

The Impact of Foreign Banks entry in Egyptian Banking Sector on Local Banks Profitability and Performance¹

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ABSTRACT

This study examines the impact of foreign banks' admission on the local banks working in Egypt during the period (2011-2021); the study counts on Central Bank of Egypt's (CBE) reports to access bank data and employ the World Bank database to identify macroeconomic variables. A multiple regression model was structured to examine the impact of foreign banks' admission on local banks by reviewing previous studies to select study variables. The study found a negative impact of foreign banks' entry on the local bank's performance during the mentioned period.

Keywords: *Foreign Banks Entry, Local Banks, Reforms of Egyptian Banking Sector, Banks Performance, Banks Profitability.*

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I. INTRODUCTION

Foreign direct investment (FDI) is an inherent outcome of a globalized economic system, and many nations aspire to attract greater FDI due to its significant role in expediting economic growth and development (OECD, 2002). The development of international linkages facilitated by FDI flows has emerged as a critical aspect of financial globalization, albeit presenting challenges for economists and policymakers (Patterson et al., 2004).

The transfer of foreign bank capital across national borders is still a subject of discussion among researchers in the fields of economics and finance as they seek to identify the special role played by foreign banks; Defining this role holds significance not only for policymakers but also for all regulatory authorities. This is because comprehending the advantages stemming from the entry of foreign banks can contribute to enhancing the overall efficiency of the banking system and promoting risk diversification within developing economies (Chen et al., 2019).

During the past three decades, many countries have liberalized their economies and followed economic reform programs, and the liberalization of banking systems has been a major component of these programs. The privatization of public banks ownership drove the whole liberalization process because this ownership type leads to financial repression, larger interest margins, a slowdown in the process of financial development, as well as lower rates of economic growth, and the results of empirical studies show that public banks cause huge losses that impose financial burdens on economies (Mohieldin & Nasr, 2007).

Banks in developing countries have gone through a set of restrictions such as deposit and borrowing restrictions, ceilings of interest rates, as well as government ownership of banks, these conditions continued until the spreading of financial liberalization, but this does not negate that developing countries are still facing many problems relevant to low competition between banks and high transaction costs (Hassan, 2022). However, the empirical findings from research conducted in both developed and developing countries during the past two decades have not yielded conclusive evidence to support the anticipated positive impact of foreign banks' presence. Demirgüç, -Kunt and Detragiache (1998); Claessens et al (2001); Moguillansky et al. (2004); Sturm and Williams (2004);

Yeyati and Micco (2007); Mishkin (2007); Berger, Hasan and Zhou (2009); Jeon et al (2011); Cubillas and Gonzales (2014); Bremus (2015); Luo et al (2016); Ghosh (2016); Chen et al. (2017); Wu et al (2017); Yin (2019).

Regarding the relationship between foreign banks' entry and other variables, Memon et al. (2021) studied the Role of Foreign Banks' Entry in Promoting financial inclusion. They confirmed that the foreign bank's entry enhances financial inclusion. Chen and Hsu (2022) focused on the differences in governance policies and foreign bank's performance, The results found that foreign banks operating achieve higher profits than Local banks, and they found that differences in national governance policies affect the ability of foreign banks to combat corruption, money laundering, and terrorism.

The Egyptian government owned four commercial and three specialized banks and had a majority right of 51% in 23 other banks until 1994. To enhance competition and reduce market concentration, the government instruct the four wholly-owned commercial banks to sell their holdings in 23 banks or at least reduce their ownership percentages to less than 51%. Then, the Egyptian government amended the "Banking and Credit Law" to remove some restrictions on foreign bank ownership; as a result of these amendments, 14 banks were privatized. Unfortunately, the process of privatizing banks stopped in 1999 because of a group of factors among which are: weak performance of the Egyptian stock market and the change in the income tax law of 1998. According to the changes in income tax law of 1998, government took steps to tax banks' investments in government debt, that led to a significant decrease in profitability of banks. Hence the attractiveness of privatizing the Egyptian banking sector declined (Omran, 2007).

