

# An Empirical Study of Profitability Indicators, Asset Investment, and Their Impact on Stock Returns for a Group of Banks Listed on the Iraq Stock Exchange for the Period (2004-2022)

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## Abstract

*The research aims to determine the impact of the asset investment indicator (natural logarithm of assets) and profitability indicators (return on assets, return on equity, return on working capital, operating profit margin, and market value/book value) on stock returns for a group of banks listed on the Iraq Stock Exchange. The research assumed no significant (positive) relationship between asset investment and stock return at a significant level ( $\alpha = 0.05$ ), as well as no significant (positive) relationship between profitability indicators and stock return at a significant level ( $\alpha = 0.05$ ) for the sample banks. The research reached a number of conclusions, including that profitability and asset investment play a special role in asset pricing across sectors not only with variables but also those related to high return premiums, and they also help in explaining a wide range of other outlier cases that some models have failed to explain due to this unique role played through profitability and investment, indicating their interpretive strength, which is of utmost importance. The research has presented a set of recommendations including analyzing the financial market accurately and in-depth before making any investment decision to identify the opportunities and risks associated with each type of asset, and banks should consult experts to make appropriate investment decisions that align with the objectives set by bank managements.*

**Keywords:** Profitability, Asset Investment, Stock Returns, Banks, Stock.

## INTRODUCTION

The presence of capital markets plays a vital role in supporting the country's economy, where the stock market is considered a tool that can be used to mobilize funds from both domestic and foreign sources. The continuous advancement in technology, information, and communications has enabled business people to exploit opportunities through offering and trading in the capital market. The capital market is an extremely useful tool for both banks and investors who share the same goal of profit. With this opportunity, banks compete to trade their shares in the capital market. Through public trading in the capital market, banks can obtain financing to sustain themselves, and from the investors' perspective, the capital market is one of the effective means of investment to achieve profit.

### The Importance of Research

The importance of research lies in clarifying the impact of asset investment and profitability on stock returns in Iraqi banks. This research sheds light on important aspects such as the importance of profitability, its ratios, the influencing factors, objectives, internal and external factors, as well as the importance of asset investment, its risks, importance, and objectives.

### Research Problem

The aim of investing in securities is to achieve a high return (return rate) at a certain level of risk, or to achieve a specific return at a low risk level. Making decisions in this type of investment is accompanied by fluctuations in stock returns through fluctuations in returns.

### Research Objectives

The research aims to determine the relationship between profitability and investment on stock returns in order to achieve the following objectives:

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Identify the most important factors influencing stock returns and causing changes in their returns.

Identify the changes that will occur in stock returns for the purpose of making investment decisions.

Build a model to predict stock returns.

Identify the key factors affecting stock returns.

Explain how profitability and asset investment affect stock returns.

## **Research Hypotheses**

The research is based on statistical hypotheses:

The first main hypothesis (H1) states that there is no significant (positive) relationship between investment in assets and stock returns at a significance level ( $\alpha = 0.05$ ) for the sample banks in the research.

The second main hypothesis (H2) suggests that there is no significant (positive) relationship between profitability indicators and stock return at a significant level ( $\alpha = 0.05$ ) for the sample of banks in the research.

## **FIRST REQUIREMENT: THE THEORETICAL FRAMEWORK OF ASSET INVESTMENT, PROFITABILITY, AND STOCK RETURNS**

### **First: Assets**

#### **Concept of Assets**

Assets are defined economically as the resources owned by the company, and the company uses its assets to carry out activities such as production and sales. The common feature of all assets is the ability to provide future services or benefits. In practice, this ability to provide future economic services or benefits ultimately leads to cash flows <sup>(1)</sup>.

From an accounting perspective, assets are defined as anything representing a debit balance that needs to be carried forward to the next period after closing the accounts at the end of the period, in accordance with the generally accepted accounting principles <sup>(2)</sup>.

