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Doaa Ahmed Abdulqader Anber
Vocational Education Department, General Directorate of Education in Nineveh, Iraq

Correspondence Author:
Doaa Ahmed Abdulqader Anber
Vocational Education Department, General Directorate of Education in Nineveh, Iraq

The impact of firm size on abnormal stock returns-An analytical study of a sample of companies listed on the Iraq stock exchange

Doaa Ahmed Abdulqader Anber

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Abstract
This study aims to analyze and measure the impact of firm size on abnormal stock returns during the period (2013-2022). The study is based on the hypothesis that firm size affects abnormal stock returns. To achieve the study's objective and validate its hypothesis, a quantitative approach was adopted to determine the type and magnitude of the effect between the study variables. The study relied on data from the sample banks for the period (2013-2022). After conducting the stationarity test, it was found that all variables became stationary after the first difference. Accordingly, an Autoregressive Distributed Lag (ARDL) model was constructed and estimated. Additionally, a series of diagnostic tests confirmed that the model was free from econometric issues. The study reached several conclusions, the most notable of which is the existence of a positive and significant relationship between firm size and abnormal stock returns in both the short and long run. The study recommends enhancing transparency and financial disclosure to increase investor confidence and stabilize the financial market.

Keyword: Firm size, abnormal stock returns, Iraq stock exchange

Introduction
Financial markets are one of the fundamental pillars supporting economic activities and achieving sustainable economic development. They serve as a vital platform for directing financial resources toward the most efficient uses, thereby contributing to economic growth. Among the key factors influencing financial market performance are the listed companies, which play a crucial role in stimulating investment activity through the trading of their stocks. The performance of these companies directly impacts investor decisions, as they seek to achieve returns that exceed expected normal returns.

In this context, firm size emerges as a critical factor that may influence abnormal stock returns. Theoretically, larger firms are believed to possess greater resources, higher financial stability, and stronger reputations, which may enhance their investment attractiveness. Conversely, smaller firms may exhibit greater flexibility and a higher propensity to respond to growth opportunities, potentially creating chances for abnormal returns.

This study aims to analyze the relationship between firm size and abnormal stock returns by examining a sample of companies listed on the Iraq Stock Exchange. The study seeks to determine whether firm size has a significant impact on the realization of abnormal returns.

Chapter One: Research Methodology
First: Research Problem
The research problem concerns the abnormal returns that investors can achieve based on the profits reported in the financial statements of companies listed on the Iraq Stock Exchange. Financial statements serve as a primary tool for investors to assess corporate performance and make investment decisions. However, a question arises regarding whether these returns are influenced by internal factors such as firm size. Therefore, the study seeks to address the following research question:

Does firm size affect abnormal stock returns for companies listed on the Iraq Stock Exchange?

Second: Research Significance

The significance of this study stems from the following aspects

1. Clarifying the relationship between firm size and abnormal stock returns, adding a new dimension to financial literature on emerging markets, such as the Iraq Stock Exchange.
2. Assisting investors in making informed investment decisions by understanding the impact of firm size on abnormal returns.
3. Providing useful insights for companies and regulatory bodies to enhance their financial and regulatory strategies, thereby improving market efficiency.

Third: Research Objectives

This study aims to

- Determine the extent to which firm size influences the realization of abnormal returns in the Iraq Stock Exchange.
- Offer recommendations for investors and companies to enhance investment strategies based on an understanding of the impact of firm size on stock performance.

Fourth: Research Hypothesis

To answer the research question, the following hypothesis is proposed:

Firm size affects abnormal stock returns for companies listed on the Iraq Stock Exchange.

Fifth: Research Population and Sample

The study will focus on banks listed on the Iraq Stock Exchange as the research population. A sample of eight banks will be selected, namely: Baghdad Bank, Al-Mansour Bank, Middle East Bank, Ashur International Bank, Kurdistan Bank, United Investment Bank, Sumer Bank, and Gulf Commercial Bank. These banks represent the spatial boundaries of the study.

As for the temporal boundaries, the study will cover the period from 2013 to 2022, using annual data for the selected banks due to the availability of data during this timeframe.

Sixth: Research Methodology

The study adopts a combination of the following approaches:

1. Descriptive Approach: Utilized in the theoretical section of the study.
2. Quantitative Econometric Approach: Applied in the empirical section using the statistical software EViews V.13.

Seventh: Previous Studies

Studies in Arabic

A. Okasha (2024) [19] - "The Direct and Indirect Effects between Firm Size, Financial Leverage, and Tax Avoidance"

This study aimed to examine whether the relationship between firm size and tax avoidance practices in Egyptian joint-stock companies is influenced by the level of financial leverage. The study analyzed a sample of 105 Egyptian joint-stock companies across 14 different economic sectors, with a total of 585 observations covering the period from 2015 to 2021. Path analysis was conducted using AMOS software to analyze the data and test the hypotheses. The study found a positive and significant relationship between firm size and tax avoidance, a positive and significant relationship between firm size and financial leverage, and a negative and significant relationship between financial leverage and tax avoidance.

