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CORPORATE GOVERNANCE AND FIRM LEVEL CHARACTERISTICS OF SUSTAINABILITY: EVIDENCE FROM NON-FINANCIAL FIRMS OPERATING IN THE USA

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ABSTRACT

This study puts light and analyzes the corporate governance and firm level characteristics of sustainability (In case of non-financial firms operating in USA). The explanatory variables used in this study are Corporate Governance score, return on asset, liquidity, long term debt, market value, CEO duality and independent board structure and dependent variables are included in this study are sustainability (Economic, Environmental and social Score). Time period of this study contain eighteen-year data from 2000 to 2017. Panel data is used for the analysis of the study. For the data analysis we employed various statistical measures that are descriptive statistics, correlation matrix, ordinary least square, fixed effect model and GMM model are used to find out the impact of these variables. The result of this study reveals that USA firm corporate governance (CGS), return on assets (ROA), long term debt and CEO duality (CCS) has positive and significant impact on sustainability while market value, liquidity and independent board size has negative but significant impact on sustainability.

Keywords: Corporate Governance score, return on asset, liquidity, long term debt, market value
JEL Codes: H0, O1

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I. INTRODUCTION

Different social gatherings which include various communities, political figures, academics councils and communities, as well as corporate managers remained much concerned about the sustainability. Unanimity is evident from their debates that the responsibilities associated with society and environment in management of enterprises require careful consideration (Hoffman and Bansal 2012). Various laws give direction to businesses regarding their social and environmental responsibilities which are abided by most of the companies. The management of the companies has realized about the essence of sustainability in its operations. The framework of operations for adoption of sustainability is provided by the World Business Council on Sustainable Development. Sustainability has been debated in the context of combination of Social, Environmental and Governance factors and their consideration in the operations of the companies (United Nations-Principles for Responsible Investment (UN-PRI). These terms are the substance of the corporate strategy, but varying in degree of its application in terms of firm size, sector and geography (Schalteger, 2006). As far as the environment is concerned, it includes the emission of gasses, energy efficient policies and litigation risk towards environment. On other side the society includes training of employees, their turnover rates, community engagement and workforce satisfaction and the factors included in governance structure are the management / board of directors and rights and responsibilities of various stakeholders.

The governance structure includes the independence of board, independence of Internal Audit Mechanism, takeover defenses and compensation policies (Gompers, et al., 2003). Large companies take ESG policies as a part of their corporate strategy and others manage their ESG strategies by hiring the sustainability officers at all managerial levels. Many researchers have steered away from taking the ESG policies as a part of central strategy. It is strongly believed that the good governance is directly proportional to considerable attention towards social responsibilities (Savitz and Weber, 2006). Corporate governance is substantially expressed as sustainability reflected from Economic and Environmental performance and social equity (Rogers & Hudson, 2011). Gro Harlem Brundtland, the Norwegian Prime Minister, in 1980shas defined sustainability as "fulfillment of present needs without forgoing the capacity of future generation to counter own needs" (Porter & Mark, 2007), same is also adopted by "World Business Council for Sustainable Development". Economic performance in business of Private sector drives economic performance (Henderson, 2005). The market-based activities when run in the competitive environment contribute towards economic growth (Mizik and Jacobson, 2003). Value of the firm is directly proportional to buying pattern of the customers if the goods and services are produced according to the will of the customers. Firms achieve the increased level of value creation by providing innovative products and services, rationalized input costs and by adopting efficient scope and scale (Porter, 1985); and (Conner, 1991). Thus, the firms gain a growth in value by benefitting; the consumer with improved quality products, shareholder with increased dividends, employees with increased salaries and perquisites and society with improved living standards (Holliday et al., 2002). It is also worth noting that the value creation process depletes natural resources, degrade environment and disrupt the worker welfare and community, thus the performance of economy is intrinsically stick with environmental quality and social response (Schmidheiny, 1992).

