

The Impact of Seasoned Equity Offerings on Stock Prices of Financially Distressed Companies: Evidence from Moroccan Market

L'impact des augmentations de capital sur les cours boursiers des entreprises en détresse financière : Preuves du marché marocain

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Abstract:

The present study investigates the impact of Seasoned Equity Offerings (SEOs) on stock prices, with a particular focus on financially distressed companies listed on the Casablanca Stock Exchange. Recognizing that SEOs can convey both positive and negative signals to the market, this research aims to explore how such operations are perceived when initiated by firms facing financial difficulties. Employing the Event Study Methodology, the analysis is conducted over an event window surrounding the SEO announcement dates in order to detect the presence of Abnormal Returns and evaluate how the market processes new information related to equity issuance. The sample includes six Moroccan listed companies that undertook SEOs during periods of financial distress. The empirical findings suggest that, in general, the announcement of an SEO by a distressed firm result in a negative reaction in stock prices, reflecting investors' concerns about dilution effects and the firm's financial instability. However, the analysis also shows that, in some cases, the market appears to reassess its initial reaction in the days following the announcement, especially when the SEO is associated with credible restructuring plans or financial recovery strategies. These results contribute to the broader literature on corporate finance and market efficiency by providing new evidence from an emerging market context. They offer useful insights for investors, policymakers, and corporate decision-makers, emphasizing the importance of timing, transparency, and signaling in the success of SEOs as a financing strategy for distressed firms.

Keywords: Seasoned Equity Offerings (SEOs), Financial Distress, Market Reaction, Moroccan Market, Stock Prices, Event Study Methodology.

Classification JEL : G14, G32, G33.

Paper type: Empirical Research

1. Introduction

In an environment marked by growing financial uncertainty and increasingly volatile capital markets, managing corporate financial distress has become a critical issue for both practitioners and scholars. Financial distress, defined as a situation in which a firm's operating cash flows are insufficient to meet its financial obligations, often requires urgent strategic and financial interventions to restore solvency and ensure continuity. One such intervention involves Seasoned Equity Offerings (SEOs), which consist in issuing additional equity capital on the market after the firm has already gone public. As noted by Baker and Wurgler (2002), SEOs can play a pivotal role in corporate restructuring strategies, particularly by improving liquidity, reducing leverage, and facilitating operational recovery.

In this respect, listed companies may resort to SEOs not only as a means of refinancing debt but also as a signal of resilience and strategic reorientation. According to Chemmanur et al. (2020), equity issuance allows distressed companies to rebalance their capital structure by reinforcing equity, thereby improving solvency ratios and reducing financial risk. This maneuver is often aimed at repaying part of the outstanding debt, avoiding bankruptcy, and regaining investor confidence. Thus, beyond its purely financial function, SEO can also be interpreted as a tool for crisis management and long-term repositioning.

However, SEOs are generally associated with a negative market perception. A substantial body of literature in corporate finance documents that equity issuances tend to trigger adverse stock price reactions at the time of announcement (Masulis & Korwar, 1986; Myers & Majluf, 1984; Loughran & Ritter, 1997). These negative abnormal returns are typically attributed to two main concerns: information asymmetry between managers and investors, and the dilution of existing shareholders' ownership. The signaling theory (Leland & Pyle, 1977; Miller & Rock, 1985) suggests that SEOs can be interpreted by the market as a signal of overvaluation or hidden financial distress, especially in contexts where transparency is limited.

The issue becomes more complex when SEOs are conducted by financially distressed firms. While equity issuance may be perceived as a "last resort" strategy, it may also represent a genuine effort to restructure and regain strategic flexibility. DeAngelo, DeAngelo, and Stulz (2010) emphasize that, in many cases, liquidity constraints are the primary drivers behind SEOs. For firms in distress, this type of financing may offer the only viable solution when debt markets are no longer accessible or when lenders impose restrictive conditions. Nonetheless, investor interpretation of such actions is not always favorable, and market reactions can vary significantly depending on the perceived motivations and the macroeconomic context.

Recent literature calls for a more nuanced understanding of SEOs in situations of distress. Particularly in emerging markets, where financial information is less readily available and investor protection is weaker, the dynamics of SEOs may differ considerably from those observed in developed markets. In such contexts, SEOs may not necessarily reflect managerial opportunism but rather a rational restructuring tool dictated by financial necessity. Hence, investor reaction can be influenced by market maturity, institutional quality, and the firm's communication strategy.

Despite the relevance of the topic, there remains a noticeable gap in empirical studies focusing on SEOs within financially distressed firms, especially in emerging economies. Most studies to date have examined SEOs in general contexts without isolating the effects specific to financial distress. In the Moroccan context, the literature is even more limited. The only known study addressing SEOs in the Moroccan stock market is that of Kartobi (2013), which analyzed the impact of SEO announcements on share prices. However, this study did not specifically target firms in distress, thereby leaving unanswered questions about the particular dynamics involved when financially fragile companies issue new equity. As of today, no academic work has

examined the stock market reaction to SEOs specifically within the context of distressed Moroccan firms.

The present study aims to fill this research gap by analyzing the stock price behavior surrounding SEO announcements made by Moroccan listed companies facing financial distress. This research seeks to assess whether these operations are penalized by the market or perceived as a sign of recovery and managerial commitment. Beyond the empirical findings, this study contributes to the ongoing theoretical debate about how investors interpret equity issuance in weak institutional environments and in the presence of financial fragility. The findings are expected to offer practical insights for corporate financial managers, investors, and policymakers regarding the use of equity financing under duress.

The remainder of this article is organized as follows. Section 2 provides a comprehensive review of the literature on SEOs and their market effects, particularly in the context of financial distress. Section 3 outlines the methodological framework and the data used in the empirical analysis. Section 4 presents and discusses the results. Section 5 concludes the study by summarizing the main findings and outlining practical and theoretical implications.

2. Literature Review

DeAngelo, DeAngelo, and Stulz (2010) provide a comprehensive analysis of the motivations behind SEOs, emphasizing that while market timing opportunities and the corporate lifecycle stage are influential factors, the primary motivation is often an urgent need for liquidity. Market timing refers to the strategy where firms aim to issue equity when their stock valuations are high, capitalizing on favorable market conditions; prior research indicates that firms frequently conduct SEOs following significant increases in stock prices (Loughran and Ritter, 1995; 1997). Growth-stage firms, characterized by high market-to-book ratios, typically issue equity to finance necessary investments for expansion, such as acquiring new technologies or entering new markets. In contrast, mature companies, characterized by a relatively low market-to-book ratio, usually generate sufficient cash flows to meet their financial needs, and do so with minimal reliance on selling equity in SEOs. More recently, Barclay, Fu, and Smith (2021) reaffirmed that liquidity pressure is a primary driver of SEOs, even more significant than market timing in most cases, especially for firms with limited access to debt markets.

