



The impact of accounting of securities valuation on stock returns: the case of Greece

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Abstract

Purpose – The purpose of this paper is to investigate the market reaction to the accounting treatment of the marking-to-market of equity investments of Greek firms during the period 2002-2004.

Design/methodology/approach – Using data for firms listed in the ASE, a treatment effects model of returns on control variables, the valuation adjustment and a dummy for the accounting treatment which is modeled as conditional to profitability, size and leverage.

Findings – It is found that firms chose to take valuation losses through equity but the market considered this treatment as a negative signal. The paper concludes that although market behavior is consistent with the efficient markets hypothesis, managerial behavior is more consistent with the mechanistic hypothesis.

Originality/value – This study contributes to understanding the factors that influence the accounting policy decisions of firms listed in the Athens Stock Exchange. In addition, this study contributes to evaluating the IASB's decision to give issuers of reclassify financial the ability to reclassify them.

Keywords Accounting policy, Securities, Stock returns, Greece

Paper type Research paper

Introduction

Following the crisis in the financial markets during the summer and fall of 2008, the International Accounting Standards Board (IASB) decided (apparently under political pressure) to give issuers the ability to reclassify financial instruments. In practical terms, this meant that securities that were part of a firm's trading portfolio could be reclassified as "held to maturity". This decision was made because many market participants argued that losses valuing securities at fair value through the income statement were contributing to the credit crisis. The revised accounting treatment means that changes in the value of securities will be taken through the balance sheet as a result of impairment tests. It should be noted that the classification of the financial instruments in the various categories relies on management's intent with respect to the financial instruments. The management has the scope to affect the level of reported profits and/or the level of equity by classifying financial assets in particular categories.

Although there was widespread acclaim for this decision of IASB, there is yet no study of the effects of such an accounting policy change. A similar situation, and corresponding legislation, in Greece provides evidence that could be used to evaluate IASB's decision and its potential practical ramification. In 2002, following a dramatic drop in the value of the Athens Stock Exchange (ASE), the Greek Government introduced in Law 2992/2002 an amendment to the accounting plan that allowed firms to mark their investments in listed shares to be marked to market instead of applying the rule "lower of cost or market". Firms could take the valuation adjustment either through the income statement or equity. This paper provides evidence that managers



act as if they assumed that ASE suffered from functional fixation – losses were taken through equity. However, the market reacted rationally: there was no reaction to the valuation adjustment while the decision to take it equity provoked a statistically significant negative reaction. These results also provide an indication regarding the extent to which investors can discern the cash flow implications of firms' accounting policy choices.

The remainder of the paper is structured as follows: we first provide a description of the accounting and capital markets background to the event being studied as well as the accounting policy rule promulgated by the Greek Government of the day. We then review the literature and outline the hypotheses to be tested. Subsequently, we present the sample, the research method used and a discussion of the results. The final section concludes the paper and discusses the practical implications of our results.

Background

To properly place this study in its context, one needs to understand the Greek accounting environment, the specific treatment mandated for shares and developments in the ASE during the period under investigation.

The Greek accounting environment

Greek culture, politics and economics have been influenced by many international forces (Ballas *et al.*, 1998). Greece is considered to be a low trust society (Ballas *et al.*, 1998), with a strong preference for state regulation, which in the case of accounting manifests in the form of detailed rules over principles and economic substance (Ballas *et al.*, 1998).

French influences on accounting and commercial law (including the French style Hellenic General Accounting Plan) and European Community membership in 1981 have played a part in achieving harmonization with Western institutions and norms (Ballas, 1994; Ballas *et al.*, 1998). More recently, Law 3229/04, amending the main corporate Law (2190/20), introduced the mandatory implementation of International Financial Reporting Standards by all Greek listed companies from 1 January 2005.

Finance is provided by banks and a debt-oriented capital markets (Baralexis, 2004; Tzovas, 2006). Corporate governance regulation has been introduced and updated to be in line with international rules, and although there is a tendency for companies to comply with form rather than substance of regulations (Ballas *et al.*, 1998; Chalevas, 2007) this appears to be improving (Grant Thornton, 2006; Caramanis and Papadakis, 2008).

