مجلة جامعة طرطوس للبحوث والدراسات العلمية _ سلسلة العلوم الاقتصادية والقانونية المجلد (10) العدد (9) 2026
Tartous University Journal for Research and Scientific Studies -Economic and Legal Sciences Series Vol. (10) No. (9) 2026

The Impact of Agency Costs on the Banks' Profitability (An Applied Study on Syrian commercial Private Banks)

Dr. Mounzer Mourhij*
Dr. Koussay Ammar**
Fadi Al Kadi ***

(Received 8/6/2026.Accepted 19/7/2026)

□ABSTRACT □

This study aims to identify the impact of agency costs on banks profitability that listed on Damascus stock exchange over 14 years period (2010 – 2023), encompassing 140 observations. To measure the banks profitability, we use financial ratios which include Return on Assets (ROA) and Return on Equity (ROE).

Many empirical studies have highlighted that Asset turnover ratio (ATR) and Operating Expense Ratio (OER) are commonly used metrics to evaluate agency costs. In our study, we use the bank size and the profit growth as control variables.

We use panel data regression with Pooled regression model (PRM) or Fixed effects model (FEM) or Random effects model (REM), depending on the relevance of the models.

The result indicates that the Asset turnover ratio (ATR) positively affects the banks profitability that listed on Damascus stock exchange. Keywords: Agency Costs, Profitability, Assets Turnover Ratio, Operating Expense Ratio, Return on Assets, Return on Equity.

Keywords: Agency Costs; Profitability; Asset Turnover Ratio; Operating Expense Ratio; Return on Assets; Return on Equity

* Professor in the Department of Business Administration, Faculty of Economics, University of Latakia.
** Professor in the Department of Business Administration, Faculty of Economics, University of Latakia.
*** Postgraduate Master's Student, Department of Business Administration, Faculty of Economics, University of Latakia.

مجلة جامعة طرطوس للبحوث والدراسات العلمية _ سلسلة العلوم الاقتصادية والقانونية المجلد (10) العدد (9) 2026
Tartous University Journal for Research and Scientific Studies -Economic and Legal Sciences Series Vol. (10) No. (9) 2026

أثر تكاليف الوكالة في الربحية
(دراسة تطبيقية في المصارف السورية التجارية الخاصة)

أ.د. منذر مرهج*
أ.د قصي عمار**
فادي القاضي***

(تاريخ الإيداع 8/ 6/2026 – تاريخ النشر 19/7/ 2026)

□ ملخّص □

تهدف هذه الدراسة إلى تحديد أثر تكاليف الوكالة في ربحية المصارف المدرجة في سوق دمشق للأوراق المالية، خلال فترة زمنية مدتها 14 عاماً (2010–2023)، شملت 140 مشاهدة.

استُخدمت النسب المالية المتمثلة في معدل العائد على الأصول (ROA) ومعدل العائد على حقوق الملكية (ROE) لقياس ربحية المصارف.

وقد أشارت العديد من الدراسات التطبيقية إلى أن معدل دوران الأصول (ATR) ومعدل المصاريف التشغيلية (OER) يُعدّان من أكثر المؤشرات استخداماً في قياس تكاليف الوكالة. واستُخدم في هذه الدراسة حجم المصرف ونمو الأرباح كمتغيرين ضابطين.

واعتمدت الدراسة على تحليل الانحدار لبيانات البانل، باستخدام نموذج الانحدار المجمّع (PRM) أو نموذج التأثيرات الثابتة (FEM) أو نموذج التأثيرات العشوائية (REM)، وذلك تبعاً لمدى مناسبة كل نموذج للبيانات.

وأشارت النتائج إلى أن معدل دوران الأصول (ATR) يؤثر تأثيراً إيجابياً في ربحية المصارف المدرجة في سوق دمشق للأوراق المالية.

الكلمات المفتاحية: تكاليف الوكالة، الربحية، معدل دوران الأصول، معدل المصاريف التشغيلية، معدل العائد على الأصول، معدل العائد على حقوق الملكية.

* الأستاذ في قسم إدارة الاعمال كلية الاقتصاد – جامعة اللاذقية
** الأستاذ في قسم إدارة الاعمال كلية الاقتصاد – جامعة اللاذقية
*** طالب دراسات عليا ماجستير – قسم إدارة الاعمال – كلية الاقتصاد – جامعة اللاذقية

1- Introduction:

Agency theory addresses the conflict of interest that arises between principals and agents; agency costs may occur whenever managers have an incentive to act in their own self-interest rather than in the interest of the firm's owners. The problem of aligning the interests of owners and managers in a way that satisfies both parties has become an important topic of debate in the financial and economic literature. Accordingly, managers may incur unnecessary expenses in pursuit of their personal interests and goals instead of maximizing the value of the firm. The adverse effects of agency costs can undermine firm profitability and erode shareholders' wealth.

The performance of the banking sector on the Damascus Securities Exchange (DSE) has not been consistent over the last five years, with some banks recording steady growth and others recording declining or mixed results from year to year. For example, Arab Bank recorded (ROA = 0.33%, ROE = 1.75%) in 2019, compared to (ROA = 41.16%, ROE = 78.26%) in 2023. Similarly, Shahba Bank (formerly Byblos Bank) recorded (ROA = 1.16%, ROE = 4.16%) in 2019, compared to (ROA = 46.99%, ROE = 77.44%) in 2023. Syrian and Gulf Bank, meanwhile, has been struggling over the same period: it reported an ROA of 13% in 2022 compared to 9% in 2023, and an ROE of -207% in 2019, 84% in 2022, and 64% in 2023. A similar pattern of instability was observed among the other banks in the sample over the same five-year period.

1-1 Literature Review

Research on agency costs and their relationship with firm profitability can be broadly classified into several complementary strands, distinguished primarily by whether agency costs are treated as a direct determinant of financial performance, a moderating mechanism, or an outcome variable in its own right.