Historically, Structural changes in the financial system came through innovations and new financial products and services (Frame, Wall & White 2018; Frame & White 2014), Because financial innovation often leads to processing IT systems and lower costs of data storage, and this has led to reducing in transaction costs, in addition to decreasing information asymmetry, which has affected the bank's function, These developments have led to managing securities efficiently which owned by banks, and digitization can change the competitive advantages of financial service providers (Buch, 2019).

Fatihudin & Mochklas (2018) define it as an indicator of the extent to which activities contribute to creating efficiency and effectiveness in the use of available financial resources by reducing costs, while Abdullahi & Mamuda (2022) define financial performance as a Measuring the results of the company's policies and operations in monetary terms. Finally, Yankah (2022) sees financial performance as an extent to which the organization can generate flows, whether from its operational or investment activities, and also to achieve a surplus from the exercise of its activities as a reward for the production factors contributing to the production process.

Performance is broadly divided into financial and organizational; it can be measured based on variables that involve productivity, returns, growth, or even customer satisfaction (Nnubia et al., 2017). Therefore, the performance of the organization is measured through many dimensions. Kasilingam et al. 2016 developed a performance model consisting of nine dimensions: profitability, growth, market value, customer satisfaction, employee satisfaction, environmental auditing, corporate governance, and social performance

Prior studies examined the impact of foreign bank entry on the performance of local banks in a variety of countries. However, no studies have specifically focused on Egypt. This research gap represents an opportunity to address the impact of foreign bank entry on local banks operating in Egypt. As indicated by research in other countries foreign banks can offer a number of benefits, such as lowering borrowing costs, boosting liquidity, and introducing new goods and services. On the other hand, they can also threaten local banks by competing for clients and market share.

This study aims to investigate the impact of foreign bank entry on local banks in Egypt during the period from 2011 to 2021. The study is guided by the following research questions:

- What does the entry of foreign banks into Egypt entail, and what is the size of their assets in the country?
- What is the magnitude of the impact of foreign banks on local banks in Egypt during the study period?

The study uses a variety of data sources, including bank balance sheets, financial statements, and regulatory reports collected from Central Bank of Egypt and

World bank database. The findings of the study suggested that the entry of foreign banks has had a negative impact on profitability of local banks in Egypt.

2. LITERATURE REVIEW

Studies focusing on the effects of foreign banks in industrialized economies found that foreign banks tend to become less efficient than local banks (Chang et al., 1998; DeYoung and Nolle, 1996; Hasan and Hunter, 1996; Mahajan et al., 1996; Peek et al., 1998).

In the case of a foreign bank's entry through the acquisition, foreign banks may weakly perform because problems have already existed (Berger et al., 2000). Some research shows that even with changes in business strategy by the new foreign owners, the banks' performance did not improve (Peek et al., 1998)

In contrast, other studies indicate that foreign banks appear more efficient than local banks Barajas, Steiner and Salazar (1999); Clarke et al. (1999); Clarke et al. (2001); Demirguc-Kunt et al. (1998); Denizer (1999); Honohan (2000); Kiraly et al. (2000). Some articles have found that foreign banks in emerging markets directly affect domestic banks (Claessens & Glaessner, 1999; Demirguc-Kunt et al., 1998).

The research of foreign banks' entry was a subject of great interest in numerous studies. Belaounia et al. (2016) found that foreign banks' entry is affected by the characteristics of the host countries, confirmed later by Alomar et al. (2022). Shahid et al. (2019) studied reasons behind foreign banks failures and found the differences in the work environment between the home country and the host country as main reason.

The advantages of foreign banks' entry were discussed by Viador et al. (2021), who focused on the relationship between granting private credit and foreign banks' entry. They found a significant positive relationship between foreign banks' entry and private sector access to credit. Liu et al. (2021) investigated disadvantages of foreign banks' entry and found that foreign banks underperformed local ones.

Most of existing literature focused on examining the effects of the entry of foreign banks on the performance of local banks. Thus, Khamphoumy and Sarntisart (2023) found that foreign bank's entry led to a decrease in the profitability of local banks. In contrast, Alberto et al. (2018) found that the entry of foreign banks increases local banks' profitability. Yin (2021) found that competition between foreign and local banks in developed countries is more than in developing countries. In contrast, Lu (2020) concluded that there is an inverted nonlinear relationship that takes the form of an inverted letter (U) between the entry of foreign banks and the efficiency of banks operating in China; That is, in the beginning, an improved efficiency of local banks is observed - positive effect, and then this relationship turns into the negative one.

