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Value Relevance of Corporate Economic Sustainability Reporting of Financial Services Quoted Firms in Nigeria

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ABSTRACT

The focus of this study is to examine the effect of corporate economic sustainability reporting on value of Nigerian financial services quoted firms. The study employed ex-post facto research design. Secondary data were obtained through annual reports published by the firms covering a period of 2010 to 2020. The population of the study consist 51 listed financial services firms. The sample size comprised of 35 financial services firms listed on Nigerian Exchange Group (NGX) that have consistently submitted their annual reports to the NGX from 2010 to 2020, have adhered to Sustainability Reporting Guideline in line with GRI (G4), have been publicly listed on NGX not later than year 2010 and functional firms that have been incorporated for at least the past 11 years. The analysis was achieved using descriptive and panel corrected standard error (PCSE) regression. The study revealed that market presence, economic performance, and indirect economic impacts, as measures of economic sustainability reporting, present positive and significant effect on value relevance, while procurement practices have insignificant effect. The study concluded that any enhancement on the firm's policy direction relating to economic sustainability reporting will result to improved performance of firms in the stock market, suggesting that quoted firms should report their corporate economic sustainability services to improve their value.

Relevansi Nilai Pelaporan Keberlanjutan Ekonomi Perusahaan dari Perusahaan Jasa Keuangan di Nigeria

ABSTRAK

Fokus penelitian ini adalah untuk menguji pengaruh pelaporan keberlanjutan ekonomi perusahaan terhadap nilai perusahaan jasa keuangan di Nigeria. Penelitian ini menggunakan desain penelitian ex-post facto. Data sekunder diperoleh melalui laporan tahunan perusahaan yang mencakup periode 2010 hingga 2020. Populasi penelitian terdiri dari 51 perusahaan jasa keuangan. Ukuran sampel terdiri dari 35 perusahaan jasa keuangan yang terdaftar di Nigerian Exchange Group (NGX) yang secara konsisten telah menyerahkan laporan tahunan mereka ke NGX dari tahun 2010 hingga 2020, telah mematuhi Pedoman Pelaporan Keberlanjutan sesuai dengan GRI (G4), telah terdaftar secara publik di NGX paling lambat tahun 2010 dan perusahaan fungsional yang telah didirikan setidaknya selama 11 tahun terakhir. Analisis dilakukan dengan menggunakan regresi deskriptif dan standar error yang dikoreksi panel (Panel corrected standard error/ PCSE). Studi ini mengungkapkan bahwa kehadiran pasar, kinerja ekonomi, dan dampak ekonomi tidak langsung, sebagai ukuran pelaporan keberlanjutan ekonomi, menunjukkan efek positif dan signifikan pada relevansi nilai, sementara praktik pengadaan memiliki efek yang tidak signifikan. Studi ini menyimpulkan bahwa setiap peningkatan arah kebijakan perusahaan yang berkaitan dengan pelaporan keberlanjutan ekonomi akan menghasilkan peningkatan kinerja perusahaan di pasar saham, sehingga perusahaan yang terdaftar harus melaporkan layanan keberlanjutan ekonomi perusahaan mereka untuk meningkatkan nilainya.

1. Introduction

The 2008 global financial crisis uncovered systemic exposures in the financial services sector, which are not favorable to the broader economy. After this emaciated financial crisis, several regulatory initiatives have been inception to reshape the regulations governing financial institutions (Ntarmah et al., 2019). In recent times, the sustainable development goal is being threatened by the growth and development of corporate entities through their activities within the society which called for corporate economic sustainability reporting (Obiora et al., 2022). The multiplier effects of firms' activities are adversely affected by the economic and social well-being of members of the public, which in turn mired the value relevance of firms and the long-run effect on their share prices in the capital market (Echobu et al., 2022). Hence, corporate owners seek higher levels of reporting that capture and convey sustainability practices to defend their interests, resulting in enriched value relevance (Olayinka, 2021).

