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The Moderating Effect of Agency Cost on the Relationship Between Capital Structure and Financial Performance: Evidence of an Emerging Market

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ABSTRACT

This study investigates the relationship between capital structure and financial performance. It also examines the moderating effect of agency theory on the proposed relationship. Panel secondary data is collected for 11 industry firms quoted on the Iraqi Stock Exchange during the period 2004-2020. Financial performance is measured using ROA and MBV. According to the data analysis, the study findings confirm that capital structure has a significant negative effect on ROA but positively effects MBV. Regarding the moderating effect of agency cost, there are strong interactions in the model, which indicate that AUR has a significant impact. Moreover, firm size as a control variable has a positive impact on firm performance. These results support the agency theory argument from an emerging country. The results provide significant insights for managers of the sector, particularly for the current rapid development of the sector.

1. Introduction

There are quite a few motives for the separation of management and ownership in industry companies. Most corporations require massive amounts of capital to achieve economies of scale. Professional managers are better qualified to control and lead their businesses because of their experience, technical expertise, and personality

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traits. The separation of management and ownership allows for an unlimited change in ownership via share transfers without disrupting the firm's operations. However, managers may attempt to reach a specific degree of acceptable performance in terms of shareholder welfare. All the above crises listed are the causes of the raise agency theory.

In financial management, understanding the application of agency theory is vital because it provides greater insight for stockholders, investors, and those concerned with this issue, which will create a specific burden named agency cost (Abdullah and Tursoy, 2022). The agency costs are the costs incurred in examining and monitoring the managers and trying to put off their exploitation. Using debt is a potential way to reduce the agency problem. Less debt is thought to be associated with higher financial performance in the presence of agency costs. The agent usually desires to boost individual interest through increasing personal wealth and job security, while the principal wants to maximize their own wealth (Kalash, 2019). Agency costs of equity arise when the interests of the shareholders differ from those of the managers. These costs may be reduced by good planning. Agency theory is the most well-known and widely used theoretical framework for investigating the conflict of interest during the operation of a company and its management decision process. The current research is mostly concerned with agency theory.

According to the primary assumption of this theory, agency theory has a positive impact on financial performance (Tarazi, 2019). In addition, some of the studies have different results in determining the relationship between capital structure and firm performance by controlling different variables (Kontus, 2021; Imelda and Dewi, 2019). The capital structure of a company is a combination of both equity and debt, which is disclosed on the statement of financial position (Abdullah, 2020). The assets of the firm are also listed on the same statement, which is financed through equity or debt. A firm's capital structure can be a combination of its short-term debt, long-term debt, preferred stock, and common stock. A firm's percentage of long-term debt versus short-term debt is considered when scrutinizing its capital structure (Abdullah and Tursoy, 2021a). Previous empirical research has given some support for the relationship between capital structure and company financial performance in both developed and emerging economies. However, some of the studies have different

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results in determining the relationship between capital structure and firm performance by controlling different variables, such as (Ankmah et al., 2021; Abdullah, 2020; Jouida, 2018).

The current study varies from previous studies in that it explores how agency theory affects financial performance through its relationship with the capital structure in Iraqi industrial firms using a large body of data. The current study includes a vast number of observations, 187 firm-years, over a long duration, 2004–2020, and the sample consists of 11 firms' data from 17 years of time series data. This paper studies the relationship between capital structure and financial performance, considering the moderating effect of agency theory on this anticipated relationship. Previous research provides some support for the relationship between the capital structure and financial performance in various economies. Nonetheless, no research, to our best knowledge, has studied the moderating role of agency theory transition on that association. However, from the literature, some studies analyze the effect of capital structure on financial performance in Iraq (see, for instance, Salah and Maysa, 2019). This study provides an important insight into the relationship between capital structure and financial performance over a prolonged period from the financial statements of the industrial sector on the Iraq stock exchange, while controlling the impact of some changes in financial regulations. It uses the Pooled Mean Grope approach to control for homogeneity problems. Moreover, the study provides an important insight into the nature of the relationship between agency theory and financial performance over a long period of time. Most importantly, this study investigated insight into the nature of the effect of agency theory on the relationship between capital structure and financial performance among Iraqi industrial companies on the Iraq stock exchange over an extended period.

According to the study's aims, the study seeks to answer the following questions: What is the nature of Iraq's capital structure and financial performance relationship? How does agency theory moderate the relationship between capital structure and financial performance? Do the results differ between long-term and short-term equations? Moreover, does the size of a corporation affect its performance?

The development of our paper proceeds as follows: literature review and hypothesis development; methodology; data analysis; discussion of the results; and conclusions.

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2. Literature review

Performance is defined as a reflection of the ability of the firm to achieve its objectives and the firm's financial performance (Abdullah, 2020). It is referred to as a measure of the efficiency and effectiveness of an organization's internal as well as external actions and operations. According to Ali (2018), performance is used to determine a company's success, conditions, and compliance. These definitions of performance reveal the fact that some view performance as a mirror that reflects the company's results to be achieved, while others believe it is the method of effective use of the resources available to the company. According to another scholar, financial performance is explained by managers' efforts in carrying out tasks related to financial management (Mansyur et al., 2020).

The financial performance of the company can be interpreted as a prospect or future, growth potential, and potential for the company's good development (Sultan and Adam, 2015). In addition, as defined Financial performance also refers to how well a corporation can achieve its goals at the lowest probable cost. Firm financial performance is shown in the corporation's capacity to obtain financial balance, provide the required liquidity to pay back debts, and produce a high rate of return with minimal expenses (Tarazi, 2019). However, Ali (2018) declares that if the firm is performing well, it would support the management's value disclosure of their procedures. In order to determine a company's growth, what the corporation is currently performing needs to be measured, which will highlight the gap that needs to be filled to achieve the organization's objectives. Thus, it can be clearly claimed that financial performance determines the health of firms by using several indicators to identify how successful and efficient a corporation is in handling its resources for investment, financing, and operations activities, which is obviously shown in its high performance.

The cornerstone of every organization's success is its ability to maintain financial performance (Berger and Di Patti, 2006). Each sector has different operational determinants effecting financial performance (Dawar, 2014). The aim of measuring achievement is to obtain useful information related to the firm's funds. Furthermore, the information can help managers make the best possible decisions (Abdullah et al.,

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2021). Corporate managers should continuously monitor and analyze. Company performance is a multidimensional concept that consists of four elements: financial and market performance; customer-focused performance; human resource performance; and organizational effectiveness (Budur and Demir, 2022; Tarazi, 2019). Financial performance analysis is performed to determine the extent to which a company has followed the rules of financial implementation properly and correctly (Ibhagui and Olokoyo, 2018). However, the financial analysis shows information on the financial situation of the firm, a measure of the efficiency of its activities, a valuation of the efficiency of the management performance, and a determination of how efficient it is to obtain a suitable return on the invested resources (Para et al., 2022).