As is also the case in other continental European countries, the debt financing which is typical in Greece encourages conservatism (Ballas, 1994). A further feature of the corporate context is high ownership concentration. Owners are usually involved in company's management and have, therefore, less need for financial statements as information source; they can also directly monitor and motivate staff without incentive schemes (Tzovas, 2006). Financial reporting in Greece is traditionally closely linked to taxation (Ballas *et al.*, 1998). Since financial statements are not required as information source for owners, companies can adopt aggressive tax-reducing strategies (Tzovas, 2006), including creative accounting (in particular, relating to the balance sheet) (Baralexis, 2004). Indeed, Leuz *et al.* (2003) show that Greek companies appear to engage in some of the most extreme earnings management practices in the world. Bhattacharya *et al.* (2003) provide similar evidence, since in their study

Greek firms are the most engaged in earnings management among firms from 34 countries. Further evidence is provided by Koumanakos (2007). A further cause of creative accounting is poor enforcement and poor creditor and investor protection, common in French-style civil law countries which include Greece (Chalevas and Tzovas, 2010); poor legal protection of investors also appears to correlate with high ownership concentration (La Porta *et al.*, 1998).

Finally, despite the reforms of the audit profession (in the early 1990s) the quality of audits is debatable while quality control (legislated in 2004) was never implemented.

The accounting treatment for unrealized gains/losses

The Greek General Accounting Plan set the general rules regarding the valuation of the firms' securities portfolio. According to the provisions of the Greek General Accounting Plan, firms – listed and non-listed – should value their securities in the lower between their market and their cost. The resulting valuation losses must be expensed. During the period 2002-2004, law 2992/2002 gave Greek listed firms the option to revalue their investments in marketable securities at their market value. The firms that chose to revalue could carry the valuation adjustment (gain or loss) either in the income statement or in the equity as an adjustment of a special reserve account. Obviously, even if adjustment was taken through the income statement, it would ultimately affect equity through retained earnings. Although both treatments were permitted, the general accounting principle of consistency had to be respected. Thus, the year the choice had the most important consequences was the first year (2002) of applying this law.

It should be emphasized out that the particular accounting policy decision had no tax consequence for the firms, since the valuation adjustment was not recognized for tax purposes. Indeed, Greek tax law at the period under study provided that even realized securities gains (unless distributed) were not taxable.

The ASE has been considered as a developed market since 2000 (Mantikidis, 2000). In late 2006, 317 companies with a total market capitalization of €158 billion were listed. Foreign Investors held 52.31 per cent of the market capitalization of ASE's FTSE 20 companies, 39.80 per cent of FTSE 40, and 15.63 per cent of Small Cap 80 companies (Central Security Depository, 2006). The Hellenic Capital Market Commission (HCMC – 'Επιτροπή Κεφαλαιαγοράς') regulates and supervises the Greek market.

During the period under investigation the time series behavior of stock prices in ASE resembles a roller-coaster as shown in Figure 1. During the first year of the study, the ASE General Index lost close to 40 per cent of its value, only to re-bounce in the next two years and end just above the level it started. As a consequence, the investments in securities of most firms were experiencing serious losses initially which subsequently reversed.

Literature review and hypotheses development

The form of the capital market affects manager's ability to affect the market price of the firm's outstanding shares. In efficient capital markets, the prices of capital market securities fully reflect all the available information (Fama, 1970, 1976). The efficient market hypothesis (EMH) assumes that investors are sophisticated enough to decode published accounting figures and to be in position to discern the true cash flow implications of accounting data (Hand, 1990). According to the EMH stock prices will react to the announcement of reported figures, only in the case that those figures include information about unanticipated changes in the probability distribution of future cash flows of the firm,

