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Corporate Cross-Ownership and Sustainable Performance: The Role of Industrial Ownership in Driving ESG Performance and its pillars among Listed North African Companies

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Abstract

This study examines the impact of industrial ownership concentration on Environmental, Social, and Governance (ESG) performance in listed firms from Morocco, Egypt, and Tunisia over the period 2019–2024. While prior research has extensively explored institutional and family ownership, the role of industrial shareholders—firms operating within the same or related industries—remains underexplored, particularly in emerging markets. Drawing on agency theory and the monitoring versus entrenchment debate, this study investigates whether industrial ownership enhances sustainability performance or reinforces control concentration at the expense of broader stakeholder interests. Using panel data regression models on 486 firm-year observations, the findings reveal that industrial ownership negatively affects overall ESG performance. However, a more nuanced analysis shows a positive and significant effect on environmental performance, a weakly positive effect on social performance, and no significant impact on governance performance. These results suggest that industrial shareholders primarily influence operational sustainability dimensions while their effect on governance structures remains limited. The study contributes to the ownership–ESG literature by providing novel evidence from North Africa and highlighting the context-dependent role of industrial ownership in emerging economies.

I. Introduction

Ownership structure is a key mechanism of corporate governance and a major determinant of firm strategy and performance. According to agency theory, concentrated shareholders may reduce managerial opportunism and agency costs through stronger monitoring mechanisms [1] [2], but they may also generate entrenchment effects by pursuing private benefits at the expense of minority investors [3] [4]. While prior studies have widely examined institutional, family, and state ownership, the role of industrial ownership—defined as equity participation by firms operating in related industries—remains underexplored, particularly in emerging markets. At the same time, Environmental, Social, and Governance (ESG) performance has become a central concern for firms and stakeholders, as sustainable practices contribute to long-term value creation and competitive advantage [5] [6], and engaged shareholders may enhance ESG integration [7] [8] . However, the impact of industrial ownership on ESG performance remains theoretically ambiguous, as it may either enhance sustainability through monitoring or weaken governance through control concentration, especially in weak institutional contexts [9]. Given the limited empirical evidence in North Africa, particularly in Morocco, Egypt, and Tunisia, this study investigates whether industrial ownership promotes or hinders ESG performance and whether its effects differ across ESG dimensions and institutional environments.

Ownership structure represents a fundamental determinant of firms' strategic decisions and overall performance [10]. Among the various forms of ownership, industrial ownership, defined as the holding of significant equity stakes by firms operating in the same or related industries, influences not only financial outcomes but also non-financial dimensions of performance, particularly ESG criteria [11].

In developed markets, a substantial body of research suggests that the presence of industrial shareholders can strengthen internal monitoring mechanisms and reduce agency costs, thereby fostering long-term sustainability-oriented strategic decisions [2] [11]. Due to their operational expertise and typically longer investment horizons compared to dispersed shareholders, industrial investors may promote sustainable initiatives by integrating environmentally responsible practices, proactive social policies, and stronger governance mechanisms [8] [7] .

However, the literature also highlights ambivalent effects. In certain configurations, high ownership concentration may lead to entrenchment effects, whereby dominant industrial shareholders prioritize the preservation of their control position over the adoption of demanding ESG practices, particularly when such practices involve substantial short-term costs [1] [12]. This ambivalence is especially pronounced in emerging markets, where institutional frameworks often provide limited protection for minority shareholders, increasing the likelihood that industrial ownership serves private interests rather than broader sustainability objectives [13].

Several recent studies report a positive relationship between strategic ownership and higher ESG scores. For instance, [10], in an international cross-sectoral study, show that firms with significant industrial shareholders exhibit superior overall ESG performance compared to their peers, even after controlling for financial variables. This effect is attributed to enhanced strategic oversight and greater attention to reputational concerns and long-term value preservation.

