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COVID-19 and Corporate Governance Performance: Beyond the Financial Metrics

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Abstract

Corporate governance and, more broadly, the performance of corporate boards have traditionally been measured using financial metrics. These financial metrics such as Return on Investment (ROI), Return on Assets (ROA), Return on Equity (ROE), Earnings and Profitability Ratio (E and P) are *ex post* measure of organizations performance arising from corporate board activities. These financial metrics are largely one-dimensional measure of corporate performance and do not fully account for the other dimensions of organization responsibilities. The COVID-19 and the changing organizational dynamics have made the case for corporate board's performance to be assessed beyond the usual financial metrics. In this study, we provide a framework that accounts for the various dimensions of organization activities: finance, social and environmental, the Triple-Bottom (TBL) approach. A TBL-compliance metric was constructed, which tracked the performance of selected manufacturing firms in Nigeria using a content analytical technique. The result showed that the majority of the firms performed remarkably well in areas of profitability and economic value creation but less satisfactorily in areas of social and environmental sustainability. On aggregate, the sampled firms committed less than 1% of their profit after tax on corporate social responsibility, while less than 5% of the sampled firms scored above average on the TBL-adoption matrix.

Keywords: COVID-19, corporate governance, financial metrics, corporate social responsibility, JEL Classification: M14, M38, Q56

1. Introduction

Early this year, news broke out that a novel coronavirus has hit the city of Wuhan, China. It was reported that the SARS-CoV2 virus is responsible for the COVID-19 pandemic. The virus later spreads to other parts of the world from early February 2020 and currently, 213 countries are battling with the scorch of the virus [1]. As expected, the coronavirus pandemic is impacting the world in a way that has not been seen since World War II [2]. In particular, the pandemic has impacted the way businesses are now being conducted and the expectations of the various stakeholders on organizations going forward. For instance, there is now greater

awareness on issues of human rights protection, environmental protection, health, and safety issues. More than ever before, the issue of corporate social responsibility (CSR) and the duty of care to broader stakeholders by business entities have become more compelling. The pandemic has also increased the interest of the public in supporting responsible business practices and it is expected that consumers will henceforth be demanding more information as to how companies address risks and opportunities relating to health and environmental issues.

Moreover, there is likely to be greater convergence of expectations by citizens of various countries with regard to minimum standards corporations should achieve in relation to social, health, and environmental issues regardless of the jurisdiction in which the corporations operate and there will also be increased demand on organizations to go beyond current regulations and legislations regarding corporate social responsibilities to something much more encompassing.

Even before the coronavirus pandemic, many organizations around the world were already voluntarily integrating the considerations of broader community interest into their core business strategies. The coronavirus pandemic has made these considerations even more forceful and compelling.

In this paper, we make a case for broadening the scope of corporate governance measurement to take account of other considerations outside the financial metrics and we outline the conceptual and empirical approach for doing so. The paper, therefore, has two broad objectives:

First, we provide a conceptual and methodological overview on the uses and empirical implementation of triple-bottom measurement using firm-level data. Second, we demonstrate, using data from selected manufacturing firms in Nigeria, how the general methodological approach can be usefully applied and tailored to various sectors and contexts to yield policy-relevant insights about how corporate governance performance should be assessed beyond the financial metrics.

Following this introduction, the rest of the paper is organized as follows. The next section provides a conceptual review of the triple-bottom approach to corporate governance measurement. We provide the rationale for assessing corporate governance performance beyond the usual financial metrics. In the third section, we provide simple taxonomy for thinking about triple bottom in corporate governance assessment and use this taxonomy to suggest how different organizations can use the triple-bottom approach to assess the performance of their corporate boards. The section also contains an operational definition of corporate governance and a triple-bottom approach that can, in principle, be taken to the data beyond the financial metrics.

In section four, we outline a general and flexible methodology for empirical implementation of triple-bottom measurement to corporate governance using firm-level data. After summarizing the basic approach, we demonstrate the various steps involved and the measurement issues that could arise in each step.

In section five, we provide the policy implication of using the triple-bottom approach in assessing corporate boards and suggest ways organizations and governments could integrate triple-bottom reporting post-COVID-19.

2. Review of literature

In this section, we review the extant literature on corporate governance and sustainability with the analytical spotlight on the corporate governance framework during the COVID-19 pandemic.

