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GOVERNANCE IN EARNINGS: A NEW PERSPECTIVE

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Abstract

Purpose: The governance in earnings is a need of the hour. As all stakeholders focus on earnings. The governance is captured through the persistence it carries in future. It is an important evaluation criterion for firms' stakeholders. If earnings are not persistent, they are likely to decline, due to which returns in the future will also decline and vice-versa.

In this study, the persistence of earnings is measured as the increase in earnings per share consecutively for five years. To evaluate the performance of earnings, firms are classified into two groups: firms enhancing earnings through revenue-growth strategies and firms enhancing earnings through cost-reduction strategies. In this study, panel methodology is applied and data is analysed for fifteen years. This study is first of its kind in India, as per researcher's knowledge.

Key Words: Persistence of Earnings, Revenue-growth Strategy, Cost-reduction Strategy, Panel Data.

1. INTRODUCTION

The equity shareholders have primarily two sources of income; first is dividend income and second is capital appreciation. Former depends upon the earnings of the firm and latter depends on many factors like economic, political, company's performance and others. One of the most important factor is earnings of the firm and its persistence. As Penman and Zhang (2004) said, 'if earnings are of low quality then they are likely to decline in future, and therefore the returns will also decline'.

Many previous studies have showed that firms reporting sustained increases in earnings have competitive advantage and higher earnings growth in future than firms who do not report sustained increases in earnings [Barth et al. (1999), Demski (1998), Porter (1985)]. Ghosh, Gu, & Jain (2005) went into the components of earnings and laid down two broad groups. One group compose of all those firms who followed revenue growth strategy for enhancement of earnings and second group compose of all those firms who followed cost reduction strategy for enhancement of earnings.

This study captures the persistence of earnings growth in Indian context. This study also links the impact of various business strategies adopted by firms for the enhancement of earnings growth in India. Further, this section discusses the review of literature, rationale, objectives and models for persistence of earnings growth. Section two discusses the research design of the study which consists of various hypothesis, sample, variables and statistical techniques adopted. In section three, analysis of results is done and lastly, in section four this study has been concluded.

1.1 Review of Literature

The comprehensive review of literature has been done. Studies have identified various variables related to financial statements of the companies like fundamental variables, accounting variables, accruals, conservative accounting variables, etc. These variables helped in determining the persistence of earnings from different areas and also to check its impact on company's stock returns. This study mainly emphasis on persistence of earnings and its various determinants in India. There are few ways to assess the quality of earnings like Beaver, Griffin, and Landsman (1982) scrutinized the incremental explanatory power of replacement cost earnings variables in explaining cross-sectional differences in security returns. Freeman, Ohlson, and Penman (1982) came out with the evidence on predictability of earnings and showed earnings do not follow the random walk. They showed book-rate of return follows a mean-reverting process and changes in rates of return is strongly correlated with changes in earnings. Feltham and Ohlson (1995) modelled the relationship between accounting data related to operating and financial activities and market value of a firm. They took variables like abnormal earnings persistence, growth and accounting conservatism. Molodovsky (1995) said if the current earnings are not able to predict about the future earnings, then changes in price-earnings ratios should compensate for these deviations. Abarbanell and Bushee (1997) investigated the financial statements to find out the fundamental signals for earnings changes. Penman and Zhang (2004) studied financial statements to assess the quality of earnings. Ghosh, Gu and Jain (2005) linked the persistence of earnings to various strategies adopted by firms. Richardson et al. (2005) investigated the relation between accrual reliability and earnings persistence. ElMoatasemAbdelghany (2005) focused on the quality of earnings by taking three approaches namely, (a)Variability of earnings measured as the ratio of standard deviation of operating earnings to standard deviation of cash from operation [Leuz et al.(2003)]. (b) Second approach is of Barton and Simko (2002), where earning surprise indicator is used to measure the quality of earnings as the ratio of beginning balance of net operating assets relative to sales, and (c) Penman (2001) approach where ratio of cash flow from operation divided by the net income is used as the quality of earnings indicator. Lopez, Garcia, and Rodriguez (2007) explored whether business performance is affected by the adoption of practices included under the term corporate social responsibility and for this they analysed the relationship between

corporate social responsibility (CSR) and certain accounting indicators.

