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The Impact of Banking Competition on Corporate Employment and Performance

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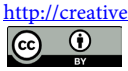

Abstract

This research aims to determine the level of impact of banking competition through a set of indicators, namely the increasing number of bank branches in the areas adjacent to companies, the size of assets, financial leverage, and the ratio of market value to book value, which leads to an increase in employment in companies, especially for listed joint-stock companies. In the Iraqi stock securities market, relying on panel data, 10 banks and companies for 18 years were analyzed through Eviews and EXCEL software.

Keywords

Banking, Competition, Employment, Companies, Performance, Iraq

1. Introduction

Previous literature suggests that the banking sector plays a vital role in allocating resources and promoting economic growth as banking competition reduces information asymmetry and improves credit availability leading to better allocation of capital and labor. Empirical studies have focused primarily on the impact of banking competition at the country level. However, the impact of bank competition on firm-level employment remains undetermined, especially in the context of country economies where firms typically suffer from significant information asymmetries and financial constraints.

When banking competition increases, the information quality of surrounding firms improves significantly, indicating that banking competition mitigates asymmetric information problems. In addition, the increasing number of branches near companies increases the number of loans, especially credit bank loans, and reduces the volume of loans.

The research structure consists of five chapters or topics: the first, introduction;

the second, methodology; the third, literature review; the fourth, applied framework; the fifth, conclusions and recommendations.

2. Methodology

2.1. The Problem of the Study and Its Questions

Surprisingly, banking competition, the bargaining power of banks and its impact on monitoring incentives, has not received much attention in the theoretical literature related to banks and financial intermediaries, and how bank competition affects banks' monitoring incentives is not clearly understood. If a bank's screening activities generate information spillovers, one obvious problem that arises in a competitive banking sector is that all banks prefer to free ride on access to their own information. Additionally, due to competing conjectures, a research gap exists in terms of the role information plays in remote banking. Which emerges through the following questions:

1- To what extent does banking competition in labor affect improving the efficiency of companies in investing in labor and modernizing their employment structures?

2- Does competition increase job opportunities and improve companies' performance?

3- To what extent does competition affect the expansion of bank branches and thus increase credit activity?

4- Does banking competition reduce information asymmetry and improve the availability of credit, leading to better allocation of capital and labor?

2.2. Purpose of the Study

This study aims to fill this research gap in the current literature by investigating how banking competition in a country affects firms' employment and access to credit. Banks always have some degree of market power and price accordingly when borrowers are separated from geographically disparate banks. Based on spatial pricing differentiation, traditional spatial competition models formalize the idea that the cost of credit to firms and the distance between borrower and lender are negatively related. The rationale behind this is that the distance between a borrower and its lender would increase the costs (such as transportation) incurred by borrowers to access alternative but distant banks, enabling local banks to gain a certain monopoly power in local markets and charge higher rates to nearby borrowers. In contrast, the rationale for information asymmetry relates that proximity may give advantages to closer lenders in screening prospective borrowers.

2.3. The Importance of Studying

The importance of the study lies in that it adds value to the literature in the spatial analysis of the banking market by examining the role of banking competition in employment and access to credit. It also raises the question of how spatial

interdependence on competition can change the importance of local banks in commercial lending.

2.4. Study Hypotheses

The first main hypothesis, H1: Banking competition increases the level of employment in companies.

From them we derive the following sub-hypotheses:

The first sub-hypothesis H11: There is no significant correlation between banking competition and its indicators and the level of employment in companies.

The second sub-hypothesis H12: There is no significant effect of banking competition and its indicators on the level of employment in companies.

2.5. Data Collection Sources and Analysis Methods

The source of data used in the analysis was the reports and financial statements of companies listed on the Iraq Stock Exchange for the period from 2005 - 2022. The methods and techniques used in the analysis were through computer programs Excel, SPSS, eV EVIWS.

3. Literature Review

Traditional finance theory suggests that in an ideal market environment, firms' investment decisions are mostly determined by private investment opportunities, and unrelated to corporate finance constraints. However, due to market constraints and information asymmetry, firms may not be able to finance profitable investment opportunities (Fazzari et al., 1988). This distortion also applies to business-related investments which generally involve upfront costs including research, screening and training (Benmelech et al., 2021; Caggese et al., 2019)... due to the unintegrated financial system.