Capital structure theories describe how organizations employ debt and equity, the factors that influence capital structure, and the relationship between financial performance and capital structure (Abdullah and Tursoy, 2021b). The capital structure theories appeared in the early 1950s when the first theory attempting to explain this issue appeared. The irrelevance theory of Modigliani and Miller, also known as the MM theory of capital structure, was developed in the late 1950s and established a theoretical foundation for the capital structure issue. According to Modigliani and Miller (1958), there is no optimal capital structure for firms. The MM capital structure theory is based on a set of assumptions about a perfectly efficient market with no taxes, no risk of bankruptcy, and no information asymmetry. According to this theory, a firm's market value is independent of its capital structure. Moreover, Modigliani and Miller (1963) revised their previous work and liberated the MM theory assumptions from taxation. They also mentioned that the market value of a firm with a proportion of debt on its balance sheet outperforms that of a firm that relies solely on equity financing.

The capital structure of a company is a combination of both debt and equity can be found on the balance sheet. Company assets, also listed on the balance sheet, are purchased with equity or debt. A firm's capital structure is a combination of a firm's short-term debt, long-term debt, preferred stock, and common stock (Alicia, 2021). The percentage of debt to total capital or equity is termed financial gearing. A firm's capital structure is defined by its enduring long-term financing, including preferred

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shares and common shares, debt and retained earnings (Al-Taani, 2013). Shrestha (2019) has defined the capital structure as the many sources of funds that contribute to a firm's capital. Nevertheless, Nguyen and Tran (2019) define capital structure as referring to the combination of various forms of capital to finance a business. It is usually a mix of equity and debt capital. Equity capital refers to share capital and reserves, while debt capital relates to the firm's borrowings. (Ibhagui and Olokoyo, 2018) said the choice of capital varies by firm, with some preferring debt capital and others preferring equity. Whether the capital structure of a firm is extremely important because it is related to the firm's ability to meet the needs of its stakeholders (Kerim et al., 2019).

However, scholars have different answers to the question of whether there is a meaningful relationship between capital structure and firm performance. (Abdullah and Tursoy, 2021a) found a positive relationship between capital structure and financial performance. However, Muneer et al. (2013) found a negative relationship between them. This difference in preference for the choice of capital necessitates the need to examine its effect on firm performance.

2.1. Hypothesis development

Since the late 1950s, when the MM irrelevance theory was formed as a theoretical framework to explain the relationship between capital structure and firm performance, a vast number of scientists have attempted to investigate this link. However, no persuasive conclusion exists to conclusively demonstrate the association between the capital structure and financial performance. Specifically, to explore the possible influence of a debt-equity capital structure combination on firm value and performance. Furthermore, some past studies found a positive relationship between capital structure and financial performance using different measures from various sectors in diverse countries.

Explain the capital structure profitability as the primary goal of capital structure decisions is to improve the company's market value. This is managed by employing an optimal mix of long-term sources of financing. This mixture of the proper debt-to-equity ratio will cause a reduction in the weighted cost of capital due to the fund mix chosen (Shrestha, 2019). If a firm's capital structure decision affects its value, it would

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like to have a capital structure that optimizes its market value (Liao et al., 2022). The relationship between capital structure and financial performance has been seen to be impacted by variables such as stock market development, country growth, and firm specific characteristics such as firm size (Abdullah and Tursoy 2021b). A vast amount of theoretical and empirical research has been conducted to evaluate firm value and performance under the possible influence of a capital structure mixture of debt and equity (Abdullah, 2020). Thus, the following hypothesis is set:

Hypothesis 1: capital structure does not affect financial performance

There are conflicts of interest between the company's owners and management, and there are discrepancies between internal and external financial sources in numerous ways. These differences may be apparent in the viewpoints of various parties. Firm managers prefer to rely on external funding since borrowing is the least expensive option, and firms may benefit from debt tax breaks (Abdullah, 2021). Agency theory (Jensen and Meckling, 1976) terminology includes the managers, who are agents, and the owners, who are principals, and there exists an agency cost, which is the degree to which returns to the residual stakeholders, the owners, drop below what they would be if the owners exercised direct control of the firm. The key element of the agency theory is the conflict of interest (Shrestha, 2019). Agency theory is defined as the condition in which an owner hires a manager to decide or act on behalf of the first individual executing a duty (Khan et al., 2020). Alternatively, the agency theory is mostly concerned with resolving problems that arise because of a conflict of interest between the principal and agent (Nidumolu, 2018). As stated previously in the capital structure theories, the information agency theory has an incredible role in the conflict of interest. There is a common point in all the above-reviewed definitions: agency theory explains the relationship between the principal and the agent.

The agency theory, originally developed by Berle and Means (1932), explains that agents pursue their own interests instead of maximizing returns to the principals. Jensen and Meckling (1976) demonstrated that there are two kinds of agency costs: direct and indirect agency costs. The agency cost of equity arises because of the difference in interests between shareholders and managers, and the agency cost of

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debt is caused by the different interests of shareholders and debt holders. Fama and Jensen (1983) identified the board's task in monitoring strategic decisions as primarily derived from agency theory. They investigated the board's functioning as an information system that monitors management and financial performance with the goal of limiting managers' self-interested conduct in situations when there may be a separation of interest with stakeholders. Jensen (1986) claimed that with high debt, managers are under pressure to invest in profitable projects to create a cash flow to pay interest. Managers and shareholders have opposing aims and interests. Hence, there is a conflict, which is referred to as the agency problem (Pandey and Sahu, 2019). Moreover, Tuan et al. (2019) found evidence for the effect of agency cost on firm performance in Vietnam. Therefore, we hypothesize that:

Hypothesis 2: agency cost does not affect financial performance

Hypothesis 3: agency cost does not moderate CS-FP relationship

3. Methodology

3.1. Data and sample

Initially, the data sample consists of all listed firms on the Iraq Stock Exchange working in the industrial sector. This sector in Iraq has gone through several phases in recent history. The initiation of some industries is seen as a milestone for the sector, i.e., opening the first industries such as grain mills, cotton gins, small craft making, and hand weaving workshops. Recently, the government set laws and regulations for the sector, such as the Investment Law (2006), the Ministry of Industry and Minerals Law (2011), the Industrial Cities Law (2018), and the industrial national development plan of 2018–2022. There are 25 industrial firms listed on the market as per 2022 data, producing food, beverages, medicine, furniture, packaging, and construction materials. Firms with their data available over the 2004–2020 period are included in the sample and the others are excluded. Considering balanced panel data, the final sample consists of 187 firm-year observations, 11 firms over a 17-year period. Data is collected from the Iraq Stock Exchange (2021) website.