Economic sustainability reporting is paramount when the natural, social, and human capital required to achieve the objectives of corporate entities and high standards of living are maintained to meet the needs of future generations (Amedu et al., 2019; Guth et al., 2020). Furthermore, corporate sustainability reporting rests on disseminating information on the environmental, social, and economic impacts of business entities (Echobu et al., 2022). Investors' attention to firms' non-financial performance has noticeably increased. Many firms from developed and developing countries disclose sustainability issues and have attracted research on sustainability reporting (Okoye & Ndum, 2020).

However, many studies have noted confounding connections between economic sustainability reporting and firm performance (Atanda et al., 2014; Loh et al., 2017; Jizi et al., 2021). For instance, Loh et al. (2017) found that economic sustainability reporting has a positive connection with market value, better quality in sustainability reporting, brings about stronger connection, and firms' ventures in sustainability practices increase costs and result in economic consequences (Akinlo & Iredele, 2014). Atanda et al. (2021) state that in Nigeria, deposit money banks' economic sustainability reporting does not improve share value. Jizi et al. (2014) found that economic sustainability reporting led to a reduction in resource consumption and cost effectiveness and, therefore, improved firm value. However, the costs of economic sustainability reporting on the value of an entity based on empirical studies remain competing and fragmented; that is, there are contradictions among the results of previous studies.

Several studies have been conducted on economic sustainability reporting. Most studies focused on corporate economic sustainability reporting and financial performance and did not extend the value relevance of economic sustainability reporting, particularly among the financial services sector, which is an effervescent sector in the Nigerian economy. This study will assist the management, government, policymakers, and interested individuals in making policies directed toward improving the agenda of sustainable development goals. However, whether economic sustainability reporting is value-relevant in the capital market has not yet been addressed in Nigeria.

Contrary to this setting, it is necessary to expand the knowledge of the value relevance of economic sustainability reporting to fill these identified gaps. To bridge this gap, it is paramount to consider the value relevance of corporate economic sustainability reporting. Therefore, this study examines the effect of corporate economic sustainability reporting on the value relevance of quoted financial services firms in Nigeria. This study focused on value relevance and four measures of corporate economic sustainability reporting: market presence, economic performance, indirect market impacts, and procurement practices. This study relied on published annual reports of firms made available on their official websites for the period 2010 to 2020.

In addition to the introductory section, which is section one of this study, there are four further sections; section two provides a detailed explanation of the conceptual, theoretical, and empirical review, along with the gap identified, leading to the development of hypotheses. The third section enumerates the research methodology, which details the sample, empirical methods, and research analyses used in this study, while the fourth section presents the data analysis and discussion of the test results, which comprise a discussion and interpretation of the findings. The fifth section offers concluding remarks, implications, limitations, and recommendations for further study.

2. Literature review and hypothesis development

Value relevance

Almagtome and Abbas (2020) defined value relevance as a direct dimension of information that aids in making decisions, as it reveals the accounting information role of providing investors with essential information for assessment purposes. Value relevance measures the statistical link between the financial statement information reported and the reflection on stock prices (Suadiye 2013). In literature, value relevance connotes the capability of disclosed accounting information in financial statements to explain information that affects value of stock (Francis & Schipper, 1999; Kargın, 2013; Amedu et al., 2019).

The working definition is, value relevance connotes the ability that relevant and reliable financial, and non financial information presented in financial statements reflect market value. Value relevance as a concept is established on relevance and reliability. Relevant information includes both accounting and non-accounting information (Narullia and Subroto, 2017). This study uses market value to measure value relevance. Zraqat, (2019), Olagunju & Ajiboye, (2022) used share price as proxy to measure value relevance. Setiadharma and Machali (2017) state that an entity's value is defined by its stock price.

Economic sustainability reporting

Economic sustainability reporting conveys reporting on the implications of organizations' activities on the economic situations of stakeholders' economic structures at all levels (Elkington 1997; GRI 2013). Economic sustainability reporting relates to the capability of the economy to continue and change into the future to provide for future generations (Spangenberg, 2005; Amedu et al., 2019).

Economic sustainability explains the movement of capital through diverse stakeholders, with the chief economic organizational effects on the entire society (GRI, 2013). In this study, economic sustainability relays the multiplier effect of organizational development on economic improvement and how adequately it adds to support it. In other words, economic sustainability emphasizes the economic value contributed by the organization towards society in a manner that improves it and motivates its competency to support future generations. Economic sustainability reporting is viewed from the perspective of market presence, economic performance, indirect economic impacts, and procurement practices.

