Value Relevance of Conservative and Non-Conservative Accounting Information: Evidence from Greece

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Abstract

This paper examines the level and changes of conservatism in Greece for the period 1989-2003. At the same time it gauges the Value Relevance of earnings as it is presented by the power of the relation between earnings and returns. The reason is to assess the extent to which Conservatism affects the relation between earnings and returns. The findings show presence of Conservatism which becomes more profound for the period 2000-2003 that is after the Stock Market Crisis of 1999. Moreover, it is also shown that Conservatism helps earnings to exhibit sufficient information content for security prices through alleviating measurement errors in earnings. This result provides empirical support to the theoretical underpinnings of Watts (2003) who reports a number of arguments in favor of Conservatism.

1. Introduction

The aim of this paper is twofold, first to gauge the level of reporting conservatism in Greece for the period 1989-2003 and second to examine the effects of the conservatism principle on the value relevance of accounting information. Concerning Conservatism is defined as the asymmetric way in which good and bad news are recognized in earnings. This definition comes from Basu (1997) and this paper follows his approach in quantifying conservatism. The value relevance of accounting information and especially of earnings is assessed using the model of Easton and

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Harris (1991). By the term value relevance of accounting numbers is meant the statistical relation of these numbers with stock prices (or changes). Following Francis and Shipper (1999) value relevance is measured using the ability of earnings to explain market returns.

Basu (1997) defines conservatism as the asymmetric way in which news are recognized in earnings. He uses the sign of returns as the proxy for news and one of the assumptions he makes is that in the presence of conservatism earnings respond faster to bad news than to good news. Basu quantified this asymmetric response of earnings using a Threshold Autoregressive Regression (TAR) model which the state variable was the sign of returns and provides several measures of conservatism. One of the most used in the literature is $\beta_3 + \beta_2$ where β_2 and β_3 are the coefficients of earnings responsiveness to good and bad news respectively.

On the other hand value relevance is assessed using the model of Easton and Harris (1991). The model can be viewed as a generalization of Feltham and Ohlson (1995) in first differences coupled with the clean surplus assumption. The choice in favor of the Easton and Harris model is based on the argument of Easton (1999) that using the model in levels rather in returns may lead to spurious regression due to scale effects. The Easton and Harris model regress market returns on earnings per share and changes of earnings per share both deflated by opening market price. The sign and significance of earnings and changes in earnings as well as the R^2 from the regressions are used to assess the value relevance.

The models aforementioned are used to quantify the conservatism and value relevance of accounting information. The results are then used to examine the effects of conservatism on the value relevance for a sample of Greek firms for the period 1989-2003. The examination of Greek data is useful for a number of reasons. First it is a market in which the effects of conservatism are expected to be profound since the Greek Accounting is conservative by nature (Ballas, 1994). Second the Greek Stock Market has undergone significant changes after the 1999 crisis which led to more strict regulation from the Greek Capital Market Committee (GCMC hereafter). This in turn is expected to have affected the exercise of conservative policy by firms in an effort to avoid litigation and penalties from the GCMC. Third it provides out-of-sample evidence for the relation between conservatism and value relevance for a different institutional environment than US. As far as we are concerned only the study

of Balachandran and Mohanram (2006) examines this relationship for US which according to Kothari et al., (2001) operates under a common law institutional framework in contrast with Greece which is under a code law institutional framework.

This study aims to offer a number of contributions to the literature on Conservatism and Value relevance. First, it provides out-of-sample evidence on the existence of conservatism using data from an emerging Market. To the best of our knowledge there are only two studies gauging the level of conservatism in Greece, namely the studies of Bushman and Piotroski (2006) and Grambovas et al., (2006). However, both studies examine Greece as a part of a larger investigation and cross-country comparison and do not control for possible changes in conservatism after the Market Crash of 1999. That leads to the second contribution which is the examination in changes of the level of conservatism after a large Market Crash which was followed by profound litigation even towards the Capital Market Authorities. According to Watts (2003) two of the reasons of the existence of conservatism are litigation and standard setters' and regulators' costs and thus any changes in conservatism after the crash will be a direct verification of Watts' conjectures. Moreover, another contribution of the present paper is the examination of the relation between conservatism and value relevance. The topic is relatively new and we are aware only of one study, that of Balachandran and Mohanram (2006) which examines the above relationship using US data. In this context, the present study is the first to provide out-of-sample evidence. Last, in terms of methodological contribution this study controls for two problems arising in panel-estimation with a large number of members but a short time span of the data, cross-section dependence and heterogeneity.

The remainder of the paper is organized as follows: Section 2 presents the research methodology and Hypotheses, Section 3 describes the data, Section 4 analyzes the empirical results and finally Section 5 concludes the paper and offers implications for future research.

2. Research methodology and Hypotheses

2.1 *The models*

2.1.1 *Measuring Conservatism*

As discussed above the measure used in this paper to quantify conservatism, comes from the Basu (1997) asymmetric timeliness model.

Basu (1997) uses the difference in the speed of recognition of bad versus good news in earnings as a measure of conservatism. The measure is algebraically calculated as $\beta_3 - \beta_2$ where β_2 and β_3 show the speed of recognition for good and bad news respectively in earnings and are the slope coefficients from the following regression and:

$$\frac{EPS_{i,t}}{P_{i,t-1}} = \beta_0 + \beta_1 DT_{i,t} + \beta_2 R_{i,t} + \beta_3 RDT_{i,t} + \varepsilon_{i,t} \quad (1)$$

According to Basu, the greater the level of conservatism, the greater the asymmetry in the recognition of bad versus good news. Thus, the greater the level of conservatism, the greater is the difference between β_3 and β_2 slope coefficients. Last, according to Pope and Walker (1999), the intercept in equation (1) β_0 proxies for the cost of capital.

