Theoretical and Practical Research in Economic Fields

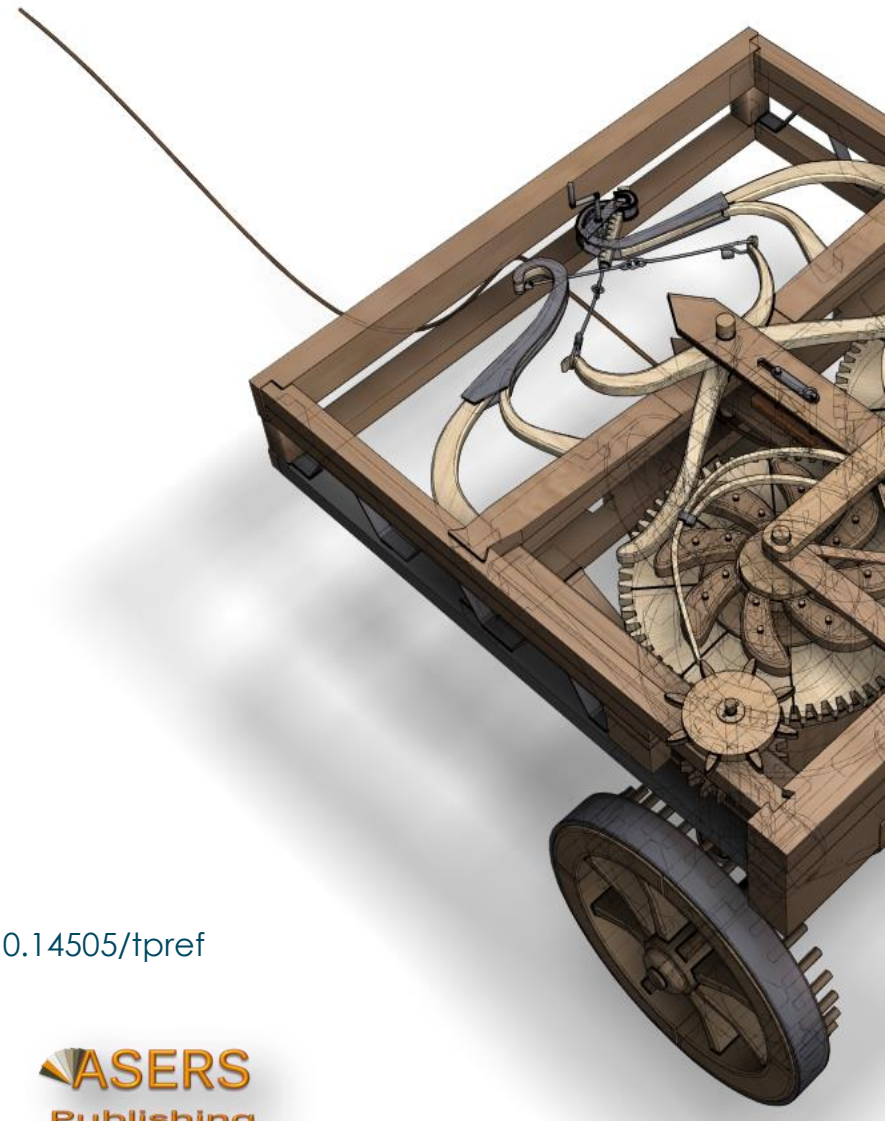

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Table of Contents

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Determinants for the Decision of Delisting Companies from Stock Exchange: A Case Study of Tunisia, Egypt and Morocco

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Abstract: The Initial Public Offering (IPO) is considered a crucial step for a company, but its success is not guaranteed. This article aims to study the explanatory factors behind the delisting of a publicly traded company. To accomplish this, we have chosen a representative sample of 5 Tunisian companies, 5 Moroccan companies, and 10 Egyptian companies that were all delisted from the stock exchange between 2012 and 2021. Drawing on agency theory and signaling theory, we seek to identify the determinants that influence companies' delisting decisions. Three main findings are highlighted. This decision is positively influenced by: i) company-specific characteristics; ii) governance mechanisms; and iii) market situation. A theoretical and empirical approach is adopted to address this issue.

Keywords: Initial Public Offering; delisting; agency conflicts; information asymmetry; corporate governance.

JEL Classification: D53; E44; G3; G15; C10.

Introduction

The Initial Public Offering (IPO), or "Introduction en Bourse" in French, has long been a subject of great interest for companies and researchers in finance and accounting. This operation is often seen as a crucial step in a company's life, as it brings significant benefits, particularly in terms of fundraising. Although this operation requires a lengthy period of preparation and significant managerial considerations, the success of the IPO is not guaranteed. This is evidenced by a fairly significant wave of delistings. Contrary to the IPO, delisting from the stock exchange is the abandonment of the status of a publicly traded company. In other words, it involves the transition from a listed "public firm" to a closed company whose shares are no longer traded on the stock exchange, becoming a "private firm". This operation is referred to "Public to Private" (PtoP) or "Going Private".

This document provides evidence of the phenomenon of firms' radiation from markets, we document the impact of delisting announcement on stock returns**.** Even though the results indicate that Tunisian, Egyptian and Moroccan market react to the announcement of companies' radiation by managers. Moreover, the timing of delisting decision is affected by some different factor related to the firms' situation, corporate governance and institutional environment. Tunisian, Egyptian and Moroccan investors react negatively to the announcement to firms delisting from different market.

The reasons for delisting are often complex and varied. In this regard, the IFGE (2012) raises the following question: "Why do companies exit the stock exchange?" This question remains relevant today because, despite the significance of the phenomenon, there are few studies that focus on this issue.

According to Jensen and Meckling (1976), agency relationships result from the separation of powers and the delegation of tasks from a principal to an agent. In their view, a firm can be seen as a set of contracts, and the agency relationship is merely a contractual and conflictual relationship between the principal and the agent. In this relationship, the agent is designated and empowered by the principal to provide services on their behalf. Agency theory assumes that all agents act to maximize their own utility. Differences in interests between the principal and the agent can be resolved through a contract established to incentivize the agent to act in accordance with the principal's objectives.

This agency relationship can readily apply within a company, particularly to the relationship between shareholders and executives. Shareholders (principals) appoint the executive (agent) to manage the company, especially concerning investment and financing decisions. However, since the interests of the executive may differ from those of the shareholders, they may be tempted to use their discretionary power to appropriate a portion of the company's wealth at the expense of the shareholders. These temptations can be significant because there is no contract that can specify all of the executive's obligations, nor is there a measurement system to evaluate their efforts. Thus, the opportunistic behavior of the executive plays a central role in agency relationships and leads to conflicts between executives and shareholders.

Furthermore, agency conflicts can also arise from the relationship between shareholders-executives/creditors. Shareholders tend to make financing and investment decisions that transfer a portion of the company's market value to shareholders at the expense of creditors. This situation can lead to two problems: asset substitution and underinvestment.

According to Myers (1977), asset substitution occurs when low-variance assets (less risky) are replaced by high-variance assets (riskier) with the aim of increasing shareholder wealth at the expense of creditors. Potential gains are mostly captured by the company in the event of project success, while costs are primarily borne by creditors in case of failure.

Regarding the underinvestment problem, it occurs when projects with positive net present value are rejected because the benefits would mainly accrue to creditors. According to Myers (1977), the value of a company is the sum of the value of its existing assets and investment opportunities. Unlike the value of existing assets, which is independent of the executive's discretionary choices, the value of investment opportunities depends on these choices. However, it is important to note that in both problems, creditors are assumed to be irrational and do not anticipate the opportunistic behavior of the executive.

Due to the complexity of conflicts of interest and agency problems, it is crucial to have mechanisms in place to discipline executives and ensure that contracts are respected by all parties involved. These mechanisms incur costs known as "agency costs."

According to Jensen (1986), if companies with available free cash flows (FCF) do not find good investment opportunities, there is a risk that they will waste these cash surpluses on projects that destroy value rather than distributing them to shareholders in the form of dividends or special dividends.

According to Jensen (1986), executives tend to retain available resources and grow the company beyond its optimal size, a phenomenon known as "empire building." This goes against the interests of shareholders. To avoid this situation, Jensen (1986) suggests using debt in a way that free cash flows (FCF) are used to repay debt rather than finance unprofitable projects. By exchanging equity for debt through high leverage, credible executives commit to using their future FCF to repay debt instead of retaining them for their own benefit or investing them in value-destructive projects. Thus, according to this hypothesis, companies with high FCF have an incentive to go private by opting for a leveraged buyout (LBO). In this context, delisting from the stock exchange via an LBO is considered a mechanism to resolve agency conflicts resulting from the existence of FCF.

According to agency theory (Jensen and Meckling, 1976), the separation of ownership and decision-making functions leads to conflicts of interest between shareholders and executives, resulting in agency costs detrimental to the company's value creation. These conflicts manifest in decisions made by executives that go against the interests of shareholders. Initially, this may involve excessive compensation or privileges granted to executives due to their positions. Additionally, there may be the use of the company's existing resources to fund its growth or invest in projects with negative net present value. To mitigate these agency conflicts, it is possible to increase control over executives through various corporate governance mechanisms.

