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The explanatory power of earnings for stock returns in the pre- and post-IFRS era

Some evidence from Greece

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Abstract

Purpose – This study aims to examine the effects of the introduction of the International Financial Reporting Standards (IFRS) on the explanatory power of earnings for stock returns in Greece.

Design/methodology/approach – The study uses variants of the Easton and Harris model. Moreover, the study controls for asymmetries in the information content of earnings and losses.

Findings – The findings show that the IFRS had several effects on the value relevance of earnings. In particular, the available information content of both earnings and earning changes decreased after the introduction of the IFRS. The reduction in the information content of earnings for returns (or the information content of book values of equity for stock prices) could be attributed to the IFRS and, in particular, to the introduction of the fair value principle. Moreover, even after controlling for the existence of asymmetries, the findings of reduced information content of earnings and earning changes for stock returns persist.

Originality/value – The study makes a significant contribution to the research of the implementation of the IFRS. In particular, the study examines the adoption of a set of high quality standards in a country where accounting was dominated by tax laws and governmental intervention.

Keywords International standards, Financial reporting, Greece

Paper type Research paper

1. Introduction

Since the study by Lev (1989), the earnings-return relationship has been one of the most important topics in accounting literature, even though several studies report a low association between earnings and returns[1]. The introduction of the International Financial Reporting Standards (IFRS) has given new insights into the issue as several studies have reported that when quality financial reporting standards dominate the process of financial reporting, the association between accounting variables and returns increases significantly.

For example, Barth *et al.* (2007) examined a large sample of firms from 21 countries and found that IAS[2] earnings are of higher quality compared to domestic standards. The introduction of the IFRS induced some important changes in financial reporting in all EU countries (Soderstrom and Sun, 2007). These changes seem to be more important in countries that had a code law accounting system because IAS are closer to the US GAAP than to code law accounting systems like that of Germany. Indeed, Barth *et al.* (2006) found that the implementation of IAS leads to financial statements similar to the financial statements reported under US GAAP. Moreover, they argued that financial statements reported under US GAAP are of higher informational quality than those

Managerial Finance
Vol. 39 No. 9, 2013
pp. 814-824

0307-4358
DOI 10.1108/MF-01-2010-0007

produced under IAS. In contrast, Leuz (2003) found no significant differences in the information asymmetry for the two institutional frameworks, which is in agreement with the argument that both institutional frameworks share a lot of commonalities and seem to converge (Schipper, 2005).

In contrast, the changes of IAS are expected to be more important in countries like Greece, which can be characterized as a code law country (Ballas, 1994). In such countries financial statements are oriented toward the welfare of the firm, and several tax laws limit their usefulness in providing information to creditors and tax authorities. The IFRS, however, are designed to provide information of better quality to investors through fair value valuation and higher timeliness of accounting numbers. Thus, changes engendered from the IFRS alter the earnings-returns relationship, and the present study addresses the effects of these changes.

The aim of the present paper is to examine the effects of the introduction of the IFRS on the explanatory power of earnings for stock returns in Greece. Using the model of Easton and Harris (1991) and a sample of firms listed in the ASE, which covers the period of 2000-2007, the study first examines whether the IFRS affected the explanatory power of earnings for returns. The motivation here is that the higher the earnings conservatism enforced by the IFRS (Hellman, 2008), the higher the timeliness of earnings through earlier expense recognition – meaning the IFRS earnings are more contemporaneously correlated to stock returns. This finding is consistent with similar findings in other EU countries (Jermakowicz *et al.*, 2007). The information content of profits and losses is also examined by controlling for nonlinearities in their relationship with returns. As Hayn (1995) finds, losses are less correlated with returns compared to profits. Thus, the research specifications also control for such nonlinearities in order to examine the sensitivity of our primary results.

