THE EFFICACY OF CORPORATE BOARDS, THE ETHICAL BEHAVIOR OF FIRMS, AND THE STRENGTH OF AUDITING AND REPORTING STANDARDS: AFRICAN EVIDENCE

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Abstract

This paper examines the relationship between the efficacy of corporate boards and the strength of auditing and reporting standards (SARS) in African countries and tests whether the ethical behavior of firms affects this relationship. The dataset in this study comprises 96 observations spanning the years 2015 to 2017. Data are gathered from the Global Competitiveness reports for the same years. Findings suggest that the efficacy of corporate boards is positively related to the SARS. Similarly, when examining whether the ethical behavior of firms affects this relationship, the association between the efficacy of corporate boards and the SARS is positive and significant for the high ethical behavior sub-sample, while it is insignificant for the low ethical behavior sub-sample. This moderating effect is further confirmed when using an interaction variable between the ethical behavior of firms (dummy variable: 1 if the considered African country has a score of ethical behavior of firms inferior to or equal to the median and 0 otherwise) and the efficacy of corporate boards, as this interaction term has a negative effect on the SARS. The findings contribute to the theoretical advancement of corporate governance research by demonstrating that the efficacy of corporate boards plays a pivotal role in enhancing the SARS in African countries. Furthermore, they underscore the critical moderating influence of business ethics in reinforcing this relationship. The findings offer insights for policymakers and managers, suggesting that fostering ethical behavior in firms is essential to strengthening the impact of effective corporate boards on auditing and reporting quality.

Keywords: Efficacy of Corporate Boards, Ethical Behavior of Firms, SARS, African Countries

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1. INTRODUCTION

The strength of auditing and reporting standards (SARS) represents an important component of corporate governance infrastructure in one country and a cornerstone for an effective governance system at the country level (Boolaky & Cooper, 2015, p. 292). According to Boolaky and O'Leary (2011) and Boolaky (2011), the scores of the SARS vary considerably across nations due to a number of

factors. Accordingly, it becomes critical to identify the determinants of SARS.

Previous studies dealing with the determinants of SARS have examined this research question in Europe (Boolaky, 2011) and Asia (Boolaky & Cooper, 2015). Therefore, this study represents an attempt to fill the gap in this stream of research by examining the predictors of SARS in African countries characterized by low auditing and reporting infrastructure (Khelil et al., 2022; Yeng & Oppong, 2024). However, existing studies do not explicitly examine the role of firms' ethical behavior as a potential moderating factor in the relationship between the efficacy of corporate boards and SARS in African countries. This research gap motivates our study and sets the stage for addressing the following major research questions:

RQ1: Does the efficacy of corporate boards enhance SARS?

RQ2: Is this effect strengthened in countries where firms demonstrate high ethical standards?

The objective of this study is to explore the relationship between the efficacy of corporate boards and SARS, and to test whether the ethical behavior of firms moderates this association. We anticipate that the efficacy of corporate boards is positively associated with SARS, and that this relationship is stronger in countries characterized by high ethical behavior of firms.

Using a sample of 96 observations spanning from 2015 to 2017, findings show that the efficacy of corporate boards is positively related to the SARS. When examining the moderating impact of ethical behavior of firms on the relation between efficacy of corporate boards and the SARS, findings suggest that the positive and significant association between the efficacy of corporate boards and the SARS is positive and significant for the high business ethics sub-sample. By contrast, this association becomes insignificant for African countries characterized by low business ethics.

This paper contributes to the auditing literature in two ways. On the one hand, it complements the previous empirical works dealing with the determinants of SARS in Asia and Europe (Boolaky & Cooper, 2015; Boolaky, 2011) by providing further empirical evidence in African countries. On the other hand, our findings highlight the importance of two corporate governance components (efficacy of corporate boards and business ethics) in improving the SARS in African countries. Accordingly, policymakers in African countries should enact rules that strengthen the monitoring role of the board of directors. Furthermore, business educators have to play an active role in building an ethical workplace culture in Africa, and business schools should put more emphasis on their "academic social responsibility" (Adeleye et al., 2011; Adeleye et al., 2020; Enslin et al., 2023).

