


THE IMPACT OF OWNERSHIP STRUCTURE ON BANK PROFITABILITY AND THE DIVERSITY OF PRODUCTS: NEW EVIDENCE FROM IRAQI BANKS

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ARTICLE INFO	ABSTRACT
<p>Article history:</p> <p>Received 20 February 2023</p> <p>Accepted 18 May 2023</p>	<p>Purpose: The objective of this study was to identify the impact of the ownership structure on the profitability and the diversity of banking products in commercial banks listed on the Iraq Stock Exchange.</p>
<p>Keywords:</p> <p>Ownership Structure; Bank Profitability; Diversity of Products.</p> <div data-bbox="169 913 480 1167" data-label="Image">  </div>	<p>Theoretical framework: Investigating the factors affecting bank performance is an important debate these days. The literature refers to the importance of the ownership structure in deriving various types of performance in companies. However, there is still much to investigate and learn about the sensitivity of the performance of banks to various types of ownership structures.</p> <p>Design/methodology/approach: Using a linear regression model, we analyzed the relationships between ownership structures and the company's profitability, as well as product diversity for the period span from 2011 to 2020. We focused our investigation on commercial banks listed on the Iraq Stock Exchange.</p> <p>Findings: The empirical findings show that the ownership structure has a mixed effect on Iraqi bank profitability measured by return on assets, return on equity, and Q-Tobin ratio. Nevertheless, the result confirm the significant influence of the ownership structure on the diversity of banking products.</p> <p>Research, Practical & Social implications: The results indicate that Iraqi banks' regulators and supervisors should give more attention to the sensitivity of banks' performance and diversity of the products to the effect of ownership structure.</p> <p>Originality/value: This study is among the first to investigate the relationships between ownership structure measured by the concentration of ownership, institutional ownership, and administrative ownership on the Iraqi commercial banks' performance, whether financial or non-financial such as the bank's profitability and diversification of its products.</p> <p>Doi: https://doi.org/10.26668/businessreview/2023.v8i5.2060</p>

O IMPACTO DA ESTRUTURA DE PROPRIEDADE NA LUCRATIVIDADE DO BANCO E NA DIVERSIDADE DE PRODUTOS: NOVAS EVIDÊNCIAS DOS BANCOS IRAQUIANOS

RESUMO

Objetivo: O objetivo deste estudo foi identificar o impacto da estrutura de propriedade na lucratividade e na diversidade de produtos bancários em bancos comerciais listados na Bolsa de Valores do Iraque.

Referencial teórico: Investigar os fatores que afetam o desempenho do banco é um debate importante nos dias de hoje. A literatura refere-se à importância da estrutura de propriedade na derivação de diversos tipos de desempenho nas empresas. No entanto, ainda há muito a investigar e aprender sobre a sensibilidade do desempenho dos bancos a vários tipos de estruturas de propriedade.

Design/metodologia/abordagem: Usando um modelo de regressão linear, analisamos as relações entre as estruturas de propriedade e a lucratividade da empresa, bem como a diversidade de produtos para o período de

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2011 a 2020. Focamos nossa investigação em bancos comerciais listados na Bolsa de Valores do Iraque Intercâmbio.

Resultados: Os resultados empíricos mostram que a estrutura de propriedade tem um efeito misto sobre a lucratividade dos bancos iraquianos, medida pelo retorno sobre os ativos, retorno sobre o patrimônio líquido e índice Q-Tobin. No entanto, o resultado confirma a influência significativa da estrutura de propriedade na diversidade de produtos bancários.

Pesquisa, implicações práticas e sociais: os resultados indicam que os reguladores e supervisores dos bancos iraquianos devem dar mais atenção à sensibilidade do desempenho dos bancos e à diversidade dos produtos para o efeito da estrutura de propriedade.

Originalidade/valor: Este estudo está entre os primeiros a investigar as relações entre a estrutura de propriedade medida pela concentração de propriedade, propriedade institucional e propriedade administrativa no desempenho dos bancos comerciais iraquianos, sejam eles financeiros ou não financeiros, como a lucratividade do banco e diversificação de seus produtos.

Palavras-chave: Estrutura de Propriedade, Rentabilidade do Banco, Diversidade de Produtos.

EL IMPACTO DE LA ESTRUCTURA DE PROPIEDAD EN LA RENTABILIDAD BANCARIA Y LA DIVERSIDAD DE PRODUCTOS: NUEVA EVIDENCIA DE LOS BANCOS IRAQUÍES

RESUMEN

Propósito: El objetivo de este estudio fue identificar el impacto de la estructura de propiedad en la rentabilidad y la diversidad de productos bancarios en los bancos comerciales que cotizan en la Bolsa de Valores de Irak.