Economic performance refers to the direct economic impacts of firms' activities and the economic value added by these activities (SRG, 2011). The International Accounting Standards Board (IASB) (2001) stated that economic performance (EP) reports the direct generated and appropriated economic value (EVG&A) on an accrual basis, including the key components for the global operations of an entity. The generation and appropriation of economic value information provides a rudimentary indication of how an entity produces wealth for stakeholders.

Market presence (MP) indicators provide information on transactions in a specific market. One way that firms invest in their employees is to enhance their economic well-being. MP assists in demonstrating how firms contribute to the economic well-being of their employees in key operational locations (GRI 2013). MP also offers a signal of the affordability of firms' wages and pertinent information to evaluate the impact of wages on the local labor market.

Indirect economic impact (IEI) indicators assess the economic impacts generated as the outcome of an organization's economic actions and dealings. From the perspective of sustainable development, IEI is a paramount component of an organization's economic influence. Indirect impacts are essential roles performed by firms as participants or agents in socioeconomic change, especially in developing countries (GRI, 2011). Indirect impacts are especially important for measuring and reporting construction in regional economies (GRI, 2019).

Procurement practices (PP) under GRI Guidelines, report the share of spending on local suppliers at critical job locations. PP describe actions taken to recognize and amend the organizational procurement practices that cause or add to adverse supply chain impacts, such as how dialogue with suppliers is employed to identify the organization's procurement practices that cause or contribute to negative supply chain impacts, actions taken to amend payment policies and procedures (Amedu et al., 2019). PP describes the rationale and methodology for tracing the source, origin, or manufacturing conditions of purchased raw materials and production inputs (GRI, 2013).

Economic sustainability reporting and value relevance

Recent studies of value relevance in accounting have emphasized the association between corporate sustainability reporting and firm value. Corporate Economic sustainability reporting improves firms' financial stability by satisfying the needs of various stakeholders (Olayinka, 2021). Corporate sustainability reporting increases the market share price of an entity, which commensurate with the efforts to incorporate sustainability disclosure into the policy of the organization. Value relevance indicates the existence of an association between economic sustainability reporting and value relevance (Chikwendu et al., 2020). Aktas et al. (2013) observed that sustainability reporting is a vital procedure for alerting stakeholders if a firm is attaining sustainable development and value for their interests, while Nwaigwe et al. (2022) stated that investors operating in NXG may react unfavorably to greater quality economic sustainability reporting.

Numerous empirical studies of sustainability reporting and firm performance have divergent views. For instance, Ma et al. (2019), Ndukwe and Nwakanma (2017), and Uwalomwa et al., (2018) reported antithetic consonance between economic sustainability reporting and financial performance, while Rahman et al., (2020), Alharbi et al. (2021), and Halimah et al. (2020) established positive connection amid economic reporting, and financial performance. Nguyen (2020) found significant, but inverse association between economic reporting and financial performance. Asuquo et al. (2017), and Ching et al. (2017) stated that economic performance disclosure has no significant influence on return on asset of the selected firms. Empirical review suggests that economic sustainability reporting and value relevance are having mixed findings. Given the effect of economic sustainability reporting on firm's share value, it is uncertain whether corporate sustainability reporting creates or erodes firms value at the capital market.

Agency theory

Agency theory as proffered by Jensen and Meckling (1976), is a theory on how the control of a company is centred on conflict of interest concerning the company's owners (shareholders), it's directors and main provider of debt finance. Individually, the interests and objectives of each group differs. Agency theory describes the conflict between directors and shareholders. Agency theory specifies the association between directors (agents) and shareholders (principals) (Kyere & Ausloos, 2020).