1.2 Rationale of the Study

The studies related to the persistence of earnings mostly belong to the United States market. The gap was found for Indian markets. This Study will analyse the persistence of earnings for Indian Markets and will also analyse the various strategies adopted by firms to enhance either earnings. This study also enhances the methodology in comparison to previous studies by applying panel regression.

1.3 Objectives of the Study

On the basis of above discussion, this study has two major objectives, which are as follows:

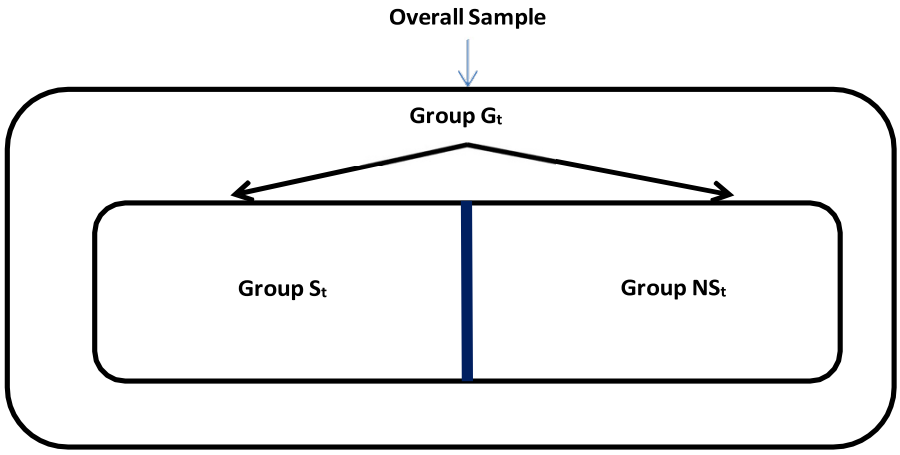
1. To elaborate the meaning of persistence of earnings in Indian Scenario.
2. To examine the impact of various firms strategies on persistence of earnings.

1.4 Model of the Study

As per Ghosh et al. (2005), the firm is having persistence of earnings if earnings are increasing for five years consecutively. There are two ways to enhance earnings: first is revenue-growth strategy and second is non-revenue growth strategy known as cost-reduction strategy. As Ertimur, Livnat and Martikainen (2003) said, increase in earnings can also emerge through cost-reduction.

1.4.1 Grouping of Firms

The Ghosh et al. (2005) classified the firms on following basis:



Group G_t: All firms which are having at least five years of consecutive increases in earnings per share up to year t.

Group S_t : Firms in Group G_t which are having at least five years of consecutive increases in revenue per share up to year t.

Group NS_t: Firms in Group G_t that do not belong to Group S_t.

1.4.2 Sustainable Earnings

After classifying the firms into various groups, Ghosh et al. (2005), examined the persistence of earnings growth with the help of following models:

$$\frac{\Delta E_{t+1}}{P_t} = b_0 + b_1 \frac{\Delta E_t^-}{P_{t-1}} + b_2 \frac{\Delta E_t^+}{P_{t-1}} + b_3 \frac{\Delta E_t}{P_{t-1}} * D_t^S + b_4 \frac{\Delta E_t}{P_{t-1}} * D_t^{NS} + \varepsilon_t \quad \ldots (1)$$

In above equation (1),Δ is the first-difference operator. Positive and negative earnings changes are

denoted as ΔE^- and ΔE^+. Here, earnings growth is defined as a positive change. Therefore various subgroups are subsets of firms withΔE_t^+. P is the stock price at the end of the third month after the fiscal year end, Ds are dummy variables denoting groups S_t, NS_t in equation (1). In the above model, b_1 and b_2 encapsulate the earnings persistence of negative and positive earnings changes for firms without sustained earnings growth and parameters b_3 and b_4 captures the impact of earnings persistence from various components of earnings.