Marco teórico: Investigar los factores que afectan el desempeño bancario es un debate importante en estos días. La literatura se refiere a la importancia de la estructura de propiedad en la derivación de diversos tipos de desempeño en las empresas. Sin embargo, aún queda mucho por investigar y aprender sobre la sensibilidad del desempeño de los bancos a varios tipos de estructuras de propiedad.

Diseño/metodología/enfoque: mediante un modelo de regresión lineal, analizamos las relaciones entre las estructuras de propiedad y la rentabilidad de la empresa, así como la diversidad de productos para el período comprendido entre 2011 y 2020. Centramos nuestra investigación en los bancos comerciales que cotizan en la Bolsa de Valores de Irak. Intercambio.

Hallazgos: Los hallazgos empíricos muestran que la estructura de propiedad tiene un efecto mixto en la rentabilidad de los bancos iraquíes medida por el rendimiento de los activos, el rendimiento del capital y la relación Q-Tobin. No obstante, los resultados confirman la importante influencia de la estructura de propiedad sobre la diversidad de productos bancarios.

Implicaciones de investigación, prácticas y sociales: los resultados indican que los reguladores y supervisores de los bancos iraquíes deberían prestar más atención a la sensibilidad del desempeño de los bancos y la diversidad de los productos al efecto de la estructura de propiedad.

Originalidad/valor: este estudio es uno de los primeros en investigar las relaciones entre la estructura de propiedad medida por la concentración de la propiedad, la propiedad institucional y la propiedad administrativa en el desempeño de los bancos comerciales iraquíes, ya sea financiero o no financiero, como la rentabilidad del banco y diversificación de sus productos.

Palabras clave: Estructura de Propiedad, Rentabilidad Bancaria, Diversidad de Productos.

INTRODUCTION

The issue of ownership structure has been widely discussed since 1932, because of its important role in achieving the company's goals, such as maximizing the profitability of the company. It is the main goal for investors, as well as the amazing acceleration in the size of companies and the multiplicity of their activities, products, and services they provide. This issue led to the need to focus on delegating owners and responsibility for decision-making to a

capable management team to achieve the path set for it, achieve profits and maximize profitability by diversifying its financial products.

Additionally, it is also necessary for both managers and shareholders to have one goal, which is maximize the profitability of the company by diversifying its products and services provided to customers. In fact, studying the factors affecting bank profitability and product diversity is an important debate these days. Some literature refers to the importance of the composition of the ownership structure and the multiplicity of its field and its effects on various types of performance in companies, and even the trends and desires of investors. The ownership structure model has become one of the recognized mechanisms and effective tools in management decisions and the company's performance (Bian and Deng, 2017; Yücel and Vural, 2023), its impact is reflected on profitability and diversity of its products (Pennathur et al., 2012; Stančić and al., 2014; Saghi-Zedek, 2016).

The ownership structure is one of the difficulties of shares in the company and the size of their properties. The ownership structure is the main variable that affects the results of the company and can distinguish between two types of ownership structures in companies. The concentration of the ownership structure refers to the concentration of ownership of the company in the hands of a limited number of shareholders on the one hand. On the other hand, the dispersed ownership structure, which indicates the presence of a large number of shareholders in the company so that each shareholder owns a small number of shares so that his ownership does not exceed 5% of the company's shares (Choi, 2018).

Because commercial banks in Iraq are not far from the surrounding environment, it was important to search for the impact of the components of the ownership structure measured by concentration of ownership, administrative ownership and institutional ownership on the profitability as well as the diversity of financial and service products of banks.

Hence, this study came to test the impact of the ownership structure on the profitability and the diversity of banking products in commercial banks listed in the Iraq Stock Exchange. Actually, we investigate the impact of the ownership structure and the characteristics of the board of directors on the profitability of banks and diversification of their banking products, focusing in a sample of Iraqi banks operating in the private sector listed on the Iraq Stock Exchange.

The aims of the study is to try to identify the impact of the ownership structure on the banks profitability and diversify of products. Where, the ownership structure represented by the concentration of ownership, institutional ownership and administrative ownership. Whereas,

the profitability of banks measured by return on assets, return on equity, and Q-Tobin ratio, respectively. However, the diversity of products represented by the income of investment in securities.

