

Research Article

# Determinants of Institutional Ownership in the MENA Region

Amel Belanes<sup>1,\*</sup>, Khouloud Said<sup>2</sup>

<sup>1</sup>Department of Finance and Economics, College of Business, University of Jeddah, Jeddah, Saudi Arabia

<sup>2</sup>Department of Finance, High Institute of Management of Tunis, University of Tunis, Tunis, Tunisia

## Abstract

This study explores the main determinants of institutional ownership in the MENA region. Using a large sample of 262 listed companies across MENA countries, this study focuses on company and country characteristics that might explain institutional behavior. We attempt to answer the following questions: First, what are the main categories of institutional investors operating in MENA countries? Secondly, what factors drive institutional ownership? Results reveal a weak presence of institutional investors in the MENA region. Unlike foreign and passive investors, domestic and active institutional investors dominate the companies' ownership. Such findings raise serious issues about how to attract foreign institutional investors. Results also suggest that value stocks appeal to institutional investors, whatever their origin (foreign or domestic) and kind (active or passive). Institutional investors look for large, profitable, and liquid companies that pay high dividends. They prefer investing in highly indebted companies as they consider debt an efficient mechanism to mitigate agency problems. Corporate governance and information disclosure are also crucial determinants of institutional ownership. However, foreign-domestic and active-passive institutional investors have different investment preferences. Our study would contribute to a better understanding of ownership endogeneity within an emerging context. Results would help professionals, managers, and policymakers to adopt appropriate reforms to offer an appealing business climate and attract a large base of institutional investors, not only foreign and active investors.

## Keywords

Institutional Investors, Ownership Endogeneity, Investors' Heterogeneity, MENA Region

## 1. Introduction

Globalization, reduction of national and international investment barriers, and stock exchange quotations are among the crucial moments leading to the rise of new players in various financial markets worldwide, including institutional investors. Institutional investors are entities that pool together funds from individuals and organizations to invest in a variety of financial markets. These entities include pension funds, mutual funds, hedge funds, insurance companies, and banks.

Institutional investors play an important role in financial markets due to their large-scale investment activities and ability to influence pricing and market trends. Nowadays, institutional investors account for more than US\$70 trillion in investable assets worldwide and, as such, exert significant influence on capital markets [9].

One of the main advantages of institutional investors is their ability to provide stability to the market, as they often

\*Corresponding author: [amel.belanes@gmail.com](mailto:amel.belanes@gmail.com) (Amel Belanes)

**Received:** 18 October 2023; **Accepted:** 20 November 2023; **Published:** 21 February 2024



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invest for the long term. Their significant investment portfolios and resources allow them to diversify their investments across different asset classes, which can help mitigate risk and provide a more stable source of capital for companies and other market participants. Additionally, the sheer size of their holdings can give them significant voting power in corporate decision-making. They have the potential to influence corporate governance. Gillan and Starks suggested that institutional shareholders can exert pressure on management decisions through direct and indirect strategies [17]. The first is via ownership, and the second is by trading shares. With significant shareholdings, institutional investors can engage with management teams, advocate for changes in corporate strategy, and push for improvements in environmental, social, and governance (ESG) practices. Ferreira and Matos argued that institutional investors are more prone to become active monitors than others [16]. They are more willing to engage in management and control thanks to their expertise, economies of scale, and the ability to access and collect information.

According to the agency theory, institutional shareholders, as active monitoring players, effectively reduce agency costs and discipline managers, hence better corporate governance and performance. According to the Signaling theory, institutional trading, as a signaling tool, effectively alleviates information asymmetry. Elyasiani and Jia concluded that the essential volume of institutional investors' trading positively affects market development [15]. Ajina et al. highlighted that a high level of institutional investor trading improves the stock market liquidity [3]. Chung and Zhang suggested that countries, particularly companies, use various tools to attract more institutional equity holders, hoping that a more extensive investor base will increase their share prices and enhance their values [11]. However, Bushee et al. argued that monitoring costs are often high with uncertain results despite the acute role of institutional investors and, as such, may require collective effort [8]. Therefore, they tend to invest in companies that adequately respond to their preferences. According to Ferreira and Matos, such a strategy will help them maximize profitability, satisfy fiduciary responsibilities, and reduce monitoring and exit costs [16]. Most prior research on institutional investors has focused on developed economies, aiming to improve corporate governance, accountability, responsibility, and transparency.

Sarhan et al. pointed out that emerging economies have recently shown an increasing interest in disclosing best CG practices and companies' compliance [31]. More specifically, the current adoption of CG codes in emerging MENA countries complements other economic and financial reforms they have pursued. Hessayri and Saihi advocated that implementing and enforcing corporate regulations aims to encourage domestic savings and attract foreign direct investments [21]. Emerging context needs hence further research. This study explores the main determinants of institutional ownership in the MENA region. MENA economies are worth investigating for at least three reasons. First, Elghuweel et al. argued that

informal rules, such as family, norms, and Arabic customs, in MENA countries, will likely impact corporate practices more significantly than formal rules [14]. Most companies are state-owned or family-held companies with concentrated shareholding structures, according to Sarhan et al. [31]. Omran et al. explained that such an ownership structure pushed companies to depend only somewhat on external stock market finances, leading to bank-orientated financial systems in most MENA countries [30]. Additionally, the legal system and corporate laws tend to provide limited protection to minority shareholders compared with those operating in developed economies, as capital markets are not vibrant, and enforcement of capital markets rules is weak, according to Omran et al. [30]. Sarhan et al. argued that minority shareholders' rights are limited because of the inefficiency in the information environment that encourages insiders and majority shareholders to gain from private information [31]