2.1 Concept of corporate governance

There are various definitions of corporate governance in extant literature. However, the best definition seems to come from the Canadian Office of the Superintendent of Financial Institutions [3]. The office defines corporate governance “as the oversight mechanisms which include the processes, structures and information for directing and overseeing the management of a company” (p. 3). This definition is pervasive as it encompasses the means by which members of the board of directors and senior managers are held accountable for their actions and the establishment and implementation of oversight functions and processes. According to Cadbury Committee ([4], p. 15), “corporate governance is holding the balance between economic and social goals and between individuals and communal goals” The Organization of Economic Cooperation and Development [5] defines corporate governance as the “distribution of rights and responsibilities among different participants such as the shareholders and other stakeholders” (p. 32).

Corporate governance studies gain traction in the early 2000s due to conspiracy of events and the scandals that rocked the corporate world from the unexpected failures of large corporations around the world, especially Enron, WorldCom, Tyco International (United States of America), HIH Insurance (Australia), Parmalat (Italy), etc. The scandalous collapse of these corporate giants jolted the corporate world and led to massive calls for greater attention on the activities of boards in corporations. These calls were not, however, unfounded as several (postmortem) studies show that the collapse of many of these corporations was attributable to ineffective and weak corporate governance practices especially in areas of excessive risk-taking by management with weak oversight by boards; excessive remuneration taking by management with fraudulent acquiescence by the board; flagrant neglect and override of internal control measures, abuse of office, absence or nonadherence to authority limits and general laxity on the part of boards to effectively discharge their oversight functions (see [6–10] for Enron case); see [11–15] for WorldCom case; see [16–18] for HIH Insurance case; see Shleifer and Vishny [19] and Olena [20] for Tyco International case; also see [21–28] for Parmalat case).

The shock that followed these corporate scandals prompted a chain of regulatory and supervisory interventions around the globe [29]. The United States fired the first shot with the enactment of the Public Accounting Reform and Investors Protection Act of 2002 known as “the Sarbanes-Oxley Act” [30]. Many other countries followed suit with similar enactments including the stock exchange codes in the United Kingdom and the code of corporate governance for quoted companies in Nigeria [31].

The overarching objective of these regulations has been to improve the effectiveness of boards and other corporate governance practices in corporations. It is widely accepted based on a fairly large body of scholarly works that board effectiveness could play a vital role in determining corporate financial performance (see, for instance, [32–45]. This belief may have accounted for the preponderance in the usage of financial indicators in measuring the performance of boards. In other words, it has been the practice in extant literature to measure the effectiveness of boards in terms of financial performance of the organization using for instance indicators like profitability, return on investment (ROI), return on assets (ROA), return on equity (ROE), firm’s value (Tobin’s Q), earnings per share (EPS), etc.

These financial indicators are usually highlighted in financial statements (e.g., income statement, balance sheet, and notes to the financial statement). It is also common to find in annual reports of organization scanty mention of issues related

to corporate social responsibilities (CSR) and some humanitarian activities undertaken by the organization [46].

This approach to measuring corporate performance based largely on financial metrics is being challenged by recent re-alignments and a paradigm shift in expectations by the stakeholders. It is increasingly clear that measuring corporate performance based entirely or largely on financial metrics does not fully account for the social, health, and environmental benefits derivable from corporate activities. There is a growing consensus that organizations must fully account for how much (or less) they are contributing in addressing the social, health, and environmental issues that confront mankind [47, 48]. It is in this respect that the concept of sustainability reporting and the triple-bottom-line (TBL) framework enunciated by Elkington [49] comes in. This framework is a paradigm shift from the traditional “for profit” to a more comprehensive assessment along the dimensions of profit, people, and the planet.

2.2 Sustainability and triple-bottom-line (TBL) framework

Sustainability is simply defined by the United Nations Brundtland Commission [50] as “meeting the needs of the present without compromising the ability of future generations to meet their own needs.” To achieve this, the United Nations in 2015 [51] articulated the 17-sustainable development goals (SDGs). The sustainable development goals form the framework for improving the lives of populations around the world and mitigating the hazardous man-made effects of climate change. For instance, SDG 13: Climate Action, calls for integrating measures to prevent climate change within development frameworks. SDG 14: Life below water, and SDG 15: Life on land, also call for more sustainable practices in using the earth’s natural resources. Today, there are almost 140 developing countries in the world seeking ways of meeting their development needs, but with the increasing threat of climate change, concrete efforts must be made to ensure development today does not negatively affect future generations.