Our study contribute to the literature of the relationship between ownership structure and financial or non-financial banks performance. The study showed several mechanisms for measuring the ownership structure, which were represented in the concentration of ownership, institutional ownership and administrative ownership, at the modern level, and none of the previous studies adopted these measures combined. Moreover, the present research highlights the ownership structure and its impact on the profitability of banks through the use of three profitability indicators, which are return on assets, return on equity, and Q-Tobin ratio. Then, its impact on the diversity of banks products via the income of investment in securities.

The remainder of this paper proceeds as follows. Section 2 sets out the relevant literature. Section 3 describes the data and methodology. Section 4 provides empirical results. Finally, Section 5 concludes.

LITERATURE REVIEW

This study examines whether ownership structure influences a company's performance, such as banks (Yücel and Vural, 2023), and its impact is reflected on the profitability and diversity of its products (Saghi-Zedek, 2016). The literature largely discussed the relationship among banks' ownership structure, firm performance, and income diversification (Arun and Turner, 2004, Choi and Hasan, 2005, Chen et al., 2007; Pennathur et al., 2012; Ozili and Uadiale, 2017) and we noted that the literature provides mixed evidence.

For instance, Micco and al. (2006) investigate whether the performance of banks in developing or industrial countries is driven by political considerations. The empirical findings reveal that state-owned banks have lower profitability and higher costs than private-owned banks located in developing countries. Whereas, for banks located in industrial countries, the authors indicate that there is a weak correlation between bank ownership and performance.

Moreover, Iannotta and al. (2007) investigate the nexus between ownership structure and bank performance in European banks. The results suggest that there is no significant impact of ownership concentration on bank profitability. While, the authors indicate that the increase of ownership concentration is associated with better loan quality, as well as, lower asset risk and lower insolvency risk, which leads to improved performance of banks. Lin and Zhang (2009) examine the influence of bank ownership concentration on the performance of Chinese

banks. They find that commercial banks characterized by ownership concentration are provided less profitable, as well as, less efficient, and have worse asset quality.

study adopts a Sukawat et al., (2023) a confirmatory factor analysis to develop the structural equation model through data collection from large-size organizations in Thailand.

However, Ben Slama and Boulila (2014) check the repercussion of ownership structure on Islamic bank profitability measured by return on assets and return on equity. The empirical results deny the existence of a relationship between ownership concentration and bank performance. Whereas, Bian and Deng (2017) exhibit that higher ownership dispersion improves the Chinese bank's profitability (ROA and ROE) and reduces the ratio of non-performing loans.

On the other hand, Pennathur et al. (2012) examine the impact of ownership structure on income diversification for Indian banks and they find a significant effect.

On the other hand the results show, Lubna et al (2023) impact is found between information quality (IQ), and information sharing (ISh) on CA. However, strategic supplier partnership (SSP), and customer relationship management (CRM) had no impact on CA

Based on this background about the linkage between the ownership structure and banks' performance as well as the diversity of products, we expect that the ownership structure have an impact on the profitability and the diversity of banking products of Iraqi commercial banks.

MATERIAL AND METHODOLOGY

Data Description and Preliminary Analysis

This paper examine the effect of the ownership structure on the profitability of the bank and the diversity of banking products in commercial banks listed in the Iraq Stock Exchange.

Data description

The sample represents all commercial banks listed on the Iraq Stock Exchange, except the private banks, due to the lack of necessary data to apply the study for the period span from 2011 to 2020, which amounted to 15 banks, as given in Table 1 below:

Table 1: Banks included in the study population and sample

T	Bank Name	Year Established	Capital (Billion JD)	Reviews
1	Commercial Bank of Iraq	1992	250	The bank has 8 branches inside Iraq.
2	Ashur International Investment Bank	2005	250	7 branches
3	Investment Bank of Iraq	1993	250	The bank has 16 branches
4	Al Khaleej Commercial Bank	2000	300	The bank has 17 branches
5	North Bank for Finance and Investment	2004	300	5 branches
6	United Investment Bank	1994	300	The bank has 26 branches
7	Iraqi Middle East Investment Bank	1993	250	The bank has 18 branches
8	Mansour Investment Bank	2006	250	-----
9	Mosul Bank for Development and Investment	2001	252	-----
10	Babylon Bank	1999	250	The bank has 14 branches
11	Bank of Baghdad	1992	250	The bank has 23 branches inside Iraq in addition to other branches in Syria and Jordan
12	Sumer Bank	1999	250	The bank has 10 branches.
13	National Bank of Iraq	1995	250	The bank has 18 branches
14	Credit Bank of Iraq	1998	250	The bank has 4 branches
15	Union Bank of Iraq	2004	252	11 branches

Source: Iraq Stock Exchange, Annual Report, 2021

The study shed light on the banking sector represented by commercial banks listed on the Iraq Stock Exchange, and this sector is one of the important economic sectors, as it plays a major role in increasing investment revenues and achieving an important goal, which is the economic growth of the country.