#### **Properties of Assets**

There are several characteristics of assets that can be summarized in the following points <sup>(3)</sup>:

**Existence of future economic benefits:** The value of the asset represents expected economic benefits from it in the future. These benefits can be obtained by using the asset within the company or institution to achieve its activities and settle its obligations. It is possible to substitute a second asset for the first asset or relinquish it under exceptional circumstances.

**Company's ability to control the benefits:** The company's control over the economic benefits of the asset is achieved due to the connection between the asset and the company that owns it, allowing the company to obtain these benefits or enable others to do so and apply full control over these assets.

**Ownership and Value Creation:** The assets attributed to a company mean that these assets are legally owned by the company, and these assets help create value through the benefits they provide to the company in its operational activities.

### **Secondly: Investing in Assets**

#### **The Concept of Investing in Assets**

Investing in assets, from a banking perspective, is defined as the purchase and sale of securities, loans, along with debt instruments and other properties. It is the process of deploying funds of banks and financial

institutions to acquire securities (bonds and stocks) and other types of securities for various purposes, whether to hold them as assets or trade them <sup>(1)</sup>.

The International Financial Reporting Standards Board also defines investment from a financial perspective as assets held by economic units to increase their wealth through distributions such as stock dividends, rents, interest, or for capital appreciation or other benefits <sup>(2)</sup>.

### **Secondly: Investment Objectives in Assets**

Banks and various financial institutions resort to investing their surplus funds with the aim of achieving a set of objectives, including <sup>(3)</sup> <sup>(4)</sup>:

Purchasing high-yield securities to achieve returns that can significantly contribute to future profits of banks, especially when holding these assets for long periods.

Utilizing available financial balances to generate revenues instead of keeping them idle, but it is necessary to retain a portion of liquid funds to meet the demands of depositors.

Acquiring various securities at maturity dates to manage interest rate risks.

Supporting liquidity by enhancing reserves with securities that can be quickly converted into cash.

National economic documents, as banks buying government securities can provide the necessary financing to bridge the government spending gap and achieve economic development.

Wealth formation: One of the goals of investment is to build and increase wealth, where individuals sacrifice current consumption to achieve and increase wealth in the future.

Asset value preservation: Preserving asset value means that investors seek to diversify their investments to avoid their value decreasing over time due to fluctuations and price increases.

### **Thirdly: Profitability**

#### **Profitability Concept**

A relative measure that assesses the financial performance of a bank or company, indicating the bank's ability to earn profits. Profitability index serves as a final decision for many policies adopted by company managements, as well as being a fundamental measure reflecting the level of success achieved by the bank, as well as its efficiency and effectiveness in utilizing available resources in its business operations <sup>(1)</sup>.

Profitability can also be defined as an indicator of the competitive position of the bank in the banking markets and as an indicator of the quality of its management. Profitability allows the bank to retain risks up to a certain limit <sup>(2)</sup>.

#### **Importance of Profitability**

Profitability is a measure that shows the extent of success and efficiency of the bank in achieving its desired goals <sup>(3)</sup>.

Profitability is a key factor in the existence, continuity, and effectiveness of the bank <sup>(4)</sup>.

Banks face multiple risks, and profitability is essential to confront these risks, such as credit risks, theft and embezzlement risks, and investment risks <sup>(1)</sup>.

High profitability levels contribute to increasing the confidence of depositors in the bank as well as prospective investors, thus providing strong indicators to regulatory authorities of the bank's proper direction <sup>(2)</sup>.

Profitability represents a motivating factor as it is the goal for which the bank was established, therefore banks always strive to provide innovative and advanced services to adapt to occurring changes, and thus banks aiming to increase their profitability must have the necessary flexibility to adjust their operations to accommodate changes in the business environment <sup>(3)</sup>.

Profitability serves as a tool for comparing the profitability of competing banks, making it a key measure that can be used by investors when making any decision related to buying or selling stocks<sup>(4)</sup>.