Wu et al. (2017) found that the risks to local banks increased with foreign banks' entry. Oino and Ukaegbu (2014) confirmed that foreign banks' entry effects negatively the profitability of domestic banks but simultaneously improves their efficiency. Lu and Mieno (2020) found that the presence of foreign banks led to an increase in interest rate differentials and increase in non-interest income. In addition, Le et al. (2019) observed that state-owned banks achieved higher performance than foreign banks.

In research related to the relationship between foreign banks' entry and other variables, Memon et al. (2021) studied the "impact of foreign bank entry on financial inclusion". They confirmed that the foreign banks' entry enhances financial inclusion. Chen and Hsu (2022) focused on the differences in governance policies and foreign banks' performance. The results indicated that foreign banks achieve higher profits than local banks, and that differences in national governance policies affect the ability of foreign banks to combat corruption, money laundering, and terrorism. Yoseph (2019) found that foreign bank's ability to carry out lending and financing operations better than local banks and increase in the amount of available financial products positively contribute to development of host country stock markets. The entry of foreign banks provides a range of benefits to the financial systems of host countries. These advantages result from the efficiency gains derived from the foreign banks' ownership of advanced products and technologies. Foreign banks often have greater access to resources and exhibit superior capabilities in lending and financing operations compared to local banks. Additionally, the presence of

foreign banks contributes to the development of stock markets by increasing the availability of diverse financial products. (Yoseph, 2019).

At the macroeconomic level, Marcelin et al. (2022) found that foreign banks' entry led to lower per capita GDP and output growth. In addition, Delis et al. (2020) found that foreign banks' entry leads to an increase in income inequality.

Egyptian banking sector was studied over the last decade excessively. More specifically Fayed (2013) aimed at investigating the differences and similarities of Egyptian conventional and Islamic banking and found that conventional banks outperformed Islamic banks in key banking performance ratios in 2008- 2010, this was later confirmed by Hafez (2018) for the period pre financial crisis 2002-2008 and found contradictory results for post financial crisis times 2008-2015, where Islamic banks outperformed conventional. Elbannan and Elbannan (2014) aimed at establishing relationship between bank governance quality and banks' cost of capital in 2000-2009 and found positive relation. Apergis and Polemis (2016) included Egypt into their research of banking system of Mena region for period 1997-2011 with an aim to investigate the relationship between competition and efficiency with evidence contributing to rejection of "Efficient structure Hypothesis". El Ansary and Hafez (2015) studied the factors influencing Capital Adequacy Ratio (CAR) of 36 Egyptian banks for the period of 2004-2013 and found that liquidity, size and management quality are the most important factors.

Hassan and Jreisat (2016) found that for the period (1997-2013) out of 14 banks in Egypt the most efficiency is demonstrated by medium sized banks followed by foreign banks in the sample. Abobaker (2018) further inquired of factors leading to Egyptian banking profitability during 2015-2016 and confirmed findings of Al-Ansary and Hafez (2015).and there is no actual entry of foreign banks into the host countries, but this type allows foreign banks to provide funds for lending to some large-scale projects; Hence the entry of foreign banks is considered indirect. Foreign banks are trying to achieve integration between parent branches and affiliates; therefore, the affiliates of foreign banks in local markets depend on the functions of the parent branch, so there are large and deep financial links between foreign banks in local markets and their parent branches, this interdependence takes several forms, including depositing money with the parent branches or vice versa, but that does not negate that there are subsidiaries

of foreign banks dealing independently; Where it has its systems and conducts financial transactions within the group on a commercial basis (Beck et al., 2014). Generally, foreign banks face difficulties when they want to enter into local markets, such as integration degrees, hiring local workers, and establishing independent local management and risk boards. These regulations are under so-called localization policies (Beck et al., 2014).

Our research aims to investigate the impact of the admission of foreign banks into the Egyptian banking sector on the performance and profitability of local banks during the period of 2011-2021. By focusing on this specific aspect, our study will contribute to the existing body of research by providing comprehensive insights into the effects of foreign bank entry on the local banking industry in Egypt. The findings of our research will enhance the understanding of the dynamics within the Egyptian banking sector and will serve as a valuable resource for policymakers, researchers, and industry practitioners.