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3.2. The variables

This section identifies and defines the variables used in this study into three groups: the measures of financial performance, which is the main dependent variable; the measures of capital structure, which is the main independent variable used in this study to have a potential effect on financial performance; control variables, which are a number of additional variables chosen based on the literature to better capture the relationships between the dependent and independent variables; and agency theory, which is the moderating variable to influence the relationships.

Financial performance

Financial performance is the dependent variable, and numerous grounded theories predict that it will be impacted by internal factors such as capital structure. There are different measures of financial performance used in the literature. Scholars use accounting data to create measures based on ratios from balance sheets and income statements, such as profit margin indicators, to measure financial performance according to (Al-Qudah, 2017; Sultan and Adam, 2015). However, some studies use ROA and ROE to determine financial performance (Abdullah, 2021; Karem et al., 2021; Salah and Maysa, 2019; Li et al., 2018). Moreover, we can measure the financial performance by determining the market-to-book value ratio (Tarazi, 2019; Rasul, 2018).

Capital structure

The capital structure is an independent variable and one of the significant variables that describe the findings of this study, which are predicted to have an impact on financial performance according to the current theories. The capital structure is the combination of debt and equity in the firm's form of financing (Kontus, 2021). The capital structure in the literature is measured by the different ratios of financial leverage, such as long-term debt ratio, short-term debt ratio, and equity, debt to equity ratio, and multiplier of total debt to total assets (see, for example, Ibhagui and Olokoyo, 2018; Al-Qudah, 2017; Tripathi, 2019; Sultan and Adam, 2015). In this study, we measured the capital structure using debt ratios, debt to equity ratios, and equity ratios.

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Agency cost

According to the agency's theory, researchers agree that it causes the agency's cost of ownership to be attributed to one or more managerial behaviors. Agency cost is used as a moderating variable in the research model. It is measured in the literature using asset utilization ratio and operating expense ratio (Imelda and Dewi, 2019). The asset utilization ratio is used as an agent for the cost of equity agency (Wellalage and Locke, 2013). This ratio measures how successfully management uses the firm's assets, and agency costs are inversely related to the asset utilization ratio (Singh et al., 2003). One of the measures of agency costs is the annual sales to total asset's ratio, which is a measure of asset utilization. The ratio assesses management's capacity to make optimal use of assets (Abdullah, 2020; Kontus, 2021; McKnight and Weir, 2009; Ang et al., 2000).

Firm size

This study investigates the effects of the capital structure on financial performance as well as the agency theory on financial performance. The study controlled firm size. These are consistent with the literature and help to control for firm and market-specific factors (Ankmah et al., 2021; Abdullah and Tursoy, 2019; Saed et al., 2021; Li et al., 2018). The firm size variable will be used as a control variable, specifically to see if it has any effects on the company's performance. Various measurements, like assets or employee count, can be used to indicate size. However, the literature defines assets as a size measurement, calculating the natural logarithm of a firm's total assets (Abdullah and Tursoy, 2021a; Li et al., 2018; Ardalan, 2017). Larger companies find it simpler to create funds internally and to obtain funding from external sources (Le and Phan 2017). Therefore, management is obligated to act in the best interests of the corporation.

Table 1: definition of variables

VARIABLE	TYPE	MEASURE	ABBR.	DEFINITION
FINANCIAL PERFORMANCE	Response	Market to book value	MBV	Market capitalization over book value of assets
		Return on assets	ROA	EBET / Total assets
	Explanatory	Debit ratio	DR	Total debt/ Total assets

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CAPITAL STRUCTURE		Equity ratio	ER	Total equity/ Total assets
AGENCY COST	Independent & Moderating	Asset utilization ratio	AUR	Total sales/ total sales
TOTAL ASSETS	Control variable	Firm size	FS	Natural logarithm of total assets

3.3. Method and Model

This study uses a quantitative approach to secondary data disclosed by listed firms on the Iraq Stock Exchange. An explanatory research design is used to investigate the proposed relationships. Regarding the data analysis method, the pooled mean group (PMG) estimator is performed. It is suitable for dynamic heterogeneous panels (Zaman et al., 2020). This method constrains long-run coefficients to being homogeneous but permits short-run coefficients and residual variances to vary across groups (Pesaran et al., 1999). The selection of the model is also based on the unit root and cointegration tests. The selected variables are I (0) and cointegrated over the long run. The equation for panel ARDL (AUTOREGRESSIVE DISTRIBUTED LAG) is given below:

$$FP_{i,t} = \sum_{j=1}^{p} \delta_{i,j} FP_{i,t-j} + \sum_{j=0}^{q} \gamma_{i,j} X_{i,t-j} + \mu_i + \varepsilon_{it}$$

Where; the dependent variable is financial performance (*FP*) and the lagged value is used as independent; while *X* are other independent variables including capital structure measures, agency cost and control variable.

Based on the lag length, we select our model. The lag length is determined according to the minimum value of the Akaike Information Criterion. For observing short-run and long-run effects, the pooled mean group estimator delivers the outcomes separately. The value of the error correction term is given to present the convergence of the variables in the long run. The specific model for PMG is given below:

$$\Delta FP_{i,t} = \theta_i(EC_{i.t}) + \sum_{j=1}^{p-1} a_{ij} \Delta FP_{i,t-j} + \sum_{j=0}^{q-1} \varphi_{i,j} \Delta X_{i,t-j} + \varepsilon_{it}$$

Where:

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$$EC_{i.t} = FFP_{i,t-1} - X_{i,t}\beta$$

Where, Δ presents the differencing of the variables due to having unit root at level. *EC* presents the error correction term which explains the convergence or divergence, depending on the numerical value sign, of the model in the long run. ϑ is adjustment coefficient while β illustrates long-run coefficient.

4. Data analysis

For the years 2004-2020, a representative sample of 11 companies is shown in Table 2, together with descriptive data for the aforementioned factors. AUR (M=1.2; SD=0.29), DR (M=0.29; SD=0.34), ER (M=1.23; SD=6.45), FS (M=0.0012; SD=0.003) and ROA (M=-0.016; SD=0.35) were the MBV variable with the greatest mean values and standard deviations (M=3.07; SD=3.39) in Table 2 for sample companies. Skewness and kurtosis values must be '0' and '3' respectively, for an experimental series to be normal or symmetric. Skewness and kurtosis data in Table 2 suggest that none of the data sets are normally distributed. Variables (ROA, AUR and FS) are negative-skewed, while others (positive-skewed) tend to favor the right or left of the distribution's center, as seen by values for this parameter's skewness. For most of the distributions studied, this means that most observations are positive. All variable distributions are also leptokurtic, according to the kurtosis results (values of kurtosis > 3). We know the series is not normally distributed since none of the kurtosis and skewness outcomes for the variables meet the normalcy criteria. Because of this, we can confidently reject the null hypothesis indicating that all experimental series follow a normal distribution using the Jarque-Bera normality test.