2. RESEARCH DESIGN

The elaborate research design consists of following objectives, hypothesis, data, variables, methods. The detailed discussion is as follows:

2.1 Hypotheses

The null hypotheses for various objectives are as follows:
Objective 2: To examine the various elements of sustainable earnings in India.
Hypothesis:

***H₁*:** Non-sustained negative earnings have no significant impact on persistence of earnings growth.

***H₂*:** Non-sustained positive earnings have no significant impact on persistence of earnings growth.

***H₃*:** There is no significant difference between persistence of earnings growth of Group S_t and Group NS_t firms.

2.2 Sample

The NSE NIFTY 500 index was selected to analyse this study objectives. The annual data was collected from the financial statements available at ACE EQUITY database maintained by Accord Fintech Pvt. Ltd. The structure of data was balanced and micro panel. First of all, financial and banking firms were removed and then firms having less than fifteen years data or missing data were removed. At Last, 189 firms were left for analysis. The period of study is ten years ranging from January 2001 to December 2015.

2.3 Variables

Sustained increases are defined as increases for five consecutive years. Group G_t is formed which is composed of firms with five consecutive years of earnings per share increases up to year *t*.
Various variables for fiscal year *t* are measured as follows:

- E_t : Earnings per share: It is calculated as earnings divided by outstanding shares.
  First of all, earnings are calculated as follows:
  Earnings= Profit after tax – Exceptional income – Preference dividend.
  Secondly, data on outstanding shares was collected. Paid up outstanding shares are considered.
- Revenue per share
  It is calculated as net sales of the firm divided by outstanding shares.

$$Revenue\ Per\ Share = \frac{Net\ Sales}{Outstanding\ shares}$$

- $\frac{\Delta E_{t+1}}{P_t}$
  It is calculated as ΔE_{t+1} divided by the Market price per share (P_t) at the end of third month of fiscal year t.
- $\frac{\Delta E^{-}_{t}}{P_{t-1}}$
  It is the first difference of negative measure of Earnings per share (E_t) divided by market price per share at the end of third month of fiscal year t-1.
- $\frac{\Delta E^{+}_{t}}{P_{t-1}}$
  It is the first difference of positive measure of Earnings per share (E_t) divided by market price per share at the end of third month of fiscal year t-1.
- $\frac{\Delta E_t}{P_{t-1}}$
  It is calculated as ΔE_t divided by the Market price per share (P_{t-1}) at the end of third month of fiscal year t-1.
- D^S is a dummy variable which denotes firms having consecutive five years of earnings per share increases along with consecutive five years of revenue per share increases upto year *t*.
- D^{NS} is a dummy variable which denotes firms having consecutive five years of earnings per share increases but they do not have consecutive five years of revenue per share increases upto year *t*, these firms experienced revenue per share decreases in one or more years and adopted cost reduction strategy to maintain their level of earnings growth.

2.4 Statistical Techniques

To analyse the various regression equation, first of all, Pooled Regression is run ignoring the time effect and entity-effect. After this, Hausman test is applied to check whether random effects panel model is applicable or not. On the basis of Hausman tests result, either fixed-effects panel regression or random-effects panel regression is run. After regression analysis, four assumptions are checked. First one is normality, which is checked through Jarque-Bera test. Secondly, mean value of error terms is analysed through t-statistics. Thirdly, homoscedasticity is checked through likelihood ratio, and last assumption of autocorrelation is checked through Wooldridge test. After analysing all assumptions, the problem of heteroscedasticity and autocorrelation, if found, is removed through robust regression analysis. Wald test is also applied to check the significance of difference between different coefficients.

