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The Asymmetric Timeliness in the Reporting of Good and Bad News of Firms That Trade in the Athens Stock Exchange

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Abstract

Evidence on the asymmetric timeliness in the reporting of good and bad news follows the argument that accountants tend to use discretionary accruals to over-recognise bad news in order to be conservative. The Greek reporting framework, before the adoption of International Accounting Standards, did not allow or offer opportunities for discretionary use of accruals for either recording good and/or bad news. Empirical evidence based on data from firms that trade in the Athens Stock Exchange, for the period 1993-2002, show that differences in the timeliness in the recognition of good news and bad news exist. However, in contrast to studies that use UK data and US data bad news are not recorded conservatively.

Keywords

Reported Earnings, Greek Firms
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1. Introduction

This study explores the asymmetric timeliness in the reporting of good and bad news in financial statements of firms that trade in the Athens Stock Exchange (thereafter, ASE). Conservatism in financial statements is an inherent attribute of the financial reporting system attributed, mainly, to the necessity of verifying accounting-related events. Therefore, future prospects of firms, although taken into account by capital markets participants in setting (market efficient) stock prices, it takes long to being recognised by the accounting system. In itself, this long process of recognition and reporting drives persistence in accounting profits figures. Asymmetric timeliness in the recognition of good and bad news follows the tendency of professional accountants to use discretionary accruals in order to be more conservative in the reporting of bad news or to use big bath accounting.

The lack of discretion in the reporting framework of firms that trade in ASE motivates our empirical study of exploring the asymmetric timeliness in the reporting of good and bad news in Greece. The financial reporting system in Greece limits the extent of discretion that can be employed by accountants in reporting a number of accrual components of earnings. Firstly, depreciation expenses follow depreciation rates set by the government. Secondly, government sets the maximum limit in the tax-deductible allowance for bad debts provisions and provisions for employees. Thirdly, accounting for deferred taxation has not been introduced in the Greek Accounting Plan and, therefore, it is rather discouraging for accountants to report accruals that exceed tax-deductible limits.

Our study, also, attempts to verify empirical evidence based on data from other countries by setting a playing field in which discretion in the reporting of good and bad news can hardly go in either way. Basu (1997), assuming the conservatism tendency of accountants, provides strong evidence in favor of the argument that bad news are more timely reported in financial statements of US firms than good news. In consequence, the time series properties of earnings of firms with good news present higher persistence and predictability than earnings numbers of firms with bad news. That is because, if the unexpected shock in stock prices is fully reflected in financial statement, it will not persist. Pope and Walker (1999) adapted the price earnings capitalisation model in order to capture the property of the asymmetric timeliness in the recognition of good and bad news. They provide evidence in favor of differences in the asymmetric timeliness property between UK GAAP and US GAAP driven by differences in reporting requirements in the classification of extraordinary and exceptional items.

Ball et al (2000) compares the asymmetric timeliness in the recognition of good and bad news between common law countries (i.e. US and UK) and

code law countries (i.e. Germany, France). They argue that incentives towards timely recognition of bad news are lower in code law than common law countries. That is because, firstly, there is lower demand for timely information in code law countries as managers' actions are tractable by big stockholding institutions and, secondly, because timely recognition of news (especially for bad news) might cause income volatility that it is disincentivised in code law countries. They present empirical results consistent with their argument. In contrast Giner and Rees (2001) presented evidence against the existence of major differences in the asymmetric timeliness of the reporting of good and bad news between UK, France and Germany.

To the range between common law and code law countries Greece is closer to code law countries. The reporting framework of Greek companies with an explicit focus on taxable income suggests that evidence on the asymmetric timeliness should be closer to those reported for other European code law countries. However, empirical results for Germany and France are not unanimous across studies. Moreover, these studies focus on differences across countries and do not explain implied biases. Furthermore, disparate concerns related to shareholders protection have been appeared from the authority of the ASE after the stock price bubble of 1999. Finally, corporate governance mechanisms have been only recently been changed and, therefore, Ball et al' (2000) arguments might not be descriptive for the period examined.

A number of interesting results are reported in our study. Firstly, we detect that bad news are more timely reflected in financial statements than good news. Secondly, contemporaneous reported earnings for firms with good news are close to be totally unrelated to changes in stock prices. Thirdly, we detect that bad news tends to be reported in a closely unbiased and perfectly timely way. Overall, our interpretation to these results is that in a reporting environment in which discretion in the reporting of accrual components is rather limited, good news are hardly captured by accounting profits numbers while earnings shocks driven by bad news are fully capitalised by the stock market. This interpretation drives a number of potential interesting implications. It suggests that all other factors equal, discretion allowed in other reporting regimes tends to assist in the more timely reporting of good news rather than deteriorating their timeliness. Secondly, it justifies efforts of auditors towards an increasing number of notes in their qualifications, as it is rather common for firms that trade in ASE. Thirdly, it suggests that acceptance of International Accounting Standards might be of more help if they allow discretion in the reporting of good news. Fourthly, our results, that show that annual financial statements capture bad news, imply that concerns over shareholder's protection should be directed to other potential sources of information (i.e. firm's announcements and speculation).

The remaining of our study is organised as follows; in section 2, we review the literature related to the timeliness property of earnings. In section 3 we develop the research design. In section 4, we present descriptive statistics, in section 5 we analyse our empirical results, while in section 6 we present some sensitivity analysis. Finally, we conclude in section 7.

