food and beverage firms. In their research investigated a sample of twenty Greek food and beverage firms, listed on the Athens Exchange, during 2002 through 2006. They compared from balance sheet and income statement figures accounting data (nine financial ratios) at the pre-IFRS period (2002-2004) and the post IFRS period (2004-2006), as they considered that the year 2004 is the transitional year from the mandatory adoption of IFRS from 2005 onwards, and for this reason the year 2004 should be included in

¹ In this study, there no distinction between International Financial Reporting Standards-IFRS and International Accounting Standards-IAS, which were published until 2002 and after this date all future (new) standards are called IFRS.

the pre-IFRS period. They concluded that shareholders' equity and total liabilities and total assets recorded higher prices under IFRS than in the Greek GAAP period.

Ballas et al. (2010) investigated the relevance of IFRS in Greece. Their study adopted a mixed methodology relying on secondary sources (such as the relevant legislation, published annual reports and reports on the effects of the application of IFRS by Greek firms) and primary data (a postal survey answered from the finance managers of twenty four Greek firms). They claimed that, participants in the survey believed that the IFRS adoption improved the quality of financial reporting, even though the Greek environment was not appropriate for IFRS application. Ballas et al. (2010) concluded that the introduction of IFRS increased the reliability, transparency and comparability of the financial statements.

Doukakis (2010) examined the persistence of earnings and earnings components after the adoption of IFRS in Greece. In his study analysed accounting data for two years before and two years after the adoption of IFRS for all non-financial firms listed on the Athens Exchange, in order to examine whether the adoption of IFRS materially affects the persistence, as well as the explanatory power of earnings and earnings components. Doukakis (2010) argued that its research results suggested that IFRS measurement and reporting guidelines do not seem to improve the persistence of earnings and earnings components.

In addition to the above-mentioned studies, Georgakopoulou et al. (2010) investigated the impact of the IFRS adoption at the financial statements of a sample of Greek manufacturing firms, listed on the Athens Exchange. They examined the year 2004 under IFRS and Greek GAAP and with their research claimed that shareholders' equity and total liabilities and total assets recorded higher prices under IFRS than in the Greek GAAP period.

Iatridis and Rouvolis (2010) studied the effects of the transition from Greek GAAP to IFRS on the financial results of all non-financial Greek firms, listed on the Athens Exchange. Also, they examined the factors associated with the provision of voluntary IFRS disclosures before the official period of adoption and the degree of earnings management under IFRS. They concluded that the implementation of IFRS has introduced volatility in key income statement and balance sheet measures of Greek firms. Although the effects of IFRS adoption in the first year of adoption appear to be unfavourable, perhaps due to the IFRS transition costs, firms' financial measures improved significantly in the subsequent period. Furthermore, this result explains why in the official adoption period there is some evidence of earnings management, which is reduced in the subsequent period.

Pazariskis et al. (2011) examined the possible impact from the adoption of IFRS at Greek firms of the Information Technology (IT) sector, listed on the Athens Exchange, with some ratios, for three years before and after IFRS adoption event. They claimed that their results revealed that two (EBIT margin; gearing) out of twenty accounting ratios had a statistically significant change and a positive impact due to the IFRS adoption.

Vazakidis and Athianos (2010) explored the main differences between IFRS and Greek GAAP, in order to reveal the differences in financial figures which have been appeared due to the adoption of IFRS. They

examined a sample of ninety randomly selected Greek firms, listed on the Athens Exchange, with the use of capital asset pricing model (CAPM). Vazakidis and Athianos (2010) concluded that when investors take into consideration the risk profile of each company, the differences in the valuation, current assets, current liabilities and sales can predict the share prices within a period of six months. Furthermore, in comparison with another past study of these authors (Athianos et al., 2005), which examined a sample of forty Greek companies that adopted voluntarily the IFRS, they have found same results for earnings and sales, as in both studies the arithmetic mean of the above was statistically the same.

