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Financial Sustainability and Firm Performance Impact on Stock Prices: An Evidence from an Emerging Economy

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Abstract: This study was conducted with the purpose to see the impact of financial sustainability and firm performance on stock prices. Financial sustainability covering the long term and firm performance covering the short term performance of a firm. Sample taken for the study was the manufacturing industry of Pakistan which has 25 sectors and within all the sectors there are 379 firms. Data was collected on annual basis from 2010 to 2019. Financial sustainability was determined by Sustainable Growth Rate (SGR) and firm performance was calculated through Return on Assets (ROA) whereas firm size and firm age was taken as control variables. Regression was used to see the significance of the impact of financial sustainability and firm performance on stock prices. According to the results, both long term and short term performance has a significantly positive impact on the stock prices of a firm, which shows that operations of a firm, whether short term or long term do have an important role to play. This study also enhances the importance of financial sustainability for a firm. This study can be helpful for the policy makers and investors as well.

Keywords: Financial sustainability, firm performance, stock prices, ROA, SGR, emerging economies.

I. INTRODUCTION:

Over the past few decades the concept of sustainability have seen a great concern for firms around the world. Firms are now focusing on long term sustainable strategies apart from short term goals in order to survive for a longer period of time. Firms are now focusing on plowing well by doing good approach. Therefore, firms have to meet present and future needs of the society socially, environmentally, and economically. However, the benefits of sustainability cannot be undermined. Although the current literature shows mixed results related to sustainability effect on a firm (Lopez, Garcia, & Rodriguez, 2007), (Chan, 2010), (Barnett & Salomon, 2012), (Song, Zhao, & Zeng, 2017). As a result, some firms consider that by adopting sustainability perspective they would be incurring a financial penalty and are not willing to adopt it without any clear advantages (Keskin, Dincer, & Dincer, 2020).

Current literature on the measures and links of sustainability depicts results which are not consistent moreover, there are differences with respect to firms, sectors, countries and regions (Grewatsch & Kleindienst, 2017). This lack of accurate measure and links has created uncertainty about the effectiveness of adopting long term and sustainable strategies. Corporate Sustainability, with its three dimensions i.e. social, environmental and economic, does have an impact on the firm operations(Accenture, 2011). Economic aspect of corporate sustainability is the financial sustainability of that firm. Underlying the concept of financial sustainability is the principle of maximizing value for the stakeholders by opting the best possible investment venture with the minimum possible risk factor (Zabolotnyy & Wasilewski, 2019).

Concept of sustainability helps the organizations which are trying to cope up with the ups and down of economic development and organizational resources in the long term. Financial sustainability is relatively recent concept in the literature (Lagoarde-Segot & Paranque, 2018). Financial sustainability of a firm is defined as the potential to provide continuity of activities and to create value for owners in the long term, using optimal combination of investment and sources of financing (Zabolotnyy & Wasilewski, 2019). Financial sustainability caters to the going concern principle of accounting and value maximization for stakeholders, developing a win-win situation for the firm and all the stakeholders.

This study would add to the literature by analyzing the impact of financial sustainability on stock prices. Moreover, to see the impact on short term firm performance is taken as an independent variable and its

impact is analyzed on stock prices. Furthermore, it is evident from the review of literature that data from developing countries is limited (Grewatsch & Kleindienst, 2017). Data is collected from the manufacturing sector of Pakistan which is a developing country in order to add to the limited literature.
The paper is organized as follows: second section presents the review of the literature, third section explains the methodology adopted in this paper, fourth section shows the analyses, fifth section discusses the results and the final section is the conclusion, limitations and future implications of the current study.