Social responsiveness has become essential for the firms to address the societal requirements (Augilera et al., 2007) as such issues are challenging for the society (Mahon and Waddock, 1992). These may include obesity, poverty and AIDS. These issues may be firm specific, i.e. working environment, equality rights and Product safety (Dobbin and Sutton, 1998). Carroll (1979) argued towards the responsibilities of firms towards its community in which they operate, wherein they must contribute resources for cultural and social events. Under such perspective, the study conducted by Donaldson and Dunfee (1994, 1995, 1999) specified about the firms to adopt responsible behavior for all stakeholders (cf. Elkinton, 1997). Natural environment is affected when an economic activity undergoes, i.e. ozone depletion, biodiversity, waste by-products and emission of greenhouse gases (Doering et al., 2002). These firms also have environmental effect which ranges from emission and waste generation from production to lighting of official facilities. The effect of firms over the quality of environment is that; the firms can reduce the pollution by efficient disposal of waste (Hart, 1995; Russo and Fouts, 1997), they can use innovative techniques for production (Klassen and Whybark ,1999) and these may use product stewardship with the use of few materials and by Lastly, firms can engage in product stewardship by using fewer materials in production and by reuse and recycling by the completion of product lifecycle (Hart, 1995). In such a way when the natural environment is affected a lot, the coming generations will not be able to avail pure water and air resources (WCED, 1987). The introduction of the study has provided a perception to the problem being identified.

The current study investigates the corporate governance and firm level characteristics of sustainability. This study is useful for financial investors, policy makers and regulators in this USA equity market and this study doesn't apply before in non-financial sector of USA. It can be adhered from the literature reviews that when different methodologies, different findings, different set of variables, different time period and different methodologies are applied for this study. Hence this study needs fresh enquiry. All non-financial firms of United States of America have been elected for this paper. The adjustments of this paper are displaced as, First, of all introduction then literature reviews on corporate governance and firm level characteristics of sustainability: Evidence from non-financial firms operating in USA. Thirdly it presents the methodology employed that describes the econometric methods used to test the significant impact between them. These methods include descriptive statistic, correlation matrix, ordinary least square, fixed effect model and GMM model. Fourthly, we discuss the empirical results of this study. Fifth and finally we summarize the result and conclusion.

II. LITERATURE REVIEW

Sustainability is defined in 1987 Report "Our Common Future" which was drafted by the World Commission on Economics and Development which stated that the sustainable development pursues for filling the needs as per the current requirements without compromising the future generating ability to fill own needs. The wider scope of sustainability is largely applicable on corporate performance in the perception of CSR (Corporate Social Responsibility) as well as the Corporate Sustainability. The IFC explains the definition as: CSR obligates businesses towards the contribute to sustainable economic development by taking it in team work with employees, families and community and society at large in order for the improvement of their living standard by doing it in such a way so as for the betterment of business and for development. The criteria to know the performance of companies regarding sustainability is its score on social, ecological and economic indicators. It is no longer only the financial profit to know the performance of the companies and it is also important to address the need of all stakeholders of the company by Savitz and Weber (2006). More specifically the expectations towards society by the companies has been changed a lot. Companies are well aware about the public which requires from the companies to contribute for development and societal improvement. The corporations are robust if they are better manager of governance and sustainability by Benn and Dunphy (2007). Most studies have investigated the relationship of sustainability with that of corporate governance. Kolk (2008) examined the inclusion of corporate governance aspects in the sustainability reporting drafting by the 250 companies of Fortune Global.

Spitzeck (2009) described the arrangements of CSR and governance mechanism and its development patterns over time. And found that the firms where the active CSR committee is working that achieved high score at Corporate Responsibility Index. Such a study was not very much useful as it only looked at the existence of CSR committee. ESG metrics of Bloomberg terminal reflected that the companies with CSR committee in force have not established a committee for review the climate change as well as no committee to formulate policy regarding emission reduction. Gul et. al (2017) analyze the corporate Governance and corporate social responsibility in Case of Small, Medium, and Large Firms. The hypothesis of this paper strongly support that not only corporate Governance is sufficient to instigate firms to provide more corporate social responsibility information. They also show that both the corporate Governance and ownership structure matters are necessary in firms' choice of corporate social responsibility engagement. The results report that significant differences exist in corporate Governance and corporate social responsibility determinants across firm's different size.

Shrivastava.et.al analyzed the identification of separation equilibrium where a firm could truly engage itself in CSR and keep itself away from green washing. The issue is still undetermined completely. Perera.et.al (2009) explored best practices ow the companies are using CSR functions as part of organizational structure. These firms used best practices for effective management of corporate responsibility which might be applied inn any company, irrespective of sector or size of the firm. Such study was associated with the Latin America market, which somewhat restricted its broader applicability. With regard to the companies of Chile, the CSR structuring and strategies had strong association with company size calculated in terms of revenues and number of employees. Eccles.et.al (2012) developed a model to classify firms having high-or low sustainability by assessing them on a number of quantifiable metrics and found that high-sustainability companies are more likely to be responsible for sustainability than low-sustainability companies. The disadvantage in the study was its somewhat dated sample period. The study also used no rankings or sustainability scores.