2. Literature Review

Timeliness is the property of accounting numbers that is related to whether accounting information is available to the user of financial statements before it loses its ability to influence his decision output. Lack of timeliness is due to reporting lag and to recognition lag. Reporting lag is related to the time gap between fiscal year (or quarter) end and the release of audited financial reports. Recognition lag is driven by the necessity to verify an event before it is recorded in financial reports.

Givoly and Palmon (1982) and Chambers and Penman (1984) provide evidence of a differential market reaction to earnings announcements driven by differences in the timing of the announcement. Early announcement releases are related to more intense market reactions than late announcements suggesting that users of financial statements have potentially used other sources of information. Research on the effect of recognition lag on the informativeness of accounting numbers has been quite extensive. Warfield and Wild (1992), Lev (1989), Easton et al (1992), Collins et al (1994), Kothari and Sloan (1992), Donnelly and Walker (1995) provide evidence in favor of the existence of a recognition lag and of the association between current period earnings and lagged period returns[1].

Basu (1997), firstly, provided evidence on differences in the timeliness of reporting good and bad news. Assuming the tendency of professional accountants to be more conservative in the reporting of bad news, Basu (1997) provides strong evidence in favor of the more timely reporting of bad news. Using reverse regressions, he founds that raw (adjusted) returns are more highly associated to current earnings for firm-year observations with negative returns than for firm-year observations with positive returns. He, also, showed that the coefficient attached to current period returns for firm-year observations with negative returns is higher than the coefficient attached to returns for firm-year observations with positive returns.

Pope and Walker (1999) presented a model, based on earnings capitalisation model, in order to capture differences in the timing of the reporting of good and bad news. They provide evidence in favor of differences in the

[1] See also Beaver, Lambert and Morse (1980), Collins et al (1987) and Beaver, Lambert and Ryan (1987).

asymmetric timeliness of good and bad news between US GAAP and UK GAAP. Based on their model, they show that both US GAAP accounting and UK GAAP accounting are far from being timely and unbiased for both good and bad news. They found that both good and bad news are conservatively reported. That has interesting implications for the lead-lag relation between current period earnings and lag period returns. They found that the effect of prior period bad (good) news has a decreasing (increasing) effect on current period earnings as captured by the coefficient attached to prior period returns. Moreover, Pope and Walker (2001) show empirical results that are consistent with the argument that conservatism in the reporting of current period bad news is inversely related to the market to book ratio. That follows the reasoning that if prior period assets have been conservatively recorded in financial statements then accountants cannot, conservatively, record current period bad news.

Ball et al (2000) provide evidence in favor of the argument that the asymmetric timeliness in the reporting of good and bad news is much lower in code law countries than common law countries. Moreover, using data for the period 1985-1995, they found that contemporaneous income before extraordinary items (in Germany and in France) reflects bad news in a more timely way than good news. However, differences in the asymmetry of recognition of good and bad news are lower than other common law countries. In contrast, Giner and Rees (2001) focused on bottom line earnings for the period 1990 – 1998 and presented evidence in favor of the existence of similarities in the asymmetric timeliness of the reporting of good and bad news between UK, France and Germany.

3. Research Design

Our research design is based on Pope and Walker (1999) modeling. Permanent earnings (x) are defined by the following identity:

$$P_t = \frac{x_t}{c} \tag{1}$$

where P_t denotes stock price at time t and c denotes the cost of capital. Assuming that dividends are equal to permanent earnings, the random shock (e) to permanent earnings is related to price as follows:

$$e_t = x_t - x_{t-1} = c * \left(P_t - P_{t-1}\right) \tag{2}$$

where c is assumed to be constant. Reported earnings (X_t) are related to permanent earnings after allowing for a differential degree of incorporating positive shocks (e^+) and negative shocks (e^-) as follows

$$X_t = x_t - \theta\ e_t^+ + \gamma\ e_t^- + V_t \tag{3}$$

where θ and γ capture, respectively, the under-recognition and over-recognition of permanent earnings shocks in good and bad news' periods. V_t is related to previous period shocks that are currently captured by reported earnings. Deflated by P_{t-1}, model (3) is altered as follows:

$$\frac{X_t}{P_{t-1}} = \frac{x_{t-1} + e_t}{P_{t-1}} - \theta \frac{e_t^+}{P_{t-1}} + \gamma \frac{e_t^-}{P_{t-1}} + \frac{V_t}{P_{t-1}} \quad (3a)$$

and based on (1) and (2);

$$\frac{X_t}{P_{t-1}} = c + c(1-\theta) R_t^+ + c(1+\gamma) R_t^- + \frac{V_t}{P_{t-1}} \quad (3b),$$

where R is current period return. A perfectly timely and unbiased accounting suggests that θ and γ are equal to zero. Asymmetric timeliness in the reporting of good and bad news suggests that the coefficient attached to current period return when it is positive is lower than the coefficient attached to current period return when it is negative. We are empirically testing this by the following regression:

$$\frac{X_t}{P_{t-1}} = a_0 + a_1 D + b_0 R_t^+ + b_1 D R_t^- + \varepsilon_t \quad (Reg1)$$

where D is a dummy variable taking the value of one if current period return is negative, otherwise it is equal to zero and ε_t is the error term (firm subscripts are omitted). Following model (3b), $b_0 = c(1-\theta)$ and $b_1 = c(\theta+\gamma)$. If b_1 is greater than zero, it implies that the responsiveness of current period earnings to bad news is greater than the responsiveness to good news and suggests conservative accounting.