Secondly, despite the weakness of its financial, public governance, and regulatory systems, the MENA region has recently become committed to guaranteeing better protection of shareholders' rights and improving the institutional environment and economic growth through reforms and cooperation. Most MENA countries have engaged in economic and financial reforms, such as developing national stock exchanges, issuing national governance codes, and improving business-related laws and regulations. Third, African and Middle Eastern countries are expected to return to above-average growth in the future, thanks to their strategic location apart from petroleum, natural gas, and precious metals. Lee reported that some MENA countries, including Saudi Arabia and Dubai, have effectively implemented numerous initiatives and structural reforms, driving viable and fast economic growth [26]. Lee added that African countries have benefited from a high global influx of capital in the form of development aid, and foreign private investors have injected capital investments of over US\$200 billion into large-scale projects to improve the infrastructure and promote sustainable economic growth [26]. Unstable political conditions in some MENA countries, particularly after the Arab Spring, and the adverse effects of the recent international pandemic of COVID-19 create an ambivalent and quickly evolving environment in which developments are difficult to predict. However, the potential for institutional investors is growing fast in emerging economies, mainly MENA countries, through Sovereign Wealth Funds (SWFs), which currently provide an essential source of capital in these countries. Klitzing et al. reported that SWFs represent a group of large and growing institutional investors with total assets under management amounting to merely one-sixth of the investment-fund industry [24].

This paper is about understanding institutional investors and how they fit into the challenging landscape of the MENA region. It aims to determine the most relevant factors that allowed this region to be among the most lucrative destinations for institutions. How will MENA countries, particularly

companies, attract institutional investors, notably foreign and active investors, to boost performance and sustain growth? Using a large sample of 262 listed seven companies across MENA countries, this study focuses on company and country characteristics that might explain institutional behavior. We attempt to answer the following questions: First, what are the main categories of institutional investors operating in MENA countries? Secondly, what factors drive institutional ownership?

This study contributes to the corporate governance literature in several ways. First, most previous studies have focused on developed economies at the expense of emerging economies. Very few studies examine institutional investors' preferences in the MENA region, and the findings are mixed. Furthermore, the paper addresses the potential endogeneity of ownership, on which there needs to be more research that yields confused results. Moreover, this study focuses on institutional shareholder heterogeneity. Apart from their significant shareholdings, the geographic origin of institutional shareholders (domestic-foreign) and sensitivity-pressure (active-passive) are among the key factors driving their involvement in corporate governance. Considering the heterogeneity of institutional shareholders and identifying their preferences at the firm and country levels would allow us to identify the most suitable institutional investors, those with long-term vision, and those more involved in monitoring and prone to contribute to firm value and economic development.

The remainder of this paper is organized as follows. Section 2 explores the main determinants of institutional ownership. Section 3 presents the data and methodology used. Section 4 reports the results and the robustness of the tests. Section 5 concludes.

## 2. Literature Review

### 2.1. Institutional Ownership and Firm Characteristics

Financial literature put forward firm characteristics such as company size, book-to-market ratio, performance, leverage, bankruptcy risk, liquidity, and dividend as crucial factors for institutional investors while making investment decisions,

Ferreira and Matos argued that most institutional investors follow a dynamic and prudent approach [16]. The firm size is an essential driver of investment worldwide regardless of the origin of institutional investors, foreign or domestic owners. Dahlquist and Robertson showed that institutional investors often target large companies because they are better known and more visible in the market [12]. Bushee et al. added that investing in large companies might be mainly due to governance concerns [8]. Large companies provide public information and are subject to efficient external monitoring by analysts and media. In contrast, Graves and Waddock argued that institutional investors prefer investing in small companies

to become block shareholders [19].

Similarly, Badrinath et al. argued that institutional investors would instead select companies with a long track of high performance [6]. Chung and Wang highlighted that institutional ownership declines when leverage increases [10]. Dahlquist and Robertson reported that institutional investors avoid investing in highly leveraged companies to escape financial distress [12]. Similarly, they avoid investing in companies with a high bankruptcy risk. However, Gompers and Metric proved that institutional investors are tempted to invest in high book-to-market stocks, also called value stocks, and eventually explore market anomalies to earn significant excess returns [18]. On the other hand, Del Guercio advocated that growth stocks with low book-to-market ratios would attract institutional investors [13].

McCahery et al. also focused on liquidity as an essential factor that drives institutional investors to enlarge their stakes [28]. Gompers and Metric explained that institutional investors likely hold high-liquidity stocks to intervene and come out quickly [18]. Additionally, Institutional investors consider the payout policies of companies; results are mixed, though. Gompers and Metric stated that mutual funds avoid investing in stocks with high dividend yields [18]. Dividend payments would guarantee a return on investment, particularly in companies with poor corporate governance and high expropriation risk. Conversely, Grinstein and Michaely documented that institutional investors would prefer companies that do not pay dividends or have a stable dividend payout, accordingly with a prudence strategy [20].

### 2.2. Institutional Ownership and Country Specifications

A growing body of literature argued that institutional investors worry about country specifications: governance quality, disclosure index, legal origin, inflation rate, and international trade.

Belkhir et al. revealed that countries with a strong legal system allow higher protection of shareholders' rights and lower risk of expropriation [7]. Ferreira and Matos argued that institutional investors prefer to invest in countries with good governance quality and a high disclosure index to minimize the risk of expropriation and monitoring costs [16]. Klapper and Love added that investing in companies with good governance quality would be crucial, notably when ownership is highly concentrated and a weak business environment [23]. Awartani et al. asserted that countries characterized by a high degree of investor protection and high efficiency of legal systems attracted institutional investors, as they would allow them to ensure adequate protection of their rights and promote their investment performance [6]. Leuz et al. confirmed that investing in countries with high indexes of information disclosure makes it easier and less complicated for investors to collect and share information, evaluate companies, and manage their investments more efficiently [27]. In this vein,

La Porta et al. demonstrated a significant relationship between the country's legal system and financial market development [25].

Similarly, Mira and Hammadache argued that economic development improves governance quality, which appeals to institutional investors [29]. Zhang et al. showed that commercial banks operating in countries with high law enforcement have better performance and efficiency, mainly due to the quality of the legal system and shareholder protection [32]. Furthermore, La Porta et al. recognized that countries with better political stability and less violence have less corruption, which would provide a better business climate, lower risk of expropriation, and eventually attract institutional investors [25]. Overall, countries with common law offer better protection for investor rights than those with civil law systems. For instance, Aggarwal et al. highlighted that emerging countries with high-quality accounting standards, investor protection, and legal frameworks are more attractive for US funds [2].