To achieve the goals of the study. First, we calculate the profitability of all banks on three variables return on assets, return on equity, and Q-Tobin ratio. Then, we calculate the diversity of products on the income of investment in securities. However, we measure the ownership structure by ownership concentration (major shareholders), institutional ownership, and administrative ownership. Moreover, we included control variables such as bank size, financial leverage, revenue growth rate, asset growth rate and bank age.

The data of the study are collected from the reports of Iraqi commercial banks for the period span from 2011 to 2020 taken from the Iraq Stock Exchange. We obtain the necessary data in order to calculate the variables of the independent and dependent study, as well as the

review of the financial statements for the period span from 2011 to 2020 to calculate the explanatory variables controlling the study.

Preliminary analysis

The descriptive statistics of all variables during the study period are presented in Table 2.

Table 2 Descriptive statistics for all study variables.

Variable	Mean	Median	Maximum	Minimum	Std. Dev.
ROA	0.024	0.022	0.079	-0.033	0.024
ROE	0.058	0.057	0.199	-0.055	0.054
Q-Tobin	0.695	0.595	0.952	-0.009	0.246
IIS	0.604	0.654	24.175	20.915	0.799
AOW	0.359	0.431	0.755	0.050	0.278
OWCO	0.323	0.232	0.792	0.054	0.268
OWIN	0.314	0.197	0.794	0.000	0.267
SIZE	27.078	27.087	28.080	25.855	0.474
LEV	0.542	0.534	0.810	0.293	0.147
SG	0.131	0.061	2.402	-0.536	0.518
AG	0.156	0.099	0.936	-0.280	0.264
Age	16.792	17.000	27.000	6.000	6.240

Note: ROA: return on assets, ROE: return on equity, Q-Tobin: Q-Tobin ratio, IIS: income of investment in securities, OWCO: ownership concentration, OWIN: institutional ownership, AOW: administrative ownership, SIZE: bank size, LEV: leverage, SG: sales growth rate, AG: asset growth and age.

Table 2 shows that the average profitability was 0.024, 0.058 and 0.695, respectively, with standard deviations of 0.024, 0.054 and 0.246, respectively. The average diversity of banking products was 22.845, and the standard deviation of the product diversity variable was 0.799. Moreover, the averages of the ownership structure variable (administrative ownership, ownership concentration, and institutional ownership is 0.359, 0.323 and 0.314, respectively. Where, their standard deviations is 0.278, 0.268, and 0.267, respectively.

Nevertheless, we investigate the correlation coefficient between the study variables. The following Table 3 shows the linear correlation coefficients. Table 3 indicates that the values of the correlation coefficient between the independent variables are less than $0.80\pm$, which indicates that there is no linear correlation problem between the independent variables.

Table 3: Correlation matrix for study variables

Correlation	ROA	ROE	Q-TOBINS	IIS	OWCO	OWIN	AOW	SIZE	LEV	SG	AG	AGE
ROA	1.000											
Probability	-----											
ROE	0.888	1.000										
Probability	0.000	-----										
Q-TOBINS	0.652	0.844	1.000									
Probability	0.000	0.000	-----									
IIS	0.277	0.059	-0.082	1.000								
Probability	0.057	0.693	0.579	-----								
OWCO	0.149	-0.096	-0.244	-0.356	1.000							
Probability	0.311	0.516	0.095	0.013	-----							
OWIN	-0.005	0.080	0.128	0.288	-0.766	1.000						
Probability	0.974	0.589	0.386	0.047	0.000	-----						
AP	0.064	0.151	0.187	0.303	-0.787	0.291	1.000					
Probability	0.664	0.307	0.203	0.036	0.000	0.000	-----					
SIZE	-0.294	-0.008	0.060	0.574	-0.378	0.169	0.144	1.000				
Probability	0.043	0.959	0.683	0.000	0.008	0.251	0.328	-----				
LEV	-0.108	0.275	0.366	0.614	-0.582	0.313	0.356	0.755	1.000			
Probability	0.467	0.059	0.011	0.000	0.000	0.031	0.013	0.000	-----			
SG	0.316	0.319	0.227	0.000	-0.072	0.099	0.143	-0.222	0.036	1.000		
Probability	0.029	0.027	0.121	0.999	0.628	0.504	0.332	0.130	0.809	-----		
AG	0.369	0.406	0.459	0.037	-0.279	0.337	0.399	-0.275	0.090	0.505	1.000	
Probability	0.010	0.004	0.001	0.802	0.055	0.019	0.005	0.059	0.542	0.000	-----	
AGE	-0.496	-0.417	-0.383	0.017	0.096	-0.110	-0.288	0.255	0.104	-0.111	-0.377	1.000
Probability	0.000	0.003	0.007	0.907	0.518	0.457	0.047	0.081	0.482	0.453	0.008	-----