### Profitability Indicators

**Return on Assets (ROA):**<sup>(5)</sup> Measures the company's ability to use its assets to generate profits by comparing profits with the assets that generate those profits. The return on assets is calculated as follows:

$$\text{Return on Assets} = (\text{Net Income before Interest and Taxes}) / (\text{Total Assets or Average Assets}) \times 100$$

**Return on Equity Ratio:**<sup>(6)</sup> This ratio shows the return on capital provided by the shareholders. It is one of the important ratios for profitability, and it is used to determine the net profit in relation to the average shareholders' equity over the course of the business year. It is important to achieve net profit after excluding the rights of preferred stockholders and taxes, if any, in order to consider only the profits that shareholders are actually entitled to receive. It is calculated by the following equation:

$$\text{Return on Equity} = (\text{Tax After Net Profit}) / (\text{Shareholders' Equity}) \times 100$$

**Operating Profit Margin:**<sup>(1)</sup> This ratio indicates the profit generated by the company from its sales after deducting variable production costs such as raw materials and wages, and before deducting interest and taxes. This indicator represents the amount of profits that the company achieves as a result of its various activities compared to its total revenues, and is calculated by the following equation:

$$\text{Operating Profit Margin} = (\text{Pre-Tax Operating Profit}) / (\text{Sales Revenue}) \times 100$$

**The Market to Book Value ratio**<sup>(2)</sup> represents the difference between a company's market value reflected in its stock prices and the company's accounting value resulting from its actual assets. Investors prefer to invest in companies where the market value is close to or less than the book value. When using this ratio, it is important to ensure that the company's assets represent its true book value and are not inflated, calculated by the following equation:

$$\text{Market to Book Value} = (\text{Market Price per Share}) / (\text{Book Value per Share}) \times 100$$

### Fourthly: Returns on Stocks:

**The concept of stock returns** can be defined as the changes in the stock price plus other earnings that can be realized during the holding period of the stock<sup>(3)</sup>. Stock return is also defined as the percentage change in stock price plus dividends<sup>(1)</sup>. It can be calculated using the following equation<sup>(2)</sup>:

$$R = (P1 - P0) / P0$$

Where P0 represents the purchase price of the stock and P1 represents the selling price of the stock.

### The Second Requirement: Measuring The Impact of Asset Investment and Profitability on Stock Returns

The statistical program (Eviews 12) was used to measure the impact of profitability and asset investment on stock returns for a sample of banks listed on the Iraq Stock Exchange, using annual data for these variables for the period from (2004-2022), then converting them into semi-annual data with (38) observations.

**Table 1. Average indicators of asset investment, profitability, and stock returns for the sample banks.**

The year	Logarithm of assets X1	Return on assets X2	Return on equity X3	Return on working capital X4	Operating profit margin X5	Market value / Book value X6	Stock returns Y
2004	7.57	0.031	0.194	0.412	0.320	7.44	0.49
2005	8.02	0.026	0.123	0.176	0.450	7.51	0.15
2006	8.06	0.002	0.054	0.076	0.145	2.03	-0.71
2007	8.13	0.036	0.150	0.201	0.404	1.41	0.03
2008	8.27	0.031	0.143	0.197	0.270	1.26	-0.11

2009	8.42	0.024	0.091	0.127	0.386	1.24	-0.01
2010	8.50	0.027	0.084	0.129	0.382	1.03	-0.10
2011	8.57	0.029	0.086	0.116	0.424	1.38	0.28
2012	8.70	0.037	0.108	0.129	0.457	1.06	-0.11
2013	8.80	0.030	0.089	0.107	0.457	1.06	-0.06
2014	8.82	0.024	0.055	0.063	0.418	0.83	-0.22
2015	8.80	0.016	0.032	0.037	0.329	0.58	-0.32
2016	8.77	0.014	0.031	0.045	0.386	0.52	-0.07
2017	8.76	0.005	0.010	0.011	0.186	0.45	-0.13
2018	8.77	0.0001	-0.001	-0.003	-0.029	0.31	-0.37
2019	8.76	0.005	0.011	0.013	0.140	0.30	-0.03
2020	8.81	0.010	0.028	0.029	0.165	0.31	0.08
2021	8.85	0.005	0.022	0.027	0.028	0.41	0.39
2022	8.87	0.010	0.036	0.043	0.243	0.37	-0.14

Source: Prepared by the researcher based on the financial reports of the sample banks.