The model of Easton and Harris (EH, 1991) expresses stock returns as a function of deflated earnings and deflated earning changes and is particularly useful, especially when interest lies in explaining the average effect of changes in earnings on stock returns. The model constitutes one of the first attempts to model the earnings-return relationship within an accounting-based valuation framework. In contrast to EH, other models express variables in levels and therefore assess the average effect of aggregate earnings on stock prices. However, estimation of a model in levels may lead to biased results in the presence of unit roots in the variables (spurious regression due to second-order biases, (Kao, 1999)). The predominant advantage of a model that takes first-order differences in the underlying variables (return model) is that it avoids the problem of spurious regression; differencing a random walk process induces stationarity in the variable (Kothari and Zimmerman, 1995). Therefore, the model of EH is used in the present paper mainly because of its better econometric properties.

The findings indicate that the mandatory use of the IFRS after 2005 had a substantial effect on the explanatory power of earnings for stock returns. With regards to the deflated earnings variable, its information content for stock returns is significant in the pre-IFRS period; however, after the introduction of the IFRS, its information content is reduced. Moreover, the deflated earning-changes variable displays the same pattern by being significant in both periods and reduced in the post-IFRS period. With deflated earning levels, Easton (1999) showed that under the clean surplus assumption the earnings variable captures the relationship between book values of equity and stock prices, while the earning-changes variable accounts for the earnings-price relationship.

Therefore, it can be argued that the changes due to the IFRS, and specifically to the fair valuation principle, led to a reduction in the information content of book values of equity. Our results are consistent with prior studies by Hung and Subramanyam (2007) that the information content of book values of equity and earnings does not increase in the post-IFRS period. However, due to the short time span of the post-IFRS period, information on this issue is sparse.

This paper is organized as follows: Section 2 describes the model used; Section 3 describes the dataset and provides analyses of the empirical results; and Section 4 concludes the paper and provides recommendations for future research.

2. Methodological approach

2.1 Measuring differences in the earnings-return relationship

Feltham and Ohlson (1995) examined the information content of earnings and book values of equity by expressing stock prices as a function of book values of equity and earnings as follows:

$$P_{i,t} = \alpha_0 + \alpha_1 BV_{i,t} + \alpha_2 EPS_{i,t} + \varepsilon_{i,t} \tag{1}$$

where $P_{i,t}$ is the share price of firm i at year t, $BV_{i,t}$ is the per share book value of equity of firm i at year t, $EPS_{i,t}$ is the earnings per share of firm i at year t and $\varepsilon_{i,t}$ is a mean-zero error term. As explained, however, estimation of the Feltham and Ohlson (FO) model may lead to biased results if the variables used are not stationary. Even though the t-statistics will be biased, in this case, the slopes are still unbiased.

The EH model does not suffer from such problems due to the use of the variables in changes. As Easton and Harris (1991) demonstrated, the return equivalent of equation (1), assuming that the clean surplus relation holds, is algebraically denoted as (Easton, 1999):

$$\text{Ret}_{i,t} = \beta_0 + \beta_1 \frac{EPS_{i,t}}{P_{i,t-1}} + \beta_2 \frac{\Delta EPS_{i,t}}{P_{i,t-1}} + \varepsilon_{i,t} \tag{2}$$

where $\Delta EPS_{i,t}$ is the difference of earnings per share of firm i between two points in time (beginning and end of period t) and the rest of the variables are as previously defined.

The commonalities between the two models can be found in Easton and Harris (1991) and Easton (1999). They show that the coefficient α_1 in equation (1) should be equal to β_1 in equation (2) and the coefficient α_2 in equation (1) should be equal to β_2 in equation (2). In equation (2), the change-in-earnings variable captures the explanatory power of earnings for stock prices, while the value relevance of book values is proxied by the earnings response coefficient to returns.