Nonetheless, the authors argue that immediate financial pressure is generally the main motivation behind conducting SEOs. They demonstrate that 62.6% of the issuers would face a cash shortfall within 12 months following an SEO if they did not raise funds through an SEO. The primary incentive to undertake SEOs is to face urgent liquidity needs, rather than to take advantage of a high stock price or favorable market conditions. This finding contradicts conventional theories of finance including the Trade-Off Theory (Modigliani and Miller, 1958) and the Pecking Order Theory (Myers and Majluf, 1984).

This inconsistency between these theories and the observed market behavior illustrate the complexity of conducting an SEO. Thus, while market timing and lifecycle stage are relevant factors in the decision to issue new equity, they serve as secondary considerations compared to the critical necessity for immediate cash that drives firms to conduct SEOs. As many issuers are motivated primarily by immediate liquidity needs than by long-term financial planning, DeAngelo et al. (2010) contend that these conventional financing models are unable to effectively explain observed corporate behaviors. The discrepancy between these theories and the observed market behavior demonstrate the difficulties of conducting an SEO. Therefore, even while market timing and lifecycle stage are important factors when deciding to issue new equity, the urgent need for liquidity that drive companies to conduct SEOs takes precedence over these factors.

It is important to highlight the weak market reaction that typically accompanies SEOs. The authors are of the opinion that companies are likely to experience a significant drop in share

prices after an SEO. Empirical studies have been conducted on this phenomenon, confirming the assertion that share prices significantly decline after such announcements. Asquith and Mullins (1986) and Masulis and Korwar (1986) report that companies that undertake SEOs frequently possess high stock prices that rise significantly before the offering, but subsequently experience spectacular stock price falls. Furthermore, issuers exhibit the high pre-offer abnormal returns that reverse to negative post-offer abnormal returns, as seen from Loughran and Ritter (1995; 1997). The pattern shows that companies have a tendency to exploit good market conditions before issuing additional stock, but the market reaction afterwards is typically negative, suggesting that investors are skeptical about the motive for issuing shares. As Carlson, Fisher, and Giammarino (2006) observe, the exercise of growth options impacts SEOs tremendously, a parameter that can explain the observed negative abnormal returns following these offerings. The authors posit that firms may issue equity to fund investments in growth opportunities, but this can give rise to market concerns about their financial stability. Moreover, Baker and Wurgler (2002) offer a theoretical foundation for comprehending market timing as a motivation for SEOs. They posit that managers seek to sell highly priced shares when market conditions are favorable. Complementing this view, Huang and Brau (2022) demonstrate that the tone of financial disclosures in equity prospectuses significantly moderates investor reaction. Specifically, positively framed narratives reduce post-SEO undervaluation, offering firms a strategic communication tool to mitigate market skepticism.

This negative market reaction can be explained by several interconnected factors. Firstly, the price-pressure hypothesis, formulated by Scholes (1972), posits that an increase in the supply of shares leads to a decline in stock prices due to a downward-sloping demand curve. When firms issue new shares, it increases the overall supply without a corresponding increase in demand, leading investors to perceive this as a negative signal. As more shares enter the market, existing shares become less valuable, resulting in decreased prices. Moreover, investors may interpret SEOs as an indication that the company lacks sufficient internal funding or confidence in its future prospects.

Modigliani and Miller (1963), DeAngelo and Masulis (1980), and Masulis (1980a, 1980b, 1983) indicate that issuing new equity often leads to a decrease in financial leverage, meaning that the proportion of debt relative to equity diminishes. This reduction can make existing debt less risky for bondholders because the company appears to have a stronger balance sheet with lower obligations relative to its equity base. Consequently, bondholders may see an increase in the value of their bonds due to this lower risk, effectively transferring wealth from shareholders – who may experience a decline in equity value – to bondholders (Galai and Masulis (1976)). This dynamic contributes significantly to the negative perception surrounding SEOs. Recent research by Mammadova and Huang (2023) also confirms that SEO announcements can negatively affect shareholder value when debt-holders benefit disproportionately from the resulting decrease in risk.

Additionally, asymmetric information plays a crucial role in this dynamic. In scenarios where managers possess superior information compared to investors, the decision to issue equity may be interpreted as a sign that management lacks confidence in the firm's future value (Leland and Pyle, 1977). Investors often assume that if management believes the company's prospects are strong, they would prefer to retain ownership rather than dilute it by issuing new shares. Thus, when new equity is offered, it can signal that management may be aware of negative information regarding future performance, leading to further declines in stock prices. Miller and Rock (1985) argue that such issuances can be viewed as negative dividends, conveying unfavorable information about the company's future earnings. This informational effect is further explored in Brau et al. (2021), who find that the use of positive linguistic framing in SEC disclosures can mitigate the perception of distress and lessen the negative reaction to SEOs.

In the same vein, Brazel and Webb (2006) show that SEOs often lead to a decline in firm value, as investors interpret these moves as indicators of poor financial health or overvaluation of the company's stock. A crucial factor influencing this perception is the structure of CEO compensation; specifically, when CEOs have significant equity-based compensation, investors are more likely to view the SEO as a "last resort" for raising capital. This concern arises because CEOs with substantial equity compensation have personal wealth closely tied to the company's stock performance, making them less likely to pursue an SEO unless necessary. In such circumstances, the announcement of an SEO is perceived as a stronger signal of financial distress, especially when there is a substantial information asymmetry between shareholders and management. This suggests that investors are more aware of the implications of an SEO when they lack information about the firm's financial situation. As a result, the combination of CEOs' high equity-based compensation and the detrimental effects of SEOs causes investors to react negatively; viewing these announcements as concerning signs of the company's financial stability, that go beyond what is shown in financial statements.

Even if the literature now available on developed offers valuable insights about the effects of SEOs, it is equally crucial to look at how these dynamics reveal in emerging markets. These markets differ from developed markets in that they are more volatile, have less liquidity, and trade less often (Mody, 2004). In this regard, Abdullah and Zaby (2021) performed a thorough investigation of 149 SEOs in Thailand from 2009 to 2019, classifying businesses according to the amount and timeliness of their offers. According to their findings, the majority of SEOs produced negative cumulative abnormal returns (CAR), particularly for those classified as "grown," suggesting that investors generally have a bad perception of SEOs, independent of the issuing companies' financial health. This is further supported by Nguyen et al. (2023), who document that financial flexibility in Vietnam during the COVID-19 crisis reduced crash risk, suggesting that investors penalize equity issuance more harshly in firms with constrained flexibility.

To further understand the impact of SEOs in the context of financial distress, it is crucial to investigate how these offerings are perceived across both developed and emerging markets. In developed markets, Walker and Wu (2019) analyze the stock price reaction to SEOs announcements for financially distressed firms. Their study is based on a sample of 3,692 SEOs conducted by U.S. industrial firms between 1994 and 2015, of which 1,450 SEOs were issued by firms identified as financially distressed based on Altman's Z-score. Using the event study methodology, they estimate Cumulative Abnormal Returns (CARs) over a [-3, +3] day window around the announcement date. Their findings indicate that distressed firms experience a more negative market reaction, with an Average Abnormal Return of -5.83%, compared to -4.30% for non-distressed firms, suggesting higher issuance costs for distressed firms.