In order to test this hypothesis, the majority of studies focus on the association between corporate governance and delisting from the stock exchange (for example: Chancharat *et al.* 2012). This correlation is justified by the fact that high-quality governance involves close monitoring and control of executives, thereby reducing agency conflicts between them and shareholders. Consequently, the reduction of these agency conflicts leads to a decrease in the likelihood of delisting from the stock exchange for companies in the future.

According to Croci and Del Giudice (2014), most studies focusing on delistings from the stock exchange have overlooked a crucial factor: the high concentration of capital and the frequent presence of a dominant family-type shareholder within companies. This concentration helps reduce conflicts of interest between shareholders and executives through strong control exerted by the dominant shareholder over executives (Renneboog *et al.* 2007). However, this concentration also leads to significant conflicts of interest between majority and minority shareholders. Indeed, due to their specific advantages, majority shareholders are incentivized to extract private benefits at the expense of minority shareholders.

In their analysis of the role of family ownership, Geranio and Zanotti (2010) find mixed results. Firstly, they discover that delisting operations initiated by dominant family owners have a positive impact on shareholder wealth. However, delistings initiated by financial investors (such as LBO transactions, for example) do not have a statistically significant impact on shareholder wealth. The control hypothesis suggests that delisting from the stock exchange can be considered a mechanism for controlling shareholders (or majority shareholders) to realize private benefits at the expense of minority shareholders.

Studies related to signal theory originate from the work of Akerlof (1970). Based on the market for used cars, the author assumes that buyers only have imperfect information regarding the quality of cars, which prevents them from distinguishing between good and bad deals. Consequently, they are only willing to pay a price weighted by a probability reflecting the quality of the product. On the other hand, sellers of high-quality products can only sell their goods at a price lower than their expected real value. This drives them to exit the market where only low-quality products are offered. Buyers will then abandon this market, leading to its disappearance. Hence, it is necessary to establish mechanisms or regulatory bodies. To avoid this situation, sellers of good-quality cars have an interest in signaling the quality of their products in the market.

In the context of financial markets, early signaling models suggest that managers of high-performing companies have an interest in signaling the quality of their company in the market to distinguish themselves from lower-performing ones. Indeed, once the quality of the company is revealed, it becomes easier for investors to accurately assess the securities offered by it. Managers are aware that withholding private information would lead the financial market to evaluate their company based on average quality, which would not reflect their actual performance.

However, managers of "poor" quality companies may be incentivized to mimic the signal of "good" quality companies in order to portray themselves as higher-quality companies. However, they run the risk of facing sanctions when the market realizes that they have disclosed false information. In order to determine low-quality companies from disseminating false information to mimic high-quality companies, their works have provided insights into the conditions of signaling.

Other models have instead focused on the characteristics of the Initial Public Offering (IPO) process, particularly on the choice of reputable partners involved in the process. According to these models, managers choose partners with a good reputation, which can influence the company's value and reduce some of the uncertainty surrounding it.

Finally, the last category of models has focused on the informational advantage of the IPO candidate. Hughes (1986) demonstrates that the manager has two methods to signal the quality of the company: either they use indirect signals, such as the percentage of ownership retained after the IPO, or they use a direct presentation of private information regarding the company's cash flows. The second signal is considered credible because the company would incur penalties for disseminating false information.

In summary, managers of high-quality companies are motivated to send signals to the market to demonstrate their quality. They do this by disclosing favorable information in the documents related to the operation, in order to distinguish themselves from lower-quality companies. Consequently, investors can use the information disclosed by companies in prospectuses, offering documents, or offering memoranda to assess the quality of companies seeking an initial public offering (IPO). This information can help companies persuade investors of their performance and future prospects. On the other hand, this information can also be used to identify low-quality companies that may be at risk of delisting in the long term.

1. Literature Review

Due to the magnitude of the phenomenon of delisting companies from the stock exchange globally (sometimes surpassing the number of IPOs), it is essential to study the factors that lead to this operation and to understand its consequences. The examination of existing literature reveals that delisting from the stock exchange is influenced by three categories of factors: (1) company-specific characteristics, (2) governance mechanisms, and (3) market conditions.

1.1 Company Characteristics

Several studies have shown a tragic decline in the survival rates of companies listed on the stock exchange over the past decades, which can be explained by microeconomic factors related to the company. In line with previous empirical studies, the microeconomic variables related to the company are: (1) asset profitability; (2) dividend distribution; (3) asset growth; (4) level of indebtedness; and (5) company size.

1.1.1. Asset Profitability

Previous empirical studies have shown that a company's asset profitability plays an important role in the delisting decision. When a company exhibits low or negative asset profitability over an extended period, this can be considered a sign of poor financial and operational performance, which may raise questions about the company's ability to meet regulatory requirements, maintain financial transparency, and protect investors' interests. This relationship is highlighted by Demers and Joos (2007).

1.1.2 Dividend Distribution

Dividend distribution refers to the portion of profits distributed to shareholders in the form of cash dividends or other forms of compensation. According to financial theories, dividend distribution can impact the decision to delist companies in several ways. Firstly, according to Sawicki (2009), regular dividend distribution is often seen as a signal of financial stability and company health. Companies that have a consistent ability to generate profits and distribute regular dividends may be perceived as better positioned to survive and thrive in the long term. Thus, a company that maintains a stable and increasing dividend policy may be less likely to be delisted compared to a company experiencing fluctuations or interruptions in dividend distribution. Secondly, dividend distribution can affect the company's liquidity availability. When a company distributes a significant portion of its profits as dividends, this may reduce its ability to finance future investments or cope with financial difficulties. A company that fails to generate sufficient liquidity to support its operational activities and investments may be more likely to be delisted. Studies conducted by Koch and Shenoy (1999) highlight this relationship.

1.1.3 Asset Growth

Asset growth is generally considered an indicator of a company's expansion and development potential. Previous empirical studies have revealed that, in the context of the delisting decision, insufficient asset growth may indicate that the company is struggling to grow and adapt to market requirements. Investors and financial regulatory authorities may perceive this as a sign of increased risk and limited long-term viability. Studying delistings in the United States, Doidge *et al.* (2010) and Chaplinsky and Ramchand (2012) find that when asset growth is insufficient to maintain the company's competitiveness and profitability, financial markets may decide to delist the company.

1.1.4 Level of Indebtedness

The level of indebtedness refers to the amount of debt that a company has incurred relative to its equity. Martinez and Serve (2011) find that when investors and financial markets perceive a high level of indebtedness, they may consider it a sign of concerning risk. A heavily indebted company may be less capable of coping with economic shocks or market fluctuations, which can compromise its financial stability and ability to generate profits. Financial regulatory authorities may also closely monitor the level of indebtedness of listed companies. They often impose limits and leverage ratios to ensure financial system stability and investor protection. If a company exceeds these thresholds or fails to manage its debt effectively, it may be subject to stricter regulatory measures or even delisted from the exchange.

1.1.5 Company Size

Authors Bhabra and Pettway (2003) and Kooli and Meknassi (2007) have emphasized the importance of company size in long-term survival capacity. Large companies are assumed to be able to overcome periods of economic crisis and/or correct past strategy errors.

H1: Company characteristics have a positive influence on the decision to delist listed companies from the stock exchange.

2. Corporate Governance

In theory, corporate governance is supposed to ensure the independence and transparency necessary for the proper functioning of a company and is often seen as a means to protect the multiple interests of stakeholders.

However, in the context of a listed company, going public can lead to capital dilution, which can result in significant agency costs that may harm the company in the long term. Drawing on the interest alignment hypothesis, we postulate that there is a positive correlation between the quality of governance and delisting from the stock exchange. Indeed, conflicts between executives and shareholders are expected to be high due to weak managerial control, which could prompt companies to delist in order to realign the interests at stake.

Within the scope of this study, the quality of corporate governance is apprehended through the examination of five factors: (1) separation of the Chairman and CEO roles; (2) board size; (3) percentage of independent directors on the board; (4) foreign ownership; and (5) government ownership.

2.1. Separation of Chairman and CEO Roles

According to agency theory, the separation of roles within a company should be associated with quality governance. When the chairman is not involved in operational management, they are better able to represent shareholders' interests and exercise effective control over executives. This notion is supported by Fama and Jensen (1983), who argue that combining control and management functions under one person can lead to excessive influence of that individual on board decisions, thereby limiting its ability to perform control and oversight functions. Additionally, according to Finkelstein and D'Aveni (1994), role separation is a measure adopted by companies to combat entrenched interests. The combination of control and management roles is also a potential source of conflicts of interest. In particular, executives are incentivized to support projects they have initiated, even if they do not create value for shareholders, which can ultimately reduce company performance and increase the likelihood of delisting from the stock exchange. Studies by Abdul Rahman and Haniffa (2005) confirm this idea by finding a negative correlation between role combination and company performance. According to Jensen (1986), one possible explanation for companies' decision to go private is that they have to bear significant agency costs, partly related to role combination. In a study using various governance measures, including separation of chairman and CEO roles, Leuz *et al.* (2008) find that companies with low-quality governance are more likely to be delisted from the stock exchange.