To account for the effects of the IFRS introduction on the earnings-returns relationship, equation (2) is augmented by slope and intercept dummies that take the value of 1 for the period 2005-2007 and 0 otherwise. If the changes introduced by the IFRS bear an impact on the earnings-returns relationship, the dummy variables should be significant. Thus, the following regression model is also used:

$$\begin{aligned}\text{Ret}_{i,t} = \beta_0 + \beta_1 \frac{EPS_{i,t}}{P_{i,t-1}} + \beta_2 \frac{\Delta EPS_{i,t}}{P_{i,t-1}} + \beta_3 Dum0507_{i,t} + \beta_4 Dum0507_{i,t} \frac{EPS_{i,t}}{P_{i,t-1}} \\ + \beta_5 Dum0507_{i,t} \frac{\Delta EPS_{i,t}}{P_{i,t-1}} + \varepsilon_{i,t}\end{aligned} \tag{3}$$

where *Dum0507* is a dummy variable that takes the value of 1 for the period 2005-2007 and 0 otherwise.

Concerning the sign of the slopes, a negative sign implies that the information content of a variable is reduced during that period, while a positive sign implies that the information content is increased.

Finally, following Hayn (1995), the research framework also examines the sensitivity of the results to the existence of nonlinearities in the earnings-returns relationship. According to Hayn, profits and losses possess different information content for stock returns. To examine this possibility, the EH model is augmented with slope dummies that take the value of 1 if the firm experienced a loss and 0 otherwise. Moreover, as in Hayn, the EH model is estimated in two distinct forms, an earnings in levels equation and a change in earnings equation. In algebraic notation, the models are as follows:

$$\mathrm{Ret}_{i,t} = \beta_0 + \beta_1 \frac{EPS_{i,t}}{P_{i,t-1}} + \beta_2 dumL \frac{EPS_{i,t}}{P_{i,t-1}} + \varepsilon_{i,t} \tag{4}$$

and:

$$\mathrm{Ret}_{i,t} = \beta_0 + \beta_1 \frac{\Delta EPS_{i,t}}{P_{i,t-1}} + \beta_2 dumL \frac{\Delta EPS_{i,t}}{P_{i,t-1}} + \varepsilon_{i,t} \tag{5}$$

where dumL is a dummy variable that takes the value of 1 if ΔEPS is negative and 0 otherwise.

3. The data and empirical results

3.1 The data

The data used in this paper consisted of a large number of Greek firms listed in the Athens Stock Exchange (ASE) over the period 2000-2007. Data of consolidated financial statement accounting variables are available on the Hellastat Database, while stock price data are available on the ASE database.

The primary sample included the population of the listed firms in the ASE. However, a number of firms were excluded from the sample. These include financial firms, which were excluded due to different financial reporting practices, and firms that had been placed under probation from the ASE authorities due to continuous losses or malpractices. Firms that did not have sufficient data to calculate changes in earnings were also deleted. Year 2000 was not included in the regression results since it was used to calculate the change in earnings variable. Observations were truncated at the upper and lower 1.5 percent. The exclusion procedure resulted in a sample of 175 firms with 926 observations. The pre-IFRS subsample covered the period 2001-2004 and contained 153 firms with 496 observations, while the post-IFRS subsample contained 165 firms with 430 observations and covered the period 2005-2007. The number of firms that were included in the annual samples ranged from 101 in 2001 to 145 in 2007. Our sample is quite representative as the number of firms in the two subsamples exceeded 51 percent of the industrial and commercial ASE firms.

The variable definitions include: *EPS*, which is net income before taxes divided by common shares outstanding (and deflated by price at time $t-1$ as in the EH model denoted as ($EPS_{i,t}/P_{i,t-1}$)); Ret, which is annual stock returns measured three months after each fiscal year end inclusive of dividends; *ΔEPS*, which is the change in *EPS* deflated by the price at time $t-1$ (denoted as ($\Delta EPS_{i,t}/P_{i,t-1}$)).