Agency theory looks forward to finding solutions to conflicts of interest between the management of the organization and owners, advocating means of resolving such conflicts. According to agency theory, if costs are minimized, firms can develop value relevance. Agency cost can be regarded as a value loss by owners due to differences in the interests of directors and shareholders (Jensen & Meckling, 1976). Moreover, agency costs are apprehended in the capital market, affecting firms' share prices. Consequently, the share value of a firm improves if the agency cost is appropriately managed. Jensen and Meckling (1976), stated that agency costs are assessed as the summation of monitoring costs, residual costs and bonding costs.

Agency theory assumes that, wherever a well-developed market exists, corporate controls are lacking. Consequently, information asymmetry arises when the management possesses more information concerning the company than shareholders (Lehner & Harrer, 2019; Gavana et al., 2017; Kyere & Ausloos, 2020). Hence, Owners seek a greater level of sustainability reporting practices to safeguard their interests, leading to wealth maximization (Freeman, 1984).

Thus, agency theory is relevant to this study because adequate corporate economic sustainability reporting practices reduce agency problems and the associated costs. Likewise, managers are encouraged to provide more trustworthy information with increased levels of economic sustainability reporting practices, knowing that organizations are constantly seeking additional funds from capital markets at the lowest possible cost. Improving the disclosure of sustainability practices helps to reduce the cost of capital of the entity to obtain funding, which reflects the company's performance and value relevance (García Sánchez et al., 2019).

Hypothesis development

The literature has examined corporate sustainability reporting and the value relevance of listed companies using proxies for their corporate sustainability and value relevance. Rahman et al. (2020) investigated the moderating impact of earnings management in connection with sustainability reporting initiatives and value relevance among Bangladeshi listed firms and found that sustainability has a positive significant effect on equity value. Nguyen (2020) concluded that there is a significant but antithetic relationship between firm value and a firm's GRI-adherent level of sustainability reporting. Yen Sun (2020) investigated whether good corporate sustainability reputation is value relevant among listed firms in Indonesian in 2011 to 2015. The results show that the value relevance of earnings and book value of firms committed to sustainability reporting is higher than that of others without such a reputation. Halimah et al. (2020) conducted a comparative study on sustainability reporting and value relevance between Malaysia and Indonesia stock market and indicated that sustainability reporting is value relevant. Ning et al. (2021) investigated the relationship between online sustainability reporting and firm performance considering text mining. The results indicate a significant positive relationship between online sustainability and firm performance. Alharbi et al. (2021) examined the effects of the sustainability report and investment decision on share price considering Saudi Arabia Stock Markets (SASM). The results reveal a positive and statistically significant connection between sustainability reports and investments in share prices.

The direction of various empirical reviews was structured to explore the effect of corporate economic sustainability reporting on firm performance without focusing on its effect on value relevance, which centers on the market influence of the parameter. The existing studies such as Rahman et al., (2020), Nguyen (2020), Iheduru and Okoro, (2019), Hongming et al., (2020), Ning et al., (2021) have limited their studies on examining the effect of economic sustainability reporting on firms' performance particularly among listed financial services firms in Nigeria.

It was also found from empirical review that, several studies using various context, scopes, theories and methodologies conflicting results were reported. Studies such as (Okoye & Ndum, 2020; Halimah et al., 2020; Setyahuni & Handayani, 2020;

Chikwendu, et al., 2019, among others) reported positive and significant relationship between economic sustainability reporting and firm value while others such as (Govindan et al., 2021; Nguyen, 2020; Atanda et al., 2021) found negative and non-existing relationship. These conflicting findings call for more research to facilitate convergence in comprehending of value relevance of corporate economic sustainability reporting among listed firms in Nigeria. Therefore, based on the above discussion, the formulated hypothesis is:

Ho1: There is no significant effect of economic sustainability reporting on value relevance of financial services listed firms in Nigeria.

3. Research method

This study employed ex post facto research design. Data were obtained from secondary source through published annual reports and sustainability reports of selected firms made available in their official website. The population of this study consisted of 51 listed firms in financial services sector on NGX as at 31st December, 2020. The sample size comprised of 35 financial services firms listed on Nigerian Exchange Group that have consistently submitted their annual reports to the NGX Group. Purposive sampling technique was used.