2.2. Board Size

The issue of optimal board size has been widely debated in the literature, and studies have yielded sometimes conflicting conclusions. Some studies support the effectiveness of small boards. For example, Fischer and Pollock (2004) found that small boards facilitate decision-making by enhancing communication and coordination among members. A small board may be more efficient as discussions among members are facilitated, leading to consensus on important decisions. Thus, the negative relationship between board size and performance can be explained by coordination, communication problems, and a slower decision-making process in large boards. Jensen (1993) also notes that a small board is less easily controlled by the executive due to greater member involvement, increased responsiveness, and less frequent disagreements among members. Conversely, other studies highlight the effectiveness of large boards. The idea is that the more directors there are, the more skills there are within the board. Several authors have observed a positive correlation between board size and company performance, such as Chaganti *et al.* (1985) and Dalton *et al.* (1999). This positive relationship can be explained by the fact that a large board is likely to have a greater number of skills to effectively monitor the actions of the management team (Haniffa and Hudaib, 2006).

2.3. Independence of Directors

The presence of independent directors is generally considered a favorable governance practice. According to Fama and Jensen (1983), independent directors exercise stricter control over executives and are better able to oppose them, reducing executives' opportunistic behaviors and ensuring better protection of shareholders' interests. According to Lee *et al.* (1992), the presence of independent directors can reduce agency problems between shareholders and executives of delisted companies through leveraged buyouts (LBOs). This idea can be explained by the fact that companies tend to delist when they face significant agency costs (Jensen, 1986). Leuz *et al.* (2008) find that the presence of independent directors on the board is less common in delisted companies than in listed companies. Additionally, by reducing executives' opportunistic behaviors, the presence of independent directors should improve the quality of board decisions, ultimately increasing company performance (Raheja, 2005) and thus reducing delistings from the stock exchange.

2.4. Foreign Ownership

Foreign ownership refers to the holding of shares or stakes in a company by foreign investors. Some studies suggest that foreign ownership can have a positive effect on company survival and performance. Charitou *et al.* (2007) found evidence that companies with higher levels of foreign investor ownership are less likely to be delisted from the NYSE (New York Stock Exchange). These investors can bring financial resources, specialized knowledge, and international expansion opportunities, which can enhance competitiveness and long-term viability of the company. In these cases, foreign ownership can reduce the risk of delisting by providing financial and strategic support. Several studies have also shown that the presence of foreign investors positively affects governance quality (Chung and Zhang 2011) and company performance (Ferreira and Matos 2008), leading to a decrease in delistings from the stock exchange. However, analyzing the factors that led to involuntary delistings of Egyptian companies during the period 1992-2009, Algebaly *et al.* (2014) found that the proportion of capital held by foreign investors has a negative impact on their delisting.

2.5. Government Ownership

Shyu (2011) found a positive relationship between the percentage of capital held by the government and company performance (measured by ROA 20 and Tobin's Q) for 465 Taiwanese listed companies during the period 2002-2006. This result can be explained, firstly, by the reduction in agency conflicts between executives and shareholders in government-owned companies. Additionally, government owners tend to have a long-term investment outlook compared to other shareholders who focus primarily on short-term or immediate profits. Furthermore, according to Stein (1988 and 1989), shareholders with a long-term outlook are less likely to be influenced by executives' opportunistic behavior and reject non-profitable projects. Conversely, Hu *et al.* (2018) show, based on a sample of 28 delisted Chinese companies, those government-owned companies may be prone to operational inefficiencies or mismanagement, which can result in poor financial performance. Government ownership can pose challenges in terms of corporate governance, with decisions often made politically rather than based on economic or financial criteria. If this leads to persistent issues of transparency, accountability, and ineffective decision-making, delisting may be considered as a corrective measure; Hadfi Bilel (2020).

H2: There is a positive relationship between governance mechanisms and the decision to delist listed companies from the stock exchange.

3. Market Situation

Based on previous empirical studies, the macroeconomic factors considered are: (1) market liquidity; (2) market development; and (3) stock market index movement.

3.1. Market Liquidity

Previous empirical research has shed substantial light on the decisive impact of market liquidity on a company's decision to delist. The results of these studies have conclusively established that liquidity plays a leading role in this strategic decision. Indeed, several authors have examined this complex relationship and found significant correlations. For example, the work of Bakke *et al.* (2012) revealed that companies facing low market liquidity were significantly more inclined to opt for delisting.

3.2. Market Development

Previous empirical research has provided interesting insights into the influence of market development on companies' delisting decisions. When the market is developing and presents growth opportunities, companies tend to maintain their listing to benefit from the advantages of liquidity, visibility, and access to capital. An expanding market provides a conducive environment for business expansion, acquiring new customers, and undertaking profitable investment projects (Fungáčová and Hanousek, 2011). Conversely, in a declining or stagnant market, companies may struggle to generate revenue and meet their growth objectives. Increased competitive pressures, declining demand, or structural changes can make it difficult to achieve strong financial performance. In such circumstances, companies may be tempted to make the decision to delist to avoid the costs associated with maintaining a stock exchange listing, such as financial disclosure requirements, regulatory constraints, and governance obligations (Hadfi and Kouki 2020, 2021).

3.3. Stock Market Index Movement

Previous empirical research has clearly established that stock market index movement plays a significant role in the decision-making process regarding companies' delisting. A study by Johnson and Soenen (2003), Abeer and

Ines (2024), Hadfi (2024) revealed that companies tend to be more inclined to delist when the stock market index shows a prolonged downward trend. This decision may be motivated by the desire to minimize potential financial losses and protect against risks associated with a declining market. Furthermore, when the market is down, liquidity may decrease, making it more difficult for companies to trade their shares and attract new investors. On the other hand, companies are more likely to remain listed when the stock market index shows a sustained upward trend. In an expanding market, companies may benefit from higher valuation of their shares, greater market liquidity, and increased investor interest. This may encourage them to maintain their listing and take advantage of financing and growth opportunities offered by a favorable market.

H3: There is a positive relationship between market situation and the decision to delist listed companies from the stock exchange.

4. Data and Methodology

4.1 Sample Description

Our study, initially focused on companies delisted from the Tunisian Stock Exchange (BVMT), has been expanded to include the Moroccan and Egyptian stock exchanges to address the lack of available information and enhance the validity of our analysis on factors influencing companies' delisting from the stock exchange.

Table 1. Organization and operation of the financial markets in the countries under study

Stock Exchange Management Company					
Country	**Designation**		**Abbreviation**	**Founded year**	
Tunisia	Bourse des Valeurs Mobilières de		BVMT	1969	
Egypt	Egyptian Exchange		EGX	1883	
Morocco	Bourse des Valeurs de Casablanca		BVC	1929	
Regulatory and oversight body					
Country	**Designation**		**Abbreviation**	**Founded year**	
Tunisia	Le conseil du marché financier		CMF	1995	
Egypt	Autorité égyptienne de surveillance		EFSA	1883	
Morocco	Le conseil déontologique des valeurs		CDVM	1994	
Listing mode					
Country	**Platform**	**Stock**	**Stocks**	**Mode**	**Frequency**
Tunisia	SUPERCAC UNIX	TUNINDEX	- Less liquid stocks	- Fixing	- Daily
			- Highly liquid stocks	- Continu	- Daily
Egypt	-	EGX30	- Less liquid stocks	- Fixing	- Daily
			- Less liquid stocks	- Continu	- Daily
Morocco	NSC	MASI	- Less liquid stocks	- Fixing	- Daily
			- Less liquid stocks	- Continu	- Daily

Source: BVMT, EGX, BVC

By including these countries, we increase the size of our sample, which can strengthen the statistical validity of our results. The more observations we have, the more our conclusions can be generalized to a broader population of companies and stock markets. The stock exchanges of Egypt and Morocco hold a prominent position in the financial landscape of North Africa.

The following table succinctly summarizes the key elements of the organizational framework and operation of the financial markets examined.

We have compiled a sample consisting of 50 observations for Tunisia, 50 observations for Morocco, and 100 observations for Egypt.

By having a sufficient number of observations for each context, we will be able to obtain more precise and representative results, thus strengthening the validity of our study. Our data are mainly drawn from the annual reports published by the Tunisian Stock Exchange (BVMT), the Casablanca Stock Exchange, and the Egyptian Stock Exchange, as well as the prospectuses published by the Financial Market Council (CMF) and the relevant authorities in each country. Other variables, such as macroeconomic variables, are manually collected from the websites of the Central Bank of Tunisia (BCT), Bank Al-Maghrib, and the Central Bank of Egypt. Below is the comprehensive table containing our sample consisting of companies that have been delisted from the stock exchanges of Tunisia, Egypt, and Morocco over the period from 2012 to 2021.

Table 2. List of delisted companies

Companies	Delisting date	Voluntary	Involuntary
Tunisia			
Palm Beach Hôtels Tunisia	2012		Decision
Syphax Airlines	2015		Decision
Elbene Industrie	2019	Decision	
Tunisie Valeurs	2020	Decision	
STEQ	2021	Decision	
Morocco			
DELTA HOLDING SA	2012	Decision	
Auto Nejma	2014	Decision	
Lesieur Cristal	2018	Decision	
SONASID	2020		Decision
SOTHEMA	2021	Decision	
Egypt			
Al Fanar Contracting	2012	Decision	
Arab Ceramic	2013		Decision
Asec Company For Mining	2014		Decision
Canal Shipping Agencies Company	2015	Decision	
Delta Sugar	2015	Decision	
Egyptian Electric Cable	2016	Decision	
Al Ahram Printing	2017	Decision	
Elsewedy Electric	2018	Decision	
Grand Investment Capital	2020		Decision
Misr Duty Free Shops	2021	Decision	

Source: BVMT, EGX, BVC

We will test three econometric models using a panel data regression model because our sample is characterized by a double dimension (individual and time). The choice of panel data, or longitudinal data, will allow us to control both the individual and time effects. The dual dimension of panel data increases the number of observations and thus the degrees of freedom of the statistical tests.