In order to accommodate the effect of last period news' shocks on current period earnings model (3) is altered as follows;

$$X_t = x_{t-2} + \sum_{r=0}^{1} (1-\theta_r) e_{t-r}^+ + \sum_{r=0}^{1} (1+\gamma_r) e_{t-r}^- + V_{t/t-2} \quad (3c),$$

where $V_{t/t-2}$ captures shocks arising before last year. We are empirically testing model (3c) after deflating all terms by P_{t-2}. Model (Reg1) is altered to

$$\frac{X_t}{P_{t-2}} = a_o + a_1 D_t + \sum_{r=0}^{1} b_r R_{t-r}^{'} + \sum_{r=0}^{1} f_r R_{t-r}^{'} D_{t-r} + \varepsilon_t$$

(Reg2),

where, R' (in *Reg2*) differs from R (in *Reg1*) due to the fact that e_t is deflated by P_{t-2} and not by P_{t-1}.

In this study we are using empirical specifications based on model (*Reg1*) and model (*Reg2*) in order to provide evidence on the asymmetric timeliness in the reporting of good and bad news. Given the lack of discretion that professional accountants in Greek firms face, we expect that it is less likely that we found evidence in favor of γ (that is related to the over-recognition of current period negative returns) being higher than zero. We also compare model (*Reg1*) to a more constraint model (*Reg*) that does not allow for differences in the timely recognition of good and bad news.

Moreover, we expect that we found no evidence of asymmetric timeliness in the reporting of good and bad news due to accounting related practices. However, anecdotal evidence suggests that speculation has given rise to positive changes in stock prices (such as in 1998). That means that we might detect asymmetric timeliness either in favor of good and/or bad news if prices are not market efficient. Furthermore, we do not know how bad or good news would have been recorded in an environment with no discretion. That is if good news are related to a long horizon or bad news are related to a short horizon, then we would probably detect asymmetric timeliness regardless of the fact that discretion is not allowed.

4. Descriptive Statistics

The initial sample of 1104 firm-year observations covers the period 1992-2001 and excludes banks, insurance and investment firms. The initial sample is firstly reduced to 854 firm-year observations after requiring that information for relevant variables is available for one lagged period. This sample is further reduced to 760 firm-year observations (covering the period 1993-2001) after deleting the top and bottom percentile (identified yearly) of the following variables:

IB: Current period earnings before extraordinary items minus tax charges[2] (deflated by opening market value of common equity),

IB': Current period earnings before extraordinary items minus tax charges (deflated by prior period opening market value of common equity),

R: Current period change in market value of common equity deflated by opening market value of common equity,

[2] Tax charges include income tax and taxes that are not allowed to be deducted in order to compute taxable income. We have not adjusted tax charges for the exclusion of extraordinary items. In contrast to UK and US GAAP, in the Greek accounting plan extraordinary items are not reported net of taxes.

R': Current period change in market value of common equity deflated by prior period opening market value of common equity,

LR': Prior period change in market value of common equity deflated by the period's opening market value of common equity.

All capital market variables are adjusted for equity related corporate actions. We, also, allow for a three-month window when using market data in order to disseminate the effect of the reporting lag of information in financial statements.

In Panel A of Table 1, we present descriptive statistics. The mean of *IB* and of *IB'* is positive (0.043 and 0.056, respectively) and as in typical UK data and US data losses are reported in around 10 % of the sample (74 out of 760 firm-year observations). Average return (*R* and *R'*) is positive (0.449 and 0.709) while median return is negative (- 0.035 and – 0.032) suggesting the existence of positive skweness in stock price changes[3]. In contrast to data from other studies, negative returns are reported in 52 % (37 % of the sample in UK data and in US data, 49 % for German data and 43 % for French data[4]) of the sample. Moreover, in our sample the percentage of firm-year observations with negative returns across years is not stable, varying from the low extreme 0% in 1999 to the highest extreme of 100 % in 2000 (statistics not tabulated). Median market to book ratio is greater than 1 suggesting the existence of conservatism in the reporting of the book value of equity.

We should note a methodological issue that is related to the descriptive statistics of our study. Apart from pooled regressions, Pope and Walker (1999), also, used annual regressions and presented statistics based on average values of coefficients[5]. In our study two problems arise. Firstly, the sample size for each year is small (from low 38 in 1993 to high 135 for 2001). This might affect the assumption of the normal distribution. Secondly, and potentially more important, following the small sample size and the fact that the percentage of firm-year observations with negative returns across years is not stable dummy variables might create independent sub-samples with very small sizes. Small sample size might affect our inferences and that is why we prefer pooled specifications. However, we repeat our regression tests allowing for annual dummy variables for the constant and annual regression tests for sub-samples with no less than twenty observations.

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[3] We have repeated our regression tests using a sub-sample of firm-year observation with *R* and *LR'* lower than 4. Our main empirical findings are not altered. These results are available by authors upon request.

[4] Descriptions of UK data and US data are drawn by Pope and Walker' (1999) study, while descriptions of France and German data are taken by Giner and Rees (2001).

[5] The use of annual regressions reduces the effect of parameter's estimates' dependence across years that might exist in pooled regressions.