Previous model used by Ntarmah, et al. (2019) employed to examine the effect of banking system stability on economic sustainability of some selected developing countries. The study measures economic sustainability as the dependent variable and six variables (BSZ, BSR, BLA, NPL, BSC, BCD) to measure banking system stability as the independent variables. The model of their study is stated thus:

$$\mathrm{ANSit} = \beta\mathrm{it} + \beta1(\mathrm{BSZit}) + \beta2(\mathrm{BSR\ it}) + \beta3(\mathrm{BLA\ it}) + \beta4(\mathrm{NPL\ it}) + \beta5(\mathrm{BSC\ it}) + \beta6(\mathrm{BCD\ it}) + \varepsilon\mathrm{it}$$

Where: ANS is Adjusted Net Savings rate, BSZ is banking system z scores, BSR banking system regulatory capital to risk weighted assets, BLA is bank liquid assets to deposits and short-term funding, NPL is nonperforming loans as percent of all bank loans, BSC banking system capital percent of assets, BCD, bank credit as percent of bank deposits.

This study however modified the variables in the model of Ntarmah et al. (2019) to investigate the effect of economic sustainability reporting on value relevance of listed financial services firms.

The functional model used for this study is as stated in econometric form in equation 3.1:

$$\mathrm{MVi,t} = \beta\mathrm{it} + \beta1\mathrm{EPit} + \beta2\mathrm{MPit} + \beta3\mathrm{IEIit} + \beta4\mathrm{PPit} + \mathrm{it}\ \varepsilon\mathrm{it} \ldots\ldots\ldots\ldots\ldots\ldots 3.1$$

Where: MVi,t = Market value; EP = Economic performance; MP = Market presence; IEI = Indirect economic impacts; PP = Procurement practices; εit = error term which represents other parameters not captured in the study; i1, …., 35 = Company script; t2010 2020 = time; β0 = Constant parameter β1 4 = Coefficient for each variable; ε = Error term; a priori expectation: β1 12 > 0

Measurement of the variables employed is as presented in Table 1.

Table 1. Variable measurements.

S/N	Variable	Description	Measurement	Sources
1	Economic performance (EP)	This set of indicator expresses the direct economic consequence of the organization’s activities and the economic value added by these activities	Total EP disclosure score, divided by maximum EP possible for a firm	Asuquo *et al.,* 2018; Amedu *et al.,* 2019; Okoye & Ndum, 2020

2	Market presence (MP)	This measure provides Information regarding interactions in specific markets.	Total (MP) disclosure score, divided by maximum MP possible for a firm.	Uwalomwa *et al* 2018; Emeka Nwokeji & Osisioma, 2019.
3	Indirect economic impacts (IEI)	The indicator measures the economic influence created from the organization's economic activities and transactions.	Total (IEI) disclosure score, divided by maximum IEI possible for a firm.	Okoye & Ndum, 2020.
4	Procurement practices (PP)	Proportion of spending on local suppliers at significant locations of operation	Total PP disclosure score, divided by maximum PP possible for a firm	Okoye & Ndum, 2020; Amedu *et al.*2019
5	Market Value	Market value a proxy of value relevance is the prevailing shares price at the end of the period 31st March.	Market price per share as published by NGX and firms' annual report as at 31st Mar.	Ohlson, 1995; Narullia & Suboroto, 2017.

Source: Authors' compilation (2022)

This study examined the effect of corporate economic sustainability on value relevance of listed financial services firms in Nigeria, and to achieve this objective, the study employed descriptive and Panel Corrected Standard error (PCSE) to analyse collected data. The choice of PCSE was as a result of identified problem of heteroscedasticity.

4. Results and discussion

Descriptive statistics

As showcased in Table 2, the economic sustainability reporting measured by Economic performance (EP), Market presence (MP), Indirect economic impacts (IEI), and Procurement practices (PP) showed that the mean value of EP, MP, IEI, and PP of the selected firms stood at 0.421875, 0.138021, 0.317708, and 0.098958 on average respectively. This indicated that 42% of the selected firms on average disclose information on economic performance, 14% of the selected firms on average disclose information on market presence, 32% of the selected firms on average disclose information on Indirect economic impacts, while only 9% of the selected firms on average disclose information on procurement practices. Succinctly, these results unveil the fact that the firms under examination did not record 100 percent disclosure of economic performance, market presence, indirect economic impact and procurement practice. This suggests a need for improvement in the sustainability disclosure practice.