1. Binary Logistic Regression Model

We will conduct binary logistic regressions to explain the delisting of companies from the stock exchange. The dependent variable is binary (delisted or not delisted).

Logistic regression is employed in studies to verify if independent (or explanatory) variables can predict a dichotomous dependent variable. Unlike multiple regression and discriminant analysis, this technique does not require a normal distribution of predictors or homogeneity of variances.

From a statistical perspective, logistic regression allows us to directly estimate the probability of an event occurring (in our case, the probability of companies being delisted from the stock exchange).

Our estimation consists of 3 models:

Model 1: Relationship between company characteristics and delisting

$$Delisting_{it} = \beta_0 + \beta_1 ROA_{it} + \beta_2 DIV_{it} + \beta_3 SIZE_{it} + \beta_4 LEV_{it} + \beta_5 GROWTH_{it} + \varepsilon_{it}$$

Model 2: Relationship between governance mechanism and delisting

$$Delisting_{it} = \beta_0 + \beta_1 TF_{it} + \beta_2 CEO_{it} + \beta_3 IND_{it} + \beta_4 CC_{it} + \beta_5 GO_{it} + \beta_6 FO_{it} + \varepsilon_{it}$$

Model 3: Relationship between market situation and delisting

$$Delisting_{it} = \beta_0 + \beta_1 ML_{it} + \beta_2 DM_{it} + \beta_3 IBI_{it} + \varepsilon_{it}$$

where: (i,t) indicate respectively the company and time;

β_0: constant parameter;

$\beta_{1...6}$: regression coefficients;

ε_{it}: residual term.

Table 3. Summary of independent, dependent and control variables

Variables	Definition	Measure
Dependent variable		
Delisting	Companies' delisting	Binary variable = 1 if the company is delisted and 0 if it is still listed.
Independent variables		
ROA	Return on assets	It is the ratio of net income to total assets.
DIV	Dividends distributed	This is the amount of dividends distributed by the company.
GROWTH	Asset growth	It is the movement of the company's assets.
LEV	Debt level	It is the ratio of total debt to total assets.
TF	Board size	This is the number of members of the board of directors.
CEO	Variable duality	Binary variable = 1 if there is a combination of the Chairman of the Board and CEO functions, and 0 otherwise.
IND	Board Independence	It is the ratio of independent members to the total number of board members.
CC	Board concentration	The percentage of capital held by the principal shareholder.
GO	Government ownership	Binary variable = 1 if the principal shareholder is a government and 0 otherwise.
FO	Foreign ownership	Binary variable = 1 if the principal shareholder is a foreigner and 0 otherwise.
ML	Market liquidity	This is the ratio of market capitalization to Gross Domestic Product (GDP).
MD	Market development	This is the ratio of trading volume to Gross Domestic Product (GDP).
IBI	Index Movement	This is the variation of the country's stock market index.
Control variable		
SIZE	Company size	It is the natural logarithm of the total assets of the company at the end of the accounting period.

Source: Edit by authors

Table 4. Descriptive statistics of variables

Variables	Mean	Minimum	Maximum	Median	Standard	Kurtosis	Skewness
ROA	0.1414827	-0.1464617	0.7592363	0.1131478	0.1356477	7.174023	1.627463
DIV	0.0029646	0.0001157	0.0585359	0.001754	0.0060926	70.73564	7.762365
SIZE	2.334299	0.693727	4.094159	2.158919	0.9934516	1.906732	0.3691568
GROWTH	0.1218807	-0.3345855	4.922849	0.0440812	0.5201249	74.52207	8.139982
LEV	0.1407816	0	0.4678938	0.072095	0.1495565	1.949913	0.6586538
CC	0.5043	0.16	0.929	0.4	0.2236511	2.585396	0.7427962
TF	7.7	5	11	7.5	1.961756	1.84221	0.1016563
IND	0.0566667	0	0.3	0	0.0897058	2.867288	1.16256
ML	0.478	0.19	0.86	0.43	0.2210078	1.830331	0.3421216
MD	0.2587282	0.0910539	0.5027848	0.2618688	0.1459894	1.581905	0.1610811
IBI	0.2492132	-0.564303	1.463006	0.230917	0.5379341	3.56012	0.569864

Variables	Frequency	Percentage
Delisting	90	90%
	10	10%
CEO	64	64%
	36	36%
FO	84	84%
	16	16%
GO	70	70%
	30	30%

Source: Edit by authors

Observing the table above, we note that the ROA variable displays an average of 14.14% and has extreme values of -14.6% for the minimum value and 75.9% for the maximum value. For the dividend variable, the average value is 0.29%. The value of this variable ranges from a maximum of 0.5 to a minimum of 0. Regarding the size of the board of directors, the average is 8.3 with a standard deviation of 2.32335.

Table 5. Relationship between companies' characteristics and delisting

Dependent variable: Delisting	Estimation model		
Independent variables	Tunisia	Egypt	Morocco
C	-2.098919	-2.766886	-1.64011
P(value)	0.276	0.013***	0.779
Economic profitability	2.50052	2.190717	43.29644
P(value)	0.733	0.085**	0.034**
Dividend	-2.917492	13.57954	-10.9007
P(value)	0.033**	0.745	0.417
Company size	0.1195438	-0.1542242	-0.9646807
P(value)	0.552	0.668	0.664
Asset growth	1.237512	0.1327254	6.747823
P(value)	0.722	0.048**	0.126
Debt level	-3.609082	3.240821	0.4892063
P(value)	0.068**	0.182	0.053**
Hausman test	0.9968	0.6727	0.5521
Model nature	Random effect	Random effect	Random effect
Wald chi2	1.09	2.54	4.07
Prob > chi2	0.9547	0.7701	0.5394

Note: ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

This suggests that the average board size of the sample companies is around 8-9 members. Board independence has an average of 0.26913 with a standard deviation of 0.061464. This indicates that most companies in the sample have a relatively independent board of directors. For market liquidity, the average value is 0.2258243 and varies between 0.07332 and 0.346530 with a dispersion of 0.091709. For market development, the average is 0.085856 and varies between 0.02622 and 0.256965. The "kurtosis" indicator is very high at 5.99940, suggesting a highly spread distribution, even extreme values. For the stock index movement variable, the average value is 0.129615 and varies between -0.112658 and 0.4850397. Similarly, below, we have proceeded to elaborate tables presenting detailed statistical descriptions for the cases of Egypt. These observations support our analysis and allow us to draw general conclusions regarding the factors determining the delisting of companies from the stock exchange.

The results obtained provide valuable insights into the influence of key factors such as economic profitability, dividend distribution policy, company size, asset growth, and debt level on the decision to delist. Indeed, a significant positive correlation is observed between economic profitability and the decision to delist from the stock exchange in the three countries examined. This indicates that companies with high profitability are more likely to delist from the stock exchange compared to their less profitable counterparts.

Furthermore, dividend distribution plays a major role in the delisting decision. In the Tunisian and Moroccan contexts, companies that regularly distribute attractive dividends are less likely to be delisted from the stock market, unlike the situation observed in Egypt. Moreover, company liquidity is also a factor to consider, where companies with high liquidity, meaning those with the ability to generate regular cash flows and meet shareholders' liquidity needs, tend to distribute more dividends. This relationship between liquidity and dividend distribution can influence the delisting decision because companies that maintain high liquidity are perceived as more stable and reliable. The results of our study, supported by previous work by Khan and Ahmad (2017) on the Pakistan Stock Exchange; Badu (2013) on the Ghana Stock Exchange; Yong and Mazlina (2016) on the Malaysian Stock Exchange; Ibrahim Elsiddig Ahmed (2014) in the United Arab Emirates context; Jin *et al.* (2011) in the British context, reinforce the importance of liquidity as a determining factor in the decision to delist companies.

Furthermore, it is worth noting that the company size factor has a contrasting influence on the delisting decision depending on the specific context of each country examined. In the Tunisian context, the company size factor has a positive impact on the delisting decision. This can be explained by the fact that large companies in Tunisia may face challenges related to their size, such as high management costs, increased operational complexity, or less flexibility to adapt to economic changes. As a result, some of these large companies may decide to delist from the stock exchange to reduce costs, refocus on specific activities, or restructure. However, in Morocco and Egypt, large companies often benefit from a stronger market position, a better reputation, and easier access to financial resources. They may also benefit from government support or incentives to maintain their listing on the stock exchange. Consequently, these large companies are less likely to make the decision to delist, as they can continue to benefit from these advantages and growth opportunities. This finding is also echoed in previous research conducted by Jasim and Hameeda (2011) from the Saudi Stock Exchange, Amjad *et al.* (2016) from the Palestinian Stock Exchange, Maysa'a Munir Milhem (2016) from the Jordanian Stock Exchange, Dialdin and Elsaudi (2010) from the Saudi Stock Exchange, Anupam Mehta (2012) from the United Arab Emirates Stock Exchange, and Duha Al-Kuwari (2009) from the Casablanca Stock Exchange. These studies suggest, plausibly, that large companies, due to their propensity to distribute more dividends, are potentially less likely to be delisted. It can therefore be concluded that company size plays a significant role in dividend policy and may also affect the decision to delist from the stock exchange.