Panel A of Table I shows descriptive statistics of the variables used in this study. An interesting feature of the results of Table I is that despite the truncation procedure, outliers still prevailed in the sample. Panels B and C of Table I tabulate some descriptive statistics of the sample firms in the pre- and post-IFRS period, respectively. A second interesting feature of the results is that while earnings and earnings changes did not appear to change significantly after the introduction of the IFRS, returns followed exactly the opposite route and increased in the post-IFRS period. Finally, Table II presents the correlations between the variables. As expected, the correlations between the explanatory variables are not high, indicating that our results are free of any multicollinearity effects.

	Ret	EPS	ΔEPS
Panel A: descriptive statistics for the full period			
Mean	−0.01	0.06	0.00
Median	−0.12	0.05	0.00
Max.	2.97	0.49	0.89
Min.	−0.83	−0.78	−0.56
SD	0.53	0.09	0.07
Panel B: descriptive statistics for the pre-IFRS period			
Mean	−0.14	0.05	0.01
Median	−0.27	0.04	0.00
Max.	2.52	0.29	0.30
Min.	−0.83	−0.36	−0.37
SD	0.50	0.07	0.05
Panel C: descriptive statistics for the post-IFRS period			
Mean	0.18	0.07	0.00
Median	0.07	0.07	0.00
Max.	2.97	0.49	0.89
Min.	−0.73	−0.78	−0.56
SD	0.53	0.11	0.09

Notes: The full-period sample covers the period 2001-2007 and contains 175 firms with 926 observations; in specific year 2001 includes 101 firms, year 2002 122 firms, year 2003 134 firms, year 2004 139 firms, year 2005 141 firms, year 2006 144 firms and finally year 2007 145 firms; the pre-IFRS sub-sample covers the period 2001-2004 and contains 153 firms with 496 observations, while the post-IFRS sub-sample contains 165 firms with 430 observations and covers the period 2005-2007; *EPS* – net income before taxes divided by common shares outstanding (and deflated by price at time $t-1$); *Ret* – annual stock returns measured three months after each fiscal year end and *ΔEPS* – change in *EPS* deflated by the price at time $t-1$

Table I.
Descriptive statistics

	Ret	EPS	ΔEPS
Ret	1.00		
EPS	0.28	1.00	
ΔEPS	0.21	0.49	1.00

Notes: The sample covers the period 2001-2007 and contains 175 firms with 926 observations; *EPS* – net income before taxes divided by common shares outstanding (and deflated by price at time $t-1$); *Ret* – annual stock returns measured three months after each fiscal year end and *ΔEPS* – change in *EPS* deflated by the price at time $t-1$

Table II.
Correlations between the variables

3.2 Empirical results

Estimated results of the EH model over the entire period, as opposed to the pre- and post-IFRS periods, are shown in Table III, Panel A. The β_1 slope coefficient (or the proxy for the relationship between book values and prices), fell from a highly significant value of 1.81 to the value of 1.16 from the pre- to the post-IFRS period. The β_2 coefficient (which proxies for the relationship between prices and earnings) followed the same pattern and declined for the post-IFRS period. Moreover, the coefficients' statistical significance also decreased in the post-IFRS period. The implication of the above results is that both book values of equity and earnings lost some of their information content in the post-IFRS period.

A stepwise regression framework was used to reveal annual changes in the information content of earnings and changes in earnings for stock returns by using the adj. R^2 of the EH model. The yearly evolution of the adj. R^2 (Figure 1) showed a reduction in the value relevance of earnings and changes in earnings in the post-IFRS period.

The results of Table III (Panel A) concerning changes in earnings contradict the argument that the IFRS make earnings (captured by the earnings changes variable) more contemporaneously related to prices (stock returns). This may be caused by the decrease in the number of observations due to the splitting of the sample into two unequal subsamples corresponding to the pre- and post-IFRS periods.