In Panel B of Table 1 we present Pearson (above the diagonal) and Spearman (below the diagonal) correlation coefficients. *IB* is positively related as expected to *IB'* and current period return (*R* and *R'*). The Pearson correlation coefficient between *IB* and *LR'* is negative (- 0.11) and statistically different from zero. This might be due to either to extreme observations or to the use of the deflator, because the correlation between *IB'* and *LR'* is as expected positive. The positive relation between *IB'* and *LR'* (0.24 and 0.40) is consistent with the effect of recognition lag (conservatism) in the reporting of economic events in financial statements of Greek firms. Finally, our data confirm the non-correlation between current period and prior period returns.

5. Empirical Results

In section 5.1 we present empirical results that are confined to whether contemporaneous bad and good news are timely recognised by the reporting framework without examining the effect of prior period news on current period earnings. In section 5.2, we examine the effect of prior period news on contemporaneous earnings.

5.1 The recognition of current period news without reference to prior period news

In Table 2 we present our empirical results related to the asymmetric timeliness in the reporting of good news and bad news of firms that trade in the ASE. Following results from correlation coefficients in Panel B of Table 1, the coefficient attached to *R* in a regression of *IB* on *R* is positive (0.009) and significantly different from zero[6]. In comparison to Pope and Walker' (1999) study and to Giner and Rees (2001) an interesting result arise. That is that the coefficient attached to *R* is around one tenth of the respective coefficient from tests based on data from UK, US, France and Germany. Although data might not be comparable, our results confirm that overall current period earnings of firms that trade in ASE under-recognise current period news in contrast to results for US and UK data where an over-recognition of news is apparent. That is because coefficient attached to *R* is significantly different

[6] Reported p.values (in the text and in tables) are based on OLS statistics. White (1980) statistics are not reported but they do not qualitatively alter our inferences. Tests of differences between coefficients that are reported in the text are not tabulated. They are based on OLS statistics. White (1980) statistics for differences between coefficients do not qualitatively change empirical results. All relevant statistics are available by authors upon request.

from the regression' constant (0.039), which, according to the model, represents the cost of capital.

Empirical results from the inclusion of dummy variables that capture the effect of the asymmetric timeliness in the reporting of current period good and bad news are provided on the basis of model (*Reg1*). The inclusion of dummy variables for the constant and the coefficient attached to *R*, improve the explained variability of current period earnings (*IB*) by more than twice (adjusted R^2 increases from 0,055 to 0,142). Our results also confirm that current period good news are not al all recognised by current period earnings (that is θ is equal to 1) because the coefficient attached to *R* (0.002) is not statistically different from zero. In contrast, the bad news incremental coefficient' estimate of b_1 is positive (0.070) and statistically different from zero. This result confirms that bad news are more timely reflected in current period earnings than good news. Moreover, the sum of b_0 and b_1 is greater and statistically different than the sum of a_0 and a_1 suggesting that γ is around 0.5 and implies conservatism in the recognition of bad news.

In Panel B of Table 2, we repeat regression models used in Panel A of Table 2 by including dummy variables for the constant for each year. Apart from methodological issues referred above, this alteration also follows the argument that the cost of capital might be changing across years[7] and that the percentage of firm-year observations with negative returns across years is not stable. Inferences from empirical results based on the less constrained model (*Reg*) are not different from those reported in Panel A of Table 2. The adjusted R^2 is higher (0.14) because annual dummy variables on constant might capture the effect of other missing variables. In relation to the less constrained model (*Reg1*), some inferences are altered. Firstly, the coefficient attached to *R* (0.005) is significantly different from zero suggesting that current period good news are recognised in current period earnings although in a non-timely way. Secondly, although as in Panel A bad news are recognised more timely than good news, b_0 (0.052) in Panel B is much lower than the respective coefficient in Panel A of Table 2. The sum of b_0 and b_1 is greater and statistically different than the sum of a_0 and a_1 only in years 2000 and 2001, implying conservatism in the recognition of bad news only in recent years. The inclusion of annual dummy variables for the constant slightly increases adjusted R^2 from 0.142 to 0.169.

We also perform annual regression tests based on model (*Reg*) separate for firm-year observations with positive and negative returns. In Panel C of Table 2, we present our empirical results only for cases in which sub-sample

[7] Data are not adjusted for inflation and, therefore, the rapid decline of inflation might affect the cost of capital.

size is equal to or greater than twenty. In one (1996) out of six (1993, 1995, 1996, 1997, 1998 and 1999) annual sub-samples of firm-year observations with positive returns, the coefficient attached to *R* is significantly different from zero. In contrast, except for 1997, the coefficient attached to *R* is significantly different from zero in all other years (1994, 1996, 2000 and 2001) for annual sub-samples of firm-year observations with negative returns. These results are consistent with results from previous panels related to the more timely recognition of current period bad news in relation to good news. Our results from annual regressions show that the coefficient attached to *R* is statistically different from the constant (p. value is 0.05) only in year 2001. This suggests that the bad news are reflected in a timely but not conservative manner. Our inferences are, also, in contrast to empirical results from France and Germany as reported by Giner and Rees (2001) who found conservatism in the reporting of bad news.

5.2 The recognition of prior period news

In Panel A of Table 3 we present empirical results from a pooled empirical specification of model (*Reg2*). Our empirical results confirm that prior period news are reflected in current period earnings because estimates of b_1 (0.019) and of f_1 (0.065) are significantly different from zero. Moreover, our empirical results suggest that both current period good and bad news are recognised in current period earnings. In consistence with prior results, estimate of f_0 (0.028) is significantly different from zero suggesting that bad news are reflected in a more timely way than good news.