Moreover, asset growth is another factor that deserves consideration in the analysis of the delisting decision from the stock exchange. It has a positive effect on the decision to delist in the countries studied. This means that companies with higher asset growth tend to be more prone to delisting from the stock exchange. Several explanations can be put forward to understand this relationship. First, rapid asset growth may be a sign of aggressive company expansion, with significant investments in new projects, acquisitions, or expansions. This rapid growth may be perceived by investors as an increase in the risk associated with the company, as it implies more complex management and uncertainties about future profitability. As a result, investors may be less inclined to hold the shares of such companies, increasing the likelihood of delisting from the exchange. Also, rapid asset growth may require significant financial resources to finance these investments. Companies may choose to mobilize these resources by reducing dividends distributed to shareholders, which may discourage investors from holding their shares. Therefore, companies with high asset growth may be perceived as less attractive in terms of potential returns for investors, increasing the risk of delisting. It is also worth noting that asset growth may be

accompanied by increased operational complexity and the need for more efficient resource management. Investors may be concerned about the company's ability to manage this growth and maintain its long-term profitability. Consequently, companies with rapid asset growth may be subject to closer scrutiny by investors and regulators, increasing the risk of delisting from the stock exchange in case of failure or unsatisfactory performance. The works of Christopher and Rim (2014), Farman Ali and Nawaz (2017), Luís António and Elisabeth (2014), Yong and Mazlina (2016), as well as Hananeh *et al.* (2013) provide additional evidence and reinforce our understanding of the impact of asset growth on the delisting decision from the stock exchange. It should be noted that each study was conducted in a specific context, but their convergent results on the importance of asset growth in the delisting decision from the stock exchange are noteworthy.

In relation to the previous findings, it should be noted that the debt level is also a determining factor in the delisting decision. The interpretation of the results suggests that the debt level of companies has a negative effect on their decision to delist from the exchange. This means that companies with a high level of debt are more likely to delist compared to those with a low level of debt. Firstly, indebted companies may feel increased financial pressure due to their debt repayment obligations. By delisting from the exchange, they can reduce the costs associated with compliance with stock market regulations and investor expectations, allowing them to focus on reducing their debt. Additionally, companies with a high level of debt may choose to withdraw from the stock market to restructure their capital and obtain alternative financing, such as bank loans or private investments, which may be more favorable for their financial situation (related to Stein J.C. (1988, 1989), , Onesti *et al.* (2013).

In summary, the results of this study underline the importance of several key characteristics of companies in their decision to delist from the stock exchange. Economic profitability, dividend distribution policy, company size, asset growth, and debt level are all significant factors that influence this decision. The conclusions of this analysis are reinforced by previous research conducted in other contexts, thus providing a solid basis for understanding stock market dynamics in North Africa and beyond.

Table 6. Relationship between governance mechanism and delisting

Dependent variable : Delisting	Estimation model		
Independent variables	**Tunisia**	**Egypt**	**Morocco**
C	2.751714	-1.261219	-4.062337
P(value)	0.525	0.469	0.467
Ownership concentration	11.74285	-0.3680623	2.053572
P(value)	0.047**	0.014	0.148
CEO Duality	6.400605	0.1125203	-0.3736147
P(value)	0.042**	0.179	0.067**
Board size	-0.5801652	-0.0318045	0.0829609
P(value)	0.004***	0.059**	0.158
Government ownership	-3.148116	-28.07795	-27.55641
P(value)	0.078**	1.000	0.000***
Board independence	-18.5886	-3.512885	7.026254
P(value)	0.215	0.030***	0.022***
Foreign ownership	-0.8075125	-0.7070848	0.2729792
P(value)	0.462	0.405	0.007***
Hausman test	1.0000	1.0000	1.0000
Model nature	Random effect	Random effect	Random effect
Wald chi2	3.11	1.38	1.32
Prob > chi2	0.7950	0.9672	0.9705

Source: Edit by authors

In this table, we can observe an overview of governance mechanism variables that have been examined in the analysis of the decision to delist from the stock exchange within the three aforementioned countries, namely Tunisia, Egypt, and Morocco.

Indeed, ownership concentration presents a complex and nuanced relationship with the delisting decision, varying depending on the specific context of each country. In Tunisian and Moroccan contexts, it has been observed that ownership concentration has a positive effect on the delisting decision. This means that in these

countries, companies with a high ownership concentration are more likely to be delisted from the stock exchange. In these countries, it is conceivable that majority shareholders, holding a significant portion of the ownership, exert their power by making strategic decisions that may lead to the delisting of the company. These companies may also adopt a policy of distributing high dividends, which can compromise their liquidity and financial stability. In contrast, in the Egyptian context, it has been found that ownership concentration has a negative effect on the delisting decision. This indicates that companies with a higher ownership concentration are less likely to be delisted from the stock exchange in Egypt, indicating a more active role of majority shareholders in managing the company and using resources to their advantage to maintain their listing on the stock exchange, even in case of underperformance.

Let's now address another determining factor in stock exchange delisting, namely the CEO duality variable. This variable is of crucial importance in the delisting decision and presents significant variations depending on the specific contexts of the countries studied. In the cases of Tunisia and Egypt, CEO duality seems to have a positive effect on the delisting decision, suggesting that when the CEO holds the positions of both CEO and chairman of the board, this may be associated with a higher probability of delisting. Studies have shown that CEO duality can lead to excessive power concentration in the hands of one person, which can affect transparency and corporate governance. In this context, a policy of distributing high dividends may be perceived as a strategy to maintain control of the company in the hands of the CEO rather than maximizing value for shareholders. This complex relationship can potentially influence the delisting decision. In contrast, in Morocco, CEO duality is associated with a reduced probability of delisting, suggesting that this practice is perceived as beneficial for the stability and continuity of the company. Furthermore, a study by Hamdouni Amina (2015) conducted in the Saudi context highlights that the separation of the roles of chairman of the board and CEO, as well as ownership concentration, play a crucial role in the corporate governance mechanism. This relationship between corporate governance and stock exchange delisting can be explained by the fact that when the separation of roles is inadequate and ownership is highly concentrated, this can lead to inappropriate strategic decisions or poor management of the company, increasing the risk of delisting from the stock exchange. In addition to these variables, the size of the board of directors is a key variable to consider. In the Tunisian and Egyptian contexts, the board size variable has a negative effect on stock exchange delisting, meaning that companies with a larger board of directors tend to have a lower probability of being delisted from the stock exchange. This highlights that a larger board of directors can bring a diversity of expertise, knowledge, and perspectives to the decision-making process of the company. A larger board of directors can also be perceived as a more effective control mechanism, as it provides better oversight and accountability. However, in the Moroccan context, the board size variable has a positive effect on stock exchange delisting, suggesting that companies with a larger board of directors have an increased probability of being delisted from the stock exchange. This observation can be interpreted considering the specificities of the Moroccan context, where a larger board of directors may be perceived as ineffective or as a sign of decision-making authority fragmentation. In this case, investors and regulators may consider a more restricted and tighter board of directors as more capable of making strategic decisions and ensuring solid corporate governance. Research conducted by Mohammad Ahid Ghabayen (2012) has established a negative correlation between board size and company performance, meaning that as the composition of the board of directors becomes larger, the company's performance tends to decrease, and vice versa. These results may have a direct implication on the decision of stock exchange delisting, as poor company performance can increase the risk of delisting.

When it comes to the government ownership variable, the results indicate a negative effect in the three countries studied, namely Tunisia, Egypt, and Morocco. This means that companies with a higher proportion of government ownership have a higher probability of being delisted from the stock exchange. This observation can be interpreted in different ways. Firstly, the presence of significant government ownership can lead to political interference in the management and strategic decisions of companies. This interference can result in operational inefficiency, slow decision-making and low responsiveness to changing market conditions, which can ultimately lead to a higher probability of stock exchange delisting. Additionally, government ownership can be associated with lower transparency and weaker accountability to minority shareholders, which can lead to a loss of investor confidence and a negative perception of the company in the stock market.

When examining the relationship between board independence and the decision of stock exchange delisting in the Tunisian, Egyptian, and Moroccan contexts, significant variations emerge. In the Tunisian and Egyptian contexts, board independence has a negative effect on stock exchange delisting. This means that companies with a more independent board of directors have a lower probability of being delisted from the stock exchange.

This observation can be attributed to the fact that in these countries, a board of directors composed of independent members may be perceived as a solid governance mechanism capable of making informed decisions and effectively monitoring executives. As a result, these companies benefit from a better reputation and greater investor trust, which reduces their likelihood of being delisted from the stock exchange. However, in the Moroccan context, board independence has a positive effect on the decision to delist from the stock exchange. This suggests that companies with a more independent board of directors have a higher probability of being delisted from the stock exchange. One possible explanation for this observation is that in the Moroccan context, an independent board of directors may be perceived as a signal of poor governance or internal issues within the company. Consequently, investors may react by withdrawing their investments, leading to the delisting from the stock exchange.