These findings are consistent with the sustainable governance literature emphasizing the importance of active and engaged ownership in fostering ESG integration within managerial decision-making processes [6]. Conversely, other studies suggest that excessive industrial ownership concentration may hinder ESG performance—particularly in the environmental and social dimensions—if shareholders prioritize short-term financial returns over costly ESG investments [1] [14].

H1: *Industrial ownership concentration is positively associated with the overall ESG performance of listed companies.*

Environmental performance reflects a firm's ability to effectively manage its environmental impact through emissions reduction, energy efficiency, and the adoption of green technologies [15]. Strategic industrial shareholders, due to their operational expertise, may encourage advanced environmental practices when such initiatives enhance efficiency or long-term reputation [16]. For example, the implementation of carbon management strategies or circular economy practices often requires close coordination between management and industrial shareholders to mobilize long-term investments and strategic commitments.

Conversely, in weak institutional environments, industrial shareholders may underinvest in environmental initiatives if the financial returns are neither immediate nor directly measurable, potentially limiting environmental ambition [17].

H1a: *Industrial ownership concentration is positively associated with environmental performance.*

The social dimension encompasses a firm's relationships with internal stakeholders (employees, unions) and external stakeholders (customers, communities) [18], Industrial shareholders, given their sector-specific knowledge and networks, may influence human resource policies, workplace safety standards, and broader societal initiatives. [7] find that engaged and long-term investors are associated with stronger social performance, particularly regarding diversity, labor conditions, and stakeholder integration.

However, in contexts characterized by weak institutional enforcement, high ownership concentration may promote cost-minimization strategies at the expense of stakeholder welfare, thereby weakening social performance [19].

H1b: *Industrial ownership concentration is positively associated with social performance.*

The governance dimension refers to internal control mechanisms, transparency, board independence, and the protection of shareholder rights [20]. Industrial shareholders, through their active involvement and board representation, may strengthen governance mechanisms, reduce agency conflicts, and improve corporate transparency [21] [22] .

Nevertheless, when industrial ownership becomes dominant and confers significant blocking power, it may undermine board independence and marginalize minority shareholders, potentially weakening certain governance practices [1].

H1c*. Industrial ownership concentration is positively associated with governance performance.*