It must be remarked that sustainable development has been the promoted goal of responsible corporate entities around the world. Most of the corporate governance codes around the world have continued to harp on the issue of sustainability with businesses and corporations around the world increasingly re-appraising their business models to be sustainability-compliant [52, 53].

However, in spite of the focus on issues of sustainability, measuring the degree to which an organization is being sustainable or pursuing sustainable growth has not been easy or clear-cut [54]. In the mid-1990s, Elkington [49, 55] developed a template for measuring sustainability in what has become known as the triple-bottom-line (TBL) approach. This framework measures corporate performance beyond the usual financial metrics of profitability and firm value (or shareholder value) to include the environmental and social dimensions of a firm’s activities. By focusing on the comprehensive assessment of a firm’s activities along with the three-dimensional trajectory of profits, people, and the planet—the TBL has become an important assessment framework for measuring sustainability and sustainability goals.

As a concept, the TBL is a construct that broadens a business focus on the financial bottom line to include social and environmental considerations. By applying the framework, it is plausible to measure a company’s degree of social responsibility, its economic value creation, and the environmental impacts of its operations. The framework was introduced in 1994 by John Elkington and later demonstrated in his 1997 book *“Cannibals with Forks: The Triple Bottom Line of 21st Century Business”* [49]. As recognized by Elkington himself, a key challenge before the

introduction of the TBL framework was how to explicitly measure the social and environmental bottom lines, unlike the financial bottom line which is easily measured by financial metrics. This difficulty has led to the three bottom lines being evaluated separately on their own merits.

However, the TBL is an accounting framework that incorporates these three dimensions of performance—financial, social, and environmental. By incorporating these dimensions of performance, the TBL differs from traditional accounting reporting frameworks by the inclusion of ecology (or environment) and social measures which are difficult to assign numerical values to. The triple-bottom framework is also commonly referred to as the 3Ps (people, planet and profit) in corporate governance literature [56]. The TBL captures the essence of sustainability by its focus on measuring the impact of an organization's activities not only on its profitability and shareholders' value but on the social, human, and environmental dimensions [54].

The TBL accounting approach has gained increased traction since the launch of the sustainable development goals by the United Nations in 2015 and many organizations and businesses have adopted the TBL sustainability framework to evaluate their performance and check how sustainable-compliant their activities have been [53, 57–59].

The TBL approach has also gained currency with governments at all levels in many developed countries [60]. In consequence, there have been shifts from profit-making and shareholders' value maximization orientation toward the social and environmental benefits derivable from corporate activities. Increasingly, other stakeholders (besides the shareholders) are expressing interest to know how many corporate organizations are contributing in addressing societal and environmental-related issues within the environment where they operate. This call will only get louder post-COVID-19 pandemic.

2.3 Measuring the triple bottom lines

2.3.1 Measuring instrument

There is no universal approach yet to measuring the TBL [61]. Aside from the absence of a common denominator for measurement, there is also the issue of differences in the country's institutional dynamics and country-specific approaches to issues of sustainability. For instance, profits globally are measured in monetary units, for instance, in US the dollar. But how does one measure social capital or environmental or ecological well-being (or lack thereof)? Therefore, finding a common unit of measurement for the TBL has remained a challenge [62, 63].

Some scholars have advocated monetizing all the three dimensions of the TBL. However, the practical challenge is how to put a monetary value on many intrinsic social or environmental issues [54]. For instance, how can one monetize the issue of endangered species or the loss of wetland or fauna? Other scholars have suggested the calculation of TBL in terms of an index, perhaps a principal component index (PCI). By this method, we eliminate the incompatible-unit problems and as long as there is a universally accepted accounting method that allows for comparison between entities, for instance, comparing performance between companies, cities, development projects, or some other benchmark, there will be no problem. The Indiana Business Research Center's Innovation Index is one such index that has been used to compare a variety of components between one country and other countries [63].

However, there still remains the problem of subjectivity in using such an index. For instance, how are the index components weighted? Would each "P" in the TBL get equal weighting? Even if we relax this condition, what about the subcomponents

within each “P” as is usually the case? Do they all get equal weighting? For instance, is the people category more important or equal to the planet category? Who decides which component weighs heavier in the ranking? [61].