When examining the correlation between the presence of foreign investors and the decision to delist from the stock exchange in the Tunisian, Egyptian, and Moroccan contexts, significant nuances emerge, revealing country-specific dynamics. In the Tunisian and Egyptian contexts, a negative relationship is observed between foreign ownership and the decision to delist from the stock exchange. This suggests that companies with a higher proportion of foreign ownership have a lower probability of being delisted. A plausible interpretation is that the presence of foreign investors brings benefits such as access to additional financial resources, international expertise, and strong governance practices. These factors enhance the company's credibility and inspire confidence among local investors, reducing the risk of delisting from the stock exchange. However, in the Moroccan context, a positive relationship is observed between foreign ownership and the decision to delist from the stock exchange. This indicates that companies with a higher proportion of foreign ownership have an increased probability of being delisted. The presence of foreign owners may be perceived as instability or uncertainty concerning the company, raising concerns among local investors and leading to a greater likelihood of delisting from the stock exchange.

In conclusion, the analysis of governance mechanisms in the Tunisian, Egyptian, and Moroccan contexts reveals complex and nuanced relationships with the decision to delist from the stock exchange.

Table 7. Relationship between market situation and delisting

Dependent variable: Delisting	Estimation model		
Independent variables	**Tunisia**	**Egypt**	**Morocco**
C	-4.546217	-3.300341	-1.932069
P(value)	0.057**	0.001***	0.106*
Market liquidity	5.754275	-0.6830619	-3.005132
P(value)	0.000***	0.085**	0.039***
Market development	7.448863	4.704577	2.680321
P(value)	0.364	0.000***	0.174
Movement of the stock market index	1.939064	0.3082418	2.22772
P(value)	0.418	0.730	0.145
Hausman test	1.0000	0.9680	0.9458
Model nature	Random effect	Random effect	Random effect
Wald chi2	1.49	2.49	3.53
Prob > chi2	0.6841	0.4771	0.3168

Source: Edit by authors

The analysis of the results for the market liquidity variable reveals contrasting trends among the countries studied. In Tunisia, a positive correlation with the decision to delist from the stock exchange is observed, meaning that companies with greater market liquidity have an increased probability of being delisted. This observation can be attributed to the fact that companies with higher liquidity are often more attractive to investors, leading to increased transactions and potentially increased speculation in the market, thereby increasing the risk of delisting. Conversely, in the cases of Egypt and Morocco, the market liquidity variable shows a negative relationship with the decision to delist from the stock exchange. This suggests that companies with lower market liquidity have a higher probability of being delisted. In these countries, low liquidity may indicate low

attractiveness to investors, a lack of demand for the company's shares, and difficulty in raising funds on the stock market. These factors contribute to a greater likelihood of delisting from the stock exchange.

The in-depth analysis of the positive coefficients of the independent variable "market development" reveals a surprising relationship: the more the market develops, the greater the probability of companies being delisted. This observation may seem counterintuitive at first glance, as one might expect market development to be beneficial for listed companies. However, several explanations can be put forward to understand this complex dynamic. Firstly, market development leads to increased competition. When new companies emerge and seek to establish themselves in the market, competition intensifies for already established companies. This increased competitive pressure may highlight weaknesses or gaps in some companies, making them more vulnerable to delisting. Thus, even though the market is developing, some companies may not be able to maintain their position and meet competitiveness requirements (Land and Hasselbach 2000, Macey *et al.* 2008, Lamberto and Rath 2010, Martinez and Serve 2016, Ines and Khoutem 2018). Additionally, market development is often accompanied by stricter regulation. Regulatory authorities may strengthen financial transparency standards, corporate governance, and compliance with laws and regulations. Companies that fail to meet these new requirements may be subject to severe sanctions, including delisting from the stock exchange. Thus, market development can create an environment where companies must constantly adapt and comply with stricter rules, increasing the risks of delisting. Finally, it should be noted that market development can also lead to greater volatility in financial asset prices. Fluctuations in stock prices may be more pronounced, exposing listed companies to increased risks. If a company encounters financial difficulties or fails to meet investor expectations, this can lead to a devaluation of its shares and eventually lead to delisting from the stock exchange.

The study of the variable "movement of the stock index" reveals significant elements regarding the influence of these fluctuations on the decision-making process regarding the delisting of listed companies. In the case of Tunisia, it is observed that upward movements in the stock index are associated with an increase in the probability of companies being delisted. This finding may seem paradoxical, as one might expect positive market performance to be beneficial for companies. However, it is possible that rapid and significant fluctuations in the stock index have a negative impact on the financial stability of companies, making them more vulnerable to delisting risks. Similarly, for Egypt, a positive relationship is observed between the movement of the stock index and the delisting of companies. This suggests that fluctuations in the stock index can influence the viability and performance of listed companies, increasing their exposure to delisting risks. Although the coefficient is lower than that of Tunisia, it nevertheless indicates a similar trend where movements in the stock index have an impact on the delisting decision. In the case of Morocco, an even stronger relationship is observed between the movement of the stock index and the decision to delist. This underscores the importance of fluctuations in the stock index in this context, where significant variations can have major consequences for the stability of companies and increase delisting risks (Ines and Kamel 2019, Ines *et al.* 2020) .

In summary, this study reveals the importance of market factors such as liquidity, development, and movements of the stock index in the decision to delist listed companies. The results highlight the complexity of these relationships, with contrasting trends among the countries studied. These findings invite deep reflection on the risks and opportunities associated with stock market listing and underline the importance of prudent and informed management in a dynamic financial environment.

Conclusion

It is important to note that this work has certain methodological and/or conceptual limitations. Although the sampled companies represent the majority of delisted companies during the study period, data availability limited the choices regarding variables and econometric analyses to be applied in this research. For example, different scenarios could be considered depending on whether the company is affected by restructuring, merger, or succession issues.

In terms of future research perspectives, it would be relevant to explore the factors, at the time of the IPO, which could predict the probability of companies being delisted in the future as well as the duration of their listings. To do this, it may be wise to use a survival analysis approach, also known as "survival analysis." Survival analysis dynamically studies the transition from the "survival" state to the "non-survival" state (or delisting). In this approach, three main types of models are found: (1) the Kaplan-Meier model; (2) the Cox model; and (3) the AFT (Accelerated Failure Time) model. Additionally, the motivations for introduction and delisting from the stock exchange could be refined through qualitative methodology.

Credit Authorship Contribution Statement

Authors have contributed equally to this research.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Declaration of Use of Generative AI and AI-Assisted Technologies

The authors declare that they have not used generative AI and AI-assisted technologies during the preparation of this work.

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References

[1] Abdul Rahman, R., and Haniffa, R. (2005). The effect of role duality on corporate performance in Malaysia. *Corporate Ownership and Control* 2 (2): 40-47. DOI: https://doi.org/10.22495/cocv2i2p4

[2] Abeer Saad Alqathami and Ines Khammassi (2024). Assessing the Impact of COVID-19 on the Saudi Bank's Performance: A Panel Analysis. *International Journal of Financial, Administrative and Economic Sciences*, London, 3 (2): 1-15. DOI: https://doi.org/10.59992/IJFAES.2024.v3n2p2

[3] Akerlof, G.A. (1970). The market for lemons: Quality uncertainty and the market mechanism. *The Quarterly Journal of Economics*, 84 (3): 488-500. DOI: https://doi.org/10.2307/1879431

[4] Algebaly, E-A., Ibrahim, Y., Ahmad-Zaluki, N. (2014). The determinants of involuntary delisting rate in the Egyptian IPO equity market. *Review of Accounting and Finance*, 13 (2). DOI: 10.1108/RAF-04-2012-0035

[5] Amjad Hassonn, Huy Tran and Hao Quach (2016). The Determinants of Corporate Dividend Policy: Evidence from Palestine. *Journal of Finance and Investment Analysis*, 5(4): 29-41.

