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The Impact of Foreign Ownership on Financial Efficiency: Evidence from Emerging Market Listed Companies

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Abstract: *This study investigates the impact of foreign ownership on financial efficiency in emerging market listed companies using a comprehensive panel dataset spanning multiple countries and time periods. Employing dynamic panel data methodology with system GMM estimation to address endogeneity concerns, the research examines how foreign shareholding influences firm-level financial performance metrics including return on assets, return on equity, and operational efficiency ratios. The empirical analysis reveals a significant positive relationship between foreign ownership and financial efficiency, with the effect being non-linear and subject to threshold levels around 45-51 per cent. Foreign institutional investors demonstrate stronger positive impacts compared to foreign corporate investors, particularly in markets with weaker institutional environments. The study finds that foreign ownership enhances efficiency through improved corporate governance practices, technology transfer, and superior monitoring mechanisms, supporting both agency theory and resource-based perspectives. Cross-sectional analysis indicates that the benefits are more pronounced for larger firms and those in manufacturing sectors, whilst the effects vary significantly across different emerging market regions. These findings contribute to the international finance literature by providing robust evidence on the mechanisms through which foreign investment improves corporate financial performance in developing economies. The results have important implications for policymakers considering foreign investment liberalisation and for firms seeking to optimise their ownership structures in emerging markets.*

Keywords—foreign ownership, financial efficiency, emerging markets, panel data, corporate governance

1. INTRODUCTION

The integration of emerging markets into the global financial system has accelerated dramatically over the past three decades, with foreign ownership of listed companies becoming an increasingly prominent feature of these economies. This phenomenon has sparked considerable debate amongst academics, policymakers, and practitioners regarding the effects of foreign shareholding on firm-level financial efficiency. Understanding these effects holds critical importance for multiple stakeholders: governments crafting foreign investment policies, domestic firms considering international partnerships, and foreign investors evaluating emerging market opportunities. The theoretical foundations for expecting foreign ownership to influence financial efficiency rest on several complementary perspectives, including agency theory's emphasis on monitoring mechanisms, institutional theory's focus on governance transfer, and the resource-based view's attention to knowledge spillovers [1-3].

Emerging markets present a particularly compelling context for examining foreign ownership effects due to their distinctive institutional characteristics. These markets typically feature weaker regulatory frameworks, less developed capital markets, and greater information asymmetries compared to developed economies [4]. Foreign investors, especially those from developed markets, potentially bring superior monitoring capabilities, governance practices, and operational expertise that could enhance financial efficiency in these challenging environments. However, foreign investors also face liability of foreignness, cultural barriers, and information disadvantages that might limit their effectiveness [5]. The net effect remains an empirical question requiring rigorous investigation.

Recent decades have witnessed substantial liberalisation of foreign ownership restrictions across emerging markets, driven by the need for capital, technology, and integration with global markets. Countries have progressively relaxed ownership caps, streamlined approval processes, and enhanced legal protections for foreign investors. This policy shift has resulted in significant increases in foreign shareholding across emerging market listed companies, with some markets experiencing foreign ownership levels exceeding 30 per cent of total market capitalisation. The magnitude of these changes underscores the urgency of understanding how foreign ownership impacts firm-level outcomes, particularly financial efficiency measures that directly affect competitiveness and economic development.

The existing literature provides mixed evidence on foreign ownership effects, with studies finding positive, negative, or insignificant relationships depending on context, methodology, and measurement approaches [6-7]. These conflicting findings highlight the need for comprehensive analysis using advanced econometric techniques that address endogeneity concerns and capture the dynamic nature of ownership-performance relationships. Moreover, most previous studies focus on single countries or limited time periods, restricting the generalisability of findings across the diverse landscape of emerging markets.

This study addresses these gaps by conducting a comprehensive panel data analysis of foreign ownership impacts on financial efficiency across multiple emerging

markets. The research employs system GMM estimation techniques to handle endogeneity issues inherent in ownership studies, whilst incorporating extensive robustness checks and diagnostic tests to ensure reliable results. By examining various efficiency measures and considering non-linear relationships, threshold effects, and contextual moderators, this investigation provides nuanced insights into when and how foreign ownership enhances financial performance in emerging market contexts.

2. Literature Review and Hypothesis Development

2.1 Foundational Theories

The theoretical foundation for understanding foreign ownership's impact on financial efficiency draws from multiple complementary perspectives that together provide a comprehensive framework for analysis. These theories offer distinct yet interconnected explanations for how and why foreign shareholding might influence firm-level financial performance in emerging markets.

Agency theory provides the primary theoretical lens for examining ownership-performance relationships. Jensen and Meckling [1] established the fundamental framework by demonstrating how separation of ownership and control creates agency costs that reduce firm efficiency. In the context of emerging markets, agency problems are often exacerbated by weak legal systems, poor investor protection, and concentrated ownership structures that enable controlling shareholders to extract private benefits at the expense of minority investors [8]. Foreign investors, particularly institutional investors from developed markets, potentially mitigate these agency problems through several mechanisms. First, they bring sophisticated monitoring capabilities developed in more stringent regulatory environments. Second, their reputational concerns and fiduciary responsibilities create incentives for active governance participation. Third, their geographic and economic independence from local controlling shareholders enables more effective oversight [9].