B. Al-Ansari & Al-Houshi (2023) - "The Effect of Firm Size on the Relationship between Family Ownership and Cost Stickiness Behavior: An Applied Study on Companies Listed on the Saudi Stock Exchange"

This study aimed to test the impact of family ownership on cost stickiness behavior and to investigate whether firm size influences the relationship between family ownership and cost stickiness behavior. The study analyzed a sample of 25 non-financial companies listed on the Saudi Stock Exchange over a five-year period (2017-2021). To analyze the data and test the hypotheses, the study employed a multiple linear regression model based on cross-sectional data using SPSS software. The study concluded that family ownership had a significant effect on cost stickiness behavior during the 2020-2021 period (during the COVID-19 pandemic). Additionally, cost stickiness behavior was more pronounced in large family-owned firms compared to smaller firms.

C. Abu Al-Heija *et al.* (2018) [2] - "The Effect of Audit Committee Characteristics on Abnormal Stock Returns in Jordanian Public Industrial Companies: An Empirical Study"

The research analyzed how audit committee properties influence the abnormal stock market performance of publicly listed industrial businesses operating in the Amman Stock Exchange. The research investigated 62 Jordanian public industrial companies throughout the years 2011 through 2013. The study utilized a multiple regression technique (stepwise) to analyze the connection between the audit committee variables that included member number quantity and independence level and financial expertise and meeting frequency and abnormal stock returns which were measured as actual stock returns minus expected returns. The research demonstrated positive correlations between audit committee independence and financial expertise together with abnormal stock returns as well as negative interactions between the number of committee meetings and abnormal stock returns but did not present substantial impacts from the number of audit committee members on abnormal stock returns.

D. Jaber & Wadea (2018) - "A Proposed Framework for Measuring the Impact of Earnings Management on Abnormal Returns and Unsystematic Risk of Common Stocks: An Applied Study on the Egyptian Stock Exchange"

This study aimed to analyze the impact of earnings management practices on the returns and risks of common stocks traded on the Egyptian Stock Exchange. The study examined a sample of 30 companies listed on the Egyptian Stock Exchange for the period 2006-2015. The modified Jones model was used to measure earnings management practices, while the Capital Asset Pricing Model (CAPM) was applied to analyze stock returns in the trading market. The study also used the returns of the Egypt 30 Index, the market's primary index, to measure market returns and estimate abnormal returns and unsystematic risks of common stocks. The study concluded that earnings

management practices affected unsystematic risk but had no significant effect on abnormal returns. This finding was attributed to the diversification effect on pricing unsystematic risk, in addition to the low efficiency of the stock market.

Studies in English

Rahimipoor & Ebrahimi (2016) [20] - "Relationship between Quality of Earnings and Abnormal Stock Return of Companies Accepted in Mumbai Stock Exchange"

This study aimed to examine the role of accruals in determining the earnings quality of companies listed on the Mumbai Stock Exchange and to investigate the relationship between earnings quality, through accruals and their components, and abnormal stock returns (the difference between actual and expected stock returns). The analysis covered Group (A) firms operating in the Mumbai Stock Exchange during 2009-2013 through examination of 35 companies. The data analysis ran a multiple linear regression on cross-sectional data with Estimated Generalized Least Squares (EGLS) by using EViews and Stata as software platforms to validate hypotheses. The research study showed strong positive connections between accruals and abnormal stock returns incidents. Additionally, discretionary accruals along with non-discretionary accruals both created significant positive stock return effects.

Habibi *et al.* (2020) [21] - "Investigating the Effect of Conservatism on Abnormal Returns at the Portfolio Level"

The research investigated how organizational conservatism affects the measurement of abnormal stock returns which reflect actual stock returns compared to expected stock returns across portfolio groups. The majority of earnings content accruals which produce no long-term effects on future periods. Stocks used to create hedge portfolios received a double-sorting process through which researchers divided them into accruing quartiles according to their annual accrual magnitude as well as their conservation scores. The research period of 2011-2018 contained a total of 208 enterprises through annual 4×4 portfolio samples. SPSS software enabled the calculation of portfolio abnormal returns before their comparison process. The hedge portfolio which held stocks from the low-accrual quartile but shorted stocks from the high-accrual quartile maintained a lower overall conservatism score while producing a higher return compared to the hedge portfolio with stronger overall conservatism score.

Hirdinis (2019) - "Capital Structure and Firm Size on Firm Value Moderated by Profitability"

The research focused on evaluating how both capital structure and firm size affect firm value. The research examined companies in the mining industry which operate on the Indonesia Stock Exchange (IDX). The exploration of hypotheses and data analysis used a multiple linear regression model run through SPSS 22. The results established that capital structure created positive value for firms but firm size generated negative value for firms. Profitability showed no substantial connection to firm value in the findings. Profitability served as a significant positive factor within firm size yet failed to mediate either capital structure or firm size effects on firm value.

Chapter Two: Theoretical Framework

First: Abnormal Stock Returns

Concept of Abnormal Return

An abnormal return refers to a return that exceeds the expected or normal return anticipated by investors in a particular market or company. This abnormal return can occur due to exceptional circumstances such as an unexpected surge in demand for a specific product, the development of a highly popular new product, or an overall improvement in a company's performance. It is important to note that abnormal returns may not be sustainable in the long term and can result from one-time extraordinary events. Therefore, investors should consider these factors when making investment decisions and should not rely on abnormal returns as a permanent indicator of a company's or market's future performance (Xueqin & Hao, 2020: 83).