The standard deviation of MP, PP, and IEI stood at 0.285347, 0.298996 and 0.428244 respectively which is relatively small indicating a slight dispersion of the distribution from the mean and shows that MP, PP, and IEI varies considerably from one firm to another. The standard deviation of EP stood at 0.208540, depicting that the distribution is close from the mean value. The maximum and minimum values stood at 1 and 0 respectively. The Jacque Berra test of normality of economic sustainability reporting measured by economic performance (EP), market presence (MP), indirect economic impacts (IEI), and procurement practices (PP) indicate that there is no normality in the arrangement for the distribution as the p value of the Jacque Berra is less than 5% significant level. This was supported by the result skewness and with kurtosis revealing absence of outliers in the series and the distribution is not normally distributed.

Further, the mean score of market value (MV) measured by share price is 3.523 with the standard deviation of 6.822 suggesting that the share price of the firms differs significantly from one firm to the other. The maximum and minimum values of the quoted firms stood at 48.50000 and 0.000

respectively. The distribution of the dependent variable was also found not normal based on the Jacque Berra probability value that is less than 5% significant level.

Table 2. Descriptive statistics

	MV	MP	PP	IEI	EP
Mean	3.522786	0.138021	0.098958	0.317708	0.421875
Median	0.570000	0.000000	0.000000	0.000000	0.500000
Maximum	48.50000	1.000000	1.000000	1.000000	0.750000
Minimum	0.000000	0.000000	0.000000	0.000000	0.000000
Std. Dev.	6.821640	0.285347	0.298996	0.428244	0.208540
Skewness	3.460663	1.949819	2.686092	0.773568	0.551486
Kurtosis	17.38911	5.668144	8.215090	1.810890	2.806856
Jarque Bera	4079.221	357.2187	896.9203	60.92186	20.06161
Probability	0.000000	0.000000	0.000000	0.000000	0.000044
Sum	1352.750	53.00000	38.00000	122.0000	162.0000
Sum Sq. Dev.	17822.82	31.18490	34.23958	70.23958	16.65625
Observations	384	384	384	384	384

Source: Authors' computation (2022)

Test of variables

Variables' correlation matrix

Table 3 shows the correlation statistics. Correlation coefficient measures the direction and degree of association between two or more variables. The results reveal that MV is positively and significantly correlated with EP, MP, IEI, PP (r = 0.306, 0.579,0.451, 0.339, p=0.00) at 5% and this is a reflection that increase in MV will inform a significant rise in EP, MP, IEI, PP and vice versa. Furthermore, the results reveal that all the variables of economic sustainability are positively and significantly correlated with each other with MP and IEI having the highest correlation (r=0.447, p=0.000).

Table 3. Pearson Correlation Matrix

	MV	EP	MP	IEI	PP
MV	1				
EP	0.0306**	1			
MP	0.579**	0.351**	1		
IEI	0.451**	0.395**	0.447**	1	
PP	0.339**	0.239**	0.268**	0.346**	1

**Correlation is significant at the 0.01 level (2 tailed); * Correlation is significant at the 0.05 level (2 tailed).

Source: Authors' computation (2022)

Table 4. Variables' variance inflation factor test

Variable	Tolerance	VIF
EP	0.700	1.429
MP	0.671	1.491
IEI	0.571	1.750
PP	0.791	1.264

Source: Authors' computation (2022)

Panel unit root test

Having described the nature of our data series, they were analysed for unit root at individual intercept. The purpose for selecting individual intercept is to confirm that the data will be treated with recognition of differences in the cross sections; that is, each firm in the panel is treated as different from other firm instead of pooling them together as was obtainable in the descriptive statistics section above.

The result of the unit root test as contained in Table 5 shows that all the selected data series are stationary at level, first difference and second difference, as the null hypotheses of the unit root test were rejected given that, probability value of each series consistently yield a value less than 5%. Thus, all the variables are free from the unit root tangle; the Augmented Dickey Fuller (ADF) unit root result with intercept only for instance reveals that all the variables are stationary at first difference except for MV which is stationary at level difference. Therefore, we accept that there is no unit root in the data series selected for the study based on the result in table 5 and that the variables are stationary at levels.