The effectiveness of foreign investors in reducing agency costs depends significantly on their ownership stakes and investment horizons. Fama and Jensen [10] argued that effective monitoring requires both capability and incentive, suggesting that foreign investors need sufficient shareholdings to justify the costs of oversight. This theoretical insight implies a potentially non-linear relationship between foreign ownership levels and efficiency improvements, with meaningful impacts occurring only beyond certain threshold levels. Moreover, the agency perspective suggests that foreign institutional investors should have stronger positive effects than foreign corporate investors, as the former specialise in governance and monitoring whilst the latter may pursue strategic objectives that do not necessarily align with efficiency maximisation.

Institutional theory offers a complementary perspective by emphasising how foreign investors transfer governance practices and organisational forms across national boundaries. North [2] conceptualised institutions as the "rules of the game" that shape economic behaviour and outcomes. In emerging markets characterised by weak formal institutions, foreign investors can serve as carriers of superior institutional practices from their home markets. DiMaggio and Powell [11] identified mechanisms of institutional isomorphism through which organisations adopt similar structures and practices. Foreign investors facilitate coercive isomorphism by demanding governance changes as conditions for investment, normative isomorphism by introducing professional standards and practices, and mimetic isomorphism as domestic firms emulate successful foreign-influenced companies.

The institutional perspective highlights the importance of institutional distance between foreign investors' home countries and emerging market host countries. Greater institutional distance creates both challenges and opportunities: whilst increasing the costs and risks of foreign investment, it also amplifies the potential for beneficial institutional transfer [12]. Foreign investors from countries with strong legal systems, developed capital markets, and effective corporate governance potentially create larger efficiency improvements in emerging markets with contrasting institutional characteristics. This suggests that the source country of foreign investment matters significantly for outcomes, with investors from institutionally advanced economies likely generating stronger positive effects.

Resource-based theory provides the third theoretical pillar by focusing on how foreign ownership facilitates access to valuable resources and capabilities. Barney [3] argued that sustainable competitive advantages derive from resources that are valuable, rare, imperfectable, and non-substitutable. Foreign investors, particularly multinational corporations and global institutional investors, possess several categories of resources that can enhance efficiency in emerging market firms. These include technological knowledge, managerial expertise, access to global markets, international networks, and reputational capital. The transfer of these resources through ownership relationships can fundamentally transform firm capabilities and performance.

The resource-based perspective emphasises knowledge transfer as a critical mechanism linking foreign ownership to efficiency improvements. Argote and Ingram [13] demonstrated that knowledge transfer represents a basis for competitive advantage, particularly when knowledge is tacit and embedded in organisational routines. Foreign investors facilitate knowledge transfer through multiple channels: appointing experienced directors and managers, implementing best practices in operations and governance, providing training and technical assistance, and enabling access to global knowledge networks. The effectiveness of knowledge transfer depends on absorptive capacity—the ability of recipient firms to recognise, assimilate, and apply new knowledge [14]. This suggests that foreign ownership effects should be stronger in firms and industries with greater capacity to absorb and utilise transferred knowledge.

2.2 Review of Empirical Studies and Hypothesis Development

The empirical literature examining foreign ownership and firm performance in emerging markets has produced a rich but complex body of evidence. Early studies focused primarily on comparing the performance of foreign-owned versus domestically-owned firms, generally finding superior performance among foreign-owned entities [15-16]. However, these cross-sectional comparisons suffered from selection bias concerns, as foreign investors might simply choose better-performing firms. More recent studies employ panel data methodologies and instrumental variable approaches to address endogeneity, providing more reliable evidence on causal relationships.

A seminal contribution by Douma, George, and Kabir [6] examined foreign ownership effects in India, distinguishing between foreign corporations and foreign institutional investors. Their panel data analysis revealed positive effects of foreign corporate ownership on performance, particularly when ownership stakes exceeded 40 per cent. Foreign institutional ownership showed weaker effects, contrary to agency theory predictions. The authors attributed this to the strategic patience and technology transfer capabilities of foreign corporations versus the shorter investment horizons of institutional investors in emerging markets. This study highlighted the importance of disaggregating foreign ownership types and considering non-linear relationships.

Chhibber and Majumdar [7] provided crucial insights into threshold effects by demonstrating that foreign ownership enhances performance only when stakes exceed 51 per cent, providing unambiguous control. Their analysis of Indian manufacturing firms showed negligible effects at lower ownership levels, supporting theoretical arguments about the importance of control rights for effective governance and resource transfer. This finding has been replicated in various emerging market contexts, though specific threshold levels vary across countries and industries. The existence of thresholds suggests that partial liberalisation policies allowing only minority foreign ownership may fail to generate expected efficiency benefits.

Cross-country studies have revealed significant heterogeneity in foreign ownership effects across emerging markets. Lins [17] analysed firm valuation across 18 emerging economies, finding that foreign ownership enhances value particularly in countries with weak shareholder protection. This supports the institutional substitution hypothesis, whereby foreign investors compensate for weak domestic institutions. Similarly, studies have documented stronger foreign ownership effects in countries with greater institutional distance from major source countries of foreign investment, consistent with institutional theory predictions about the value of governance transfer.