### First - Testing the Stationary of the Time Series for the Research Variables

Initially, it is necessary to test the stationary of the time series for the variables and determine the order of integration for the standard model variables and verify whether the time series are stationary or not. This test is done by applying the Dickey Fuller test, which is one of the accurate tests to determine whether the time series are stationary and also to know the statistical properties of the variables.

Table 2. Testing the stability of the time series for the research variables.

Unit Root Test Results Table (ADF)							
Null Hypothesis: the variable has a unit root							
At Level							
Y	X6	X5	X4	X3	X2	X1	
-3.6865	-2.9980	-2.2102	-3.6043	-2.4112	-2.0719	-2.1112	t-Statistic
<b>0.0086</b>	<b>0.0446</b>	<b>0.2063</b>	<b>0.0106</b>	<b>0.1459</b>	<b>0.2566</b>	<b>0.2417</b>	<b>Prob.</b>
***	**	n0	**	n0	n0	n0	With Constant
-3.6291	-2.5459	-2.7338	-3.9856	-3.0586	-2.6445	-0.9814	t-Statistic
<b>0.0412</b>	<b>0.3058</b>	<b>0.2300</b>	<b>0.0183</b>	<b>0.1313</b>	<b>0.2643</b>	<b>0.9335</b>	<b>Prob.</b>
**	n0	n0	**	n0	n0	n0	With Constant & Trend
-3.5496	-3.2715	-1.0663	-3.4033	-2.2571	-1.4501	2.1045	t-Statistic
<b>0.0008</b>	<b>0.0018</b>	<b>0.2533</b>	<b>0.0012</b>	<b>0.0250</b>	<b>0.1350</b>	<b>0.9900</b>	<b>Prob.</b>
***	***	n0	***	**	n0	n0	Without Constant & Trend
At First Difference							
d(Y)	d(X6)	d(X5)	d(X4)	d(X3)	d(X2)	d(X1)	
-5.8094	-6.0300	-5.3987	-5.9973	-7.3624	-5.7442	-6.3511	t-Statistic
<b>0.0000</b>	<b>0.0000</b>	<b>0.0001</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>Prob.</b>
***	***	***	***	***	***	***	With Constant
-5.7231	-6.4668	-5.2845	-6.3954	-7.1250	-5.6542	-6.3162	t-Statistic
<b>0.0002</b>	<b>0.0000</b>	<b>0.0007</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0003</b>	<b>0.0000</b>	<b>Prob.</b>
***	***	***	***	***	***	***	With Constant & Trend
-5.8945	-5.8308	-5.4876	-5.8228	-5.8086	-5.7987	-5.8887	t-Statistic
<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>Prob.</b>
***	***	***	***	***	***	***	Without Constant & Trend

Source: Prepared by the researcher based on outputs (EViews 12).

It is noted through Table (2) that the test results for the time series of the research sample variables showed that the return on equity, operating profit margin, market value/book value ratio, and stock returns were stable at the level, either intercept or trend, with significant levels (1%, 5%, 10%). As for the rest of the time series of asset investment ratios, asset returns, and working capital, they were unstable at their original levels, but after taking the first difference of these series, we notice their stability, either intercept or trend, with significant levels (1%, 5%, 10%).

Table 3. Estimation of the Autoregressive Distributed Lag Model (ARDL).