2.1.2 *Measuring the value Relevance of Accounting Information*

The following model, which is attributed to Feltham and Ohlson (1995), is used to assess the value relevance of accounting information:

$$P_{i,t} = \gamma_0 + \gamma_1 BV_{i,t} + \gamma_2 EPS_{i,t} + \varepsilon_{i,t} \quad (2)$$

The return equivalent of the model expressed in equation (2) under the Clean Surplus assumption has the following form:

$$\mathrm{Re}t_{i,t} = \alpha_0 + \alpha_1 \frac{EPS_{i,t}}{P_{i,t-1}} + \alpha_2 \frac{\Delta EPS_{i,t}}{P_{i,t-1}} + \varepsilon_{i,t} \quad (3)$$

Proof of the above model is due to Easton and Harris (1991), while its implications are also exposed in Easton (1999). Following Francis and Shipper (1999) the Value relevance of earnings is proxied by the significance of the statistical association of earnings with returns. In turn the statistical association is measured by the t-statistics of the slope coefficients of earnings and differences in earnings and the associated

measures of goodness-of-fit (R^2 and Akaike Criterion). An intuitive alternative interpretation of the coefficients is given by Easton and Harris (1991). They argue that according to theory the following equalities should hold: $\gamma_1 = \alpha_1$ and $\gamma_2 = \alpha_2$ (for an analysis see Easton, 1999). This clearly implies that the earnings response coefficient and the earnings-change response coefficient to returns (α_1 and α_2 respectively) in equation (3) should equal the response coefficients of Book Value and Earnings per share to Price (γ_2 and γ_3 respectively) in equation (2) should be equal. By turn α_1 is also a proxy for the relation of book value and price and α_2 a proxy for the relation between prices and earnings.

2.1.3 Modeling Cross-Sectional Dependence and Heterogeneity

A distinct feature of large panels of firms with a very large number of members but small number of years is the possibility that Cross Sectional Dependence (CSD hereafter) is present in our data (Pesaran, 2006). In this case, unless the effects of common factors driving the dependent and independent variables are modeled, the standard errors of the estimated coefficients will be downward biased (Bernard, 1987). Thus the Pooled CCE Estimator of Pesaran is also used in this study to help alleviating the effects of CSD. The aforementioned estimator works by adding the cross-sectional means of the dependent and independent variables into the equation. Pesaran shows that this cross sectional means are able to absorb the cross-sectional dependence.

On the other hand heterogeneity may also be present in our data. That is the level of conservatism and the value relevance of earnings are expected to differ across the members of the panel following the analysis below. Incorporating heterogeneity into equations (1) and (3):

$$\frac{EPS_{i,t}}{P_{i,t-1}} = \beta_0 + \beta_i + \beta_1 DT_{i,t} + \beta_2 R_{i,t} + \beta_3 RDT_{i,t} + \beta_4 EPSm_t + \beta_5 \mathrm{Re}tm_t + \varepsilon_{i,t} \qquad (4)$$

where Eps_t and $Retm_t$ are the cross-sectional means of the dependent and independent variables respectively and β_i are the cross-section fixed (or random) effects. Moreover equation (3) becomes:

$$\mathrm{Re}t_{i,t} = \alpha_1 + \alpha_i + \alpha_2 \frac{EPS_{i,t}}{P_{i,t-1}} + \alpha_3 \frac{\Delta EPS_{i,t}}{P_{i,t-1}} + \alpha_4 \mathrm{Re}tm_t + \alpha_5 EPSm_t + \alpha_6 \Delta EPSm_t + \varepsilon_{i,t} \quad (5)$$

where again $Retm_t$, EPS_t and ΔEPS_t are the cross sectional means as discussed above and α_i are the cross-section fixed (or random) effects.

Concerning the cross-section effects their use has the following implications for the two models. First, regarding the Basu model the implication is that the cost of capital is not constant but rather varies across firms. This finds support in the results of Gebhardt et al. (1999) who find that the cost of capital of each company is a function of the industry it belongs, the Book-to-Market ratio, the forecasted log-term growth rate and the dispersion in the analysts earnings forecasts and thus is not-constant across firms. Moreover, the inclusion of cross-section effects in the Easton and Harris model is motivated by Kothari (2001) who argues that the earnings response coefficients is based on four determinants, persistence, risk, growth and interest rates. Since these determinants are firm-specific it is expected that the ERC for each firm will differ and thus the introduction of cross-section effect will help in mitigating the effects of heterogeneity.

2.2 Research Methodology

In order to examine the effects of conservatism on value relevance, the firms in the sample are first divided into two groups according to their level of conservatism. It should be noted here that due to limitations in the time span of the dataset, firms are not divided according to the Basu (1997) measure of conservatism. This is due to the fact that such grouping would require time series estimates of the measure and thus it would possibly be inconsistent due to less than 15 obs. in each firm. Hence a primary relative grouping is done using the MTB ratio based on the findings of Pae et al., (2005) that the less the MTB ratio the higher the conservatism. What is implied from their study is that the MTB ratio is inversely related to Basu's measure of Conservatism. After the primary grouping the model of Basu is used to gauge the level of conservatism for the two groups formed and the results verify the anticipated inverse relation.

Next the model of Easton and Harris (1991) is used to assess the value relevance of accounting information for the two groups. A note should be done here concerning the timeliness of the model of Easton and Harris. As Easton (1999) argues if we are interested in the contemporaneous association between accounting variables and change in Market value then the specification of interest should be the one in returns. Concerning now the model used to measure conservatism Basu's model shares the same underlying motivation with Easton and Harris namely it gauges the differential (conditional) conservatism.