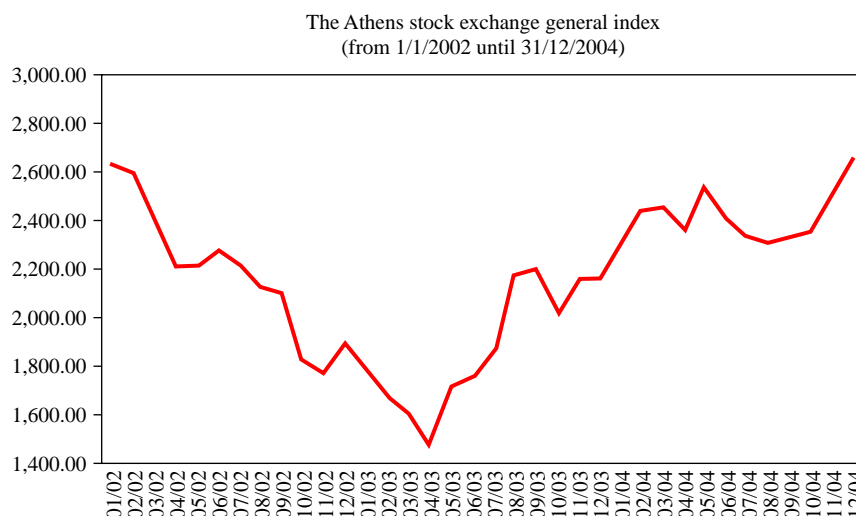


Figure 1.
The Athens stock
exchange

and provided that this information was not previously available to the market from other non-accounting sources, with equal precision (Tinic, 1990). An alternative hypothesis is the mechanistic one, which is not consistent with EMH model. According to this hypothesis the capital market is fixated to reported profits. The market prices of the common stock of a firm are determined exclusively on the basis of the earnings reported by the firm, without paying any consideration to the accounting methods employed in order to calculate those earnings. A similar approach is adopted by the functional fixation hypothesis (FFH). According to this approach investors are unsophisticated and are not able to detect the true cash flow implications of reported figures (Watts and Zimmerman, 1986). The mechanistic hypothesis differs from that FFH in that the latter allows that there are two types of investors: the sophisticated and the unsophisticated ones. Yet, it is the group of the unsophisticated investors that determines the market pricing of common stock (Hand, 1990). The implication of both hypotheses is that different accounting methods would have an impact on stock prices despite the fact that the true cash flow implications of these methods are the same (Tinic, 1990; Belkoui, 1992).

Accounting policy choice

It should be pointed out, that is not necessary for the stock market's price formation process to exhibit functional fixation in order to establish incentives for firms to select particular accounting policies. It is sufficient for firm's managers to believe that securities prices are affected by reported figures (Beattie *et al.*, 1994). A number of studies have indicated that managers are not wholly convinced with regards to the efficiency of capital markets (Mayer-Sommer, 1979; O'Keefe and Soloman, 1985). Kothari (2001) argues that although empirical findings have not offered a convincing indication that market is not efficient, there is strong evidence that firm's managers behave as if market was fixated to reported earnings.

If the managers of a firm believe that the market is fixated to reported earnings then they are expected to prefer higher reported figures, in order to influence share prices, despite a corresponding increase in tax costs (Penno and Simon, 1986; Cloyd *et al.*, 1996).

Even in the case of owner-controlled listed firms, owner-managers will prefer the accounting method that results in higher reported earnings. The fact that even owner-managers are prepared to forego tax benefits in order to achieve higher reported earnings does not imply that they do not aim towards the maximization of the value of the firm and, as a consequence, of their wealth; the owners-managers believe that the value of the firm is function of its accounting profits.

According to the Greek financial and political press, accounting figures have a dominant influence on the firm's stock value. Furthermore, it has been asserted that it is not uncommon for listed companies to get involved in income management through the selective application of accounting policies (Zopounidis *et al.*, 2002; Konstantinidis, 2004). Such a corporate behavior is not consistent with the EMH.

Based on the above analysis it can be expected that Greek listed firms would attempt to influence the market value of their shares by making the appropriate accounting policy choices. Obviously, higher profits would be reported in 2002 if losses were taken through equity and gains through income. This give rise to the following hypothesis:

- H1. Firms will post losses to the balance sheet directly and gains to the income statement.

Market relevance of treatment

An accounting policy choice can have real economic consequences for a firm. The existence of regulatory constraints and the use of debt and compensation contracts, suggests that an accounting choice can have real implications for the parties involved in it (Watts and Zimmerman, 1986). In addition, a choice of an accounting method has cash flow implications when affects the level of the tax liability of a firm (Wolfson, 1993; Cloyd *et al.*, 1996). As it is mentioned in the introduction, the choice between the two alternative accounting methods regarding the valuation of securities portfolio had no direct cash flow consequences, since the result of the valuation is not recognized for tax purposes. Thus, the specific accounting policy choice has no direct economic consequences for the reporting entity. However, the decision to take the valuation adjustment to equity made the amount of the adjustment less visible. The actual amount was not disclosed separately and if investors were interested to find it, they would have to reverse the adjusting entry. In other words, the decision to charge the adjustment to equity could be associated in investors' minds with (needlessly) secretive behavior. Consistently with previous studies that have examined the effects of asymmetric behavior and moral hazard in particular, it is anticipated that the decision to take the adjustment through equity will affect negatively share prices. To test this, the following hypothesis (in null form) will be tested:

- H2. Stock returns are not associated with the decision to charge investment valuation adjustments to equity directly.

