An Exploratory Research Aimed At Understanding The Sustenance Of Growth Through CSR

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Abstract
Need of the study: *Over the years, the concept of Corporate Social Responsibility (CSR) is gradually gaining momentum around the globe. In India, after the enactment of the Companies Act, 2013, reporting on CSR is being made mandatory for some companies under the clause 135. Sustainable Development of the nation largely vests on firms' sustainable growth and their contribution to society. But, in this competitive era, the long-term endurance of the firms is at stake as a result of unrestrained growth. In turn, distort the vision of being a sustainable developed nation. Hence, the new insights into the relationship between Corporate Social Responsibility and the deviation of Corporate Actual Growth Rate from Sustainable Growth Rate are principally resonant for firms experiencing unrestrained growth and for the other stakeholders too.*

Purpose/Objective: *The main thrust of this research is to examine the relationship between Corporate Social Responsibility and the deviation of Corporate Actual Growth Rate from Sustainable Growth Rate.*

Design/Methodology/Approach: *A sample size of top 128 companies listed in NSE for the time period of five years, ranging from 2011-12 to 2015-16 is used in this monograph. And in order to examine the relationship between Corporate Social Responsibility and the deviation of Corporate Actual Growth Rate from Sustainable Growth Rate, Fixed Effect (within) Regression Model is used as suggested by the Hausman Test. [All calculations have been done using STATA 14 and XLSTAT 2016 softwares].*

Findings: *The findings of the study reveal that there is a negative association of CSR towards Government as well as of the CSR towards Shareholderswith the deviation of Corporate Actual Growth Rate from Sustainable Growth Rate.*

Keywords: *Sustainable Growth Rate, Actual Growth Rate, Corporate Social Responsibility, Fixed Effect (within) Regression Model*
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An exploratory research aimed at understanding the sustenance of growth through CSR

I. Introduction

The term "Growth" is not new to us. However, it is easy to elucidate but difficult to define. Growth is an outcome of the firm's efficient & effective performance. Undoubtedly, growth reflects the firm's positive attribute, but, it has a dark side too.In today's dynamic environment, to stay alive, compete and perform well in the long run, a minimum elevation of growth is required for companies. But, corporations must be cautious of unrestrained growth as it will inject cost into the firm in the near future. According to Higgins (1977), growth is gainful up to a certain level and after that level, it will not be beneficial to the business. Now, as a manager, one would be curious to know how to tackle such an unrestrained growth and how to attain an optimal rate of growth. Higgins (1977), proposed the use of sustainable growth rate as a maximal growth rate in sales that an enterprise can achieve while maintaining a given set of financial policies.

Sustainable Growth Rate can be defined as the maximum pace of growth in sales a firm can afford without issuing any additional (i.e. new) equity, nor, changing its financial policy. Van Horne and Wachowicz (2015), defined Sustainable Growth Rate as "the maximum annual percentage increases in sales than can be achieved based on target operating, debt, and dividend-payout ratios". According to Ross et al. (2016), Sustainable growth rate is the maximum growth rate a firm can achieve without external equity financing while maintaining a constant debt-equity ratio. Based on the above definitions it can be conferred that Sustainable growth rate is the utmost growth in sales, a firm can afford at present without having a future financial dilemma. It is a comprehensive control tool for the managers to exert control; monitor the consistency of various growth plans; make future financial plans and take vital financial decisions.

The concept of Corporate Social Responsibility (CSR) is not a new area of study. Over the years, the concept of CSR is gradually gaining momentum around the globe. Glavas and Kelley (2014)defined CSR as

"caring for the well-being of others and the environment with the purpose of also creating value for the business. CSR is manifested in the strategies and operating practices that a company develops in operationalizing its relationships with and impact on the well-being of all of its key stakeholders and the natural environment". Crowther and Aras (2008), stated that the central ideology of social responsibility was the social contract between all the stakeholders to society, which was an essential requirement of civil society.

Business interacts with diverse groups of society such as owners, employees, customers, government, suppliers, creditors, investors, etc. It is no longer acceptable for a corporate to experience economic riches in isolation from those agents affected by its actions. In today's business world, CSR is considered an integral part of corporate strategy. A firm must now concentrate equally both on increasing its bottom line and being a good corporate citizen.

Earlier, in India CSR was just a voluntary act. But, after the enactment of the Companies Act, 2013, reporting on CSR is being made mandatory for some companies under the clause 135. CSR initiative is based on the hypothesis that it will enable a nation towards healthy and sustainable development. Social accountants' argue that good management implies positive relationships with key stakeholders, which in turn, improve financial performance (Freeman, 1984; Donaldson and Preston, 1995; Jones and Wicks, 1999). The firms that practice stakeholder management will perform better in profitability, stability, and growth (Pesqueux and Damak-Ayadi, 2005). Adeneye and Ahmed (2015) argue that for an improved financial performance, firms should intensify more efforts in carrying out their corporate social responsibility. The firms with strategic CSR achieve growth through both their product and process innovations (Bocquet et al. 2015).CSR activities not only influence sales growth, but also influence the employment and investment domains (Sen et al. 2006).