While in an emerging market context, Kim, Ko, and Wang (2019) analyze the role of SEOs in financially distressed firms, focusing on 3,184 equity offerings by South Korean publicly traded companies from 2000 to 2013. Their study reveals that over one-third of new equity issues were used to exchange for outstanding debt, demonstrating that SEOs serve primarily as a debt restructuring tool rather than a means for financing growth. The market reactions to these offerings were generally positive, especially for private placements to unrelated investors, which contrasts with previous studies that reported negative responses to SEOs. Additionally, nearly one-third of the firms that issued equity experienced a transfer of control within two years, indicating that SEOs often facilitate ownership restructuring in distressed firms.

Following our exploration of SEOs in both developed and emerging markets, it is crucial to examine the Moroccan stock market, which serves as the focal point of our study. To our knowledge, no study has specifically examined the impact of SEOs in financial distress conditions. The only available study on this topic is Kartobi's (2013) research, which analyzes stock price reactions to 16 SEOs among non-financial companies listed on the Casablanca Stock

Exchange. The sample includes a variety of firms, not solely those experiencing financial distress. Covering the period from 2003 to 2010 and analyzing two sub-periods (2003–2007 and 2008–2010) to assess the impact of exogenous shocks, Kartobi's findings indicate a generally negative market reaction, though not statistically significant on all the dates. While Kartobi's (2013) study offers insightful information on how Moroccan Market respond to SEOs, it ignores financially distressed firms. By highlighting the implication of SEOs in financial distress scenarios, this research aims to bridge gap and gives a clearer view of how these conditions affect market reactions. Through this, we contribute to the literature by giving insightful perspectives into the perception of investors and equity financing difficulties in developing economies.

While a substantial body of literature documents that SEOs are typically associated with negative market reactions (Myers & Majluf, 1984; Masulis & Korwar, 1986; Loughran & Ritter, 1997), these effects appear to be conditional on various contextual factors, such as market structure, information asymmetry, investor expectations, and the firm's financial condition. In particular, when SEOs are issued by financially distressed firms, investors may interpret them either as a negative signal of desperation or as a rational step toward financial restructuring (DeAngelo et al., 2010; Kim, Ko, & Wang, 2019).

In emerging markets, where financial transparency is often lower and market reactions are less predictable, the response to SEOs by distressed firms may deviate from the patterns observed in developed markets (Abdullah & Zaby, 2021; Kartobi, 2013). Recent findings suggest that investors may initially react with skepticism but later reevaluate the operation positively when they perceive it as a strategic move to restore financial stability (Huang & Brau, 2022; Kim et al., 2019).

Moreover, differences in methodology may yield divergent results: while parametric tests such as the Student's t-test assume normally distributed returns, non-parametric tests like the Wilcoxon signed-rank test offer a more robust evaluation when normality cannot be assured (Hollander, Wolfe, & Chicken, 2013).

Based on these theoretical perspectives and empirical insights, the present study adopts an exploratory approach and proposes the following hypotheses:

H1: *SEO announcements by financially distressed Moroccan firms do not elicit statistically significant immediate abnormal returns when assessed using parametric methods.*

H2: *Non-parametric methods (e.g., Wilcoxon signed-rank test) detect delayed positive abnormal returns following SEOs by financially distressed firms, suggesting a gradual reassessment by investors.*

H3: *The reaction to SEOs is sensitive to the statistical method used, with parametric and non-parametric tests producing different conclusions.*

H4: *In the context of emerging markets, SEOs by distressed firms are not necessarily perceived as negative signals, but may be interpreted as a proactive financial restructuring strategy.*

These hypotheses will be tested empirically using an event study methodology applied to a sample of SEO announcements by distressed Moroccan firms. The use of both parametric and non-parametric techniques aims to provide a nuanced understanding of market reactions in this specific financial context.

3. Data and Methodology

3.1. Sample and Data

Our study utilized a sample of 5 Moroccan companies' SEOs from the period 1999 to 2024, which were all listed on the Casablanca Stock Exchange. The stock prices and other necessary financial information were collected from the official website of the Casablanca Stock

Exchange and the companies' respective financial reports on the website. To ensure the consistency and direction of the study, certain criteria were used in the selection of SEOs. SEOs involving Initial Public Offerings (IPOs) were not included in the sample. This exclusion was necessary due to the unavailability of historical stock price data required to compute theoretical stock returns during IPOs. Without this information, the precise analysis essential to this study would be impossible. Announcements by holding companies and financial institutions involving SEOs were also excluded. The reason for this exclusion is to focus on distressed companies, since the financial condition and structure of holding companies and financial institutions are quite different from operating companies. With these very specific conditions, the study aims to examine thoroughly the effect of SEOs on the stock price of strategically selected distressed Moroccan firms. The above table gives the sample details.

Table 1: Sample Characteristics of SEOs by Moroccan Companies Listed on the Casablanca Stock Exchange (1999-2024)

Registered Name	Sector	ISIN Code	Rights Offerings	Announcement date (date of approval by the Moroccan Capital Market Authority)	Objectives of the Operation
Les eaux minérales d'Oulmes	Beverage industry	MA0000010415	Without Rights Offerings	27/05/1999	The objective of SEO is to assist the company in optimizing its financing structure and establishing equilibrium between its debt and equity.
			With Rights Offerings	06/04/2007	The objective of SEO is to help the company improve its financial structure and find a suitable balance between debt and equity.
Med Paper	Forestry and Paper	MA0000011447	With Rights Offerings	06/07/2004	Since the fiscal year 2000, the business has revealed net losses. SEO aims to restore the company's equity and support the development of its activities.
Label Vie	Retail distribution	MA0000011801	With Rights Offerings	14/10/2011	The SEO aims to enable the company to repay a portion of the bridge loan raised in 2010.
Jet Contractors	Building and Construction Materials	MA0000012080	With Rights Offerings	03/12/2018	The SEO aims to strengthen the company's equity and optimize its financial ratios.

Source: Author

The table provides insight into seasoned equity offerings (SEOs) undertaken by companies listed on the Casablanca Stock Exchange between 1999 and 2024. The announcements of these SEOs, reflect common objectives such as reinforcing equity, improving financial ratios and restructuring debt. In the following table, we present a financial analysis of the companies' situations before their SEOs:

Table 2: Analysis of Companies' Financial Situation Before SEOs

Ratios	Measurement	Reference from Literature	Companies				
			LES EAUX MINERALES D'OULMES S.A.	Med Paper	LES EAUX MINERALES D'OULMES S.A.	Label Vie	Jet Contractors SA
			1998	2003	2005	2010	2017
Liquidity	$\frac{\text{Cash Flow from Operations}}{\text{Current Liabilities}}$	Ibbara (2009) Kamaluddin, Ishak & Mohammed (2019)	0.580	0.411	0.153	-0.279	0.049
Solvency	$\frac{\text{Cash Flow from Operations}}{\text{Total Liabilities}}$	Mills and Yamamura (1998) Kamaluddin, Ishak & Mohammed (2019)	0.293	0.245	0.069	-0.150	0.036
	$\frac{\text{Cash Flow from Operations}}{\text{Long – Term Liabilities}}$	Kamaluddin, Ishak & Mohammed (2019)	0.595	0.608	0.128	-0.325	0.132
Efficiency	$\frac{\text{Cash Flow from Operations}}{\text{Fixed Assets}}$	(Ibarra, 2009 and Fawzi et al., 2015) Kamaluddin, Ishak & Mohammed (2019)	0.320	0.334	0.055	-0.181	0.342
Profitability	$\frac{\text{Net Profit}}{\text{Total Assets}}$	Thim, Choong & Nee (2011)	0.015	-0.279	0.003	0.011	0.058
Debt	$\frac{\text{Net Debt}}{\text{Equity}} \times 100$	Rivet & Mathé (1994)	213%	-342.89% ¹	194%	191%	133%
	$\frac{\text{Total Equity}}{\text{Total Equity} + \text{Total Debt}} \times 100$	Rajan, R. G., & Zingales, L. (1994)	32%	-41.17%	34%	34.4%	43%
	$\frac{\text{Total Debt}}{\text{Total Equity} + \text{Total Debt}} \times 100$	Rajan, R. G., & Zingales, L. (1994)	68%	141.17%	66%	65.6%	57%

Source: Author

¹ Gearing is typically not negative, but when a company has negative equity, the gearing ratio becomes negative, reflecting the fact that its total debt exceeds its assets, indicating severe financial distress.

The analyzed companies exhibit significant signs of financial distress, as reflected in several key financial indicators. The liquidity ratio ranges from -0.279 to 0.580, highlighting severe difficulties in generating sufficient cash flow to meet short-term obligations. Solvency ratios are equally concerning, with values ranging from -0.150 to 0.293 for total liabilities and from -0.325 to 0.608 for long-term liabilities, indicating major financial constraints in managing outstanding debts.

In terms of efficiency, the cash flow-to-fixed assets ratio varies between -0.181 and 0.342, suggesting limited capacity to convert assets into usable liquidity. Profitability remains weak across the sample, with return on assets fluctuating between -0.279 and 0.058, underscoring low economic performance and, in some cases, operational losses.

High financial leverage further exacerbates the financial vulnerability of these companies. The net debt-to-equity ratio reaches up to 213%, while the total debt ratio ranges from 57% to 68%, reflecting an excessive reliance on external financing and an increased risk of insolvency.

Overall, these companies resorted to seasoned equity offerings not merely as a growth strategy but as a necessity to address financial emergencies, stabilize their capital structure, and attempt to restore economic viability.

3.2. Methodology

To examine the effect of SEOs during financial distress on the stock prices of these companies, we implement the Event Study Methodology. According to Dyckman, Philbrick and Stephan (1984), the Event Study Methodology is an approach that involves studying and analyzing the reaction of stock prices following the arrival of a new public information in the market. It is based on the principle that financial markets react immediately to the arrival of new information that may affect the future profitability of the company (Hubler and Meschi (2000)).

According to Boufama (2013), the Event Study Methodology comprises four consecutive steps. The first step involves defining the parameters of the study in terms of event, announcement date, event window, and estimation window. The second step involves calculating the Normal or Theoretical Return for each sample security, which is the expected return in the absence of the event. The third step involves calculating the Abnormal Returns of securities over the event window. The fourth and final step involves testing Abnormal Returns.

First Step: Defining the parameters of the event study

The first step of an Event Study requires prior definition of the event and a temporal scale composed of three elements: the announcement date, the event window, and the estimation window. The announcement date constitutes the date of publication of information on the market and corresponds to date zero. The event window surrounds the announcement date and corresponds to the time interval $[-t, +t]$, during which the impact of the event on stock prices is generally observed. The estimation window is the time interval during which expected returns are estimated in the absence of the event, i.e., the Normal or Theoretical Returns. This period is generally prior to the event window and is denoted $[-t-n, -t-1]$.

The study's event: According to Boufama (2013), we consider a fact as an event when it involves a change in the price of a financial asset. In this paper, the event under study is "The announcement of a SEOs operation."

The Announcement Date: In this research, we will consider the announcement date as the date of approval by the Moroccan Capital Market Authority², since issuing companies are not allowed to publish the information memorandum regarding the SEOs on the Casablanca Stock Exchange website before this date.

The Event and Estimation Windows: In the literature on SEOs, different event windows and estimation windows are employed, with no specific rules governing their length, as studies vary

² *Autorité Marocaine du Marché des Capitaux (AMMC).*

in their methodological choices (Simon and Zaby 2021). Simon and Zaby (2021) used an event window of one month before and after the effective date («-30,0,+30»), while Kartobi (2013) limited the event window to 12 days following the announcement. For our estimation, we have chosen a 20-day event window spanning 10 days before and 10 days after the announcement («-10,0,+10»). Similarly, estimation windows differ across studies: Simon and Zaby (2021) used 180 days preceding the event window, whereas Kartobi (2013) adopted 120 days. Based on our analysis, we have opted for an estimation window of 150 daily observations before the event window.

Second Step: Estimation of Normal or Theoretical Returns

Theoretical returns are the performance expected from a stock when there is no particular event. Researchers have developed several models to predict these returns, among them the Market Model (Fama et al., 1969), the Mean Adjusted Return Model (Masulis, 1980), the Capital Asset Pricing Model (CAPM) (Sharpe, 1964), and the Market Adjusted Return Model (Latané and Jones, 1977). Due to its solid empirical foundation and sound theoretical basis, the CAPM is distinguished from among them in event study design. According to Kothari and Warner (2006) CAPM has extensive application in financial literature and particularly when abnormal returns must be determined. According to Diallo Alpha Oumar (2011), ever since the 1970s the CAPM has been a widely applied tool for event studies where it is a reliable estimator for expected return given that systematic risk is considered.

The CAPM is most useful as it utilizes the beta coefficient (β), which measures how an asset's returns respond to movements in the market. This enables expected returns to be calculated more accurately than with more fundamental models that do not consider systematic risk. The CAPM is widely applied as a financial analysis benchmark and is reflected in both academic literature and investment practice. Its application in event studies guarantees equivalence with previous work and enables sensible comparisons between empirical findings. Also, the employment of linear regression techniques for estimating parameters enhances the statistical robustness of the findings by guaranteeing that the observed abnormal returns result from the analyzed event and are not merely an artifact of random market fluctuations.

The theoretical returns within the CAPM model are computed using the following:

$$RT_{it} = R_f + \beta_i (R_{mt} - R_f)$$

Where:

RT_{it} : The theoretical return on asset i .

R_f : The risk-free rate.

β_i : The beta coefficient of asset i .

R_{mt} : The Market Return.

Third Step: Estimation of Abnormal Returns

The effect of SEOs on stock prices during financial distress is measured through Abnormal Returns observed around the announcement date. These Abnormal Returns represent the difference between the Observed Return and the Normal or Theoretical Return:

$$RA_{it} = RO_{it} - RT_{it}$$

Where:

RA_{it} : Abnormal return of stock i at time t ;

RO_{it} : Observed return of stock i at time t during the event window;

RT_{it} : Theoretical return of stock i at time t during the estimation window.