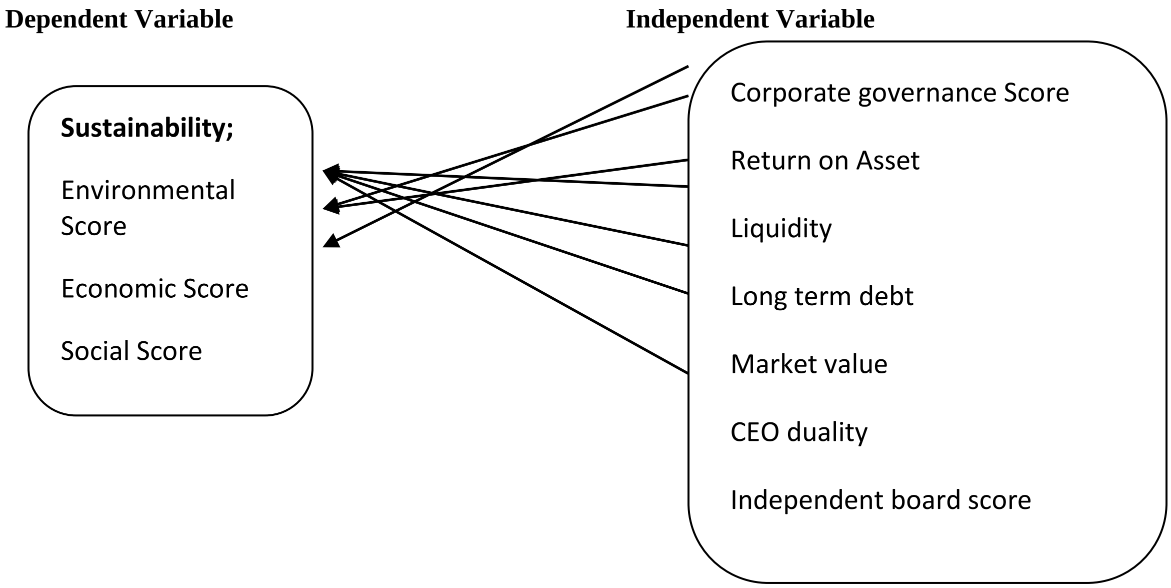
Aras.et.al (2008) asserted corporate governance and sustainability as fundamental factors to the continuing operation of any corporation and the relationship was examined at a sample of FTSE100 companies along with its corporate governance policies. No formal methodology was employed for testing of hypothesis and data was tabulated only without quantification of the data as the researcher perceived the data as qualitative so it was insufficient in testing of hypotheses. They concluded that a firm with complete understanding of sustainability and corporate governance will address the issues effectively to emphasize the validity of their hypotheses.

Zingales (1998) define governance a complex set of constraints that shape the ex-post bargaining over the quasi-rents generated by the firm". Shleifer.et.al (1997) suggested that corporate governance is linked with economic interests of the participants in the corporation: "corporate governance deals with the ways in which suppliers of finance to corporations assure themselves of getting a return on their investment". Corporate governance problems lie in splitting up the ownership and control mechanism of corporations. This "agency problem" required specific intention of governance structures to ensure that the objectives of shareholder are trailed by managers with diligence by Fama and Jensen (1982). These governance structures included special incentives for managers, accountability policies, audit committees, and information systems in order to monitor the performance. The corporate governance discussion is moved towards the transparency and accountability in recent year which was induced by corporate scandals and fraud due to lack of oversight such as from USA Enron Corporation and WorldCom. CLERP 9 reforms were enacted in Australia Goergen (2012) where accountability, governance and transparency responsibilities were articulated in order to counter the unethical practices like bribery and fraud in the organization. Corporate governance plays an efficient and important role in mending the fundamentals of business and defining the running of the companies. It included implementation of various policies of business ethics for protecting of human rights, prevention of bribery and corrupt practices, and addressing climate change by Elkington (2006). In a report in 1998, the OECD formulated principles of corporate governance. Corporate governance refers to relationships among management, its stakeholders and board of companies. Good corporate governance provides a judicious frame work for corresponding ownership and control and equitable treatment of stakeholders and effective monitoring by Cadbury (1992), Monks.et.al (2004), OECD (2004). The involvement of the OECD was welcomed because governance structures tend to vary across geographical parameters.