3. DATA AND METHODOLOGY

The main objective of this study is to examine the effects of foreign bank entry into the Egyptian banking sector on the performance and profitability of local banks. Specifically, we aim to investigate this impact over the period spanning from 2011 to 2021. Our study depended on Egyptian banking sector data during the period (2011-2021) containing 38 local and foreign banks for the study period. These data were obtained through the monthly bulletins of the Central Bank of Egypt. The World Bank database was also used to obtain some data, especially those related to the macroeconomic indicators, our data set is balanced since the 38 banks existed from 2011 to 2021 without any instance of the foreign bank existing or local bank ceasing to exist. The bank data which was needed for our research included following: Return on Average Assets (ROA), foreign number share (FNS), foreign market share (FMS), Total Loans To Total Assets (TLTA), Domestic credit to private sector of GDP (DCPS), (Securities (including Treasury bills)/assets) (SA), Inflation Rate (INF), Real Interest Rate (RIR), GDP Growth (GDPG).

Foreign banks in many countries, especially in the least developed countries, increased during the nineties because of the implementation of financial liberalization policies. That led to allowing foreign banks to establish branches

and privatization of local banks by foreign, but these increases in the number of foreign banks raised a set of questions about the effects of the presence of these foreign banks on local banking markets, and the literature discussed the impact of foreign banking entry on local bank performance using Generalized Least Square (GLS) methodology and is based on models proposed by Kim and Lee (2004) who constructed GLS two factor model to measure the effect of the foreign bank entry on Korean banks from 1997 -2000, Manlagnit (2011) who used GLS multi factor fixed effect model in research of “economic effect of foreign bank presence” in Phillipines (1990- 2006) and three factors: Competition, the performance of local banks, and the stability of the local banking system (Hermes & Lensink, 2014)

Return on Average Assets (ROA) represents the dependent variable; it expresses the performance of the Egyptian banking sector; Foreign Number Shares (FNS) reflects the presence of foreign banks in the country under study; it is calculated by dividing the number of foreign banks in the country by the total number of banks, Foreign Market Share expresses foreign banks' existence in the country, and it is calculated by the Asset of foreign banks/ total assets formula, Total Loans To Total Assets depend mainly on lending to achieve profits, but at the same time, increasing this percentage represents a risk to banks. Therefore, there are a set of rules and guidelines for the Basel Committee and central banks that this ratio should be within safe limits, Domestic credit to private sector of GDP refers to the percentage of private credit granted by commercial banks within the country to the private sector of the gross domestic product Securities (including TBs) /assets refers to the safe investments of banks; As treasury bills are considered risk-free instruments; It is guaranteed by governments, GDP Growth refer to economic growth rate refers, in general, to the economic activity within the country, Inflation Rate affects the economic growth of the country, in addition to its significant effects on banks, where the high rate of inflation leads to high-interest rates Real Interest Rate is one of the most important indicators for the banking sector; it refers to the difference between the nominal interest rate and the inflation rate, and the value of this rate is often negative, indicating that banks encourage depositors to do projects on the ground

3.1 RESEARCH HYPOTHESES

This study seeks to test two main hypotheses:

H1: There is a statistically significant relationship for the entry of foreign banks on the performance of local banks

H2: There is a statistically significant relationship for the income of foreign banks on the profitability of local banks

3.2 RESEARCH VARIABLES:

The Following table shows the dependent and independent variables.

Table 1: Research Variables

dependent variable Local Banks	Independent variables Foreign Banks
ROA: Return on Average Assets	- FNS: foreign number share (Number of foreign banks/ total banks) - FMS: foreign market share (Asset of foreign banks/ total assets)

3.3 RESEARCH LIMITATIONS:

Objective limits: The research studies the impact of foreign banks' entry on domestic banks.

- Spatial limits: the research is limited to banks working in Egypt.
- Time limits: The data was collected during the period (2011 – 2021).