2.3 Research Hypothesis

Following Ballas (1994) who argues that due to its origin the Greek Accounting system is Conservative by nature the first research hypothesis is:

$H_{0,\alpha}$: Conservatism, as measured by the difference of the estimated slope coefficients β_3 and β_2 using the model of Basu, is present in our data.

From a statistical point of view $H_{0,\alpha}$ cannot be rejected if the difference between slope coefficients β_3-β_2 is positive and β_3 is significant.

Next, is the research hypothesis concerning the relation between conservatism and value relevance. This is a difficult task since there is a currently debate in the literature and the results are mixed. However, we follow Watts (2003) and hypothesize that conservatism is a power that helps earnings to maintain their relationship with prices by alleviating measurement error in earnings. Thus the second research hypothesis is:

$H_{0,\beta}$: Conservatism helps accounting variables to exhibit higher information content for prices i.e. are more value relevant as value relevance is measured by the Easton and Harris (1991) model.

Research Hypothesis $H_{0,\beta}$ cannot be rejected if the R^2 and the associated t-statistcs of the slope coefficients of the Easton and Harris model are higher for the HC (High Conservatism portfolio) in relation with the LC (Low Conservatism portfolio). As a test of robustness the Akaike Information Criterion is also reported since equation

model (4) and (5) are non nested with equation model (1) and (3) and in this case the R^2 is not a suitable measure of goodness-of-fit (Pesaran and Weeks, 2000).

The third research hypothesis originates from the arguments of Watts (2003). Specifically, he argues that four are the primary reasons for firms to exercise conservatism namely contracting, shareholder litigation, links between taxation and reporting and standard setters and regulators' costs. Two of these explanations, shareholder litigation and standard setters and regulators' costs may have affected Conservatism level in Greece after the collapse of the Market in 1999. The post market crash, stricter and more frequent audits along with the fear for litigation served as the motivation for increased reporting conservatism which was also enhanced with through tighter regulation. Thus the third research hypothesis is:

$H_{0,\gamma}$: The level of Conservatism is higher for the post-crash period of 2000-2003 than for the period of 1989-1999.

To examine the above research hypothesis the sample is divided into two periods, pre- and post-1999 and the Basu measure of conservatism are calculated. Finding a larger difference between slope coefficients β_3-β_2 (and β_3 significant) for the period following the collapse means that Research Hypothesis $H_{0,\gamma}$ cannot be rejected.

3. The Data

The data used in this study is drawn from two sources. First accounting data were obtained from the Profile Database for the period 1989-2003. Second the data on prices where obtained from the Athens Stock Exchange for the same period and the two datasets were merged based on the stock symbol. Firms of the financial Sector were deleted because of different way of reporting. The primary sample constituted of 414 Firms with 2442 observations. However, another set of 14 firms that according to the ASE announcements were placed under supervision, were deleted. Last as a rule of thumb deletion at the 2% was used for the remaining firms in the sample. It should be noted that deletion in the 1% and 1.5% led to similar results in terms of coefficient sign and magnitude but the associated t-statistics were insignificant due to the presence of outliers. The above procedure resulted in a final sample of 209 firms with 1604 observations.

The variables used are: EPS which is earnings before taxes divided by common shares outstanding and deflated by opening price; Ret which are annually compounded returns measured at the end of fiscal year; ΔEPS which is the change earnings per share deflated by the opening price and BTM which is the ratio of Book Value to Market Capitalization. Last a dummy variable DT is constructed to take the value of 1 if Ret is negative and zero otherwise and Retdt which is Ret multiplied by DT. Concerning EPSm RETm and ΔEPSm they are the cross-sectional means of EPS Ret and ΔEPS respectively.

Table 1 shows descriptive statistics of the variables. Both the mean and the median of the returns are negative which maybe an outcome of the 1999 Market crash. Last, the average BTM ratio is smaller than 1 which is a first indication of the presence of Conservatism in our data. The scatter plots A1 A2 and A3 provide a visual representation of the earnings-returns relationship. First despite the deletion procedure there are still outliers and that justifies the choice of the 2% as a deletion rule instead of the ordinary 1% in accounting studies. Further deletion of these outliers provides unchanged qualitative results. Second, as have been argued by Watts (2003) conservatism helps earnings to maintain their relationship with prices by alleviating measurement errors in earnings. This argument is supported by looking at scatter plots A2 and A3 which are visualizations of the earnings-returns relation for the low and high conservatism portfolio respectively. As it can be seen the low conservatism portfolio shows larger vertical dispersion than the high conservatism portfolio which is due to earnings (in contrast with horizontal dispersion which is due to prices).

A note should be done on the time span of the dataset. There are two reasons for not incorporating data for the period 2004-2006 in the dataset. First the Profile Database provides accounting data until 2003. Second and most important even though accounting data could be extracted from the annual reports of the companies the transition from the Greek Standards to the International Accounting Standards in 2004 would probably add noise to our estimates. Thus in order to provide robust results it would probably be of importance to control for all the changes that were done in 2004 and this is a difficult task. Thus it is preferred to keep out of the dataset, data for the period 2004-2006.