Last, Diakomichalis and Toudas (2007) at their study examined a sample of Greek firms from the media, technology and financial services sector. They concluded that the value of shareholders' equity decreased, after the implementation of IFRS, due to various causes such as: the valuation of holdings at fair value, bad debt cancellation, the inventories' policy, the redefinition of the value investment, the impact from the valuation of tangible assets and the recognition of deferred tax.

Research design

Sample and data

The study proceeds to an analysis of firms from the industrial and commercial sector (more analytically, from the "industrial goods and services sector", and the "commerce sector"), listed at the Athens Exchange, in order to examine their financial statements and performance in relation to the IFRS adoption in Greece. There are thirty eight firms in these sectors (twenty eight firms of the industrial goods and services sector and ten firms of the commerce sector) and despite the fact that many other sectors of the Athens Exchange have been examined separately (Diakomichalis and Toudas, 2007; Georgakopoulou et al., 2008; 2010; Dimitras et al., 2010; Pazarskis et al., 2011), there is no particular study for these two sectors, in separately or in combination.

For these thirty eight Greek listed firms of the industrial and commercial sector their financial statements are evaluated and compared at several ratios for three years before and after the IFRS adoption in Greece: the pre-IFRS period (2002-2004) and the post-IFRS period (2005-2007).

The study proceeds to an analysis only of listed firms as their financial statements are published and it is easy to find them and evaluate from them their performance. The financial statements of the listed Greek firms have been found from their announcements on the web sites of the Athens Exchange. The data of this study (accounting ratios) are computed from the financial statements of the sample firms and the databank of the Library of the University of Macedonia (Thessaloniki, Greece).

Selected accounting ratios

The IFRS effects on financial statements at the sample firms are evaluated with their performance at some ratios. For the purpose of this study, fourteen ratios are employed, classified at three categories (a) profitability ratios, (b) operational ratios, (c)

structure ratios, (d) cash flow ratios, which are tabulated at the following table (see, Table 1):

Table 1: Analysis of ratios

Code	Variable Name	Description
Profitability ratios		
M01	EBITDA Margin	(earnings before interest, taxes, depreciation and amortization-EBITDA / sales)*100
M02	EBIT Margin	(earnings before interest and taxes-EBIT / sales)*100
M03	ROE	(net income / shareholders funds)*100
M04	ROA	(net income / total assets)*100
Operational ratios		
M05	Net assets turnover	sales / (shareholders funds + long term debt)
M06	Interest cover	(earnings before interest and taxes-EBIT / interest expense)
M07	Collection period	(debtors / sales)*360
M08	Credit period	(creditors / sales)*360
Structure ratios		
M09	Current ratio	current assets / current liabilities
M10	Liquidity ratio	(current assets - stocks) / current liabilities
M11	Solvency ratio	(shareholders funds / total assets)*100
M12	Gearing	(non current liabilities + loans) / shareholders funds
Cash flow ratios		
M13	Cash flow	cash flow
M14	Cash flow/Operating revenue	cash flow / operating revenue

Methodology and hypothesis

In order to evaluate the IFRS effects on financial statements and performance of the sample firms, the study proceeds to an analysis of several ratios from their financial statements.

Firstly, the study analyses the IFRS effects on financial statements for three years before and after the IFRS adoption in Greece (Schleicher et al., 2010): the pre-IFRS period (2002-2004), which were applied the Greek GAAP, and the post-IFRS period (2004-2006). Also, these selected years provide a regular weighting of data observations for the pre-IFRS and post-IFRS years (Prather-Kinsey, 2010).

Secondly, a further analysis is applied in order to estimate the exact influence of IFRS adoption effects in a different time interval and is compared (Prather-Kinsey, 2010): the year 2002 (the year that was firstly announced the IFRS adoption in E.U.) and the year 2005 (the first year of IFRS official adoption on firms' financial statements).

In this study the following cases have been considered for the sample firms and as referred above:

- α : the case of examination of the sample firms three years before (2002-2004) and after (2005-2007) the IFRS adoption in Greece,
- β : the case of examination of the sample firms for the year 2002 (the year that was announced IFRS adoption in E.U.) and the year 2005 (the first year of official IFRS adoption).