3.4 RESEARCH MODEL

Before formulating this model; The researcher reviewed a set of previous studies; In order to select the variables that will be included in the model, the model has been formulated as follows:

$$ROA = \alpha_0 + \alpha_1 FNS + \alpha_2 FMS + \alpha_3 TLTA + \alpha_4 DCPS + \alpha_5 SA + \alpha_6 GDPG + \alpha_7 INF + \alpha_8 RIR + e$$

ROA: Return on Average Assets (Dependent Variable)

FNS: foreign number share (Number of foreign banks/ total banks)

FMS: foreign market share (Asset of foreign banks/ total assets)

TLTA: Total Loans To Total Assets

DCPS: Domestic credit to private sector of GDP

SA: Securities (including TBs)/assets

INF: Inflation Rate

RIR: Real Interest Rate

GDPG: GDP Growth

$\alpha_1, \dots, \alpha_8$: parameters

ϵ : stochastic error

4. ESTIMATION OF THE MODEL

4.1 DESCRIPTIVE STATISTICS:

The following table describe the descriptive statistics

Table 2: Descriptive Statistics

Variable	Mean	Med	Max	Min	SD	Skewness	Kurtosis	Jarque-Bera	Pro	Sum	Sum Sq. Dev.
GDPG	3.64	3.87	5.55	1.76	1.33	-0.01	1.69	0.71	0.6	36.4	15.96
INF	13.09	11.45	22.9	5.68	6.18	0.46	1.82	0.93	0.6	130	343.85
RIR	0.55	0.97	6.92	-6.26	4.00	-0.16	2.20	0.30	0.8	5.58	144.12
SA	40.04	39.85	45.9	35.0	4.01	0.02	1.61	0.80	0.6	400	144.92
DCPS	27.60	26.70	34.1	24.02	3.00	1.11	3.33	2.12	0.34	276	81.00
TLTA	0.33	0.32	0.37	0.30	0.02	0.62	2.41	0.80	0.67	3.31	0.004
FMS	0.27	0.27	0.32	0.21	0.03	-0.03	2.59	0.25	0.88	2.70	0.008
FNS	0.54	0.54	0.55	0.54	0.00	0.40	1.16	1.67	0.43	5.44	0.008
ROA	1.35	1.35	2.0	0.8	0.37	0.26	2.21	0.37	0.8	13.5	1.24

Table (2) shows that GDPG mean was 3.46, while its highest value was 5.55 and its lowest value was 1.76; while the value of its standard deviation was 1.33; this indicates that the deviation of this variable from its mean is 1.33.

The mean of the inflation variable came at 13.09 during the study period, while the value of the highest value of the variable came at 22.9, and its lowest value at 5.86, while the value of the standard deviation for this variable came at 6.18, which indicates that this variable was highly volatile during the study period.

The mean of the real interest rate variable came at 0.55, the lowest value came at -6.26, and the highest value reached 6.92, which indicates that the range between

the highest value and the lowest value is relatively high because the real interest rate is related to inflation rates.

As for the variable (SA), the mean was 40.04, while the value of the lowest value came at 35, the highest value was 45.9, and the standard deviation of this variable was 4.01.

Regarding the percentage of domestic credit granted to the private sector of GDP, the mean was 27.60, the highest value came at 34.1, the lowest value came at 24.02, and the standard deviation came at 3, meaning that the values are three away from average from their mean.

Regarding total loans to total assets, the mean was 0.33, while the highest value for this variable was 0.37, and the lowest was 0.30, which indicates relative stability in the value of this variable during the study period. Therefore, the standard deviation value was 0.02

For the foreign assets to total assets variable, its mean value was 0.27, while the lowest value was 0.21 and the highest value was 0.32; this indicates a relative stability of this ratio during the study period.

As for the variable of the number of foreign banks to the total number of banks; It has been observed that there is stability to a large degree in the values of this variable; The mean for this variable was 0.54, while the highest value for this variable was 0.55, and the lowest value was 0.54; this is due to the stability in the number of banks operating in Egypt, whether local or foreign.

Finally, the value of the mean for the return on assets variable was 1.35, the lowest value for the variable was 0.8, while the highest value was 2, and the standard deviation value was 0.37; any values are, on average, 0.37 away from their mean.

4.2 CORRELATION MATRIX

A correlation matrix is simply a table that displays the correlation coefficients for different variables. The matrix depicts the correlation between all the possible pairs of values in a table. It is a powerful tool to summarize a large dataset and to identify and visualize patterns in the given data. A correlation matrix consists of rows and columns that show the variables. Each cell in a table contains the correlation coefficient.