The first strand treats agency costs as a moderating variable in the relationship between capital structure and firm performance. This line of inquiry includes El Mahdy & Samir (2025), who examined Egyptian non-financial firms listed on the EGX30 using Panel Least Squares regression and found that the asset utilization ratio positively moderates the leverage-ROE relationship; Sdiq & Abdullah (2022), who used a pooled mean group estimator on Iraqi industrial firms and measured agency costs through both the operating expense ratio and the asset utilization ratio jointly, confirming a significant moderating role; Akbar & Bahar (2026), who applied the operating-expense-ratio proxy to Indonesian banks and found a significant negative moderating effect on ROA and Tobin's Q; and Amanah et al. (2026), who used the Free Cash Flow Ratio to demonstrate a significant moderating effect on ROA and EPS-though not on Tobin's Q-among Indonesian property and real estate firms. Separately, Djuaeriah & Winarta (2022) tested the direct effect of agency costs (measured as operating expenses relative to Profit) on the profitability of Indonesian LQ45 firms and found this direct effect to be statistically insignificant. Collectively, these studies converge on ratio-based proxies of agency cost (asset utilization, operating expenses, free cash flow) as either direct determinants or moderators of the capital structure-financial performance nexus, yet report inconsistent significance levels depending on sector, institutional context, and the specific role assigned to agency costs within the model.

A second strand extends this investigation specifically to the banking sector, where agency costs are more often proxied through governance-related and remuneration-based indicators rather than pure operational-efficiency ratios. Kismawadi (2023) applied GMM estimation to 92 Islamic banks across 20 countries,

proxying agency costs via cash-to-assets and leverage ratios, and found a significant negative effect on ROE and net income; Hartanto et al. (2024) introduced a novel proxy-the ratio of directors' and commissioners' remuneration to total salary-applied to 29 Indonesian banks, confirming a significant negative effect on ROA; and Rashid Khan et al. (2020), using dynamic panel GMM on Chinese A-listed firms, found that corporate governance quality and ownership concentration positively moderate the agency cost-performance relationship. These banking-focused studies collectively suggest that in more tightly regulated and monitored institutional settings, remuneration and governance-based proxies capture agency costs more effectively than asset-based ratios alone.

A third and less common strand reverses the causal direction, treating agency costs as the dependent variable and investigating its determinants rather than its consequences. Al-Suraiti (2022), using EViews 7 to analyze data of companies listed on the Amman Stock Exchange, found that earnings per share, board compensation, and profit growth-rather than debt ratio or firm size-were the principal determinants of the asset utilization ratio; similarly, Choi & Park (2019) demonstrated, using Korean firm-level data, that foreign ownership significantly reduces agency costs and thereby fosters long-term firm growth.

A fourth strand adopts efficiency-based rather than ratio-based measurement approaches to proxy agency costs indirectly. Stoiljković et al. (2026) estimated firm efficiency using Corrected Ordinary Least Squares (COLS) and Stochastic Frontier Analysis (SFA) as an inverse measure of agency costs among Serbian manufacturing firms, confirming both a significant positive linear effect of leverage on efficiency and a non-linear, inverted U-shaped relationship at high leverage levels.

A fifth strand broadens the application of agency cost theory beyond traditional profitability metrics. Houqe et al. (2022) examined 2,323 U.S. firms and found that both carbon emissions and agency costs independently and jointly depress firm performance; Nanda & Gopalaswamy (2024) applied a panel fixed-effects model to post-acquisition data and found that changes in acquirers' agency costs vary significantly according to the ownership characteristics of target firms; and Georgakopoulos et al. (2022) examined the energy sector specifically, linking capital structure, governance, and ownership concentration to firm profitability and effectiveness.

Finally, a sixth strand consists of theoretical and bibliometric syntheses. Kafa (2025) conducted a systematic literature review distinguishing between the classical vertical conflict (management-shareholders) and the horizontal conflict (controlling-minority shareholders), emphasizing that concentrated ownership and weak institutional protection-rather than dispersed ownership-drive agency conflicts in emerging economies. In a complementary vein, Khandelwal et al. (2023) analyzed 740 Scopus-indexed articles on agency issues, identifying corporate governance, CEO compensation, and executive remuneration as the dominant research themes, while explicitly noting the scarcity of empirical work situated in unstable or developing institutional environments.

Taken together, these fifteen studies reveal a field characterized by considerable methodological diversity but persistent contextual and measurement gaps. Most empirical investigations were conducted in relatively stable emerging markets (Egypt, Indonesia, Iraq, Jordan, Korea, China, Serbia) or in developed economies (the United States), with no study extending the analysis to a banking sector operating under

prolonged economic sanctions and severe institutional instability, such as Syria. Furthermore, while several studies employed the operating expense ratio and asset turnover ratio as agency cost proxies (Sdiq & Abdullah, 2022), none combined both measures within a Syrian-or comparably sanctioned-banking context to examine their effect on both ROA and ROE simultaneously.

1-2 Research Gap

Despite this considerable body of literature, three critical gaps remain unaddressed. First, from a contextual standpoint, the reviewed studies were conducted either in relatively stable emerging economies (Egypt, Indonesia, Iraq, Jordan, Korea, China) or in developed markets (the United States, Serbia), and none examined a banking sector operating under prolonged economic sanctions, currency collapse, and severe institutional instability, as is the case of the Syrian private banking sector-conditions that, per agency theory, are expected to intensify managerial opportunism and information asymmetry beyond what has been documented in the existing literature.

Second, from a measurement standpoint, while the operating expense ratio and asset turnover ratio have each been employed individually or jointly as agency cost proxies in prior studies (e.g., Sdiq & Abdullah, 2022; Al-Suraiti, 2022), no identified study has combined both proxies as independent variables to jointly explain variation in both return on assets and return on equity as dependent variables within a single unified banking-sector model. Most banking-specific studies reviewed (Kismawadi, 2023; Hartanto et al., 2024) relied instead on governance- and remuneration-based proxies (cash-to-assets ratio, leverage ratio, executive remuneration) rather than operational-efficiency-based proxies, leaving the explanatory power of the operating expense ratio and asset turnover ratio in a banking context-particularly one defined by severe economic distress-empirically untested.

Third, from a model-specification standpoint, none of the reviewed studies simultaneously controlled for both bank size and profit growth when examining the agency cost-profitability relationship; prior studies controlled, at most, for firm age, ownership concentration, or leverage (Al-Suraiti, 2022; Stoiljković et al., 2026), leaving the joint influence of these two bank-specific characteristics-both theoretically linked to economies of scale and earnings stability-unexamined within an agency cost framework.

Accordingly, this study addresses this three-fold gap by empirically investigating the impact of agency costs-measured through the operating expense ratio and asset turnover ratio as independent variables-on the profitability of Syrian commercial private banks-measured through return on assets and return on equity as dependent variables-while controlling for bank size and profit growth. In doing so, this study offers a novel institutional context, a methodologically integrated measurement approach, and a more comprehensive control structure, all of which remain absent from the existing literature.