Table 2: Summarized statistics of variables

STATISTICS	ROA	MBV	DR	ER	AUR	FS
Mean	-0.01691	3.07771	0.29525	1.238244	1.200019	0.012992
Median	0.01533	1.8048	0.21135	0.78798	1.18538	0.013306
Maximum	1.15807	24.00	2.8152	88.71597	2.133732	0.024999
Minimum	-4.08575	-2.45056	0.0045	-0.38767	-1.22109	0.004612
Std. Dev.	0.3540	3.3999	0.3475	6.450822	0.292086	0.00344
Skewness	-8.0618	2.4375	3.44624	13.44432	-2.60338	-0.13259
Kurtosis	95.3293	11.8696	20.285	182.7887	27.43498	4.001363

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Jarque-Bera	68447.29	798.146	2698.175	257491.1	4863.392	8.360833
Probability	0.000	0.000	0.000	0.000	0.000	0.015292
Sum	-3.1622	575.532	55.2118	231.552	224.404	2.4294
Sum Sq. Dev.	23.31241	2150.08	22.463	7740.039	15.868	0.0022
Observations	187	187	187	187	187	187

4.1. Homogeneity & Cross-sectional independence tests

The results of the homogeneity test are summarized in Table 3. We cannot accept the null hypothesis, arguing that the slope coefficients are homogeneous at 1% level of significance utilizing the estimated values of delta tilde (Δ) and modified delta tilde (Δ). Because of the variety in the different corporate groups, it is necessary to perform panel approaches of heterogeneity, in which specifications vary across independent points of the panel.

Table 3: Homogeneity test of Pesaran-Yamagata

	TEST	STAT	Prob.
All companies	Δ	3.472083	0.000
	Δ adj.	1.145787	0.000

While the homogeneity test may be found in Table 3, the CD test can be found in Table 4. There is a 1% possibility that all variables in each panel's CD test values are significant at a 1% level, which means that the null hypothesis of cross-sectional independence can be rejected by using the values of CD test and their related values of probability. Cross-sectional dependency between variables across entire companies in unlike panels is consequently implied. For the sake of domestic policy, it is critical to take the heterogeneity and cross-sectional association into consideration when making decisions at the federal level. There is convincing evidence of cross-sectional dependence and variability among groups for a few variables, necessitating the use of a second-generation panel unit root test. Given the cross-sectional correlations and heterogeneity among firm groups in a panel data, estimation results' efficiency may be significantly reduced, as many researchers usually do. As a result, the CIPS and CADF tests from the Pesaran's second generation panel unit are used in this research. For dependable and accurate results, panel data

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approaches have considered the challenges of heterogeneity and CD dependence due to the observation of both.

Table 4: Cross-section independence test

GROUP	TEST	ROA	MBV	DR	ER	AUR	FS
All companies	CD-test value	4.44	4.946	3.9	2.04	4.78	8.219
	P-value	0.000	0.000	0.001	0.041	0.000	0.000

4.2. Panel unit root tests

As shown in Table 5, panel unit root tests that are robust to heterogeneity as well as cross-sectional dependence may be found in the Pesaran CADF and CIPS. The estimation with a constant plus trend is considered in this study to take advantage of any hidden features that may exist. When the variables are in their first difference, the null hypothesis of having unit roots of the variables at levels for all panels of firm groups cannot be ruled out. This shows that the variables have a unit root at the levels, but not at the first difference. A panel cointegration test was used to assess the long-term connection between the variables after confirming that the variables had unit roots at their respective levels but were found to be stationary at I (0), i.e. their first difference.

Table 5: Panel unit root tests

VARIABLES		CIPS	CADF
ROA	level	-2.16784	-2.72274
	Δ	-2.63091**	-2.63091*
MBV	level	-1.38788	-1.387
	Δ	-2.63091**	-2.63091
DR	level	-2.18436	-2.184364
	Δ	-4.58413***	-4.37206**
ER	level	-2.35784	-2.357837
	Δ	-3.20246***	-3.20246*
AUR	level	-0.853	-0.853
	Δ	-6.28527***	-6.28527***
FS	level	-1.01542	-1.01542
	Δ	-3.1409	-3.1409

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Δ characterizes first differences, ***, ** and * represent 0.01, 0.05 and 0.1 significance level respectively.

4.3. Panel cointegration test

Following the panel cointegration test's conclusions, the findings are summarized in Table 6 and Table 7. According to the results using ROA and MBV as a response variable, each of the variables' probability values Due to statistical evidence rejecting the null hypothesis of no cointegration, Series for various panels of business groupings has been found to be cointegrated. Using p-values, the same null hypothesis is rejected for all variables at a 5 percent significance level. The p-value results provide more convincing evidence of cointegration between the studied variables. We can conclude that the factors under investigation have a long-term relationship.

Table 6: Bootstrap panel cointegration test (ROA)

Pedroni Residual Test of Cointegration				
Series: ROA DR ER AUR FS				
Sample: 2004 2020				
187 observations				
11 Cross-sections				
Null Hypothesis: No cointegration				
	STAT.	P-VALUE	STAT.	P-VALUE
Panel v-Stat.	-3.493012	0.9998	-3.52732	0.9998
Panel rho-Stat.	2.014018	0.978	2.584868	0.9951
Panel PP-Stat.	-5.273166	0.000	-5.38899	0.000
Panel ADF-Stat.	-3.533626	0.0002	-2.22857	0.0129
	Statistic	Prob.		
Group rho-Stat.	3.727043	0.9999		
Group PP-Stat.	-7.874623	0.000		
Group ADF-Stat.	-1.905727	0.0283		

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Table 7: Bootstrap panel cointegration test (MBV)

Pedroni Residual Cointegration Test				
Series: MBV DR ER AUR FS				
Sample: 2004 2020				
187 observations				
11 Cross-sections				
Null Hypothesis: No cointegration				
	STATISTIC	PROB.	STATISTIC	PROB.
Panel v-Stat.	-2.271487	0.9884	-3.24457	0.9994
Panel rho-Stat.	1.39119	0.9179	1.182892	0.8816
Panel PP-Stat.	-7.321477	0.000	-8.95113	0.000
Panel ADF-Stat.	-2.610634	0.0045	-2.17955	0.0146
	Statistic	Prob.		
Group rho-Stat.	2.975803	0.9985		
Group PP-Stat.	-7.60568	0.000		
Group ADF-Stat.	-2.474138	0.0067		

4.4. Pooled Mean Group estimation

Using the PMG estimator in conjunction with the ARDL model, it is possible to determine the long- and short-term estimates and evaluate the causal links when it has been proven that the variables are cointegrated across all different companies. Table 8 and table 9 sums up the findings of the PMG estimation approach in a concisely manner for the two models.