Competition among banks may lead to a decline in overall credit. For example, if lending requires high initial monitoring efforts, competition will prevent banks from extracting future interest from borrowers, which may prevent lending altogether (Petersen & Rajan, 1995).

Likewise, the theory has ambiguous predictions regarding risk. Competition is likely to increase banks' risk tolerance because it may reduce the value of banks' charters and thus destroy bankers' incentives to act prudently (Keeley, 1990; Allen & Gale, 2004). However, other theories predict that competition reduces the overall risk of bank lending because it leads to lower interest rates, which in turn alleviates moral hazard concerns of bank borrowers (Koskela & Stenbacka, 2000; Boyd & De Nicolo, 2005). Previous studies suggest that deregulation of banks that allows them to establish branches across cities can facilitate information gathering (Chemmanur et al., 2020) and reduce communication costs associated with information production (Qian et al., 2015). On the other hand, banks may be concerned about poor performance given the competitive banking industry.

It turns out that branching liberalization increases the risk of takeovers and thus motivates bank managers to make more efficient lending decisions. Despite the increase in bankruptcy rates documented by Dick and Lehnert (2010), competition leads to better bank performance. However, evidence also suggests that although deregulation of branches leads to better bank management, it does not Leads to more credit savings (Deng et al., 2021).

Banks are likely to seriously screen customers by carefully examining their real production and investment activities (Chemmanur et al., 2020). The closer geographical distance associated with the opening of new branches not only facilitates communication but also allows for better information extraction. For example, Agarwal and Hauswald (2010) suggest that the distance between firms and banks serves as an excellent measure of lenders' information advantage, as distance reduces the quality of soft information. Moreover, the real effects of increased banking competition have been studied by Cetorelli and Strahan (2006); Black and Strahan (2002), who showed that less concentration in the banking sector leads to lower concentration among bank creditors. Other important papers on the real effects of branching restrictions are Stiroh and Strahan (2003), Zarutskie (2006), Rice and Strahan (2010), and Cetorelli (2014). Additional evidence from France on the real effect of banking competition is provided by Bertrand et al. (2007) showed that liberalization of the banking industry makes banks less likely to bail out poorly performing firms, thus increasing the efficiency of the corporate sector.

Increased banking competition is likely to be associated with an increase in credit availability and lower loan interest rates (Bai et al., 2018a), and an increase in credit availability is likely to lead to increased investment in labor (Benmelech et al., 2021). Therefore, banking competition may affect corporate employment directly through the credit channel (Bai et al., 2018b).

Given the increased efficiency of bank management through the threat of takeover as well as improved transparency and monitoring of banks (Jiang et al., 2016), deregulation of branches has also increased the overall safety of the banking system (Jayaratne & Strahan, 1998).

However, studying the effects of banking competition through exploiting branch deregulation, while very useful and important, is of course limited by a series of factors. First, branch restrictions were lifted in an environment where deposit insurance and the prospect of bank bailouts may have influenced their behavior, and thus may have led to Hiding the initial effects of competition. Second, while deregulation of branches increased banking competition domestically, it also changed the banking landscape through a number of other channels. For example, it changes banks' ability to diversify (Goetz & Bieg, 2016), which may also bias the results on banks' risk tolerance. Moreover, it is associated with a wave of bank mergers that enter into complex interaction with other political economic forces (Agarwal et al., 2012; Calomiris & Haber, 2014; Gu et al., 2020).

4. Application Framework

4.1. Data

Data was obtained from financial reports and statements issued by the banks and companies sampled for the study and listed on the Iraq Stock Exchange for the period 2005-2022. This database includes information about the bank or company name and symbol, date of establishment, address, etc. The data is obtained from the Iraq Stock Exchange website.

4.2. Variables

Employment in companies: The main dependent variable is the level of employment in companies and is measured by the natural logarithm of the number of employees (Ln(EMP)). Drawing on (Campello & Larrain, 2016), and (Popov & Rocholl, 2018), this measure generates a direct interpretation of the overall level of employment in firms at the firm level.