Huang (2013: 49) [9] defines abnormal return as the difference between actual stock returns and normal returns. Temming (2014: 23) [11] describes it as the actual stock return minus the benchmark return based on the adjusted market model. Vryghem (2017: 5) [10] defines it as the expected stock return over an event window minus the normal return for the same window. Similarly, Mørkøre & Skaiaa (2019: 13) [12] describe it as the stock return that exceeds what can be predicted by asset pricing models. Dashdondog (2021: 6) [13] defines it as the difference between actual return and normal return as determined by the market model. Ness & Ingvaldsen (2021: 14) [14] refer to it as the extraordinary profit or loss resulting from a particular investment or portfolio over a specified period. Caspersen & Haugen (2022: 19) [15] define it as the realized return minus the expected normal return. Manap *et al.* (2023: 33) [8] state that abnormal return is the excess of actual return over the expected return.

Measuring Abnormal Stock Returns

Abnormal return is calculated as the actual return minus the expected return, in line with the study by Abu Al-Heija *et al.* (2018) [2]. The market model is employed for this purpose, as it accounts for factors affecting the market as a whole and the systematic risk of each stock. The following equations illustrate this approach (Charles & Jordan, 2020: 233):

$$ARit = Rit - E(Rit)$$

$ARit$: The abnormal return of stock i (company i) in period t.
Rit: The actual return of stock i (company i) in period t.
$E(Rit)$: The expected normal return of stock i (company i) in period t.

The actual return of a stock is calculated using the following equation (Tang, 2016, 152) [4]:

$$R_{it} = \frac{(P_{it} - P_{it-1})}{P_{it-1}}$$

Where:

- Rit: The actual return of stock i (company i) in period t.
- P_{it}: The closing price of stock i (company i) in period t.
- P_{it-1}: The closing price of stock i (company i) in the previous period t-1.

The expected return of a stock is calculated using the equation (Brigham, 2018, 89) [6]:

$$E(R_{it}) = \beta_0 + \beta_1 Rm_t$$

Where:

- $E(R_{it})$: The expected normal return of stock i (company i) in period t.
- Rm_t: The market return in period t.
- β_0: The intercept in the equation, representing the expected return when the market return is zero.
- β_1: The slope of the expected return of the stock in relation to the market return, or the rate of impact of the market return on the expected return of the stock.

Second: Company Size

Concept of Company Size

Company size is one of the most important characteristics of a company that investors are interested in and that is covered by financial analysts. Investors and financial analysts tend to have greater confidence in and interest in large companies because they offer better stability and more predictable operational activities. Additionally, large companies possess substantial resources that enable them to conduct their business activities, which reflects an increased ability to generate profits compared to smaller companies (Eid, 2024, 131) [1].

Measuring Company Size

There are several methods to measure company size, including book value, market value, total sales, and total assets. For this study, the natural logarithm of total assets at the end of the year will be used as a measure of company size, as per the study (Özkaya, 2021) [3].

Third: The Relationship between Company Size and Abnormal Returns

Insiders' trading activities in small firms would naturally seem more promising than those occurring in big firms according to first impressions. The premise explains that accurate pricing comes from analyst monitoring in large corporations but insiders within smaller firms can generate more abnormal return potential compared to their larger counterparts. Larger corporations usually exhibit a diverse shareholder ownership structure which increases the probability that insiders will encounter trading challenges in small companies. This could place an external investor at a disadvantage compared to the internal investor, who often possesses superior information or, at the very least, has a better assessment of the company's operations and future (Bose & di Zazzo, 2017, 12) [16].

(Jeng *et al.*, 2003, 37) [17] Short-term investors gain better knowledge about all applicable information due to the simplicity of operating in small businesses. One internal company member might have special information about their field because large multinational organizations make it hard to predict stock price movements because of their extensive operations. A substantial number of studies focus exclusively on small-capital companies because their experimental evidence supports easier abnormal returns acquisition in these businesses. Degryse *et al.* (2014, 31) [18] demonstrates that insiders of small businesses avoid attaining higher abnormal returns. The growing amount of analyst coverage for small companies results in correct pricing for their stocks which eliminates the former advantage that insiders of smaller companies enjoyed.

Third: Practical Aspect

First: Research Variables

The research included company size as the dependent variable and abnormal stock returns as the independent variable for the sample banks over the period from 2013 to 2022. The necessary data was obtained from the financial reports published on the website of the Iraq Stock Exchange and the website of the Iraqi Securities Commission.

Table 1: Description of Research Variables

S	Variable Name	Variable Type	Coding
1	Profitability	Independent	X
2	Abnormal Return	Dependent	Y

Source: Table prepared by the researcher.

Second: Unit Root Test

To test the stability of the time series and determine whether the variables are stable or not, the Augmented Dickey-Fuller unit root test is applied at the level or first difference. After applying the unit root test at the level, the results shown in Table (2) were obtained. These results indicate instability in all-time series outcomes, whether with a constant, constant and trend, or without a constant and trend. Therefore, a first-difference unit root test was conducted, through which it was observed that all variables have stabilized, whether with an intercept, intercept and trend, or without an intercept and trend. Thus, the series is integrated of order (1) I.