After defining the event and calculating Abnormal Returns for each stock in the sample, appropriate statistical tests are implemented to conclude the significance of the impact.

Fourth Step: Testing Abnormal Returns

The fourth step involves testing the significance of Abnormal Returns generated around the announcement dates, we apply two complementary statistical tests: the Student's t-test (parametric test) and the Wilcoxon test (non-parametric test) as applied in previous studies such as Taoufik Bouraoui (2008) and Thallian-Farrel N'Goma (2016).

The Student's t-test aims to determine whether the observed Average Abnormal Returns (AAR) are statistically significant. The Student's t-test is calculated as follow:

$$t = \frac{AAR_t}{\sigma_t}$$

In this test, AAR_t denotes the average abnormal return at date t , and σ_t signifies the standard deviation of the AAR. The underlying assumption of this test is that the returns are distributed normally. The Student's t-test is a useful method for determining the significance of returns variations while accounting for their intensity. However, to ensure the robustness of the findings and also to mitigate the normality assumption of returns, this analysis is supported with the Wilcoxon signed-rank test, which is a non-parametric test. This test ranks the Abnormal Returns in ascending order irrespective of their sign and calculates the sum of ranks for positive returns (T_+). The statistic is calculated as below:

$$Z_{\text{rank}} = \frac{T_+ - \frac{n(n+1)}{4}}{\sqrt{\frac{n(n+1)(2n+1)}{24}}}$$

Where (n) is the sample size. The test enables verification of the result of the Student's t-test without the requirement of strict assumptions regarding the data distribution. This thus strengthens and makes the conclusions more reliable. While the Student's t-test checks for the significance of differences under parametric assumptions, the Wilcoxon test offers an independent perspective irrespective of the distribution of returns. Hence, the combination of these two tests is a natural progression of their capacity to analyze the effect of SEOs on stock prices from different perspectives.

3.3. Methodological Limitations

While the event study methodology offers a rigorous and widely accepted framework for assessing the impact of public information on stock prices, the present study faces several methodological limitations that should be acknowledged to ensure a balanced interpretation of the results.

First, the study is based on a small sample of only five SEO events from Moroccan listed companies over the period 1999 to 2024. Although these companies were deliberately selected due to their financial distress conditions—making them particularly relevant for the research question—the limited number of observations reduces the statistical power of the analysis. It constrains the ability to generalize the results across the broader population of firms in Morocco or other emerging markets. Furthermore, the diversity of sectors and timing of the events might introduce heterogeneity that is not fully captured in such a restricted sample.

Second, there are significant data availability constraints in the Moroccan capital market. The accessibility and granularity of financial data are limited compared to developed markets, especially regarding high-frequency market returns, firm-specific risk indicators, and institutional ownership details. This limitation affects, among other things, the precision of beta estimation in the CAPM model, the robustness of control variables, and the possibility of conducting additional robustness checks or cross-sectional analysis. As a result, the analysis is based on simplified assumptions and proxies, which may affect the accuracy of the estimated abnormal returns.

Third, the identification of financial distress in the sampled companies is based on accounting ratios, such as negative cash flow, low liquidity, and excessive leverage. While these indicators are consistent with the literature (e.g., Altman's Z-score components), they are retrospective and static in nature, and may not fully reflect market-based or forward-looking perceptions of distress. Investors may anticipate changes in firm condition or respond to qualitative signals that are not captured in financial statements, such as changes in governance, media coverage, or regulatory scrutiny.

Fourth, there is the risk of confounding events occurring during the event window. Although the study attempts to isolate the impact of SEO announcements, other corporate events—such as dividend changes, earnings disclosures, regulatory announcements, or macroeconomic shocks—may coincide with the SEO and influence stock prices. Given the 21-day event window (−10 to +10), the possibility that unrelated information may distort the measurement of abnormal returns cannot be entirely ruled out, particularly in a market with limited efficiency and low liquidity.

Finally, the use of parametric and non-parametric tests provides a degree of robustness, but assumptions such as normality of returns or independence of observations may not be perfectly satisfied, especially in small samples. While the Wilcoxon signed-rank test mitigates some of these issues, the combination of methodological constraints, data limitations, and sample characteristics may affect the internal and external validity of the findings.

In sum, while the study provides exploratory and contextually relevant insights into the stock market reaction to SEOs by distressed Moroccan firms, the limitations discussed above highlight the need for cautious interpretation and future research using larger samples, improved data access, and complementary qualitative methods.

4. Results and Discussion

The empirical results of the study, concerning the effect of SEOs implemented in financial distress on stock prices of listed companies at the Casablanca Stock Exchange, are presented in the following section. This is achieved by examining the significance and magnitude of the Abnormal Returns that have been quantified over the event window through the Student's t-test and the Wilcoxon signed-rank test.

The table below presents the daily abnormal returns (ARs) of five financially distressed Moroccan companies around their Seasoned Equity Offerings (SEOs) announcement dates. The event window spans from 10 days before to 10 days after the announcement date (Day 0), capturing market reactions before, during, and after the SEO. For each day, the table includes the cumulative abnormal return (CAR), the average abnormal return (AAR), the sample standard deviation, and the corresponding Student's t-statistic. These figures are calculated to assess the statistical significance of the stock price reactions across firms. A significant result would suggest that SEOs had a measurable impact on stock returns, potentially reflecting investor sentiment or market reassessment during financial distress.

Table 3: Abnormal Returns and Statistical Indicators Surrounding SEOs Announcements for Distressed Moroccan Firms (Event Window [-10, +10])