However, in contrast to inferences from previous panels current period bad news are not reflected in a timely way because the sum of b_0 (0.004) and of f_0 is statistically different and lower from the sum of a_0 (0.069) and of a_1 (-0.015)[8]. Similar to Pope and Walker (1999) we find that the effect of prior period good news on current period earnings is higher than the effect of current period news, because f_1 is statistically greater than f_2. Similar differences are shown for the effect of prior and current period bad news. This result is in contrast to results from Pope and Walker (1999) but it is expected in our study as long as current period bad news are not conservatively reported. The sum of b_1 and of f_1 is statistically different and greater than zero suggesting that prior period bad news are 'conservatively' reported in current period earnings, while the same argument does not apply for prior period good

[8] Pope and Walker (1999) have also presented a decrease in the estimate of the coefficient attached to current period bad news but this decrease has not affected their inferences on the conservative recognition of bad news.

news. This might be expected if current period earnings are capturing the under-recognition of prior year bad news.

Regression results from Panel A of Table 3 are not comparable to those from Table 2 because variables are deflated in a different way. However, adjusted R^2 form the pooled empirical specification of model (*Reg2*) is much higher (0.229) from those reported in Table 2. Empirical evidence from a pooled specification of model (*Reg2*) in which annual dummy variables for the constant are included in the model are presented in Panel B of Table 3. Inferences are qualitatively the same as those reported in Panel A of Table 3.

In Panel C of Table 3, we present empirical results from annual regressions of sub-samples with no less than 20 observations that are classified to four groups according to the sign of current and prior period return. For subsamples with both positive current and prior period return (namely 1998 and 1999), coefficient attached to *R'* (0.008 and 0.003) is not significantly different from zero, while only in 1999 coefficient attached to L*R'* (0.023) is significantly different from zero. In contrast, for two (1996 and 2001) out of three (1996, 1997 and 2001) sub-samples with both negative current and prior period return coefficient estimates attached to *R'* and *LR'* are significantly different from zero. However, neither coefficient is different from their respective constant (suggesting timeliness rather conservatism). Following the argument of timely recognition, in none year estimates of *R*' are different from estimates of *LR'*.

In four years (1993, 1995, 1997 and 1998) *R'* is positive and *LR'* is negative. As in aforementioned results, in year 1997 coefficient estimate attached to *R'* and *LR'* is not significant. In contrast coefficient estimate attached to (negative) *LR'* is positive and significantly different from zero in all other years but different from its respective constant (implying conservatism) only in 1993. Similar to previous results, in none year coefficient attached to *R'* is different from zero. Three years are qualified for firm-year observations with negative *R'* and positive *LR'* (1994, 1996, 2000). In 1996 estimates attached to *R'* and *LR'* are not different from zero, in contrast to 1994 and 2000. In year 1994, coefficient estimate of *R* is higher and statistically different from coefficient estimate of *LR'* implying a more timely recognition of current period bad news than previous period good news.

Overall, results from annual regressions based on model (*Reg2*), confirming those reported in Panel C of Table 2, show that in none year current period good news are reflected in current period earnings, while current period bad news are reflected in contemporaneous earnings more times. Moreover, consistent with the prior recognition of previous period good and bad news in contemporaneous earnings coefficient estimate attached to *LR'* is significant in more years. However, in contrast to results from Panel A and

Panel B of Table 3, annual regressions fail to capture over recognition of last year bad news in all but one year.

6. Sensitivity Analysis

6.1 Use of P_t as a deflator

Equation (3) and equation (3c) suggest that price-earnings ratio should deviate from the cost of capital if price shocks are not reflected in a timely manner. The use of P_t as a deflator has a number of interesting implications. Firstly, empirical specifications of model (*Reg1*) and model (*Reg2*) are comparable. Secondly, price-earnings ratio is a measure that has a more meaningful interpretation than earnings deflated by beginning period stock price.

Our results from the pooled specification of model (*Reg1*) and model (*Reg2*) are reported in Table 4. The reader should note that coefficient estimates attached to 'reformed' current period returns reflect the multiple of γ times c rather than (1 - γ) times c. Inferences based on model (*Reg1*) are similar to those reported in Panel B of Table 2. Good news are not timely reflected as b_0 (- 0.058) is negative and γ approaches zero as the sum of a_0 (0.059) and b_0 is not statistically different from zero. Moreover, b_1 is positive (0.079), significantly different from zero, and implies conservatism in the recognition of bad news as the sum of b_0 and b_1 is positive and significantly different from zero.

Empirical results from the inclusion of previous periods price shocks suggest that current period bad shocks are reflected timely as the sum of coefficient estimates of b_0 (- 0.063) and f_0 (0.065) is not statistically different from zero. This result is different from those reported earlier in Panel A of Table 3 and those aforementioned earlier in Table 4. Moreover, similar to results from Table 3 previous period bad shocks are reported conservatively as the sum of b_1 (- 0.019) and f_1 (0.034) is statistically different from zero. In results of Table 3, this explanation was following the evidence of under recognition of contemporaneous bad news but a similar finding has not been shown in Table 4[9]. In accordance with previous results, prior (current) period good news are (not) reflected in current period earnings-price ratio.