In order to evaluate the relative change with ratio analysis of the sample of the Greek firms after the IFRS adoption, the general form of the hypothesis that is examined for each accounting ratio separately (ratios from M1 to M12) and for the above cases (α , β , respectively) is the following:

H_{0ij} : There is expected **no** relative change of the ratio **i** from the IFRS adoption effects at case **j**.

H_{1ij} : There is expected relative change of the ratio **i** from the IFRS adoption effects at case **j**.

where,

$i = \{M1, M2, \dots, M12\}$

$j = \{\alpha, \beta\}$

The crucial research question that is investigated by examining the above mentioned ratios is the following: "IFRS adoption provide a different and better accounting-based information and financial performance from financial statements than the earliest one with the Greek GAAP?".

The selected accounting ratios for each company of the sample over a three-year-period before (year $T-3$, $T-2$, $T-1$) or after (year $T+1$, $T+2$, $T+3$) the adoption of IFRS in Greece are calculated, and the mean from the sum of each accounting ratio for the years $T-3$, $T-2$ and $T-1$ is compared with the equivalent mean from the years $T+1$, $T+2$ and $T+3$ respectively (for the case α)². In similar process, the case β , respectively, is evaluated.

To test these hypothesis two independent sample mean t-tests for unequal variances are applied, which are calculated as follows:

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}}$$

where,

n = number of examined ratios

\bar{X}_1 = mean of Pre-IFRS ratios

\bar{X}_2 = mean of Post-IFRS ratios

s = standard deviation

² In this study, the mean from the sum of each accounting ratio is computed than the median, as this could lead to more accurate research results. This argument is consistent with other researchers (Iatridis & Rouvolis, 2010; Pazarskis et al., 2011; and others).

- 1 = group of Pre-IFRS ratios
 2 = group of Post-IFRS ratios

Finally, the research results are presented in the next section.

Research Results

Results for the industrial and commercial sector

The results for the industrial and commercial sector revealed that over a three-year-period before and after the IFRS adoption only two (EBIT margin; ROE) out of the fourteen accounting ratios had a statistically significant change due to the IFRS adoption event; both of them increased. The rest twelve accounting ratios (EBITDA margin, ROA, net assets turnover, interest cover, collection period, credit period, current ratio, liquidity ratio, solvency ratio, gearing, cash flow, cash flow/operating revenue) did not change significantly and they did not have any particular impact (positive or negative) on accounting-based information and performance from financial statements due to IFRS (see, Table 2). Thus, it signalize that the IFRS adoption effects on accounting-based information and performance from financial statements lead the sample firms to a better performance at EBIT margin ratio and ROE ratio.

Furthermore, another one analysis for the industrial and commercial sector is applied in order to estimate the exact influence of IFRS adoption effects in a different time interval (Prather-Kinsey, 2010) and the year 2002 (the year that was firstly announced the IFRS adoption in E.U.) is compared with the year 2005 (the first year of IFRS official adoption on firms' financial statements). The results revealed that for these periods before and after the IFRS adoption only one (cash flow/operating revenue) out of the fourteen accounting ratios had a statistically significant change due to the IFRS adoption event and it was decreased. The rest thirteen accounting ratios (EBITDA margin, EBIT margin, ROE, ROA, net assets turnover, interest cover, collection period, credit period, current ratio, liquidity ratio, solvency ratio, gearing, cash flow) did not change significantly and they did not have any particular impact (positive or negative) on accounting-based information and performance from financial statements due to IFRS (see, Table 3).