4.3. Banking Competition

The independent variable is banking competition, and to measure competition in the banking market, we use the Panzar-Rosse H-statistic3 (H from now on) (Bailey & Panzar, 1984) with long-run equilibrium in the main tests, RSIndex, HHI, and branch density. In durability tests. It has been recognized that H is robust and superior to other measures of competition, as it is derived from profit-maximizing equilibrium conditions (Shaffer, 2004); Claessens and Laev) and is widely used to test competition in the banking market (e.g. Molyneux et al, 1994; Bikker & Haaf, 2002), and its range ranges from 0 (monopolistic markets) to 1 (competitive markets).

It is also measured by the number of bank branches within the governorate and its affiliated cities. Following the methodology of (Avramidis et al., 2022), which used the spatial coordinate distance equation to calculate the distance between the institution and the bank branches.

4.4. Applied Mathematical Models

To examine whether bank competition affects firms' employment levels, we estimate the following model, as suggested by the literature (Campello & Larrain, 2016; Popov & Rocholl, 2018):

$$\mathrm{Ln}\left(\mathrm{EMP}\right)\mathrm{it} = \mathrm{Y1} = \beta 1 * \mathrm{X1} + \beta 2 * \mathrm{X2} + \beta 3 * \mathrm{X3} + \beta 4 * \mathrm{X4} + \mathrm{e}$$

The symbols i and t represent the company and year, respectively. The with the company. Below is a description of all variables and definitions.

Variable description:

Dependent variables (number of employees in the company)

Ln(EMP) The natural logarithm of the number of employees

Independent variable/banking competition

No_Br (X1) The number of bank branches within the governorate in which

the company is located

MTB. (X2) The ratio of the market value to the book value of the company

SIZE (X3) The natural logarithm of the company's market value

Liquids (X4) Liquidity ratio; Cash and short-term investments as well as current receivables and liabilities.

4.5. Financial Analysis of the Research Variables

(5) banks were selected from the banks listed on the Iraq Stock Exchange to analyze the indicators of the independent variable (banking competition), which are (the natural logarithm of the number of branches affiliated with each bank distributed across the governorates of Iraq, the financial leverage ratio, the liquidity ratio, the ratio of market value to book value, and finally The natural logarithm of the asset size). As for the dependent variable (employment in companies), (5) companies were selected from the joint-stock companies listed on the Iraqi Stock Exchange through one indicator, which is (the natural logarithm of the number of employees in the company. Relying on panel data for an annual time series (2005-2022). Describe the financial analysis of these indicators according to banks and companies.

4.6. Analysis of Correlations for the Research Variables

Before estimating the multiple regression model for the study, it is necessary to study the correlation between the study variables, especially the independent variables, with the aim of knowing whether there is a problem of multicollinearity, as this test shows the strength and direction of the correlation between the variables. Through the strength of the correlation between the dependent variables, it can be inferred whether there is a problem of multicollinearity between the independent variables. If the correlation coefficient is equal to or greater than 0.8, this indicates the presence of a multicollinearity problem. To avoid this, one should

Dropping one of the variables from the study.

In this study, the Pearson Correlation test was conducted to test the correlation between the study variables. Table 1 shows the results of testing the correlation relationships between the research variables. The table shows that the correlation between the number of branches −0.689459, in the opposite direction, with a significance level of 1%. The correlation between the number of branches X1 and the size of assets X3 was 0.989200 with a positive direction and a significance level of 1%. The correlation between the number of branches X1 and the financial leverage ratio X4 was 0.785011 with a level of 1%. The correlation between the number of branches X1 and the dependent variable (number of employees) Y1 was 0.563750 with a significance level of 5%. The correlation coefficient of the variable X2 with X3 was −0.696383 with an inverse direction and a significance level of 1%, in addition to the correlation of the variable X2 with X4 was −0.728027 with an inverse direction. The correlation of the variable X2 with the dependent variable Y1 was

−0.731523 with an inverse direction and a significance level of 1%. The correlation of the variable X3 with X4 was 0.779520 with a significance level of 1%. The correlation coefficient of X3 with the dependent variable Y1 was 0.522596 with a significance level of 5%. Finally, the correlation coefficient of X4 with the dependent variable Y1 was 0.724899 with a significance level of 1%.

Table 1. Analysis of the correlation between variables.