Dependent Variable: Y
Method: ARDL
Date: 03/03/24 Time: 21:31
Sample (adjusted): 2005S1 2022S1

Included observations: 35 after adjustments				
Maximum dependent lags: 2 (Automatic selection)				
Model selection method: Akaike info criterion (AIC)				
Dynamic regressors (2 lags, automatic): X1 X2 X3 X4 X5 X6				
Fixed regressors: C				
Number of models evaluated: 1458				
Selected Model: ARDL(2, 0, 0, 1, 0, 0, 1)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.*
Y(-1)	0.541246	0.160705	3.36794	0.0026
Y(-2)	-0.40835	0.148969	-2.74116	0.0114
X1	0.760062	0.488991	1.554349	0.1332
X2	-4.49605	16.64334	-0.27014	0.7894
X3	-3.69961	7.067925	-0.52344	0.6055
X3(-1)	-2.32583	1.325809	-1.75427	0.0921
X4	7.493903	5.24717	1.42818	0.1661
X5	-0.3511	0.518461	-0.67719	0.5048
X6	0.146187	0.041006	3.565016	0.0016
X6(-1)	-0.06362	0.043145	-1.47459	0.1533
C	-6.74095	4.315844	-1.56191	0.1314
R-squared	0.700092	Mean dependent var		-0.078857
Adjusted R-squared	0.57513	S.D. dependent var		0.244189
S.E. of regression	0.159167	Akaike info criterion		-0.586447
Sum squared resid	0.60802	Schwarz criterion		-0.097623
Log likelihood	21.26282	Hannan-Quinn criter.		-0.417705
F-statistic	5.602448	Durbin-Watson stat		1.671038
Prob(F-statistic)	0.000265			

Source: Prepared by the researcher based on outputs (EViews 12).

## Secondly - Estimation of Functions using the Autoregressive Distributed Lag Model (ARDL)

### Model Estimation

It is noted through Table (3) that the determination coefficient reached ( $R^2 = 0.70$ ), while the adjusted R-squared value reached (0.57), meaning that the independent variables explain (70%) of the variations in the dependent variable, while (30%) is caused by variables not included in the model. It is also noted that the model is significant, as the calculated (F) value reached (5.602), which is significant at the 1% level. Thus, we reject the null hypothesis ( $H_0: b=0$ ) and accept the alternative hypothesis ( $H_1: b \neq 0$ ).

**Table 4. Boundary Test.**

F-Bounds Test		Null Hypothesis: No levels relationship		
Test Statistic	Value	Signif.	I(0)	I(1)
F-statistic	3.115487	10%	1.99	2.94
K	6	5%	2.27	3.28
		2.50%	2.55	3.61
		1%	2.88	3.99
Actual Sample Size	35	Finite Sample: n=35		
		10%	2.254	3.388
		5%	2.685	3.96
		1%	3.713	5.326

Source: Prepared by the researcher based on outputs (EViews 12).

### Boundary Test

From Table (4) and after conducting the boundary test, it can be noted that the calculated (F) value reached (3.11), which is greater than the tabular (F) values at a significance level (1%, 5%, 2.5%, 10%), indicating the presence of a long-term equilibrium relationship. Therefore, we reject the null hypothesis ( $H_0: b=0$ ) and accept the alternative hypothesis ( $H_1: b \neq 0$ ).

**Table 5. Autocorrelation Test.**

<b>Breusch-Godfrey Serial Correlation LM Test:</b> <b>Null hypothesis: No serial correlation at up to 2 lags</b>
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<b>F-statistic</b>	<b>1.854703</b>	<b>Prob. F(2,22)</b>	<b>0.1802</b>
Obs*R-squared	5.049871	Prob. Chi-Square(2)	0.0801

Source: Prepared by the researcher based on outputs (EViews 12).

### Autocorrelation and Heteroskedasticity Test

In Table (5), the calculated (F) value of (1.85) is not significant at the 5% level. Therefore, the null hypothesis ( $H_0: b=0$ ) is accepted, and the alternative hypothesis ( $H_1: b \neq 0$ ) is rejected, indicating no autocorrelation issue among the model's random errors.

Table 6. Test for the problem of heteroscedasticity.