1-3 Research Issue

During their review of the financial reports of Syrian commercial private banks for the period between 2010 and 2023, the researchers observed significant fluctuations in the profitability of the banks under study, reaching a maximum value of +280.62% and a minimum value of -62.93%. In addition, these banks incurred substantial losses, both before and after-tax deductions, amid a noticeable increase in operating expenses. This raises a fundamental question regarding the extent to which

internal managerial inefficiencies-rather than external market conditions alone-may be driving this instability.

Previous studies, such as those of Kismawadi (2023) and Hartanto et al. (2024), have linked declining bank profitability to rising agency costs, yet these studies were conducted in relatively stable banking environments (Islamic banks across twenty countries, and Indonesian banks, respectively) and measured agency costs through proxies such as cash-to-assets ratios, leverage, or executive remuneration. To date, no study has examined this relationship within a banking sector operating under prolonged economic sanctions and severe institutional instability, nor has any study jointly employed the operating expense ratio and asset turnover ratio as agency cost proxies-measures that are directly relevant to the operating-expense surge observed in the Syrian banking data above. This study therefore addresses this dual gap-contextual (the unprecedented conditions of the Syrian banking sector) and methodological (the combined use of these two proxies)-by investigating the impact of agency costs on the profitability of Syrian commercial private banks.

Based on the foregoing, the researchers formulated the following main research question:

What is the impact of agency costs on the profitability of Syrian commercial private banks?

The following sub-questions emerge from the main research question:

- What is the impact of the asset turnover ratio on return on equity in Syrian commercial private banks?
- What is the impact of the asset turnover ratio on return on assets in Syrian commercial private banks?
- What is the impact of the operating expenses ratio on return on equity in Syrian commercial private banks?
- What is the impact of the operating expenses ratio on return on assets in Syrian commercial private banks?

1-4 Research Hypotheses

Main Hypothesis: There is a statistically significant impact of agency costs on the profitability of Syrian commercial private banks.

The following sub-hypotheses stem from the main hypothesis:

- The higher the asset turnover ratio, the higher the return on equity of Syrian commercial private banks.
- The higher the asset turnover ratio, the higher the return on assets of Syrian commercial private banks.
- The higher the operating expenses ratio, the lower the return on equity of Syrian commercial private banks.
- The higher the operating expenses ratio, the lower the return on assets of Syrian commercial private banks.

1-5 Research Importance and Objectives

1-5-1 Theoretical Importance

The Theoretical Importance of this study lies in bridging the contextual and methodological gaps identified in the literature. While agency theory has been widely applied to explain the agency cost-profitability relationship in various emerging and developed economies (El Mahdy & Samir, 2025; Kismawadi, 2023; Hartanto et al., 2024), no prior study has examined this relationship within a banking sector operating under prolonged economic sanctions and severe institutional instability, as in the

Syrian private banking sector. By extending agency theory to this unprecedented context, the study tests whether its classical assumptions-developed in stable environments-remain valid when agency conflicts are compounded by external macroeconomic shocks. Methodologically, the study contributes by jointly employing the operating expense ratio and asset turnover ratio as complementary agency cost proxies, an approach not previously applied in combination within a banking-sector model, while also incorporating bank size and profit growth as control variables-thereby offering a more comprehensive model specification than prior banking-sector research.

1-5-2 Practical Importance

Practically, this study holds direct relevance for several stakeholders. For bank management, the findings offer empirical evidence on how operational inefficiencies-reflected in rising operating expenses and underutilized assets-erode profitability, supporting more informed cost-control and asset-management decisions. For regulatory authorities, the results may inform governance and monitoring frameworks suited to a banking sector under exceptional economic stress. For shareholders and investors, understanding the impact of agency costs on ROA and ROE provides a practical tool for evaluating bank performance, particularly given the sector's pronounced profitability fluctuations (from -62.93% to +280.62%). Finally, for depositors and other stakeholders, the findings contribute to a broader understanding of the internal managerial factors that may exacerbate or mitigate financial instability in a sanctions-affected banking environment.

1-5-3 Research Objectives

This study seeks to achieve the following objectives, which align directly with the research questions and hypotheses stated above:

Main Objective: To examine the impact of agency costs-measured through the asset turnover ratio and the operating expenses ratio-on the profitability of Syrian commercial private banks.

The following sub-objectives stem from the main objective:

- To assess the impact of the asset turnover ratio on return on equity in Syrian commercial private banks.
- To determine the impact of the asset turnover ratio on return on assets in Syrian commercial private banks.
- To evaluate the impact of the operating expenses ratio on return on equity in Syrian commercial private banks.
- To examine the impact of the operating expenses ratio on return on assets in Syrian commercial private banks.

1-6 Research Methodology

The researchers adopted the descriptive-analytical approach and relied on previous studies to determine the appropriate methods for calculating and measuring the impact of agency costs on profitability in Syrian commercial private banks. In addition, the study sought to identify the most prominent models, variables, and methods used in data analysis.

The financial data required for the study were collected from the official website of the Damascus Securities Exchange, and the data were subsequently analyzed using EViews 13 software.

1-7 Research Population and Sample

The research population consists of Syrian commercial banks listed on the Damascus Securities Exchange (DSE).

In this study, the researchers adopted a purposive sampling method, whereby Syria and Gulf Bank was excluded after the presence of outlier values in its financial data was identified. Consequently, the total number of observations after excluding Syria and Gulf bank amounted to 140 observations.

1-8 Research Limits

- **Spatial Limits:** Syrian commercial private banks.
- **Temporal Limits:** The period from 2010 to 2023.
- **Thematic Limits:** The independent variable is agency costs, the dependent variable is profitability, while the control variables are bank size and Profit growth.

1-9 Research Model

First of all, the table (1) is demonstrating the research variables and their measurements and Proxies

Table (1): Variables Measurement and Definition

Variables	Measurements	Proxies	References
Independent Variables			
Assets turnover ratio	Annual Profit divided by total assets.	ATR	Sdiq & Abdullah (2022); Al-Suraiti (2022)
Operation expanses ratio	Operating expenses divided by total operating revenue	OER	Shaqour (2017)
Dependent Variables			
Return on Assets	Net income divided by total assets	ROA	Hartanto et al. (2024)
Return on Equity	Net income divided by total shareholders' equity	ROE	El Mahdy & Samir (2025)
Control Variables			
Size	Natural logarithm of total assets.	Size	El Mahdy & Samir (2025)
Growth	total Profit-t - Total Profit t-1/Total Profit t-1	Growth	Djuaeriah & Winarta (2022)

to examine the impact of agency cost on banks' profitability, panel data analysis is employed.