6.2 The effect of prior period news for more than one period

We extend model (*Reg2*) in order to examine the effect of prior period news for a period up to three years. We use two deflators, that is P_{t-4} and P_t, and we perform regression tests based on the following two models;

[9] Qualitatively similar inferences are drawn from empirical evidence after allowing for annual dummy variables on the constant of the regression.

$$\frac{X_t}{P_{t-4}} = a_0 + a_1 D_t + \sum_{r=0}^{3} b_r \frac{e_{t-r}}{P_{t-4}} + \sum_{r=0}^{3} f_r \frac{e_{t-r}}{P_{t-4}} D_{t-r} + \varepsilon_t ,$$

(*Reg3*),

and

$$\frac{X_t}{P_t} = a_0 + a_1 D_t + \sum_{r=0}^{3} b_r \frac{e_{t-r}}{P_t} + \sum_{r=0}^{3} f_r \frac{e_{t-r}}{P_t} D_{t-r} + \varepsilon_t ,$$

(*Reg4*).

We reconstruct a sub-sample based on our initial observations and after we identify the top 1% and bottom 1% of all variables as extreme observations we arrive at a sample of 438 firm-year observations.

Empirical results based on model (*Reg3*) and model (*Reg4*) are shown on Table 5. In consistence with results from Panel A of Table 3 (Table 4), empirical results based on model (*Reg3*) [model (*Reg4*)] suggest that current period good news are reflected in contemporaneous earnings in a non-timely way (are not reflected at all). Moreover, current period bad news are reflected more timely than good news but not in a conservative way.

Inferences on the effect of prior period news are not similar across two models. Results from model (*Reg3*) suggest that, up to two years before, the speed of recognition of bad news in current period earnings is similar to that of good news and that both are recognised conservatively. In contrast evidence from model (*Reg4*) show that, although prior period good news are not yet fully capitalised, prior period bad news are not recognised conservatively as the sum b_1 and f_1 and the sum of b_2 and f_2 is not statistically different from zero. Furthermore, results from model (*Reg4*) suggest that both good and bad news three years before are fully capitalised in contemporaneous earnings, while model (*Reg3*) confirms that this inference applies for bad news only (as the sum b_3 and f_3 is not statistically different from the sum a_0 and a_1).

7. Conclusions

In this study we attempted to provide evidence on the asymmetric timeliness in the reporting of good and bad news of firms that trade in the Athens Stock Exchange. The reporting framework of those firms does not allow for discretion in the reporting of either good or bad news. Therefore, we expect that, firstly, differences on the timeliness of the recognition of good and bad news will be less apparent for firms that use the Greek reporting framework and, secondly, that bad news will not be reported in a conservative way.

Overall, our results do not comply with our first expectation. The speed of the recognition of current period bad news is higher than the speed of rec-

ognition of current period good news, while most empirical specifications suggest that the same argument apply for bad and good news affecting stock prices in earlier periods. However, most empirical results confirm our second expectation. Evidence from tests of annual regressions and from most empirical specifications that allow for the effect of prior period news on contemporaneous earnings suggest that current period bad news are not reported conservatively.

Our results on the higher speed of recognition of current period bad news on contemporaneous earnings does not differ from results from similar tests performed in other countries (UK, US, Germany and France) as reported by Pope and Walker (1999), Ball et al (2000) and Giner and Rees (2001). There are though notable differences related to the implied conservatism in the reporting of bad news. This difference might be driven by the fact that discretion in the reporting of accruals is limited for reasons related to the estimation of taxable income.

These inferences are of interest to financial setters and capital market participants because the Greek reporting framework is replaced by International Accounting Standards. From a researcher's point of view it is of interest to examine whether International Accounting Standards will allow for a different degree of discretion in the reporting of accruals that will affect the speed of recognition of good and bad news. Our results also suggest, that as long as discretion can hardly go in either way, then the higher speed in the recognition of bad news is potentially driven by events that take place shortly after they affect stock prices. Moreover, concerns raised by capital market participants related to the protection of shareholders should be aimed to other sources of information as bad news are recorded by financial statements.

This study can be extended by looking on whether our results on the asymmetric timeliness in the reporting of good and bad news is well shown in the time series properties of earnings. Moreover, concerns should be raised on the differential inferences drawn from the use of different deflators. Results from Giner and Rees (2001) are also suffering from the same problem. Finally, one might also be looking on differences on the asymmetric timeliness in the reporting of good and bad news considering bottom line earnings where exceptional provisions and depreciation accruals appeared under the Greek Accounting Plan.

Table 1: Descriptive statistics and correlation coefficients of selected variables

Panel A: Descriptive statistics (n = 760) [a, b]									
	mean	std	Min	P1	q1	**Median**	q3	p99	max
IB	**0.043**	0.052	-0.223	-0.079	0.014	**0.034**	0.062	0.200	0.317
IB'	**0.056**	0.074	-0.196	-0.081	0.015	**0.040**	0.080	0.319	0.755
R	**0.449**	1.406	-0.746	-0.661	-0.341	**-0.035**	0.757	6.500	14.927
R'	**0.709**	2.855	-6.527	-3.749	-0.265	**-0.032**	0.750	12.291	32.840
LR'	**0.524**	1.365	-0.748	-0.668	-0.264	**0.056**	0.872	5.878	14.927
M/B	**4.91**	29.71	0.33	0.45	1.52	**2.46**	4.46	30.03	812.38