Table 5. Panel unit root test (ADF test with intercept only)

Variable	T Stat.	P Value	Order of integration	Decision
MV	148.007	0.0000	I(0)	Stationary
EP	63.9086	0.0000	I(1)	Stationary
MP	25.4745	0.0013	I(1)	Stationary
IEI	36.7816	0.0008	I(1)	Stationary
PP	30.7082	0.0022	I(1)	Stationary

Source: Authors' computation (2022)

Economic sustainability reporting and value relevance

Table 6 shows the regression results of the test on the effect of economic sustainability reporting proxies on value relevance of listed financial services firms in Nigeria. To enhance the reliability of the findings, all appropriate line regression assumption test on variables were performed to make sure that the results represent best linear unbiased estimation and the results were presented alongside the regression for interpretation on Table 6. The Hausman specification test was conducted as suggested in Gujerati, Porter and Gunasekar (2012) in order to compare the fixed and random estimates. With a null hypothesis of random effect model, and an alternative hypothesis of fixed effect model, the test helps to decide the appropriate model to interpret for the study. The fixed effects (FE) results, according to the Hausman test value (p=0.0016), was used as the preferred estimation. The R2 for the regression stood at 0.286 which directs that economic sustainability reporting explains about 29% of systematic variations in value relevance of listed financial services firms in Nigeria (F stat = 18.83; p value = 0.0000) which is significant at 5 percent level. This implies that, the impression that the dependent and independent variables are substantially linear cannot be dismissed, thus the parameters fit the model well.

Table 6. Economic sustainability reporting and value relevance

Variable	Fixed effects model	Random effects model	PCSE model model
C	2.927	1.691	0.822
	(1.079)**	(1.287)	(0.831)
EP	0.759	1.406	2.417
	(2.361)	(2.225)	(0.772)**
MP	0.171	3.566	8.621
	(1.750)	(1.535)*	(2.058)**
IEI	0.571	1.619	4.412
	(1.114)	(1.016)	(1.194)**
PP	3.064	3.403	2.254
	(0.922)**	(0.908)**	(1.275)
R^2	0.2862	0.4866	0.3070
Wald chi^2		27.53{0.0000}	34.64 {0.0000}

F – test	18.83{0.0000}	
Modified Wald heteroscedasticity	2.3ee+07 {0.0000}	
Autocorrelation test	264.904{0.0000}	
Breusch and Pagan Lagrangian		557.28{0.0000}
Hausman: Chi2		17.43{0.0016}

*, ** signify significant at 0.05 and 0.01 level respectively; t stat in parenthesis ( ).
Source: Authors' compilation (2022).

Breusch and Pagan LM test for random effect shows the p value of 0.0000. This indicates that there is presence of heteroscedasticity problem. The diagnostics for the estimation show that the modified Wald heteroscedasticity test have p values of 0.000 which confirms the existence of heteroscedasticity in the model. Also, the autocorrelation in panel data confirms that the null hypothesis of no serial correlation is rejected with p values of 0.0000 which is less than 0.05 signifies that there is auto correlation problem. The regression analysis was subjected to an in-depth test as suggested by Gujerati, Porter and Gunasekar (2012), and Gleißner et al. (2022). Hence, Panel Corrected Standard Error (PCSE) regression was run to cater for heteroscedasticity and autocorrelation problem. This is to guarantee that the coefficients of the parameters are efficient. The PCSE regression coefficient and the probability value is the basis for judgement in interpretation of the results. The joint statistical significance of the model is therefore represented.