[6] Anupam Mehta (2012). An Empirical Analysis of Determinants of Dividend Policy - Evidence from the UAE Companies. *Global Review of Accounting and Finance*, 3(1): 18 – 31. DOI: 10.1108/10264116200700007

[7] Badu Agyemang Ebenezer (2013). Determinants of Dividend Payout Policy of listed Financial Institutions in Ghana Research. *Journal of Finance and Accounting*, 4 (7): 2-11. DOI: 10.53555/ecb/2024.13.01.17

[8] Bakke, T.-E., Jens, C. E., & Whited, T. M. (2012). The real effects of delisting: Evidence from a regression discontinuity design. *Finance Research Letters*, 9(4): 183–193. DOI: 10.1016/j.frl.2012.08.002

[9] Bhabra, H.S., Pettway, R.H. (2003). IPO prospectus information and subsequent performance. *Financial Review*, 38 (3): 369-397. DOI: 10.1111/1540-6288.00051

[10] Chaganti, R.S., Mahajan, V., & Sharma, S. (1985). Corporate board size, composition and corporate failures in retailing industry. *Journal of Management Studies* 22(4): 400-417. DOI: 10.1111/j.1467-6486.1985.tb00005.x

[11] Chancharat, N., Krishnamurti, C., & Tian, G. (2012). Board structure and survival of new Economy IPO firms. *Corporate Governance: An International Review* 20 (2): 144-163. DOI: https://doi.org/10.1111/j.1467-8683.2011.00906.x

[12] Chaplinsky, S., & Ramchand, L. (2012). What drives delistings of foreign firms from U.S. Exchanges? *Journal of International Financial Markets, Institutions and Money*, 22(5): 1126–1148. DOI:10.1016/j.intfin.2012.06.003

[13] Charitou, A., Lambertides, N., & Trigeorgis, L. (2007). Earnings Behaviour of Financially Distressed Firms: The Role of Institutional Ownership. *Abacus*, 43(3): 271–296. DOI: 10.1111/j.1467-6281.2007.00230.x

[14] Christopher Maladjian & Rim El Khoury (2014). Determinants of the Dividend Policy: An Empirical Study on the Lebanese Listed Banks. *International Journal of Economics and Finance*; 6(4): 240-256. DOI:10.5539/ijef.v6n4p240

[15] Chung, K. H., & Zhang, H. (2011). Corporate governance and institutional ownership. *Journal of Financial and Quantitative Analysis*, 46(1): 247– 273. DOI: https://doi.org/10.1017/S0022109010000682

[16] Croci, E., & Del Giudice, A. (2014). Delistings, controlling shareholders and firm performance in Europe. *European Financial Management*, 20 (2): 374-405. DOI: 10.1111/j.1468-036X.2011.00640.x

[17] Dalton, D., Daily, C., Johnson, J., & Ellstrand, A. (1999). Number of directors and financial performance: A meta-analysis. *Academy of Management Journal* 42(6): 674- 686. DOI: https://doi.org/10.2307/256988

[18] Demers, E., & Joos, P. (2007). IPO failure risk. *Journal of Accounting Research,* 45 (2): 333-371. DOI:https://doi.org/10.1111/j.1475-679X.2007.00236.x

[19] Dialdin O. & Elsaudi M. (2010). Dividend policy in Saudi Arabia. *The International Journal of Business and Finance Research*, 4(1): 99-113. DOI: 10.3390/jrfm16080350

[20] Doidge, C., Karolyi, G. A., & Stulz, R. M. (2010). Why Do Foreign Firms Leave U.S. Equity Markets? *The Journal of Finance*, 65(4): 1507–1553. DOI: https://dx.doi.org/10.2139/ssrn.1415782

[21] Duha Al-Kuwari (2009). Determinants of the Dividend Policy of Companies Listed on Emerging Stock Exchanges: The Case of the Gulf Cooperation Council (GCC) Countries. *Global Economy & Finance Journal*, 2(2): 38-63. Available at: https://ssrn.com/abstract=1793150

[22] Fama, E.F., & Jensen, M.C. (1983). Separation of ownership and control. *Journal of Law and Economics*, 26(2): 301-325. DOI: https://dx.doi.org/10.2139/ssrn.94034

[23] Farman Ali Khan Nawaz Ahmad (2017). Determinants of Dividend Payout: An Empirical Study of Pharmaceutical Companies of Pakistan Stock Exchange (PSX). *Journal of Financial Studies and Research*, 7(3): 1-16. DOI: https://doi.org/10.5171/2017.538821

[24] Ferreira, M.A., & Matos, P. (2008). The colors of investors‟ money: The role of institutional investors around the world. *Journal of Financial Economics*, 88 (3): 499-533. DOI: https://dx.doi.org/10.2139/ssrn.885777

[25] Finkelstein, S., & D'Aveni, R.A. (1994). CEO duality as a double-edged sword: how boards of directors balance entrenchment avoidance and unity of command. *The Academy of Management Journal,* 37(5): 1079-1108. DOI: https://doi.org/10.2307/256667

[26] Fischer, H.M., & Pollock, T.G. (2004). Effects of social capital and power on surviving transformational change: The case of Initial Public Offerings. *The Academy of Management Journal*, 47 (4): 463-481. DOI:https://doi.org/10.2307/20159597

[27] Fungáčová, Z., & Hanousek, J. (2011). Determinants of Firm Delisting on the Prague Stock Exchange. *Prague Economic Papers*, 20(4): 348-365. DOI: 10.18267/j.pep.404

[28] Geranio, M., & Zanotti, G. (2010). Equity markets do not fit all: An analysis of public-to-private deals in Continental Europe. *European Financial Management,* 18 (5): 867-895. DOI: 10.1111/j.1468-036X.2010.00556.x

[29] Hadfi Bilel (2020). Does entrenchment of managers affect entrepreneurial dividend decision and investor sentiment? *Asia Pacific Journal of Innovation and Entrepreneurship*, 14(3): 275-288. DOI:https://doi.org/10.1108/APJIE-10-2019-0072

[30] Hadfi Bilel (2024). Can Dividend Announcement Predict Abnormal Returns? Tunisia Evidence. Global *Studies on Economics and Finance (GSEF)*. Volume 1, 2(4): 5-15. DOI: https://doi.org/10.58396/gsef010205

[31] Hadfi Bilel and Mondher Kouki (2020). Catering theory and dividend policy: a study of Mena region. *Corporate Ownership & Control*, 17(4): 86-99. DOI: 10.22495/cocv17i4art7

[32] Hadfi Bilel & Mondher Kouki (2021). What can explain catering of dividend? Environment information and investor sentiment. *Journal of Economics and Finance*, 45(4). DOI: 10.1007/s12197-021-09540-0

[33] Hamdouni Amina (2015). Dividend policy and corporate governance in Saudi stock market: Outcome model or substitute model? *Corporate Ownership & Control,* 12(2): 74-91. DOI: https://doi.org/10.22495/cocv12i2p7

[34] Hananeh Shahteimoori Ardestani, Siti Zaleha Abdul Rasid, Rohaida Basiruddin, & Mohammad ghorban Mehri (2013). Dividend Payout Policy, Investment Opportunity and Corporate Financing in the Industrial Products Sector of Malaysia. *Journal of Applied Finance & Banking*, 3(1): 123-136. DOI:http://dx.doi.org/10.21511/bbs.14(2).2019.03

[35] Haniffa, R., & Hudaib, M. (2006). Corporate governance structure and performance on Malaysian listed companies. *Journal of Business Finance and Accounting,* 33 (7): 1034-1062. DOI:https://doi.org/10.1111/j.1468-5957.2006.00594.x

[36] Hu, G., Lin, J.-C., Wong, O., & Yu, M. (2018). Why have many U.S.-listed Chinese firms announced delisting recently? *Global Finance Journal*, 41(C): 13-31. DOI: 10.1016/j.gfj.2018.10.002

[37] Hughes, P.J. (1986). Signalling by direct disclosure under asymmetric information. *Journal of Accounting and Economics* 8 (2): 119-142. DOI: https://doi.org/10.1016/0165-4101(86)90014-5

[38] Ibrahim Elsiddig Ahmed (2014). The Impact of Liquidity on the Dividends Policy. *International Business Research*, 6(2): 1-12. DOI: http://dx.doi.org/10.21511/bbs.14(2).2019.03

[39] Ines Khammassi & Kamel Naoui (2019). Credit risk and bank opacity: a comparative study of conventional and Islamic banks. *American Journal of Finance and Accounting*, 6(2): 56-76. DOI:https://doi.org/10.1504/AJFA.2019.104192

[40] Ines khammassi, & Khoutem Ben Jedidia (2018). Do Islamic banking standards convey more financial transparency than conventional banking ones? *Turkish Journal of Islamic Economics*, 5(1): 109-132. DOI:dx.doi.org/10.26414/tujise.2018.5.1.109-132

[41] Ines Khammassi, Talel Boufateh, & Kamel Naoui (2020). Do stress tests reduce liquidity risk opacity? *American Journal of Finance and Accounting*, 6(2): 135-158. DOI: 10.1504/AJFA.2020.10032527

[42] Jasim Al-Ajmi & Hameeda Abo Hussain (2011). Corporate dividends decisions: evidence from Saudi Arabia. *The Journal of Risk Finance,* 12 (1): 41- 56. DOI: 10.1108/15265941111100067

[43] Jensen, M.C. (1986). Agency costs of free cash-flow, corporate finance and takeovers. *American Economic Review,* 76: 323-329. DOI: https://www.jstor.org/stable/1818789

[44] Jensen, M.C. (1993). The modern industrial revolution, exit, and the failure of internal control systems. *The Journal of Finance*, 48 (3): 831- 880. DOI: https://doi.org/10.1111/j.1540-6261.1993.tb04022.x

[45] Jensen, M.C., & Meckling, W.H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3(4). DOI: https://dx.doi.org/10.2139/ssrn.94043

[46] Jin Q. Jeona, Cheolwoo Leeb, & Clay M. Moffett (2011). Effects of foreign ownership on payout policy: Evidence from the Korean market. *Journal of Financial Markets*, 14(2): 344–375. DOI:https://doi.org/10.1016/j.finmar.2010.08.001