3. ANALYSIS OF RESULTS

3.1. Descriptive Statistic

Table 1: Descriptive Statistics

Variables	Mean	Median	Maximum	Minimum	Std. Dev.	Observations
$\frac{\Delta E_{t+1}}{P_t}$	0.01445	0.00469	7.82484	-2.29641	0.33377	1890
$\frac{\Delta E_t}{P_{t-1}}$	0.04647	0.00613	15.71952	-2.29641	0.59835	1890

$\frac{\Delta E_t^-}{P_{t-1}}$	-0.05224	0.00000	0.00000	-2.29641	0.19427	1890
$\frac{\Delta E_t^+}{P_{t-1}}$	0.09872	0.00613	15.71952	0.00000	0.55675	1890

The descriptive statistics is presented in table 1. There are in total 1890 observations which constitute a very large number for panel data analysis. The mean of E/P ratio at first difference is 0.014 and its standard deviation is 0.334, whereas, it's lagged series mean and standard deviation are 0.046 and 0.598 respectively, the mean of negative earnings E/P ratio at first difference series is -0.052 and its standard deviation is 0.194 whereas, the mean and standard deviation of positive earnings E/P ratio at first difference series is 0.099 and 0.557 respectively.

3.2 Objective 1: Defining Sustainable Earnings

In objective one of this study, an attempt is made to define sustainable earnings in Indian scenario. As per Ghosh et al. (2005) model, firms whose earnings per share are increasing for consecutive five years have persistence of earnings.

3.3 Objective 2: Determinants of Sustainable Earnings

To find out the various determinants of sustainable earnings, equation (1) has been analysed with the help of Panel Data Regression.

Analysis of Equation (1)

Table 2: Results for Equation (1)

Variable	Pooled	Fixed-Effects	Robust
b_0	0.00160 (0.809)	0.00375 (0.588)	0.00375 (0.719)
$\frac{\Delta E_t^-}{P_{t-1}}$	-0.15711*** (0.000)	-0.14722*** (0.000)	-0.14722** (0.034)
$\frac{\Delta E_t^+}{P_{t-1}}$	-0.08576*** (0.000)	-0.10617*** (0.000)	-0.10617** (0.010)
$\frac{\Delta E_t}{P_{t-1}} * D_t^S$	0.58976*** (0.000)	0.60839*** (0.000)	0.60839*** (0.000)
$\frac{\Delta E_t}{P_{t-1}} * D_t^{NS}$	0.93960*** (0.0017)	0.95405*** (0.004)	0.95405*** (0.000)
Wald Test for b_3 and b_4 coefficients	-1.16616 (0.2437)	1.1154 (0.291)	1.7508 (0.186)
Adjusted R-Squared	0.336	0.298	0.298
Hausman-Test Result	19.14877*** (0.001)		

Note:

'**' denotes significant at 5%.

'***' denotes significant at 1%.

Value in parenthesis denotes p-values.

Table 2 shows regression analysis result of equation (1), all the persistence parameters are highly significant, which are in line with Ghosh et al. (2005) study. On the basis of Hausman-Test result, the random effects panel model is not applicable. Hence, fixed effects panel model is applied. On testing the post-estimation assumptions presented in Table 3, the problem of autocorrelation and heteroscedasticity is found and it is removed through robust regression analysis. As per robust regression analysis, the persistence parameter for firms without sustained earnings is negative and significant for negative changes, which is line with Ghosh et al. (2005) study. It is negative and significant for positive changes. The incremental persistent parameter for group S_t is positive and highly significant, which is in line with Ghosh et al. (2005). It is also positive and highly significant for group NS_t, whereas, the Ghosh et al. (2005) result showed the positive and insignificant result. This shows in Indian scenario, the persistence parameter for earnings does not differentiate between sales and Non-Sales firms.

The incremental persistence parameter of group NS_t is higher than the incremental persistence parameter of group S_t, that is, $b_4 = 0.954 > b_3 = 0.608$, this might happen because of Indian Economic structure as in India, firms focus more on Cost-reduction strategies then revenue growth strategies for earnings increase. The difference between the two coefficients is not significant as checked through Wald test methodology.