The remainder of this study is structured as follows. Section 2 provides a review of the relevant literature and discusses how the efficacy of corporate boards may influence SARS, as well as whether the ethical behavior of firms moderates this association. Section 3 describes the research methodology. Section 4 provides the empirical results of the study. Finally, Section 5 presents concluding remarks for this paper.

2. LITERATURE REVIEW

2.1. Efficacy of corporate boards and the SARS

The efficacy of corporate boards represents a cornerstone for an effective corporate governance system at the country level (Samaha et al., 2015). The efficacy of corporate boards refers to the capability of such a governance mechanism to control management activities and limit discretionary managerial acts (e.g., opportunistic behaviors undertaken by managers). Effective corporate boards may strengthen the roles of internal auditors and audit committees to enhance compliance with reporting and auditing rules in one country (Boolaky, 2011; Cohen et al., 2004; DeZoort et al., 2003). Furthermore, effective corporate boards tend to appoint independent external auditors who are able to discover and report financial irregularities to protect minority investors' interests. This may translate into an effective auditing and reporting environment.

Therefore, when the role and duties of the board of directors are well-specified in one country, this will translate into a good collaboration with other internal and external governance mechanisms (e.g., audit committee, internal and external auditors), leading to a solid auditing and reporting infrastructure.

Previous empirical evidence reported by Boolaky (2011) in Europe and Boolaky and Cooper (2015) in Asia suggests that the efficacy of corporate boards is positively associated with the SARS. Based on the above discussion, the following hypothesis is formulated:

H1: The efficacy of corporate boards is positively and significantly associated with the SARS in African countries.

2.2. The moderating impact of ethical behavior of firms on the relationship between the efficacy of corporate boards and the SARS

Khelil et al. (2022) and Khelil et al. (2023) contend that business ethics form the foundation of any control environment, whether at the firm or country level. Accordingly, the ethical behavior of firms may strengthen the efficacy of corporate boards by enhancing board members' incentives to increase their monitoring activities over top management acts and improve their firm's financial reporting quality, on the one hand.

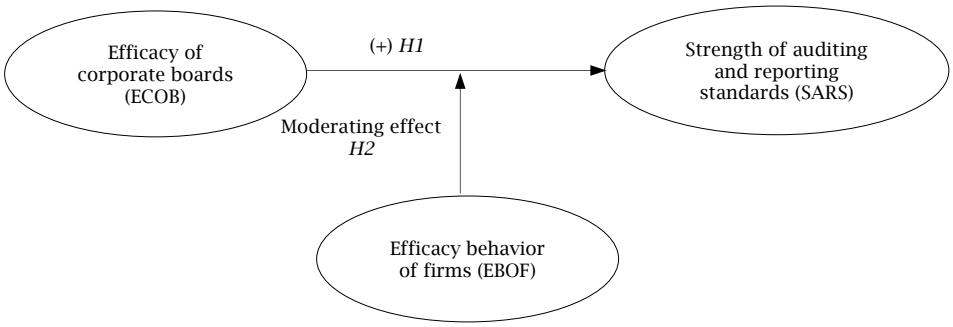
On the other hand, management operating under high ethical standards of firms may have more incentives to appoint the right auditor who enjoys a high level of independence and an independent audit committee (Boolaky, 2011). In this regard, Boolaky and Cooper (2015) suggest that "If a firm is highly ethical, it will be more compliant with standards" (p. 296). Accordingly, it is expected that corporate boards will be more effective in improving the auditing and reporting environment in one country when firms operate with high ethical behavior standards. This is particularly true in African countries characterized by underdeveloped institutions and financial markets, weak legal systems, and finally low levels of "voice and accountability" and poor-quality regulations (Munisi et al., 2014).