There is the other option to do away completely with measuring sustainability using a financial metric or an index. In this case, each sustainability measure will stand alone. For instance, acres of wetland could be a measure of its own, and progress could be measured or gauged based on certain parameters like wetland creation, destruction, or status quo over time [64]. However, the problem with this approach is the high probability of proliferation of metrics that will be ultimately required to measure sustainability in a wide range of issues to the point that the TBL user may become metric-fatigued.

2.3.2 What should go into the index?

In the absence of a universally accepted method for calculating the TBL or an agreed standard for weighting each of the components of the TBL, it becomes a discretionary issue on what goes into the sustainability index and what is left out. In other words, the user is at liberty to adopt a general framework or adapt the measurement to the specifics of its own needs. For instance, a business entity and local government agency may measure environmental sustainability in the same terms; perhaps, reducing the amount of solid waste that goes into the landfills, but a local mass transit may measure success in terms of passenger miles, whereas a profit-making bus company may measure success in terms of earnings per share. The TBL framework is flexible enough to accommodate various divergent perspectives to sustainability measurement [62].

According to Hackling and Guthrie [62], the TBL can also be adapted to be case or project-specific or allow a broad scope-measuring approach across large geographic boundaries or a narrow geographic scope like a small town. A single case or project-specific TBL approach would measure the effects of a particular project in a specific location, such as a community building a park or town hall. The TBL can also apply to infrastructure projects at the state level or energy projects at the national level.

From the foregoing, it appears that the level of entity, type of project, and geographic scope will in most cases determine the decisions about what measures to include. However, it is the stakeholders and subject matter experts that will ultimately determine the set of measures to include in sustainability assessment and the availability of data.

Slapper and Hull [54] have, however, categorized the traditional sustainability measures which have been gleaned and pieced together from academic discourses and empirical works. They include:

2.3.2.1 Economic measures

Economic measures of sustainability focus on the flow of money, income and expenditures, taxes, business factors, employment, and business diversity factors. Other variables that could come under economic measures include personal income, cost of underemployment, job growth, revenues, and all the other factors that relate to the flow of money or some economic resources.

2.3.2.2 Environmental measures

Under environmental measures are issues related to natural resources including other free gifts of nature like air, water quality, energy consumption, solid and toxic

waste, and land use. Other environmental issues that an organization may wish to consider in sustainability measurement include issues related to sulfur dioxide concentration, nitrogen oxides concentration, selected priority pollutants, fossil fuel usage, solid waste management, hazardous waste disposal and management, and change in land use, deforestation, endangered species, etc.

2.3.2.3 Social measures

Social measures will focus on issues related to the social dimension of communities or regions and include issues, such as education, equity and access to social resources, community health, and well-being. Other social issues are the use of social capital, unemployment rate, female labor force participation rate, household income, level of poverty, access to education, crime rates, life expectancy, etc.

Hackling and Guthrie [63] observed that data for these measures may not be easily available at the community, state, or national levels; and even where data is available, it is still a subjective issue of what to incorporate or discard in the measurement. By and large, TBL can be difficult to measure. Indeed, of the three legs of the triad, social and environmental dimensions are the most difficult to measure. For instance, the first P = profit can be easily put in black and white, the other 2Ps—people and planet (or social and environmental) are highly subjective. How can one put a monetary value on an oil spill? How does one measure the monetary cost of child labor or the cost of deforestation and loss of wetland? These are not easy tasks even for the most enthusiastic sustainability advocate.

3. Methodology

3.1 Design

The study used a mixed-method design which comprised qualitative and quantitative analysis. The dataset comprised financial data from annual reports and statements of income of selected quoted manufacturing firms in Nigeria. These were complemented by 17-TBL-adoption metrics—a construct that was developed and used to track the performance of these selected firms along with the TBL parameters (see Appendix 2).

3.2 Sample and sampling technique

Nine manufacturing firms were selected for the study. The purposive sampling technique was used in the selection of the manufacturing firms for the study. The primary criterion for the selection of firms is that such firms must be quoted in the Nigerian Stock Exchange (NSE) and must have been rendering annual returns consistently to the Securities & Exchange Commission (SEC) for the period covered by the study. Efforts were also made to ensure sectoral dispersion in the selection of the sampled firms.