Note: ROA: return on assets, ROE: return on equity, Q-Tobin: Q-Tobin ratio, IIS: income of investment in securities, OWCO: ownership concentration, OWIN: institutional ownership, AOW: administrative ownership, SIZE: bank size, LEV: leverage, SG: sales growth rate, AG: asset growth and age.

We also examine the data stability. Table 4 shows the results of the stability test, using the Levin-Lin-Chu (LLC) test. It also shows that the time series data used are stable because all the probability values of the variables are less than 0.05, which indicates that there is no root for the unit and Time series are stable.

Table 4: Unit root test results for the variables of AldorAlasa

Variable	Statistic	Probability.
ROA	-4.466	0.000
ROE	-8.402	0.000
Q-Tobin	-15.210	0.000
IIS	-2.960	0.002
AOW	-18.364	0.000
OWCO	-4.410	0.000
OWIN	-22.880	0.000
SIZE	-10.878	0.000
LEV	-9.656	0.000
SG	-6.535	0.000
AG	-50.128	0.004

Note: ROA: return on assets, ROE: return on equity, Q-Tobin: Q-Tobin ratio, IIS: income of investment in securities, OWCO: ownership concentration, OWIN: institutional ownership, AOW: administrative ownership, SIZE: bank size, LEV: leverage, SG: sales growth rate, AG: asset growth and age.

Empirical Model and Hypothesis

To examine the effect of the ownership structure on the profitability of the bank and the diversity of banking products in commercial banks listed in the Iraq Stock Exchange, we employ a linear regression model to explain the relationship between dependent variables and the independent variable that was referred to in the study model. The general relationship of simple regression is defined as:

$$Profitability/IIS_{t,i} = \beta + \beta_1 OWCO_{t,i} + \beta_2 OWIN_{t,i} + \beta_3 AOW_{t,i} + \beta_4 SIZE_{t,i} + \beta_5 LEV_{t,i} + \beta_6 SG_{t,i} + \beta_7 AG_{t,i} + \beta_8 Age_{t,i} + \varepsilon_{t,i}$$

Where, the dependent variables is bank profitability represented by return on assets (ROA), return on equity (ROE), and Q-Tobin ratio and the diversity of banking products measured by the income of investment in securities (IIS). Moreover, the independent variable represented by the ownership structure: concentration of ownership (OWCO), institutional ownership (OWIN), and administrative ownership (AOW). The control variables are bank size, leverage, sales growth rate, asset growth and age.

Using this model, we enable to examine the following hypotheses.

1- The first main hypothesis H01: the existence of an impact of the ownership structure on the profitability of banks.

The following sub-hypotheses emerge from it:

H01.1: The existence of an effect of the ownership structure on the profitability of banks as measured by ROA. This hypothesis decomposed into:

- H01.1.1: Effect of concentration of ownership (major shareholders) on bank profitability measured by ROA.
- H01.1.2: Existence of an impact of institutional ownership on the profitability of banks as measured by ROA.
- H01.1.3: Existence of an effect of administrative ownership on the profitability of banks as measured by ROA.

H01.2: The existence of an impact of the ownership structure on the profitability of banks as measured by ROE. This hypothesis decomposed into:

- H01.2.1: Effect of concentration of ownership (major shareholders) on bank profitability measured by return on equity.
- H01.2.2: Existence of an impact of institutional ownership on bank profitability measured by ROE.
- H01.2.3: Existence of an impact of management ownership on the profitability of banks measured by ROE.