III. RESEARCH METHODOLOGY

The main purpose of this paper is to identify the impact of corporate Governance on sustainability. Firstly, we conduct a statistically analysis on Stata (Software), the data includes all non- financial firms of USA. The analysis precedes to comportment a number of issues in mind. Firstly, the country USA chose for its well-developed economy. Secondly, its well-structured firms listed in USA stock exchange. In this study we use yearly data for the period from 2000 to 2017, which contain 354790 observations. Secondary data is used for the data analysis. The methodology applied in this research is dynamic and static. The static model is extensively popular and has been worn in the several studies. The dynamic model used for this research is taken from Berger et al. (2000) and additionally the recent study of Athanasoglou et al. (2008). As Mamatzakis.et.al (2003) examine that dynamic model used consequently more information and determinant factors will be expected more proficiently. The measurement of sustainability of firm is based on Economic, Environmental and social Score. Economic score is based on performance of company in term of its profitability, competitiveness, innovation and reduction of cost through new technology. Environmental performance considers the following aspects e.g. emission of carbon dioxide, usage of withdrawal consumption of water and nuclear energy. While social performance considers human protection and human rights, safe working environment. The data on all aspects of corporate Governance of firm is obtained from Thomson Reuters Asset-4 data base.

IV. CONCEPTUAL FRAMEWORK



IV.I. DESCRIPTION OF VARIABLES

Variables	Description of variables
Sustainability (SUS)	Relates with long term shareholders value and managing risk formulated from Economic, Environmental and Social score.
Corporate Governance	Related with improving sustainability performance and acquiring investors trust.
Return on Assets	Measures how efficiently a company can manage its assets to generate profits in a given time period.
Liquidity	Amount of money which is easily converted in cash in the form of bonds, notes and treasury bills.
Long Term Debt	Relates with company loans that cannot be paid within one year.
Market value	Its measure the total worth of the company during a specific period of time.
CEO duality	CEO duality is a situation in which the Chairman of the board at a company who also a Chief Executive Officer at the same time.
Independent Board Structure	It suggests that board members should be independent and non-executive.

V. ECONOMETRIC MODEL

Following the methodologies of Ali (2011), Ali (2015), Ali (2018), Ali and Bibi (2017), Ali and Ahmad (2014), Ali and Audi (2016), Ali and Audi (2018), Ali and Rehman (2015), Ali and Naeem (2017), Ali and Zulfiqar (2018), Ali et al., (2016), Arshad and Ali (2016), Ashraf and Ali (2018), Haider and Ali (2015), Sajid and Ali (2018), Ali and Senturk (2019), Kassem et al, (2019) and Ali and Bibi (2020) , the econometric model of this study become as:

$$SUS_{it} = \alpha + \beta_1 CGS_{it} + \beta_2 ROA_{it} + \beta_3 LIQ_{it} + \beta_4 LTD_{it} + \beta_5 IBS_{it} + +\beta_6 CCS_{it} + \beta_7 Mkv_{it} + \mu_{it}$$

Where;
Sus (Sustainability) = Measure by the average score of economic, environmental and social score Cgs (Corporate Governance Score) = Sum score of corporate governance characteristics
Roa= Return on Assets which is computed by Net income divided by total Assets
Liq= Liquidity of firm which is measured by the currents ratio (Currents Assets /Current Liabilities)
Ltd= long term debt which is measured by the total long term debt of the firm
Ibs= Independent board score
Ccs= Chief executive officer (CEO) Duality which is the average of Chief executive officer separation, chief executive officer is ex-chairman and staggered board structure
μ= Error term

VI. RESULTS AND DISCUSSION

Table 1: Descriptive Statistics

Variables	Mean	Std. Dev.	Minimum	Maximum
Sustainability	45.08585	79.08664	0	294.34
Corporate Governance	22.92893	34.89804	0	97.91
Return on Assets	13.00217	25.30415	0	100.00
Liquidity	15.80154	24.46695	0	100.00
Long Term Debt	14.83147	26.67198	0	91.66
Independent Board Structure	15.36365	28.67787	0	99.87
CEO Duality	.1777064	.3196425	0	1.000
Market value	2.528326	1.56025	-1.69897	5.811147

Table 1 describes the mean, standard deviation, minimum and maximum values about the variables which are used in this study of non-financial firms operating in USA. The result of Descriptive statistics shows that the average sustainability is 45.085% among the non-financial firms in USA while the maximum level of sustainability is 294.34%.