Therefore, the following hypothesis is tested:

H2: The positive relation linking the efficacy of corporate boards to SARS is more (less) prevailing in African countries having high (low) ethical behavior of firms.

Figure 1 displays the conceptual framework for the relationships examined in this empirical enquiry.

Figure 1. Conceptual framework



3. RESEARCH METHODOLOGY

The global competitiveness reports are the main sources used to collect data in this empirical investigation. Table 1 provides further details about the definition of all variables included in this study and the sources used to collect them.

Table 1. Data description and sources

Variable	*Description*	*Source*
SARS	In your country, how strong are financial auditing and reporting standards? (1 = extremely weak; 7 = extremely strong)	Schwab (2015, 2016, 2017) (country profiles)
ECOB	The efficacy of corporate boards is a measurement of how, in your country, you would characterize corporate governance by investors and boards of directors (1 = management has little accountability to investors and boards; 7 = management is highly accountable to investors and boards).	Schwab (2015, 2016, 2017) (country profiles)
EBOF	In your country, how do you rate the corporate ethics of companies (ethical behavior in interactions with public officials, politicians, and other firms)? (1 = extremely poor among the worst in the world; 7 = excellent among the best in the world)	Schwab (2015, 2016, 2017) (country profiles)
JUDI	Judicial independence is a measure of how in your country the judiciary independent is from the influences of members of government, citizens, or firms (1 = heavily influenced; 7 = entirely independent).	Schwab (2015, 2016, 2017) (country profiles)
INVPRO	Strength of investor protection is a combination of the extent of disclosure index (transparency of transactions), the extent of director liability index (liability for self-dealing), and the ease of shareholder suit index (shareholders' ability to sue officers and directors for misconduct).	Schwab (2015, 2016, 2017) (country profiles)
LEMF	Financing through the local equity market refers to the ease with which money is raised by issuing shares on the stock market in a country.	Schwab (2015, 2016, 2017) (country profiles)
SER	Securities exchange regulations refer to the assessment of the regulation of securities exchanges in a country.	Schwab (2015, 2016, 2017) (country profiles)
FOREMS	The size of the foreign market is estimated as the natural log of the total value PPP estimates) of exports of goods and services, normalized on a 1–7 scale. PPP estimates of exports are obtained by taking the product of exports as a percentage of GDP and GDP valued at PPP.	Schwab (2015, 2016, 2017) (country profiles)
POFO	Prevalence of foreign ownership refers to the proportion of companies in a country owned by overseas companies.	Schwab (2015, 2016, 2017) (country profiles)
STATRA	Refers to the extent to which companies, in one country, invest in the training and development of their staff.	Schwab (2015, 2016, 2017) (country profiles)

3.1. Sample

The African continent includes 54 and the Global Competitiveness Reports (2015–2016; 2016–2017; 2017–2018) consider only 32 African settings. Accordingly, the final sample in our study covers 32 African countries from 2015 to 2017. The sampling process was limited to this period since the Global Competitiveness Reports for subsequent periods (2018–2019; 2019–2020) did not report scores for the efficacy of corporate boards. It is also worth noting that the SARS variable is no longer reported for the periods after 2020[1]. For these reasons, our final sample includes 96 country-year observations over the period of 2015–2017. Table 2 presents more clarifications about the sample selection process and the list of African settings considered in the final sample.

[1] For more details, the official website of the World Economic Forum can be consulted at the following link: https://www.weforum.org/publications/fostering-effective-energy-transition-2024/country-profiles-8dad724ce3/

Table 2. List of countries included in the analysis

No.	*Country*	*No.*	*Country*	*No.*	*Country*
1	Algeria	12	Kenya	23	Nigeria
2	Benin	13	Lesotho	24	Rwanda
3	Botswana	14	Liberia	25	Senegal
4	Burundi	15	Madagascar	26	Sierra Leone
5	Cap Verde	16	Malawi	27	South Africa
6	Cameroon	17	Mali	28	Tanzania
7	Chad	18	Mauritania	29	Tunisia
8	Egypt	19	Maurituis	30	Uganda
9	Ethiopia	20	Morocco	31	Zambia
10	Gambia	21	Mozambique	32	Zimbabwe
11	Ghana	22	Namibia		

Note: Number of African countries: 54. Number of African countries covered in the Global Competitiveness Reports (2015–2016; 2016–2017; 2017–2018): 32. Final sample: Minimum (54; 32) = 32.