H01.3: the existence of an effect of the ownership structure on the profitability of banks measured by the ratio of Q-Tobin. This hypothesis decomposed into:

- H01.3.1: Existence of a consequence of concentration of ownership (major shareholders) on bank profitability measured by Q-Tobin ratio.
- H01.3.2: Existence of an effect of institutional ownership on bank profitability measured by Q-Tobin ratio.
- H01.3.3: Existence of an effect of administrative ownership on the profitability of banks measured by Q-Tobin ratio.

2- The second main hypothesis: the effect of ownership structure on diversification of banking products. The following sub-hypotheses emerge from it:

- H02.1: The existence of a consequence of the concentration of ownership (major shareholders) on the diversity of banking products
- H02.2: The existence of an impact of institutional ownership on the diversity of banking products.

- H02.3: The existence of an effect of administrative ownership on the diversity of banking products.

RESULTS AND DISCUSSION

In this paper, we investigate the relationships between the ownership structure and profitability as well as the diversity of banking products in Iraqi commercial banks using a linear regression model. We expect that the ownership structure have an impact on the profitability (measured by return on assets, return on equity, and Q-Tobin ratio) and the diversity of banking products of Iraqi commercial banks. We start our analysis by testing the existence of the impact of the ownership structure on the profitability of banks and then the diversity of banking products.

Impact of the Ownership Structure on the Profitability of Banks

The estimated results of the effect of the ownership structure measured by concentration of ownership, institutional ownership and administrative ownership on the profitability of banks measured by return on assets (ROA) is presented in Table 5.

Overall, Table 5 shows through the results of the statistical analysis the significance of the model. The value of Probability of F-statistic is less than 0.05, indicating that the model is valid for testing and its results are reliable. The value of R-squared is 0.811, suggesting that the explanatory power of the independent variables of the dependent variable is 81%. Whereas, the value of Adjusted R-squared is around 0.704, which means that the independent variables affect the dependent variable by 70%. Moreover, we find that all values of the coefficient of variance inflation (VIF) are less than 10, which indicates that there is no linear correlation problem between the variables.

However, we move now to the interpretation of the effect ownership structure on the profitability of banks measured return on assets. In fact, we find that the results of the statistical analysis show that the value of probability for the independent variable ownership structure measured by the ownership concentration index is 0.162, which indicates that there is no significant effect of ownership concentration on profitability measured by the rate of return on assets index.

While, the results of the statistical analysis show that the value of probability for the institutional ownership index is less than 0.05, suggesting that there is a significant positive impact of institutional ownership on profitability measured by the rate of return on assets index.

Whereas, the value of probability for the administrative ownership index 0.017, which means that there is a significant positive impact of administrative ownership on profitability measured by the rate of return on assets index.

Table 5: The effect of ownership structure on the profitability of banks measured by return on assets.

Variable	Coefficient	Std. Error	t-Statistic	Probability.	VIF
C	-1.094	0.556	-1.967	0.060	-
OWCO	0.049	0.034	1.440	0.162	5.474
OWIN	0.176	0.077	2.280	0.031	8.857
AOW	0.090	0.035	2.553	0.017	7.492
SIZE	0.043	0.022	1.997	0.057	7.050
LEV	-0.103	0.074	-1.383	0.179	4.729
SG	0.020	0.003	6.609	0.000	1.534
AG	-0.008	0.012	-0.625	0.538	2.088
AGE	-0.006	0.001	-5.900	0.000	1.468
Ar(1)	0.036	0.111	0.323	0.749	2.064
R-squared	0.811	Adjusted R-squared		0.704	
F-statistic	7.638	Probability(F-statistic)		0.000	

Note: ROA: return on assets, ROE: return on equity, Q-Tobin: Q-Tobin ratio, IIS: income of investment in securities, OWCO: ownership concentration, OWIN: institutional ownership, AOW: administrative ownership, SIZE: bank size, LEV: leverage, SG: sales growth rate, AG: asset growth and age.

Nevertheless, we analyze the impact ownership structure on the profitability of banks measured return on equity. Table 6 present estimated findings of the effect of the ownership structure measured by concentration of ownership, institutional ownership and administrative ownership on the profitability of banks measured by return on equity (ROE).

Table 6 shows through the results of the statistical analysis the significance of the model. The value of Probability of F-statistic is less than 0.05 indicating that the model is valid for testing and its results are reliable. The value of R-squared is 0.883 suggesting that the explanatory power of the independent variables of the dependent variable is 88%. Whereas, the value of Adjusted R-squared is 0.818, which indicates that the independent variables affect the dependent variable by 82%. However, the coefficient of variance inflation (VIF) are less than 10, indicating that there is no linear correlation problem between the variables.