In response to these research issues, we are curious to find out the answer to the question that can it be possible for a firm to have a power over unrestrained growth by being socially responsible? Or, can a firm by being socially responsible will be able to cut the deviation of Corporate Actual Growth Rate from Sustainable Growth Rate?

With the endeavor of finding out the answer of the above questions, the current study aims to investigate the relationship between Corporate Social Responsibility and the deviation of Corporate Actual Growth Rate from Sustainable Growth Rate.

Hence, in accordance with the main thrust settled, the rest of the paper is prearranged as follows: Section 2 highlights the review of literature related to sustainable growth rate and its various facets. Section 3 and 4 deal with research questions and objectives of the study, respectively. Section 5 exemplifies research methodology. Results and Discussions are presented in section 6 and the last section 7 concludes the paper.

II. Review Of Literature

Sustainable Growth Rate is one of the emerging noteworthy dimensions in the financial literature which captures the attention of researchers during the recent past. Looking back into the history of Sustainable Growth, it was initially termed as "Affordable Growth". **Packard (1957)** was the proponent of the idea to portray to shareholders the utmost rate of growth in sales that the firm would attain given its level of profits and without raising any additional capital. Then, it was **Babcock (1970)** who extended the idea by stating that growth could be either sustainable growth or unsustainable growth. Followed by, **Higgins (1977)** who proposed the use of sustainable growth rate and tried to answer the question how much growth a firm can afford. **McFaddin and Clouse (1993)** developed a model for assessing the interdependence of financial objectives, operational performance and sustainable growth rate in the US oil and gas utility industries. The study covered the period from 1972 to 1989 and the results of the new model were compared with actual growth rates as well as with the Higgins sustainable growth rates model. The findings of the study revealed the model under consideration represented a superior tool for assessing sustainable growth rate and for framing policies that stimulate growth in oil and gas industries. **Platt et al. (1995)** developed a new formula for the companies going through financial distress. Their study suggested a new formula to help the management in assessing turnaround performance of companies in financial distress and guide them in managing its actual growth rate.

Jegers (2003) developed a model for assessing sustainable growth rate of the non-profit organizations. His study reported that growth in activity should be given more importance for assessing the growth of the non-profit organizations and Sustainable Growth Rate (SGR) of the Non-Profit Organizations supposed to be evaluated by taking into consideration profitability, capital structure and efficiency of the organization jointly. A study on the issue highlighting association between firms' working capital management and sustainable growth ratewas done by **Johnson and Soenen (2003).** They found that the large profitable firms with efficient working capital management and a certain degree of uniqueness regarding their business were the most successful companies with degree of sustainable growth rate high. **Amouzesh, Moeinfar, Mousavi (2011)** made an attempt to establish a relationship between sustainable growth rate and liquidity and firm performance. The study was conducted taking 54 listed companies in the Iran Capital Market as a sample size for the period ranging from 2006-2009. In order to examine the relationship between the dependent and explanatory variables,

they employed linear regression model. The study revealed the deviation of the actual growth rate from sustainable growth rate had relationship with ROA and P/B ratios. An appealing attempt made by **Fonseka, Ramos, and Tian (2012)** to evaluate the degree to which two commonly used estimators of Higgins (1977) and Van Horne (1987) SGR models diverge in relation to common financial characteristics of a firm. The study concluded that in case of profitable enterprises, sustainable growth rate is higher if Higgins' model is considered as compared to the Van Horne's model of sustainable growth rate. Conversely, enterprises having high leverage Van Horne's model gives a higher sustainable growth rate as compared to the Higgins' model. Moreover, they claim that there is no noteworthy differences in the models under the consideration and both the models are evenly suitable for the managers and researchers. **Saputroand Purwanto(2013**) carried out a study on 49 manufacturing companies listed in Indonesia Stock Exchange to investigate the relationship between deviation of actual growth rate from sustainable growth rate and firm's performance, liquidity and stock return. He showed that the acid ratio had significant positive impact on the deviation of the actual growth rate from the sustainable growth rate. On the other hand, ROA and Current Ratio were negatively related to the deviation of the actual growth rate from the sustainable growth rate. Moreover, the study revealed the Stock returns had a significant negative outcome on the deviation of the actual growth rate from sustainable growth rate. **Rahim and Saad (2014)** made an attempt to investigate the association between sustainable growth, capital structure and firm performance. For conducting the study, 229 Public Listed Companies in ASEAN countries for the period ranging from 2001-2012 were taken as a sample size. They found firm's profitability had a positive association with the sustainable growth rate.In their study,**Huang and Zhang (2015)** reported that out of the selected variables namely profitability, cash-generating ability, debt-paying ability, operation capacity and growth ability, profitability was the most influential factor followed by cash-generating ability which had an impact on sustainable growth.**Utami and Gunawan (2015)** in their study discovered that the stock price and return on equity both had positive impact on sustainable growth rate and dividend pay-out ratio had negative impact on sustainable growth rate. **Hartono and Utami (2016)** made an effort to probe the effect of sustainable growth rate of the firms on Liquidity, Price-Earning Ratio and Profitability. The study was conducted using two population indices i.e. Kehati Sustainable and Responsible Investment Index (SRI-Kehati) and IDX30 Index. The total sample size consisted of 10 companies over the period ranging from 2010 to 2013. They reported that in case of SRI-Kehati index, there was positive association of sustainable growth rate with profitability and liquidity and there was negative association of sustainable growth rate with price-earning ratio. While in respect of IDX30 Index sustainable growth rate had positive significant association with profitability. Recently, **Mubeen and Hanif (2017)** investigated the sustainability of growth of 27 non-financial firms with special reference to Pakistan for the time dimension of twenty-four years. In the study, they used Fixed Effect Regression Model to meet their objective. The findings of their study revealed that in case of Pakistan, the Leverage Impact is the key difference between internal growth and sustainable growth of non-financial firms. Moreover, they found out that the Liquidity and Cash Generation Ability were the significant contributors towards Internal Growth of the firms but these variables have no significant impact on firm's Sustainable growth. Again, **Rahim (2017)** made an attempt to investigate the association between Firm's Performance and Sustainable Growth Rate. In the study, a Sample size of 226 companies was considered over the time period of 11 years. The research results established positive association of financial leverage, asset efficiency and size with sustainable growth rate of the firm.