3.2. Dependent variable: The SARS

The SARS score is proxied using a survey among senior managers and business leaders of firms located in 32 African countries. Surveyed senior managers and business leaders have to score the SARS on a scale ranging from "1", indicating the weakest legal enforcement, to "7", indicating the strongest standards enforcement. A weighted average of the scale reported by the respondents in one country is then computed to get the SARS score of this country. The lowest value is obtained for Mauritania with 2.100 in 2017, while the highest value is for South Africa, which accounts for 6.700 in 2016.

3.3. Test variable: The efficacy of corporate boards

The efficacy of corporate boards refers to the characteristics of corporate governance pertaining to boards of directors in one country. The score of the efficacy of corporate boards ranges from "1" extremely poor level of efficacy of corporate boards, to "7", indicating an excellent level of efficacy of corporate boards. The maximum value is obtained for South Africa (6.700) in 2016, and the minimum value is observed for Mauritania (2.200) in 2016.

3.4. The moderating variable: The ethical behavior of firms

The ethical behavior of firms (*EBOF*) has been used in several studies as a moderating variable (Khelil et al., 2023; Chaieb, 2025), supporting its use in the current study to examine the conditional effect of board efficacy on the SARS.

The degree of commitment to business by African firms is proxied by a score that varies from "1" extremely poor level of corporate ethics, to "7", indicating an excellent level of corporate ethics of companies. The minimum value is observed for Mauritania (2.400) in 2015, while the maximum value is observed for Rwanda (5.300) in 2016. The median of ethical behavior of firms in the sample accounts for 3.700%.

3.5. Control variables

Following Boolaky (2011) and Boolaky and Cooper (2015), seven control variables are considered in the model, including judicial independence, the level of investor protection, the local equity market financing, the securities exchange regulations, foreign market size, the prevalence of foreign ownership, and the staff training. First, high judicial independence in one country may lead to a solid auditing and reporting infrastructure (Boolaky & Cooper, 2015). Second, the level of investor protection is one of the important determinants of SARS (Boolaky & O'Leary, 2011). Third, the strength of the equity markets (e.g., local equity market financing and securities exchange regulations) may incentivize regulators in one country to establish solid auditing and reporting standards (Nobes, 1998). Fourth, the size of the foreign market of a country may impact the SARS since foreign trading partners may exert pressure on that country to meet their reporting requirements. Furthermore, the prevalence of foreign ownership can also be an important determinant of SARS in a country since foreign ownership may exert pressures on country regulators to improve auditing and reporting standards to meet their expectations (Boolaky & Cooper, 2015). Finally, the staff training also represents an important factor that leads to high SARS in one country (Reynolds & Francis, 2000).

3.6. Model specification

To test the empirical validity of *H1*, the following regression model is performed:

$$SARS_{it} = \alpha_0 + \alpha_1 ECOB_{it} + \alpha_2 EBOF_{it} + \alpha_3 JUDI_{it} + \alpha_4 INVPRO_{it} + \alpha_5 LEMF_{it} + \alpha_6 SER_{it} + \alpha_7 FOREMS_{it} + \alpha_8 POFO_{it} + \alpha_9 STATRA_{it} + \varepsilon_{it} \quad (1)$$

where:

- Dependent variable: *SARS* = the strength of auditing and reporting standards for country *i*;
- Test variable: *ECOB* = the efficacy of corporate boards for country *i*;
- Moderating variable: *EBOF* = ethical behavior of firms for country *i*;
- Control variables: *JUDI* = judicial independence for country *i*; *INVPRO* = investor protection for country *i*; *LEMF* = local equity market financing for country *i*; *SER* = securities exchange regulations for country *i*; *FOREMS* = foreign market size for country *i*; *POFO* = prevalence of foreign ownership for country *i*; *STATRA* = staff training for country *i*.