Panel B: Pearson (Spearman) correlation coefficients above (below) diagonal [c]					
	IB	*IB'*	*R*	*R'*	*LR'*
IB	1	0.78	0.24	0.18	-0.11
IB'	0.85	1	0.31	0.33	0.24
R	0.43	0.40	1	0.90	**0.03**
R'	0.40	0.34	0.96	1	**0.02**
LR'	**-0.05**	0.40	**0.07**	**-0.03**	1

a: The sample is based on observations after applying any requirement for the existence of lagged observations. We delete observations on the top and bottom percentile of *IB*, *IB'*, *R*, *R'* and *LR'*.

b: *IB* (*IB'*) denotes after-tax income before extraordinary items deflated by (previous) period's opening market value of equity, *R* denotes firm's annual market raw return measured for a period ending 3 months after the fiscal year-end, *R'* denotes firm's annual change in stock price measured for a period ending 3 months after the fiscal year-end divided by previous period's opening market value of equity, *LR'* denotes firm's annual market raw return measured for a period ending 3 months after the fiscal year-end of the previous year and *M/B* denotes the market to book ratio.

c: Correlation coefficients that are not bold are significantly different from zero at 0.1 or better.

Table 2
The asymmetric timeliness in the reporting of good and bad news of contemporaneous earnings [a, b]

Panel A: Pooled regressions based on model (*Reg*) and model (*Reg1*), (n = 760)					**Panel B: Pooled regressions based on model (*Reg*) and model (*Reg1*) adjusted for annual dummy variables on constant (n = 760)**				
a_0	a_1	b_0	b_1	R^2	a_0	a_1	b_0	b_1	R^2
0.039		0.009		0.055	0.047		0.007		0.142
(0.00)		(0.00)			(0.00)		(0.00)		
0.058	-0.005	0.002	0.077	0.142	0.051	-0.010	0.005	0.052	0.169
(0.00)	(0.37)	(0.21)	(0.00)		(0.00)	(0.13)	(0.01)	(0.00)	

Panel C: Annual regressions based on model (*Reg*) for sub-samples with no less than 20 observations

R > 0					**R < 0**				
YEAR	a_0	b_0	R^2	N	YEAR	a_0	b_0	R^2	N
1993	0.058	-0.005	-0.022	34	1994	0.070	0.115	0.144	39
	(0.00)	(0.59)				(0.00)	(0.01)		
1995	0.075	-0.001	-0.032	33					
	(0.00)	(0.98)							
1996	0.030	0.106	0.146	23	1996	0.068	0.094	0.129	54
	(0.12)	(0.04)				(0.00)	(0.00)		
1997	0.068	0.020	0.019	50	1997	0.057	0.056	-0.007	42
	(0.00)	(0.17)				(0.00)	(0.40)		
1998	0.051	0.006	0.006	92	2000	0.024	0.021	0.039	116
	(0.00)	(0.22)				(0.00)	(0.02)		
1999	0.046	0.003	0.009	103	2001	0.035	0.055	0.092	119
	(0.00)	(0.17)				(0.00)	(0.00)		

a: Tests in Panel A and Panel C are based on the following models

$IB_t = a_0 + b_0\ R_t + e_t$ (*Reg*) and $IB_t = a_0 + a_1\ D + b_0\ R + b_1\ R_t\ D + e_t$ (*Reg1*), where D is a dummy variable taking the value of 1 if annual change in stock price is negative, otherwise D equals zero. Tests in Panel B are based on model (Reg) and model (Reg1) after allowing for annual dummy variables on constant. Dummy variables on constant are not tabulated.

b: Coefficient' estimates and p.values (in parentheses) against the null hypothesis that coefficient' estimates are equal to zero are shown in Table 2. R^2 stands for adjusted r-square and n denotes the number of observations. For definitions of variables and information for the sample used see Table 1.

Table 3: The asymmetric timeliness in the reporting of good and bad news of contemporaneous earnings allowing for the effect of previous year news [a, b]

Panel A: Pooled regressions based on model (*Reg2*), (n = 760)						
a_0	a_1	b_0	f_0	b_1	f_1	R^2
0.069	-0.015	0.004	0.028	0.019	0.065	0.229
(0.00)	(0.01)	(0.00)	(0.00)	(0.00)	(0.00)	

Panel B: Pooled regressions based on model (*Reg2*) adjusted for annual dummy variables on constant (n = 760)						
A_0	a_1	b_0	f_0	b_1	f_1	R^2
0.064	-0.013	0.004	0.021	0.019	0.069	0.232
(0.00)	(0.09)	(0.00)	(0.01)	(0.00)	(0.00)	

Panel C: Annual regressions for sub-samples with no less than 20 observations

$R' > 0$ & $LR' > 0$

YEAR	a_0	b_0	g_0	R^2	*N*
1998	0.070	0.008	0.015	0.006	50
	(0.00)	(0.21)	(0.42)		
1999	0.060	0.003	0.023	0.065	99
	(0.01)	(0.19)	(0.03)		

$R' < 0$ & $LR' < 0$

YEAR	a_0	b_0	g_0	R^2	*N*
1996	0.066	0.066	0.108	0.355	20
	(0.00)	(0.05)	(0.01)		
1997	0.059	0.034	0.088	0.015	34
	(0.01)	(0.70)	(0.13)		
2001	0.035	0.044	0.038	0.161	119
	(0.00)	(0.00)	(0.00)		