Table 3: Correlation Matrix

Covariance Analysis: Ordinary
Date: 12/03/22 Time: 17:52
Sample: 2011 2021
Included observations: 11

	Correlation t-Statistic									
Probability	ROA	FMS	FNS	TLTA	DCPS	GDPG	SA	INF	RIR	
ROA	1.000000 ----									
FMS	0.303196 0.954519 0.3648	1.000000 ----								
FNS	0.316495 1.000938 0.3430	-0.799811 -3.997377 0.0031	1.000000 ----							
TLTA	-0.629352 -2.429553 0.0380	0.230548 0.710793 0.4952	-0.185234 -0.565487 0.5856	1.000000 ----						
DCPS	0.094417 0.264522 0.7824	0.495305 1.710488 0.1213	-0.358627 -1.152547 0.2788	0.277427 0.866287 0.4088	1.000000 ----					
GDPG	0.822451 * 4.337545 0.0019	-0.525755 ** -1.854217 0.0967	0.888677 ** 2.833752 0.0196	-0.532849 ** -1.889086 0.0915	-0.292576 ** -0.917892 0.3826	1.000000 ----				
SA	0.308050 0.964426 0.3800	0.440458 1.471826 0.1752	-0.844048 -4.721751 0.0011	0.001888 0.004998 0.9961	0.010035 0.030106 0.9786	-0.583438 2.155129 0.0595	1.000000 ----			
INFLATION_RATE	-0.088965 -0.207389 0.8403	-0.019860 -0.059592 0.9538	0.358814 1.145133 0.2817	-0.162908 -0.495342 0.6322	-0.280855 -0.810631 0.4385	0.201852 0.618284 0.5517	-0.498022 -1.688389 0.1296	1.000000 ----		
REAL_INTEREST_R ATE	0.437077 1.457858 0.1789	-0.240555 -0.743496 0.4781	0.000582 0.001745 0.9986	-0.111402 -0.338299 0.7444	0.208535 0.839667 0.5383	0.221678 0.682002 0.5124	0.113654 0.343185 0.7393	-0.863129 -5.127684 0.0008	1.000000 ----	

The results found that the number of foreign banks to the total number of banks has an inverse relationship with the variable of return on assets, where its value was -0.316, and the ratio of foreign banks' assets to total assets also came in an inverse relationship with the return on assets variable, Where its value came -0.3031, which initially indicates the presence of adverse effects of the entry of foreign banks on the performance of local banks; Most of the correlations were weak, except for a few relationships that came with a medium correlation, such as the relationship of the two variables, the ratio of foreign banks to the total number of banks, and the ratio of assets of foreign banks to total assets, This indicates that there is no multicollinearity between the independent variables.

4.3 SIGNIFICANCE OF MODEL

Adjusted R² for this model is 94.77%; Which indicates that 94.77% of the changes that occur in the dependent variable are due to the independent variables, and the model as a whole came significant; where the f-statistic value of the model as a whole is 23.69, which is greater than the tabulated value, and the value of the Durbin-Watson coefficient is 2.70; Which indicates that the model does not suffer from an autocorrelation problem, and the results indicate that all

variables were significant at 5% except for the variables of inflation and the real interest rate; Where their significance came at 10%.

4.4 THE ESTIMATION MODEL

$$\text{ROA} = 46.73 - 72.95 \cdot \text{FNS} - 7.93 \cdot \text{FMS} - 7.22 \cdot \text{TLTA} + 0.04 \cdot \text{DCPS} - 0.06 \cdot \text{SA} + 0.28 \cdot \text{GDPG} - 0.03 \cdot \text{INF} - 0.05 \cdot \text{RIR}$$