4. Empirical Findings

4.1 Estimation Methods

Due to the limited time-span of the dataset all the equations were estimated under a pooled framework. However, under this framework and taking into consideration the special features of the dataset (large number of panel members, limited time-span, possible presence of heteroscedasticity and cross sectional dependence and heterogeneity), a number of different estimators were used in order to examine the robustness of our results. These estimators are simple pooled OLS, Pooled OLS with Fixed and Random cross-section effects to control for the presence of heterogeneity and the Pesaran Pooled CCE estimator which controls for the presence of heterogeneity. It should be noted that the Pesaran estimator is used along with the three OLS estimators aforementioned. However, results based on Pooled CCE estimator are reported in a separate section due to the special findings. Results from the CD test of Pesaran (2004) for cross-sectional dependence indicate its presence. Specifically, the test follows a N~(0,1) under the null and has a t-stat of 4.35 which means that the null of cross-sectional independence can be comfortably rejected even at 1% level of significance. Last for all the estimators the standard errors are computed using the methodology of Beck and Katz, (1995, Panel Corrected Standard Errors methodology) to account for heteroscedasticity.

4.2 Empirical Results using Pooled OLS

Panel A of Table 2 report results of the Pooled OLS estimation for the whole period, 1989-1999 and 2000-2003 respectively. Even though the results of the simple Pooled OLS may be affected by heterogeneity and cross-sectional dependence they are used as a benchmark

The first note concerns Research Hypothesis $H_{0,\alpha}$ on the existence of Conservatism for the whole sample. As it can be seen the conservatism measure (the difference between slope coefficients β_3 and β_2) denoted Con-Measure in the table is positive and slope coefficient β_3 is always significant. In contrast the β_2 slope coefficient which measures the earnings response to good news is insignificant for all estimation periods. Thus research hypothesis $H_{0,\alpha}$ cannot be rejected and the Greek

Accounting System can be characterized as conservative. This result is in line with two recent studies that have dealt with Greek Data. The first is the study of Bushman and Piotroski (2006) find a significant positive β_3 coefficient (0.08 with t-statistic 2.29) and an insignificant and negative β_2 slope coefficient (-0.02 with t-statistic -0.20) for a similar period with this study (1992-2001). It should be noted that both the estimated coefficients are almost the same with the coefficients reported in this study. Second, Grambovas et al. (2006) follow a different route by segmenting their sample into 3 periods (1989-1992, 1993-1998 and 1999-2004). Their basic finding concerning Greece is that Conservatism is present. However, they do not report results for the whole sample and they only report results based on the between-effects estimator (fixed effects). Thus their results are not directly comparable to the results reported in this study since they do not control for cross-sectional dependence. The second note is about the two different estimation periods pre and post the market crash of 1999. As it can be seen the results show a marginal increase in reporting conservatism for the period 2000-2003 which is a result that persists for the random effects but not for the fixed effects estimator[1]. Thus the conclusion concerning Research Hypothesis $H_{0\gamma}$ is inconclusive. This could be a result of common factors driving the sample (cross-sectional dependence). Indeed as it can be seen from results reported later controlling for these factors provide clear evidence of acceptance of Research Hypothesis $H_{0\gamma}$.

Last, is the examination of Research Hypothesis $H_{0\beta}$ namely that Conservatism is a power that helps earnings to maintain their relationship with earnings. First as have been discussed firms are ranked according to their conservatism measure and divided into two portfolios LC and HC. As it can be seen from Panel B of Table 2 the Easton and Harris model perform better for the HC sample as indicated by the R^2. However, in terms of relative information content only earnings seem to increase their explanatory power for returns as it is shown by slope coefficient α_2 and the associated t-statistic. Earnings changes, as is shown by slope coefficient α_3, fail to exhibit increased explanatory power for returns as we move form the low to the high conservatism portfolio. The insignificance of earnings persists irrespective of the portfolio reexamined.

[1] Results not reported here but are available from authors.

Another finding that needs attention is the magnitude and significance of slope earnings and earnings changes response coefficients pre and post the Market crash of 1999. As it can be seen both coefficients are decreased after the market crash. This is a finding opposite to the notion that increased conservatism is related to increased value relevance. Specifically even though there are findings of increased conservatism for that period we cannot provide findings of increased value relevance. However, this maybe the aftermath of the crisis on the value relevance of book values and earnings and not the effect of conservatism and more research is needed in order to come up with a safe conclusion.

In conclusion, estimation based on pooled OLS leads to acceptance of Research Hypothesis $H_{0,\beta}$ conservatism, namely conservatism exists in the Greek Accounting System and is a power that helps earnings to exhibit sufficient information content for security prices and make it even better in terms of goodness of fit by alleviating measurement errors in earnings. Last, a visual examination of the scatter plot A1 (without the two additional outliers) exhibits the anticipated relationship between earnings and returns in presence of conservatism as it has been theoretically depicted in figure 2 of Basu (1997).

4.3 Empirical Results using the Pooled CCE Estimator of Pesaran

The first thing that should be noted by observing the results of Table 3-5 is that the findings on the presence of Conservatism persist. However, the most important result is that the level of conservatism for the period 2000-2003 after the market crash is now higher than that of the period 1989-1999 for all the estimators used. At the same time there seems to be different common factors effects for the different periods under investigation.

Specifically, irrespective of the estimator used for the period 1989-1999 there exists a common factor in returns that drives earnings. This common factor indicates the presence of cross-sectional dependence due to returns and its possible interpretation is that the high returns of these period may was a stimulus for the firms to report earnings figures that followed this trend. However, this result does not persist for period 2000-2003 and it seems that now the common factor driving earnings is in the earnings figures reported. This reversal maybe the outcome of the crash and may be connected with the lower earnings coefficients reported for this

period using the Easton and Harris model (results reported bellow). Last the significance of the slope coefficient of the cross-sectional means of either earnings of returns in almost all of the cases indicates the presence of cross-sectional dependence.