Empirical evidence indicates that accounting information contains useful information about cash flows and as a consequence influences securities prices (Watts and Zimmerman, 1986). A number of empirical studies found that market can discern whether a choice of accounting method has real cash consequences (*inter alia*, Dhaliwal, 1986; Lev and Sougiannis, 1996; Aboody and Lev, 1998; Rau and Vermaelen, 1998).

Since a valuation adjustment simply confirms information already available to the market (investments in securities are disclosed in the financial statements and if these are substantial they have to be disclosed by special announcement to the ASE and

the newspapers, as well), and that there are no tax effects as a consequence of the accounting policy decision, it is expected that there will be no reaction to the actual amount of the adjustment. Thus, the following hypothesis will be empirically tested:

- H3.* There will be no stock market reaction to the amount of investment valuation adjustments.

Control variables

Apart from the treatment chosen and the size of the adjustment, a number of firm-specific factors may influence market returns. Therefore, to properly test the aforementioned hypotheses we also explore the influence of firm size and profitability. It is anticipated that, consistently with prior research, size, profitability and systematic risk (beta) will be positively associated with market returns.

In the case of the treatment of the adjustment, we model the decision as a function of size, profitability, leverage and risk. According to Brown and Kim (1993) the “incentives for information production and dissemination by outsiders are an increasing function of firm size”. Smaller firms will be less inclined to provide information about valuation losses and more likely to take the adjustment to equity. Thus, we expect that smaller firms are more likely to use the treatment through equity. More profitable firms are less likely to be significantly affected by valuation losses and, therefore, *ceteris paribus*, more likely to take the adjustment through the income statement. Finally, leverage and beta are not directly affected by the accounting treatment but are included as measures of risk. We have no priors regarding the relation of leverage, beta and the treatment.

Research design and data

Method

The first hypothesis that managers suffer from functional fixation and, therefore, take gains through the income statement and losses through equity implies that the distribution of gains and losses under either treatment will be random. Accordingly, this hypothesis will be evaluated by a means test of the average EFFECT. This variable is measured as the ratio of the valuation adjustment (irrespective whether it is taken through equity or income) as a percentage of total equity.

To evaluate the influence of size and treatment (i.e. through the income statement or equity) of the valuation adjustment on the performance of common shares (*H2* and *H3*) we estimate the following equation[1]:

$$ABNRET11DAYS = \alpha_0 + \alpha_1 YEAR02 + \alpha_2 YEAR03 + \alpha_3 ROE + \alpha_4 LASS + \alpha_5 EFFECT + \alpha_6 DECISION + \alpha_7 BETA \quad (1)$$

where:

- EFFECT defined as before and the other variables are defined as.
- ABNRET11DAYS estimated as the abnormal return of the stock of company *i*. It is measured as the return of the shares of company *i* for an 11-day period, which begins five days before the release date of the financial statements of company *i* and ends five days after that date minus the return of the General Index of the ASE in the same period.

ROE	return on equity of company i for fiscal year t . For the calculation of ROE, profits were corrected for the valuation adjustment.
LASS	the logarithm of the total assets (TOASS) of firm i in fiscal year t .
DECISION	a proxy variable, which takes the value 1 if the firm i in fiscal year t booked the adjustment to equity and 0 otherwise.
YEAR 02	dummy variable equals to 1 for the year 2002 and 0 otherwise.
YEAR 03	dummy variable equals to 1 for the year 2003 and 0 otherwise.
BETA	assets' expected return sensitivity to the market return.

The accounting policy choice, however, may be conditional on some or all of the same factors that affect firm performance. If the above equations were estimated using an ordinary least squares (OLS) regression of abnormal return on the dummy variable DECISION that identifies policy choice estimated coefficients would not be consistent. For this reason, equation (1) was estimated using a treatment effects regression where the choice of policy was assumed to be conditional on firm characteristics:

$$DECISION = b_0 + b_1LASS + b_2ROE + b_3LEV + b_4BETA + b_5YEAR02 + b_6YEAR03 \quad (2)$$

where all variables are defined as before and:

LEV leverage of company i for fiscal year t .