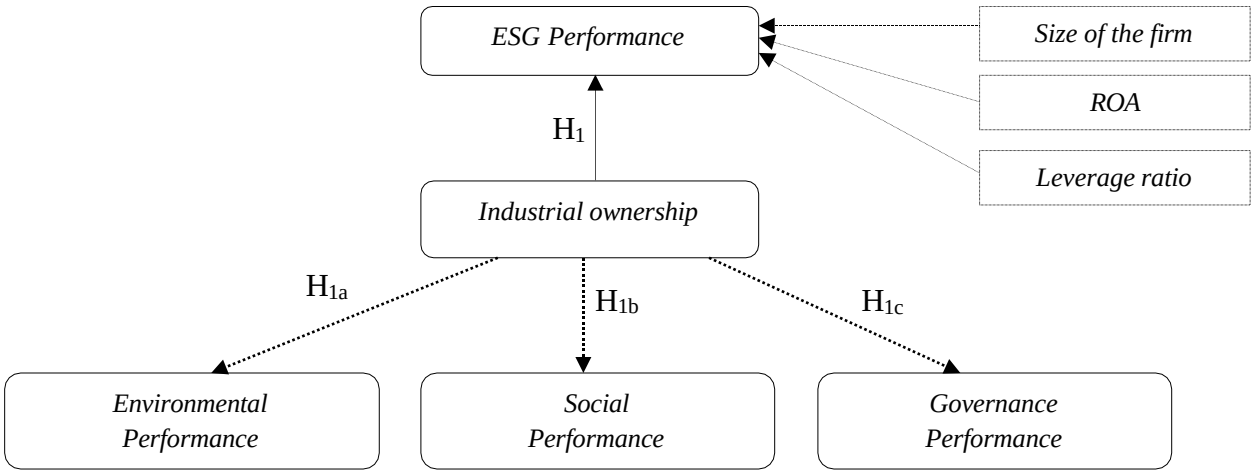

Figure 1: Theoretical framework

II. Methods

a. Data Description

The dataset for this study covers 85 listed companies from North Africa—comprising 41 firms from Morocco, 37 from Egypt, and 7 from Tunisia—over the period 2019–2024. Industrial ownership data were collected from the official financial reports of the companies, available on their corporate websites and regulatory filings. This information captures the proportion of shares held by firms operating in the same or related industries, allowing for the measurement of industrial ownership concentration. ESG performance and its individual pillars—Environmental (E), Social (S), and Governance (G)—were obtained from LSEG ESG Scores, a widely recognized and standardized database provided by the London Stock Exchange Group.

Other North African countries were excluded from the sample due to limited availability or inconsistency of financial and ESG data for listed companies during the study period. Focusing on Morocco, Egypt, and Tunisia ensures data reliability, comparability, and robustness of the empirical analysis across firms and countries, while still providing sufficient variation in ownership structures and ESG performance for meaningful inference.

b. Variables

The dependent variables in this study are the overall ESG performance and its three pillars: Environmental (E), Social (S), and Governance (G). ESG performance captures the firm's sustainability practices and its ability to manage environmental, social, and governance-related risks [2] [11]. The ESG scores and the pillar-specific scores are sourced from LSEG ESG Scores, a widely recognized and standardized database for cross-country comparison [10].
The main independent variable is industrial ownership concentration, measured as the percentage of shares held by firms operating in the same or related sectors. Industrial ownership is considered a strategic form of ownership that can influence firm decision-making and ESG performance by enhancing monitoring, reducing agency costs, and promoting long-term sustainability-oriented strategies [2]
[8] [7].

To isolate the effect of industrial ownership, the study includes several control variables commonly used in corporate governance and ESG studies:

- Return on Assets (ROA): Measures firm profitability and efficiency
- Firm Size (SIZE): Total assets of the firm, as larger firms may have more resources to invest in ESG practices
- Leverage (Lev): Total debt to total assets ratio, controlling for financial constraints that might affect ESG investments

Table 1: Variables and Definitions

Variable	***Symbol***	***Definition***
ESG Performance	ESG	Composite ESG score reflecting overall sustainability performance
Environmental Performance	E	Score measuring environmental practices, resource efficiency, emissions management
Social Performance	S	Score measuring stakeholder relations, labor practices, and community engagement
Governance Performance	G	Score measuring board independence, transparency, and shareholder rights protection
Industrial Ownership	INDOWN	Percentage of shares held by industrial investors
Return on Assets	ROA	Net income divided by total assets, indicating firm profitability
Firm Size	SIZE	Natural logarithm of total assets, controlling for resource availability
Leverage	ENDET	Total debt divided by total assets, controlling for financial constraints

c. Models

To examine the impact of industrial ownership on corporate sustainability performance, this study employs Ordinary Least Squares (OLS) regression models. OLS estimation is appropriate given the continuous nature of the dependent variables and allows us to assess the linear relationship between ownership structure and ESG performance while controlling for firm-specific characteristics.

The first model evaluates the effect of industrial ownership on the overall ESG score:

$$ESG_{it}=\beta_0+\beta_1 INDOWN_{it}+\beta_2 SIZE_{it}+\beta_3 ROA_{it}+\beta_4 LEV_{it}+\varepsilon_{it}$$

- ESG_{it} represents the overall ESG score of firm *i* at time *t*
- $INDOWN_{it}$ denotes industrial ownership
- $SIZE_{it}$ is firm size (measured as the natural logarithm of total assets)
- ROA_{it} represents profitability (return on assets)
- LEV_{it} is for the financial leverage
- ε_{it} is the error term