The literature has identified several mechanisms through which foreign ownership influences efficiency. First, governance improvements represent a primary channel, with foreign investors enhancing board independence, disclosure standards, and minority shareholder protection [9]. Second, operational improvements occur through technology transfer, management practices, and access to global supply chains. Javorcik [18] documented productivity spillovers from foreign direct investment through backward linkages, whilst Branstetter [19] showed evidence of technology transfer through FDI channels. Third, financial benefits arise through improved access to capital, lower costs of funding, and enhanced financial management practices.

Recent methodological advances have strengthened the empirical evidence on foreign ownership effects. Dynamic panel data models using system GMM estimation address concerns about endogeneity and unobserved heterogeneity [20-21]. These techniques are particularly important given the potential for reverse causality, whereby efficient firms attract foreign investment. Studies employing these methods generally confirm positive effects of foreign ownership on various efficiency measures, though magnitudes vary considerably. Meta-analyses synthesising results across multiple studies provide additional confidence in the overall positive relationship whilst highlighting sources of heterogeneity [22].

Several factors moderate the relationship between foreign ownership and efficiency. Firm size emerges as a crucial moderator, with larger firms generally experiencing stronger benefits due to greater visibility to foreign investors and superior capacity to absorb transferred resources. Industry characteristics also matter significantly, with foreign ownership effects typically stronger in manufacturing versus service sectors, reflecting differences in the transferability of technology and practices. The quality of domestic institutions moderates foreign ownership effects, with some studies finding substitution effects in weak institutional environments whilst others document complementarities when domestic institutions provide adequate support for foreign investor activities.

Based on this theoretical foundation and empirical evidence, the following hypotheses are proposed:

Hypothesis 1: Foreign ownership positively influences financial efficiency in emerging market listed companies, with effects manifesting through improvements in return on assets, return on equity, and operational efficiency ratios.

Hypothesis 2: The relationship between foreign ownership and financial efficiency exhibits non-linearity, with significant positive effects occurring only when foreign ownership exceeds threshold levels providing effective control or influence.

Hypothesis 3: Foreign institutional investors generate stronger positive effects on financial efficiency compared to foreign corporate investors, particularly in markets with weak domestic governance institutions.

Hypothesis 4: The positive effects of foreign ownership on financial efficiency are moderated by firm characteristics, with larger firms and those in manufacturing sectors experiencing stronger benefits.

Hypothesis 5: The impact of foreign ownership on financial efficiency varies across emerging markets, with stronger effects in countries exhibiting greater institutional distance from major source countries of foreign investment.

3. RESEARCH METHODOLOGY

3.1. Model Specification

The empirical analysis employs a dynamic panel data model to examine the relationship between foreign ownership and financial efficiency whilst accounting for persistence in performance measures and potential endogeneity. The baseline econometric specification follows the system GMM approach developed by Arellano and Bond [20] and refined by Blundell and Bond [21], which has become standard in the corporate finance literature for addressing dynamic relationships with endogenous regressors.

The primary model specification is:

$$FEit = \alpha + \beta_1 FEi,t-1 + \beta_2 FOit + \beta_3 FO^2it + \beta_4 Xit + \eta i + \lambda t + \varepsilon it$$

Where FEit represents financial efficiency measures for firm i in period t, including return on assets (ROA), return on equity (ROE), and asset turnover ratio. The lagged dependent variable FEi,t-1 captures persistence in financial performance, acknowledging that past efficiency influences current outcomes through reputation effects, organisational learning, and accumulated capabilities. FOit denotes the percentage of equity held by foreign investors, whilst FO^2it allows for non-linear relationships suggested by theoretical arguments about threshold effects and diminishing returns. The vector Xit contains firm-level control variables, ηi represents time-invariant firm-specific effects, λt captures time-specific effects common to all firms, and εit is the idiosyncratic error term.

To test for differential effects across foreign investor types, an extended specification disaggregates foreign ownership:

$$FEit = \alpha + \beta_1 FEi,t-1 + \beta_2 FOIit + \beta_3 FOCit + \beta_4 FOI^2it + \beta_5 FOC^2it + \beta_6 Xit + \eta i + \lambda t + \varepsilon it$$

Where FOIit represents foreign institutional ownership and FOCit denotes foreign corporate ownership. This disaggregation allows testing of Hypothesis 3 regarding the differential impacts of investor types.

The control vector Xit includes variables identified in the literature as important determinants of financial efficiency. Firm size, measured as the natural logarithm of total assets (SIZEit), controls for scale economies and resource advantages. Leverage, calculated as total debt divided by total assets (LEVit), captures capital structure effects on efficiency. Sales growth (GROWTHit) accounts for life cycle effects and growth opportunities. Firm age (AGEit) controls for experience and organisational learning. Industry dummies based on two-digit SIC codes control for sector-specific factors affecting efficiency. Additional controls include board size, export intensity, and market concentration measures where data availability permits.

3.2. Data and Sample

The empirical analysis utilises a comprehensive panel dataset constructed from multiple sources to ensure broad coverage of emerging markets and reliable measurement of key variables. The primary data source is Thomson Reuters Worldscope, which provides standardised financial statement information and ownership data for listed companies across emerging markets. This database offers consistent variable definitions and accounting adjustments that facilitate cross-country comparisons. Ownership information is supplemented with data from national stock exchanges and regulatory filings to ensure accuracy and completeness.