II. REVIEW OF THE LITERATURE:

Review of the literature has shown different point of views on sustainability impact on firms which are as follows:
Firstly, the studies supporting the view that the foremost objective of a firm is to make profit and to maximize it. Moreover, profit making is the only social responsibility of the firm (Friedman, 1962). Furthermore, social and environmental engagement can harm a firm's ability to make profits (Bower & Paine, 2017). These studies are of the view that by adopting sustainable strategies beneficial for all the stakeholders firms would lose their ability to make more profits, which according to the is the foremost aim of a firm.
Secondly, the studies supportive of the fact that sustainability can create positive returns for the firms. It can be beneficial for the firms in the longer term (Porter, America's green strategy, 1991). Studies have shown that sustainability can improve financial resources (Wang & Tuttle, 2014), competiveness (Porter & Van der Linde, 1995), lower costs (Orens, Aerts, & Cormier, 2010), improved share performance and equity (Eccles, Ioannou, & Serafeim, 2014).
Previous literature has shown that the concept of Financial sustainability[1] has recently been a concern for governments and corporates as well (Bolívar, 2016). This scenario has compelled the corporates to make policies which can enhance the financial health of the corporates and help them to survive for a long period (Cabaleiro, Buch, & Vaamonde, 2013). As sustainability can improve the productivity, increase efficiency in operations(Maignan, 2001). Corporates are now improving their performance by striving for long term benefits (Chabowski, Mena, & Gonzalez-Padron, 2011). Commitment of an organization for long term survival has now a strategic level importance and society expects an organization to live as a better citizen (Orsato, 2006).
Review of literature reveals that firms that incorporate sustainability in their policies and strategies face lower stock price volatility (Adascalitei, 2015). Moreover, investors can turn away from a firm which has high stock price volatility as that would increase the risk associated with the investment and vice versa. This study would see the impact of financial sustainability on stock prices of the firms listed on Pakistan Stock Exchange PSX as manufacturing firms. This study would add to existing literature as evidence from developing countries is limited(Zabolotnyy & Wasilewski, 2019), (Keskin, Dincer, & Dincer, 2020). Keeping in view the importance of financial sustainability future researches should incorporate financial sustainability in developing models (Raza, Gillani, Ramakrishnan, Gillani, & Qureshi, 2020).
The relationship between financial sustainability and stock prices and firm performance and stock prices can be explained through the signaling theory[2] or legitimacy theory[3]. According to signaling theory, asymmetry of information would reduce the stock price ups and downs and would increase the confidence of the investors. Similarly, firms keeping a check on the operations and activities would create a positive image in the eyes of the investors and would have a positive impact on stock prices. Keeping in view following hypotheses are developed for the study:
$H_{1:}$ There is a significant relationship between Financial Sustainability and the Stock Prices of the firm.
$H_{2:}$ There is a significant relationship between Firm Performance and the Stock Prices of the firm.

[1] The concept of financial sustainability has been linked to the concept of intergenerational equity or "inter-period equity," which means the need of rendering services without compromising the ability to do so in the future (in direct form or in indirect form through the rise of the debt)
[2] Signaling theory refers to the equilibrium and information-related issues in terms of production and labor market(Ross, 1977).
[3] Legitimacy is a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions (Suchman, 1995).

III. METHODOLOGY:

Sample Size:

The population of the study is the non-financial sector of Pakistan which includes about 400 firms. For analyses purpose manufacturing industry of Pakistan is taken as a sample. There are 25 sectors within the manufacturing industry and within all the sectors there are 379 firms. Data will be catered for annual basis from 2010 to 2019. Firms with missing data were removed. The final data had 281 firms with 2870 observations for the whole sample. Data was collected from financial statements of the firms and the website of Pakistan Stock Exchange.

Variable definition:

Variables defined in the table 1 are used for the study:

Table 1 Definition of Variables

Variable	Type	Description
Financial Sustainability: SGR	Independent	The rate of growth that a company can expect to see in the long term calculated by multiplying a company's earnings retention rate by its return on equity.
Firm Performance: ROA	Independent	An indicator of how profitable a company is relative to its total assets.
Firm Size	Control Variable	Log of firm assets
Firm Age	Control Variable	Log of firm age
Stock Prices	Dependent Variable	Daily stock prices of the firms.

To test the hypotheses of the study following model was developed:

$$STP_{it} = \beta o + \beta_1 ROA_{it} + \beta_2 SGR_{it} + \beta_3 FSit + \beta_4 FAit + \varepsilon_{it} \quad \textbf{equation 1}$$

Whereas:

STP= Stock Prices

ROA= Return on Assets

SGR= Sustainable Growth Rate

FS=Firm size

FA= Firm Age

ε= Error term

Whereas *i* and *t*represents the firm and the time frame respectively.