To explore whether industrial ownership affects specific dimensions of sustainability differently, three additional regressions are estimated by replacing the dependent variable with each ESG pillar:

$$(1)\quad E_{it}=\beta_0+\beta_1 INDOWN_{it}+\beta_2 SIZE_{it}+\beta_3 ROA_{it}+\beta_4 LEV_{it}+\varepsilon_{it}$$

$$(2)\quad S_{it}=\beta_0+\beta_1 INDOWN_{it}+\beta_2 SIZE_{it}+\beta_3 ROA_{it}+\beta_4 LEV_{it}+\varepsilon_{it}$$

$$(3)\quad G_{it}=\beta_0+\beta_1 INDOWN_{it}+\beta_2 SIZE_{it}+\beta_3 ROA_{it}+\beta_4 LEV_{it}+\varepsilon_{it}$$

All models are estimated using pooled OLS. Robust standard errors are applied to control for potential heteroskedasticity. Multicollinearity diagnostics are conducted using Variance Inflation Factors, and the results indicate that VIF values remain well below the conventional threshold of 10, suggesting that multicollinearity is not a concern.

Additionally, country-level regressions are performed to capture institutional heterogeneity across Morocco, Egypt, and Tunisia.

III. Results and discussion

a. Descriptive Statistics and correlations metrics

Table 2 presents the descriptive statistics for ESG performance and firm characteristics across Morocco, Egypt, and Tunisia, based on 486 firm-year observations. The average ESG score for the full sample is 38.92, indicating a moderate level of sustainability engagement among North African listed firms. At the country level, Tunisia reports the highest mean ESG score (41.57), closely followed by Morocco (41.03), while Egypt exhibits the lowest average (35.74), suggesting relatively weaker ESG integration. Regarding the ESG pillars, environmental performance remains comparatively low across the region (mean = 28.67), with Tunisia (35.57) and Morocco (32.70) outperforming Egypt (22.19). Social performance shows higher averages (mean = 38.39), again led by Tunisia (44.71) and Morocco (42.24), whereas Egypt records lower values (32.28). Governance scores are the strongest dimension overall (mean = 47.48), particularly in Morocco (48.98) and Egypt (46.84), while Tunisia displays comparatively lower governance performance (41.71). The relatively high standard deviations (overall ESG SD = 19.60) indicate substantial heterogeneity in ESG practices across firms and countries, reflecting uneven adoption of sustainability standards in the region. Skewness and kurtosis statistics remain within acceptable ranges, suggesting no severe departures from normality. Overall, the results highlight significant cross-country disparities in ESG engagement, with Morocco and Tunisia demonstrating comparatively stronger sustainability performance than Egypt, particularly in environmental and social dimensions.

Table 2: descriptive statistics of ESG performance and its pilars in north Africa

		Obs	*ESG_SCORE*	*E*	*S*	*G*	*INDOWN*	*SIZE*	*ROA*	*LEV*
Mean	Morocco	246	41,03	32,70	42,24	48,98	,2823	10,27	,0641	,3866
	Egypt	198	35,742	22,19	32,28	46,84	,1590	9,35	,0462	,5582
	Tunisia	42	41,5714	35,57	44,71	41,71	,329	9,24	,0305	,3876
	Total	486	38,9228	28,67	38,39	47,48	0,23	9,81	,053	0,45
Std.Dev	Morocco	246	16,481	16,11	21,006	20,03	,29664	1,282	,157	,2658
	Egypt	198	22,547	21,694	23,149	25,813	,1914	1,211	,067	,289
	Tunisia	42	19,94	29,57	28,80	13,426	,187	,596	,028	,196
	Total	486	19,60	20,63	23,17	22,19	,25	1,29	,12	,28
Kurtoisis	Morocco	246	-,681	-1,183	-1,146	-,709	-1,242	,089	15,86	,874
	Egypt	198	-,626	-,338	,013	-1,184	1,372	-,896	2,331	-,791
	Tunisia	42	-,766	-1,533	-1,434	-,522	,153	-1,685	-,232	-1,293
	Total	486	-,602	-,753	-,858	-,835	-,503	-,460	25,15	-,362
Skewness	Morocco	246	,221	,194	-006	,045	,561	-,277	1,586	,824
	Egypt	198	,531	,911	,691	,069	1,415	,208	,282	-,084
	Tunisia	42	,174	,348	-,085	-0,085	,592	-,169	,55	,247
	Total	486	,29	,48	,25	,07	,88	,06	1,98	,42