However, for the effect ownership structure on the profitability of banks measured return on equity, we find that probability for the ownership concentration index is 0.855, suggesting that there is no significant effect of ownership concentration on profitability measured by the rate of return on equity index. While, the probability of institutional ownership coefficient is less than 0.05, which indicates that there is a significant positive impact of institutional ownership on return on equity index.

Whereas, probability of the administrative ownership coefficient is 0.675, suggesting that there is no significant impact of administrative ownership on profitability measured by the rate of return on equity index.

Table 6: The effect of ownership structure on the profitability of banks measured by return on equity.

Variable	Coefficient	Std. Error	t-Statistic	Probability.	VIF
C	-2.354	0.881	-2.673	0.013	-
OWCO	0.016	0.084	0.185	0.855	5.184
OWIN	0.459	0.180	2.552	0.017	8.502
AOW	0.040	0.095	0.425	0.675	6.521
SIZE	0.094	0.034	2.760	0.011	6.412
LEV	-0.079	0.110	-0.722	0.477	4.262
SG	0.049	0.009	5.476	0.000	1.587
AG	-0.012	0.021	-0.587	0.563	2.126
AGE	-0.016	0.002	-7.256	0.000	1.504
Ar(1)	-0.081	0.110	-0.731	0.472	1.977
R-squared	0.883	Adjusted R-squared		0.818	
F-statistic	13.492	Probability(F-statistic)		0.000	

Note: ROA: return on assets, ROE: return on equity, Q-Tobin: Q-Tobin ratio, IIS: income of investment in securities, OWCO: ownership concentration, OWIN: institutional ownership, AOW: administrative ownership, SIZE: bank size, LEV: leverage, SG: sales growth rate, AG: asset growth and age.

Furthermore, we examine the impact ownership structure on the profitability of banks measured Q-Tobin. Table 7 present estimated findings of the effect of the ownership structure measured by concentration of ownership, institutional ownership and administrative ownership on the profitability of banks measured by Q-Tobin.

Table 7 shows through the results of the statistical analysis the significance of the model. The probability of F-statistic is 0.000, indicating that the model is valid for testing and its results are reliable. The value of R-squared is 0.847, which means that the explanatory power of the independent variables of the dependent variable is 85 %. While, the Adjusted R-squared is 0.788, suggesting that the independent variables affect the dependent variable by 79%. Moreover, the coefficient of variance inflation (VIF) are less than 10, which means that there is no linear correlation problem between the variables.

For the effect ownership structure on the profitability of banks measured return on Q-Tobin, we find that probability the ownership concentration coefficient is less than 0.05, suggesting a significant negative effect of ownership concentration on profitability measured by the Q-Tobin ratio index. While, the probability of institutional ownership coefficient is 0.375, indicating that there is no significant impact of institutional ownership on profitability measured by the Q-Tobin ratio index.

Whereas, the probability of the administrative property index is 0.061, exhibiting that there a significant negative effect of administrative ownership on profitability measured by the Q-Tobin ratio index.

Table 7: The effect of ownership structure on the profitability of banks measured by Q-Tobin.

Variable	Coefficient	Std. Error	t-Statistic	Probability.	VIF
C	-3.543	6.002	-0.590	0.570	-
OWCO	-1.363	0.565	-2.413	0.039	2.877
OWIN	1.185	1.269	0.934	0.375	5.084
AOW	-1.219	0.570	-2.138	0.061	2.859
SIZE	0.245	0.252	0.974	0.356	6.124
LEV	1.174	1.003	1.169	0.272	3.602
SG	0.247	0.041	6.024	0.000	1.650
AG	0.037	0.178	0.211	0.838	2.052
AGE	-0.154	0.013	-11.736	0.000	3.087
R-squared	0.847	Adjusted R-squared		0.788	
F-statistic	14.456	Probability(F-statistic)		0.001	

Note: ROA: return on assets, ROE: return on equity, Q-Tobin: Q-Tobin ratio, IIS: income of investment in securities, OWCO: ownership concentration, OWIN: institutional ownership, AOW: administrative ownership, SIZE: bank size, LEV: leverage, SG: sales growth rate, AG: asset growth and age.

Impact of the Ownership Structure on the Diversification of Banking Products

The estimated results of the impact ownership structure on the diversity of banking products are presented in table 8. In fact, we estimate the effect of the ownership structure measured by concentration of ownership, institutional ownership and administrative ownership on the diversity of banking products.