Table 2: Augmented Dickey-Fuller Unit Root Test

Unit Root Test Results Table (ADF)			
Null Hypothesis: the variable has a unit root			
At Level			
		X	Y
With Constant	t-Statistic	0.0547	0.0587
	Prob.	0.0196	0.1569
			n0
With Constant & Trend	t-Statistic	0.2011	0.0728
	Prob.	0.0756	0.3643
			n0
Without Constant & Trend	t-Statistic	0.0107	0.0052
	Prob.	0.2468	0.0031
		n0	
At First Difference			
		d(X)	d(Y)
With Constant	t-Statistic	0.0114	0.0046
	Prob.	0.0019	0.0051
With Constant & Trend	t-Statistic	0.055	0.6177
	Prob.	0.0103	0.0399
Without Constant & Trend	t-Statistic	0.0004	0.0002
	Prob.	0.0001	0.0009
Notes:			
a: () Significant at the 10%; ()Significant at the 5%; () Significant at the 1% and (no) Not Significant			
b: Lag Length based on SIC			
c: Probability based on MacKinnon (1996) one-sided p-values.			

Source: Table prepared by the researcher based on the outputs of E-Views 13 software.

Third: Autoregressive Distributed Lag (ARDL) Model

Y = f (X): The model was used to estimate the relationship between firm size and abnormal stock returns. According to the results shown in Table (3), a strong effect is observed at the time lag X (-3), where the coefficient of 6.60 is statistically significant (P = 0.0000). This indicates that changes in X have a significant effect on Y, but only after three time periods, not immediately or during the nearby periods.

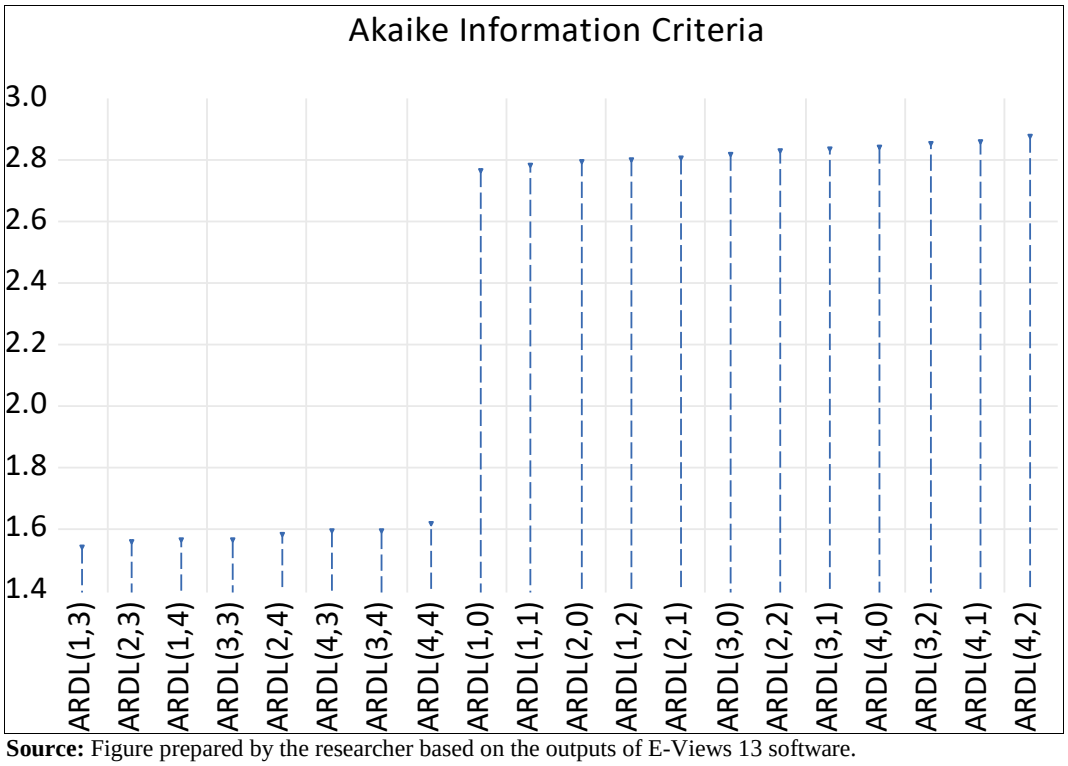
As for the constant term C, it holds a value of -0.3326, which is highly significant at P = 0.0000, implying that there is a negative constant effect on the dependent variable when all other variables are at their zero values.

Table 3: ARDL Model

Selected model: ARDL(1,3)				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
Y(-1)	-0.003515	0.062267	-0.056448	0.9551
X	-3.17E-14	4.83E-14	-0.655558	0.5142
X(-1)	-8.31E-14	4.86E-14	-1.710257	0.0916
X(-2)	6.77E-15	4.87E-14	0.139058	0.8898
X(-3)	6.60E-13	4.84E-14	13.63587	0.0000
C	-0.332558	0.074740	-4.449551	0.0000
R-squared	0.730182	Mean dependent var		-0.071380
Adjusted R-squared	0.711181	S.D. dependent var		0.929613
S.E. of regression	0.499592	Akaike info criterion		1.524669
Sum squared resid	17.72104	Schwarz criterion		1.707303
Log likelihood	-52.69974	Hannan-Quinn criter.		1.597721
F-statistic	38.42805	Durbin-Watson stat		1.919492
Prob(F-statistic)	0.000000			
Note: p-values and any subsequent test results do not account for model selection.				

Source: Table prepared by the researcher based on the outputs of E-Views 13 software.