Min	Morocco	246	11,59	6,7	4,91	5,75	,00	6,57	-,85	,00
	Egypt	198	1,00	,00	,43	1,19	,00	7,05	-,19	,02
	Tunisia	42	5,68	,00	2,18	10,05	,05	8,43	-,03	,13
	Total	486	1,00	,00	0,43	1,19	,00	6,57	-,85	,00
Max	Morocco	246	79,35	65,29	81,61	94,74	,86	13,79	,90	1,59
	Egypt	198	89,00	76,15	92,36	97,00	,74	12,08	,30	1,47
	Tunisia	42	80,08	86,49	88,62	66,2	,7	10,01	,10	,79
	Total	486	89,00	86,49	92,36	97	0,86	13,79	,90	1,59

Table 3 reports the Pearson correlation matrix for ESG performance, its three pillars (E, S, G), and firm-level control variables. The overall ESG score is strongly and positively correlated with its three components: Environmental ($r = 0.805$, $p < 0.01$), Social ($r = 0.873$, $p < 0.01$), and Governance ($r = 0.743$, $p < 0.01$), confirming the internal consistency of the ESG composite index. Among the pillars, Environmental and Social dimensions exhibit a strong positive association ($r = 0.741$, $p < 0.01$), while Governance is moderately correlated with both Environmental ($r = 0.563$, $p < 0.01$) and Social ($r = 0.595$, $p < 0.01$) dimensions.

Regarding ownership structure, industrial ownership (INDOWN) is positively and significantly associated with Environmental ($r = 0.130$, $p < 0.01$) and social performance ($r = 0.116$, $p < 0.05$), but not with Governance or the overall ESG score, suggesting that industrial shareholders may exert stronger influence on operational sustainability practices rather than governance structures. Firm size (SIZE) shows positive and significant correlations with Social ($r = 0.114$, $p < 0.05$) and Governance performance ($r = 0.090$, $p < 0.05$), indicating that larger firms are more engaged in ESG activities, possibly due to greater visibility and stakeholder pressure. Profitability (ROA) is weakly but positively correlated with social performance ($r = 0.107$, $p < 0.05$), suggesting that financially stronger firms tend to invest more in social initiatives. Leverage (LEV) is positively related to Governance ($r = 0.130$, $p < 0.01$) but negatively associated with industrial ownership ($r = -0.213$, $p < 0.01$).

Importantly, none of the correlations exceed the conventional multicollinearity threshold of 0.90, suggesting that multicollinearity is unlikely to bias subsequent regression estimations.

Table 3: Correlation metrics between variables

	SCORE_ESG	E	S	G	INDOWN	SIZE	ROA	LEV
SCORE_ESG	1	,805**	,873**	,743**	-,017	,027	,070	,023
		(,000)	(,000)	(,000)	(,701)	(,546)	(,122)	(,619)
E	,805**	1	,741**	,563**	,130**	,063	,010	,007
	(,000)		(,000)	(,000)	(,004)	(,164)	(,834)	(,875)
S	,873**	,741**	1	,595**	,116**	,114*	,107*	-,024
	(,000)	(,000)		(,000)	(,010)	(,012)	(,019)	(,605)
G	,743**	,563**	,595**	1	-,009	,090*	,035	,130**
	(,000)	(,000)	(,000)		(,841)	(,047)	(,445)	(,004)
INDOWN	-,017	,130***	,116**	-,009	1	,242**	,058	-,213**
	(,701)	(,004)	(,010)	(,841)		(,000)	(,205)	(,000)
SIZE	,027	,063	,114*	,090*	,242**	1	,030	-,077
	(,546)	(,164)	(,012)	(,047)	(,000)		(,510)	(,091)
ROA	,070	,010	,107*	,035	,058	,030	1	-,075
	(,122)	(,834)	(,019)	(,445)	(,205)	(,510)		(,100)
LEV	,023	,007	-,024	,130**	-,213**	-,077	-,075	1
	(,619)	(,875)	(,605)	(,004)	(,000)	(,091)	(,100)	