Day	Abnormal Returns					Cumulative Abnormal Returns	Average Abnormal Returns	Sample Standard Deviation	t-Statistique
	Jet Contractors 2018	Oulmes 1999	Oulmes 2007	Label Vie 2011	Med Paper 2004				
-10	-0,612	-0,4893	-0,2943	-0,1147	0,4006	-1,1097	-0,18495	0,39620721	-1,143424746
-9	-0,6373	-0,4893	-0,3104	0,0006	0,3932	-1,0432	-0,17386667	0,41196702	-1,033783286
-8	-0,6342	-0,4893	-0,2943	-0,0195	0,4069	-1,0304	-0,17173333	0,41286791	-1,018870751
-7	-0,6211	-0,4893	-0,2943	-0,0587	0,4006	-1,0628	-0,17713333	0,4030538	-1,076497182
-6	-0,6277	-0,4893	-0,2943	-0,1118	0,4006	-1,1225	-0,18708333	0,40031632	-1,144741507
-5	-0,6244	-0,4893	-0,2943	-0,0059	0,4006	-1,0133	-0,16888333	0,40959191	-1,009975984
-4	-0,6343	-0,4893	-0,2943	-0,0587	0,4532	-1,0234	-0,17056667	0,42653543	-0,979523088
-3	-0,5864	-0,4893	-0,2943	-0,0587	0,4006	-1,0281	-0,17135	0,39446802	-1,064015455
-2	-0,6289	-0,4893	-0,2943	-0,0587	0,4006	-1,0706	-0,17843333	0,40504054	-1,079078691
-1	-0,6405	-0,4893	-0,2943	-0,0587	0,4006	-1,0822	-0,18036667	0,40803245	-1,082772468
0	-0,6309	-0,4893	-0,2943	-0,0587	0,4006	-1,0726	-0,17876667	0,40555323	-1,079727849
1	-0,5246	-0,4893	-0,2943	-0,0602	0,3406	-1,0278	-0,1713	0,35692785	-1,17558097
2	-0,6341	-0,4893	-0,2943	-0,0587	0,374	-1,1024	-0,18373333	0,39635033	-1,13549273
3	-0,6058	-0,4893	-0,2344	-0,061	0,4006	-0,9899	-0,16498333	0,39672801	-1,018644953
4	-0,6427	-0,4893	-0,266	-0,0664	0,4596	-1,0048	-0,16746667	0,42922904	-0,955685285
5	-0,6394	-0,4893	-0,2943	-0,0478	0,4326	-1,0382	-0,17303333	0,42092609	-1,006930636
6	-0,5821	-0,4893	-0,3526	-0,0579	0,4006	-1,0813	-0,18021667	0,39767213	-1,110057364
7	-0,6591	-0,4893	-0,235	-0,0703	0,4006	-1,0531	-0,17551667	0,41008256	-1,048389557
8	-0,6459	-0,4893	-0,2509	-0,047	0,4006	-1,0325	-0,17208333	0,40897134	-1,030674576
9	-0,593	-0,4893	-0,2935	0,0007	0,3406	-1,0345	-0,17241667	0,38051825	-1,109888584
10	-0,5943	-0,4893	-0,2943	-0,1185	0,3687	-1,1277	-0,18795	0,3790976	-1,214414443

Source: Author

In order to determine the statistical relevance of the abnormal returns observed around the SEO announcement dates, the Student's t-test is employed. As a parametric method, this test assesses whether the average abnormal returns (AARs) across the sample significantly deviate from zero on each day within the event window. While Table 3 provides the raw abnormal return figures for each firm—capturing both individual and aggregated stock price behavior over the [-10, +10] period—Table 4 fulfills a distinct yet complementary analytical function. Specifically, it presents the inferential results derived from the t-test, incorporating cumulative abnormal returns (CARs), AARs, cumulative AARs, standard deviations, and the associated t-statistics. This structure facilitates a rigorous examination of whether the observed return fluctuations can be attributed to genuine market reactions or are merely the product of statistical randomness. By setting the confidence threshold at 90%, this dual-table framework ensures both descriptive completeness and statistical robustness, thereby reinforcing the validity of the empirical findings.

Table 4: Statistical significance of Abnormal Returns (Student's t-Test)

Day	Cumulative Abnormal Returns	Average Abnormal Returns	Cumulative Average Abnormal Returns	Sample Standard Deviation	Student's t-test	Statistical Significance
-10	-1,1097	-0,18495	-0,18495	0,39620721	-1,143424746	NS**
-9	-1,0432	-0,173866667	-0,35881667	0,411967017	-1,033783286	NS**
-8	-1,4373	-0,23955	-0,53055	0,280824951	-2,08946985	S*
-7	-1,0628	-0,177133333	-0,70768333	0,403053803	-1,076497182	NS**
-6	-1,1225	-0,187083333	-0,89476667	0,400316319	-1,144741507	NS**
-5	-1,0133	-0,168883333	-1,06365	0,40959191	-1,009975984	NS**
-4	-1,0234	-0,170566667	-1,23421667	0,426535429	-0,979523088	NS**
-3	-1,0281	-0,17135	-1,40556667	0,394468018	-1,064015455	NS**
-2	-1,0706	-0,178433333	-1,584	0,405040544	-1,079078691	NS**
-1	-1,0822	-0,180366667	-1,76436667	0,408032447	-1,082772468	NS**
0	-1,0726	-0,178766667	-1,94313333	0,40555323	-1,079727849	NS**
1	-1,0278	-0,1713	-2,11443333	0,356927854	-1,17558097	NS**
2	-1,1024	-0,183733333	-2,29816667	0,396350327	-1,13549273	NS**
3	-0,9899	-0,164983333	-2,46315	0,396728008	-1,018644953	NS**
4	-1,0048	-0,167466667	-2,63061667	0,429229045	-0,955685285	NS**
5	-1,0382	-0,173033333	-2,80365	0,42092609	-1,006930636	NS**
6	-1,0813	-0,180216667	-2,98386667	0,39767213	-1,110057364	NS**
7	-1,0531	-0,175516667	-3,15938333	0,410082561	-1,048389557	NS**
8	-1,0325	-0,172083333	-3,33146667	0,408971338	-1,030674576	NS**
9	-1,0345	-0,172416667	-3,50388333	0,380518245	-1,109888584	NS**
10	-1,1277	-0,18795	-3,69183333	0,379097597	-1,214414443	NS**

* Significant at the 90% confidence level; ** non-Significant.

Source: Author

Table 4 presents the statistical significance of abnormal returns using Student's t-test for each day in the event window from Day -10 to Day +10. Most abnormal returns are not statistically significant, except for Day -8.

Before the event, only Day -8 shows a significant result, with a t-statistic of -2.089, slightly exceeding the 5% significance threshold. This suggests that some information may have influenced investor sentiment in advance, triggering a reaction before the official event. However, since no other pre-event days show significant t-values, evidence of a strong

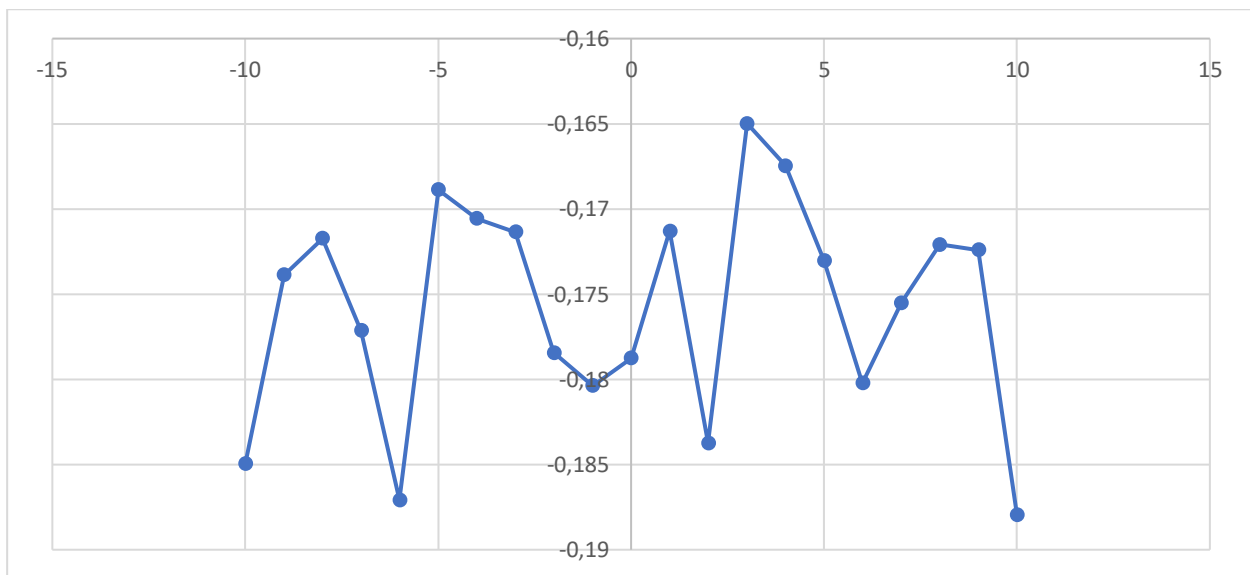
On the event day (Day 0), the t-statistic remains non-significant, indicating no immediate market reaction. Similarly, no post-event days exhibit significant t-values, suggesting either an efficient market adjustment or a lack of strong investor response.