3.7. Moderating impact of business ethics on the association between the efficacy of corporate boards and the SARS

To examine the moderating impact of business ethics on the relationship between the efficacy of corporate boards and the SARS, a sub-sample analysis technique is used by distinguishing between African countries having low ethical behavior of firms (inferior or equal to the median of EBOF) and those characterized by high ethical behavior of firms (above the median). The inclusion of business ethics as a moderating variable is crucial because it clarifies under what conditions board efficacy has a stronger or weaker impact on SARS.

Under *H2*, the positive association between the efficacy of corporate boards and the SARS remains stable only for African settings where companies are strongly committed to business ethics. To test *H2*, Model 2 is performed:

$$SARS_{it} = \alpha_0 + \alpha_1 ECOB_{it} + \alpha_2 JUDI_{it} + \alpha_3 INVPRO_{it} + \alpha_4 LEMF_{it} + \alpha_5 SER_{it} + \alpha_6 FOREMS_{it} + \alpha_7 POFO_{it} + \alpha_8 STATRA_{it} + \varepsilon_{it} \quad (2)$$

A supplementary test for the moderating impact of the ethical behavior of firms on the association between the efficacy of corporate boards and the SARS consists of using an interaction term (the efficacy of corporate boards * the dummy EBOF variable: 1 if the ethical behavior of firms is inferior to or equal to the median (the median of ethical behavior of firms accounts for 3.700 in our sample) and 0 otherwise). Such an interaction variable will equal the efficacy of the corporate board score if the country of interest has a low EBOF and 0 otherwise. To be in line with the predictions of *H2*, the association between the interaction variable (*EBOFD * ECOB*) and the SARS should either be insignificant or negative (Model 3):

$$SARS_{it} = \alpha_0 + \alpha_1 ECOB_{it} + \alpha_2 EBOF_{it} + \alpha_3 (ECOB * EBOFD) + \alpha_4 JUDI_{it} + \alpha_5 INVPRO_{it} + \alpha_6 LEMF_{it} + \alpha_7 SER_{it} + \alpha_8 FOREMS_{it} + \alpha_9 POFO_{it} + \alpha_{10} STATRA_{it} + \varepsilon_{it} \quad (3)$$

where, *EBOFD* = a dummy variable that equals 1 if *EBOF* is inferior to or equal to the median and 0 otherwise.

4. EMPIRICAL FINDINGS

4.1. Descriptive statistics

Table 3 presents descriptive statistics for all variables considered in the current study. The mean of the SARS accounts for 4.123 and varies from 2.100 to 6.700. The efficacy of corporate boards has an average of 4.523 and varies from 2.200 to 6.300. Ethical behavior of firms has an average score of 3.678 and ranges from 2.400 to 5.300. Judicial independence has a mean of 3.726 and varies from 1.600 to 5.800. Table 3 displays further details about descriptive statistics concerning the remaining control variables.

Table 3. Descriptive statistics

Variable	*Observations*	*Mean*	*Standard deviation*	*Minimum*	*Maximum*
SARS	96	4.123	0.762	2.100	6.700
ECOB	96	4.523	0.690	2.200	6.300
EBOF	96	3.687	0.539	2.400	5.300
JUDI	96	3.726	0.901	1.600	5.800
INVPRO	96	4.770	0.932	2.800	7.200
LEMF	96	3.327	0.718	1.800	5.900
SER	96	3.863	0.800	1.900	6.200
FOREMS	96	3.643	0.871	1.700	5.300
POFO	96	4.305	0.723	2.700	5.700
STATRA	96	3.644	0.503	2.200	5.000

Note: SARS: The strength of auditing and reporting standards in one country; ECOB: Efficacy of corporate boards; EBOF: Ethical behavior of firms; JUDI: Judicial independence; INVPRO: Investor protection; LEMF: Local equity market financing; SER: Securities Exchange regulations; FOREMS: Foreign market size; POFO: Prevalence of foreign ownership; STATRA: Staff training.