Notes: Sig statistics are in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

b. Regression Results and Discussion

For the overall sample, industrial ownership has a negative and statistically significant impact on the aggregate ESG score ($\beta = -1.841$, $p < 0.05$), suggesting that, at the regional level, higher industrial ownership is associated with lower overall ESG performance. However, when decomposing ESG into its pillars, INDOWN shows a positive and significant effect on the Environmental dimension ($\beta = 10.385$, $p < 0.01$) and a weakly significant positive effect on the social dimension ($\beta = 8.146$, $p < 0.10$), while its impact on Governance remains insignificant. This indicates that industrial shareholders may primarily influence operational sustainability practices rather than governance structures.

At the country level, the effects differ substantially:

- Morocco: Industrial ownership positively and significantly affects ESG score ($\beta = 2.616$, $p < 0.01$), Environmental ($\beta = 15.045$, $p < 0.01$), and Governance performance ($\beta = 14.606$, $p < 0.01$), suggesting that industrial shareholders act as active monitors promoting sustainability integration.

- Egypt: The relationship is negative and highly significant for ESG score (β = -25.424, p < 0.01), Environmental (β = -34.111, p < 0.01), and Governance dimensions (β = -23.266, p < 0.05). This suggests that industrial ownership in Egypt may prioritize short-term financial objectives over ESG considerations.
- Tunisia: Industrial ownership positively influences Environmental (β = 11.958, p < 0.01), Social (β = 3.955, p < 0.01), and Governance performance (β = -51.632, p < 0.01 but negative for G). The strong negative coefficient on Governance suggests potential entrenchment effects or weaker institutional monitoring mechanisms.

Firm Size (SIZE) shows mixed effects. In the full sample, it positively and significantly affects Governance (β = 1.733, p < 0.05) and weakly influences the Social dimension (β = 1.602, p < 0.10), indicating that larger firms tend to implement stronger governance mechanisms and social engagement policies.

Profitability (ROA) exhibits a positive and significant effect on the Social pillar in the full sample (β = 19.123, p < 0.05), suggesting that financially stronger firms allocate more resources to social initiatives. However, its impact on overall ESG remains insignificant.

Leverage (LEV) does not significantly affect overall ESG performance in the pooled model but shows a positive and significant impact on Governance (β = 10.914, p < 0.01), indicating that more indebted firms may strengthen governance practices to reassure creditors.

The reported VIF values range between 1.000 and 1.321, well below the conventional threshold of 10, indicating that multicollinearity is not a concern and that the estimated coefficients are reliable.