Correlation					
Probability	BR (X1)	MTB (X2)	ZISE (X3)	LIV (X4)	EMP(Y1)
X1	1.000000				

X2	−0.689459	1.000000			
	0.0015	-----			
X3	0.989200	−0.696383	1.000000		
	0.0000	0.0013	-----		
X4	0.785011	−0.728027	0.779520	1.000000	
	0.0001	0.0006	0.0001	-----	
Y1	0.563750	−0.731523	0.522596	0.724899	1.000000
	0.0148	0.0006	0.0261	0.0007	-----

4.7. Multiple Regression Analysis of Variables

Table 2 shows the multiple regression analysis of the variables using the least squares method and applying the Eviews 12 program.

The table shows the effect of the indicators of the independent variable (banking competition) X1 3.150856 and the variable X2 −0.877535 and the variable independent variables: The table shows t-Statistic values with a significance level of 10%.

Also, the R-squared interpretation coefficient is 0.712123, which means that the amount of the change in the dependent variable explained by the independent variables is employment in companies, meaning that the explanation rate reached 71%.

The F-statistic also indicates the significance of the model at a level of 1%, in addition to the Durbin-Watson stat being close to 2, which indicates the absence of autocorrelation between the variables.

Table 2. Multiple regression analysis of variables.

Dependent Variable: Y1
Method: Least Squares
Date: 01/09/24 Time: 21:50
Sample: 2005 2022
Included observations: 18

Continued

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	17.22286	8.755468	1.967097	0.0709
X1	3.150856	1.757280	1.793030	0.0963
X2	−0.877535	0.374071	−2.345909	0.0355
X3	−1.311548	0.653139	−2.008067	0.0659
X4	4.542270	2.442882	1.859390	0.0857
R-squared	0.712123	Mean dependent var		1.047895
Adjusted R-squared	0.623546	S.D. dependent var		0.529877
S.E. of regression	0.325111	Akaike info criterion		0.820832
Sum squared resid	1.374062	Schwarz criterion		1.068157
Log likelihood	−2.387486	Hannan-Quinn criter.		0.854935
F-statistic	8.039560	Durbin-Watson stat		1.588264
Prob(F-statistic)	0.001719			

Equation (1-2) indicates a linear regression model for predicting variables

Substituted Coefficients:

$$Y1 = 3.15085580204 * X1 - 0.877535348229 * X2 - 1.31154774429 * X3 + 4.54227012607 * X4 + 17.2228560286 \quad (1\text{-}2)$$

Fourth: Study the stability of the study variables

The property of stability is of great importance, as its lack of availability in the various variables used leads to false conclusions.

Therefore, the PP test is used to study the stability of the selected model series, which will take them in their logarithmic form

The PP test tests the following two hypotheses at the 5% level of significance. It is noted from the figure that the variables are stable at

The first difference except for the variable X3, so it will be excluded from entering the model. (Table 3)

The series contains a unit root.: H0(t stat < t tab) Scientific loan

0.05 prob >

The series does not contain a unit root – (t star > t-tab) H1: Brown hypothesis

prob > 0.05

Table 3. Summarizes the results of this test.

		UNIT ROOT TEST TABLE (PP)			
	At Level	X1	X2	X3	X4
With Constant	t-Statistic	−2.8992	−0.9692	−1.9458	−0.3737
	Prob.	0.0662	0.7392	0.3054	0.8934
		*	n0	n0	n0

Continued

With Constant & Trend	t-Statistic	−2.2911	−2.7708	−1.1654	−3.0703
	Prob.	0.4161	0.2248	0.8850	0.1437
		n0	n0	n0	n0
Without Constant & Trend	t-Statistic	2.9755	−1.3806	3.1225	1.3968
	Prob.	0.9980	0.1494	0.9986	0.9527
		n0	n0	n0	n0
	At First Difference				
		d(X1)	d(X2)	d(X3)	d(X4)
With Constant	t-Statistic	−3.5389	−6.1773	−2.2338	−6.3442
	Prob.	0.0207	0.0001	0.2029	0.0001
		**	***	n0	***
With Constant & Trend	t-Statistic	−3.6166	−5.8034	−2.5542	−7.6939
	Prob.	0.0608	0.0015	0.3019	0.0001
		*	***	n0	***
Without Constant & Trend	t-Statistic	−2.5975	−4.4251	−1.4249	−5.8658
	Prob.	0.0130	0.0002	0.1382	0.0000
		**	***	n0	***

4.8. Determine the Optimal Slowdown Period

Through Figure 1, which shows the total possible models when changing the degrees of the model variables.