A notable advantage of this method is that it can remedy the absence of unobservable characteristics of each bank, specifically the two following models are estimated:

$$ROA_{i,t} = \beta_0 + \beta_1 ATR_{it} + \beta_2 OER_{it} + \beta_3 \text{Growth}_{it} + \beta_4 Size_{it} + \varepsilon_{it}$$

$$ROE_{i,t} = \beta_0 + \beta_1 ATR_{it} + \beta_2 OER_{it} + \beta_3 \text{Growth}_{it} + \beta_4 Size_{it} + \varepsilon_{it}$$

Where:

ROA_{it}: Return on Assets for bank i in year t.

ROE_{it}: Return on Equity for bank i in year t.

β_0: the constant (intercept) term of the model.

β_1, β_2, β_3, β_4: the estimated regression coefficients for each independent and control variable, indicating the direction and magnitude of their impact on the dependent variable.

ATR_{it}: Asset Turnover Ratio for bank i in year t.

OER_{it}: Operating Expense Ratio for bank i in year t.

$Growth_{it}$: the profit growth rate of bank i in year t.

$Size_{it}$: the size of bank i in year t.

εit: the error (residual) term, capturing the effect of unobserved factors on the dependent variable for bank i in year t.

i: the cross-sectional dimension, referring to each bank in the sample.

t: the time dimension, referring to each year covered by the study period (2010–2023)

2-Theoretical Framework of the Research

2-1 Agency Costs

Agency costs can be viewed as a legal and economic term, as the word "agency" refers to a contractual relationship between two parties, while the word "costs" refers to the financial expenses and moral incentives resulting from this relationship.

(Kafa, 2025) defined agency costs as the losses and costs arising from conflicts of interest between the principal and the agent. In addition, (Amanah et al., 2026) indicated that such conflicts of interest lead to a decline in the efficiency and performance of the organization.

(Shaqour, 2017) explained the foundational assumptions of agency theory as follows:

a. The parties involved in the relationship are characterized by economic rationality and logical behavior.

b. Differences exist between the preferences of the agent and those of the principal.

c. The agent can be motivated to achieve the principal's interests through material and moral incentives.

Building on these assumptions, a core premise of agency theory is that the resulting divergence of interests between the agent and the principal is expected to exert a negative impact on firm performance, as it leads to resource misallocation and diminished organizational efficiency (Jensen & Meckling, 1976).

The researchers agree with the definitions presented in previous studies and further add that agency costs are an inevitable consequence of the separation between ownership and management, given that the contracting parties are characterized by rationality and economic reasoning according to the assumptions of agency theory.

2-2 Banks' Profitability

Profitability can be viewed as one of the most prominent indicators of a bank's success in achieving its financial objectives. It reflects the bank's success in managing its resources and increasing its market value, which attracts investors to invest in the bank and consequently enhances its competitive ability. Furthermore, increased profitability enables banks to fulfill their obligations toward stakeholders, both inside and outside the bank.

(Iwedi, 2026) defined profitability as the ratio indicating a bank's ability to generate profits relative to its assets, equity, or revenues over a specific period of time. It further noted that this is measured through financial performance indicators, including Return on Assets (ROA), Return on Equity (ROE), and Net Interest Margin (NIM).

Meanwhile, (Qurrotinnurilzannah & Risnaeni, 2026) defined profitability as the successful management of liquidity and a balanced capital structure.

The researchers agree with the aforementioned definitions and further add that a bank's profitability is achieved when the bank is capable of controlling its expenses while simultaneously managing liquidity and generating profits, since the primary objective of any bank is not merely to achieve profitability, but rather to maximize it.

These indicators are considered important in determining the extent to which a bank achieves the optimal utilization of its resources.

3-Results and Discussion

The data were processed and analyzed using the statistical software EViews 13, relying on the Panel Data approach. To achieve the objectives of the study, three models were estimated for each dependent variable: the Pooled Ordinary Least Squares (Pooled OLS) model, the Fixed Effects model, and the Random Effects model.

To determine the most appropriate model and assess the suitability of each model to the nature of the study data, the outputs of two standard tests were employed: the Fisher Test (F-Test), which was used to choose between the pooled model and the fixed effects model, and the Hausman Test, which was used to choose between the fixed effects model and the random effects model.

3-1 Descriptive Analysis of the Study Variables

The descriptive analysis shows that the average Assets Turnover Ratio (ATR) reached 0.11, while the average Operating Expenses Ratio (OER) was 0.18. In addition, the average Growth ratio (GROWTH) amounted to 1.84, the average Size ratio (SIZE) reached 11.07, the average Return on Assets (ROA) was 0.07, and the average Return on Equity (ROE) was 0.23.

The results also indicate the existence of variation among the study variables. The values of both the Skewness and Kurtosis coefficients for the Assets Turnover Ratio (ATR) (1.54 and 5.58), Operating Expenses Ratio (OER) (-1.59 and 5.82), Return on Assets (ROA) (1.75 and 6.27), and Return on Equity (ROE) (0.50 and 2.38), in addition to the Growth variable (GROWTH), which recorded the highest kurtosis value (28.19), suggest deviations and the presence of outliers and extreme values. This indicates the need to transform the data in order to address the impact of outliers affecting the data distribution.

The following table presents the descriptive analysis of the study variables:

Table (2): Descriptive Analysis of the Study Variables

	ATR	OER	GROWTH	SIZE	ROA	ROE
Mean	0.11079	0.18049	1.83634	11.06637	0.07450	0.23141
Median	0.07042	0.30330	0.48388	10.96830	0.02097	0.14192
Maximum	0.56186	1.52237	39.53633	12.79310	0.54985	0.80501
Minimum	-0.10813	-2.83519	-48.86372	9.96310	-0.12578	-0.35280
Std. Dev.	0.11392	0.71921	7.03234	0.54982	0.11495	0.27313
Skewness	1.53798	-1.58680	-0.74282	0.68438	1.75017	0.50062
Kurtosis	5.58433	5.82435	28.19463	3.20321	6.27156	2.37802
Observations	140	140	140	140	140	140

Source: Prepared by the Researchers Based on EViews 13.