The sample

This study uses firms listed on the ASE for the period 2002-2004 – a total of three years for which the law was applicable. The sample consists only of firms that chose to make use of the provisions of the relevant legislation. Financial Year (FY) 2002 was the first year allowing firms to choose between the two alternative accounting policies regarding the treatment of value adjustment of the securities portfolio. The end year, 2004, was the last year that firms had the option to choose between the two alternatives. Firm's market prices were extracted by from statistical database provided by the ASE. Financial statement information for the estimation of the independent variables was all derived by the annual reports. The financial statements are the only source of information likely to be reporting accurately the amounts of the variables of interest. Owing to the fact that the relevant legislation was not applicable for investment companies, those firms were excluded from the sample.

Empirical findings and discussion

Descriptive statistics

The sample consists of 563 firm-year observations. In particular, 212 firm-year observations correspond to year 2002, 182 firm-year observations for year 2003 and 169 firm-year observations for year 2004. The declining number of observations may be attributed to the fact that the biggest adjustments were made in 2002 and for the next two years the sums were not material or that they liquidated their investments.

Table I presents the descriptive statistics for our sample regarding the abnormal returns (ABNRET11DAYS) of the shares of companies included in the sample. In the same tables are presented the descriptive statistics of other variables used in the present study. Table I reveals that the mean value of abnormal returns (ABNRET11DAYS) is -1 per cent, which suggests that the average return of the firms included in the sample is lower than the return of the General Index of the ASE during the period under identification. Furthermore, it appears that the average EFFECT, i.e. the valuation adjustment as a percentage of equity is very low (1.1 per cent). Interestingly, the valuation adjustment carried to equity is negative while the one charged to the income statement is positive[2]. This result suggests that firms that carried the valuation result in the equity are more likely to have experienced valuation losses in their securities portfolio.

Table II reports correlation coefficients for the variables used in our study. Results indicate that correlations are low (below 0.70) which suggests that subsequent results are unlikely to be influenced by multicollinearity (Tabachnick and Fidell, 1996).

Results for H1

H1 suggests that managers acting opportunistically and under the impression that the market is fixated will select the accounting policy that maximizes profits. In this particular case, this is a costless option as well; there is no tax effect from taking the adjustment either to equity or through the income statement. We test, therefore, whether, on average, losses were charged to equity and gains to income.

A total of 405 (72 per cent) firms choose to carry the result of the valuation of the securities portfolio in the income statement in a particular FY, while 158 (28 per cent) firms choose to carry the valuation of the securities portfolio in the equity in a particular FY. Specifically, in 2002, 143 (67.5 per cent) firms decided to include the valuation result in the income statement, and 69 (32.5 per cent) firms reported the

Variables	Median	Interquartile range			SD
		Mean	25	75	
ABNRET11DAYS	-0.011	-0.010	-0.050	0.024	0.077
LASS	84,959.330	1,251,646.291	35,999.040	235,429.370	5,500,723.157
LEV	0.467	0.470	0.299	0.614	0.239
ROE	0.059	0.054	0.010	0.129	0.339
EFFECT	0.002	0.011	0.000	0.014	0.100
BETA	1.251	1.256	0.894	1.533	0.480

Notes: EFFECT: this variable is measured as the ratio of the valuation adjustment (irrespective whether it is taken through equity or income) as a percentage of total equity. ABNRET11DAYS is estimated as the abnormal return of the stock of company i . It is measured as the return of the shares of company i for an 11-day period, which begins five days before the release date of the financial statements of company i and ends five days after that date minus the return of the General Index of the ASE in the same period. ROE: return on equity of company i for fiscal year t . For the calculation of ROE, profits were corrected for the valuation adjustment. LASS: the logarithm of the TOASS of firm i in fiscal year t . DECISION: a proxy variable, which takes the value 1 if the firm i in fiscal year t booked the adjustment to equity and 0 otherwise. BETA: measures the systematic risk of an assets expected return. LEV: leverage of company i for fiscal year t

Table I.
Descriptive statistics for
dependent and
independent variables for
the period 2002-2004