SGR is used as a proxy to calculate financial sustainability of the firm as used by (Amouzesh, Moeinfar, & Mousavi, 2011). ROA is used to calculate the firm performance following (Seifert, Morris, & Bartkus, 2003), (Seifert, Morris, & Bartkus, 2004), (Goll & Rasheed, 2004).

IV. ANALYSIS:

The descriptive statisticsof the variables were calculated to summarize all the variables in the study. Variables are described in terms of number of observations, Minimum, maximum, mean, and standard deviation. STP has a minimum of 0 to maximum of 11203 and the standard deviation is high because of the difference. The number of observations vary with in the set of variables because of the missing values which were excluded from the data set.

Table 2: Descriptive Statistics

Variable	N	Min	Max	Mean	Std.Deviation
STP	2870	0	11203.8	136.9695	582.6585
SGR	1890	-578.584	364.3916	3.924512	23.18313
ROA	2870	-1.96061	1.904419	0.030854	0.125
FS	2694	-6.77001	8.296694	0.014456	0.828367
FA	2870	-1.45916	2913.031	1.3652	54.98999

Table 3 shows the results from correlation, the relationship between STP and SGR is 0.400412 which is not significant. Moreover, correlation between STP and ROA is again insignificant with the value of 0.18569. Whereas the control variable firm age is negatively significant to the STP.

Table 3: Correlation Results

	STP	SGR	ROA	FS	FA
STP	**1**				
SGR	0.400412	**1**			
ROA	0.185169	0.233693	**1**		
FS	-0.08597	-0.02599	-0.016239	**1**	
FA	-0.006717	-0.0033	-0.008574	0.007999	**1**

*significant at 0.05, ** significant at 0.01

Table 4 shows the result from regression analysis. SGR and ROA has a significant impact on Stock Prices STP with the *p*-value of 0.00 respectively. The results show that stock prices are influenced by the short term firm performance and long term financial sustainability. The result is supported by the signaling theory and legitimacy theory. Better firm performance gives a positive signal to the market and the stock prices shows positive impact. Furthermore, financial sustainability of a firm gives a positive impact on the stock prices, which shows that long term strategies of a firm have a positive impact on stock prices. Moreover, better policies and strategies pays off in the form of better stock prices. However, firm age has an insignificant impact on stock prices but firm size on the other hand does have a positive impact on the stock prices of a firm.

Table 4 Regression Analysis

Variable	Coefficient	Std. Error	t-stats	p-value
STP	96.23408	14.60407	6.589538	0
SGR	11.14054	0.61963	17.97933	0
ROA	459.8299	112.1788	4.099081	0
FS	-56.903	15.9743	-3.56216	0.0004
FA	-0.35938	1.806168	-0.19897	0.8423

V. CONCLUSION:

The study was conducted with the purpose to analyze the impact of short term firm performance and long term financial sustainability on the stock prices of the firm in the presence of firm size and firm age as the controlling variables. All the manufacturing firms listed in PSX were taken as the sample for the study. Data was collected from 2010 to 2019 from 281 firms after taking out the missing firms. Correlation and regression analyses were conducted to test the model. Results reveal that both short term and long term financial performance of the firm influence the stock prices of the firm. Results show that firm performance measured through ROA and financial sustainability measured through SGR both have a significant effect on the stock prices as shown in the studies (Fama, 1990), (Lamont, 2002), (Mulyono, Suprapto, & Prihandoko, 2018).

With the p value of 0.00, SGR shows that firms which are making strategies keeping in view the future as well are not wasting their time and finances as it pays them in the form of high stock prices. Current study is beneficial for the investors, strategy makers, policy developers and other stakeholders associated with any firm. From firm's view point this study implies that strategies developed keeping in mind the future financial sustainability would benefit the firm. Moreover, investors can gain out of this study as well, as this study infers that better firm performance would mean better returns for an investor.

This study is not without limitations, data is collected from non-financial sector only whereas to generalize the results data from financial sector of Pakistan can also be collected. Future studies can collect data from financial sector of Pakistan. Moreover, data can be collected from more than one emerging economies to generalize the trend if there is any. Furthermore, comparative study can also be conducted between developed and developing nations in order to compare and contrast.

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