Concerning the main hypothesis of the paper that conservatism is a power that helps earnings to maintain their relation with earnings it can be seen again that the results found above persist. That is conservatism helps value relevance of earnings as it is seen from R^2 of the Easton and Harris model for the two portfolios. However, the results become clear for the periods pre and post the crash. It is shown that the value relevance is decreased after the crash. Even though this seems to demeaning our results it should be noted that it may be a result of the crises and not of conservatism. The cross-sectional mean of returns in the Easton and Harris model can also be seen as the Market Return in an Asset Pricing framework.

Generally, irrespective of the estimator used, it is shown that the basic Research Hypotheses developed in this study cannot be rejected. That is Conservatism is a feature of the Greek Accounting System, it is increased in the period 2000-2003 as a result of the crisis and increased litigation and it helps earnings maintain their relationship with returns.

5. Conclusions and Implications for Further Research

The objective of this paper is twofold: First it examines the presence and level of conservatism for the 1989-2003 for a sample of Greek Firms. Moreover, it is examined if the Market crash of 1999 affected the level of conservatism. The second and main objective of this paper is to examine if conservatism is a power that helps earnings to maintain their relationship with returns.

Two problems emerging in studies using panels with a large number of members but a small time span are controlled in this study. Those are Cross-Sectional Dependence and Heterogeneity. Direct and indirect tests indicate the presence of CSD and the estimator of Pesaran (2006) is used to alleviate its effects. Concerning heterogeneity fixed and random cross-section Effects Estimators are introduced to alleviate its effects.

The results show that Conservatism is present in the data and is increased as a result of the market crash and its effects (increased litigation even against the Capital Market Authorities). Moreover, as it is shown from the R^2 and t-statistics of the

variables of the two portfolios created according to the level of conservatism, firms that exhibit a higher level show also more value relevant accounting data in comparison with the firms that belong to the low conservatism portfolio.

Concerning Cross-Sectional Dependence, it is shown that not-only it exists but more worryingly if its effects are not modeled then it may lead to different results. A more interesting finding regards the sources driving cross-sectional dependence. In all research settings examined a common factor in returns driving earnings was found significant for the period prior the Market crash and the low conservatism portfolio. The common characteristic of these two cases is the absence of conservatism. However, a further examination of the reasons of this pattern is left for future research.

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***Table 1**:* Descriptive Statistics

	EPS	RET	RETDT	MTB
Mean	0.08	-0.04	-0.30	2.66
Median	0.07	-0.10	-0.10	1.88
Max	0.37	2.39	0.00	29.82
Min	-4.62	-1.74	-1.74	0.31
Stdev	0.18	0.72	0.41	3.13

Notes: The sample contains 209 firms with 1604 observations for the period 1989-2003. EPS are earnings before taxes divided by common shares outstanding and deflated by opening price; Ret are annually compounded returns measured at the end of fiscal year; ΔEPS is the change earnings per share deflated by the opening price and BTM is the ratio of Book Value to Market Capitalization. The Dummy variable DT is constructed to take the value of 1 if Ret is negative and zero otherwise and Retdt which is Ret multiplied by DT. Last EPSm RETm and ΔEPSm are the cross-sectional means of EPS Ret and ΔEPS respectively.

Table 2: Results using Pooled OLS

Panel A: Results of the Basu Model

	β_0	t-stat	β_1	t-stat	β_2	t-stat	β_3	t-stat	R^2	AIC	Con-Measure
1989-2003	0.12	14.55***	-0.02	-1.90**	-0.01	-1.05	0.07	3.76***	0.03	-0.64	0.08
1989-1999	0.13	10.94***	-0.02	-1.03	-0.01	-1.07	0.07	2.29***	0.02	-1.38	0.08
2000-2003	0.10	10.58***	-0.03	-1.61	-0.02	-1.15	0.07	2.34***	0.02	-0.22	0.09

Panel B: Results of the Harris and Easton Model

	α_0	t-stat	α_1	t-stat	α_2	t-stat	R^2	AIC
1989-2003	-0.09	-3.28***	0.58	2.95***	-0.005	-0.50	0.02	2.17
1989-1999	0.22	6.36***	0.39	2.17**	0.017	0.73	0.01	1.99
2000-2003	-0.37	-12.64***	0.32	1.94**	-0.003	-0.25	0.01	1.98
LC	-0.03	-0.99	0.43	2.44***	-0.008	-0.41	0.02	
HC	-0.21	-4.65***	1.32	4.19***	0.002	0.19	0.04	

Notes: *,**,and *** indicate significance at the 10%, 5% and 1% level respectively. The sample contains 209 firms with 1604 observations for the period 1989-2003. The sub sample for the period 1989-1999 contains 903 observations whereas for the period 2000-2003 contains 701 observations EPS are earnings before taxes divided by common shares outstanding and deflated by opening price; Ret are annually compounded returns measured at the end of fiscal year; ΔEPS is the change earnings per share deflated by the opening price and BTM is the ratio of Book Value to Market Capitalization. The Dummy variable DT is constructed to take the value of 1 if Ret is negative and zero otherwise and Retdt which is Ret multiplied by DT. Last EPSm RETm and ΔEPSm are the cross-sectional means of EPS Ret and ΔEPS respectively.