3.3 Analytical technique

Apart from the financial data which was gleaned from the annual reports and statement of accounts of the selected manufacturing firms, a TBL-adoption matrix was constructed to track each firm's commitment and achievement in the area of social and environmental sustainability. As observed earlier, the TBL framework rests on three tripods or 3Ps (profit, people, and planet). These 3Ps constitute the

triple bottom lines. Each bottom line has a unique focus. For instance, the first P (1P), *people*, represents economic value creation (profit), the second P (2P), *social*, represents people/society, and the third P (3P), *planet*, represents the environment.

The first P, the economic value creation was proxied by profit after taxation (PAT). This has a numerical value and can be accessed from the annual reports and statements of accounts of the selected firms. The second P, people (social), was proxied by expenditure on corporate social responsibility (CSR). This too has a numerical value and can be gleaned from the annual reports and statement of accounts of the selected firms. The third P, the planet was proxied by a principal composite index derived from a 17-TBL-adoption matrix—a construct developed to track policy enunciation and commitment to environmental sustainability.

It was important to check how each of the firms was progressing toward being totally compliant in the context of social and environmental sustainability. To check this, a TBL-compliant matrix was constructed based on some qualitative parameters. The first construct, TBL_1 was derived using the principal component index (PCI). The PCI was necessary to reduce the dimension of the dataset and extract the main characteristics from it. This method is useful to obtain an index that measures the different phases in the TBL-adoption process. Five major processes were identified in the sustainability process namely—commitment to disaster and humanitarian reliefs, commitment to reduction in carbon emission, commitment to improved energy efficiency and use, commitment to use of renewable materials that will ensure efficient technologies, and reduced emissions from all production processes. Each of these processes was allocated a numerical value between 0 and 2. Zero denoting starting period progressing to 2 depending on the degree of commitment to each of the parameters. From this, we generate a matrix of three indicators for each firm and apply the principal component analysis. We identified 17 major progressions toward being TBL-compliant.

The second sustainability index, TBL_2 , involves a systematic assignment of a numerical value to each of the progressions in the 17-TBL-compliant ladder. This numerical assignment was based on a prima fascia evaluation of each firm's commitment to sustainability through policy enunciation or actual performance along with the TBL-compliant matrix.

This approach at assessing quantitatively and qualitatively corporate governance performance proxied by a firm's commitment to sustainability in Nigeria is robust than earlier attempts which focus largely on the financial dimension of a firm's activities.

4. Result and discussions

4.1 Data from selected manufacturing firms in Nigeria

The annual reports and statement of accounts of selected manufacturing firms (namely, Berger Paints Nigeria Plc, Beta Glass Nigeria Plc, Honeywell Flour Nigeria Plc, Lafarge Nigeria Plc, May & Baker Nigeria Plc, Unilever Nigeria Plc, Cadbury Nigeria Plc, Guinness Nigeria Plc, and Nestle Nigeria Plc) were examined to assess each firm's financial performance and commitments to social and environmental sustainability.

Three indicators were used for this assessment in line with the triple-bottom-line (TBL) framework. The first indicator was profit after tax (PAT) which stands proxy for a firm's financial performance representing the first P in the three legs of the triad (profit). The second indicator is expenditure on corporate social responsibility (CSR) which stands proxy for firm actual commitment to social sustainability,

representing the second P in the three legs of the triad (social). The third indicator was a composite score based on the principal component index from a construct—the 17-sustainability matrix developed to track each firm’s commitment and policy enunciation to environmental sustainability, representing the third P in the three legs of the triad (environmental). These complete the triple-bottom framework (3Ps—people, planet and profit).

Table 1 is aggregate data on the financial performance of the selected firms for the period 2014–2018 while the individual firm’s performance is shown in the appendix. **Table 2** shows the performance of the firms on the TBL-adoption matrix.

In terms of financial performance, **Table 1** shows that all the selected manufacturing firms performed remarkably well within the period under review. Except for May & Baker Nigeria Plc and to some extent, Berger Paints Nigeria Plc, the rest of the firms recorded profit after tax (PAT) in excess of the industry average of N2billion for the period under review. Therefore, in terms of economic value creation and the first bottom line, profit, we can conclude that all the selected manufacturing firms performed remarkably well for the period 2014–2018.