Through Chart (1) and according to the Akaike criterion, we observe that the optimal lag periods are (1, 3) as they yield the lowest value.



Source: Figure prepared by the researcher based on the outputs of E-Views 13 software.

Fig 1: Optimal Lag Periods

Fourth: Bounds Test

According to the results of the Bounds Test shown in Table (4), we observe that the calculated F-statistic value is 105.35, which is much higher than all the critical values specified at different significance levels. Since the calculated F-statistic exceeds even the upper bound at the strictest significance level of 1%, this indicates the presence of a cointegration relationship between the two variables. This means that there is a long-term equilibrium relationship linking company size and abnormal stock returns in the Iraqi banks included in the study, suggesting that changes in company size affect abnormal stock returns over time.

Table 4: Bounds Test

Null hypothesis: No levels relationship	
Number of cointegrating variables: 1	
Trend type: Rest. constant (Case 2)	
Sample size: 80	
Test Statistic	Value
F-statistic	105.354489

Table 5: Bounds Critical Values

	10%		**5%**		**1%**	
Sample Size	**I(0)**	**I(1)**	**I(0)**	**I(1)**	**I(0)**	**I(1)**
75	3.133	3.597	3.777	4.32	5.26	5.957
80	3.113	3.61	3.74	4.303	5.157	5.917
Asymptotic	3.02	3.51	3.62	4.16	4.94	5.58
I(0) and I(1) are respectively the stationary and non-stationary bounds.						

Source: Table prepared by the researcher based on the outputs of E-Views 13 software.

Fifth: Diagnostic Tests

Heteroskedasticity Test: The results of the Breusch-Pagan-Godfrey test showed that the p-values for both the F-statistic and Chi-Square are higher than 0.05, indicating no statistical evidence of heteroskedasticity in the model. Therefore, it can be concluded that the variance of the random errors is constant, which strengthens the reliability of the results and conclusions.

Table 6: Heteroskedasticity Test

Heteroskedasticity Test: Breusch-Pagan-Godfrey				
Null hypothesis: Homoskedasticity				
F-statistic	1.259489	Prob. F(5,30)		0.2910
ObsR-squared	6.273214	Prob. Chi-Square(5)		0.2805
Scaled explained SS	10.07498	Prob. Chi-Square(5)		0.0731
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
C	0.219186	0.066792	3.281651	0.0016
Y(-1)	-0.021868	0.055646	-0.392991	0.6955
X	-2.68E-14	4.32E-14	-0.619791	0.5374
X(-1)	-2.46E-14	4.34E-14	-0.566052	0.5731
X(-2)	-2.45E-14	4.35E-14	-0.562859	0.5753
X(-3)	9.45E-14	4.33E-14	2.184751	0.0322
R-squared	0.081470	Mean dependent var		0.230143
Adjusted R-squared	0.016785	S.D. dependent var		0.450258
S.E. of regression	0.446463	Akaike info criterion		1.299800
Sum squared resid	14.15239	Schwarz criterion		1.482434
Log likelihood	-44.04228	Hannan-Quinn criter.		1.372852
F-statistic	1.259489	Durbin-Watson stat		2.156913
Prob(F-statistic)	0.291035			

Source: Table prepared by the researcher based on the outputs of E-Views 13 software.

Serial Correlation LM Test: The results showed that the F-statistic = 2.3961 with a p-value = 0.0986, and the Chi-Square statistic = 5.0006 with a p-value = 0.0821, which is slightly above the 5% significance level but below 10%. Therefore, this suggests that the ARDL model does not suffer from a significant serial correlation issue in the random errors, which enhances the reliability of the estimates and conclusions drawn.

Table 7: Serial Correlation LM Test

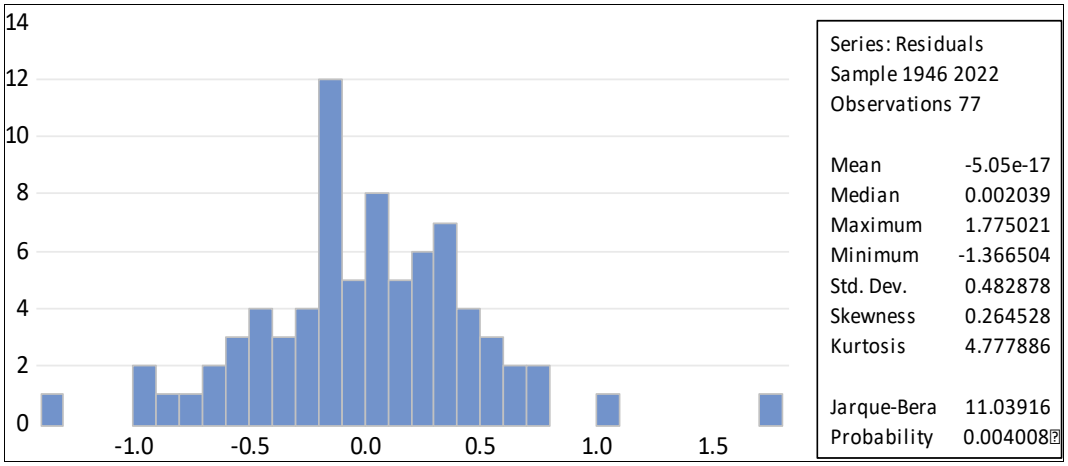
Breusch-Godfrey Serial Correlation LM Test:				
Null hypothesis: No serial correlation at up to 2 lags				
F-statistic	2.396156	Prob. F (2,28)		0.0986
ObsR-squared	5.000630	Prob. Chi-Square (2)		0.0821
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
Y(-1)	-0.012904	0.071758	-0.179826	0.8578
Y(-2)	6.65E-15	4.76E-14	0.139721	0.8893
Y(-3)	8.44E-15	4.79E-14	0.176281	0.8606
Y(-4)	-5.34E-17	4.79E-14	-0.001115	0.9991
X	-8.99E-16	4.76E-14	-0.018911	0.9850
C	-0.006409	0.073371	-0.087348	0.9306
RESID(-1)	0.039401	0.137969	0.285580	0.7761
RESID(-2)	0.254369	0.117729	2.160627	0.0342