### 2.3. Institutional Ownership and Investor Attributes

The increased volume of assets under their management incites institutional investors to be more involved in corporate governance. However, their willingness to be active and influential depends on various factors specific to the investors themselves.

Almazan et al. argued that the behavior of institutional investors depends on their type (active-passive) and origin (foreign-domestic) [4]. Hutchinson et al. added that institutional investors' ability to influence corporate management also depends on the size of their investments, whether they hold a majority or minority position [22]. Bushee et al. indicated that institutional investors with large stakes will likely intervene effectively in management and control to reduce agency costs and ensure high profitability [8]. Block institutional investors can also accrue private benefits relative to their positions, encouraging them to be more dynamic, actively engage in management, and enlarge their stakes. Otherwise, it becomes costly for them to liquidate their positions and exit.

Apart from shareholdings, Ferreira and Matos classified institutional investors under two dimensions, either active versus passive or pressure-insensitive (independent) versus pressure-sensitive (gray) [16]. Broadly speaking, active institutional investors include pension funds, hedge funds, and investment companies, while passive investors comprise insurance companies and banks. Active institutional investors would focus on a long-term investment horizon and are more involved in monitoring. In contrast, passive peers likely have a business-investment tie with their investee companies and are more concerned with short-term horizons. Passive institutional investors need more incentives to monitor the companies in which they invest effectively. Therefore, focusing on the long-term horizon and effectively playing a monitoring

role would allow active institutional investors to be more selective in portfolio management.

Furthermore, the behavior of institutional investors would vary according to their origin, whether domestic or foreign. Gillan and Starks pointed out that foreign ownership is an important governance mechanism that is efficient in disciplining managers and improving performance [17]. Agrawal et al. reported that, unlike domestic peers, foreign institutional investors are more effective in monitoring companies [2]. However, Abdioglu et al. argued that foreign institutional investors must cope with several challenges and obstacles, mainly informational disadvantages and divergence in law and culture [1]. Investing abroad is one strategy that allows institutional investors to diversify their portfolios but exposes them to the "home bias" issue, especially in countries with high information asymmetry and poor governance. Therefore, foreign institutional investors are more prudent in selecting their portfolios than domestic peers.

## 3. Data and Research Design

### 3.1. Data and Sample Selection

The sample comprises 262 non-financial companies listed on the national stock exchanges of 10 MENA countries: Egypt, Morocco, Tunisia, Saudi Arabia, Oman, Jordan, Kuwait, Qatar, Palestine, and the United Arab Emirates. We consider the period that spans from 2005 to 2015. Such a period includes post-crisis and post-revolution periods, crucial moments worldwide, notably in the MENA region. We confine our investigation of institutional ownership to the end of every fiscal year to obtain more coherent data across countries.

We collected institutional ownership data from the Thomson Reuters Eikon database. Thomson Reuters Eikon database is an essential source of institutional ownership worldwide. This database provides information about investors, such as name, position, type, equity assets, country, and investment style. We explored shareholder history reports to collect data on institutional ownership, origin, and kind of investors. We extracted the variables that are related to firm characteristics, country, and stock market from the DataStream (DS), Worldscope (WS), and World Bank (WB). We constructed our first sample using the DS and WS databases, including all listed companies. Then, we excluded Qatar, Palestine, and the United Arab Emirates because of the lack of financial and ownership data. We also eliminated all financial companies because they are subject to different regulations. The companies with missing shareholders' history reports are also excluded.

### 3.2. Variables Definition

We group our variables into three categories, namely, dependent, independent, and control variables. Table 1 provides

a more comprehensive view of the study variables and reports detailed information regarding how each variable was assessed.

The dependent variable ( $IO_{it}$ ) sets for the institutional ownership. Five measures were identified to estimate institutional ownership. Institutional ownership (TOT-IO) represents the percentage of outstanding shares held by all institutional investors. We consider the geographic origin of institutional investors: domestic institutional investors (DOM-IO) and foreign institutional investors (FOR-IO). DOM-IO (FOR-IO) is the percentage of outstanding shares held by domestic (foreign) investors. In addition, we consider the type of institutional shareholders: active institutional investors (ACT-IO) or passive institutional investors (PAS-IO). We measure ACT-IO (PAS-IO) as the percentage of outstanding shares held by active (passive) institutions.

We classify the independent variables into two main categories related to either firm characteristics or country specificities. The company characteristics include size, leverage, cash, previous performance, investment opportunities, dividend yield, bankruptcy risk, and performance. The proxy for firm size (SIZE) is the Naperian logarithm of total assets. We measured leverage (LEV) as the ratio of total debt to total assets and opportunities investment through (BTM) book-to-market value. Cash (CASH) is the ratio of cash and short-term investments to the total assets. Dividend yield (DIV) is the ratio of cash dividend to market value of equity. Profitability (PERF) is the operating income ratio to total assets. Previous performance (PPERF) is the ratio of lagged operational income to total assets. We assess retained earnings designed to finance capital expenditure (RE/TA) through the retained earnings ratio to total assets.