Table 8: Pooled mean group estimation (ROA)

		ROA	**DR**	**ER**	**AUR**	**DR_AUR**	**ER_AUR**	**FS**
ROA	chi sq test	…	9.907	21.860	20.848	6.627	21.310	14.815
	p value	…	0.272	0.005	0.008	0.577	0.006	0.063
DR	chi sq test	15.887	…	7.724	12.561	9.652	7.495	46.938
	p value	0.044	…	0.461	0.128	0.290	0.484	0.000
ER	chi sq test	11.871	26.417	…	33.932	35.851	71.883	29.508
	p value	0.157	0.001	…	0.000	0.000	0.000	0.000

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AUR	chi sq test	12.696	13.653	5.486	…	9.749	5.400	12.527
	p value	0.123	0.091	0.705	…	0.283	0.714	0.129
DR_AUR	chi sq test	6.022	13.182	5.493	5.006	…	5.206	20.503
	p value	0.645	0.106	0.704	0.757	…	0.735	0.009
ER_AUR	chi sq test	13.033	17.917	26.939	20.786	17.976	…	13.005
	p value	0.111	0.022	0.001	0.008	0.021	…	0.112
FS	chi sq test	11.590	4.335	18.442	11.225	5.131	19.245	…
	p value	0.171	0.826	0.018	0.189	0.744	0.014	…

The above table represents 2-way, 1-way and no causal relation.

Table 9: Pooled mean group estimation (MBV)

		MBV	**DR**	**ER**	**AUR**	**DR_AUR**	**ER_AUR**	**FS**
MBV	chi sq test	…	17.909	46.937	41.930	22.674	45.002	13.826
	p value	…	0.022	0.000	0.000	0.004	0.000	0.086
DR	chi sq test	19.196	…	10.463	16.728	12.916	10.795	46.459
	p value	0.014	…	0.234	0.033	0.115	0.214	0.000
ER	chi sq test	55.516	18.764	…	26.739	23.146	63.460	33.753
	p value	0.000	0.016	…	0.001	0.003	0.000	0.000
AUR	chi sq test	2.398	10.599	5.461	…	8.297	5.323	8.308
	p value	0.966	0.226	0.707	…	0.405	0.723	0.404
DR_AUR	chi sq test	2.010	13.195	5.283	4.855	…	4.929	20.274
	p value	0.981	0.105	0.727	0.773	…	0.765	0.009
ER_AUR	chi sq test	19.703	13.951	16.727	9.601	13.979	…	11.273
	p value	0.012	0.083	0.033	0.294	0.082	…	0.187
FS	chi sq test	20.050	9.031	23.116	14.527	8.880	26.559	…
	p value	0.010	0.340	0.003	0.069	0.353	0.001	…

The above table represents 2-way, 1-way and no causal relation.

Panel vector error correction technique (PVECM) Granger causality tests were used to assess the robustness of the PMG estimator. Despite the discrepancies in coefficients, the estimated outcomes in relation to the causalities between financial performance, with the output of the PMG estimator utilizing the ARDL model, are similar. As a result, the PMG estimator's findings about the relationships between the variables are deemed reliable and accurate.

4.5. PMG estimation for the full sample

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Over the panel of all companies, Table 10 shows the PMG estimation findings based on the elasticity of ROA and MBV with respect to the investigated variables in the production function for the long and short term. ROA and MBV were shown to be strongly influenced by all variables. Because their long-term elasticity coefficients perform better than their short-term counterparts, these variables are particularly important for understanding dynamic behavior. Variables are highly significant according to PMG estimation results; this suggests that each variable responds quickly to changes over the long term.

Table 10: PMG estimation results for panel of companies

Method: ARDL				
Dependent Variable: D(ROA), D(MBV) (AUR as a moderate)				
Maximum dependent lags: 1 (Automatic selection)				
Model selection method: AIC				
Dynamic repressors (1 lag, automatic): DR ER AUR DR_AUR ER_AUR FS				
	long run equation			***short run equation***
	STATISTICS	**ROA**	**MBV**	**ROA & MBV**
DR	Coefficient	-2.872***	0.104	There is no significant effect for all variables in short term equation
	t-Statistic	-5.391	0.564	
ER	Coefficient	1.263*	0.540	
	t-Statistic	2.018	1.622	
AUR	Coefficient	-2.786***	1.404***	
	t-Statistic	-3.272	6.966	
DR_AUR	Coefficient	1.546***	-0.092	
	t-Statistic	3.833	-0.622	
ER_AUR	Coefficient	-0.689	-0.814***	
	t-Statistic	-1.479	-2.808	
FS	Coefficient	122.081***	-25.492***	
	t-Statistic	8.016	-5.094	

***, ** and * present statistical significance at 0.01, 0.05 & 0.1 level respectively

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Table 11: Model selection and evaluation

Model Selection Criteria Table					
Dependent Variable: ROA and MBV AUR: Moderate variable					
Sample: 2004 2020					
Included observations: 176					
Model	LogL	AIC*	BIC	HQ	Specification
ROA	-131.83	2.566255	4.259582	3.25306	ARDL (1, 1, 1, 1, 1, 1, 1)
MBV	75.76941	0.082166	1.577337	0.6886	ARDL (1, 1, 1, 1, 1, 1, 1)

Capital structure, as assessed by ER and DR, DR has a significant and negative impact on ROA whereas ER has a positive impact on ROA. According to the PMG Model, a 1% rise in total ER and DR would have a marginal effect on ROA about 2.87 negatively and 1.26 percent in ascending order. According to PMG Model results, a 1% increase in AUR decreases ROA by 2.78 percentage and increases MBV by 1.4 percent.

In this study, the PMG model adjusted for the interaction between DR and ER with AUR to detain the moderating influence of AUR on the link between financial performance and capital structure measured by ROA and MBV. There are strong interactions in the model, which indicates that AUR adoption has a considerable impact on capital structure. Capital structure has a beneficial impact on ROA, while AUR's role in DR adoption has a significant positive effect on the link between capital structure and ROA while AUR's role in ER adoption has a negative effect on the link between capital structure and MBV. Nevertheless, firm size as a control variable has positive impact on ROA but negatively makes effect on MBV.