Determine the score (1) according to the Schware Information Cranion statistic, and from it it is clear that the model is (1,0,2,2) ARDL.

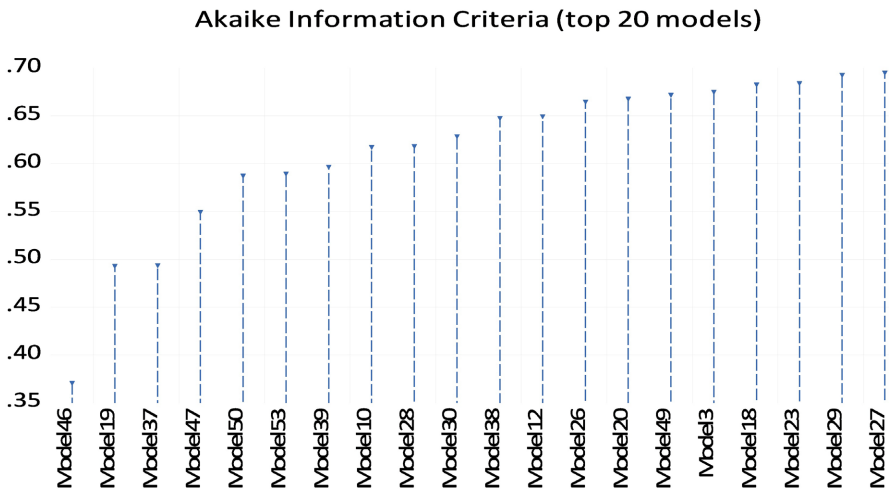

Figure 1. Optimal deceleration periods.

It is the optimal model and has the lowest value according to the Alaie farmate Corian statistic, as X1 is slowed down by one degree.

X2 is slowed down by zero degrees and X3 is slowed down by two degrees, while SOCTR is slowed down by two degrees, as shown in the above figure.

4.9. Testing the Quality of the Model

In order to test the quality of the model, the real values must be compared to the estimated ones through Figure 2, as it is noted that the estimated values.

Close to the actual values, which indicates the quality of the model, so it can be relied upon in interpreting and analyzing the results.

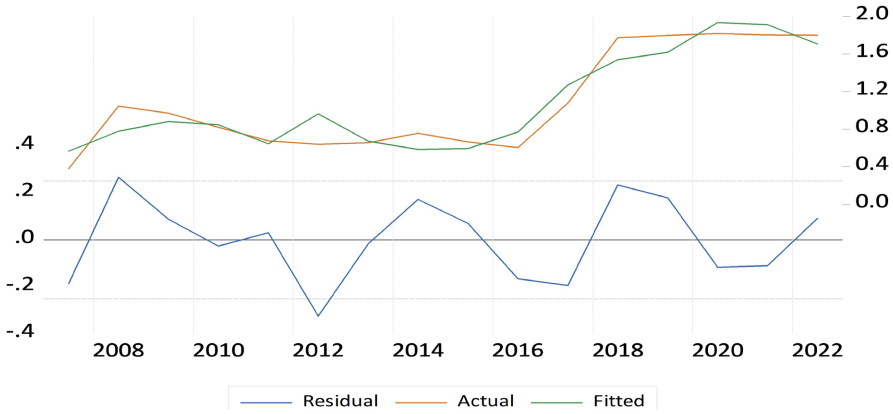

Figure 2. The quality of the model.

4.10. Testing the Normal Distribution of the Residuals

The nature of the distribution of the residuals is revealed by testing the hypothesis that the residuals are normally distributed. And it's through Extrapolation of the statement allows us to notice that the remainders are gathered around the center and decrease as they move away from the center towards the edges, or that they are not gathered around the center, or by comparing a statistic (jergur bera) with a tabular value (Chi-Square) at a degree of freedom of 02 and a significance level 0.05, as the formula for the null and acceptance assumptions is as follows:

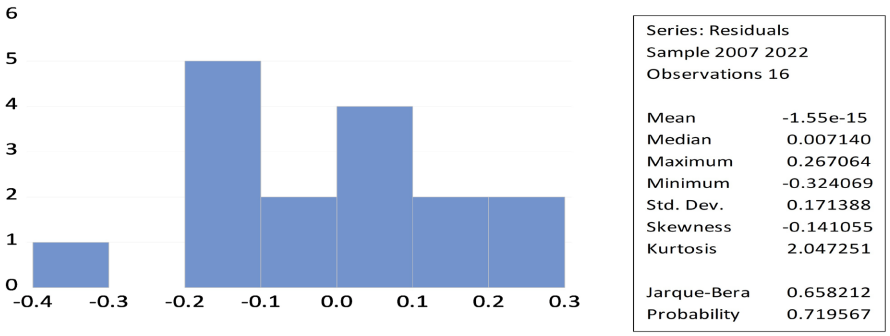

Figure 3. The normal distribution of the residuals.

H0: The residuals are not subject to a normal distribution – jergur bera > 0.05

H1: jarque-bera < 0.05

It is noted from Figure 3 that the value of the jergur bera statistic is 0.719, which is greater than 0.05, which indicates that the residuals follow a normal distribution.

4.11. Testing the Autocorrelation of Errors

The lack of autocorrelation between the residuals is revealed by testing the hypothesis that there is no autocorrelation among the residuals, by During a statistical comparison of the (R-Square) results calculated by choosing (LM) with the tabular value of the Chi-Square distribution at degree A freedom of 02 and a significance level of 0.05, where the formula for the null and acceptance borrowings is as follows:

H0: There is autocorrelation between the residuals R-squared < x2 0.05 (2)

H1: There is no autocorrelation between the residuals, R-squared >x0.05 (2)

According to the LM test, the Prob chi-square is greater than 0.05, and thus the hypothesis H1 is accepted that there is no autocorrelation, as shown in Table 4.

Table 4. The autocorrelation test for the residuals.

Breusch-Godfrey Serial Correlation LM Test:			
Null hypothesis: No serial correlation at up to 2 lags			
F-statistic	2.021375	Prob. F(2,5)	0.2273
Obs*R-squared	7.153134	Prob. Chi-Square(2)	0.2280
Test Equation:			
Dependent Variable: RESID			
Method: ARDL			
Date: 01/09/24 Time: 22:57			
Sample: 2007 2022			
Included observations: 16			
Presample missing value lagged residuals set to zero.			

4.12. Test of Homogeneity of Variance

By comparing the R-Square statistic calculated via the Breuch-Pagan Godfrey test

With the tabular value of the Chi-Square distribution at a degree of freedom of 02 and a significance level of 0.05.

The formula for the null and acceptance assumptions is as follows:

The variance of the remainders is non-symmetrical. (1) H0: R-squared > X Las Prob f-stat < 0.05

The variance of the residuals is homogeneous. H: R-square < x Las (1) Prob f-stat > 0.05

According to this test, Prob F is greater than 0.05, which means that F is not significant, and therefore the hypothesis is accepted

The alternative that provides for constant variance, as shown in the following Table 5:

Table 5. The homogeneity of variance test.

Heteroskedasticity Test: Breusch-Pagan-Godfrey			
Null hypothesis: Homoskedasticity			
F-statistic	3.813516	Prob. F(8,7)	0.0572
Obs*R-squared	13.01398	Prob. Chi-Square(8)	0.1114
Scaled explained SS	1.304328	Prob. Chi-Square(8)	0.9955
Test Equation:			
Dependent Variable: RESID^2			
Method: Least Squares			
Date: 01/09/24 Time: 23:03			
Sample: 2007 2022			
Included observations: 16			

4.13. Stability Test

In order to ensure that the data used are free of any structural changes and that the model is valid for prediction, it is necessary to judge

Stability of the model through graphic testing of the movement of the model's residuals, as well as the squares of the model's residuals, as shown in Figure 4.

Since the graphical representation in both CUSUM of Squares Test and CUSUM Test is within the critical limits at the level of 0.05, we accept the stability of the model.