TABLE 3: TESTING OF ASSUMPTIONS FOR EQUATION (1)

TEST	NULL HYPOTHESIS	STATISTIC
JARQUE-BERA TEST	RESIDUALS ARE NORMALLY DISTRIBUTED	557513.6*** (0.000)
T-STATISTICS	MEAN VALUE OF ERROR TERM IS ZERO	0.0000 (1.000)
LIKELIHOOD RATIO TEST	HOMOSCEDASTICITY OF RESIDUALS	4656.08*** (0.000)
WOOLDRIDGE TEST	NO SERIAL AUTOCORRELATION	11.713*** (0.001)

Note:

'***' denotes significant at 1%.

Value in parenthesis denotes p-values.

3.4 Results of Hypotheses

The results of hypotheses are presented in table 4.

Table 4: Results of Hypotheses

S.No.	Name	Null Hypotheses	Decision
1.	H_1	Non-sustained negative earnings have no significant impact on persistence of earnings growth.	Rejected
2.	H_2	Non-sustained positive earnings have no significant impact on persistence of earnings growth.	Rejected

S.No.	Name	Null Hypotheses	Decision
3.	H_3	There is no significant difference between persistence of earnings growth of Group S_t and Group NS_t firms.	Not Rejected

***H_1*: Non-sustained negative earnings have no significant impact on persistence of earnings growth.**

This hypothesis analyses whether persistence of earnings growth depends upon non-sustained negative earnings changes or not. The null hypothesis was rejected, which was in line with Ghosh et al. (2005) study.

***H_2*: Non-sustained positive earnings have no significant impact on persistence of earnings growth.**

This hypothesis analyses whether persistence of earnings growth depends upon non-sustained positive earnings changes or not. The null hypothesis was rejected, which was in line with Ghosh et al. (2005) study.

***H_3*: There is no significant difference between persistence of earnings growth of Group S_t and Group NS_t firms.**

This hypothesis analyses whether there is significant difference between incremental persistence of earnings growth of Group $S_t$firms and Group NS_t firms or not. The null hypothesis was not rejected, which was in contrast to Ghosh et al. (2005) study. This shows in India, while evaluating persistence of earnings growth, no distinction is made between various business strategies adopted by firms for enhancement of their earnings.

4. CONCLUSION

This study made an attempt to analyse Indian firm's persistence of earnings growth. The persistence of earnings growth was measured as the earnings per share increase at first difference for at least five consecutive years. The various strategies to achieve persistence of earnings growth were also analysed like revenue-growth strategy which was measured as the increases in revenue per share for at least five consecutive years and cost-reduction strategy which measures the persistence of earnings of firms who have revenue decline in one or more years but able to enhance their earnings through reduction in cost. To analyse this NSE NIFTY 500 index was selected for panel regression analysis, excluding all banking and financial companies. After, scrutinizing all firms, 189 firms were selected. First of all Pooled regression was run, then on the basis of Hausman-test Fixed effects panel regression was run, and after analysing various regression assumptions, robust panel regression was applied. The results of Equation (1) shows, Indian firm's focuses more on cost reduction strategy to have earnings growth then focusing on revenue growth strategies.

The results show that in Indian scenario, firms who are following cost reduction strategies have higher persistence of earnings growth then firms who are following revenue growth strategies. Although, there coefficients are not significantly different which means, in India, there is no distinction between firms strategies adopted for persistence of earnings growth.

This study could be used by investors, analysts and assets management companies in choosing various firms the portfolio. This study could also be of use to managers in planning various

strategies for firm's future.

4.1 Limitations and Scope for further Study

- This study analysed only NSE NIFTY 500 index, further study can be conducted on other indices.
- This study is done for ten years period only; further study can be conducted for longer periods.
- This study excluded all banking and financial firms, further study can be conducted for banking and financial sector.

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