*Table 1. Summary of variables and measures.*

Dependent Variables		
TOT-IO	Total institutional ownership	The percentage of outstanding shares held by all types of institutions
DOM-IO	Domestic institutional ownership	The percentage of outstanding shares held by domestic institutions
FOR-IO	Foreign institutional ownership	The percentage of outstanding shares held by foreign institutions
ACT-IO	Active institutional ownership	The percentage of outstanding shares held by active institutions (mutual funds, hedge funds, and investment advisers)
PAS-IO	Passive institutional ownership	The percentage of outstanding shares held by passive institutions (banks and insurance companies)
Independent Variables		
SIZE	Size	Naperian logarithm of total assets
BTM	Investment o	The book-to-market value of equity
LEV	Leverage	Total debt-to-total assets
CASH	Cash	The cash and short-term investments to total assets
RE/TA	Retained/reinvested earnings	The retained earnings-to-total assets
DIV	Dividend yield	The cash dividend to market value of equity
PERF	Performance	The ratio between operating income and total assets
PPERF	Previous performance	the ratio between lagged operating income and total assets
Z-score	Bankruptcy risk	Altman's Z-score is determined as 1.2 (Working capital/ total assets) + 1.4 (Retained earnings/ total assets) + 3.3 (earnings before interest and tax/ total assets) + 0.6 (Market value of equity/ Total liabilities) + 1 (Sales /total assets).
WGI	World Governance Index	The average of six measures, namely voice and accountability, Political Stability and Absence of Violence, Government Effectiveness, Regulatory Quality, Rule of Law, and Control of Corruption (source: World Bank Database)
DIS	Disclosure Index	Disclosure Index range from 0 to 10 (source: World Bank Database)
LEG	Kind of Legal System	A dummy variable that takes one if the legal system is based on common law and two otherwise
Control Variables		

INF	Inflation	Inflation rate (source: World Bank Database)
ITRAD	International Trade	The ratio between international trade and GDP

The risk of bankruptcy (Z-SCORE) is measured using Altman's Z-score as follows:

Z-SCORE= 1.2 (Working capital/total assets) + 1.4 (Retained earnings/ total assets) +3.3 (earnings before interest and tax/total assets) + 0.6 (Market value of equity/total liabilities) + (sales/total assets).

We consider the world governance index, disclosure index, and legal system among the country specifications. We add inflation and international trade as control variables. We collect the data from the World Bank's database. The worldwide governance index (WGI) is the average of six measures: voice and accountability, political stability and absence of violence, government effectiveness, regulatory quality, rule of law, and control of corruption. The disclosure index (DIS) ranges from 0 to 10 to reveal the adequacy of financial information disclosure. We add a dummy variable for the legal system (LEG). It takes one if it is common law and two if it is civil law. Two country-level variables are also control variables related to international trade (ITRAD), measured as the ratio of international trade to the GDP and the inflation rate (INF).

### 3.3. Model Specification

We apply panel data analysis to determine and measure the firm's and country's characteristics' impact on institutional ownership in the MENA region. Panel data contains more information and allows more variability and efficiency than pure time series or cross-sectional data. We suggest

estimating the following regression model:

$$IO_{it} = \alpha_0 + \sum_{i=1}^9 \beta_i Financial_{it} + \sum_{k=1}^5 \beta_k Macro_{ijt} + \varepsilon_{it} \quad (1)$$

Where IO refers to ownership of institutional investors in firm *i* in year *t*, financial variables include firm size (SIZE), leverage (LEV), investment opportunities (BTM), cash (CASH), retained/reinvested earnings (RE/TA), dividend yield (DIV), performance (PERF), previous performance (PPERF), and bankruptcy risk (Z-score). Macro variables take into consideration the world governance index (WGI), disclosure index (DIS), legal system (LEG), inflation (INF), and international trade (ITRAD).

To investigate how institutional investors' preferences vary according to their origin (domestic vs. foreign) and type (active vs. passive), we re-run the above regression model (1). The dependent variable would be either domestic-foreign or active-passive institutional ownership.

## 4. Empirical Findings and Discussions

### 4.1. Descriptive Statistics and Univariate Analysis

Table 2 provides descriptive statistics. The mean of institutional ownership is around 0.9%. However, this rate varies across the categories of investors.

**Table 2.** Descriptive statistics of institutional ownership, independent and control variables.

	Obs	Mean	Std.Dev.	Min	Max
TOT-IO	2,992	0.009	0.031	0.0002	0.292
DOM-IO	2,992	0.006	0.026	0.0003	0.291
FOR-IO	2,992	0.003	0.018	0.0001	0.425
PAS-IO	2,992	0.001	0.008	0.0002	0.177
ACT-IO	2,992	0.008	0.031	0.0005	0.425
SIZE	2,771	5.332	0.804	2.602	7.98
BTM	2,558	-0.229	0.331	-1.825	1.138
LEV	2,754	0.213	0.196	0.057	0.884
CASH	2,769	0.118	0.137	0.007	.999
RE/TA	2,755	3.858	4.954	1.252	49.09
DIV	2,649	0.086	0.204	0.011	0.715

	Obs	Mean	Std.Dev.	Min	Max
PERF	2,763	0.07	0.099	-0.644	0.58
PPERF	2,505	0.11	0.66	-0.250	0.633
Z-score	2,412	1.141	.885	-4.771	7.207
INF	2,992	0.053	0.107	0.027	0.337
ITRAD	2,992	0.910	0.24158	0.348	1.469
WGI	2,992	-0.136	0.343	-0.899	0.844
DIS	2,960	5.479	1.826	0	8
LEG	2,992	1.82	0.384	1	2

TOT-IO: the percentage of outstanding shares held by all types of institutions; DOM- IO: the percentage of outstanding shares held by domestic institutions; FOR-IO: the percentage of outstanding shares held by foreign institutions; ACT-IO: the percentage of outstanding shares held by active institutions (mutual funds, hedge funds, and investment advisers); PAS-IO: the percentage of outstanding shares held by passive institutions (banks and insurance companies); SIZE: Naperian logarithm of total assets; BTM: the book-to-market value of equity; LEV: total debt-to-total assets; CASH: the cash and short-term investments to total assets; RE/TA: the retained earnings-to-total assets; DIV: the cash dividend to market value of equity; PERF: the ratio between operating income and total assets; PPERF: the ratio between lagged operating income and total assets; Z-score: Bankruptcy risk; INF: inflation rate; ITRAD: the ratio between international trade and GDP; WGI: World Governance Index; DIS: Disclosure Index; LEG: Dummy variable takes one if the kind of legal system is common law and two otherwise.