Table 3: Results using Pooled CCE Estimator

Panel A: Results of the Basu Model

White Diagonal 2% with YM	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	AIC	Con-Measure
1989-2003	0.11	11.50***	-0.02	-1.75*	-0.01	-1.27	0.06	3.56***	-0.01	-2.00**	NA	NA	0.03	-0.64	0.07
1989-1999	0.13	11.21***	-0.02	-1.08	0.04	2.16**	0.02	0.72	NA	NA	-0.06	-3.68***	0.05	-1.38	-0.02
2000-2003	0.12	10.14***	-0.03	-1.37	-0.04	-2.00**	0.10	3.41***	0.07	2.96***	NA	NA	0.03	-0.24	0.14
LC portfolio	0.09	6.47***	-0.02	-0.91	0.05	2.61***	0.02	0.71	NA	NA	-0.04	-2.15**	0.03		-0.03
HC portfolio	0.13	11.67***	-0.03	-1.96**	-0.04	-3.30***	0.10	5.86***	-0.01	-2.82***	NA	NA	0.12		0.14

Panel B: Results of the Harris and Easton Model

White Diagonal 2% with YM	α_0	t-stat	α_1	t-stat	α_2	t-stat	α_3	t-stat	α_4	t-stat	α_5	t-stat	R^2	AIC
1989-2003	-0.04	-2.16**	0.28	2.70***	0.001	0.24	0.81	41.32***	NA	NA	NA	NA	0.61	1.27
1989-1999	-0.08	-3.31***	0.74	5.95***	0.019	1.45	0.79	28.94***	NA	NA	NA	NA	0.59	1.11
2000-2003	0.01	0.31	0.14	1.42	0.000	-0.01	0.89	21.56***	NA	NA	NA	NA	0.46	1.39
LC portfolio	-0.05	-1.71*	0.29	2.36***	0.004	0.39	0.73	23.27***	-0.05	-3.20***	NA	NA	0.60	1.29
HC portfolio	-0.01	-0.12	0.35	1.90*	0.001	0.12	0.90	27.49***	0.06	2.92***	-0.03	-2.37***	0.64	1.22

Notes: *,**,and *** indicate significance at the 10%, 5% and 1% level respectively. The sample contains 209 firms with 1604 observations for the period 1989-2003. The sub sample for the period 1989-1999 contains 903 observations whereas for the period 2000-2003 contains 701 observations EPS are earnings before taxes divided by common shares outstanding and deflated by opening price; Ret are annually compounded returns measured at the end of fiscal year; ΔEPS is the change earnings per share deflated by the opening price and BTM is the ratio of Book Value to Market Capitalization. The Dummy variable DT is constructed to take the value of 1 if Ret is negative and zero otherwise and Retdt which is Ret multiplied by DT. Last EPSm RETm and ΔEPSm are the cross-sectional means of EPS Ret and ΔEPS respectively.

Table 4: Results using Pooled CCE Estimator with Fixed Effects

Panel A: Results of the Basu Model

White Diagonal 2% with YM	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	AIC	Con-Measure
1989-2003	0.11	14.47***	-0.02	-2.13**	-0.01	-0.86	0.05	2.90***	NA	NA	NA	NA	0.36	-4.29	0.06
1989-1999	0.12	15.27***	-0.01	-0.67	0.07	3.59***	0.02	0.77	NA	NA	-0.07	-4.26***	0.37		-0.04
2000-2003	0.12	7.21***	-0.03	-1.40	-0.05	-1.66*	0.06	1.75*	0.07	2.69***	0.04	2.90***	0.43		0.11
LC portfolio	0.08	6.02***	-0.02	-0.87	0.04	2.34***	0.00	0.10	NA	NA	-0.02	-1.82**	0.36		-0.04
HC portfolio	0.13	11.50***	-0.03	-2.18**	-0.03	-2.80***	0.09	4.83***	-0.01	-2.60***	NA	NA	0.37		0.12

Panel B: Results of the Harris and Easton Model

White Diagonal 2% with YM	α_0	t-stat	α_1	t-stat	α_2	t-stat	α_3	t-stat	α_4	t-stat	α_5	t-stat	R^2	AIC
1989-2003	-0.04	-2.03**	0.30	2.12**	-0.001	-0.239	0.81	37.72***	NA	NA	NA	NA	0.67	-0.77
1989-1999	-0.12	-3.95***	1.16	5.70***	0.020	1.15	0.76	24.21***	NA	NA	NA	NA	0.69	
2000-2003	0.02	0.74	0.02	0.32	-0.003	-0.40	0.90	18.41***	NA	NA	NA	NA	0.62	
LC portfolio	-0.05	-1.56	0.26	1.73*	0.002	0.16	0.72	21.16***	-0.05	-2.77***	NA	NA	0.66	
HC portfolio	0.01	0.25	0.44	1.92*	-0.003	-0.475	0.92	25.87***	0.07	3.44***	-0.04	-2.59***	0.70	

Notes: *,**,and *** indicate significance at the 10%, 5% and 1% level respectively. The sample contains 209 firms with 1604 observations for the period 1989-2003. The sub sample for the period 1989-1999 contains 903 observations whereas for the period 2000-2003 contains 701 observations EPS are earnings before taxes divided by common shares outstanding and deflated by opening price; Ret are annually compounded returns measured at the end of fiscal year; ΔEPS is the change earnings per share deflated by the opening price and BTM is the ratio of Book Value to Market Capitalization. The Dummy variable DT is constructed to take the value of 1 if Ret is negative and zero otherwise and Retdt which is Ret multiplied by DT. Last EPSm RETm and ΔEPSm are the cross-sectional means of EPS Ret and ΔEPS respectively.