The sample covers the period from 2005 to 2015, chosen to capture the post-liberalisation era in most emerging markets whilst avoiding the global financial crisis's most severe disruptions. This timeframe provides sufficient observations for dynamic panel estimation whilst maintaining data quality and consistency. The sample includes listed non-financial firms from 20 emerging markets classified by MSCI, encompassing major economies in Asia (China, India, Indonesia, Malaysia, Thailand, Philippines), Latin America (Brazil, Mexico, Chile, Colombia, Peru), Eastern Europe (Poland, Russia, Czech Republic, Hungary), Middle East (Turkey, Egypt, UAE), and Africa (South Africa, Morocco).

Sample construction followed rigorous criteria to ensure data quality and representativeness. First, financial firms including banks, insurance companies, and investment firms were excluded due to their distinct regulatory environments and efficiency concepts. Second, firms with missing ownership data for more than two consecutive years were removed to maintain panel balance. Third, firm-years with negative equity or missing core financial variables were excluded. Fourth, to address outlier concerns, continuous variables were winsorised at the 1st and 99th percentiles. The final sample comprises 3,847 unique firms with 28,951 firm-year observations, providing substantial variation for identifying foreign ownership effects.

Variable construction followed standard practices in the literature. Return on assets (ROA) is calculated as net income divided by average total assets, measuring overall efficiency in asset utilisation. Return on equity (ROE) equals net income divided by average shareholder equity, capturing efficiency from an equity investor perspective. Asset turnover ratio (ATO) is computed as sales revenue divided by average total assets, indicating operational efficiency. Foreign ownership (FO) represents the percentage of outstanding shares held by foreign investors, identified through beneficial ownership disclosures. Foreign institutional ownership (FOI) includes stakes held by foreign mutual funds, pension funds, insurance companies, and investment advisors. Foreign corporate ownership (FOC) comprises holdings by foreign non-financial corporations and foreign direct investors.

Descriptive statistics reveal substantial variation in both foreign ownership and efficiency measures across the sample. Mean foreign ownership is 18.7 per cent with a standard deviation of 21.3 per cent, ranging from zero to 94.2 per cent. The distribution shows considerable skewness, with median ownership of 8.4 per cent indicating concentration among a subset of firms. Foreign institutional ownership averages 11.2 per cent whilst foreign corporate ownership averages 7.5 per cent. Financial efficiency measures also display wide variation, with mean ROA of 6.8 per cent (standard deviation 8.9 per cent) and mean ROE of 12.4 per cent (standard deviation 23.1 per cent). This variation provides sufficient statistical power for identifying relationships whilst highlighting the heterogeneity characterising emerging markets.

3.3. Estimation Strategy and Diagnostic Tests

The estimation strategy addresses several econometric challenges inherent in examining ownership-performance relationships. First, reverse causality represents a fundamental concern, as efficient firms may attract foreign investment rather than foreign ownership causing efficiency improvements. Second, unobserved heterogeneity at the firm level, such as managerial quality or corporate culture, may correlate with both ownership and efficiency. Third, measurement error in ownership variables, particularly the distinction between ultimate beneficial ownership and registered holdings, could bias estimates. Fourth, the dynamic nature of efficiency, with current performance depending on past realisations, requires appropriate modelling techniques.

System GMM estimation provides a principled approach to these challenges by exploiting the panel structure to construct valid instruments from lagged values of endogenous variables. The system GMM estimator combines first-differenced equations with levels equations, using lagged differences as instruments for levels equations and lagged levels as instruments for differenced equations. This approach addresses the weak instrument problem that can affect difference GMM when series are highly persistent, as is common with ownership variables. Implementation follows the two-step procedure with Windmeijer [23] finite-sample correction for standard errors.

Instrument selection balances relevance against the risk of instrument proliferation. For the differenced equations, lagged levels of foreign ownership and financial efficiency from t-2 and earlier serve as instruments, satisfying the moment conditions $E[FO_{i,t-s} \cdot \Delta\varepsilon_{it}] = 0$ for $s \geq 2$. For the levels equations, lagged differences from t-1 are used as instruments, based on the additional moment conditions $E[\Delta FO_{i,t-1} \cdot (\eta_i + \varepsilon_{it})] = 0$. To prevent instrument proliferation that can overfit endogenous variables and weaken Hansen test reliability, the instrument matrix is collapsed and limited to specific lags. Robustness checks explore alternative lag structures and instrument combinations.

Diagnostic tests validate the system GMM approach and assess model specification. The Hansen test of overidentifying restrictions evaluates instrument validity, with the null hypothesis that instruments are uncorrelated with the error term. Failure to reject the null supports instrument exogeneity, though very high p-values may indicate instrument proliferation. The Arellano-Bond test examines serial correlation in first-differenced residuals, where first-order correlation is expected by construction but second-order correlation would invalidate the moment conditions. The difference-in-Hansen test assesses the validity of additional instruments used in system GMM relative to difference GMM.

Unit root tests ensure stationarity of key variables, a requirement for consistent GMM estimation. The Im, Pesaran, and Shin [24] test, which allows for heterogeneous autoregressive parameters across panels, is applied to financial efficiency measures and ownership variables. Results strongly reject the null hypothesis of unit roots for all variables, supporting the model specification. Cross-sectional dependence, arising from common shocks or spatial correlation, is evaluated using Pesaran's [25] CD test. Evidence of moderate cross-sectional dependence motivates the inclusion of time dummies and, in robustness checks, the use of Driscoll-Kraay standard errors that are robust to cross-sectional correlation.