An attempt was made by **Pandit and Tejani (2011)** to assess sustainable growth rate of the textile and apparel segments of the Indian retail sector for the time period of five years. They reached into the conclusion that in order to attain optimum growth in sales the firms has to maintain a consistent level in profit margins, asset turnover, leverage, and retained earnings.

So far as the literature review is under consideration, it can be conferred that even though few studies have been made, especially in abroad over the issue sustainable growth and its various facets, but to the best of our knowledge, no study has been found yet, conducted over the issue Corporate Social Responsibility and its impact on the deviation of Corporate Actual Growth Rate from Sustainable Growth Rate. Hence, keeping in mind the above gap the present study primarily aims to examine the relationship between Corporate Social Responsibility and the deviation of Corporate Actual Growth Rate from Sustainable Growth Rate.

III. Research Question
From the foregoing, the research question for this study is as follows:
1) Is there any relationship lies between Corporate Social Responsibility and the deviation of Corporate Actual Growth Rate from Sustainable Growth Rate?

IV. Objective Of The Study
The main thrust of the study is to examine the relationship between Corporate Social Responsibility and the deviation of Corporate Actual Growth Rate from Sustainable Growth Rate.

V. Research Methodology

5.1 Database:

All the data for the present study are collected from the secondary sources i.e. Capital Line Data Base and www.nseindia.com website for the time period of five years ranging from 2011-12 to 2015-16. As a benchmark, top NSE 200 companies taken as a sample size based on their Market Capitalization. Out of those selected top NSE 200 companies, 128 Non-Financial companies are considered as final sample size. Banks and other financial companies (39 in numbers out of those selected top NSE 200 companies) were not considered for the present study due to their diverse nature of operation and remaining 33 companies are excluded out of the sample size due to unavailability of data or having an improper fiscal year (i.e. year ending other than 31st March). The assortment of the sample is made on the basis of purposive sampling. The present study is conducted based on the consistently arranged data as per financial years.