4.2. Univariate analysis

Univariate analysis is reported in Table 4. Results suggest that there is a significant positive empirical linkage between the efficacy of corporate boards and the SARS, with a Pearson correlation coefficient amounting to 0.803. Furthermore, the ethical behavior of firms is positively and significantly correlated with the SARS in African countries, with a Pearson correlation coefficient amounting to 0.648. For the remaining control variables, judicial independence, investor protection, local equity market financing, securities exchange regulations, foreign market size, prevalence of foreign ownership, and staff training are all positively and significantly correlated with the SARS.

Table 4. Correlation matrix

Variable	*SARS*	*ECOB*	*EBOF*	*JUDI*	*INVPRO*	*LEMF*	*SER*	*FOREMS*	*POFO*	*STATRA*
SARS	1.000									
ECOB	0.803***	1.000								
EBOF	0.648***	0.586***	1.000							
JUDI	0.662***	0.485***	0.848***	1.000						
INVPRO	0.611***	0.499***	0.254*	0.341**	1.000					
LEMF	0.759***	0.670***	0.560***	0.716***	0.507***	1.000				
SER	0.842***	0.734***	0.629***	0.692***	0.432**	0.833***	1.000			
FOREMS	0.290**	0.114*	0.058	0.267**	0.414**	0.566**	0.404**	1.000		
POFO	0.615***	0.722***	0.544***	0.508***	0.407**	0.540**	0.685***	0.129*	1.000	
STATRA	0.762***	0.768***	0.677***	0.663***	0.499***	0.688***	0.668***	0.133*	0.710***	1.000

Note: SARS: The strength of auditing and reporting standards in one country; ECOB: Efficacy of corporate boards; EBOF: Ethical behavior of firms; JUDI: Judicial independence; INVPRO: Investor protection; LEMF: Local equity market financing; SER: Securities Exchange regulations; FOREMS: Foreign market size; POFO: Prevalence of foreign ownership; STATRA: Staff training.
** Significant at 10%; ** significant at 5%; *** significant at 1%.*

4.3. Multivariate analyses

Table 5 presents the findings of multivariate analyses. Model 1 shows that the efficacy of the corporate board is positively and significantly related to the SARS (coefficient = 0.347; t-statistic = 3.340). This result provides support for *H1* and suggests that the efficacy of corporate boards has a significant positive impact on the SARS in African settings. Our findings are in line with previous results reported by Boolaky and O'Leary (2011), Boolaky (2011), and Boolaky and Cooper (2015). These findings confirm the fact that when the role and duties of the board of directors are well-regulated in one African country, this will lead to an improved auditing and reporting infrastructure.

By contrast, the ethical behavior of firms is not significantly associated with the SARS. For control variables, investor protection, securities exchange regulations, and prevalence of foreign ownership are positively and significantly associated with SARS in Africa, while judicial independence, local equity market financing, foreign market size, and staff training are insignificantly associated with SARS.

To examine whether business ethics, as proxied by the ethical behavior of firms, moderate the association between the efficacy of corporate boards and the SARS (*H2*), the initial sample is divided into two sub-samples (high versus low ethical behavior of firms) based on the median of business ethics. The empirical results suggest that the significant positive relation between the efficacy of corporate boards and the SARS observed in model 1 remains significant only for countries characterized by high ethical behavior of firms (coefficient = 0.524; t-statistic = 3.120), while it becomes insignificant for settings characterized by low ethical behavior of firms (coefficient = 0.195; t-statistic = 1.650). Therefore, *H2* is also supported. It should be noted that the coefficient has moved from 0.347 in Model 1 (overall sample) to 0.524 in Model 2 (African countries with high ethical behavior of firms), suggesting that the positive association between the efficacy of corporate boards and the SARS becomes stronger for settings characterized by high commitments to business ethics. These findings also imply that the efficacy of corporate boards does not lead to an improvement in the SARS in African countries if there is no real commitment of firms' management to business ethics.