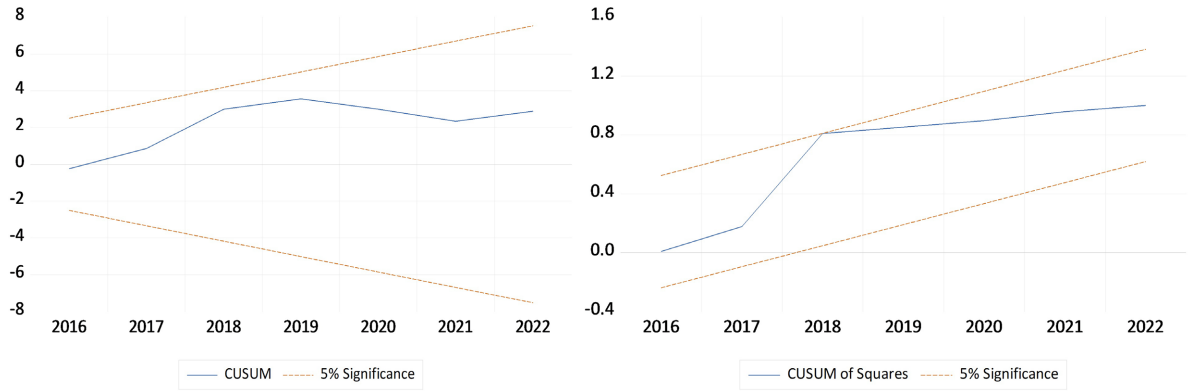

Figure 4. Model's residuals.

4.14. Choosing Model Parameters in the Short and Long Terms

Here, it is possible to have a joint integration between the model variables, and to

evaluate the impact of the independent variables on employment in companies, in the long and short terms.

1) Cointegration test using the Bounds Test approach

The possibility of cointegration is revealed through the following hypothesis: There is cointegration between the variables of the model. This test is performed for the ARDL model through the following formula:

H0: There is no counteraction between variables F-statistic < F1(0)-Pesaran

Decision area Fi(0)-Pesaran < F-statistic < Fj(1)-Pesaran

H1: There is cointegration between variables: F-statistic > F1(0)-Pesaran

The following table shows the results of the cointegration test using the Bounds Test methodology. It is noted that:

Table 6 shows that the value of the F-statistic is greater than the tabular one with a significance level of 0.05. Therefore, the null hypothesis is rejected and the alternative hypothesis is accepted with the existence of cointegration between the variables. This means that there is a long-term equilibrium relationship between the independent variables and the dependent variable.

Table 6. The cointegration.

F-Bounds Test		Null Hypothesis: No levels relationship		
Test Statistic	Value	Signif.	I(0)	I(1)
			Asymptotic: n = 1000	
F-statistic	3.886121	10%	2.37	3.2
k	3	5%	2.79	3.67
		2.5%	3.15	4.08
		1%	3.65	4.66
Actual Sample Size	16		Finite Sample: n = 35	
		10%	2.618	3.532
		5%	3.164	4.194
		1%	4.428	5.816

2) Analysis of the short-term relationship

From Table 7 it is noted:

There is an effect of transfers to the variable x2, which represents the ratio of market value to book value, on the dependent variable, employment in companies

In the short term, which is consistent with the second hypothesis, which is a positive and significant effect, the higher this percentage

By 0.924112, corporate employment increased to 924. There is also a positive and significant effect of the size of the bank

Employment variable in companies: whenever the size of the bank increases by one unit, the dependent variable increases to 1.708635

There is also a short-term dynamic relationship between economic growth and the independent variables, and this is due to the negative estimated error

Significant and statistically significant, its value was −1.076166 CointEq), which measures the structural imbalance in the dependent variable

Attributable to independent changes of −1.076166

3) Analyzing and interpreting the long-term relationship

Table 8 shows the effect of the independent variables on the dependent variable over a long period of time. It is not significant except for the variable

The independent

Table 7. Analysis of the relationship in the short term.

ARDL Error Correction Regression				
Dependent Variable: D(Y1)				
Selected Model: ARDL(1, 0, 2, 2)				
Case 2: Restricted Constant and No Trend				
Date: 01/09/24 Time: 23:21				
Sample: 2005 2022				
Included observations: 16				
ECM Regression				
Case 2: Restricted Constant and No Trend				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(X2)	−1.201979	0.281947	−4.263136	0.0037
D(X2(−1))	0.924112	0.340830	2.711358	0.0301
D(X3)	1.460375	0.441235	3.309743	0.0129
D(X3(−1))	1.708635	0.607114	2.814356	0.0260
CointEq(−1)*	−1.076166	0.194755	−5.525741	0.0009
R-squared	0.776980	Mean dependent var		0.033771
Adjusted R-squared	0.695882	S.D. dependent var		0.362919
S.E. of regression	0.200139	Akaike info criterion		−0.129308
Sum squared resid	0.440610	Schwarz criterion		0.112126
Log likelihood	6.034461	Hannan-Quinn criterion		−0.116944
Durbin-Watson stat	2.018640			
*p-value incompatible with t-Bounds distribution.				
F-Bounds Test		Null Hypothesis: No levels relationship		
Test Statistic	Value	Signif.	I(0)	I(1)
F-statistic	3.886121	10%	2.37	3.2
k	3	5%	2.79	3.67
		2.5%	3.15	4.08
		1%	3.65	4.66