Table 5: Results using Pooled CCE Estimator with Random Effects

Panel A: Results of the Basu Model

White Diagonal 2% with YM	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	AIC	Con-Measure
1989-2003	0.10	9.89***	-0.02	-2.08**	-0.01	-1.14	0.06	3.20***	-0.01	-1.79*	NA	NA	0.03	-4.09	0.06
1989-1999	0.13	11.66***	-0.02	-1.06	0.05	2.90***	0.02	0.84	NA	NA	-0.06	-4.19***	0.07		-0.03
2000-2003	0.12	10.09***	-0.03	-1.45	-0.04	-2.00**	0.09	3.32***	0.07	3.06***	NA	NA	0.03		0.14
LC portfolio	0.08	4.99***	-0.02	-0.96	0.05	2.77***	0.02	0.46	NA	NA	-0.03	-2.13**	0.02		-0.03
HC portfolio	0.13	11.21***	-0.03	-2.27**	-0.03	-3.20***	0.09	5.57***	-0.01	-2.82***	NA	NA	0.11		0.13

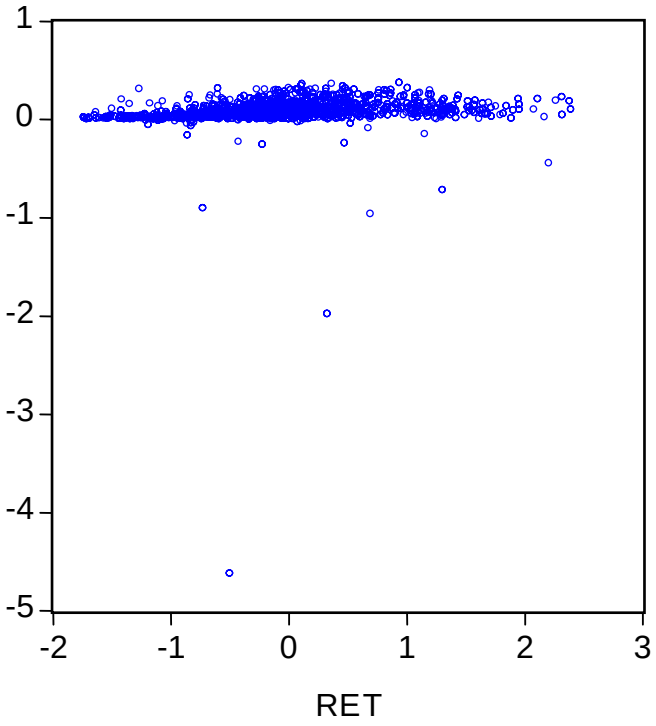
Panel B: Results of the Harris and Easton Model

	α_0	t-stat	α_1	t-stat	α_2	t-stat	α_3	t-stat	α_4	t-stat	α_5	t-stat	R^2	AIC
1989-2003	-0.04	-2.16**	0.28	2.70***	0.001	0.24	0.81	41.32***	NA	NA	NA	NA	0.61	NA
1989-1999	-0.08	-3.31***	0.74	5.95***	0.019	1.45	0.79	28.94***	NA	NA	NA	NA	0.59	
2000-2003	0.01	0.31	0.14	1.42	0.000	-0.01	0.89	21.56***	NA	NA	NA	NA	0.46	
LC portfolio	-0.05	-1.71*	0.29	2.36***	0.004	0.39	0.73	23.27***	-0.05	-3.20***	NA	NA	0.60	
HC portfolio	-0.01	-0.13	0.35	1.90*	0.001	0.11	0.90	27.51***	0.06	2.93***	-0.04	-2.38***	0.64	

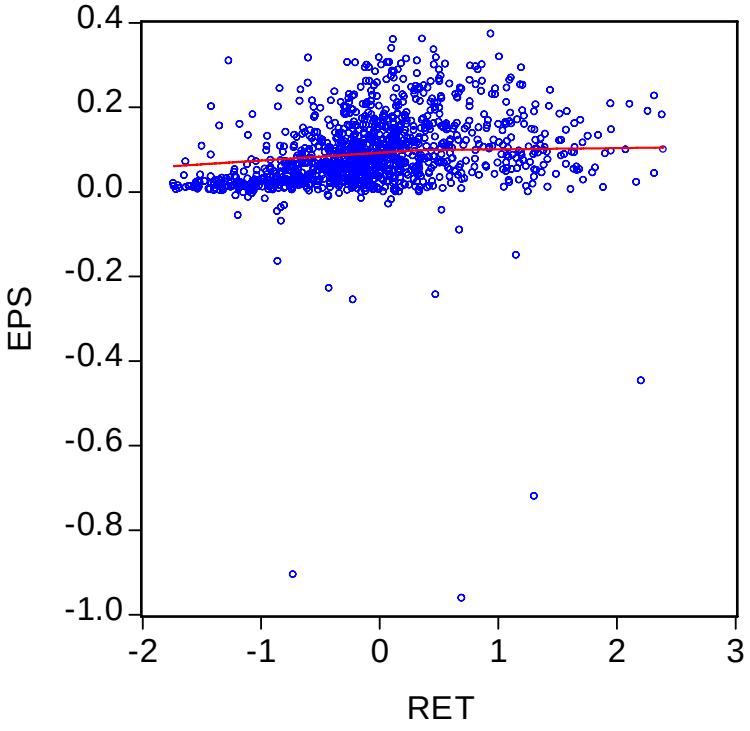
Notes: *,**,and *** indicate significance at the 10%, 5% and 1% level respectively. The sample contains 209 firms with 1604 observations for the period 1989-2003. The sub sample for the period 1989-1999 contains 903 observations whereas for the period 2000-2003 contains 701 observations EPS are earnings before taxes divided by common shares outstanding and deflated by opening price; Ret are annually compounded returns measured at the end of fiscal year; ΔEPS is the change earnings per share deflated by the opening price and BTM is the ratio of Book Value to Market Capitalization. The Dummy variable DT is constructed to take the value of 1 if Ret is negative and zero otherwise and Retdt which is Ret multiplied by DT. Last EPSm RETm and ΔEPSm are the cross-sectional means of EPS Ret and ΔEPS respectively.