In summary, while Day -8 hints at some pre-event reaction, neither the event itself nor the post-event period shows strong evidence of a meaningful impact on stock prices. The lack of statistically significant results may be due to the unverified normality assumption underlying Student's t-test. Potential deviations from normality could have affected the findings, limiting the test's reliability. To address this, the Wilcoxon signed-rank test, a non-parametric alternative that does not require normality, will be employed for a more robust evaluation of the event's impact.

The evolution of Average Abnormal Returns (AAR) over the event window from Day -10 to Day +10 is illustrated in the following graph (Graph 1). The AAR consistently exhibits a negative trend, suggesting persistent investor skepticism.

In the pre-event, AAR fluctuates with a brief spike followed by a decline around Day -6, which could be a sign of early market expectation or information leakage. Just before the event, AAR reaches a local trough, reflecting heightened negative sentiment. On the event date (Day 0), AAR bounces back slightly but remains negative, suggesting an unfavorable market reaction. After the event, AAR first increases and peaks around Day +3, after which it starts to fluctuate once more.

Graph 1: Evolution of Average Abnormal Returns over the event window

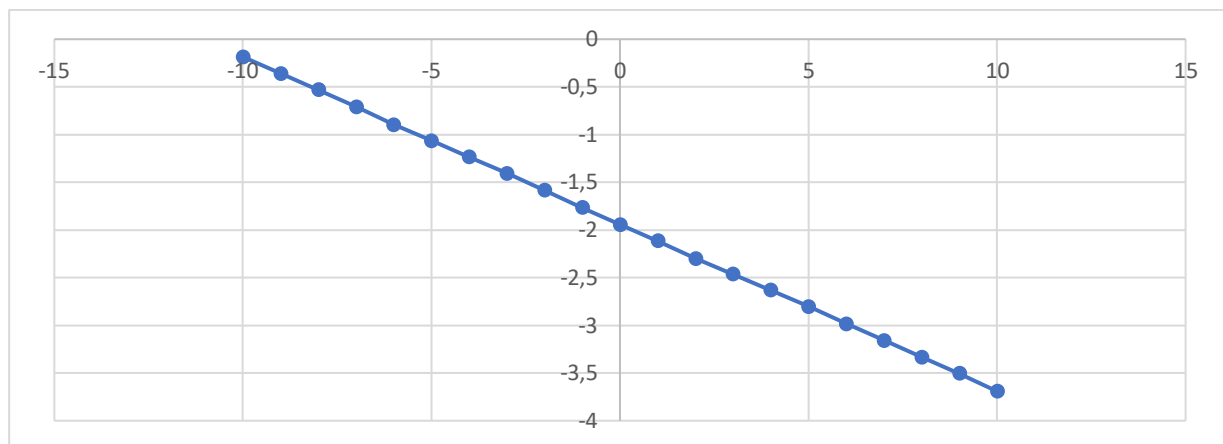


Source: Author

The following graph (Graph 2) illustrates the evolution of Cumulative Average Abnormal Returns (CAAR) over the event window from Day -10 to Day +10. The persistent downward trajectory indicates a sustained negative market reaction, suggesting that investors consistently perceived the event as detrimental to stock performance.

In the pre-event period, the continuous decline in CAAR implies investor anticipation, leading to a gradual erosion of stock value. On the event day (Day 0), the absence of any trend reversal confirms that the event did not prompt a reassessment of stock value. Post-event, CAAR continues to decline with no signs of recovery, indicating a lasting negative impact on investor sentiment and no corrective market adjustment. This suggests that investors interpreted the event as a signal of financial weakness.

Graph 2: Evolution of Cumulative Average Abnormal Returns over the event window



Source: Author

The following table (Table 5) presents the statistical significance of Abnormal Returns using the Wilcoxon signed-rank test across the event window from Day -10 to Day +10. This test provides a robust non-parametric analysis that complements the Student's t-test by assessing the consistency and directionality of stock price movements.

Table 5: Statistical significance of Abnormal Returns (Wilcoxon rank-sum test)

	Sum of positive ranks	Z rang	Statistical Significance
-10	11,5	0,209656967	NS**
-9	6	-0,943456353	NS**
-8	18	1,572427255	NS**
-7	11,5	0,209656967	NS**
-6	11,5	0,209656967	NS**
-5	11,5	0,209656967	NS**
-4	20	1,99174119	S*
-3	11,5	0,209656967	NS**
-2	11,5	0,209656967	NS**
-1	11,5	0,209656967	NS**
0	11,5	0,209656967	NS**
1	1,5	-1,886912706	NS**
2	4	-1,362770288	NS**
3	11,5	0,209656967	NS**
4	21	2,201398157	S*
5	19	1,782084222	S*
6	11,5	0,209656967	NS**
7	11,5	0,209656967	NS**
8	11,5	0,209656967	NS**
9	3,5	-1,467598771	NS**
10	3	-1,572427255	NS**

* Significant at the 90% confidence level; ** non-Significant.

Source: Author

During the pre-event period (Days -10 to -1), the Wilcoxon test detects no statistically significant Abnormal Returns, except for Day -4 (Z-rank = 1.9917), which exhibits a significant positive reaction. This suggests that some investors may have anticipated the SEO

announcement and adjusted their positions accordingly. No significant reaction is observed on the event day (Day 0) (Z-rank = 0.2096).

In the post-event period (Days +1 to +10), significant positive Abnormal Returns appear on Days +4 (Z-rank = 2.2013) and +5 (Z-rank = 1.7820), indicating a delayed market reassessment of the SEO announcement.