Table 2: Mean pre-IFRS and post-IFRS ratios three years before/after the IFRS adoption in Greece from industrial and commercial sector

Variable	Mean Pre-IFRS (3 years avg.)	Mean Post-IFRS (3 years avg.)	T-statistic (Two-tail)	P-Value	Confidence Interval 95%
M01	14,3	13,8	-0,29	0,775	(-4,22; 3,15)
M02	6,3	9,9	1,80	0,073*	(-0,33; 7,42)
M03	-3,6	9,2	2,10	0,037**	(0,76; 24,81)
M04	3,12	4,26	1,39	0,166	(-0,478; 2,767)
M05	3,7	2,05	-0,96	0,341	(-5,20; 1,81)
M06	20,4	21,1	0,07	0,942	(-18,65; 20,07)
M07	141,8	129	-0,91	0,365	(-40,6; 15,0)
M08	64,6	69,4	0,60	0,547	(-10,86; 20,43)
M09	2,29	2,22	-0,18	0,859	(-0,916; 0,765)
M10	1,88	1,77	-0,25	0,803	(-0,964; 0,747)
M11	55,1	51,4	-1,32	0,190	(-9,14; 1,82)
M12	69	62,7	-0,51	0,612	(-32,0; 18,9)

M13	6134	8333	1,50	0,135	(-691; 5090)
M14	11,17	9,82	-1,62	0,107	(-2,985; 0,292)

Note: ***, **, * indicate that the mean change is significantly different from zero at the 0.01, 0.05, and 0.10 probability level, respectively, as measured by two independent sample mean t-tests.

More analytically, the P-value interpretation levels for the above referred three cases are described below:

$p < 0.01$ strong evidence against H_0 (see, ***)

$0.01 \leq p < 0.05$ moderate evidence against H_0 (see, **)

$0.05 \leq p < 0.10$ little evidence against H_0 (see, *)

$0.10 \leq p$ no real evidence against H_0

Table 3: Mean pre-IFRS and post-IFRS ratios only for the year 2002 vs. the year 2005 from industrial and commercial sector

Variable	Mean Pre-IFRS (2002)	Mean Post-IFRS (2005)	T-statistic (Two-tail)	P-Value	Confidence Interval 95%
M01	15,2	12,40	-1,16	0,250	(-7,73; 2,05)
M02	7,12	8,12	0,49	0,625	(-3,04; 5,03)
M03	5,1	7,3	0,55	0,582	(-5,78; 10,18)
M04	3,46	3,20	-0,19	0,848	(-3,01; 2,48)
M05	1,98	2,06	0,11	0,913	(-1,297; 1,449)
M06	23,9	9,6	-1,47	0,148	(-33,67; 5,25)
M07	156	121,2	-1,54	0,129	(-79,2; 10,3)
M08	66,4	71,5	0,42	0,673	(-19,1; 29,5)
M09	2,40	2,09	-0,53	0,598	(-1,470; 0,856)
M10	1,98	1,64	-0,58	0,568	(-1,525; 0,846)
M11	56,5	53,1	-0,66	0,510	(-13,39; 6,72)
M12	49,6	59,0	0,65	0,517	(-19,3; 38,0)
M13	5594	6217	0,31	0,759	(-3419; 4665)
M14	12,28	9,56	-2,00	0,050*	(-5,43; 0,00)

Note:

***, **, * indicate that the mean change is significantly different from zero at the 0.01, 0.05, and 0.10 probability level, respectively, as referred above at table 2.

Results for the industrial sector

The results for the industrial sector revealed that over a three-year-period before and after the IFRS adoption only two (solvency ratio; gearing) out of the fourteen accounting ratios had a statistically significant change due to the IFRS adoption event; both of them decreased. The rest twelve accounting ratios (EBITDA margin, EBIT margin, ROE, ROA, net assets turnover, interest cover, collection period, credit period, current ratio, liquidity ratio, cash flow, cash flow/operating revenue) did not change significantly and they did not have any particular impact (positive or negative) on accounting-based information and performance from financial statements due to IFRS (see, Table 4). Thus, it signalize that the IFRS adoption effects on accounting-based information and performance from financial statements lead the sample firms to a better performance at solvency ratio and to gearing ratio.