Analysis of the Panel Corrected Standard Error (PCSE) regression coefficients reveals that three out of the four parameters examined, that is, Economic Performance (2.417; p=0.002); Market Presence (8.621; p=0.000), Indirect Economic Impact (4.412, p=0.000) have positive and statistically significant influence on share price of listed financial services firms, while procurement practices (2.254; p=0.077) has positive but insignificant effect. However, the overall results show that economic sustainability reporting has significance influence on value relevance. As reported in Table 6, PCSE regression model results showed that the parameters explained 30.70 percent of variation in the firms' share price and the model is significant at 1 percent level. The results suggest that any improvement on the four proxies of economic sustainability reporting will result to significance effect on share price of listed financial services firms in Nigeria, although, not significant for procurement practice.

Discussion

Economic sustainability reporting and value relevance

Table 6 displays regression findings evaluating the influence of economic sustainability reporting proxies on value relevance of listed financial services firms in Nigeria. In general, the study results indicate statistical significant influence of economic sustainability reporting on value relevance of listed financial services firms in Nigeria. That is, all the for proxies of economic sustainability reporting (economic performance, market presence, indirect economic impacts, and procurement practices) positively enhance share price of financial services listed firms, especially from the Nigeria context. Consequently, the null hypothesis that there is no significant effect of economic sustainability reporting on value relevance of listed financial services firms in Nigeria cannot be upheld, and hence, there is significant effect of economic sustainability reporting on value relevance of listed financial services.

The implication is that as global publicly traded financial services firms advance in their economic sustainability reporting, especially as regard economic performance, market presence, indirect economic impacts, and procurement practices, the market values of the firms will appreciate in the capital market. This suggests that economic sustainability reporting has decision usefulness relevance to the market participants, especially the investors, and potential shareholders. It also implies that economic sustainability of financial services firms in the developing economies, particular the parameter investigated in the study, signals to the market participants in order to enhance their trust in the capital market.

The finding supports agency theory that economic sustainability reporting sends signals to the capital market participants to make some reactions capable of influencing share values. Thus, this suggests policy caution to the public quoted firms and policy implication for the capital market regulators. Since there are differences in interests between the management of listed firms and other stakeholders, where the management as an agent will only report and publish what has been required by the regulator (Nurmala, P., & Adiwibowo, A.S., 2024).

This result is consistent with Okoye and Ndum (2020) that revealed that economic sustainability reporting exerts significant and positive effect on economic value added of quoted manufacturing firms in Nigeria. This result is also in tandem with the findings of Amedu, et al., (2019) which revealed that a significant and positive relationship exist between corporate sustainability reporting dimensions and firm performance. The findings also showed that both economic sustainability reporting of listed manufacturing firms was value relevance. Our findings are in contrast with Asuquo et al., (2018) who stated that there is no significance relationship between economic performance disclosures on return on assets of the selected listed breweries firms in Nigeria. Furthermore, Agu and Amedu (2018) results showed that there is an insignificant and negative relationship between economic disclosure index and return on assets.

5. Conclusions

The tenet of the study was to investigate the effect of economic sustainability reporting on value relevance of quoted financial services firms in Nigeria as a way to expand literature on sustainability reporting. Based on the findings, the study concludes that, fostering greater economic sustainability reporting will guarantee value relevance of listed financial services firms in the capital markets, particularly, in the developing economies. This is evident from the results which indicate that economic sustainability reporting has positive and significant effect on share price. That is, enhanced reporting or disclosure of economic performance; market presence; indirect economic impacts; and procurement practices of listed financial services firms do not only improve corporate sustainability, but also value relevant to the stock market participants.

The result has policy implications to the capital market regulators and leadership of the listed firms since sustainability reporting, particularly economic reporting, has decision usefulness relevance to the market participants. Consistent with prior studies, it is also a pointer to priorities and make sustainability reporting mandatory in all capital markets of the globe. We therefore, recommend that the Nigerian quoted entities should intensify the reporting of their economic sustainability activities as these current empirical findings confirmed that economic sustainability reporting improves firms' market value, which serves as an opportunity to impact on the overall value of the firms in the capital market. Listed financial services firms in the world should also enhance their efforts in ensuring improved economic sustainability reporting as enshrined in Global Reporting Initiatives (GRI). However, the study is not exhaustive as it focused on economic aspect of sustainability reporting only and financial service listed firms in Nigeria. Future studies are encouraged to capture other aspects of sustainability reporting and from other capital markets in the emerging sub Saharah region.

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