Domestic institutional ownership is higher than foreign ownership, with respective rates of 0.6% and 0.3%. The average passive (grey) institutional ownership is too low (0.1%), whereas the average active (independent) institutional ownership is relatively more significant (0.8%). Domestic and active investors dominate the companies' ownership.

Table 2 reveals a negative average rate (-0.229) for the book-to-market value that varies from (-1.825) to 1.138, which puts in evidence a wide divergence in opportunities for growth for MENA companies whose countries have different growth rates and are not following the same pace for development. Similarly, the average retained earnings-to-total assets is around 3.858 but varies between 1.252 and 49.09. This ratio reflects the reinvested earnings designed to finance capital expenditure through borrowings rather than retained earnings. The mean of performance is too low, around 7%.

However, some companies exhibit high performance that exceeds 58%. The average rate of leverage is around 0.213. Such a rate is moderate, but there are highly leveraged companies with a 0.884 rate of debt. The average bankruptcy score is acceptable, with a rate of 1.141. However, some companies have significant financial distress with a z-score above 7.200.

As for macroeconomic variables, the average inflation rate is about 5.3%, ranging between 2.7% and 33.7%, which is seriously critical. Most NENA companies are involved in international trade, with a mean ratio of 0.910. But, with a negative average world governance index (-0.136) and a low average Disclosure Index (5.479 out of 10), MENA countries must further intensify their efforts to enhance their corporate governance systems and improve information transparency. Finally, Table 2 shows that most countries adopt civil rather than common law.

Table 3. Pearson and Spearman correlation matrix of all variables.

	TOT-IO	DOM-IO	FOR-IO	PAS-IO	ACT-IO	SIZE	BTM	LEV	CASH	RE/TA	DIV	PPERF	Z-score	PERF	WGI	LEG	DIS	INF	ITRAD	
TOT-IO	1																			
DOM-IO	0.839*	1																		
FOR-IO	0.509*	-0.005	1																	
PAS-IO	0.262*	0.242*	0.101*	1																

	TOT-I O	DOM- IO	FOR- IO	PAS- IO	ACT- IO	SIZE	BTM	LEV	CAS H	RE/T A	DIV	PPE RF	Z-sco re	PER F	WGI	LEG	DIS	INF	ITR AD	
ACT-IO	0.954*	0.787*	0.556*	0.015	1															
SIZE	0.019	-0.004	0.045*	-0.094*	0.047*	1														
BTM	0.165*	0.089*	0.158*	0.166*	0.128*	-0.197*	1													
LEV	0.007	-0.045*	0.083*	-0.006	0.014	0.299*	0.009	1												
CASH	0.014	0.034	-0.041*	-0.053*	0.019	-0.048*	-0.183*	-0.302*	1											
RE/TA	-0.023	-0.014	-0.017	-0.048*	-0.01	0.079*	-0.171*	-0.380*	0.197*	1										
DIV	-0.036	-0.022	-0.029	-0.036	-0.027	0.037	-0.268*	-0.109*	0.107*	0.325*	1									
PPERF	-0.025	-0.025	-0.004	-0.035	-0.016	0.028	-0.113*	-0.098*	0.064*	0.092*	0.074*	1								
Z-score	-0.100*	-0.090*	-0.043*	-0.039	-0.091*	-0.093*	-0.304*	-0.307*	0.267*	0.392*	0.310*	0.125*	1							
PERF	-0.074*	-0.065*	-0.036	-0.054*	-0.061*	0.107*	-0.435*	-0.258*	0.216*	0.435*	0.230*	0.167*	0.549*	1						
WGI	-0.034	0.052*	-0.143*	0.031	-0.049*	-0.026	0.048*	0.035	0.059*	-0.040*	-0.087*	-0.065*	-0.127*	-0.143*	1					
LEG	-0.004	-0.063*	0.084*	0.056*	-0.016	-0.312*	0.260*	-0.024	0.031	-0.051*	-0.124*	-0.040*	-0.047*	-0.122*	0.246*	1				
DIS	0.041*	0.024	0.049*	-0.040*	0.057*	0.232*	-0.211*	0.050*	0.008	0.156*	0.121*	0.059*	0.124*	0.190*	-0.149*	-0.581*	1			
INF	-0.042*	-0.070*	0.034	0.008	-0.043*	-0.067*	-0.021	-0.035	0.068*	-0.041*	-0.012	0.049*	0.004	0.025	-0.013	0.059*	-0.029	1		
ITRAD	-0.045*	0.039*	-0.148*	0.126*	-0.087*	-0.279*	0.121*	-0.028	-0.058*	-0.097*	-0.102*	-0.045*	-0.085*	-0.161*	0.604*	0.114*	-0.260*	-0.022	1	

TOT-IO: the percentage of outstanding shares held by all types of institutions; DOM- IO: the percentage of outstanding shares held by domestic institutions; FOR-IO: the percentage of outstanding shares held by foreign institutions; ACT-IO: the percentage of outstanding shares held by active institutions (mutual funds, hedge funds, and investment advisers); PAS-IO: the percentage of outstanding shares held by passive institutions (banks and insurance companies); SIZE: Naperian logarithm of total assets; BTM: the book-to-market value of equity; LEV: total debt-to-total assets; CASH: the cash and short-term investments to total assets; RE/TA: the retained earnings-to-total assets; DIV: the cash dividend to market value of equity; PERF: the ratio between operating income and total assets; PPERF: the ratio between lagged operating income and total assets; Z-score: Bankruptcy risk; INF: inflation rate; ITRAD: the ratio between international trade and GDP; WGI: World Governance Index; DIS: Disclosure Index; LEG: Dummy variable takes one if the kind of legal system is common law and two otherwise. \* Significance level for  $p < 5\%$ .

Table 3 reports the correlation coefficients of the dataset. Results deny the existence of a multicollinearity issue among the explanatory variables. Most correlation coefficients are either insignificant or display low correlation. Additionally, a correlation matrix helps predict the pair relationships between variables that contribute later in multivariate analysis. Table 3 exhibits a positive relationship between total institu-

tional ownership and firm size, book-to-market, and index disclosure, while it is negative with the default risk, profitability, and inflation.