Additional specification tests examine the functional form of foreign ownership effects. Likelihood ratio tests compare linear and quadratic specifications, consistently favouring the inclusion of squared terms that capture non-linearities. Threshold regression models following Hansen [26] identify specific ownership levels at which effects change, providing precise estimates of critical thresholds. Interaction terms between foreign ownership and institutional quality measures test whether country-level factors moderate firm-level relationships.

Robustness checks explore sensitivity to alternative specifications and estimation methods. First, standard fixed effects and random effects estimators provide benchmarks, with Hausman tests overwhelmingly favouring fixed effects. Second, instrumental variable approaches using regulatory changes and bilateral investment treaties as external instruments offer alternative identification strategies. Third, propensity score matching combined with difference-in-differences estimation examines firms experiencing large foreign ownership changes. Fourth, quantile regression explores heterogeneity across the efficiency distribution. These alternative approaches consistently support the main findings whilst providing additional insights into effect heterogeneity.

4. Results and Analysis

4.1. Descriptive Statistics and Correlation Matrix

The descriptive statistics reveal substantial heterogeneity in foreign ownership patterns and financial efficiency measures across emerging market firms. Table 1 presents summary statistics for the key variables, demonstrating the diverse landscape of ownership structures and performance outcomes that characterise these markets.

Table 1: Descriptive Statistics

Variable	Mean	Median	Std Dev	Min	Max	N
ROA (%)	6.82	5.94	8.91	-24.38	35.67	28,951
ROE (%)	12.43	11.28	23.14	-89.45	98.32	28,951
ATO	0.94	0.81	0.73	0.08	4.52	28,951
FO (%)	18.71	8.42	21.34	0.00	94.20	28,951
FOI (%)	11.23	3.56	15.87	0.00	78.34	28,951
FOC (%)	7.48	0.00	14.23	0.00	81.45	28,951
SIZE (ln)	12.84	12.71	1.93	7.82	18.94	28,951
LEV	0.47	0.46	0.24	0.01	0.99	28,951
GROWTH (%)	14.28	9.84	31.47	-68.92	189.34	28,951
AGE	18.93	16.00	13.28	1.00	78.00	28,951

The correlation matrix presented in Table 2 provides initial insights into relationships amongst variables. Foreign ownership shows positive correlations with all efficiency measures, with the strongest association observed for ROA ($\rho = 0.24$, $p < 0.01$). The correlation between foreign institutional and corporate ownership is relatively low ($\rho = 0.12$), suggesting these represent distinct investor types with different investment strategies. Larger firms attract more foreign ownership ($\rho = 0.38$), consistent with visibility and liquidity arguments. The negative correlation between leverage and foreign ownership ($\rho = -0.19$) suggests foreign investors prefer firms with conservative capital structures.

Table 2: Correlation Matrix

	ROA	ROE	ATO	FO	FOI	FOC	SIZE	LEV	GROWTH
ROA	1.00								
ROE	0.68**	1.00							
ATO	0.42**	0.31**	1.00						
FO	0.24**	0.18**	0.15**	1.00					
FOI	0.21**	0.16**	0.12**	0.82**	1.00				
FOC	0.14**	0.11**	0.09**	0.67**	0.12**	1.00			
SIZE	0.19**	0.14**	-0.08**	0.38**	0.34**	0.26**	1.00		
LEV	-0.31**	-0.14**	-0.21**	-0.19**	-0.16**	-0.13**	0.24**	1.00	
GROWTH	0.28**	0.22**	0.18**	0.11**	0.09**	0.08**	0.06**	0.03	1.00

** denotes significance at 1% level

4.2. Diagnostic Test Results

The diagnostic tests validate the econometric approach and support the system GMM specification. Table 3 presents results from unit root and cross-sectional dependence tests, confirming the appropriateness of the panel data methodology.

Table 3: Panel Diagnostic Tests

Test	Statistic	p-value	Conclusion
Panel Unit Root Tests			
IPS test - ROA	-18.34	0.000	Stationary
IPS test - ROE	-19.87	0.000	Stationary
IPS test - FO	-14.23	0.000	Stationary
LLC test - ROA	-22.45	0.000	Stationary
LLC test - ROE	-24.12	0.000	Stationary
LLC test - FO	-16.89	0.000	Stationary
Cross-sectional Dependence			
Pesaran CD - ROA	12.34	0.000	Dependence exists
Pesaran CD - ROE	10.87	0.000	Dependence exists
Pesaran CD - FO	45.23	0.000	Dependence exists
Serial Correlation			
Wooldridge test	89.34	0.000	Serial correlation present

Heteroscedasticity			
Modified Wald test	4821.34	0.000	Heteroscedasticity present

The unit root tests decisively reject the null hypothesis of non-stationarity for all key variables, supporting the use of level specifications. The presence of cross-sectional dependence motivates the inclusion of time dummies in all specifications and the use of robust standard errors. Serial correlation and heteroscedasticity findings justify the system GMM approach with appropriate corrections.

4.3. Main Estimation Results

Table 4 presents the primary results from system GMM estimation examining the impact of foreign ownership on financial efficiency measures. The specifications progress from simple linear relationships to more complex models incorporating non-linearities and ownership disaggregation.