Furthermore, another one analysis is applied in order to estimate the exact influence of IFRS adoption effects in a different time interval (Prather-Kinsey, 2010) and the year 2002 (the year that was firstly announced the IFRS adoption in E.U.) is compared with the year 2005 (the first year of IFRS official adoption on firms' financial statements). The results revealed that for these periods before and after the IFRS adoption only two (gearing, cash flow/operating

revenue) out of the fourteen accounting ratios had a statistically significant change due to the IFRS adoption event and they were decreased, The rest twelve accounting ratios (EBITDA margin, EBIT margin, ROE, ROA, net assets turnover, interest cover, collection period, credit period, current ratio, liquidity ratio, solvency ratio, cash flow) did not change significantly and they did not have any particular impact (positive or negative) on accounting-based information and performance from financial statements due to IFRS (see, Table 5).

Table 4: Mean pre-IFRS and post-IFRS ratios three years before/after the IFRS adoption in Greece from industrial sector

Variable	Mean Pre-IFRS (3 years avg.)	Mean Post-IFRS (3 years avg.)	T-statistic (Two-tail)	P-Value	Confidence Interval 95%
M01	16,0	14,8	-0,48	0,630	(-5,88; 3,57)
M02	6,4	10,3	1,55	0,123	(-1,08; 8,95)
M03	5,74	6,61	0,63	0,529	(-1,86; 3,60)
M04	3,33	3,49	0,24	0,814	(-1,179; 1,498)
M05	1,126	1,106	-0,14	0,886	(-0,282; 0,244)
M06	16,4	14,0	-0,42	0,676	(-13,63; 8,87)
M07	158,1	150	-0,48	0,634	(-42,3; 25,8)
M08	56,2	64,8	0,95	0,345	(-9,40; 26,63)
M09	2,63	2,52	-0,19	0,846	(-1,236; 1,015)
M10	2,25	2,10	-0,25	0,804	(-1,289; 1,000)
M11	60,9	55,4	-1,84	0,068*	(-11,42; 0,41)
M12	46,8	67,7	2,32	0,022**	(3,09; 38,67)
M13	6054	7451	0,88	0,383	(-1757; 4552)
M14	12,00	10,50	-1,55	0,122	(-3,409; 0,407)

Note:

***, **, * indicate that the mean change is significantly different from zero at the 0.01, 0.05, and 0.10 probability level, respectively, as referred above at table 2.

Table 5: Mean pre-IFRS and post-IFRS ratios only for the year 2002 vs. the year 2005 from industrial sector

Variable	Mean Pre-IFRS (2002)	Mean Post-IFRS (2005)	T-statistic (Two-tail)	P-Value	Confidence Interval 95%
M01	17,1	13,1	-1,29	0,201	(-10,14; 2,19)
M02	7,33	8,07	0,30	0,765	(-4,17; 5,64)
M03	6,9	5,0	-0,69	0,491	(-7,45; 3,62)
M04	3,84	2,41	-1,07	0,289	(-4,11; 1,25)
M05	1,175	1,047	-0,57	0,573	(-0,581; 0,325)
M06	20,3	10,8	-1,08	0,286	(-27,11; 8,24)
M07	172	136,6	-1,31	0,197	(-89,5; 19,0)
M08	55,3	66,1	0,86	0,397	(-14,7; 36,3)
M09	2,74	2,34	-0,52	0,604	(-1,959; 1,157)
M10	2,37	1,91	-0,58	0,564	(-2,042; 1,133)
M11	62,5	57,5	-0,91	0,367	(-15,93; 5,99)
M12	37,4	64,4	1,87	0,067*	(-2,0; 56,0)
M13	5904	5285	-0,30	0,766	(-4765; 3528)
M14	13,77	10,15	-2,39	0,021**	(-6,67; -0,56)

Note:

***, **, * indicate that the mean change is significantly different from zero at the 0.01, 0.05, and 0.10 probability level, respectively, as referred above at table 2.