5.2 Research Variables:

TABLE 1. LIST OF VARIABLES USED AND THEIR PROXIES

Variables	Proxies
1.Sustainable Growth Rate (SGR)	**Robert C Higgins' extended model,** Higgins, Robert C. (2017, pp. 123-146) **SGR= $P X R X A X T$** Where, P = Profit margin after tax $= \frac{PAT\ DURING\ THE\ CURRENT\ YEAR}{SALES\ DURING\ THE\ CURRENT\ YEAR}$ R = Reinvestment rate (Retention rate) $= \frac{PAT\ DURING\ THE\ CURRENT\ YEAR\ -DIVIDEND\ PAID\ DURING\ THE\ CURRENT\ YEAR}{PAT\ DURING\ THE\ CURRENT\ YEAR}$ A = Asset to Equity (Leverage) $= \frac{TOTAL\ ASSETS\ AT\ THE\ END\ OF\ THE\ CURRENT\ YEAR}{SHAREHOLDER'S\ FUND\ AT\ THE\ BEGINNING\ OF\ THE\ CURRENT\ YEAR}$ T = Turnover of Assets (Asset Turnover ratio) $= \frac{SALES\ DURING\ THE\ CURRENT\ YEAR}{TOTAL\ ASSETS\ AT\ THE\ END\ OF\ THE\ CURRENT\ YEAR}$
2. Actual Growth Rate (AGR)	**AGR $= \frac{Current\ year\ Sales - Previous\ year's\ Sales}{Previous\ year's\ Sales}$**
3. CSR A) CSR towards Government	**Stakeholder's theory to CSR study,** Qiu, Y. (2012, pp.31-33) (modified) **Growth in Tax ratio (GTR)** $\quad$ GTR $= \frac{CurrentYearTaxRatio\ -PreviousYearTaxRatio}{PreviousYearTaxRatio}$ **Note:** Where, Tax Ratio $= \frac{Income\ tax}{EBIT}$
B) CSR towards Employees	**Growth in Employee Benefit Expense ratio (GEBR)** GEBR= $\frac{CurrentYearEmployeeBenefitExpenseRatio\ -PreviousYearEmployeeBenefitExpenseRatio}{PreviousYearEmployeeBenefitExpenseRatio}$ **Note:** Where, Employee Benefit Expense Ratio $= \frac{Employee\ Benefit\ Expense}{EBIT}$
C) CSR towards Shareholders	**Growth in DPS (GDPS)** GDPS $= \frac{CurrentYearDPS\ -PreviousYearDPS}{PreviousYearDPS}$ **Note:** Where DPS = Annual Dividend Per Share
D) CSR towards creditors	**Growth in ICR (GICR)** GICR $= \frac{CurrentYearICR\ -PreviousYearICR}{PreviousYearICR}$ **Note:** Where, Interest Coverage Ratio (ICR) $= \frac{EBIT}{Interest}$
E) CSR towards Customers	**Growth in R & D Expense ratio (GRDR)** GRDR $= \frac{CurrentYearR\ \&DExpenseRatio\ -PreviousYearR\ \&DExpenseRatio}{PreviousYearR\ \&DExpense}$ **Note:** Where, R & D Expense Ratio $= \frac{Operating\ cost}{EBIT}$
F) CSR towards Suppliers	**Growth in TPTR (GTPTR)** GTPTR $= \frac{CurrentYearTPTR\ -PreviousYearTPTR}{PreviousYearTPTR}$ **Note:** Trade Payable Turnover Ratio (TPTR) $= \frac{Credit\ Purchase}{Average\ balance\ of\ Trade\ payable}$ Or, $= \frac{365}{TradePayableVelocity\ (in days)}$

Source: Author's own tabulation

Justification for using above CSR proxies: CSR is a multidimensional concept and can be measured using different methods. According to Jensen (2001), a firm cannot maximize its long term value if it ignores the interests of diverse stakeholders. Post et al. (2002), also holds similar type of view that a firm's capacity that generates sustainable wealth over time and its long term value are determined by the relationship with both internal and external stakeholders. Hence, in the present study, stakeholder theory is the accepted paradigm to explain corporate contribution towards the society. In this study, as a proxy of CSR some re-designed growth in accounting ratios are used judiciously in appropriate places to reflect the pragmatic contribution of the companies towards social responsibility. We hope such CSR proxies will reflect the true corporate image, inner willingness, and their concerns towards being socially responsible.

5.3 Methodology:
The present study consists of 128 companies and 5 years. For the empirical analysis, there are three options:
i). Pooled OLS method: (128*5) or 640 observations can be pooled and estimate a "grand" regression applying the following model. $D_{it} = \beta_1 + \beta_2 X_{1it} + \beta_3 X_{2it} + \beta_4 X_{3it} + \cdots + \mu_{it}$ ------------------------- (1)
Where, i (company) = 1, 2, 3, 4…...128 and t (time) = 1, 2, 3, 4, 5. Here D = Deviation of Corporate Actual Growth Rate from Sustainable Growth Rate (D), X_1= GTR, X_2= GEBR, X_3= GDPS, X_4. = GICR, X_5= GRDR, X_6= GTPTR
In this particular model, it is assumed those regressors are non-stochastic, even though they are stochastic they are uncorrelated with the error term.
ii). The fixed effects least squares dummy variable (LSDV) model: In this model, 640 observations will be pooled as above, but the model allows each cross-section unit (in this particular case companies) to have its own (intercept) dummy variable. The model can be written as $D_{it} = \beta_{1i} + \beta_2 X_{1it} + \beta_3 X_{2it} + \beta_4 X_{3it} + \mu_{it}$ ------------------(2). The subscript i and β_1 suggest that the intercepts of the 128 companies may be different, but each company's intercept does not vary over time.
iii). The random effects model (REM): In this model, it is assumed that the intercept values are a random drawing from a bigger population of companies. In this case, 128 companies are drawn from a Universe of such companies and thus here a common mean value for the intercept (β_1). The individual difference in the intercept value of each company is reflected in the error term (ε_i).
Hence, the model can be represented as $D_{it} = \beta_1 + \beta_2 X_{1it} + \beta_3 X_{2it} + \beta_4 X_{3it} + \cdots + \mu_{it} + \varepsilon_i$.
$$= \beta_1 + \beta_2 X_{1it} + \beta_3 X_{2it} + \beta_4 X_{3it} + \cdots + w_{it} \text{----(3)}$$
Where, $w_{it} = \mu_{it} + \varepsilon_i$. Here ε_i is the individual specific or cross-sectional specific error component and μ_{it} is the combined time series and cross sectional error component.
To select the appropriate model from the above, the following steps have been considered.
Step 1: Selection between Model 1 and Model 3: Breusch Pagan Test
From Model (iii) we get Variance (w_{it}) = $\sigma_\varepsilon^2 + \sigma_\mu^2$ -------------- (4)
If $\sigma_\mu^2 = 0$ then there is no difference between model 1 and Model 3 and pooled OLS regression should be applied as per equation 1, since in this situation there are neither subject specific effects or they have all been accounted for in the explanatory variables.
To test for the presence of random effects **Breusch Pagan Test** is used. If Null Hypothesis