An additional test to examine the moderating effect of ethical behavior of firms is conducted using an interaction variable between the efficacy of corporate boards and the ethical behavior of firms dummy variable. This interaction variable will take the value of the efficacy of corporate boards if the country of interest is characterized by low ethical behavior of firms, and 0 otherwise. In Model 3, the interaction variable (*EBOFD * ECOB*) is negatively and significantly related to SARS (coefficient = -0.039; t-statistic = -1.790), suggesting that the efficacy of corporate boards has an adverse effect on the SARS for African countries characterized by low ethical behavior of firms.

It is worth noting that Models 1, 2, and 3 do not suffer from a multicollinearity problem since the highest variance inflation factors (VIF) reported amount to 7.580, 8.140, and 7.640, respectively (inferior to 10).

To sum up, the reported empirical results suggest that the efficacy of the corporate board plays an important role in improving the SARS in African countries. More importantly, our results suggest that the establishment of a solid auditing and reporting infrastructure can only be reached if business ethics surround well-regulated board roles and duties.

Table 5. Multivariate regression analysis

Variable	Model 1		Model 2				Model 3	
			High EBOF		Low EBOF			
	Coefficient	t-statistic	Coefficient	t-statistic	Coefficient	t-statistic	Coefficient	t-statistic
Intercept	-0.091	-0.260	-0.576	-0.720	0.005	0.010	0.292	0.720
ECOB	0.347	3.340***	0.524	3.120***	0.195	1.650	0.425	3.810***
EBOF	-0.016	-0.120					-0.144	-0.940
*ECOB * EBOFD*							-0.039	-1.790*
JUDI	0.113	1.220	0.243	1.670	-0.026	-0.260	0.113	1.230
INVPRO	0.197	4.540***	0.072	0.680	0.211	3.610***	0.189	4.380***
LEMF	-0.096	-0.860	-0.115	-0.070	-0.392	-2.170**	-0.156	-1.350
SER	0.546	6.260***	0.414	3.660***	0.910	4.870***	0.560	6.480***
FOREMS	-0.048	-0.910	0.033	0.300	-0.090	-1.470	-0.029	-0.550
POFO	-0.218	-3.120***	-0.152	-0.920	-0.288	-3.230***	-0.241	-3.440***
STATRA	0.209	1.630	0.066	0.350	0.480	2.830***	0.225	1.770*
2016	-0.139	-1.780*	0.091	0.770	-0.206	-2.090**	-0.150	-1.940*
2017	-0.173	-2.150**	-0.088	-0.700	-0.179	-1.900*	-0.184	-2.320**
F (p-value)	49.410***	(0.000)	20.25***	(0.000)	24.17***	(0.000)	46.75***	(0.000)
Adj. R2	84.800		81.600		80.800		85.200	
Max VIF	7.580		5.320		8.14		7.640	
Number of observations	96		40		56		96	

*Note: Dependent variable: SARS (The strength of auditing and reporting standards in one country); ECOB: Efficacy of corporate boards; EBOF: Ethical behavior of firms; JUDI: Judicial independence; INVPRO: Investor protection; LEMF: Local equity market financing; SER: Securities Exchange regulations; FOREMS: Foreign market size; POFO: Prevalence of foreign ownership; STATRA: Staff training. * Significant at 10%; ** significant at 5%; *** significant at 1%.*