$R' > 0$ & $LR' < 0$

YEAR	a_0	b_0	g_0	R^2	*N*
1993	0.115	-0.022	0.213	0.346	20
	(0.00)	(0.15)	(0.00)		
1995	0.086	0.074	0.182	0.169	24
	(0.02)	(0.32)	(0.05)		

$R' < 0$ & $LR' > 0$

YEAR	a_0	b_0	g_0	R^2	*N*
1994	0.063	0.092	0.059	0.168	36
	(0.00)	(0.01)	(0.01)		

1997	0.062	0.012	0.032	-0.043	31	1996	0.091	0.074	-0.017	0.042	33
	(0.01)	(0.53)	(0.63)				(0.00)	(0.11)	(0.65)		
1998	0.057	0.006	0.092	0.059	41	2000	0.031	0.013	0.013	0.109	116
	(0.00)	(0.41)	(0.09)				(0.00)	(0.09)	(0.00)		

a: Tests in Panel A are based on the following model

$IB_t^{'} = a_0 + a_1\ D_t + b_0\ R_t^{'} + f_0\ R_t^{'}\ D_t + b_1\ LR_t^{'} + f_1\ LR_t^{'}\ D_{t-1} + e_t$ (*Reg2*), where D is a dummy variable taking the value of 1 if the annual change in stock price is negative, otherwise D equals zero. Tests in Panel B are based on model (*Reg2*) after allowing for annual dummy variables on constant. Dummy variables on constant are not tabulated.

Tests in Panel C are based on the following model

$IB_t^{'} = a_0 + b_0\ R_t^{'} + g_0\ LR_t^{'} + e_t$

b: Coefficient' estimates and p.values (in parentheses) against the null hypothesis that coefficient' estimates are equal to zero are shown in Table 3. R^2 stands for adjusted r-square and n denotes the number of observations. For definitions of variables and information of the sample used see Table1.

Table 4: The asymmetric timeliness in the reporting of good and bad news of contemporaneous earnings using P_t as a deflator [a, b]

Pooled regressions based on (*Reg1*), (n = 760)					Pooled regressions based on (*Reg2*), (n = 760)						
A_0	a_1	b_0	b_1	R^2	a_0	a_1	b_0	f_0	b_1	F_1	R^2
0.059	-0.009	-0.058	0.079	0.071	0.065	-0.009	-0.063	0.065	-0.019	0.034	0.108
(0.00)	(0.13)	(0.00)	(0.00)		(0.00)	(0.13)	(0.00)	(0.00)	(0.00)	(0.00)	

a: Tests are based on model (*Reg1*) and model (*Reg2*) transformed in order to accommodate the change in the deflator. That is for both model (*Reg1*) and model (R*eg2*) the dependent variable is *IB* that is defined as earnings after-tax and before extraordinary items deflated by P_t (stock price at the end of the period). Current period *R* is defined for both models as the change in stock price at period t divided by P_t, while *LR* [for model (*Reg2*)] is defined as the change in stock price at period t-1 divided by P_t.

b: For related models see notes in Table 2 and Table 3.

Table 5: The asymmetric timeliness in the reporting of good and bad news of contemporaneous earnings allowing for the effect of up to three prior years news [a, b]

Pooled regressions based on model (*Reg3*) for a sub-sample of 438 observations										
A_0	a_1	b_0	F_0	b_1	f_1	b_2	f_2	b_3	F_3	R^2
0.080	-0.020	0.008	0.017	0.018	0.012	0.022	0.015	0.022	0.081	0.157
(0.00)	(0.14)	(0.00)	(0.03)	(0.00)	(0.17)	(0.00)	(0.54)	(0.03)	(0.06)	

Pooled regressions based on model (*Reg4*), for a sub-sample of 438 observations										
A_0	a_1	b_0	F_0	b_1	f_1	b_2	f_2	b_3	F_3	R^2
0.069	-0.014	-0.064	0.044	-0.032	0.024	-0.023	0.033	-0.004	0.013	0.111
(0.00)	(0.07)	(0.00)	(0.00)	(0.00)	(0.01)	(0.00)	(0.02)	(0.60)	(0.40)	

a: Tests are based on the following models:

$$\frac{X_t}{P_{t-4}} = a_0 + a_1 D_t + \sum_{r=0}^{3} b_r \frac{P_{t-r} - P_{t-r-1}}{P_{t-4}} + \sum_{r=0}^{3} f_r \frac{P_{t-r} - P_{t-r-1}}{P_{t-4}} D_{t-r} + e_t \quad (Reg3) \text{ and}$$

$$\frac{X_t}{P_t} = a_0 + a_1 D_t + \sum_{r=0}^{3} b_r \frac{P_{t-r} - P_{t-r-1}}{P_t} + \sum_{r=0}^{3} f_r \frac{P_{t-r} - P_{t-r-1}}{P_t} D_{t-r} + e_t \quad (Reg4),$$

where X denotes earnings after-tax and before extraordinary items, P denotes stock price and D is a dummy variable taking the value of 1 if the annual change in stock price is negative, otherwise D equals zero.

b: The sub-sample of 438 firm-year observations originates from the initial sample after applying any requirement for the existence of lagged observations. We delete observations on the top and bottom percentile of all variables used in model (*Reg3*) and model (*Reg4*).

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