Table 2: Correlation Matrix

	SUS	CGS	MKV	ROA	LIQ	LTD	IBS	CCS
SUS	1							
CGS	0.8912	1						
MKV	0.4798	0.4978	1					
ROA	0.6972	0.7420	0.4010	1				
LIQ	0.7317	0.8630	0.4490	0.6992	1			
LTD	0.6851	0.7693	0.4190	0.6703	0.7872	1		
IBS	0.6673	0.7711	0.3882	0.5546	0.7072	0.5997	1	
CCS	0.6720	0.7537	0.4024	0.6244	0.7377	0.6563	0.6002	1

Table 2 provides the results of correlation between the variables. The result shows that there is significant and strong positive correlation between the corporate governance and sustainability among the non-financial selected firms in this study over the specific period of time. Results also indicate that there is positive and significant correlation among the all variables used in the empirical analysis among the non-financial firm operating in USA. Results also reveal that all the independent variables used for analysis have not strong positive correlation among each other. The problem of high multi-collinearity does not exist among the independent variables. The selected panel fulfills the basic assumptions of OLS and also fulfills the assumption of the reliability of relationship among the variables Static and GMM model.

For the analysis of characteristics of sustainability of non-financial firms of the USA the panel data fixed and random effects models are commonly used. However, it is possible that impact of one-year sustainability effect can influence the sustainability of succeeding year Athanassoglou et al. (2008). This effect of lagged dependent variable can create a trouble in the models particularly while the time spam is less than the number of observations Nickell (1981). To deal with this problem, the divergence Generalized Methods Moments (GMM) model was presented by Arellano and Bond in (1991) by differentiate all regressors and employing GMM. The fundamental postulation of the GMM is the 1st differences of influential variables are not correlated with the fixed effects it allow the model to initiate additional instruments and enhance its effectiveness. Roodman (2006), said that the difference and system GMM predictor both are appropriate for analysis which includes small T, large N' panels. Table 3 provides coefficients and p-values from panel least square (OLS), fixed effect models (FE) and Dynamic GMM models. All the variables having the significant impact on the CSR. Corporate governance, market value of the firm, return on assets, long term debt and CCS have positive impact on the CSR while liquidity, and IBS negative impact on the CSR.

The dependent variable sustainability is used in this study. For identification of the better model, this research followed the Hausman test. As the p-value of Chi-square is 0.000, we can state that the fixed effect model is relatively fit as compare to random effect model it recommends that the results of fixed effect model are accepted.

Table 3: Results with full sample of the firms

	USA		
	OLS	FE	GMM
CGS	2.1478 (0.000***)	1.9148 (0.000***)	1.3616 (0.000***)
MKV	2.4022 (0.000***)	.17273 (0.318)	-10.9395 (0.000***)
ROA	.28618 (0.000***)	.25168 (0.000***)	.28310 (0.000***)
LIQ	-.59907 (0.000***)	-.3767331 (0.000***)	-.1983 (0.000***)
LTD	.07560 (0.000***)	.04318 (0.000***)	.10585 (0.000***)
IBS	-.076810 (0.000***)	-.04069 (0.000***)	-.04269 (0.000***)
CCS	4.4896 (0.000***)	3.5547 (0.000***)	6.6446 (0.000***)
R^2	0.8066	0.8044	-
No. of Obs.	35,465	35,465	33507

Note: p-values are reported in parenthesis, ***, ** and * show the significance level of variables at 0 percent, 1 percent and 5 percent correspondingly.

The results of the full sample indicate that in case of USA the sustainability is significantly and positively linked with all corporate governance level factors as well as firm level factors. It suggests that they become more sustainable if they strengthen their corporate governance structure with respect to firms financial performance. Analysis also reveals that Firms with high performance has significant positive impact on sustainability. The results of Arellano and Bond GMM estimation shows that only market value (MKV) and independent size (IBS) are negatively linked with sustainability. The entire set of variables including corporate governance as well as return on assets (ROA) as independent variables are defined in the methodology part of our study under the head of variables and their description. GMM estimation is used in this study to eliminate endogeneity. The intercepts are not incorporated in table and probability value (p- values) are reported in parentheses, ***, ** and * demonstrate the significance level at 0 percent, 1 percent and 5 percent correspondingly.

VII. CONCLUSIONS

The study investigates the impact of corporate governance as well as firm level characteristics of sustainability in the firms operating in USA. In this research we particularly observe the impact of these characteristics on sustainability with full sample of non-financial firms by applying ordinary leas square, Fixed effect model and Arellano and Bond GMM estimation techniques. We draw several conclusions from this analysis. This study concludes that by using full sample of USA firm corporate governance (CGS), return on assets (ROA), long term debt and CEO duality (CCS) has positive and significant impact on sustainability while market value, liquidity and independent board size has negative but significant impact on sustainability. For the firms operating in USA is needed to improve their corporate governance structure to increase their contribution toward economic, social and environmental performance. Sustainability preference may be varied with sector to sector the results may be change while we conduct research on financial sector.

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