Table II.
Pearson and Spearman
correlations between
study variables

Variables	ABNRET11DAYS	TOASS	LEV	ROE	EFFECT	BETA
ABNRET11DAYS						
TOASS	0.040	<i>0.072</i> *	<i>0.028</i> ***	-0.043	-0.029	<i>0.187</i> ***
LEV	0.019	0.345 ***	<i>0.250</i> ***	-0.008	-0.007	-0.096 **
ROE	-0.094 **	0.043	-0.024	0.156 ***	-0.054 **	-0.142 ***
EFFECT	0.001	-0.043	-0.093 **	0.057	-0.094 **	-0.265 ***
BETA	0.211 ***	-0.041	-0.139 ***	-0.181 ***	0.042	<i>0.071</i> *

Notes: Significance at: *.10, *.05 and ***0.01 levels; Spearman correlation is indicated with italics; EFFECT: this variable is measured as the ratio of the valuation adjustment (irrespective whether it is taken through equity or income) as a percentage of total equity. ABNRET11DAYS is estimated as the abnormal return of the stock of company *i*. It is measured as the return of the shares of company *i* for an 11-day period, which begins five days before the release date of the financial statements of company *i* and ends five days after that date minus the return of the general index of the ASE in the same period. ROE: return on equity of company *i* for fiscal year *t*. For the calculation of ROE, profits were corrected for the valuation adjustment. TOASS: total assets of firm *i* in fiscal year *t*. DECISION: a proxy variable, which takes the value 1 if the firm *i* in fiscal year *t* booked the adjustment to equity and 0 otherwise. BETA: measures the systematic risk of an assets expected return. LEV: leverage of company *i* for fiscal year *t*

valuation result in the equity. Similarly, in 2003, 132 (72.5 per cent) firms carried the valuation adjustment in the profit and loss account and only 50 (27.5 per cent) firms carried the valuation result in the equity. Finally, in 2004, 130 (76.9 per cent) firms reported the valuation result in the income statement, and 39 (23 per cent) carried the valuation result in the equity (Table III).

It appears that for the total sample for the period 2002-2004, the firms that chose to carry the valuation adjustment to equity in a particular year, have experienced a more negative valuation EFFECT (i.e. mean 0.73 per cent) in comparison with firms that decided to carry the valuation result in the income statement (mean = 1.82 per cent) in a particular year (Table III). A two-sample *t*-test was estimated and the result is that the difference in means (2.55 per cent) indicates that there is a statistically significant difference between the means of the two groups of firm-year observations at the 99.0 per cent confidence level (one-tail test since we are comparing whether the adjustment carried to equity is lower than that carried to income). The year-by-year analysis gives a more interesting picture. In 2002, the first year of application of this rule and the one when the biggest decline in the value of share values was observed, the difference was even bigger (7.32 per cent) and it is during this year that most of the losses were posted to equity. It must be emphasized that the rule to allow marking to market of security investments reversed the accounting plan which provided that losses from applying the "lower of cost or market" rule had to be taken through the income statement. In 2003, as share prices increased, firms that had decided to take losses to equity had again (because of consistency) to record the adjustment through equity. The *t*-test indicated that the enjoyed statistically significant bigger gains than firms that had taken the adjustment through the income statement. This can be interpreted as weak evidence that the firms that had used the equity approach had invested in more risky (i.e. with more volatile prices) shares. Finally, in 2004, the difference in the EFFECT of the adjustment between the two groups is trivial.

Results for H2 and H3

The intuitive explanation of a treatments effects model is that the coefficient of the treatment variable (the accounting method choice in this case) explains the additional return earned by firms that choose on the two methods. However, if firms with higher than average abnormal returns are more likely (than average) to take to income the valuation adjustment (for example) then OLS will overestimate the treatment effect. For this reason, in order to test H2 and H3 a treatment effects model was estimated using maximum likelihood.