Heteroskedasticity Test: Breusch-Pagan-Godfrey			
Null hypothesis: Homoskedasticity			
F-statistic	0.748205	Prob. F(10,24)	0.6742
Obs*R-squared	8.318125	Prob. Chi-Square(10)	0.5978
Scaled explained SS	4.270098	Prob. Chi-Square(10)	0.9343

Source: Prepared by the researcher based on outputs (EViews 12).

Table (6) shows that the computed test value (F) of (0.74) is not significant at the 5% level, therefore the null hypothesis ( $H_0: b=0$ ) is accepted and the alternative hypothesis ( $H_1: b \neq 0$ ) is rejected, indicating no issue of heteroscedasticity.

Table 7. Wald Test.

Wald Test:			
Equation: Untitled			
Test Statistic	Value	Df	Probability
F-statistic	5.874133	(11, 24)	0.0001
Chi-square	64.61547	11	0
Null Hypothesis: C(1)=0 ,C(2)=0 ,C(3)=0 ,C(4)=0 ,C(5)=0 ,C(6)=0 ,C(7)=0 ,C(8)=0 ,C(9)=0 ,C(10)=0 ,C(11)=0			
Null Hypothesis Summary:			
Normalized Restriction (= 0)	Value		Std. Err.
C(1)	0.541246		0.160705
C(2)	-0.40835		0.148969
C(3)	0.760062		0.488991
C(4)	-4.49605		16.64334
C(5)	-3.69961		7.067925
C(6)	-2.32583		1.325809
C(7)	7.493903		5.24717
C(8)	-0.3511		0.518461
C(9)	0.146187		0.041006
C(10)	-0.06362		0.043145
C(11)	-6.74095		4.315844
Restrictions are linear in coefficients.			

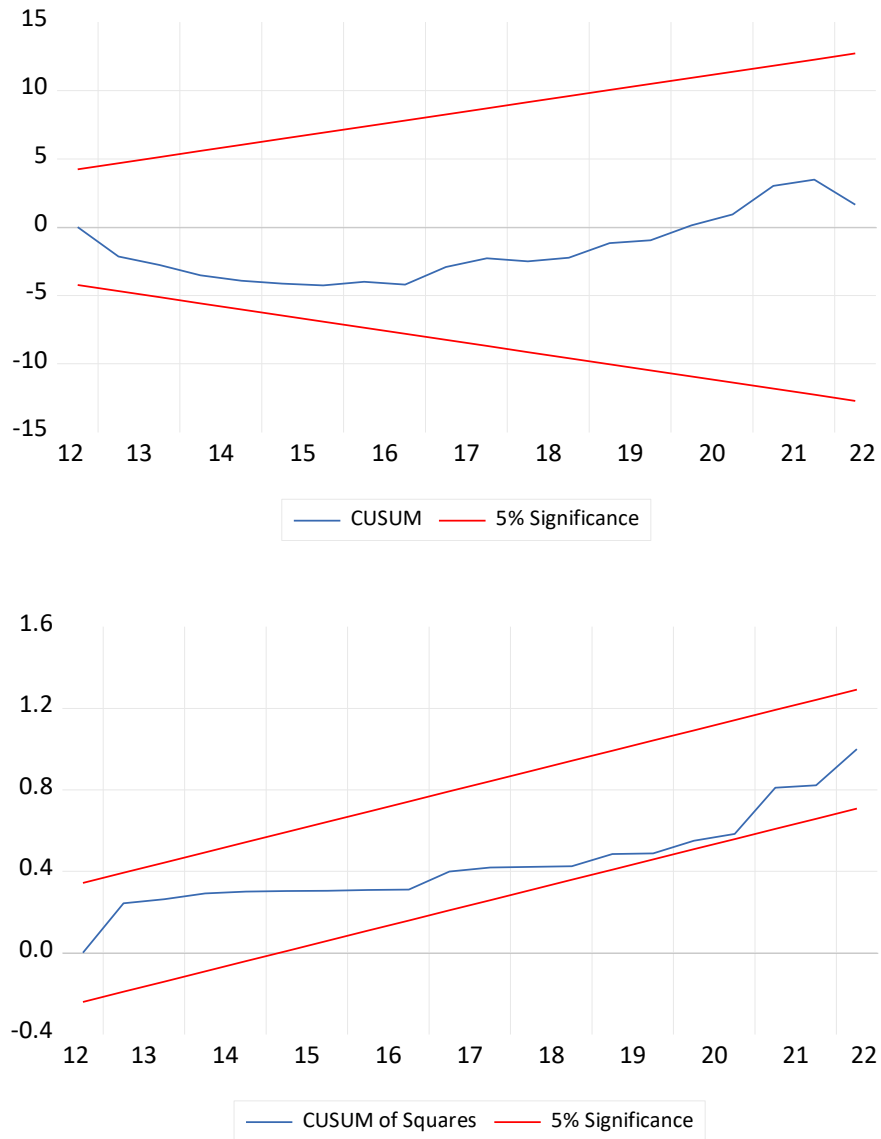
Source: Prepared by the researcher based on outputs (EViews 12).