Scatter Plot A1 Full Sample

Before the Deletion of the 2 extra outliers

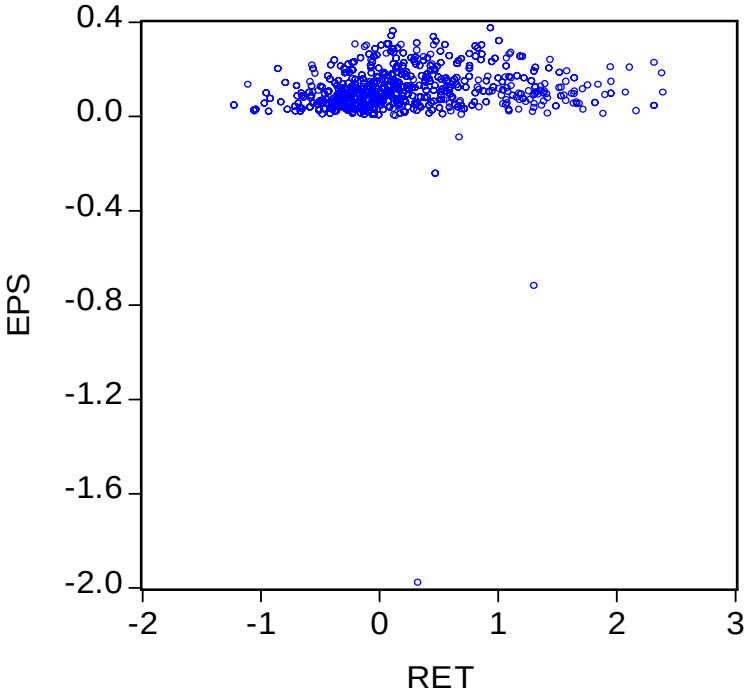


After the Deletion of the 2 extra outliers

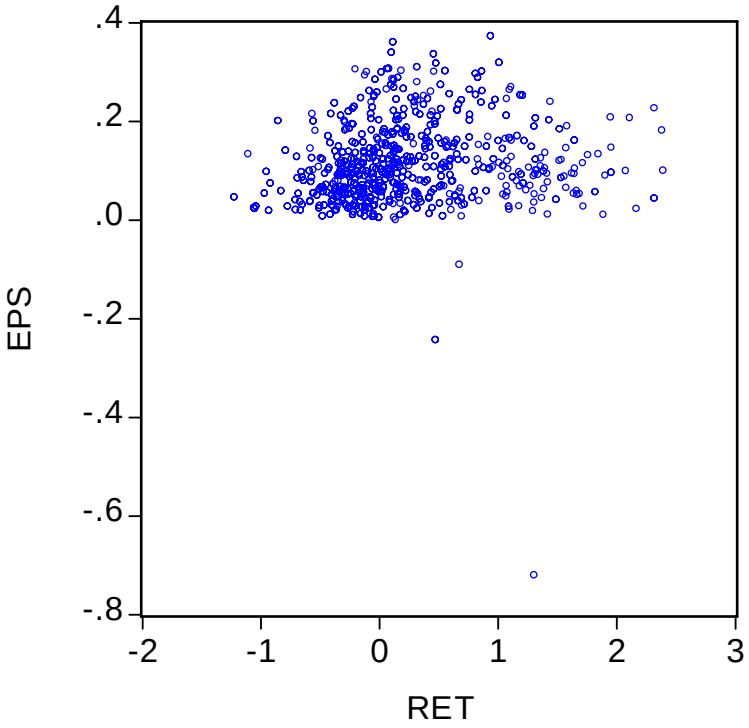


Scatter Plot A2 Low Conservatism Portfolio

Before the Deletion of the 2 extra outliers

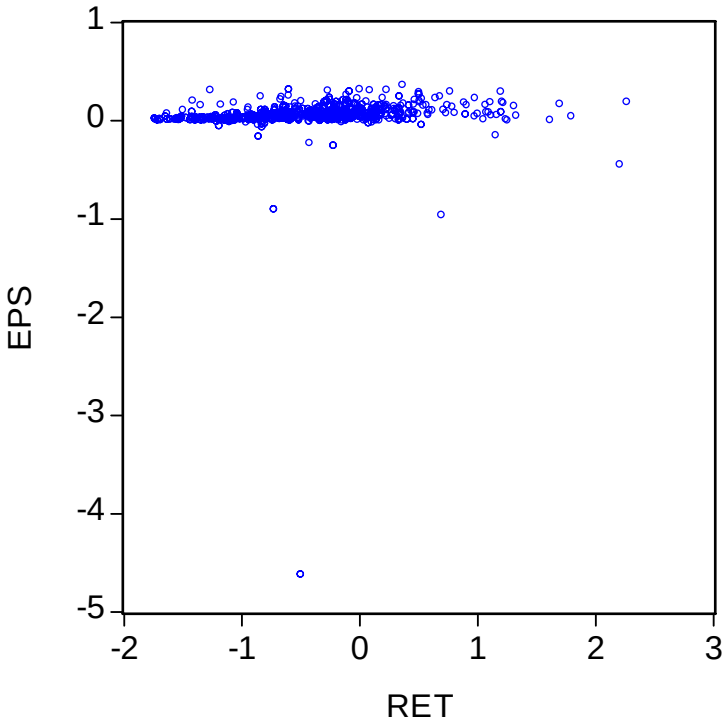


After the Deletion of the 2 extra outliers



Scatter Plot A3 High Conservatism Portfolio

Before the Deletion of the 2 extra outliers



After the Deletion of the 2 extra outliers