To examine this possibility, the study develops a dummy variable approach that enables the use of the full dataset. These results are shown Table III, Panel B. The slope coefficients β_1 and β_2 show the relationship between earnings and changes in earnings with returns over the entire sample period. Slope coefficients β_4 and β_5 show the incremental explanatory power of earnings and changes in earnings in the post-IFRS period, while β_3 is an intercept dummy. The sum of coefficients β_1 and β_4 is the relationship between earnings and returns in the post-IFRS period, while the sum of β_2 and β_5 is the relationship between earnings changes and returns in the same period. Only the intercept dummy coefficient (β_3) was found to be statistically significant. This can be attributed to the higher level of the stock returns in the post-IFRS period. Moreover, it can be argued that the incremental information content of IFRS is not statistically significant, which is in agreement with Hung and Subramanyam (2007).

Clearly, the results indicate a decrease in the value relevance of earnings and changes in earnings. To increase our confidence in our results, the EH model was split to include earnings only and changes in earnings only as explanatory variables. The results are tabulated in Tables IV and V, respectively, and are in agreement with those reported thus far.

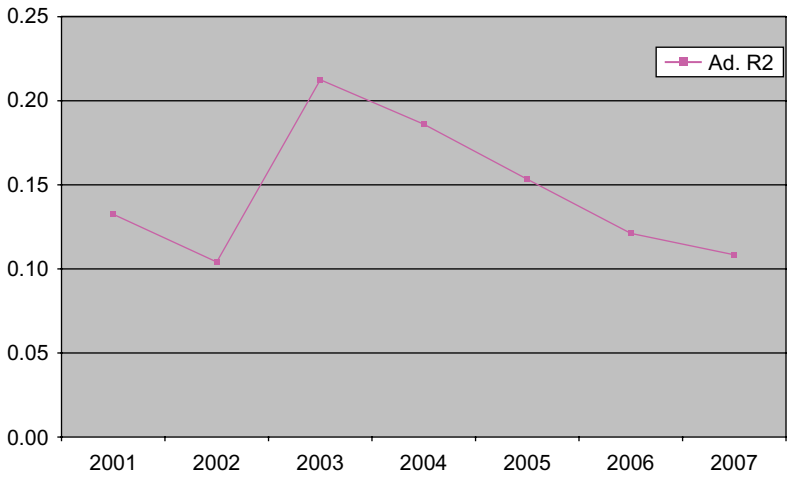
Within the context of the analysis by Easton (1999), the reduction in the information content of earnings for returns (or the information content of book values of equity for stock prices) could be attributed to the IFRS and, in particular, to the introduction of the fair value principle. In contrast, the reduced information content of earnings for stock prices is perhaps a result of nonlinearities in the earnings changes-returns relationship.

To examine this possibility the study uses the methodology of Hayn (1995) and controls for nonlinearities in the earnings-returns and earnings changes-returns relationships. The results are summarized in Table VI and reveal an interesting pattern. For almost all study specifications, the loss dummy coefficient is significant and, when included in the equation, the adj. R^2 increased, meaning that the nonrelevant loss components in earnings and/or changes in earnings induced bias in the respective slope

Table III.
Results of the Easton and Harris model

	β_0	*t*-stat.	β_1	*t*-stat.	β_2	*t*-stat.	β_3	*t*-stat.	β_4	*t*-stat.	β_5	*t*-stat.	R^2
Panel A: results using sub-samples													
$\text{Ret}_{i,t} = \beta_0 + \beta_1 \frac{EPS_{i,t}}{P_{i,t-1}} + \beta_2 \frac{\Delta EPS_{i,t}}{P_{i,t-1}} + \varepsilon_{i,t}$													
Periods													
2001-2007	−0.07	−3.30***	1.61	7.91***	0.78	2.80***	NA	NA	NA	NA	NA	NA	0.11
2001-2004	−0.22	−8.15***	1.81	6.06***	2.86	5.50***	NA	NA	NA	NA	NA	NA	0.19
2001-2007	0.10	3.09***	1.16	4.43***	0.59	1.82*	NA	NA	NA	NA	NA	NA	0.08
Panel B: results using dummies for the post-IFRS period													
$\text{Ret}_{i,t} = \beta_0 + \beta_1 \frac{EPS_{i,t}}{P_{i,t-1}} + \beta_2 \frac{\Delta EPS_{i,t}}{P_{i,t-1}} + \beta_3 Dum0507_{i,t} + \beta_4 Dum0507_{i,t} \frac{EPS_{i,t}}{P_{i,t-1}} + \beta_5 Dum0507_{i,t} \frac{\Delta EPS_{i,t}}{P_{i,t-1}} + \varepsilon_{i,t}$													
Intercept and slope dummies	−0.16	−6.24***	1.74	6.50***	1.07	3.01***	0.24	5.75***	−0.49	−1.23	−0.25	−0.44	0.15