The Jarque–Bera test was employed to examine the extent to which the variables approximate a normal distribution. The results revealed that all variables were statistically significant before transformation, indicating that the data did not follow a

normal distribution. This was primarily attributed to the presence of outliers and extreme values identified in the descriptive analysis.

Table (3): Normal Distribution Test of the Study Variables

	Jarque-Bera	Probability
ATR	94.152	0.000
OER	105.284	0.000
GROWTH	3715.696	0.000
SIZE	11.170	0.004
ROA	133.907	0.000
ROE	8.104	0.017

Source: Prepared by the Researchers Based on EViews 13.

To address the outliers and ensure that the model would not be affected, the researchers adopted the Two-Step Approach. First, the percentile ranks of the observations were calculated, and then they were transformed into standardized scores (Z-Scores) using the inverse normal distribution.

This method is distinguished by its ability to improve data distribution and reduce the impact of outliers without losing essential information. The following table presents the results of the Jarque–Bera normal distribution test for the study variables after transformation:

Table (4): Normal Distribution Test of the Study Variables after Transformation

	Jarque-Bera	Probability
ATR	0.544204679	0.7617763
OER	0.544204679	0.7617763
GROWTH	0.539726496	0.7634839
SIZE	0.544204679	0.7617763
ROA	0.544204679	0.7617763
ROE	0.544204679	0.7617763

Source: Prepared by the Researchers Based on EViews 13.

The results showed that the variables became statistically insignificant (P-value > 0.05), indicating the acceptance of the normal distribution assumption for the transformed data. Accordingly, the outliers were successfully treated.

3-2 Stationarity Tests of the Study Variables

To ensure the stationarity of the time series and verify the absence of the unit root problem, a set of tests was conducted, including the Levin, Lin & Chu (LLC) test, the ADF–Fisher test, and the PP–Fisher test.

Table (5): Results of the Unit Root Tests

Variable	Test	statistic	prob	stationary
ATR	LLC	-4.531267	0.000	Level /None/
	ADF	44.138046	0.001	
	PP	55.198223	0.000	
OER	LLC	-4.594744	0.000	Level / Individual Intercept and trend/
	ADF	56.649639	0.000	
	PP	89.525940	0.000	
GROWTH	LLC	-7.056555	0.000	Level / Individual Intercept and trend/
	ADF	57.853410	0.000	
	PP	78.512002	0.000	

SIZE	LLC	-7.356961	0.000	Level /None/
	ADF	75.991798	0.000	
	PP	104.260223	0.000	
ROA	LLC	-4.521211	0.000	Level /None/
	ADF	42.348636	0.002	
	PP	52.778843	0.000	
ROE	LLC	-4.757948	0.000	Level /None/
	ADF	41.244524	0.003	
	PP	50.723676	0.000	

Source: Prepared by the Researchers Based on EViews 13.

The results indicate that all variables are stationary at the level, as the P-values for all variables were less than 0.05, leading to the rejection of the null hypothesis of the existence of a unit root.

3-3 Correlation Tests among the Independent Variables and Multicollinearity Test

Before estimating the econometric model, the existence of a high correlation among the independent variables was examined, as this could lead to the problem of multicollinearity. The following table presents the Pearson Correlation Matrix among these variables, along with the probability values corresponding to each correlation coefficient.

The correlation matrix indicates the absence of a strong relationship among the independent variables, as all correlation coefficients were below 0.70. The highest correlation was observed between the Assets Turnover Ratio (ATR) and Growth, with a coefficient of 0.690.

Table (6): Correlation Matrix among the Independent Variables

	ATR	OER	GROWTH	SIZE
ATR	1			

OER	-0.116355	1		
	-1.376208	-----		
	(0.171)	-----		
GROWTH	0.6897299	-0.001597	1	
	11.190256	-0.018761	-----	
	(0.000)	(0.985)	-----	
SIZE	0.4021776	-0.116581	0.1829469	1
	5.1602394	-1.37892	2.1860334	-----
	(0.000)	(0.170)	(0.031)	-----

Source: Prepared by the Researchers Based on EViews 13.

To further ensure that the model was free from the problem of multicollinearity among the independent variables, the Variance Inflation Factor (VIF) test was employed. This test measures the extent to which the variance of the regression coefficient of an independent variable increase as a result of its correlation with the

other explanatory variables. According to the statistical rule, a multicollinearity problem exists if the VIF value exceeds 5.

The following table presents the results of this test.

Table (7): VIF Results for the Independent Variables

	VIF	TOLERANCE
ATR	2.279799217	0.438635119
OER	1.029978218	0.970894319
GROWTH	1.966488908	0.508520539
SIZE	1.222396607	0.818065098

Source: Prepared by the Researchers Based on EViews 13.

The results show that all VIF values were below 5, ranging from 1.03 for the Operating Expenses variable (OE) to 2.28 for the Assets Turnover Ratio variable (ATR). In addition, all Tolerance values were greater than 0.10.

These findings indicate the absence of a multicollinearity problem among the independent variables, thereby confirming the suitability of the model for estimation and analysis.

3-4 Hypothesis Testing

This section aims to test the study hypotheses by measuring the impact of agency cost indicators, represented by the Assets Turnover Ratio (ATR) and the Operating Expenses Ratio (OER), on the profitability of the banks under study, measured through Return on Assets (ROA) and Return on Equity (ROE).

The research hypotheses were tested using three static panel data approaches: the Pooled Regression Model (PRM), the Fixed Effects (FE) model, and the Random Effects (RE) model.

3-4-1 Results of Testing the Impact of Agency Costs on Return on Assets (ROA)

Table (8) presents the comprehensive estimation results for the three adopted approaches: the Pooled Regression Model (PRM), the Fixed Effects (FE) model, and the Random Effects (RE) model, for each indicator separately. The table also includes the corrected robust standard errors, as well as the goodness-of-fit and model selection tests.