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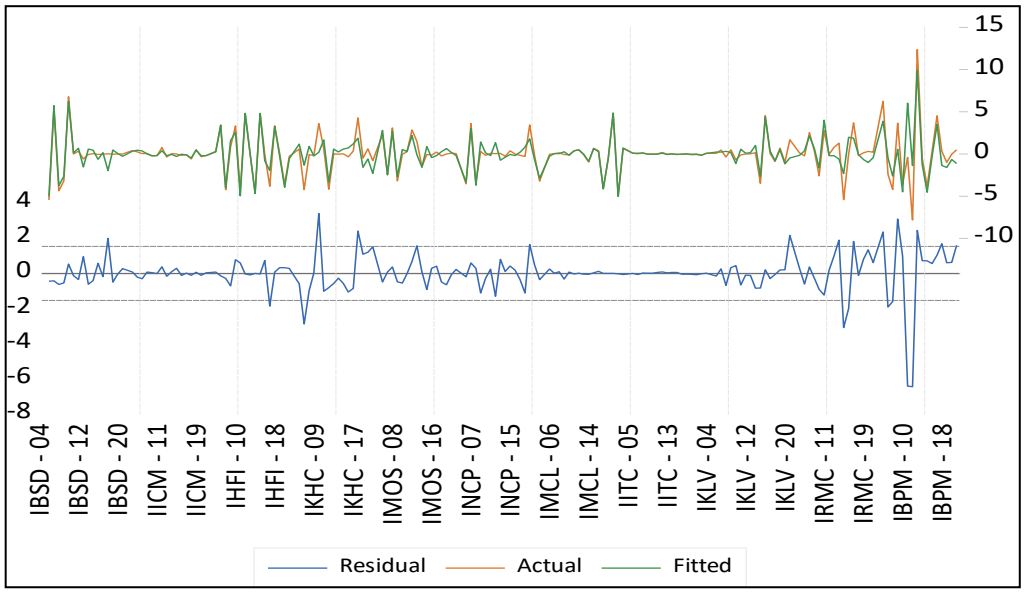

Figure 1: Panel ARDL Model (ROA) Graph (Total Period) (AUR as Moderate variable)

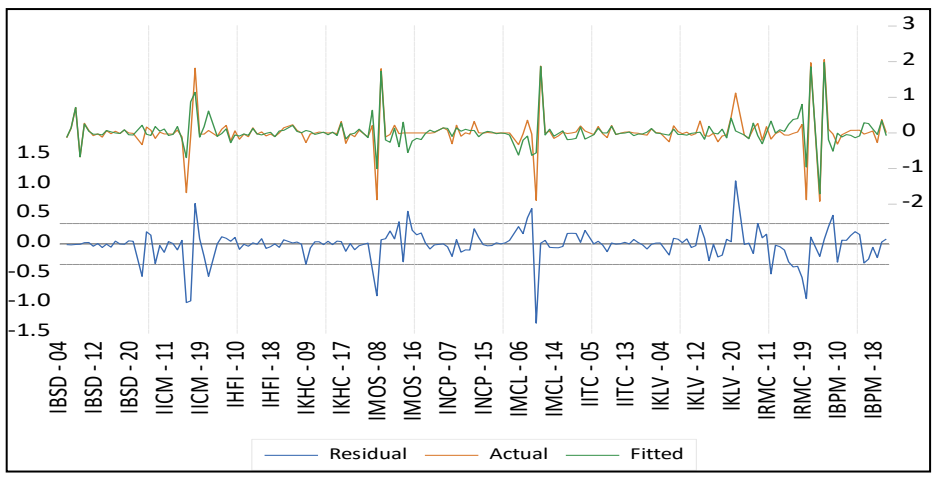

Figure 1: Panel ARDL Model (MBV) Graph (Total Period) (AUR as moderate variable)

As shown in Figure 1, panel ARDL models depend on ROA fitted and residual values for the entire period are depicted graphically. As shown in Figure 2, panel ARDL models depend on MBV, fitted and residual values for the entire period are depicted graphically.

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5. Discussion, Conclusion and Implications

This study's purpose is to provide empirical evidence for the relations between financial performance and the structure of capital for the industrial sector in Iraq Stok Exchange. The results of the study find that capital structure, as assessed by ER and DR, has a large and negative impact on ROA but positively on MBV. However, the PMG model adjusted for the interaction between DR and ER with AUR to apprehend the moderating influence of AUR on the link between financial performance, measured by ROA and MBV, and the structure of capital. There are strong interactions in the model, which indicates that AUR adoption has a considerable impact on the capital structure. The capital structure has a beneficial impact on ROA, while AUR's role in DR and ER adoption has a positive impact on the link between the capital structure and ROA whereas has a negative impact on the link between the capital structure and MBV. On the other hand, firm size as a control variable has a positive impact on ROA but a negative effect on MBV.

The results confirm the hypotheses of the study. We anticipate the presence of a meaningful relation between capital structure and financial performance. Agency cost effects firm financial performance. We propose the existence of a significant impact of agency cost on the link between the capital structure and firm performance. These results support agency theory, more debt discourages managers from making decisions unconsciously. Managers are obliged to follow the performance more carefully to not default on their obligations. This way, the expected agency cost is reduced, and performance of the firm is served. The results are consistent with the work of Abdullah and Tursoy (2021a) in the cases of Frankfort stock exchange in Germany; Al-Qudah, (2017) in the cases of Abu Dhabi; Sultan and Adam (2015) in the cases of Iraq. The moderating effect of agency cost could support the literature as related results found by Tarazi (2019) in Palestine; Berger et al. (2006) in the cases of US banking industry.

The implications of this study are several. Industrial sector needs more support from loan providers in the countries. Both financial authority and banks are responsible for this issue. The results also provide significant insights for managers of the sector for the purpose of competitive advantage, particularly for the current rapid development

in the sector. This results potentially fill the gap in the literature regarding the moderating effect of agency cost, from a developing country like Iraq. Finally, future studies may control for breaks in the series. The limitations of the study could be the selected extended period series data over 2004-2020 from an emerging country with numerous political, economic, and financial breaks. Such break could intervene the relationship between capital structure and financial performance by applying Agency theory over a period of 17 years.

References:

Abdulah, H., & Tursoy, T. (2022). The effect of corporate governance on financial performance: evidence from a shareholder-oriented system. *Iranian Journal of Management Studies.* https://doi.org/10.22059/IJMS.2022.321510.674798

Abdullah (2020). Capital structure, corporate governance and firm performance under IFRS implementation in Germany. *PhD Thesis,* Near East University.

Abdullah, H. (2021). Profitability and Leverage as Determinants of Dividend Policy: Evidence of Turkish Financial Firms. *Eurasian Journal of Management and Social Science, 2*(3), 15-30.

Abdullah, H. A., Awrahman, H. G., & Omer, H. A. (2021). Effect of Working Capital Management on The Financial Performance of Banks: An Empirical Analysis for Banks Listed on The Iraq Stock Exchange. *Qalaai Zanist Journal, 6*(1), 429-456.

Abdullah, H., & Tursoy, T. (2021a). Capital structure and firm performance: evidence of Germany under IFRS adoption. *Review of Managerial Science, 15*(2), 379-398. https://doi.org/10.1007/s11846-019-00344-5

Abdullah, H., & Tursoy, T. (2021b). Capital structure and firm performance: a panel causality test. *Munich Personal RePEc Archive (MPRA)*. https://mpra.ub.uni-muenchen.de/105871/

Ali, M. (2018). Impact of corporate governance on firm's financial performance (A comparative study of developed and non-developed markets). *Economic Research, 2*(1), 15-30. Doi: 10.29226/TR1001.2018.7

Al-Qudah, A. (2017). The Relationship between Capital Structure and Financial Performance in the Companies Listed in Abu Dhabi Securities Exchange: Evidences from United Arab Emirates. *Rev. Eur. Stud., 9*(1). doi:10.5539/res. v9n2p1

Al-Taani, K. (2013). The relationship between capital structure and firm performance: evidence from Jordan. *Journal of Finance and Accounting, 1*(3), 41-45.