Table 4: Results of the OLS regression models

Variables		*Maroc*	*Égypte*	*Tunisie*	*Total*	*Tol*	*VIF*
	ESG_SCORE	2,616***	-25,424***	31,623	-1,841**	,929	1,009
		(,007)	(,003)	(,149)	(0,013)		
INDOWN	E	15,045***	-34,111***	11,958***	10,385***	,902	1,109
		(.000)	(,000)	(,000)	(,007)		
	S	3,702	-2,906	3,955***	8,146*	,902	1,109
		(,438)	(,742)	(,009)	(,056)		
	G	14,606***	-23,266**	-51,632***	-,558	,902	1,109
		(,001)	(,010)	(,000)	(,891)		
	ESG_SCORE	-1,606	,385	-10,444	0,501	1,006	1,165
		(,066)	(,771)	(,320)	(,480)		
SIZE	E	-,121	-2,647**	-22,670*	,550	,940	1,063
		(,883)	(,031)	(,097)	(,459)		
	S	,651	,042	-24,634	1,602*	,940	1,063
		(,556)	(,976)	(,195)	(,054)		
	G	-4,581***	6,694***	19,405***	1,733**	,940	1,063
		(,000)	(,000)	(,000)	(,030)		
	ESG_SCORE	7,332	37,875	5,69***	11,819	,999	1,0001
		(,275)	(,119)	(,008)	(,112)		
ROA	E	-6,455	34,27	31,31***	,655	,992	1,008
		(,310)	(,126)	(,002)	(,084)		
	S	8,253**	25,103	35,63**	19,123*	,992	1,008
		(,033)	(,326)	(,036)	(,028)		
	G	,497*	6,864**	24,563**	7,829	,992	1,008
		(,064)	(,028	(,018)	(,347)		
	ESG_SCORE	-1,786	6,804	23,3	1,763	,978	1,321
		(,059)	(,043)	(,32)	(,586)		
LEV	E	5,903	11,719**	27,41	2,751	,950	1,052
		(,125)	(,030)	(,384)	(,416)		
	S	-3,634	9,585	18,78**	,825	,950	1,052
		(,480)	(,119)	(,014)	(,827)		
	G	,543	14,64**	11,29	10,914	,950	1,052
		(,909)	(,019)	(,258)	(,003)		

Notes: sig statistics are in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

The empirical findings reveal that the impact of industrial ownership on ESG performance in North African firms is heterogeneous and strongly conditioned by institutional context. At the aggregate level, industrial ownership shows a differentiated effect across ESG dimensions, supporting environmental and social performance while exhibiting weaker or inconsistent effects on governance. This result aligns with agency theory and monitoring arguments suggesting that concentrated shareholders can reduce managerial opportunism and promote long-term value creation, including sustainability

investments [2] [12] . In particular, the positive association with the environmental pillar supports [25] [26] , who argue that long-term investors internalize environmental risks and encourage responsible operational practices. Similarly, the positive link with the social dimension is consistent with stakeholder theory [1] [4] [10], which posits that stable and strategically involved shareholders may foster stronger engagement with employees and communities. However, the weak or negative effects observed in certain contexts—especially regarding governance—highlight potential entrenchment risks associated with dominant shareholders [9]. In institutional environments characterized by weaker investor protection and regulatory enforcement, industrial owners may prioritize strategic or private benefits over transparent governance reforms [2]. The cross-country differences observed between Morocco, Egypt, and Tunisia further support the institutional contingency perspective, as governance quality and market discipline shape whether industrial ownership acts as an effective monitoring mechanism or as a source of control concentration.

Table 5: Summary of OLS regression results.

Hypothesis	*Relationship*	*Result (Full Sample)*	*Decision*
H1	Industrial Ownership → Overall ESG (+)	Negative and significant	Rejected
H1a	Industrial Ownership → Environmental Performance (+)	Positive and significant	Accepted
H1b	Industrial Ownership → Social Performance (+)	Positive and weakly significant	Partially Supported
H1c	Industrial Ownership → Governance Performance (+)	Not significant	Rejected

IV. Conclusion

Overall, this study demonstrates that industrial ownership does not exert a uniform influence on ESG performance in North Africa. While it appears to enhance environmental and, to some extent, social engagement—consistent with monitoring and long-term orientation theories [1] [4]—its effect on governance remains ambiguous and context-dependent, reflecting the dual nature of concentrated ownership structures identified in prior research. These findings contribute to the literature by extending ownership–ESG research to underexplored emerging markets and by emphasizing the importance of institutional frameworks in shaping sustainability outcomes. Strengthening regulatory oversight, improving minority shareholder protection, and enhancing transparency mechanisms are therefore essential to ensure that industrial ownership translates into comprehensive ESG integration rather than selective sustainability engagement. Future research may further investigate dynamic effects and explore whether institutional reforms can moderate the relationship between ownership concentration and sustainable corporate behavior.

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