R-squared	0.064943	Mean dependent var	-5.05E-17
Adjusted R-squared	-0.029918	S.D. dependent var	0.482878
S.E. of regression	0.490049	Akaike info criterion	1.509469
Sum squared resid	16.57018	Schwarz criterion	1.752981
Log likelihood	-50.11454	Hannan-Quinn criter.	1.606871
F-statistic	0.684616	Durbin-Watson stat	2.186719
Prob(F-statistic)	0.684552		

Source: Table prepared by the researcher based on the outputs of E-Views 13 software.

Sixth: Random Error Distribution Test (Histogram-Normality Test).

Figure (2) illustrates the results of the random error distribution test, showing that the p-value (Jarque-Bera) is 0.004008, which is greater than 0.05, indicating an issue with the distribution of the random errors. Therefore, we reject the alternative hypothesis and accept the null hypothesis.

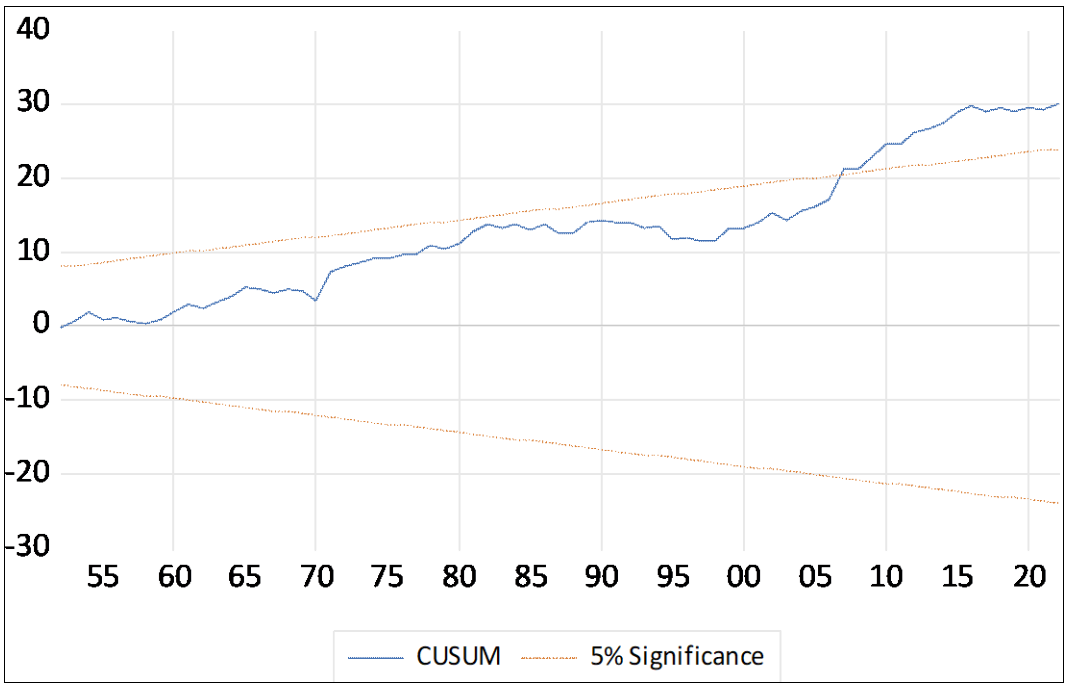


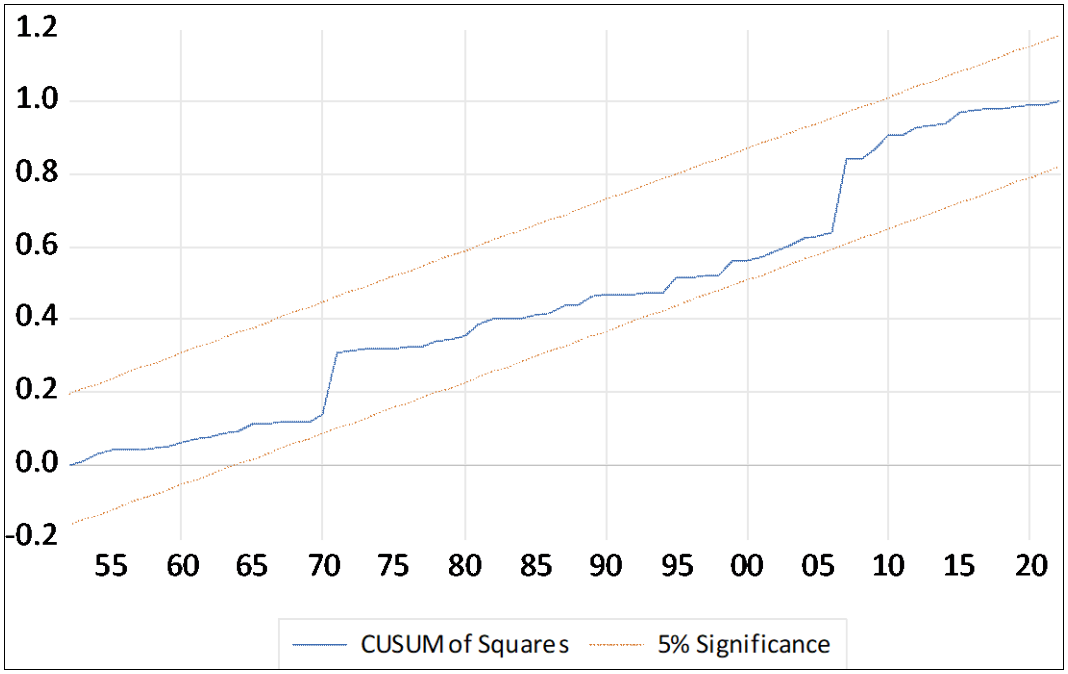
Source: Figure prepared by the researcher based on the outputs of E-Views 13 software.

Fig 2: Random Error Distribution (Histogram - Normality Test)

Seventh: Stability Test of Model Parameters (Stability Diagnostics): Figure (3) illustrates the stability test of the estimated model parameters. The (CUSUM TEST) shows that there are breaches of the cumulative residual sum outside the column of critical values, indicating instability of the estimated parameters at a significance level of (0.05), as shown in the first figure.

However, from the (CUSUM of Squares TEST), we observe that there are no breaches of the cumulative squared residual sum outside the column of critical values, indicating stability of the variables entering the model at a significance level of (0.05), as shown in the second figure.





Source: Figure prepared by the researcher based on the outputs of E-Views 13 software.

Fig 3: Structural Stability Test of Model Parameters (Stability Diagnostics)

Eighth: Testing of Short-Term Parameters - Error Correction Term - Long-Term Parameters

1. Short-Term Parameters and Error Correction Term Test: The results of the error correction model indicate that the relationship between firm size and abnormal stock returns is stable in the long term, with any deviation from equilibrium being quickly corrected, reflecting the existence of a cointegrating relationship between the two variables. The immediate effect of firm size on abnormal returns was not significant, but the effect becomes strong after a short period, suggesting that the market needs time to absorb the impact of changes in the size of banks on abnormal stock returns.