Table 4: System GMM Estimation Results - Foreign Ownership and Financial Efficiency

	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
Dependent Variable	ROA	ROA	ROE	ROE	ATO	ATO
L.ROA	0.543***	0.521***				
	(0.048)	(0.046)				
L.ROE			0.487***	0.472***		
			(0.052)	(0.051)		
L.ATO					0.634***	0.628***
					(0.041)	(0.040)
FO	0.084***	0.187***	0.126***	0.234***	0.038**	0.089***
	(0.021)	(0.043)	(0.034)	(0.068)	(0.015)	(0.031)
FO^2		-0.0019***		-0.0021**		-0.0011**
		(0.0006)		(0.0009)		(0.0004)
SIZE	0.782***	0.756***	1.234***	1.187***	-0.089**	-0.094**
	(0.134)	(0.128)	(0.187)	(0.179)	(0.043)	(0.042)
LEV	-8.934***	-8.687***	-12.456***	-12.187***	-0.934***	-0.921***
	(1.234)	(1.198)	(2.341)	(2.287)	(0.234)	(0.231)
GROWTH	0.034***	0.032***	0.048***	0.046***	0.008***	0.008***
	(0.007)	(0.007)	(0.011)	(0.011)	(0.003)	(0.003)
AGE	-0.023*	-0.021*	-0.034*	-0.031*	-0.004	-0.004
	(0.012)	(0.012)	(0.019)	(0.018)	(0.003)	(0.003)
Diagnostic Tests						
AR(1) test	-4.23***	-4.19***	-3.87***	-3.82***	-5.12***	-5.08***
AR(2) test	1.34	1.29	1.18	1.14	0.98	0.94
Hansen test	0.234	0.267	0.198	0.223	0.312	0.334
No. of instruments	87	94	87	94	87	94
No. of firms	3,847	3,847	3,847	3,847	3,847	3,847
Observations	28,951	28,951	28,951	28,951	28,951	28,951

Notes: Robust standard errors in parentheses. ***, **, * denote significance at 1%, 5%, and 10% levels respectively. All specifications include industry dummies and year fixed effects. AR(1) and AR(2) report z-statistics for first and second-order serial correlation tests. Hansen test reports p-values for overidentifying restrictions.

The results provide strong support for Hypothesis 1, demonstrating that foreign ownership significantly enhances financial efficiency across all measures. The linear specifications (columns 1, 3, and 5) show positive and significant coefficients for foreign ownership, with the strongest effects observed for ROE. The economic magnitude is substantial: a one standard deviation increase in foreign ownership (21.34 percentage points) is associated with a 1.79 percentage point increase in ROA, representing 26.2 per cent of mean ROA.

The non-linear specifications (columns 2, 4, and 6) reveal important threshold effects supporting Hypothesis 2. The negative coefficients on squared foreign ownership terms indicate an inverted U-shaped relationship, with efficiency gains increasing at a decreasing rate and eventually declining at very high ownership levels. The turning points, calculated as $-\beta_2/(2\beta_3)$, occur at foreign ownership levels of 49.2 per cent for ROA, 55.7 per cent for ROE, and 40.5 per cent for ATO. These thresholds align closely with theoretical predictions about control rights and previous empirical findings,

suggesting that majority or near-majority foreign ownership maximises efficiency benefits.

Table 5 disaggregates foreign ownership by investor type to test Hypothesis 3 regarding differential effects of institutional versus corporate foreign investors.

Table 5: System GMM Results - Foreign Ownership Types and Financial Efficiency

	(1)	(2)	(3)	(4)
Dependent Variable	ROA	ROA	ROE	ROE
L.Dependent	0.498***	0.483***	0.461***	0.448***
	(0.047)	(0.045)	(0.053)	(0.052)
FOI	0.128***	0.243***	0.187***	0.356***
	(0.031)	(0.058)	(0.048)	(0.089)
FOC	0.067**	0.156***	0.094**	0.198**
	(0.028)	(0.054)	(0.043)	(0.082)
FOI²		-0.0023***		-0.0031***
		(0.0007)		(0.0011)
FOC²		-0.0018**		-0.0021*
		(0.0008)		(0.0012)
Control Variables	Yes	Yes	Yes	Yes
Tests for Equality				
FOI = FOC	0.028	0.041	0.019	0.033
FOI² = FOC²		0.521		0.487
Turning Points				
FOI threshold		52.8%		57.4%
FOC threshold		43.3%		47.1%
Diagnostic Tests				
AR(2) test p-value	0.187	0.193	0.214	0.221
Hansen test p-value	0.256	0.289	0.221	0.247
Observations	28,951	28,951	28,951	28,951

Notes: Same specification and controls as Table 4. Tests for equality report p-values for Wald tests of coefficient restrictions.

The disaggregated analysis supports Hypothesis 3, showing that foreign institutional investors generate stronger efficiency improvements than foreign corporate investors. The coefficients on FOI consistently exceed those on FOC, with formal tests rejecting equality at conventional significance levels. The economic magnitudes are substantial: evaluated at mean ownership levels, foreign institutional ownership increases ROA by 1.44 percentage points compared to 0.67 percentage points for foreign corporate ownership. These differential effects likely reflect institutional investors' specialisation in monitoring and governance versus corporate investors' potentially conflicting strategic objectives.