At a comparatively level, Nestle Nigeria Plc recorded the highest profit after tax (PAT) of approximately N131billion within the 5-year period under review. They were followed by Lafarge Nigeria Plc that recorded a profit after tax of approximately N38billion within the same period. Unilever Nigeria Plc and Guinness Nigeria Plc came in third and fourth position with a profit after tax of approximately N25billion and N24billion, respectively. Berger Paints Nigeria Plc and May & Baker came at the rear with a profit after tax of approximately N1billion and N783million, respectively.

In terms of performance on social sustainability, proxied by expenditure on corporate social responsibility (CSR), Lafarge Nigeria Plc tops the list. The company spent approximately N3billion or 8% of its profit after tax on CSR within the period under review. They were followed by Unilever which committed approximately N326million or 1.3% of profit after tax on corporate social responsibility. As a percentage of profit after tax, May & Baker came third with a commitment of

Firm	Profit after tax (N'Million)	Expenditure on corporate social responsibility (N'000)	% of PAT on CSR	Composite score on the 17 TBL-adoption matrix (max = 100)
Berger Paints	1,290,943	3958	0.30659758	40.6
Beta Glass	15,600,007	51,942	0.33296138	34.7
Honeywell Flour	10,179,894	62,971	0.61858208	37.6
Lafarge	37,538,693	3,142,918	8.372475834	47.1
May & Baker	782,528	10,631	1.358545637	35.3
Unilever	24,678,819	325,849	1.320358969	61.2
Cadbury	4,117,294	32,360	0.785953104	50.0
Guinness	23,915,868	114,143	0.477268899	52.4
Nestle	130,629,141	137,569	0.105312642	55.3
Total	248,733,187	3,882,341	1.560845598	

Source: Author’s computation from the Annual Reports and Statement of Accounts of selected Manufacturing Firms in Nigeria (2014–2018).

Table 1.
Aggregate financial and TBL performance of selected manufacturing firms in Nigeria (2014–2018).

Firm	2014	2015	2016	2017	2018	Total	% Score*	Rank
Berger paints	12	12	15	15	15	69	40.6	6
Beta glass	10	10	12	12	15	59	34.7	9
Honeywell flour	12	12	12	14	14	64	37.6	7
Lafarge	15	15	15	15	20	80	47.1	5
May & Baker	10	10	10	15	15	60	35.3	8
Unilever	20	20	20	22	22	104	61.2	1
Cadbury	15	15	15	20	20	85	50.0	4
Guinness	15	17	17	20	20	89	52.4	3
Nestle	15	17	20	20	22	94	55.3	2

Source: Computed from the analysis of the firm's annual reports (various years).

*Percentage score = $\frac{\text{Total score attained}}{\text{Total attainable}} \times 100$. Total attainable = Maximum score for a year \times Number of years = $(2 \times 17) = 34$. $34(5) = 170$.

Table 2.
Relative Scores of the selected manufacturing firms on the TBL-adoption matrix.

approximately 1.4% of their profit after tax on expenditure on corporate social responsibility.

On the aggregate, the nine selected firms committed the sum of approximately N4billion or 1.6% of their profit after tax of approximately N249billion on corporate social responsibility for the 5-year period under review. Moreover, apart from Lafarge Nigeria Plc, Unilever Nigeria Plc, and May & Baker Nigeria Plc, none of the firms committed up to 1% of their profit after tax on corporate social responsibility. This is considered a dismal performance from the prism of social sustainability.

As it can be seen in **Table 2**, in terms of commitment to environmental sustainability, proxied by policy enunciation and concrete avowal to these policies, none of the firms, except Unilever Nigeria Plc, score up to 60% on aggregate in the 17-TBL matrix.¹ **Table 2** shows the level of progress recorded by each of the firms in the 17-TBL adoption process. Although, most of the firms do not score above 60% in the adoption matrix, most made remarkable progress on a year-on-year basis on the TBL-adoption process². Unilever has been very consistent in its commitments to environmental sustainability as can be seen by its strong showing in all the performance parameters all through the period under review. Lafarge, Cadbury, Guinness, and Nestle have also been consistent in their commitment to environmental sustainability. These companies, among others, consistently carry out environmental sustainability audits to assess the impact of their operations on the environment, and Lafarge in particular has taken steps to reduce emission and waste arising from their operations.

An important feature to note is that all the multinational corporations have shown more commitment to environmental sustainability than the local corporations. However, in the aggregate, there is still much to be done by the firms to be fully compliant in line with the TBL framework.