Ang, J. S., Cole, R. & Lin, J. W. (2000). Agency Costs and Ownership Structure. *The Journal of Finance, 55*(1), 81-106. https://doi.org/10.1111/0022-1082.00201

Ankamah-Yeboah, I., Nielsen, R., & Llorente, I. (2021). Capital structure and firm performance: Agency theory application to Mediterranean aquaculture firms. *Aquaculture Economics & Management,* 1-21. https://doi.org/10.1080/13657305.2021.1976884

Ardalan, K. (2017). Capital structure theory: Reconsidered. *Research in International Business and Finance, 39*, 696-710. https://doi.org/10.1016/j.ribaf.2015.11.010

Berger, A. N., & Di Patti, E. B. (2006). Capital structure and firm performance: A new approach to testing agency theory and an application to the banking industry. *Journal of Banking & Finance, 30*(4), 1065-1102.

Berle, A. A., & Means, G. C. (1932). The Modern Corporation and Private Property. New York: Commerce Clearing House, New York: The Mcmillan Company. *social sciences.*

Budur, T., & Demir, A. (2022). The relationship between transformational leadership and employee performance: Mediating effects of organizational citizenship behaviors. *Iranian Journal of Management Studies.*

Dawar, V. (2014). Agency theory, capital structure and firm performance: some Indian evidence. *Managerial Finance, 40*(12), 1190-1206. https://doi.org/10.1108/MF-10-2013-0275

Fama, E. F., & Jensen, M. C. (1983). Agency problems and residual claims. *The journal of law and Economics, 26*(2), 327-349.

Lihttps://doi.org/10.1051/shsconf/20219101002

Ibhagui, O. W., & Olokoyo, F. O. (2018). Leverage and firm performance: New evidence on the role of firm size. *The North American Journal of Economics and Finance, 45*, 57-82. https://doi.org/10.1016/j.najef.2018.02.002

Imelda, E., & Dewi, A. P. (2019). Capital structure, corporate governance and agency costs. *In Proceedings of the 7th International Conference on Entrepreneurship and Business Management*, 203-207. https://doi.org/10.5220/0008490602030207

Iraq Stock Exchange (2021). Companies guide. Available at: http://www.isx-iq.net/isxportal/portal/companyGuideList.html?currLanguage=en, retrieved 15 December 2021.

Jensen, M. C. (1986). Agency costs of free cash flow, corporate finance, and takeovers. *The American economic review, 76*(2), 323-329. https://www.jstor.org/stable/1818789

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. DOI: https://doi.org/10.1016/0304-405X(76)90026-X

Jouida, S. (2018). Diversification, capital structure and profitability: A panel VAR approach. *Research in International Business and Finance, 45*, 243-256. https://doi.org/10.1016/j.ribaf.2017.07.155

Kalash, İ. (2019). Firm Leverage, Agency Costs and Firm Performance: An Empirical Research on Service Firms in Turkey. *İnsan ve Toplum Bilimleri Araştırmaları Dergisi, 8*(1), 624-636. https://doi.org/10.15869/itobiad.513268

Karem, L. E., Hamad, H. A., Bayz, H. A., Fatah, N. A., Ali, D. J., Ahmed, Z. N., ... & Qader, K. S. (2021). Corporate Governance and Its Effect on Firm Performance in an Emerging Economy. *International Journal of Environmental, Sustainability, and Social Science, 2*(3), 281-291.

Khan, R., Khidmat, W. B., Hares, O. A., 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.

Kontuš, E. (2021). Agency costs, capital structure and corporate performance: A survey of Croatian, Slovenian and Czech listed companies. *Ekonomski Vjesnik, 34*(1), 73-85. https://doi.org/10.51680/ev.34.1.6

Le, T. P. V., & Phan, T. B. N. (2017). Capital structure and firm performance: Empirical evidence from a small transition country. *Research in international business and finance, 42*, 710-726. https://doi.org/10.1016/j.ribaf.2017.07.012

Li, K., Niskanen, J., & Niskanen, M. (2018). Capital structure and firm performance in European SMEs: Does credit risk make a difference? Managerial Finance. https://doi.org/10.1108/MF-01-2017-0018

Liao, Y., Huang, P., & Ni, Y. (2022). Convertible bond issuance volume, capital structure, and firm value. *The North American Journal of Economics and Finance, 60*, 101673.

Mansyur, A., Mus, A. R., Rahman, Z., & Suriyanti, S. (2020). Financial Performance as Mediator on the Impact of Capital Structure, Wealth Structure, Financial Structure on Stock Price: The Case of the Indonesian Banking Sector. *European Journal of Business and Management Research, 5*(5). https://doi.org/10.24018/ejbmr.2020.5.5.526

Mcknight, P. J., & Weir, C. (2009). Agency costs, corporate governance mechanisms and ownership structure in large UK publicly quoted companies: A panel data analysis. *The quarterly review of economics and finance, 49*(2), 139-158. https://doi.org/10.1016/j.qref.2007.09.008

Miller, M. H. (1977). Debt and taxes. *Journal of Finance 32*(2):261–275. https://doi.org/10.2307/2326758

Modigliani F, Miller MH (1958) The cost of capital, corporation finance and the theory of investment. *Am` Econ Rev 48*(3), 261–297.

Modigliani F, Miller MH (1963) Corporate income taxes and the cost of capital: a correction. *Am Econ Rev 53*(3):433–443. https://www.jstor.org/stable/1809167

Muneer, S., Bajuri, N. H., & Saif-ur-Rehman, S. U. R. (2013). Moderating effect of agency cost on the relationship between capital structure, dividend policy and organization performance: a brief literature review. *Actual Problems of Economics,* (11), 434-442.

Nguyen, L., & Tran, M. (2019). Disclosure levels of environmental accounting information and financial performance: The case of Vietnam. Management Science Letters, 9(4), 557-570.

Nidumolu, R. (2018). Exploring the Effects of Agency Theory on Ownership Structures and Firm Performance. https://ssrn.com/abstract=3809607

Pandey, K. D., & Sahu, T. N. (2019). Debt financing, agency cost and firm performance: Evidence from India. *Vision, 23*(3), 267-274.

Para, I., Bala, H., Khatoon, G., Karaye, A., & Abdullah, H. (2022). IFRS Adoption and Value Relevance of Accounting Information of Listed Industrial Goods Firms in Nigeria. *Humanities Journal of University of Zakho, 10*(2), 564-571. https://doi.org/10.26436/hjuoz.2022.10.2.776

Pesaran, M. H., Shin, Y., & Smith, R. P. (1999). Pooled mean group estimation of dynamic heterogeneous panels. *Journal of the American Statistical Association, 94*(446), 621-634.