### Wald Test

Looking at Table (7), we notice that the estimated short-term model parameters were significant, indicating the presence of a short-term causal relationship between independent and dependent variables.

### Model Stability Test

To test the stability of the estimated model, a test (CUSUM, CUSUM of Squares) must be conducted.



**Figure 1. Model Stability Test.**

Source: Prepared by the researcher based on outputs of the program (EViews 12).

From the previous figure for testing the stability of the estimated model, we observe that the first figure representing the cumulative sum of residuals falls within critical values at the 5% significance level, confirming the stability of the estimated parameters. Similarly, the second figure representing the cumulative sum of squares of residuals falls within critical values at the 5% significance level, confirming the stability of the variables included in the model in the long term.

**Table 8. Estimating long-term parameters.**

Levels Equation				
Case 2: Restricted Constant and No Trend				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
X1	0.876554	0.470502	1.863019	0.47400
X2	-5.18514	18.95355	-0.273571	0.7868
X3	-6.94893	8.402831	-0.826975	0.4164
X4	8.642466	5.868474	1.472694	0.1538
X5	0.40491	0.591603	0.684424	0.0504



X6	-0.09522	0.034112	-2.791425	0.0101
C	-7.77411	4.145577	-1.875279	0.073
معادلة الاجل الطويل				
EC = Y + (0.8766*X1 -5.1851*X2 -6.9489*X3 + 8.6425*X4 +0.4049*X5 -0.0952*X6 - 7.7741)				

Source: Prepared by the researcher based on the outputs of the (EViews 12) program.

### Estimating Short-Term (Error Correction Model) and Long-Term Parameters

Looking at Table (8), we notice that the estimated parameters for the independent variables (X1, X5, X6) in the long term were significant at the 5% level, except for variables (X2, X3, X4) which were not significant at the 5% level. It is also noted that variables (X2, X3, X6) have a negative impact on stock returns, so an increase in any of these variables will lead to a decrease in stock returns. The signs of the coefficients of these variables are contrary to economic theory, and the reason may be several factors, including the fact that an increase in asset returns may have negative effects on stock returns due to the increase in the volume of risky assets being invested in, leading to a higher probability of bank losses and consequently reducing the likelihood of shareholders receiving substantial returns. Additionally, some companies and banks use leverage to increase the return on their assets, thereby increasing their risks, especially when they fail to generate sufficient profits to cover costs.

Therefore, facing difficulty in repaying debts leads to investors avoiding investing in such stocks, resulting in a decrease in stock returns. The greatest impact was from variable (X3), as a 1% increase in this indicator would lead to a 6.9% decrease in stock returns. On the other hand, variables (X1, X4, X5) have a positive impact on stock returns, as an increase in these variables would lead to an increase in stock returns. The greatest impact was from variable (X4), as a 1% increase in this indicator would lead to an 8.6% increase in stock returns. Also, the insignificance of the constant is noted.

Table 9. Short-term parameter estimation.