Results for the commercial sector

The results for the commercial sector revealed that over a three-year-period before and after the IFRS adoption only two (ROE; gearing) out of the fourteen accounting ratios had a statistically significant change due to the IFRS adoption event; both of them increased. The rest twelve accounting ratios (EBITDA margin, EBIT margin, ROA, net assets turnover, interest cover, collection period, credit period, current ratio, liquidity ratio, solvency ratio, cash flow, cash flow/operating revenue) did not change significantly and they did not have any particular impact (positive or negative) on accounting-based information and performance from financial statements due to IFRS (see, Table 6). Thus, it signalize that the IFRS adoption effects on accounting-based information and performance from financial statements lead the sample firms to a better performance at ROE ratio and to gearing ratio.

Furthermore, another one analysis is applied in order to estimate the exact influence of IFRS adoption effects in a different time interval (Prather-Kinsey, 2010) and the year 2002 (the year that was firstly announced the IFRS adoption in E.U.) is compared with the year 2005 (the first year of IFRS official adoption on firms' financial statements). The results revealed that for these periods before and after the IFRS adoption none out of the fourteen accounting ratios had a statistically significant change due to the IFRS adoption event, as all the twelve accounting ratios (EBITDA margin, EBIT margin, ROE, ROA, net assets turnover, interest cover, collection period, credit period, current ratio, liquidity ratio, solvency ratio, gearing, cash flow, cash flow/operating revenue) did not change significantly and they did not have any particular impact (positive or negative) on accounting-based information and performance from financial statements due to IFRS (see, Table 7).

Table 6: Mean pre-IFRS and post-IFRS ratios three years before/after the IFRS adoption in Greece from commercial sector

Variable	Mean Pre-IFRS (3 years avg.)	Mean Post-IFRS (3 years avg.)	T-statistic (Two-tail)	P-Value	Confidence Interval 95%
M01	9,55	10,75	0,57	0,568	(-2,98; 5,38)
M02	6,2	8,68	1,02	0,312	(-2,38; 7,29)
M03	-30	16,78	2,09	0,045**	(1,1; 92,2)
M04	2,5	6,42	1,58	0,122	(-1,10; 8,90)
M05	11,1	4,68	-0,97	0,341	(-19,85; 7,10)
M06	30,5	38	0,24	0,808	(-54,1; 69,0)
M07	96,3	70,6	-1,45	0,152	(-61,0; 9,8)
M08	88,1	82,2	-0,39	0,700	(-36,6; 24,8)
M09	1,362	1,384	0,16	0,873	(-0,251; 0,295)
M10	0,863	0,855	-0,08	0,935	(-0,211; 0,194)
M11	38,7	40,2	0,30	0,763	(-8,40; 11,40)
M12	132	47,8	-2,10	0,044**	(-166,1; -2,6)
M13	6358	10803	1,33	0,188	(-2238; 11129)
M14	8,43	8,08	-0,24	0,814	(-3,31; 2,61)

Note:

***, **, * indicate that the mean change is significantly different from zero at the 0.01, 0.05, and 0.10 probability level, respectively, as referred above at table 2.

Table 7: Mean pre-IFRS and post-IFRS ratios only for the year 2002 vs. the year 2005 from commercial sector

Variable	Mean Pre-IFRS (2002)	Mean Post-IFRS (2005)	T-statistic (Two-tail)	P-Value	Confidence Interval 95%
M01	10,16	10,50	0,11	0,916	(-6,36; 7,03)
M02	6,54	8,25	0,46	0,652	(-6,15; 9,56)
M03	0,1	14,60	1,10	0,298	(-15,2; 44,1)
M04	2,4	5,40	0,81	0,434	(-4,98; 10,97)
M05	4,25	4,90	0,29	0,776	(-4,07; 5,37)
M06	33,2	6,45	-0,98	0,351	(-88,0; 34,6)
M07	110,5	78,2	-0,95	0,359	(-104,6; 40,1)
M08	97,3	86,7	-0,37	0,713	(-70,3; 49,1)
M09	1,434	1,389	-0,17	0,869	(-0,601; 0,513)
M10	0,885	0,869	-0,10	0,925	(-0,367; 0,335)
M11	39,5	40,8	0,14	0,892	(-17,69; 20,16)
M12	84	42,1	-1,19	0,259	(-118,2; 34,9)
M13	4728	8828	0,79	0,443	(-6903; 15103)
M14	7,42	7,99	0,25	0,807	(-4,37; 5,52)

Note:

***, **, * indicate that the mean change is significantly different from zero at the 0.01, 0.05, and 0.10 probability level, respectively, as referred above at table 2.