Table 3 indicates that, for domestic institutional investors, institutional ownership is positively correlated with the book-to-market ratio governance index but negatively related with leverage, bankruptcy risk, firm profitability, kind of legal

system, and inflation. As for foreign institutional investors, there is a positive relationship between institutional ownership and firm size, leverage, book-to-market ratio, legal origin, and disclosure index. The correlation coefficient is, however, negative with cash, bankruptcy risk, and governance index.

On the other hand, passive institutional ownership is positively correlated with book-to-market legal origin. In contrast, it negatively correlates with firm size, Cash, retained/reinvested earnings, profitability, and the disclosure index. For active institutional ownership, the correlation coefficient is positive with company size book-to-market, while it is negative for risk of bankruptcy, profitability, the governance index, and inflation.

## 4.2. Multivariate Regression Analysis

Table 4 reports two kinds of estimations related to the impact of firm characteristics (Panel A) and that of both companies and countries' features (Panel B) on institutional ownership (TOT-IO). Table 4 considers the percentage of shares held by all institutional investors. Results reveal that large, liquid, and profitable companies attract institutional investors. Professional money managers prefer to invest in large companies to avoid issues related to liquidity and minimize transaction costs. Stocks with low liquidity may be challenging to sell.

*Table 4. Determinants of institutional ownership.*

	(A) TOT- IO		(B) TOT- IO	
SIZE	0.000886***	(0.000287)	0.000743**	(0.000312)
BTM	0.0108***	(0.000696)	0.0101***	(0.000756)
LEV	0.00564***	(0.000773)	0.000173	(0.00122)
CASH	0.00616***	(0.00213)	0.00582**	(0.00227)
RE/TA	-0.00270***	(0.000665)	-0.00455***	(0.00104)
DIV	0.00243***	(0.000860)	0.00296***	(0.00107)
PERF	0.00552***	(0.00173)	0.00428**	(0.00194)
PPERF	-5.15e-05	(0.000382)	3.50e-05	(0.000312)
Z-score	-0.00121***	(0.000190)	-0.000927***	(0.000241)
INF			-7.92e-05***	(1.92e-05)
ITRAD			-4.67e-06	(1.03e-05)
WGI			-0.00219**	(0.000860)
DIS			0.000441***	(0.000132)
LEG			9.57e-05	(0.000714)
Constant	0.00299**	(0.00144)	0.00176	(0.00306)
Observations	1,977		1,977	
Nb of companies	262		262	

TOT-IO: the percentage of outstanding shares held by all types of institutions; DOM- IO: the percentage of outstanding shares held by domestic institutions; FOR-IO: the percentage of outstanding shares held by foreign institutions; ACT-IO: the percentage of outstanding shares held by active institutions (mutual funds, hedge funds, and investment advisers); PAS-IO: the percentage of outstanding shares held by passive institutions (banks and insurance companies); SIZE: Naperian logarithm of total assets; BTM: the book-to-market value of equity; LEV: total debt-to-total assets; CASH: the cash and short-term investments to total assets; RE/TA: the retained earnings-to-total assets; DIV: the cash dividend to market value of equity; PERF: the ratio between operating income and total assets; PPERF: the ratio between lagged operating income and total assets; Z-score: Bankruptcy risk; INF: inflation rate; ITRAD: the ratio between international trade and GDP; WGI: World Governance Index; DIS: Disclosure Index; LEG: Dummy variable takes one if the kind of legal system is common law and two otherwise. Standard errors between parentheses. Significance levels: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Additionally, institutional investors select profitable companies to meet portfolio management requirements and earn latent returns. Institutional investors also look for value stocks

with high book-to-market ratios as they have the potential to grow and promise future returns. However, a high dividend yield can appeal to investors and increase the company's stock

demand. Indeed, companies having good growth opportunities retain more money from their earnings to finance their potential investments and pay less dividends.

These findings are consistent with the "prudent strategy" principles. On the other hand, a large bulk of financial literature argues that large companies with high growth opportunities and dividends have low agency problems. Institutional investors are hence tempted to invest in companies with low agency conflicts. In this vein, results highlight that leverage also matters for institutional investors. Leverage has a positive impact on institutional ownership. Perhaps institutional investors prefer leveraged companies as debt plays a significant role in curtailing agency costs. Consistently with this result, institutional investors favor companies with low retained earnings-to-total assets. The ratio measures the amount of reinvested earnings, reflecting the company's debt amount. Institutional investors prefer to invest in companies financing capital expenditure through borrowings rather than retained earnings. Nonetheless, the lower the bankruptcy risk, the greater the institutional ownership. Institutional investors prioritize companies with a low risk of bankruptcy (Z-score).

As for macroeconomic factors, Table 4 (Specification B) shows the importance of high-quality governance and disclosure standards for institutional investors while selecting their investments. Institutional investors look for countries with higher disclosure indexes. The negative impact of the world governance index reveals a need for adequate public governance, deficiency of governance mechanisms, and instability of the political environment in MENA countries rather than the non-importance of governance quality for these investors. The average score is already negative. Institutional investors also escape countries with high inflation rates. The higher the inflation rate, the lower the institutional ownership.

## 5. Robustness Tests

### 5.1. Determinants of Foreign vs. Domestic Institutional Ownership

Table 5 reveals that foreign (Panel C) and domestic (Panel D) institutional investors display shared preferences for value stocks with low retained earnings. Institutional investors look for value stocks that are undervalued but have the potential to grow and generate substantial returns. Both institutional investors prefer to invest in companies financing capital expenditure through debt rather than retained earnings. They may select highly leveraged companies. However, foreign and domestic institutional investors have different preferences for leverage. The higher the debt, the higher the foreign institutional ownership and the lower the domestic institutional ownership. Foreign investors may be more concerned about

agency problems. They consider debt as an effective tool to reduce agency costs. Conversely, excessive leverage would lead to severe financial distress, and the company cannot meet future debt obligations in the long run.