[47] Johnson, R., & Soenen, L. (2003). Indicators of Successful Companies. *European Management Journal*, 21(3): 364–369. DOI: https://doi.org/10.1016/S0263-2373(03)00050-1

[48] Khan, F. A., & Ahmad, N. (2017). Determinants of dividend payout: an empirical study of pharmaceutical companies of pakistan stock exchange (PSX). *Journal of Financial Studies & Research*, PP 1-16. DOI:https://doi.org/10.5171/2017.538821

[49] Koch, P. D., & Shenoy, C. (1999). The Information Content of Dividend and Capital Structure Policies. *Financial Management*, 28(4): 16. Available at: https://ssrn.com/abstract=267707

[50] Kooli, M., & Meknassi, S. (2007). The Survival Profile of US IPO Issuers. *The Journal of Wealth Management* 10 (2): 105-119. DOI: 10.3905/jwm.2007.690955

[51] Lamberto, A.P., & Rath, S. (2010). The survival of Initial Public Offerings in Australia. *The International Journal of Business and Finance Research,* 4 (1): 133-147. Available at: http://hdl.handle.net/20.500.11937/3983

[52] Land, V., & Hasselbach, K. (2000). Going Private und "Squeeze-out" nach deutschem Aktien-, Börsen-und Übernahmerecht. *Der Betrieb,* 53: 557-562. DOI: https://doi.org/10.1515/9783110919820.407

[53] Leuz, C., Triantis, A., Wang, T.Y. (2008). Why do firms go dark? Causes and economic consequences of voluntary SEC deregistrations. *Journal of Accounting and Economics*, 45(2- 3): 181-208. DOI:https://doi.org/10.1016/j.jacceco.2008.01.001

[54] Luís António Gomes Almeida, Elisabeth Teixeira Pereira & Fernando Oliveira Tavares (2014). Determinants of Dividend Policy: evidence from Portugal. Revista Brasileira De Gestão De Negócios. *Review of Business Management,* 17(54): 701-719. DOI: https://doi.org/10.7819/rbgn.v17i54.1943

[55] Macey, J., O'Hara, M., & Pompilio, D. (2008). Down and out in the stock market: the law and economics of the delisting process. *Journal of Law and Economics,* 51 (4): 683–713. DOI: https://doi.org/10.1086/593386

[56] Martinez, I., & Serve, S. (2011). The delisting decision: The case of buyout offer with squeeze-out (BOSO). *International Review of Law and Economics*, 31(4): 228–239. DOI: https://doi.org/10.1016/j.irle.2011.07.001

[57] Martinez, I., & Serve, S. (2016). Reasons for delisting and consequences: A literature review and research agenda. *Journal of Economic Survey*, 31(3): 733-770. DOI: 10.1111/joes.12170

[58] Maysa'a Munir Milhem (2016). Determinants of dividend policy: A case of banking sector in Jordan. *IJER © Serials Publications* 13(4): 1411-1422. DOI: https://doi.org/10.31933/dijms.v1i3.96

[59] Mohammad Ahid Ghabayen (2012). Board Characteristics and Firm Performance: Case of Saudi Arabia. *International Journal of Accounting and Financial Reporting*, 2(2): 168-200. DOI:https://doi.org/10.5296/ijafr.v2i2.2145

[60] Myers, S.C. (1977). Determinants of corporate borrowing. *Journal of Financial Economics*, 5(2): 147-175. DOI: https://doi.org/10.1016/0304-405X(77)90015-0

[61] Onesti, T., Romano, M., Favino, C., & Pieri, V. (2013). Going Private and Going Dark Strategies: Literature Review and Directions for Future Research. 5(4): 102-120. DOI: https://dx.doi.org/10.2139/ssrn.2366485

[62] Raheja, C. (2005). Determinants of board size and composition: a theory of corporate boards. *Journal of Financial and Quantitative Analysis,* 40 (2): 283–306. DOI: https://dx.doi.org/10.2139/ssrn.522542

[63] Renneboog, L., Simons, T., & Wright, M. (2007). Why do public firms go private in the UK? The impact of private equity investors, incentive realignment and undervaluation. *Journal of Corporate Finance,* 13 (4): 591-628. DOI: 10.1016/j.jcorpfin.2007.04.005

[64] Riley, J.G. (1975). Competitive signalling. *Journal of Economic Theory*, 10(2): 174-186. DOI:https://doi.org/10.1016/0165-1765(93)90060-P

[65] Sawicki, J. (2009). Corporate governance and dividend policy in Southeast Asia pre- and post-crisis. *The European Journal of Finance*, 15(2): 211–230. DOI: 10.1080/13518470802604440

[66] Shyu, H.H. (2011). Media Coverage and the Stock Price Bubbles. 6(3): 100-135. DOI:https://dx.doi.org/10.2139/ssrn.1787346

[67] Stein, J.C. (1988). Takeover threats and managerial myopia. *The Journal of Political Economy* 96 (1): 61-80. DOI: http://dx.doi.org/10.1086/261524

[68] Stein, J.C. (1989). Efficient capital markets, inefficient firms: A model of myopic corporate behavior. *The Quarterly Journal of Economics,* 104 (4): 655-669. DOI: https://doi.org/10.2307/2937861

[69] Yong Teck Mui and Mazlina Mustapha (2016). Determinants of Dividend Payout Ratio: Evidence from Malaysian Public Listed Firms. *Journal of Applied Environmental and Biological Sciences,* 6(1S): 48-54. DOI:10.6007/IJARBSS/v13-i4/16602

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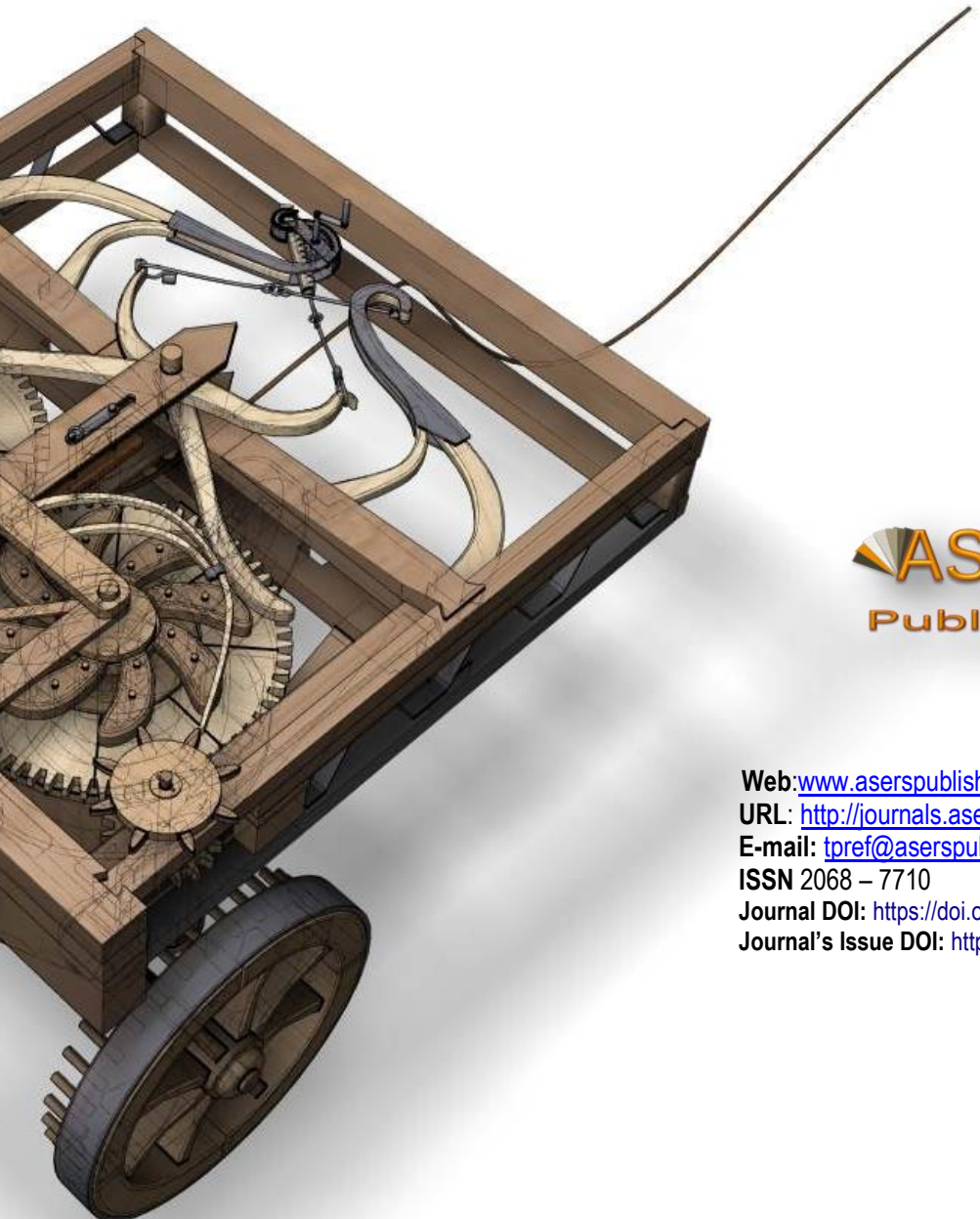

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