Table 8. Estimation of long-term parameters.

ARDL Long Run Form and Bounds Test				
Dependent Variable: D(Y1)				
Selected Model: ARDL(1, 0, 2, 2)				
Case 2: Restricted Constant and No Trend				
Date: 01/09/24 Time: 23:28				
Sample: 2005 2022				
Included observations: 16				
Conditional Error Correction Regression				
Variable	Coefficient	Std. Error	t−Statistic	Prob.
C	0.706333	10.62022	0.066508	0.9488
Y1(-1)*	−1.076166	0.262203	−4.104330	0.0045
X1**	−2.040927	2.876320	−0.709562	0.5009
X2(-1)	−2.966855	0.898266	−3.302868	0.0131
X3(-1)	0.429518	0.912348	0.470782	0.6521
D(X2)	−1.201979	0.427732	−2.810124	0.0261
D(X2(-1))	0.924112	0.478970	1.929374	0.0950
D(X3)	1.460375	1.097689	1.330409	0.2251
D(X3(-1))	1.708635	1.083604	1.576807	0.1588
*p-value incompatible with t-Bounds distribution.				
**Variable interpreted as Z = Z(−1) + D(Z).				
Levels Equation				
Case 2: Restricted Constant and No Trend				
Variable	Coefficient	Std. Error	t−Statistic	Prob.
X1	−1.896480	2.683385	−0.706749	0.5026
X2	−2.756875	0.597763	−4.611986	0.0024
X3	0.399118	0.855484	0.466541	0.6550
C	0.656342	9.843441	0.066678	0.9487
EC = Y1 − (−1.8965*X1 −2.7569*X2 + 0.3991*X3 + 0.6563)				
F-Bounds Test		Null Hypothesis: No levels relationship		
Test Statistic	Value	Signif.	I(0)	I(1)
			Asymptotic: n = 1000	
F-statistic	3.886121	10%	2.37	3.2
k	3	5%	2.79	3.67
		2.5%	3.15	4.08
		1%	3.65	4.66

Continued

Actual Sample Size	16		Finite Sample: n = 35	
		10%	2.618	3.532
		5%	3.164	4.194
		1%	4.428	5.816
			Finite Sample: n = 30	
		10%	2.676	3.586
		5%	3.272	4.306
		1%	4.614	5.966

5. Conclusion & Recommendation

5.1. Conclusion

Through reviewing the theoretical and practical aspects, conclusions were reached that can be presented as follows:

1. The financial analysis of the indicators of the National Bank of Iraq showed that they varied, some of them being higher than the general average and others being lower than it. They also took different trends, some of which were increasing over time and some took changing trends during the series related to the study period.

2. The results of the financial analysis of the Bank of Baghdad showed that it took values close to the average and in varying trends during the study period, and they were all less than the average, except for the liquidity ratio, which was more than the average.

3. The financial analysis of Al-Mansour Bank's indicators showed that they varied and all of them were higher than the general average. They also took different trends, some of which increased over time, and some took changing trends during the series related to the study period.

4. The results of the financial analysis of the Commercial Bank showed that it had higher values than the average, except for the number of branches indicator, which was lower and with different trends during the study period.

5.2. Recommendation

1. It is imperative for bank management to take into account the relationship between the increase in the number of branches, the size of assets, and the ratio of market value to book value, because of their great importance, as they reflect positively on increasing employment opportunities in companies and improving performance.

2. The necessity of developing an effective information system contributes to monitoring and studying the internal and external factors of the bank's banking competition, which have proven their impact on employment in companies, and following them up periodically with the aim of predicting events.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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