4.4. Alternative regressions for Model 2

Since Model 2 excludes the variable dealing with the ethical behavior of firms, further tests are conducted for this model by including this variable to check whether the association remains stable for low and high-ethical behavior firms' sub-samples. The reported empirical results provide evidence that the significant positive relationship between the efficacy of corporate boards and the SARS observed in Model 1 remains significant only for countries characterized by high ethical behavior of firms (coefficient = 0.651; t-statistic = 3.450), while it becomes insignificant for settings characterized by low ethical behavior of firms (coefficient = 0.146; t-statistic = 1.070). These findings further corroborate *H2,* confirming the importance of business ethics when examining the impact of the efficacy of corporate boards on the auditing and reporting environment in African countries. Table 6 presents the results of these alternative regressions.

Table 6. Alternative regressions for Model 2

Variable	Model 2 High EBOF including EBOF		Model 2 Low EBOF including EBOF	
	Coefficient	t-statistic	Coefficient	t-statistic
Intercept	0.531	0.590	-0.251	-0.450
ECOB	0.651	3.450***	0.146	1.070
EBOF	-0.406	-1.640	0.146	0.700
JUDI	0.357	2.270**	-0.075	-0.610
INVPRO	0.088	1.010	0.224	3.640***
LEMF	-0.146	-0.870	-0.363	-1.950**
SER	0.468	4.000***	0.901	4.790***
FOREMS	0.033	0.300	-0.099	-1.580
POFO	-0.252	-1.440	-0.284	-3.160***
STATRA	0.066	0.350	0.483	2.830**
2016	0.105	0.880	-0.177	-1.660
2017	-0.130	-1.030	-0.154	-1.530
F (p-value)	19.45***	(0.000)	21.77***	(0.000)
Adj R2	82.5		80.6	
Max VIF	5.32		8.14	
Number of observations	40		56	

*Note: SARS: The strength of auditing and reporting standards in one country); ECOB: Efficacy of corporate boards; EBOF: Ethical behavior of firms; JUDI: Judicial independence; INVPRO: Investor protection; LEMF: Local equity market financing; SER: Securities Exchange regulations; FOREMS: Foreign market size; POFO: Prevalence of foreign ownership; STATRA: Staff training. * Significant at 10%; ** significant at 5%; *** significant at 1%.*

5. CONCLUSION

The objective of this empirical investigation is to examine the empirical linkage between the efficacy of corporate boards and SARS and test the moderating impact of ethical behavior of firms on this relationship for African countries. Empirical results show that there is a positive and significant relationship between the efficacy of corporate boards and SARS. Furthermore, this positive and significant relationship is more pronounced for African countries characterized by high ethical behavior of firms.

These results imply that African countries characterized by effective corporate boards have strong auditing and reporting infrastructure. It should be noted here that the ethical behavior of firms represents a cornerstone to preserve the positive effect of the efficacy of corporate boards on the SARS.

For African policymakers and regulators, these findings emphasize the importance of the implementation of ethical standards by

consolidating ethical training of top management and board members, promoting transparency with respect to resource allocation, and enforcing stricter sanctions on corruption. Moreover, the efficacy of corporate boards and business ethics may represent two key indicators for foreign investors to assess the quality of auditing and reporting infrastructure in African countries when choosing where to locate their investments. Finally, this paper contributes to the literature on SARS in Africa as an under-researched region.

This paper has some limitations. First, the use of survey data for all variables considered may increase the risk of measurement errors (Richardson, 2006). Nevertheless, the Global Competitiveness reports represent trustworthy sources to gather information (Khelil et al., 2022). Second, our sample does not include all African countries due to data unavailability, and this may limit to possibility to extend the reported findings to other African economies. Nonetheless, most African countries share the same institutional characteristics (Khelil et al., 2022). Therefore, our results can be generalized to other African countries excluded from the sample.

Future empirical studies may extend this stream of research in an African setting by exploring the effect of the efficacy of corporate boards on foreign direct investments and testing whether the ethical behavior of firms may moderate this relationship.

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