¹ The 17-TBL-adoption matrix was created based on key components of environmental and sustainability issues that companies as good corporate citizens should be concerned about in their operations.

² Brief review of policy enunciation and commitment to environmental sustainability by each of the selected firms is shown in the appendix.

5. Conclusion, policy implications, and recommendations

5.1 Summary and conclusion

The COVID-19 pandemic will predictably change the way corporate governance performance will henceforth be measured. The traditional method of measuring corporate governance based largely on financial metrics will no longer be adequate as businesses and firms will increasingly be required to account for the social and environmental impact of their operations. This is where the triple-bottom-line (TBL) framework developed by John Elkington [49] becomes imperative.

In this study, we have demonstrated, using data from selected manufacturing firms in Nigeria, how this approach can be usefully applied to measure not only the profit angle of a firm's operation but their commitment to social and environmental sustainability in line with the TBL framework. We have shown that measuring the social and environmental aspects of a firm's operations is equally as important as measuring financial performance. The extant literature is replete with studies that measured corporate performance from the prism of financial indicators but not enough studies have been done to measure corporate performance beyond the usual financial metrics. To this end, this work has added to the growing literature on corporate governance performance using nonfinancial indicators.

5.2 Policy implication and recommendations

The study has thrown up a lot of policy imperatives as follows:

1. There are currently no metrics to measure what makes a firm's commitment to environmental sustainability credible. The corporate governance code that touches on environmental sustainability in Nigeria is the "*Sustainability Disclosure Guidelines*" issued by the Nigerian Securities & Exchange Commission [65]. However, these codes are largely prescriptive and declaratory. Therefore, a firm's affirmative action to environmental sustainability is entirely "in the eyes of the beholder." In the absence of acceptable metrics, arguments to being environmentally sustainable can almost always be contrived by any organization to justify its position. There is a need to compel organizations to go beyond mere disclosure just to fulfill regulatory requirements to concrete and measurable metrics that can be tracked and assessed.
2. There may be a need for regulators in Nigeria to come up with legislation that will require manufacturing firms in Nigeria to commit more of their profit after tax (PAT) in activities that promote social and environmental sustainability. The extant regulations on corporate governance codes in Nigeria merely require firms to make declarations or policy enunciation on commitments to environmental sustainability with no quantifiable way of measuring these policy enunciations and commitments. The construct 17-TBL adoption matrix proposed in the study could lead the way toward quantifying and measuring a firm's commitments to social and environmental sustainability.
3. Post-COVID-19, manufacturing firms in Nigeria should on their own (without regulatory prompting) make a paradigm shift on the way they approach the issue of social and environmental sustainability. The pandemic has shown that greater attention will be paid by various stakeholders on how firm activities

contribute to social and environmental sustainability going forward. Rather than making declarations and regulatory-induced commitments to environmental sustainability in order to “fulfill all righteousness,” more concrete actions will be required to walk the talk.

4. Civic societies, social advocates, and nonstate actors should henceforth engage more actively with businesses to show greater commitment on issues of social and environmental sustainability. The general public should be sensitized to show greater support to businesses that are committed to social and environmental-friendly practices by way of patronage and shunning those businesses that care less about social and environmental sustainability.

Appendix

A. Financial performance metrics of selected manufacturing firms in Nigeria (2014–2018)

Year	PAT (=N=)	EXP on CSR (=N=)	% of PAT on CSR
Berger Paints Nigeria Plc			
2014	251,346,022	287,934	0.114556816
2015	248,805,122	393,250	0.158055428
2016	224,007,344	934,600	0.417218464
2017	246,276,146	1,419,464	0.576370884
2018	320,509,108	923,012	0.287983081
Total	1,290,943,742	3958,260	0.306617544
Beta Glass Nigeria Plc			
2014	2,390,223,001	9,231,333	0.386212207
2015	1,991,127,002	10,675,000	0.536128534
2016	3,799,393,042	10,300,000	0.271095933
2017	3,115,142,102	10,738,001	0.344703408
2018	4,304,122,005	10,998,333	0.255530233
Total	15,600,007,152	51,942,667	0.332965661
Honeywell Flour Nigeria Plc			
2014	3,351,546,003	7,681,658	0.229197450
2015	1,120,267,005	7,416,845	0.662060470
2016	−3,023,852,101	11,707,774	−0.387180775
2017	4,304,955,112	20,901,974	0.485532914
2018	4,426,978,003	15,263,699	0.344788228
Total	10,179,894,022	62,971,950	0.618591411
Larfarge Nigeria Plc			
2014	34,385,275,000	259,820,450	0.755615449
2015	29,657,773,005	604,245,559	2.037393566