Table (8): Results of Testing the Impact of Agency Costs on ROA

Variables		Model (OER)			Model (ATR)	
		PRM	FE	RE	PRM	FE
C	Coefficient	-0.9662	-1.3303	-1.1429	-0.5750	-0.6946
	t-Statistic	-7.1247	-9.1011	-8.4952	-5.6354	-5.6209
	p-value	0.0000	0.0000	0.0000	0.0000	0.0000
	White period Robust t-Statistic				-3.2162	
	White period Robust p-value				0.0106	
ATR	Coefficient				0.7074	0.6388
	t-Statistic				11.4641	9.4887
	p-value				0.0000	0.0000

	White period Robust t-Statistic				7.4713	
	White period Robust p-value				0.0000	
OER	Coefficient	-0.0037	0.0152	0.0059		
	t-Statistic	-0.3968	1.6846	0.6797		
	p-value	0.6921	0.0945	0.4979		
SIZE	Coefficient	0.0927	0.1254	0.1086	0.0514	0.0628
	t-Statistic	7.5662	9.5063	8.9496	5.4597	5.4797
	p-value	0.0000	0.0000	0.0000	0.0000	0.0000
	White period Robust t-Statistic				2.9947	
	White period Robust p-value				0.0151	
GROWTH	Coefficient	0.0085	0.0076	0.0081	0.0012	0.0016
	t-Statistic	8.9471	8.6747	9.3151	1.2869	1.7225
	p-value	0.0000	0.0000	0.0000	0.2003	0.0874
	White period Robust t-Statistic				1.1520	
	White period Robust p-value				0.2790	
	R2	0.5550	0.6650	0.5971	0.7734	0.7996
	F-statistic	56.5447	21.0130	67.1706	154.7651	42.2326
		Prob(F-statistic)	0.0000	0.0000	0.0000	0.0000
Normality	Durbin-Watson	1.5284	1.8249	1.6568	1.5317	1.7594
	Jarque-Bera	1.7680	5.8276	1.8356	17.4083	10.4662
	Probability	0.4131	0.0543	0.3994	0.0002	0.0053
F-test	Statistic	4.6351			1.8432	
	d.f.	(9,127)			(9,127)	
	Prob.	0.0000			0.0666	
Hausman Test	Chi-Sq. Statistic	13.2814				
	Chi-Sq. d.f.	3.0000				
	Prob.	0.0041				

Source: Prepared by the Researchers Based on EViews 13.

3-4-1-1 Asset Turnover Ratio (ATR) Model

- The results of the restricted Fisher F-test, which was conducted to choose between the pooled regression model and the fixed effects model, showed that the probability value of the test reached 0.0666, which is greater than the 5% significance level. This result indicates the acceptance of the null hypothesis, stating that the individual differences among banks are not statistically significant. Accordingly, the Fixed Effects (FE) model was excluded, and the Pooled Regression Model (PRM) was

adopted as the main and most appropriate model for representing the data, without the need to proceed to the Hausman test.

- The value of the Fisher F-statistic reached 154.765 with a probability value of 0.0000, confirming the overall significance of the model and the validity of the variables collectively in explaining the changes occurring in Return on Assets (ROA).
- The coefficient of determination (R^2) reached 0.773, indicating that 77.3% of the changes in Return on Assets (ROA) are explained by the variables of Assets Turnover Ratio (ATR), Size, and Profit Growth.
- The Durbin–Watson test produced a value of 1.5317, which falls within the acceptable range and is close to 2, confirming the absence of an autocorrelation problem in the model. On the other hand, the Jarque–Bera normality test for residuals recorded a statistical value of 17.4083 with a fully significant probability value of 0.0002, indicating that the assumption of normal distribution of residuals was not satisfied. To address this issue and ensure the accuracy of the hypothesis tests, the model was re-estimated using the White Period Robust Standard Errors matrix to correct the significance values and t-statistics.
- The Assets Turnover Ratio (ATR) variable showed a positive and statistically significant impact on Return on Assets (ROA), with a coefficient of 0.7074 and a probability value of 0.0000. This indicates the existence of a significant impact of the Assets Turnover Ratio on Return on Assets, and therefore the first hypothesis stating that "there is a statistically significant impact of the Assets Turnover Ratio on Return on Assets" is accepted.
- The Size variable showed a positive and statistically significant impact at the 5% significance level, with a coefficient of 0.0514 and a probability value of 0.0151.
- The Growth variable did not show any statistically significant impact on Return on Assets (ROA), as the probability value reached 0.2790, which is greater than 0.05.

3-4-1-2 Operating Expense Ratio (OER) Model

- The results of the restricted Fisher F-test, conducted to choose between the pooled and fixed effects models, showed a statistically significant probability value of 0.0000, which required the rejection of the Pooled Regression Model (PRM) and the selection of the Fixed Effects (FE) model. Furthermore, to choose between the fixed and random effects models, the Hausman Test produced a probability value of 0.0041, which is lower than the 5% significance level. Accordingly, the null hypothesis was rejected, and the alternative hypothesis was accepted, leading to the adoption of the Fixed Effects (FE) model.
- The Fisher F-statistic reached 21.013 with a probability value of 0.0000, confirming the overall significance of the model and the validity of the variables collectively in explaining the changes occurring in Return on Assets (ROA).
- The coefficient of determination (R^2) reached 0.6650, indicating that 66.5% of the changes in Return on Assets (ROA) are explained by the variables of Operating Expenses, Size, and Profit Growth.
- The Durbin–Watson statistic reached 1.8249, which is very close to the value of 2, indicating the absence of autocorrelation. In addition, the probability value of the Jarque–Bera normality test reached 0.0543, which is greater than the 5% significance level, indicating that the assumption of normal distribution of residuals is satisfied in the estimated model.

- The Operating Expense Ratio (OER) variable did not show a statistically significant impact, as the probability value reached 0.0945, which is greater than 0.05, with a coefficient of 0.0152. Accordingly, the second hypothesis stating that "there is a statistically significant impact of the Operating Expense Ratio on Return on Assets" is rejected.
- The Size variable showed a positive and statistically significant impact, with a probability value of 0.0000, a coefficient of 0.1254, and a t-statistic of 9.5063.
- The Growth variable also showed a positive and statistically significant impact, with a probability value of 0.0000, a coefficient of 0.0076, and a t-statistic of 8.6747.

3-4-2 Results of Testing the Impact of Agency Costs on Return on Equity (ROE)

Table (9) presents the comprehensive estimation results for the three adopted approaches—Pooled Regression Model (PRM), Fixed Effects (FE) model, and Random Effects (RE) model—for each indicator separately. The table also includes the corrected robust standard errors, as well as the goodness-of-fit and model selection tests.