Rasul, R. (2018). The Relationship Between Dividend Policy and Firm Value in the IFRS Adoption Era: A Case of Borsa Istanbul, *Master thesis,* Near East University.

Saed, Y. A. H., Ahmed, R. A., & Abdullah, H. A. (2021). Consideration of environmental cost disclosure in the oil sector of Kurdistan Region. *AL-Anbar University journal of Economic and Administration Sciences, 13*(2), 151-170.

Salah Al-Din Muhammad Amin Al-Imam, & Maysa Amer Hassan (2019) The effect of capital structure on financial performance. *Journal of AL-Turath University College*, (27).

Shrestha, A. (2019). Analysis of Capital Structure in Power Companies in Asian Economies. *PhD thesis*, Asian Institute of Technology.

Singh, M., & Davidson III, W. N. (2003). Agency costs, ownership structure and corporate governance mechanisms. *Journal of banking & finance, 27*(5), 793-816. https://doi.org/10.1016/S0378-4266(01)00260-6

Sultan, A., & Adam, M. (2015). The effect of capital structure on profitability: An empirical Analysis of listed firms in Iraq. *European Journal of Accounting, Auditing and Finance Research, 3*(2), 61-78.

Tarazi, D. D. (2019). Agency Theory and the Company's Financial Performance: An Empirical Study with Evidence from Companies Listed in Palestine Exchange (PEX) (2012-2016), *PhD Thesis*.

Tripathi, V. (2019). Agency theory, ownership structure and capital structure: an empirical investigation in the Indian automobile industry. *Asia-Pacific Management Accounting Journal, 14*(2), 1-22. http://dx.doi.org/10.24191/apmaj.v14i2.766

Tuan, T. M., Nha, P. V. T., & Phuong, T. T. (2019). Impact of agency costs on firm performance: evidence from Vietnam. *Organizations and Markets in Emerging Economies, 10*(2), 294-309. https://doi.org/10.15388/omee.2019.10.15

Wellalage, N. H., & Locke, S. (2013). Women on board, firm financial performance and agency costs. *Asian Journal of Business Ethics, 2*(2), 113-127.

Zaman, K., Al-Ghazali, B. M., Khan, A., Rosman, A. S. B., Sriyanto, S., Hishan, S. S., & Bakar, Z. A. (2020). Pooled mean group estimation for growth, inequality, and poverty triangle: evidence from 124 countries. *Journal of Poverty, 24*(3), 222-240.

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کاریگەری نێوەندیی تێچووی بیردۆزی بریکاری لەسەر پەیوەندی نێوان پێکهاتەی سەرمایە و ئەدای دارایی: توێژینەوەیەکی شیکاری

پوختە

ئامانج لەم توێژینەوەیە بریتیە لە لێکۆڵینەوەی پەیوەندی نێوان پێکهاتەی سەرمایە و ئەدای دارایی کۆمپانیای پیشەسازی. هەروەها لە کاریگەری نێوەندگیری تێچوی تیۆری بریکاری لەسەر پەیوەندیی نێوان پێکهاتەی سەرمایە و ئەدای دارایی دەکۆڵیتەوە. داتای ژمێریاری بڵاوکراوەی بۆ 11 کۆمپانیای پیشەسازی کۆکراوەتەوە کە لە بازاڕی کاخەزە داراییەکانی عێراق تۆمارن بۆ ماوەی 2004 تا 2020. ئەدای دارایی دەپێورێت بە پشتبەستن بە داتای ژمێریاری ROA و ئەدای بازاڕ MBV. بەپێی ئەنجامی شیکاری داتاکان، دۆزینەوەکانی توێژینەوەکە پشتڕاستی دەکەنەوە کە پێکهاتەی سەرمایە کاریگەرییەکی نەرێنی گرنگ لەسەر ROA هەیە بەڵام کاریگەری ئەرێنی لەسەر MBV هەیە. سەبارەت بە کاریگەری نێوەندیی تێچووی بریکاری، ئەنجامی بەهێز لە مۆدێلەکاندا هەیە، کە ئاماژە بەوە دەکات ڕێژەی داهات لەسەر سەروەت و سامانی وەگەڕخراو کاریگەرییەکی بەرچاوی لەسەر پێکهاتەی سەرمایە هەیە. سەرەڕای ئەوە، قەبارەی کۆمپانیا وەک گۆڕاوێکی کۆنترۆڵ کاریگەری ئەرێنی لەسەر ROA هەیە بەڵام کاریگەری نەرێنی لەسەر MBV هەیە. ئەم ئەنجامانە پشتگیری لە ئارگیومێنتی تیۆری بریکاری دەکەن لە کۆنتێکستی وڵاتێکی تازەپێگەیشتوو. ئەنجامەکان تێڕوانینێکی بەرچاو بۆ بەڕێوەبەران دەبەخشن بە تایبەتی لە حاڵەتی گەشەسەندنی خێرای ئێستا لە کەرتەکەدا.

التأثير المعتدل لتكلفة الوكالة على العلاقة بين هيكل رأس المال والأداء المالي: دراسة تحليلية في دول غير المتقدمة

الملخص:

تبحث هذه الدراسة في العلاقة بين هيكل رأس المال والأداء المالي للشركات الصناعية المدرجة في سوق احدى الدول العالم الثالث. ويبحث الدراسة في التأثير المعتدل لتكلفة النظرية الوكالة على العلاقة المقترحة بين هيكل رأس المال والاداء المالي للشركات. يتم جمع البيانات المالية المنشورة لاحدى عشر شركة صناعية مدرجة في سوق العراق للاوراق المالية خلال الفترة من 2004 إلى 2020. ويتم قياس الأداء المالي بناءً على المؤشر الربحية عائد على الموجودات وأداء الشركة في السوق المالي. وفقًا لنتائج تحليل البيانات، تؤكد الدراسة أن هيكل

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رأس المال له تأثير سلبي ذو دالة احصائية على العائد على الموجودات ولكنه يؤثر بشكل إيجابي على قيمة السوقية الى قيمة الدفترية. فيما يتعلق بالتأثير المعتدل لتكلفة النظرية الوكالة، هناك تفاعلات قوية في النموذج، والتي تشير إلى أن نسبة استخدام الموجودات لها تأثير كبير على علاقة بين هيكل رأس المال و الاداء المالي. اضافة الى ذلك، فإن حجم الشركة كمتغير تحكم له تأثير إيجابي على العائد على الأصول ولكن له تأثير سلبي على قيمة السوقية الى قيمة الدفترية. تدعم هذه النتائج حجة نظرية الوكالة وتوفر رؤى مهمة لمدراء القطاع الصناعي في الدول النامية خاصة في حالة التطور السريع الحالي.