$H_0: \sigma_\mu^2 = 0$ then there are no random effects.
$$LM = \frac{NT}{2\,(T-1)} \left(\frac{\sum_{i=1}^{N}(\sum_{t=1}^{T} \hat{e}_{it})^2}{\sum_{i=1}^{N} \sum_{t=1}^{T} \hat{e}_{it}^2} - 1 \right)$$
Then the LM statistics has a Chi-square distribution with one difference. If the computed value of LM is significant then H_0 will be rejected and there will be random effects.
Step 2: Selection of fixed effects or random effects: Hausman Test
The idea behind Hausman Test is that both the random effects and fixed effects estimators are consistent if there is no correlation between μ_i and the explanatory variables. If both estimators are consistent then in large samples the random effects and fixed effects estimates should be similar. On the contrary, if μ_i is correlated with the explanatory variables the random effects estimator will be consistent.
The Hausman statistics is distributed as χ^2 and is computed as:
$$H = (b - B)'(V\_b - V\_B)^{-1}(b - B)$$
Where;
b = is the coefficient vector from the consistent estimator.
B= is the coefficient vector from the efficient estimator.
V_b = is the covariance matrix of the consistent estimator.
V_B = is the covariance matrix of the efficient estimator.
H_0 : Difference in the coefficient not systematic.

To use Hausman command in Stata the consistent fixed effects estimator is listed first and the efficient random effects is listed second.

If the H statistics is significant the H_0 is rejected and fixed effect model is retained.

VI. Results And Discussions

Results Obtained from XLSTAT 2016 and STATA software are reported below:

TABLE 2: DESCRIPTIVE STATISTICS

Variables	Obs.	Obs. With missing data	Obs. Without missing data	Min.	Max.	Mean	Std. deviation
Deviation(DEV)	640	0	640	-12.349	0.850	0.066	0.779
Growth in Tax ratio (GTR)	640	0	640	-69.410	3877.732	5.976	153.354
Growth in Employee Benefit Expense ratio (GEBR)	640	0	640	-8.790	53.284	0.131	2.402
Growth in DPS (GDPS)	640	0	640	-1.000	31.500	0.162	1.358
Growth in ICR (GICR)	640	0	640	-69.000	80.450	0.181	4.656
Growth in R & D Expense ratio (GRDR)	640	0	640	-107.623	236.664	0.395	10.844
Growth in TPTR (GTPTR)	640	0	640	-0.750	15.000	0.044	0.646

Source: Author's own tabulation using XL STAT software

Interpretation: The above table gives glimpse of the descriptive statistics of the variables used in the present study. It can be observed from the above table that the present study has 640 no. of observations with zero missing data. The mean value of the explanatory variables namely GTR, GEBR, GDPS, GICR, GRDR and GTPTR is 5.976, 0.131, 0.162, 0.181, 0.395, and 0.044 respectively, while the mean value of dependent variable Deviation (DEV) is 0.066.

TABLE 3: CORRELATION MATRIX

	Growth in Tax ratio(GTR)	Growth in Employee Benefit Expense ratio (GEBR)	Growth in DPS (GDPS)	Growth in ICR (GICR)	Growth in R & D Expense ratio (GRDR)	Growth in TPTR (GTPTR)	Deviation(DEV)
Growth in Tax ratio (GTR)	1	-0.002	-0.003	0.000	-0.002	0.030	-0.007
Growth in Employee Benefit Expense ratio (GEBR)	-0.002	1	-0.006	0.039	0.842	0.008	-0.019
Growth in DPS (GDPS)	-0.003	-0.006	1	0.010	0.007	0.081	-0.519
Growth in ICR (GICR)	0.000	0.039	0.010	1	0.015	-0.024	-0.006
Growth in R & D Expense ratio (GRDR)	-0.002	0.842	0.007	0.015	1	-0.011	0.021
Growth in TPTR (GTPTR)	0.030	0.008	0.081	-0.024	-0.011	1	-0.067
Deviation(DEV)	-0.007	-0.019	-0.519	-0.006	0.021	-0.067	1