	Income statement	Mean	Equity	Mean	Test of difference
Full sample	0.0182	Obs. = 405	-0.0073	Obs. = 158	0.006
2002	0.0200	Obs. = 143	-0.0532	Obs. = 69	0.000
2003	0.0151	Obs. = 132	0.0404	Obs. = 50	0.071
2004	0.0195	Obs ^a = 130	0.0128	Obs ^a = 39	0.465

Note: As a percentage of total equity

Table III.
Comparison of the securities valuation adjustments^a of firms that carry the valuation adjustment to the income statement with the firms that carry the valuation result to equity

Results for $H2$ and $H3$ can be found in Panel A of Table IV while the influence of explanatory variables on the decision in Panel B. It should be pointed out that no explanatory variable is statistically significant for 2004 in contrast to expectations and prior research. The multiplier of the EFFECT (α_5) is positive in the pooled sample and for 2002 and negative for 2003 and 2004 while the coefficient on the DECISION dummy is negative in the pooled sample and for 2002 and positive for 2003 and 2004. These results can be interpreted as, *prima fascia*, evidence for our hypotheses.

More formally, if α_3 , α_4 , α_5 and α_6 are adopted as the generic symbols for the coefficients of return on equity (ROE), log of book value of assets (LASS), valuation adjustment (EFFECT) and DECISION to carry it through income or equity, $H2$ in null and associated alternative one can be expressed as:

H_{02} $\alpha_6 = 0$. The decision to charge the adjustment to equity conveys no news to the capital markets.

H_{A2} $\alpha_6 < 0$. The decision to charge the adjustment to equity in perceived negatively by the capital markets.

Results reported in Table IV are conflicting. The coefficient of the DECISION variable is statistically significant and negative at the pooled sample for 2002. However, it is positive and insignificant in 2003 and 2004.

The observed relationship can be explained on the basis of the magnitude of valuation losses reported in two periods. In particular, the average losses reported by the sample firms that decided to post the value adjustment in equity in 2002 are €24.181 million, while the average losses for the same sample of firms in year 2003 amount to €2.862 million. The market reacted negatively to the significant losses posted in 2002, while it reacted positively to the significant reversal of those losses in 2003 and 2004. This finding indicates that the market is mainly concerned about the result (gain or loss) of the valuation and the magnitude of the gain or loss and not about the accounting treatment of the corresponding figure. It should be taken into account that the equity of a firm will be affected regardless of the accounting policy decisions of a firm, given that even in case that the adjustment was taken through the income statement, it would affect equity through retained earnings. These findings provide an indication that Greek capital market is not functionally fixated to earnings and can discern the underlying economic reality, irrespective of the accounting policy chosen by a firm in order to convey this reality to the users of financial statements.

Correspondingly, $H3$ can be expressed as:

H_{03} $\alpha_5 = 0$. Investment valuation adjustments are perceived to be valueless by the capital markets.

H_{A3} $\alpha_5 \neq 0$. Investment valuation adjustments are considered valuable by the capital markets.

The results reported in Table IV are that the coefficient associated with the investment valuation adjustment is not statistically significant. These results cannot reject the hypothesis that investment valuation adjustments are perceived to be valueless by the capital markets. This seems to suggest that the Greek capital market is not functionally fixated to earnings and may be able to interpret the reported numbers regarding whether they have cash flow effects.

Variables	Full sample	Year 2002	Year 2003	Year 2004
<i>Panel A: ABNRET11DAYS</i> = $\alpha_0 + \alpha_1 \text{YEAR } 02 + \alpha_2 \text{YEAR } 03 + \alpha_3 \text{ROE} + \alpha_4 \text{LASS} + \alpha_5 \text{EFFECT} + \alpha_6 \text{DECISION} + \alpha_7 \text{BETA}$				
CONSTANT	-0.205 *** (0.000)	-0.121 *** (0.006)	-0.083 * (0.069)	-0.159 *** (0.007)
YEAR 02	0.031 *** (0.000)			
YEAR 03	0.045 *** (0.000)			
ROE	-0.018 *** (0.108)	0.025 (0.215)	-0.031 *** (0.004)	0.072 * (0.058)
LASS	0.014 *** (0.000)	0.010 ** (0.010)	-0.002 (0.713)	0.010 * (0.075)
EFFECT	0.003 (0.927)	0.045 (0.202)	-0.078 (0.176)	-0.145 (0.245)
DECISION	-0.101 *** (0.000)	-0.073 *** (0.002)	0.052 * (0.096)	0.012 (0.805)
BETA	0.028 *** (0.000)	0.017 (0.155)	0.074 *** (0.000)	0.005 (0.683)
<i>Panel B: DECISION</i> = $b_0 + b_1 \text{LASS} + b_2 \text{ROE} + b_3 \text{LEV} + b_4 \text{BETA} + b_5 \text{YEAR}02 + b_6 \text{YEAR}03$				
CONSTANT	-3.639 *** (0.000)	-3.303 *** (0.000)	-3.658 *** (0.000)	-3.517 *** (0.000)
LASS	0.264 *** (0.000)	0.247 *** (0.000)	0.237 *** (0.001)	0.290 *** (0.000)
ROE	-0.073 (0.677)	-0.229 (0.568)	-0.023 (0.916)	-0.219 (0.758)
LEV	-0.052 (0.812)	0.236 (0.543)	0.694 (0.133)	-0.585 (0.247)
BETA	-0.120 (0.338)	-0.139 (0.531)	-0.029 (0.899)	-0.282 (0.238)
YEAR 02	0.262 * (0.065)			
YEAR 03	0.196 (0.188)			
Wald χ^2	93.20	17.69	78.21	14.21
<i>p</i> (value)	0.000	0.003	0.000	0.014
No. of cases	563	212	182	169