The model has a very high explanatory power (R^2 = 87.2%), confirming that most of the variation in returns can be explained by firm size. Additionally, the model does not suffer from serial correlation issues, which enhances the reliability of the results.

Table 8: Short-Term Parameters and Error Correction Model

Selected model: ARDL(1,3)				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
COINTEQ	-1.003515	0.055668	-18.02683	0.000000
D(X)	-3.17E-14	4.15E-14	-0.762935	0.448
D(X(-1))	-6.67E-13	5.05E-14	-13.1968	0
D(X(-2))	-6.60E-13	4.11E-14	-16.04934	0
R-squared	0.871966	Mean dependent var		-0.000381
Adjusted R-squared	0.866704	S.D. dependent var		1.349505
S.E. of regression	0.492701	Akaike info criterion		1.472721
Sum squared resid	17.72104	Schwarz criterion		1.594477
Log likelihood	-52.69974	Hannan-Quinn criter.		1.521422
F-statistic	165.7198	Durbin-Watson stat		1.919492
Prob(F-statistic)	0.000000			
p-values are incompatible with t-Bounds distribution.				

Source: Table prepared by the researcher based on the outputs of E-Views 13 software.

Long-Term Parameters Test: The long-term results indicate that firm size positively affects abnormal stock returns, as the coefficient of X (-1) showed strong statistical significance, meaning that an increase in the size of banking firms is associated with higher returns in the long term. Additionally, the error correction term (-1.0035) confirms the rapid return to equilibrium when any deviation from the long-term relationship occurs. The model has a high explanatory power (R^2 = 87.2%), which enhances the reliability of the results. Therefore, firm size can be considered a significant factor affecting the performance of banking stocks in the Iraq Stock Exchange.

Table 9: Long-Term Parameters

Selected model: ARDL(1,3)				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
Y(-1)	-1.003515	0.062267	-16.11625	-1.003515
X(-1)	5.52E-13	1.05E-13	5.253278	5.52E-13
C	-0.332558	0.07474	-4.449551	-0.332558
D(X)	-3.17E-14	4.83E-14	-0.655558	-3.17E-14
D(X(-1))	-6.67E-13	7.23E-14	-9.231062	-6.67E-13
D(X(-2))	-6.60E-13	4.84E-14	-13.63587	-6.60E-13
R-squared	0.871966	Mean dependent var		-0.000381
Adjusted R-squared	0.862949	S.D. dependent var		1.349505
S.E. of regression	0.499592	Akaike info criterion		1.524669
Sum squared resid	17.72104	Schwarz criterion		1.707303
Log likelihood	-52.69974	Hannan-Quinn criter.		1.597721
F-statistic	96.70774	Durbin-Watson stat		1.919492
Prob(F-statistic)	0.000000			
p-values are incompatible with t-bounds distribution.				
Zero-lag variable.				