Source: Author's own tabulation using XL STAT software

Interpretation: Theabove mentioned Table 3 highlights the relationship among dependent variables and independent variables used in the study. The table shows that the Deviation of Corporate Actual Growth Rate from Sustainable Growth Rate (DEV) has negative relationship with GTR, GEBR, GDPS, GICR and GTPTR. On the other hand Deviation of Corporate Actual Growth Rate from Sustainable Growth Rate (DEV) has positive relationship with GRDR. Moreover, it can be observed from the above table that the correlation amongst almost all the explanatory variables is minimal i.e. below 0.80, this indicates that there crept no multi-co linearity problem amongst those explanatory variables. But the concern is, the correlation between the explanatory variables namely Growth in Employee Benefit Expense ratio (GEBR) and Growth in R & D Expense ratio (GRDR) is somewhat higher than 0.80 i.e. 0.842 so, further investigation is required.

TABLE 4: Multicolinearity Statistics

	Growth in Tax ratio(GTR)	Growth in Employee Benefit Expense ratio (GEBR)	Growth in DPS (GDPS)	Growth in ICR (GICR)	Growth in R & D Expense ratio (GRDR)	Growth in TPTR (GTPTR)
Tolerance	0.999	0.291	0.993	0.997	0.291	0.991
VIF	1.001	3.442	1.007	1.003	3.438	1.009

Source: Author's own tabulation using XL STAT software
Interpretation: The above Table 4 reports of the Multi-co linearity Statistics. It can be observed that the value of VIF of all the explanatory variables lies between 1.001 - 3.442 i.e. below the maximum level of VIF i.e.'5'. Moreover, the value of tolerance of all the explanatory variables lies between 0.291 - 0.999 i.e. above 0.20 (rule of thumb). Hence, it can be concluded from the above table that there lies no Multi-co linearity problem amongst the selected explanatory variables.

TABLE 5: Random-Effects Gls Regression

Random-effects GLS regression		Number of obs	= 640			
Group variable: srlno		Number of groups	= 128			
R-sq: within = 0.3126		Obs per group: min =	5			
between = 0.1704		avg =	5.0			
overall = 0.2763		max =	5			
		Wald chi2(6)	= 251.46			
corr(u_i, X) = 0 (assumed)		Prob> chi2	= 0.0000			

Deviation(DEV)	Coef.	Std. Err.	Z	P>|z|	Lower bound (95%)	Upper bound (95%)
Growth in Tax ratio (GTR)	-.0000463	.0001697	-0.27	0.785	-.0003788	.0002863
Growth in Employee Benefit Expense ratio (GEBR)	-.0443341	.0201077	-2.20	0.027	-.0837445	-.0049237
Growth in DPS (GDPS)	-.2992851	.0192029	-15.59	0.000	-.3369221	-.2616481
Growth in ICR (GICR)	-.0034489	.0055926	-0.62	0.537	-.0144102	.0075124
Growth in R & D Expense ratio (GRDR)	.0098048	.0044686	2.19	0.028	.0010466	.018563
Growth in TPTR (GTPTR)	-.0294291	.0406308	-0.72	0.469	-.109064	.0502058
_CONS---	-.0137002	.0299567	-0.46	0.647	-.0724142	.0450138
Sigma u	.17281432	(fraction of variance due to u_i)				
Sigma e	.62610134					
rho	.07079184					

Source: Author's own tabulation using STATA software
Interpretation: The above table informs about the result of REM. The difference between the two models i.e. OLS and REM is that, though both considers β_1 as the common intercept for the whole observation but β_1 in REM is the mean value of all the individual intercept terms. Further, REM considers the randomness of the predictors by including one additional term ε_i which takes into consideration the difference between individual intercept term and the mean value of the intercept terms.

TABLE 6: BREUSCH AND PAGAN LAGRANGIAN MULTIPLIER TEST FOR RANDOM EFFECTS
Deviation(DEV)[srlno,t] = Xb + u[srlno] + e[srlno,t]
Estimated results:

		Varsd = sqrt(Var)
Deviation(DEV)	.6071156	.7791762
e	.3920029	.6261013
u	.0298648	.1728143

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Test:   Var(u) = 0
chibar2(01) =    13.31
Prob> chibar2 =   0.0001
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Source: Author's own tabulation using STATA software

Interpretation: The above table gives a glimpse of the result of Breusch and Pagan Lagrangian Multiplier Test (BP test). The significance of the above test is that it helps to determine which one of these model Pooled OLS or REM is the best fit for conducting the undertaken study. From the Table 6, it can be observed that the LM statistic i.e. chibar2(01) = 13.31 and Prob> chibar2 = 0.0001 i.e. < 0.05 which is significant at 1% level. Therefore, H_0 is rejected and H**1** is accepted.