Table 8 shows through the results of the statistical analysis the significance of the model. The probability of F-statistic is less than 0.05 indicating that the model is valid for testing and its results are reliable. The R-squared is around 0.5, indicating that the explanatory power of the independent variables of the dependent variable is 50%. While the estimated Adjusted R-squared is 0.391, suggesting that the independent variables affect the dependent variable by 39%. Moreover, the coefficient of variance inflation (VIF) are less than 10, which indicates that there is no linear correlation problem between the variables.

However, we find that the probability the ownership concentration coefficient is higher than 0.05 where it reached 0.258, exhibiting that there is no significant impact of ownership concentration on the diversity of banking products. While, the probability of the institutional ownership index is 0.018, suggesting that there is a significant positive impact of institutional ownership on the diversity of banking products.

Finally, we find that the probability the administrative ownership index is less than 0.05 where it reached 0.011, indicating that there is a significant negative impact of administrative ownership on the diversity of banking products.

Table 8: The effect of ownership structure on the diversity of banking products.

Variable	Coefficient	Std. Error	t-Statistic	Probability.	VIF
C	5.801	2.434	2.383	0.022	-
OWCO	0.173	0.150	1.148	0.258	3.189
OWIN	0.505	0.203	2.482	0.018	6.098
AOW	-0.691	0.260	-2.662	0.011	8.775
SIZE	-0.193	0.093	-2.081	0.044	3.209
LEV	-0.037	0.261	-0.141	0.888	2.825
SG	0.061	0.045	1.372	0.178	1.264
AG	0.034	0.125	0.274	0.785	1.972
AGE	0.002	0.005	0.349	0.729	1.777
R-squared	0.495	Adjusted R-squared		0.391	
F-statistic	4.769	Probability(F-statistic)		0.000	

Note: ROA: return on assets, ROE: return on equity, Q-Tobin: Q-Tobin ratio, IIS: income of investment in securities, OWCO: ownership concentration, OWIN: institutional ownership, AOW: administrative ownership, SIZE: bank size, LEV: leverage, SG: sales growth rate, AG: asset growth and age.

Overall, our findings confirm the significant impact of ownership structure on the profitability of the bank and the diversity of banking products. Our results are in the line with the previous studies such as Pennathur et al. (2012); Stančić and al. (2014) and Saghi-Zedek (2016); Bian and Deng (2017); Huang (2020). Yücel and Vural (2023), among others.

CONCLUSION

This study aims effect of the ownership structure on the profitability of the bank and the diversity of banking products in 15 commercial banks listed in the Iraq Stock Exchange. To this end, we employ a linear regression model to explain the relationship between the sample variables for the period span from 2011 to 2020.

In fact, we use the three-measure of ownership structure, which are the concentration of ownership, institutional ownership and administrative ownership. The profitability of banks is measured by return on assets, return on equity, and Q-Tobin ratio. Whereas, the diversity of products is represented by the income of investment in securities.

The main findings are summarized as follows. We confirm that the ownership concentration has a significant negative impact on profitability measured by the Q-Tobin ratio only, among the remains variables. While, the institutional ownership affect positively the return on assets and return on equity as well as the diversity of banking products. Finally, we find that the administrative ownership affect positively the banks profitability measured by the

rate of return on assets, whereas, it affect negatively the profitability measured by Q-Tobin and diversity of banking products.

From a policy perspective, the results indicate that Iraqi banks' regulators and supervisors should give more attention to the sensitivity of bank performance and diversity of the products to the effect of ownership structure.

The importance of our paper comes from two aspects, theoretical importance and applied importance. First, the theoretical importance is highlighted by supporting theoretical studies and research in the field of ownership structure for banks and its impact on banking profitability on the one hand and the diversity of banking products on the other hand in Iraqi commercial banks. For the theoretical level, it helps researchers to benefit from them in this field. It may also help give new horizons to researchers in research on this topic and help raise the level of Iraqi commercial banks to keep pace with similar bank workers in other countries.

However, the importance of studying the ownership structure and the characteristics of the board of directors in the banking sector is one of its clear effects on various aspects of the bank and many aspects of its performance, whether financial or non-financial, (the bank's profitability and diversification of its products).

Moreover, the ownership structure can affect the behavior of current and potential customers and investors, also the behavior of many stakeholders within banks. For example, members of the board of directors, employees of the bank at various levels, or from outside the bank, such as other financial institutions and labor unions, researchers, various government and regulatory agencies.

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