Similarly, foreign and domestic institutional investors do not share the same preferences for company size, liquidity, dividend, and bankruptcy risk. Unlike domestic investors, foreign institutional investors prefer to invest in large companies renowned for better corporate governance and information transparency. Domestic institutional investors look for start-ups and small companies that they can easily manage and control. The dividend policy does matter for foreign institutional investors. They would instead prefer to receive dividends today rather than probable future earnings tomorrow: "A bird in the hand is always better." Domestic investors care more about the company's liquidity and default risk. Stocks' liquidity refers to how rapidly shares of a stock can be bought or sold. Companies with high liquidity and low bankruptcy risk appeal to domestic institutional investors.

As for macro-economic factors, they do not have the same impact on foreign and domestic institutional ownership. Results highlight that the quality of corporate governance, information symmetry, and openness to international trade are among the critical concerns for foreign investors in MENA countries. Foreign institutional investors prefer to invest in countries with high-quality governance and better information disclosure. The negative impact of a negative world governance index on foreign ownership reveals that foreign investors strongly prefer countries with strong investor protection, effective corporate governance, and low corruption. Additionally, information is necessary to evaluate companies and make appropriate decisions. A high disclosure index helps foreign shareholders face informational disadvantages and mitigates the costs of investing outside their country of origin.

Furthermore, results indicate that openness to international trade and exchange makes domestic companies more visible and recognized worldwide, which helps attract a large base of foreign investors. Concerning the legal framework, common law attracts foreign investors, while civil law appeals to domestic institutional investors. Unlike common law, the civil law is based on legislation. The common law is generated by cases over time, and earlier decisions by higher courts should be followed in subsequent similar cases before the courts. This divergence in preferences for legal context can have a historical explanation due to prior relationships across countries. Civil law originated in Europe, while common law was prevalent in the US, the UK, Australia, and Canada. Finally, foreign and domestic institutional investors avoid investing in countries with high inflation rates. Rising inflation has a negative influence on investment returns. It also devalues cash. High inflation rates could dissuade creditors from extending long-term credit due to concerns about value loss.

**Table 5.** Determinants of foreign vs. domestic institutional ownership.

	(C) FOR-IO		(D) DOM-IO	
SIZE	0.00077***	(0.0001)	-0.0004***	(0.0001)
BTM	0.0037***	(0.0004)	0.0023***	(0.0004)
LEV	0.0052***	(0.0006)	-0.0065***	(0.0008)
CASH	0.0003	(0.0008)	0.0054***	(0.0016)
GROW	-0.0012***	(0.0004)	-0.0031***	(0.0006)
DIV	0.0019***	(0.0007)	0.0007	(0.0008)
PERF	0.0019	(0.0012)	0.0024	(0.0019)
PPERF	0.00002	(0.0001)	-0.00007	(0.0003)
Z-score	-0.00008	(0.0001)	-0.0017***	(0.0002)
INF	-0.0000***	(0.0000)	-0.00006***	(0.0000)
ITRAD	0.0000***	(0.0000)	-0.0000	(0.0000)
WGI	-0.0021***	(0.0004)	0.0011	(0.0007)
DIS	0.0006***	(0.0001)	0.0001	(0.0001)
LEG	0.0037***	(0.0003)	-0.0053***	(0.0005)
Constant	-0.0149***	(0.0014)	0.0183***	(0.0020)
Observations	1,977		1,977	
Nb of companies	262		262	

TOT-IO: the percentage of outstanding shares held by all types of institutions; DOM- IO: the percentage of outstanding shares held by domestic institutions; FOR-IO: the percentage of outstanding shares held by foreign institutions; ACT-IO: the percentage of outstanding shares held by active institutions (mutual funds, hedge funds, and investment advisers); PAS-IO: the percentage of outstanding shares held by passive institutions (banks and insurance companies); SIZE: Neperian logarithm of total assets; BTM: the book-to-market value of equity; LEV: total debt-to-total assets; CASH: the cash and short-term investments to total assets; GROW: the retained earnings-to-total assets; DIV: the cash dividend to market value of equity; PERF: the ratio between operating income and total assets; PPERF: the ratio between lagged operating income and total assets; Z-score: Bankruptcy risk; INF: inflation rate; ITRAD: the ratio between international trade and GDP; WGI: World Governance Index; DIS: Disclosure Index; LEG: Dummy variable takes one if the kind of legal system is common law and two otherwise. Standard errors between parentheses. Significance levels: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

## 5.2. Determinants of Active vs. Passive Institutional Ownership

Table 6 exhibits the investment preferences of active (Panel E) and passive (Panel F) institutional investors. Active institutional investors are pressure-insensitive and independent. Active institutional investors include pension funds, hedge funds, and investment companies. Passive investors such as insurance companies and banks are pressure-sensitive because they have a business-investment tie with investee companies. Findings reveal that value stocks with high book-to-market value ratios attract institutional investors, whether active, passive, foreign, or domestic. Unlike growth, value stocks are traded at a lower price than the fundamental value but have the potential to grow and earn future returns, making them appealing to value investors. Active and passive

institutional investors avoid investing in distressed companies with a high default risk. A high score of bankruptcy entails a substantial loss of capital.

Apart from value stock, active (independent) and passive (gray) institutional investors do not have investment preferences. The company size, liquidity, and retained earnings matter for active investors. Active institutional investors prefer to invest in large liquid companies with low retained earnings-to-total assets. These findings prove that active investors are applying the "prudent rules". They also look for companies facing low agency problems, such as large and leveraged companies with low retained earnings. Liquidity is also crucial for active institutional investors who want to sell shares quickly and quickly when they judge it as suitable without losses.

As for macroeconomic factors, active investors prefer to invest in countries with good corporate governance quality, whereas passive investors are interested in the openness of

countries to international trade. Active institutional investors care more about investor protection, government effectiveness, regulation, and control of corruption. Passive institutional investors tend to invest in multinational companies that are renowned and involved in the international market.