Hence, it can be concluded from the above table that the results of REM (as shown in Table 5) could be accepted, but the Pooled OLS Model is not a good fit in this particular study as recommended by the above Breusch and Pagan Lagrangian multiplier test for random effects. But, there is an urgency to run FEM also for more precise analysis as shown in Table 8 and carry further tests.

TABLE 7. HAUSMAN TEST

---- Coefficients ----	(b) FEM	(B) REM	(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
Growth in Tax ratio (GTR)	-.0000665	-.0000463	-.0000203	.0000617
Growth in Employee Benefit Expense ratio (GEBR)	-.0347435	-.0443341	.0095906	.0075805
Growth in DPS (GDPS)	-.3037168	-.2992851	.0011721	.0068872
Growth in ICR (GICR)	-.0159134	-.0034489	-.0124646	.0020079
Growth in R & D Expense ratio (GRDR)	.0070395	.0098048	-.0027652	.001849
Growth in TPTR (GTPTR)	-.0388814	-.0294291	-.0094523	.0163952

b = consistent under Ho and Ha; obtained from xtreg
B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

    chi2(6) = (b-B)'[(V_b-V_B)^(-1)](b-B)
        =   43.51
Prob>chi2 =   0.0000

Source: Author's own tabulation using STATA software

Interpretation: The above mentioned table i.e. Table 7 explains whether to keep FEM or REM as a preferred model for the present study. It is clear from the Hausman test statistics that chi2(6) = 43.51and Prob>chi2 = 0.0000 i.e. > 0.05 which is significant at 1% level. Therefore, H_0 is rejected and H**1** is accepted.

Hence, it can be concluded from the above table that the results of FEM (as shown in Table 8) should be accepted, but the REM is not a good fit in this particular study as suggested by Hausman test statistics.

TABLE 8. FIXED-EFFECTS (WITHIN) REGRESSION

Fixed-effects (within) regression			Number of obs. = 640			
Group variable: srlno			Number of groups = 128			
R-sq: within = 0.3189			Obs. per group: min = 5			
between = 0.1249			avg. = 5.0			
overall = 0.2673			max. = 5			
			F(6,506) = 39.49			
corr(u_i, Xb) = -0.0590			Prob> F = 0.0000			

Deviation(DEV)	Coef.	Robust Std. Err.	T	P>|t|	[95% Conf. Interval]	
Growth in Tax ratio (GTR)	-.0000665	.0001805	-0.37	0.713	-.0004212	.0002881
Growth in Employee Benefit Expense ratio (GEBR)	-.0347435	.0214892	-1.62	0.107	-.0769625	.0074755
Growth in DPS (GDPS)	-.3037168	.0204006	-14.89	0.000	-.3437972	-.2636365

Growth in ICR (GICR)	-.0159134	.0059421	-2.68	0.008	-.0275877	-.0042391
Growth in R & D Expense ratio (GRDR)	.0070395	.004836	1.46	0.146	-.0024615	.0165406
Growth in TPTR (GTPTR)	-.0388814	.043814	-0.89	0.375	-.1249611	.0471982
_CONS---	.0103493	.0251145	0.41	0.680	.0596909	.0389923

sigma_u   .36842297
sigma_e   .62610134
rho   .25720223   (fraction of variance due to u_i)
F test that all u_i=0:   F(127, 506) =   1.65   Prob> F = 0.0001

Source: Author's own tabulation using STATA software

Interpretation: From the above table 8, it can be observed that CSR towards Shareholders as measured by Growth in DPS (GDPS) and CSR towards Creditors as measured by Growth in ICR (GICR) has a negative association with the deviation of Corporate Actual Growth Rate from Sustainable Growth Rate and it is statistically significant at 1% level.

But, no evidence of association could be traced out of the above results between of CSR towards Government (GTR), CSR towards Employees (GEBR), CSR towards Customers (GRDR), and CSR towards Suppliers (GTPTR) with the deviation of Corporate Actual Growth Rate from Sustainable Growth Rate.

After running the Fixed Effect Model, three tests have been conducted for the purpose of diagnostic checking:

a) Wooldridge Test for auto correlation in panel data
 Where, H_0 : no first order auto correlation
The test results are:
F (1 , 127) = 3.029
Prob> F = 0.0842
The above results indicate that F statistic is not significant at either1% level or at 5% level. Hence, it signifies that there is no auto correlation in panel data.

b) Pesaran Test of cross sectional independence
Where, H_0 : no cross sectional independence
The test results are:
Pesaran's Test of cross sectional independence = 12.335, Prob = 0.000
Average absolute value of the off-diagonal elements = 0.435
Hence, the result signifies that there is cross sectional dependence.

c) Modified Wald Test for group wise heteroskedasticity in fixed effect regression model
Where, H_0 : sigma(i)^2= sigma^2 for all i.
$Chai^2$ (128)=7.8e+06
Prob>$Chai^2$ =0.0000
Hence, there is group wise heteroskedasticity.