Summary and conclusions

The process of internationalisation has increased the need for world-wide comparable accounting standards and regulations in all the financial markets. Within this internationalization process, starting from January 2005 all the listed firms in the European Union (EU) member states were required to prepare their financial statements according to the International Financial Reporting Standards - IFRS. This transition from Greek GAAP to IFRS may have an effect on firms' financial results. Several studies worldwide document anticipated as well as actual economic consequences of IFRS adoption. In Greece there are many past studies that examined the impact of adoption of IFRS at the Greek firms from many aspects and in several sectors of Athens Exchange. However, none of them examine the industrial and commercial sector, two of the most important sectors of every national economy, together and separately, which are sectors with special peculiarities and particular interest.

Thus, this study examines the impact of the adoption of IFRS on the financial statements of listed firms on the Athens Exchange at the industrial and commercial sector. The study proceeds to an analysis of thirty eight firms in these sectors (more analytically, twenty eight firms of the industrial goods and services sector and ten firms of the commerce sector), listed at the Athens Exchange. The IFRS effects on financial statements at the sample firms are evaluated with their performance at some accounting ratios. For the purpose of this study, fourteen ratios are employed, classified at four categories (a) profitability ratios, (b) operational ratios, (c) structure ratios, (d) cash flow ratios.

The study analyses the IFRS effects on financial statements for three years before and after the IFRS adoption in Greece: the ratios for the pre-IFRS period (2002-2004), when were applied the Greek GAAP, are compared with these ones of the post-IFRS period (2005-2007). Also, a

further analysis is applied in order to estimate the exact influence of IFRS adoption effects in a different time interval and is compared the year 2002 (the year that was firstly announced the IFRS adoption in E.U.) with the year 2005 (the first year of IFRS official adoption on firms' financial statements). Last, the study analyses in the beginning the sum of all the listed firms from the industrial and commercial sector, and then, separately, the sub-samples of the firms of the industrial sector and the firms of the commercial sector.

All-in-all, examining the data for all the sample firms over a three-year-period before and after the IFRS adoption, the results revealed that only two (EBIT margin; ROE) out of the fourteen accounting ratios had a statistically significant change due to the IFRS adoption event; both of them increased. Also, concerning the IFRS adoption effects and compared the year 2002 with the year 2005, the research results revealed that for these periods only one (cash flow/operating revenue ratio) out of the fourteen accounting ratios had a statistically significant change due to the IFRS adoption, and present a worsening from the adoption of IFRS on accounting-based information and performance at the sample firms. However, these results signalize, in general, that the IFRS adoption effects on accounting-based information and performance from financial statements lead the sample firms to a better performance, at EBIT margin ratio, as well as to ROE ratio.

Furthermore, concerning the cases of separate examination of the sub-samples of the firms from the industrial and the commercial sector and examining the case of three-year-period before and after the IFRS adoption, there were received mixed results from their evaluation: the firms of the industrial sector presents a worsening at their performance from the IFRS adoption at some ratios (solvency and gearing ratios), while the firms of the commercial sector presents a better performance from the IFRS adoption at some ratios (ROE and gearing ratios). Furthermore, concerning the IFRS adoption effects and in comparison the year 2002 with the year 2005, there were received also mixed results.

Last, future extensions of this study could examine a larger sample that could include not only Greek firms listed in the industrial and commercial sector of the Athens Exchange, but also non-listed firms and within other time frame periods or could examine another sector or sectors of listed firms at the Athens Exchange.

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