A key difference between the two tests emerges in the pre- and post-event periods. The Student's t-test identifies a significant negative reaction on Day -8, implying an early market response, but finds no significant Abnormal Returns afterward, suggesting that any reaction was short-lived under the assumption of normality. In contrast, the Wilcoxon test does not confirm the negative reaction on Day -8 but identifies significant positive Abnormal Returns on Days -4, +4, and +5, highlighting both an anticipatory response and a delayed reassessment. This discrepancy arises from fundamental methodological differences: the t-test, as a parametric method, assumes normality and compares means, making it sensitive to outliers and variance heterogeneity. In contrast, the Wilcoxon test ranks the data and compares medians, making it more robust to skewed distributions and extreme values (Hollander, Wolfe, & Chicken, 2013).

Our study contributes to the literature on SEOs by examining investor reactions in the context of financially distressed firms. Prior research has shown that SEOs typically elicit negative market reactions due to concerns over dilution and uncertainty, but the magnitude and persistence of these reactions depend on firm characteristics and market conditions.

Kartobi (2013), using the Student's t-test, found that SEOs in Morocco generally generate negative cumulative abnormal returns (CARs), regardless of a firm's financial health, with statistical significance varying across event windows. In contrast, our results show that when applying the t-test, we detect only one significant negative reaction (Day -8), while the Wilcoxon signed-rank test reveals significant positive abnormal returns on Day -4, Day +4, and Day +5. This suggests that the negative reaction identified by Kartobi (2013) may not fully capture the dynamics of investor sentiment, as the Wilcoxon test provides a more robust analysis by ranking the data rather than assuming normality.

Our findings align with Kim, Ko, and Wang (2019), who showed that in South Korea, SEOs by distressed firms are often linked to debt restructuring, sometimes leading to delayed positive market reactions. Similarly, the positive abnormal returns observed on Days +4 and +5 in our study suggest that Moroccan investors may initially react with uncertainty but later reassess SEOs more favorably, particularly if they anticipate benefits such as improved liquidity or financial restructuring.

However, our findings contrast with Walker and Wu (2019), who assert that distressed firms in developed markets experience constant negative reactions to SEOs, mainly due to concerns about higher issuance costs and value dilution. This difference may be due to divergent market structures and investor anticipations: While investors in developed markets may perceive SEOs by distressed firms as a signal of financial distress, investors in emerging markets such as Morocco may explain them as a planned move to reestablish financial stability.

Our research emphasizes the need to examine investor reactions using both parametric and non-parametric tests. The t-test, which presumes normality, identified only one significant negative reaction on Day -8. In contrast, the Wilcoxon test, which ranks observations and is more resilient to skewed distributions (Hollander, Wolfe, & Chicken, 2013), found significant positive abnormal returns on Days -4, four, and +5. This emphasizes the potential limitations of parametric tests when normality assumptions are not validated, highlighting the importance of a non-parametric approach for more trustworthy inference.

Discussion of Hypotheses

The empirical results allow us to evaluate the four hypotheses formulated earlier in light of both

parametric and non-parametric analyses. **H1**, which posits that SEOs by financially distressed Moroccan firms do not elicit statistically significant immediate abnormal returns under parametric testing, is supported. The Student's t-test confirms that abnormal returns on the announcement day (Day 0) and the surrounding window are not statistically significant, suggesting a muted or uncertain immediate market reaction to SEO announcements in this context. **H2**, which suggests that non-parametric methods may detect delayed positive abnormal returns, is partially validated. The Wilcoxon signed-rank test reveals statistically significant positive abnormal returns on Days +4 and +5, indicating that while the immediate response was weak, investors may have gradually reassessed the SEOs as potentially constructive actions aimed at improving financial conditions.

H3, which asserts that the reaction to SEOs is sensitive to the statistical method employed, is clearly confirmed. The contrast between the t-test (detecting only one significant negative reaction on Day -8) and the Wilcoxon test (identifying positive reactions on three separate days) demonstrates the methodological sensitivity of the event study results. This divergence underscores the need for caution when relying exclusively on parametric methods, particularly in emerging markets where normality assumptions may not hold. Finally, **H4**, which posits that SEOs by distressed firms in emerging markets may not be perceived solely as negative signals, but rather as proactive financial restructuring strategies, is also supported. The delayed positive market response observed through non-parametric testing, alongside the absence of statistically significant negative reactions post-event, indicates that Moroccan investors may interpret these SEOs as signals of recovery or liquidity management rather than distress-induced dilution.

Together, these findings emphasize the complexity of investor behavior in response to SEOs in emerging financial environments and reinforce the importance of adopting both descriptive and inferential analytical approaches to capture the nuances of market sentiment.

5. Conclusion

This study uses both parametric (Student's t-test) and non-parametric (Wilcoxon signed-rank test) approaches to investigate how SEOs by financially distressed companies affect stock prices in Morocco. Our results show that the Wilcoxon test finds significant positive abnormal returns on Days -4, +4, and +5, whereas the t-test finds only one significant negative reaction on Day -8. With evidence of both initial hesitancy and a later favorable reevaluation by investors, our findings imply that market responses to SEOs are more nuanced than previously reported.

Kartobi (2013) found that SEOs in Morocco generally lead to negative cumulative abnormal returns using the t-test. However, our results indicate that the negative reaction is not persistent and that positive market responses emerge when analyzed through a more robust non-parametric approach. These findings align with Kim, Ko, and Wang (2019), who demonstrated that SEOs by distressed firms in South Korea can lead to delayed positive market reactions, particularly when associated with financial restructuring. Conversely, our results diverge from Walker and Wu (2019), who found that distressed firms in developed markets experience persistent negative SEO reactions due to dilution concerns and higher issuance costs. These discrepancies may stem from differences in market structures, investor expectations, and regulatory environments between emerging and developed economies.

These findings have important implications for investors, corporate managers, and policymakers. The delayed positive reactions suggest that while SEOs are initially met with skepticism, investors may later reassess their potential benefits, particularly in financially distressed firms. For corporate decision-makers, this highlights the importance of clear communication regarding the strategic use of SEO proceeds, as market perception can evolve over time.

Future research could further explore the underlying drivers of these delayed reactions, particularly by examining investor composition, regulatory policies, and firm-specific financial strategies. A comparative study between Morocco and other emerging markets could help determine whether this reaction pattern is unique to Morocco or reflects broader trends in similar financial environments. Additionally, future studies could analyze the impact of private placements versus public SEOs, shedding light on how different issuance mechanisms influence investor sentiment.

Despite its contributions, this study has several limitations that warrant consideration. First, the sample size is small (five firms), which limits the statistical generalizability of the results. Second, the analysis is constrained by data availability in the Moroccan context, particularly regarding intraday prices, firm-specific risk measures, and investor characteristics. Third, the identification of financial distress is based on accounting ratios, which may not fully capture real-time investor sentiment or forward-looking risk. Lastly, potential confounding events occurring during the event window—such as macroeconomic shocks or concurrent corporate announcements—may have influenced stock prices, despite our effort to isolate the SEO effect. These limitations suggest that the findings should be interpreted with caution and pave the way for further, more comprehensive investigations.

By providing a deeper understanding of SEO market dynamics in an emerging economy, this study contributes to the broader literature on corporate finance and market efficiency, emphasizing the need for context-specific analyses when evaluating stock price reactions to equity issuance.

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