Therefore, to make the standard errors of FE model robust, the model is re-estimated using VCE (robust) in Stata 14 and the modified results have been presented in Table 9 below:

TABLE 9. (MODIFIED) <u>FIXED-EFFECTS (WITHIN) REGRESSION</u>

Fixed-effects (within) regression	Number of obs. = 640
Group variable: srlno	Number of groups = 128
R-sq: within = 0.3189	Obs. per group: min = 5
between = 0.1249	avg. = 5.0
overall = 0.2673	max. = 5
	F(6,127) = 15.26
corr(u_i, Xb) = -0.0590	Prob> F = 0.0000

(Std. Err. adjusted for 128 clusters in srlno)

Robust Deviation(DEV)	Coef.	Std. Err.	T	P>|t|	[95% Conf. Interval]	
Growth in Tax ratio (GTR)	-.0000665	.000016	-4.16	0.000	-.0000982	-.0000349
Growth in	-.0347435	.0216611	-1.60	0.111	-.0776068	.0081199

Employee Benefit Expense ratio (GEBR)						
Growth in DPS (GDPS)	-.3037168	.0444364	-6.83	0.000	-.3916484	-.2157853
Growth in ICR (GICR)	-.0159134	.0133318	-1.19	0.235	-.0422946	.0104677
Growth in R & D Expense ratio (GRDR)	.0070395	.0040961	1.72	0.088	-.0010659	.0151449
Growth in TPTR (GTPTR)	-.0388814	.0350611	-1.11	0.270	-.1082611	.0304982
_CONS---	-.0103493	.0074143	-1.40	0.165	-.0250208	.0043221
sigma_u .36842297 sigma_e .62610134 rho .25720223 (fraction of variance due to u_i)						

Source: Author's own tabulation using STATA software

Interpretation: The above mentioned table i.e. Table 9 explains the relationship between explanatory variables and outcome variables within an entity. This model is useful to analyze the impact of variables that vary over time. The re-estimated result of FEM shows that R squared is 0.3189. This indicates that almost 32% change in the deviation of Corporate Actual Growth Rate from Sustainable Growth Rate was explained by CSR towards Government, CSR towards Employees, CSR towards Shareholders, CSR towards Creditors, CSR towards Customers, and CSR towards Suppliers.

CSR towards Government as measured byGrowth in Tax ratio (GTR) as a proxy has a negative association with the deviation of Corporate Actual Growth Rate from Sustainable Growth Rate as regression coefficient of the same is - 0.0000665 and it is statistically significant at 1% level having p-value 0.000 and t-value -4.16. This depicts that for every unit increase in Growth in Tax ratio (GTR), we expect an approximately 0.0000665 unit trim down in the deviation of Corporate Actual Growth Rate from Sustainable Growth Rate. In other words, if the companies were able to perform their social responsibility towards the Government more honorably, then it will lessen the deviation of Corporate Actual Growth Rate from Sustainable Growth Rate.

CSR towards Shareholders is measured taking Growth in DPS (GDPS). It can be observed from the above table that CSR towards Creditors also has a negative association with the deviation of Corporate Actual Growth Rate from Sustainable Growth Rate as regression coefficient of the same is - 0.3037168 and it is statistically significant at 1% level having p-value 0.000 and t-value -14.89. This indicates that for every unit increase in Growth in DPS (GDPS), we expect an approximately 0.3037168 unit trim down in the deviation of Corporate Actual Growth Rate from Sustainable Growth Rate. In other words, if the companies were able to perform their social responsibility towards the shareholders more ethically, then it will curtail down the deviation of Corporate Actual Growth Rate from Sustainable Growth Rate and in turn, pave the path towards attaining sustainable growth.

From the above table it can be also observed that there is no association of CSR towards Employees (GEBR), CSR towards Creditors (GICR), CSR towards Customers (GRDR), and CSR towards Suppliers (GTPTR) with the deviation of Corporate Actual Growth Rate from Sustainable Growth Rate.

VII.   Conclusion

Sustainable Growth Rate is a valuable tool that can prove handy especially for the financial managers and marketing managers to exercise control; monitor the steadiness of diverse growth plans; make future financial and marketing plans and take crucial financial decisions. It is a yardstick that could be used to screen the consistency of the actual growth. Any sort of deviation will inject cost into the firm. The higher the actual growth rate than the sustainable growth rate, the more will be the firm's financial crisis. And the higher the sustainable growth rate than the actual growth rate, the more will be the firm's opportunity loss.

It can be concluded from the above findings that there lays a negative association of CSR towards Government as well as of the CSR towards Shareholderswith the deviation of Corporate Actual Growth Rate from Sustainable Growth Rate, whilst there seems no association of CSR towards Employees (GEBR), CSR towards Creditors (GICR), CSR towards Customers (GRDR), and CSR towards Suppliers (GTPTR) with the deviation of Corporate Actual Growth Rate from Sustainable Growth Rate.

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