Source: Table prepared by the researcher based on the outputs of E-Views 13 software.

Chapter Four: Conclusions and Recommendations

First: Conclusions

1. The results of the econometric analysis confirmed the existence of a cointegrating relationship between firm size and abnormal stock returns.
2. The short-term results indicated a significant and positive relationship between firm size and abnormal stock returns.
3. The long-term results indicated a significant and positive relationship between firm size and abnormal stock returns.
4. The error correction term is statistically significant at the level of (0.0000), which is slightly greater than one, meaning that the speed of adjustment is slow in correcting the imbalances in the short-term to reach equilibrium in the long-term. Specifically, it takes (1.003/1 = 0.997 years) to correct the imbalances in the short-term and return to equilibrium in the long-term, indicating that any imbalances in abnormal stock returns take about one year to return to the equilibrium state in the long-term.

Second: Recommendations

1. Encourage the expansion of banks through mergers and acquisitions strategies to increase abnormal stock returns.
2. Support small and medium-sized banks with financial policies that stimulate their growth in the financial market.
3. Adopt long-term investment strategies due to the slow adjustment towards equilibrium in abnormal stock returns.
4. Enhance transparency and financial disclosure to increase investor confidence and stabilize the financial market.
5. Conduct additional studies on other factors affecting abnormal stock returns, such as liquidity and market risks.
6. Develop financial and monetary policies to support the stability of banks and strengthen the relationship between firm size and stock performance.

References

1. Eid AAN. The impact of firm size on the relationship between gender diversity in the board of directors and profit sustainability: An applied study. Accounting Thought Journal. 2024;22(2).
2. Abu Heija MFA, Ali OAM, Al-Mashhadani OIT. The impact of audit committee characteristics on abnormal stock returns in Jordanian industrial public shareholding companies: An empirical study. Dinars Journal. 2018;1(14).
3. Özkaya H. Sticky cost behavior: Evidence from small and medium-sized enterprises in Turkey. Eurasian Business Review. 2021;11(2).
4. Tang G. Analysis of Effect of E-Government on Avoiding Public Policy Failure. International Conference on E-Business and E-Government. 2016.
5. Carrado JC, Bradford DJ. Fundamentals of Investments. 2020. McGraw-Hill Irwin.
6. Brigham F. Managerial Finance. 2018. The Dryden Press; Hinsdale, Illinois.
7. Zhang X, Gong H. Researching conductivity of the financial markets based on Granger-Causality model. IEEE International Conference on Advanced Management Science. 2020.
8. Manap A, Ginting RUB, Lubis Z, Idris N, Mustangin M. Stock Price, Return, and Abnormal Return Differences Before and After Stock Split In High and Low Profile Companies Listed on the Indonesian Stock Exchange. Al-Kharaj: Journal of Islamic Economic and Business. 2023;5(1).
9. Huang Y. Long-term Abnormal Stock Performance: UK evidence. PhD thesis, University of Exeter. 2013.
10. Vryghem A, Iania L. Analyzing the statistical significance and potential impact of abnormal returns caused by a short squeeze. University of Twente. 2017.
11. Temming M. Effect of pre-crisis capital on stock abnormal return at acquisition announcements. The case of the Western European banking sector during the 2008 crisis. Master's thesis, University of Twente. 2014.
12. Mørkøre MN, Skaiaa SK. Market Efficiency and Technological Developments in the Norwegian Stock Market. Master's thesis, BI Norwegian Business

School. [Date].
13. Dashdondog MO. Applications of event study methodology for measuring a market reaction. Doctoral dissertation, Masarykova Univerzita, Ekonomicko-správní fakulta. 2021.
14. Ingvaldsen S, Ness R. Share Repurchase Announcements and Abnormal Returns on the Oslo Stock Exchange - An Empirical Study Measuring Abnormal Returns Following Share Repurchase Announcements in Norway. Master's thesis. 2021.
15. Caspersen A, Haugen M. Stock market reaction of private placement announcements on Oslo Stock Exchange. Master's thesis, Oslo Metropolitan University. 2022.
16. Bose M, di Zazzo S. Abnormal Returns in Insider Trading - A study on the efficiency of the Swedish stock market and insider trading legislation. Master's thesis, Stockholm School of Economics. 2017.
17. Jeng LA, Metrick A, Zeckhauser R. Estimating the returns to insider trading: A performance-evaluation perspective. Review of Economics and Statistics. 2003;85(2):453-471.
18. Degryse H, de Jong F, Lefebvre J. An empirical analysis of legal insider trading in the Netherlands. De Economist. 2014;162:71-103.
19. Okasha S. The concept of agent in biology: motivations and meanings. Biological Theory. 2024 Mar;19(1):6-10.
20. Rahimipoor A, Ebrahimi M. Relationship between quality of earning and abnormal stock return of companies accepted in Mumbai Stock Exchange. International Journal of Finance & Managerial Accounting. 2016 Aug 1;1(2):61-73.
21. Habibi R, Burci GL, De Campos TC, Chirwa D, Cinà M, Dagron S, Eccleston-Turner M, Forman L, Gostin LO, Meier BM, Negri S. Do not violate the International Health Regulations during the COVID-19 outbreak. Lancet (London, England). 2020 Feb 13;395(10225):664.