Table (9): Results of Testing the Impact of Agency Costs on ROE

Variables		Model (OER)		Model (ATR)	
		PRM	FE	PRM	FE
C	Coefficient	-2.4966	-3.0176	-1.8403	-1.8007
	t-Statistic	-8.6798	-8.7846	-7.1274	-5.5688
	Prob.	0.0000	0.0000	0.0000	0.0000
ATR	Coefficient			1.1273	1.2104
	t-Statistic			7.2194	6.8701
	Prob.			0.0000	0.0000
OER	Coefficient	0.0113	0.0315		
	t-Statistic	0.5801	1.4843		
	Prob.	0.5628	0.1402		
SIZE	Coefficient	0.2427	0.2897	0.1743	0.1700
	t-Statistic	9.3424	9.3418	7.3133	5.6653
	Prob.	0.0000	0.0000	0.0000	0.0000
GROWTH	Coefficient	0.0216	0.0206	0.0100	0.0092
	t-Statistic	10.7131	9.9513	4.2437	3.7488
	Prob.	0.0000	0.0000	0.0000	0.0003
	R sq	0.6454	0.6723	0.7430	0.7569
	F-statistic	82.5203	21.7116	131.0817	32.9584
	Prob(F-statistic)	0.0000	0.0000	0.0000	0.0000
	Durbin-Watson	1.8212	1.8962	1.7284	1.8034
Normality	Jarque-Bera	1.7885	2.0090	2.7614	3.0696
	Probability	0.4089	0.3662	0.2514	0.2155
F-test	Statistic	1.1567		0.8074	
	d.f.	(9,127)		(9,127)	
	Prob.	0.3285		0.6102	

Source: Prepared by the Researchers Based on EViews 13.

3-4-2-1 Asset Turnover Ratio (ATR) Model

- The results of the restricted Fisher F-test, conducted to choose between the pooled regression model and the fixed effects model, showed a probability value of 0.6102, which is greater than the 5% significance level. This result indicates the acceptance of the null hypothesis, stating that the individual differences among banks are not statistically significant. Accordingly, the Fixed Effects model was excluded, and the Pooled Regression Model (PRM) was adopted.
- The Fisher F-statistic reached 131.0817 with a probability value of 0.0000, confirming the overall significance of the model and the validity of the variables collectively in explaining the changes occurring in Return on Equity (ROE).
- The coefficient of determination (R^2) reached 0.743, indicating that 74.3% of the changes in Return on Equity (ROE) are explained by the variables of Assets Turnover Ratio (ATR), Size, and Profit Growth.
- The Durbin–Watson statistic reached 1.7284, which is very close to the value of 2, indicating the absence of autocorrelation. In addition, the probability value of the Jarque–Bera normality test reached 0.2514, which is greater than the 5% significance level, indicating that the assumption of normal distribution of residuals is satisfied in the estimated model.
- The Assets Turnover Ratio (ATR) variable showed a positive and statistically significant impact on Return on Equity (ROE), as the probability value reached 0.0000, with a coefficient of 1.1273 and a t-statistic of 7.2194. Accordingly, the third hypothesis stating that "there is a statistically significant impact of the Assets Turnover Ratio on Return on Equity" is accepted.
- The Size variable showed a positive and statistically significant impact, with a probability value of 0.0000, a coefficient of 0.1743, and a t-statistic of 7.3133.
- The Growth variable also showed a positive and statistically significant impact, with a probability value of 0.0000, a coefficient of 0.0100, and a t-statistic of 4.2437.

3-4-2-2 Operating Expense Ratio (OER) Model

- The results of the restricted Fisher F-test, conducted to choose between the pooled regression model and the fixed effects model, showed a probability value of 0.3285, which is greater than the 5% significance level. This result indicates the acceptance of the null hypothesis, stating that the individual differences among banks are not statistically significant. Accordingly, the Fixed Effects model was excluded, and the Pooled Regression Model (PRM) was adopted.
- The Fisher F-statistic reached 82.5203 with a probability value of 0.0000, confirming the overall significance of the model and the validity of the variables collectively in explaining the changes occurring in Return on Equity (ROE).
- The coefficient of determination (R^2) reached 0.645, indicating that 64.5% of the changes in Return on Equity (ROE) are explained by the variables of Operating Expense Ratio, Size, and Profit Growth.
- The Durbin–Watson statistic reached 1.8212, which is very close to the value of 2, indicating the absence of an autocorrelation problem. In addition, the probability value of the Jarque–Bera normality test reached 0.4089, which is greater than the 5% significance level, indicating that the assumption of normal distribution of residuals is satisfied in the estimated model.

- The Operating Expense Ratio (OER) variable did not show a statistically significant impact, as the probability value reached 0.5628, which is greater than 0.05. This indicates the absence of a real impact of the Operating Expense Ratio on Return on Equity (ROE). Accordingly, the fourth hypothesis stating that "there is a statistically significant impact of the Operating Expense Ratio on Return on Equity" is rejected.
- The Size variable showed a positive and statistically significant impact, with a probability value of 0.0000, a coefficient of 0.2427, and a t-statistic of 9.3424.
- The Growth variable also showed a positive and statistically significant impact, with a probability value of 0.0000, a coefficient of 0.0216, and a very high t-statistic of 10.7131.

4-Conclusions and Recommendations

Based on the aggregated results, it can be concluded that agency costs, represented by the Assets Turnover Ratio (ATR), positively and significantly affect the profitability of Syrian commercial private banks, whereby an increase in the Assets Turnover Ratio leads to an increase in both Return on Assets (ROA) and Return on Equity (ROE); accordingly, the sub-hypotheses related to ATR are fully supported. In contrast, the Operating Expense Ratio (OER) did not exhibit a statistically significant impact on either ROA or ROE across the estimated models, and the corresponding sub-hypotheses are therefore not supported by the data. The findings also revealed that bank size and profit growth have a significant positive impact on bank profitability.

The weak and statistically insignificant result obtained for OER may be attributed to several factors specific to the Syrian banking context. First, under conditions of prolonged economic sanctions and hyperinflation, a substantial share of banks' operating expenses may be driven by exogenous macroeconomic pressures (currency depreciation, inflated administrative and compliance costs) rather than by discretionary managerial inefficiency, which would attenuate the theoretically expected relationship between OER and profitability. Second, the aggregated nature of the OER measure-combining administrative, personnel, and other operating expenses into a single ratio-may obscure the specific expense components that are actually driven by agency conflicts, thereby diluting its explanatory power.