Year	PAT (=N=)	EXP on CSR (=N=)	% of PAT on CSR
2016	16,898,781,100	748,346,711	4.428406444
2017	−34,601,409,220	661,627,952	−1.912141635
2018	−8,801,726,090	868,878,089	−9.871678352
Total	37,538,693,795	3,142,918,761	8.372477685
May & Baker Nigeria Plc			
2014	63,340,000	0	0
2015	68,033,302	0	0
2016	−48,712,022	0	0
2017	357,181,099	5943	1.66406705
2018	342,686,021	4687	1.36795046
Total	782,528,400	10,631	1.35860986
Unilever Nigeria Plc			
2014	2,412,343,003	32,864,545	1.362349590
2015	1,192,366,122	212,066,003	17.78530932
2016	3,071,885,200	18,786,715	0.611569566
2017	7,450,085,021	18,675,960	0.250681166
2018	10,552,140,090	43,456,134	0.411822944
Total	24,678,819,436	325,849,357	1.320360392
Cadbury Nigeria Plc			
2014	2,137,319,000	8,100,000	0.378979461
2015	1,153,295,285	6,646,267	0.576284936
2016	−296,403,003	5,799,578	−1.956652916
2017	299,998,042	7,696,543	2.565531078
2018	823,085,420	4,118,284	0.500347096
Total	4,117,294,744	32,360,672	0.785969284
Guinness Nigeria Plc			
2014	9,495,530,402	11,406,028	0.120119967
2015	7,794,899,102	11,202,005	0.143709429
2016	−2,015,886,002	67,985,102	−3.372467587
2017	1,923,720,108	11,775,085	0.612099699
2018	6,717,605,123	11,775,280	0.175289851
Total	23,915,868,733	114,143,500	0.477270975
Nestle Nigeria Plc			
2014	22,235,640,008	45,547,432	0.204839762
2015	23,736,777,123	47,191,240	0.198810646
2016	7,924,968,120	8,778,000	0.110763853
2017	33,723,730,004	2,088,001	0.006191489
2018	43,008,026,108	33,965,020	0.078973678
Total	130,629,141,363	137,569,693	0.105313173

B. Seventeen (17) indicators on the sustainability reporting and triple bottom line (TBL) framework

S/no	Indicator	Rank*
1.	Corporate policy and concrete investment on global warming, pollution and deforestation	0-2
2.	Corporate policy and concrete investment on global security, terrorism and armed conflicts	0-2
3.	Corporate policy and concrete investment on poverty reduction and financial inclusion	0-2
4.	Corporate policy and concrete investment on global fight against hunger and mal-nutrition	0-2
5.	Corporate policy and concrete investment on global fight against racism	0-2
6.	Corporate policy and concrete investment against all forms of discrimination – racial, sexual, religion, creed, etc.	0-2
7.	Corporate policy and concrete investment on use of raw materials that are environmentally friendly such as fresh natural and/or organic ingredients	0-2
8.	Corporate policy and concrete investment on social value and national orientation	0-2
9.	Corporate policy and concrete investment to charity and donations to the less privileged members of the global community	0-2
10.	Corporate policy and concrete investment on water related issues	0-2
11.	Corporate policy and concrete investment on women empowerment and girl-child education	0-2
12.	Corporate policy and concrete investment to disaster assistance to victims and humanitarian reliefs	0-2
13.	Corporate policy and concrete investment to reduction in carbon emission	0-2
14.	Corporate policy and concrete investment to improved energy efficiency in manufacturing and organizational process	0-2
15.	Corporate policy and concrete investment on increasing use of renewable energy, deploying more energy-efficient technologies and closely monitoring emission from all activities	0-2
16.	Corporate policy and concrete investment towards the physically challenged members of the community	0-2
17.	Corporate policy and concrete investment on equal employment opportunity for male and female	0-2
Maximum attainable mark		34 (scaled to 100)
*Assign 1 where there is policy framework but no concrete action, 2 where both exist and 0 where none exists.		

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