ECM Regression				
Case 2: Restricted Constant and No Trend				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(Y(-1))	0.408348	0.120083	3.40055	0.0024
D(X2)	5.49721	2.548502	3.13486	0.0147
D(X3)	3.69961	1.733763	2.13386	0.0433
D(X5)	7.94817	3.74915	3.41876	0.0348
D(X6)	-0.146187	0.028162	-5.19090	0.0000
CointEq(-1)*	-0.8671	0.152822	-5.67392	0.0000

Source: Prepared by the researcher based on outputs from EViews 12 program.

It can be observed from Table (9) that the estimated parameters for independent variables (X2, X3, X5, X6) were significant at a 5% level, and that variables (X2, X3, X5) have a positive impact on stock returns, in line with economic theory. An increase in the return on assets or shareholders' equity will push traders in the stock market to buy more shares of these banks or companies, seeking short-term gains, leading to an increase in demand for these companies' stocks, thus increasing their value in the stock market and consequently their returns. The greatest impact was from variable (X2), as a 1% increase in this variable would lead to a 5.4% increase in stock returns. However, the variable (X6) negatively affects stock returns because the increase in the market value of the stock compared to the book value means that the stock is being traded on the stock exchange at a price higher than its true value reflected in the company's financial statements. Consequently, it will be sold and disposed of to avoid a sudden drop in its price, which generates a selling pressure for this stock. With a decrease in demand, its market value will decrease, leading to lower returns. An increase in this variable by 1% will result in a decrease in stock returns by 0.14%.

Furthermore, we find that the error correction term in the short term, or so-called (structural adjustment speed), reached (0.86-) and is significant at the 5% level. This means that short-term deviations are corrected by 86% towards the long-term value, which is somewhat good, requiring 2.32 years to return to equilibrium. Therefore, we reject the null hypothesis (H0: b=0) and accept the alternative hypothesis (H1: b≠0), confirming the existence of a long-term equilibrium relationship.

**Table 10.** Summarizes the type of relationship and the impact between independent variables and the dependent variable.

The variable	Type of relationship	Impact	Matching economic theory
Long term			
X1	Direct	Presence Effect	Matching
X2	Inverse	No impact	Not matching
X3	Inverse	No impact	Not matching
X4	Direct	No impact	Matching
X5	Direct	Presence Effect	Matching
X6	Inverse	Presence Effect	Matching
Short term			
X1	None	None	-
X2	Direct	Presence Effect	Matching
X3	Direct	Presence Effect	Matching
X4	None	None	Matching
X5	Direct	Presence Effect	Matching
X6	Inverse	Presence Effect	Matching

## CONCLUSIONS AND RECOMMENDATIONS

### Conclusions

Investment is a key factor in economic activity and effectively contributes to the process of development and economic growth. Banking investment provides banks with channels to invest their financial resources in different assets in order to maximize these resources.

Profitability is one of the main objectives that banks seek to achieve, through which the efficiency of work and the success of management in achieving its goals can be measured.

Investors in financial markets have access to a variety of financial tools and products that can help in making investment decisions. One of these tools is stocks, which vary in terms of risk and therefore in the returns generated by these financial instruments.

The results of the standard model show that (70%) of the changes in stock returns are caused by changes in profitability indicators and asset investment.

The long-term equilibrium relationship between independent and dependent variables indicates the impact of independent variables on the dependent variable in the long run.

Rejecting the research hypothesis that there is no significant relationship between investment in assets, profitability indicators, and their impact on bank stock returns in the research sample.

### Recommendations

Concentrate financial investments in assets from promising sectors with high growth opportunities and diversify these investments to reduce risks and achieve balanced returns.

Analyze the financial market accurately and thoroughly before making any investment decision to identify opportunities and risks associated with each type of asset and seek the expertise of experts in banks to make appropriate investment decisions that align with the goals set by bank managements.

Improve work efficiency and develop services provided by banks that meet customer needs and increase bank profits.

Educate and guide investors on the best stocks, clarify the risks of each type of stocks traded in the financial market, and their returns.

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