Based on the findings of this research, the following recommendations can be proposed:

Focusing on improving the efficiency of asset utilization in banks, such as reducing non-productive assets and increasing lending and effective investment activities, enhances asset turnover rates and increases the bank's financial returns.

To strengthen and clarify the weak result obtained for the Operating Expense Ratio, future research should disaggregate operating expenses into their core components (e.g., administrative expenses, personnel costs, and compliance-related expenses) rather than relying on a single aggregated ratio, in order to isolate the specific expense categories most closely associated with agency conflicts.

Monitoring and reducing operating expenses remain advisable from a managerial standpoint; although this study did not find a statistically significant impact, effective cost control generally contributes to enhanced net profitability and reduced exposure to agency-related inefficiencies.

For future research: incorporating additional variables, such as asset quality, non-performing loan ratios, or lending policies, to explain further fluctuations in profitability, and to help disentangle the sources of the weak OER result identified above.

For decision-makers: considering regulatory policies that encourage transparency and efficiency in resource utilization within the banking sector, thereby contributing to enhancing the overall profitability of the sector in light of agency theory.

5-References:

[1] AKBAR, M.; BAHAR, H. 2026. *The Role of Agency Costs in Moderating the Effect of Capital Structure on Company Performance: A Study of Banks Listed on the Indonesia Stock Exchange 2014-2023*. Indonesian Annual Conference Series, Vol. 5, 95 – 111.

[2] AL-SURAITI, A. 2022. *Factors Affecting Agency Costs in Jordanian Companies Listed on the Amman Stock Exchange*. Journal of Economic Studies, 5 (4), 144 – 172.

[3] AMANAH, N.; MADI, R.A.; HAMID, W.; BUDI, N.; BAHAR, H. 2026. *The Role of Agency Costs in Moderating The Effect of Capital Structure on Firm Performance*. Halu Oleo Management and Business Journal, 3 (1), 1 – 16.

[4] CHOI, Y. M.; PARK, K. 2019. *Foreign ownership, agency costs, and long-term firm growth: evidence from Korea*. Sustainability, 11 (6), 1599.

[5] DJUAERIAH, N.; WINARTA, B.J. 2022. *The Effect of Capital Structure and Agency Cost Towards Profitability*. Socialis Series in Social Science, 2, 29 – 47.

[6] EL MAHDY, A.H.A.M.; SAMIR, N.A. 2025. *Do agency costs matter? Evidence from Egypt on the capital structure-performance nexus.* Research Papers in Economics and Finance, 9 (2). 75 – 96.

[7] GEORGAKOPOULOS, G.; TOUDAS, K.; POUTOS, E. I.; KOUNADEAS, T.; TSAVALIAS, S. 2022. *Capital structure, corporate governance, equity ownership and their impact on firms' profitability and effectiveness in the energy sector*. Energies, 15 (10), 3625.

[8] HARTANTO, E.; USMAN, B.; LESTARI, H.S; MUSTAFA, M. 2024. *The Effect of Non Performing Loan, Agency Cost, Good Corporate Governance, and Credit Policy to Bank Profitability*. International Journal of Science and Management Studies. 7 (2), 74 – 82.

[9] HOUQE, M.N.; OPARE, S.; ZAHIR-UL-HASSAN, M.K.; AHMED, K. 2022. *The effects of carbon emissions and agency costs on firm performance*. Journal of Risk and Financial Management, 15 (4), 152.

[10] IWEDI, M. 2026. *Driving Sustainable Growth: Exploring The Nexus Between Financial Innovation and Banking Sector Profitability in Nigeria*. International Journal of Finance, Economics, and Management Studies. 2 (1), 1 – 12.

[11] JENSEN, M.C.; MECKLING, W.H. 1976. *Theory of the firm: Managerial behavior, agency costs and ownership structure*. Journal of Financial Economics, 3 (4), 305 – 360.

[12] KAFA, A. 2025. *Agency Costs in the Context of Financial Markets: Concept, Types, and Economic Consequences: A Literature Review*. Journal of Finance and Accounting. 13 (6), 236 – 243.

[13] KHANDELWAL, V; TRIPATHI, P; CHOTIA, V; SRIVASTAVA, M; SHARMA, P; KALYANI, S. 2023. *Examining the impact of agency issues on corporate performance: A bibliometric analysis*. Journal of Risk and Financial Management, 16 (12), 497.

[14] KISMAWADI, E.R. 2023. *Improving Islamic bank performance through agency cost and dual board governance*. Journal of Islamic Accounting and Business Research, 16(3), 461 – 483.

[15] NANDA, P.; GOPALASWAMY, A.K. 2023. *Post-Acquisition Changes in Agency Cost of Acquirers: Effect of Target Companies*. Journal of Risk and Financial Management, 17 (1), 11.

[16] QURROTINNURILZANNAH, Q.; RISNAENI, U.S. 2026. *The Effect of Profitability Ratio, Leverage, Company Size, and Audit Committee Gender Diversity on the Financial Performance of Sharia General Insurance Companies (2022-2024).* Journal of Accounting and Finance Management, 7 (2), 218 – 226.

[17] RASHID KHAN, H.; KHIDMAT, W. B.; HARES, O. Al.; MUHAMMAD, N.; SALEEM, K. 2020. *Corporate governance quality, ownership structure, agency costs and firm performance. Evidence from an emerging economy*. Journal of Risk and Financial Management, 13 (7), 154.

[18] SDIQ, S.R.; ABDULLAH, H.A. 2022. *Examining the effect of agency cost on capital structure-financial performance nexus: Empirical evidence for emerging market.* Cogent Economics & Finance, 10 (1), 2148364.

[19] SHAQOUR, O. 2017. *Factors Affecting Agency Costs: An Applied Study on Commercial Banks Listed on the Amman Stock Exchange*. Arab Journal of Sciences and Research Publishing, 2 (2), 27–42.

[20] STOILIKOVIC, A.; TOMIC, S.; LEKOVIC, B.; UZELAC, O.; ĆURCIC, N.V. 2024. *The impact of capital structure on the performance of Serbian manufacturing companies: Application of agency cost theory*. Sustainability, 16 (2), 869.