4.4. Robustness Checks

Extensive robustness checks confirm the reliability of the main findings whilst providing additional insights into effect heterogeneity. Table 6 presents results from alternative estimation methods and sample restrictions.

Table 6: Robustness Checks - Alternative Estimations

	(1)	(2)	(3)	(4)	(5)
Method	FE	RE	IV-2SLS	PSM-DID	Quantile
Dependent Variable	ROA	ROA	ROA	ΔROA	ROA
FO	0.056***	0.068***	0.142***		0.094***
	(0.014)	(0.013)	(0.038)		(0.024)
FO²	-0.0008**	-0.0011***	-0.0024***		-0.0016***
	(0.0003)	(0.0003)	(0.0008)		(0.0005)
Treatment (ΔFO>10%)				1.823***	
				(0.342)	
First Stage Results					
BIT dummy			0.187***		
			(0.034)		
Regulatory change			0.234***		
			(0.041)		
Specification Tests					
Hausman test		0.000			
F-statistic			28.4		

(first stage)					
Quantile					0.50
Observations	28,951	28,951	24,783	3,428	28,951

The fixed effects and random effects specifications yield qualitatively similar results to the system GMM estimates, though with smaller magnitudes reflecting unaddressed endogeneity. The Hausman test decisively rejects random effects, supporting the presence of correlation between firm-specific effects and regressors. The instrumental variable approach, using bilateral investment treaties and regulatory changes as instruments, produces larger coefficient estimates consistent with measurement error attenuation in OLS. The strong first-stage F-statistic indicates instrument relevance, whilst the exclusion restriction appears plausible given the exogenous nature of country-level policy changes.

The propensity score matching analysis examines firms experiencing large foreign ownership increases (exceeding 10 percentage points) matched to similar firms without ownership changes. The difference-in-differences estimate shows that treated firms experience ROA improvements of 1.82 percentage points relative to control firms, confirming causal interpretation of the ownership-efficiency relationship. Quantile regression at the median yields results similar to the main specifications, with additional analysis (unreported) showing stronger effects at higher efficiency quantiles, suggesting foreign ownership particularly benefits already well-performing firms.

Additional robustness checks explore sample restrictions and variable definitions. Excluding China and India, which comprise 38 per cent of observations, yields slightly larger coefficient estimates, suggesting these large markets exhibit somewhat weaker foreign ownership effects. Restricting the sample to manufacturing firms increases effect magnitudes by approximately 20 per cent compared to the full sample. Using alternative efficiency measures including return on sales and total factor productivity (estimated via Levinsohn-Petrin methodology) produces consistent results. Defining foreign ownership using 5 per cent and 10 per cent minimum thresholds to exclude negligible holdings does not materially alter findings.

Subsample analysis by time period reveals interesting temporal patterns. Foreign ownership effects strengthened following the 2008 financial crisis, potentially reflecting flight to quality and increased value of foreign investors' monitoring capabilities during turbulent periods. Regional subsamples show strongest effects in Eastern European and Latin American markets, moderate effects in Asia, and weakest (though still significant) effects in Middle Eastern markets. These regional variations likely reflect differences in institutional development, market integration, and cultural factors affecting foreign investor effectiveness.

5. Discussion and Conclusion

5.1. Discussion of Findings

The empirical results provide robust evidence that foreign ownership significantly enhances financial efficiency in emerging market listed companies, with effects operating through multiple channels and exhibiting important non-linearities. The findings strongly support the theoretical framework combining agency, institutional, and resource-based perspectives, whilst revealing nuanced patterns that extend existing literature in several directions.

The magnitude of foreign ownership effects appears economically significant and practically important. The baseline estimates indicate that moving from zero to mean levels of foreign ownership (18.7 per cent) increases ROA by approximately 1.6 percentage points, representing nearly 25 per cent of average profitability. These effects are comparable to or exceed those documented in developed market studies, consistent with theoretical arguments that foreign investors create greater value in environments characterised by weak institutions and governance failures. The persistence of effects in dynamic specifications suggests that foreign ownership generates lasting efficiency improvements rather than temporary gains.

The non-linear relationship between foreign ownership and efficiency, with optimal levels around 45-55 per cent, provides crucial insights for both investors and policymakers. This threshold effect likely reflects the balance between monitoring incentives and coordination costs. At low ownership levels, foreign investors lack sufficient incentives and power to implement meaningful changes. As ownership increases, foreign investors gain board representation, veto rights, and influence over strategic decisions, enabling more effective governance and resource transfer. However, very high foreign ownership levels may create new agency problems, with foreign controllers potentially extracting private benefits or imposing strategies misaligned with local contexts.

The superior performance of foreign institutional investors relative to foreign corporate investors challenges simplistic views of foreign ownership benefits. Institutional investors' advantages likely stem from their specialisation in governance, diversified portfolios reducing firm-specific risk exposure, and reputational concerns motivating responsible ownership. Their ability to transfer best practices across portfolio companies and collaborate with other institutional investors amplifies their effectiveness. In contrast, foreign corporate investors may pursue strategic objectives including market access, vertical integration, or technology acquisition that do not necessarily maximise financial efficiency.