Notes: Statistically significant at: *10, **5 and ***1 percent levels; the data-set covers the period 2001-2007 and contains 175 firms with 926 observations; the pre-IFRS sub-sample covers the period 2001-2004 and contains 153 firms with 496 observations, while the post-IFRS sub-sample contains 165 firms with 430 observations for the period 2005-2007; *EPS* – income before taxes divided by common shares outstanding (and deflated by price at time $t-1$); *Ret* – annual stock returns measured three months after each fiscal year end and *ΔEPS* – change in *EPS* deflated by the price at time $t-1$



Note: $\text{Ret}_{i,t} = \beta_0 + \beta_1 \frac{EPS_{i,t}}{P_{i,t-1}} + \beta_2 \frac{\Delta EPS_{i,t}}{P_{i,t-1}} + \varepsilon_{i,t}$

Figure 1.
Stepwise R^2 of the Easton and Harris (1991) model

Periods	β_0	$\text{Ret}_{i,t} = \beta_0 + \beta_1 \frac{EPS_{i,t}}{P_{i,t-1}} + \varepsilon_{i,t}$ *t*-stat.	β_1	*t*-stat.	R^2
2001-2007	−0.13	−7.25***	2.03	12.29***	0.12
2001-2004	−0.23	−8.98***	2.53	9.51***	0.14
2005-2007	0.08	2.82***	1.38	6.51***	0.08

Notes: Statistically significant at: *10, **5 and ***1 percent levels; the data-set covers the period 2001-2007 and contains 175 firms with 926 observations; the pre-IFRS sub-sample covers the period 2001-2004 and contains 153 firms with 496 observations, while the post-IFRS sub-sample contains 165 firms with 430 observations for the period 2005-2007; *EPS* – income before taxes divided by common shares outstanding (and deflated by price at time $t - 1$) and *Ret* – annual stock returns measured three months after each fiscal year end

Table IV.
Results of the split Easton and Harris model

Periods	β_0	$\text{Ret}_{i,t} = \beta_0 + \beta_1 \frac{\Delta EPS_{i,t}}{P_{i,t-1}} + \varepsilon_{i,t}$ *t*-stat.	β_1	*t*-stat.	R^2
2001-2007	0.04	2.22***	1.82	7.38***	0.05
2001-2004	−0.11	−5.10***	3.68	8.40***	0.12
2005-2007	0.19	7.36***	1.38	4.77***	0.05

Notes: Statistically significant at: *10, **5 and ***1 percent levels; the data-set covers the period 2001-2007 and contains 175 firms with 926 observations; the pre-IFRS sub-sample covers the period 2001-2004 and contains 153 firms with 496 observations, while the post-IFRS sub-sample contains 165 firms with 430 observations for the period 2005-2007; *Ret* – annual stock returns measured three months after each fiscal year end and ΔEPS – the change in *EPS* deflated by the price at time $t - 1$