Notes: Significance at: *0.10, **0.05 and ***0.01 levels; EFFECT: this variable is measured as the ratio of the valuation adjustment (irrespective whether it is taken through equity or income) as a percentage of total equity. ABNRET11DAYS is estimated as the abnormal return of the stock of company *i*. It is measured as the return of the shares of company *i* for an 11-day period, which begins five days before the release date of the financial statements of company *i* and ends five days after that date minus the return of the general index of the ASE in the same period. ROE: return on equity of company *i* for fiscal year *t*. For the calculation of ROE, profits were corrected for the valuation adjustment. LASS: the logarithm of the TOASS of firm *i* in fiscal year *t*. DECISION: a proxy variable, which takes the value 1 if the firm *i* in fiscal year *t* booked the adjustment to equity and 0 otherwise. BETA: measures the systematic risk of an assets expected return. YEAR 02: equals to 1 for the year 2002 and 0 otherwise. YEAR 03: equals to 1 for the year 2003 and 0 otherwise

Table IV.
Cross-sectional
treatment-effects
regression analysis

The coefficients on LASS in Panel A are significant in the pooled sample and for 2002. However, the coefficients do not have consistent signs. The coefficient on ROE is significant only for 2003, with negative sign. Again, the coefficients do not have consistent signs.

Results in Panel B of Table IV concern the variables that influence the accounting treatment choice. As it can easily be seen, the only statistically significant variable is LASS, the log of the book value of assets. However, the sign (positive in all years and the pooled sample) of the coefficient is surprising since, in contrast to our analysis, it suggests that bigger firms were more likely to adopt the treatment through equity. This result can only be explained by using political costs arguments, i.e. that bigger firms had substantially more losses than others and management wanted to avoid giving explanations to analysts and shareholders.

Conclusions

This study examined the valuation of the securities portfolio of Greek listed firms during the period 2002-2004. The main interest of the study is the association of the stock returns of firms listed in the ASE and the accounting treatment of the amount of the adjustment in the value of the securities portfolio of these firms.

The conclusions that can be drawn from these tests can be briefly summarized as follows:

- There is strong evidence that managers act opportunistically and under the assumption that ASE suffers from functional fixation and, therefore, take losses to equity and gains to the income statement.
- There is weak evidence that the Greek capital market reacts negatively to opaqueness in the financial statements, at least with regard to the share valuation adjustment.
- The capital market does not value the valuation adjustment, which has no cash flow implications and no news value of its own.

The evidence of this study is not consistent with contention that investors cannot discern the true economic consequences of an accounting policy choice, and that they base their valuation of securities exclusively on reported income. However, managers refused to believe available evidence and instead chose to take portfolio losses mainly through equity.

The findings presented in this paper have obvious policy implications: a mere change in the accounting treatment of the valuation of financial instruments does not, by itself, change perceived profitability. Thus, IASB reversal cannot by itself affect the credit crisis. If anything, it can make it worse. Companies that chose to make it difficult for investors to trace losses by taking the valuation adjustment through equity were penalized by negative performance of their shares.

Notes

1. We rerun the regressions by using 49 sector dummies to control for sector effects. The results do not change meaningfully.
2. The actual numbers are (106.391) and €1,351.636, respectively (results not presented).

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