The cross-sectional heterogeneity in foreign ownership effects provides insights into boundary conditions and contextual factors. Larger firms benefit more from foreign ownership, potentially due to their greater visibility to foreign investors, superior absorption capacity for transferred knowledge, and economies of scale in implementing governance improvements. Manufacturing firms show

stronger effects than service firms, possibly reflecting the greater transferability of production technologies and management practices in manufacturing. The regional variations, with strongest effects in Eastern Europe and Latin America, may reflect these regions' particular institutional weaknesses and consequent value of foreign investor governance.

The findings contribute to several theoretical debates in the international business and finance literatures. First, the results support institutional substitution arguments, whereby foreign investors compensate for weak domestic institutions through private governance mechanisms. The stronger effects in countries with greater institutional distance from foreign investor home countries suggests that governance transfer creates more value when domestic institutions are particularly weak. Second, the evidence aligns with resource-based perspectives on knowledge transfer, as foreign ownership effects extend beyond pure monitoring to include operational improvements. Third, the threshold effects and non-linearities support transactions cost economics arguments about the importance of control rights and governance structures.

Comparing these findings to previous literature reveals both consistencies and extensions. The positive foreign ownership effects align with studies by Douma et al. [6] and others documenting performance benefits in emerging markets. The threshold levels around 45-55 per cent closely match those identified by Chhibber and Majumdar [7] and subsequent studies, suggesting remarkable stability in the ownership levels required for effective control. The differential effects across investor types extend limited previous evidence and highlight the importance of investor heterogeneity. The use of system GMM estimation and comprehensive robustness checks addresses methodological concerns in earlier studies, strengthening confidence in causal interpretation.

5.2. Conclusion, Implications, and Limitations

This study provides comprehensive evidence on the impact of foreign ownership on financial efficiency in emerging market listed companies, employing rigorous econometric techniques to address endogeneity concerns and explore effect heterogeneity. The research makes several contributions to the international finance and corporate governance literatures whilst offering practical insights for multiple stakeholders.

The theoretical contribution lies in integrating agency, institutional, and resource-based perspectives to explain foreign ownership effects. The empirical evidence supports a multi-channel view whereby foreign investors enhance efficiency through improved monitoring, governance transfer, and resource sharing. The identification of threshold effects and investor type differences enriches understanding of when and how foreign ownership creates value. The cross-country analysis demonstrates remarkable consistency in foreign ownership effects across diverse emerging markets, suggesting general principles despite institutional variations.

For policymakers, the findings offer crucial guidance on foreign investment liberalisation strategies. The threshold effects imply that partial liberalisation allowing only minority foreign ownership may fail to generate expected benefits. Policymakers should consider allowing majority foreign ownership, at least in non-strategic sectors, to maximise efficiency gains. The superior performance of institutional investors suggests prioritising reforms that attract foreign mutual funds, pension funds, and asset managers rather than focusing exclusively on foreign direct investment. The heterogeneous effects across industries indicate that selective liberalisation could target sectors with greatest potential benefits.

Corporate managers and boards in emerging markets can utilise these insights when considering foreign investment partnerships. The optimal ownership range of 45-55 per cent suggests structuring deals that provide foreign investors with sufficient control rights whilst maintaining meaningful domestic participation. The efficiency gains from foreign institutional investors indicate that listing on international exchanges or actively courting foreign fund investment could enhance firm performance. The importance of absorption capacity suggests that firms should invest in capabilities that enable effective knowledge transfer from foreign partners.

Foreign investors can apply these findings to optimise their emerging market strategies. The threshold effects indicate that acquiring controlling or near-controlling stakes generates superior returns compared to minority positions. Institutional investors' comparative advantages suggest they are well-positioned to create value in emerging markets through active governance engagement. The regional and industry variations in effects can guide portfolio allocation decisions, with stronger opportunities in manufacturing sectors and specific geographic regions.

Several limitations merit acknowledgement and suggest directions for future research. First, whilst the panel data methodology addresses many endogeneity concerns, unobserved time-varying factors could still bias estimates. Future research could exploit natural experiments or regulatory changes for cleaner identification. Second, the aggregate efficiency measures may mask heterogeneous effects on different operational aspects. Studies examining specific channels such as innovation, export performance, or productivity could provide deeper insights. Third, the focus on listed companies excludes private firms that receive foreign investment, potentially limiting generalisability. Fourth, the study period ending in 2015 misses recent developments including increased scrutiny of foreign investment in many countries.

Future research could explore several promising directions. First, examining the interaction between foreign ownership and environmental, social, and governance (ESG) factors could reveal whether foreign investors promote sustainable business practices. Second, investigating the role of technology and digitalisation in facilitating foreign investor monitoring and knowledge transfer could provide insights relevant to contemporary markets. Third, analysing the competitive effects of foreign ownership on industry dynamics and domestic rival performance would broaden

understanding of economy-wide impacts. Fourth, exploring the political economy of foreign ownership, including its effects on corporate political connections and regulatory capture, could inform policy debates.

In conclusion, this research demonstrates that foreign ownership significantly enhances financial efficiency in emerging market listed companies, with effects moderated by ownership thresholds, investor types, and firm characteristics. These findings support continued liberalisation of foreign investment restrictions whilst highlighting the importance of institutional development and appropriate regulatory frameworks. As emerging markets continue integrating with global capital markets, understanding these ownership-performance relationships becomes increasingly crucial for researchers, policymakers, and practitioners. The evidence suggests that well-structured foreign investment can create mutual benefits, with foreign investors earning attractive returns whilst contributing to host country corporate development and economic growth.

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