Indeed, these investors tied business-investment relationships with companies. The openness of companies to international trade would help institutional investors identify their potential profitable partners.

**Table 6.** Determinants of active vs. passive institutional ownership.

	(E) ACT-IO		(F) PAS-IO	
SIZE	0.0010***	(0.0004)	-0.0000	(0.0001)
BTM	0.0051***	(0.0008)	0.0003*	(0.0002)
LEV	-0.0023	(0.0014)	0.0001	(0.0002)
CASH	0.0064**	(0.0027)	-0.0002	(0.0004)
RE/TA	-0.0042***	(0.0013)	-0.0001	(0.0002)
DIV	0.0018	(0.0012)	0.0001	(0.0002)
PERF	0.0044	(0.0027)	0.0004	(0.0006)
PPERF	-0.0000	(0.0002)	-0.0000	(0.0001)
Z- score	-0.0011***	(0.0003)	-0.0000*	(0.0001)
INF	-0.0000	(0.0000)	-0.0000	(0.0000)
ITRAD	0.0000	(0.0000)	0.0000**	(0.0000)
WGI	-0.0018*	(0.0010)	-0.0002	(0.0001)
DIS	0.0001	(0.0002)	0.0000	(0.0000)
LEG	-0.0015*	(0.0008)	0.0002*	(0.0001)
Constant	0.0007	(0.0038)	-0.0008	(0.0006)
Year Fixed Effect	Yes		Yes	
Observations	1,977		1,977	
Nb of companies	262		262	

TOT-IO: the percentage of outstanding shares held by all types of institutions; DOM- IO: the percentage of outstanding shares held by domestic institutions; FOR-IO: the percentage of outstanding shares held by foreign institutions; ACT-IO: the percentage of outstanding shares held by active institutions (mutual funds, hedge funds, and investment advisers); PAS-IO: the percentage of outstanding shares held by passive institutions (banks and insurance companies); SIZE: Naperian logarithm of total assets; BTM: the book-to-market value of equity; LEV: total debt-to-total assets; CASH: the cash and short-term investments to total assets; RE/TA: the retained earnings-to-total assets; DIV: the cash dividend to market value of equity; PERF: the ratio between operating income and total assets; PPERF: the ratio between lagged operating income and total assets; Z-score: Bankruptcy risk; INF: inflation rate; ITRAD: the ratio between international trade and GDP; WGI: World Governance Index; DIS: Disclosure Index; LEG: Dummy variable takes one if the kind of legal system is common law and two otherwise. Standard errors between parentheses. Significance levels: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Finally, Table 6 shows that common law attracts passive institutional investors like banks and insurance companies. In contrast, civil law appeals to active institutional investors like pension funds, hedge funds, and investment companies. Such a divergence in legal system preferences is due to the origin of institutional investors. Civil law dominates Spain, China, Japan, Germany, most African nations, all South American nations (except Guyana), and most of Europe. Common law prevails most in the US, the UK, Australia, and Canada.

## 6. Summary and Conclusion

This study investigates the determinants of institutional investors' preferences using a unique and extensive database of institutional holdings in the MENA region. We raise two main questions: First, what are the main categories of institutional investors operating in MENA countries? Secondly, what factors drive institutional ownership?

Results reveal a weak presence of institutional investors in the MENA region, around 0.9%. However, this rate varies across the categories of investors. Domestic institutional ownership is higher than foreign ownership, with respective rates of 0.6% and 0.3%. The average passive (grey) institutional ownership is too low (0.1%), whereas the average active (independent) institutional ownership is relatively more significant (0.8%). Unlike foreign and passive investors, domestic and active institutional investors dominate the companies' ownership. Such findings raise serious issues about how to attract foreign institutional investors.

Results also suggest that professional money managers follow the "Prudent rules" strategy. Value stocks attract institutional investors, whatever their origin (foreign or domestic) and kind (active or passive). Stock values are likely to grow and generate potential returns. Institutional investors also look for large, profitable, and liquid companies that pay high dividends. Additionally, institutional investors prefer investing in leveraged companies with low retained earnings-to-total assets but weak default risk. Institutional investors are worrying about agency problems. Leverage would play an essential role in curtailing such issues. Strong investor protection, government effectiveness, control of corruption, and information disclosure are also among the key determinants for institutional investors' decisions.

However, neither foreign and domestic shareholders nor active and passive institutional investors share the same preferences. Unlike domestic investors, foreign institutional investors prefer to invest in large, highly leveraged companies renowned for better corporate governance and information transparency. Domestic institutional investors look for small and low-leveraged companies that they can easily monitor. High dividends attract foreign institutional investors, while domestic investors look for liquid companies with low default risk. Not only the company size, liquidity, and retained earnings matter for active investors, but also corporate governance quality, investor protection, and government effectiveness. Passive institutional investors are more interested in the openness of countries to international trade.

Our findings are relevant for professionals, managers, and policymakers. Managers should identify institutional investors' preferences to attract them. Furthermore, policymakers must adopt well-targeted reforms to offer an attractive business climate, create growth opportunities, and enhance economic development to attract a large base of professional money managers worldwide.

Nonetheless, there are potential downsides to the influence of institutional investors. Critics argue that focusing on short-term financial performance can pressure companies to prioritize short-term gains over long-term sustainability. Besides, their large stakes can tempt them to earn private benefits at the expense of smaller individual shareholders' interests. The influence of institutional investors on company deci-

sion-making and market dynamics may raise important questions about corporate governance, transparency, and the long-term impact of their investment strategies. The role of institutional shareholders in driving the main changes in the Mena Region would constitute a future avenue for research. Above all, individual SWFs have grown substantially and become among the largest institutional investors in the MENA region and worldwide. The astonishing growth of their size and the size of transactions has raised questions regarding their economic and financial roles in their home countries and the countries where they invest. Therefore, it is worth exploring the role and the impact of SWFs, as a large and growing group of institutional investors, in the MENA region to contribute toward allaying concerns about their potential impact on market stability.

## Conflicts of Interest

The authors declare no conflicts of interest.

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