Table V.
Results of the split Easton and Harris model

Periods	β_0	*t*-stat.	β_1	*t*-stat.	β_2	*t*-stat.	R^2
Panel A: earnings levels							
$\text{Ret}_{i,t} = \beta_0 + \beta_1 \frac{EPS_{i,t}}{P_{i,t-1}} + \beta_2 dumL \frac{EPS_{i,t}}{P_{i,t-1}} + \varepsilon_{i,t}$							
2001-2004	−0.27	-10.69^{***}	3.60	11.94^{***}	−3.28	-6.72^{***}	0.20
2005-2007	0.08	2.76^{***}	1.70	7.16^{***}	−1.17	-2.89^{***}	0.10
Panel B: earnings changes							
$\text{Ret}_{i,t} = \beta_0 + \beta_1 \frac{\Delta EPS_{i,t}}{P_{i,t-1}} + \beta_2 dumL \frac{\Delta EPS_{i,t}}{P_{i,t-1}} + \varepsilon_{i,t}$							
2001-2004	−0.15	-6.30^{***}	4.86	9.09^{***}	−4.11	-3.75^{***}	0.14
2005-2007	0.18	6.50^{***}	1.43	3.97^{***}	−0.16	−0.23	0.05

Notes: Statistically significant at: $^{*}10$, $^{**}5$ and $^{***}1$ percent levels; the data-set covers the period 2001-2007 and contains 175 firms with 926 observations; the pre-IFRS sub-sample covers the period 2001-2004 and contains 153 firms with 496 observations, while the post-IFRS sub-sample contains 165 firms with 430 observations for the period 2005-2007; *EPS* – net income before taxes divided by common shares outstanding (and deflated by price at time $t-1$); *Ret* – annual stock returns measured three months after each fiscal year end and ΔEPS – change in *EPS* deflated by the price at time $t-1$; last, dumL – a dummy variable that takes the value of 1 if the firm experienced a loss and zero otherwise

Table VI.
Results of the Hayn model

coefficients and modeling provided a better fit. Moreover, the loss slope dummy is insignificant only for the deflated earnings changes model in the period 2005-2007. However, the primary results were not qualitatively altered since the information content of both earning levels and changes still decreased in the post-IFRS period.

The tests, therefore, showed a decrease in the value relevance of both earnings and changes in earnings in the post-IFRS period. This result was expected for earning levels since the earnings variable of the EH model proxies for the book value of equity variable of the FO model (Easton, 1999). Thus, the IFRS was shown to reduce the value relevance of book values of equity. Moreover, the value relevance of both book values of equity and earnings as proxied by the adj. R^2 of the regressions was marginally lower in the post-IFRS period, irrespective of the research estimation procedure used.

4. Conclusions

The aim of this paper was to examine the impact of the introduction of the IFRS on the explanatory power of earnings for returns. The research framework used in the study consisted of a number of variants of the Easton and Harris (1991) model, which not only allowed for breaks in the earnings-returns relationship in the pre- and post-IFRS periods but also for nonlinearities in the earnings-returns relationship because of differences in the information content of losses versus profits. The data consisted of a sample of 175 Greek firms over the period 2001-2007. The research study covered a period of four years prior and three years after the IFRS, and this short post period may have influenced the results. However, as new data become available, the dataset can be expanded and reexamined.

The findings indicated a reduction in the information content of both the earnings variable (accounting for the information content of book values of equity) and the earnings changes variable (accounting for the information content of aggregate earnings) for stock

returns (stock prices) in the post-IFRS period. As concerns book value of equity (proxied by earnings levels) this could partly be explained by the use of the fair value principle in the valuation, which replaced the historical cost principle. The possible increase in the volatility of book values of equity variable, due to the application of fair value estimates in valuation, led to lower slope coefficients.

On the other hand nonlinearities in the earnings-return relationship caused by the difference in information content for profits and losses bear no significant impact on our primary conclusions. However, the nonlinearities may be responsible for the loss in the information content of earnings (change in earnings) in the post-IFRS (pre-IFRS) period.

Notes

1. See Kothari (2001) for a review of such studies in the area.
2. The term IAS refers to the International Accounting Standards and are the standards preceding the IFRS.

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