After estimating the econometric model, the results indicate an inverse relationship between (FNS) and (ROA) exists, where the FNS coefficient was -0.72, which means that every change of one unit in FNS leads to a change of -0.72 in ROA. The results reflect an inverse relationship between (FMS) and (ROA), where the FMS coefficient was -7.93, which means that every change of one unit in the FMS leads to a change of -7.93 in ROA. The results also indicate that there is an inverse relationship between (TLTA) and (ROA), where the coefficient for (TLTA) came from -7.22; That is, every change of one unit in the (TLTA) leads to a change of -7.22 in the dependent variable, while the (DCPS) came in a direct relationship with the dependent variable; Where the coefficient of the (DCPS) was 0.04, meaning that every one unit change in the (DCPS) leads to a change of 0.04 units in the dependent variable, while the (SA) was in an inverse relationship with the (ROA) variable; where the value of the parameter of (SA) was -0.06, meaning that every change of one unit in variable (SA) leads to a change of -0.06 units in (ROA), while the relationship of (GDPG) was directly related to (ROA); Since each change of one unit in (GDPG) leads to a change of 0.28 units in the variable (ROA), while the inflation rate (INF) has an inverse relationship with the dependent variable (ROA); Since every one-unit change in the inflation variable leads to a change of -0.03 in (ROA), and finally (RIR) has an inverse relationship with (ROA); Whereas, each one-unit change in the RIR variable leads to a change of -0.05 units in the ROA variable.

4.5 INTERPRETATION OF RESULTS

The variables relevant to foreign banks' entry have a negative impact on the rate of return on assets for local banks because foreign banks' existence increases the competition among banks operating in the same country.

The relationship between the variable (TLTA) and the rate of return on assets is inverse; Perhaps there is no logical reason for it. An increase in the loan-to-asset ratio should impact the return on assets positively, which is not the case based on our observations which could be caused by increased interest rates as a bank's TLTA increases, it will need to borrow more money from other banks or from the central bank in order to fund its loans. This will lead to higher interest expenses, which will reduce the bank's profits and ROA. In Egypt we observed reflects that real interest rates increased from 0.56 in 2011 to 4.39% in 2021. Another reason for such negative relationship between variables could be increased risk of default, however additional research is needed to fully explain this.

Regarding DCPS, it has a positive relationship with the return on assets variable as an increase in the proportion of private credit granted by banks in GDP increases the profits of banks and the high rate of return on assets. Regarding SA, it has an inverse relationship with the rate of return on assets, this was perhaps due to the large number of fluctuations that investments in securities experienced from 2011-2021 and volatility in real interest rate.

The relationship between (GDPG) and (ROA) is positive because a higher economic growth rate leads to a higher return on assets.

The inflation rate has an inverse relationship with the rate of return on assets because it is difficult for banks to achieve a high return in light of inflation and the associated investment risks in assets.

Finally, the inverse relationship between (RIR) and (ROA) can be explained by: the increase in (RIR) in favor of those dealing with banks more than the banking sector itself.

4.6 QUALITY TESTS OF THE ESTIMATION MODEL

Table (4) illustrates Quality Tests of the Estimation Model as below:

Table 4: Quality Tests of the Estimation Model

Econometric Diagnose	Test Indicator	Significance	Treat
Normality	Jarque-Bera	If p- value is more than 5%; it is Normal	P-value is 0. 0.80
Autocorrelation	Durbin-Watson	If Durbin-Watson value around 2; there is no Autocorrelation	Durbin – Watson is 2.70
Heteroscedasticity	Breuch Pegan	If $P > 0,05$; there is no problem	P- value is 0.47; So there is no Heteroscedasticity
Serial Correlation	Breusch-Godfrey	If $P > 0,05$; there is no problem	p- Value is 0.09; So there is no problem
Prediction	Theil Test	If Theil Coefficient $< 0,10$, the model is valid to predict	Theil Coefficient = 0.01

5. CONCLUSION

The banking sector is a key contributor to economic development, especially in developing countries. It is also considered a lifeline for the growth of other institutions within the economy. Therefore, it is important to know the effects of the foreign banks' entry on local banks.

The lower rate of return on assets (ROA) of Egyptian local banks compared to foreign banks can be attributed to at least two factors: the increase in the number of foreign banks operating in Egypt, and the increase and diversification of the assets of foreign banks relative to local banks.

The first factor, the increase in the number of foreign banks, increases competition in the Egyptian banking sector. This can lead to lower interest rates on loans and higher interest rates on deposits, which can reduce local banks' profits and ROA.

The second factor, the increase and diversification of foreign banks' assets, gives foreign banks a competitive advantage in terms of profitability. Foreign banks are often able to offer a wider range of products and services than local banks, and they may have a lower cost of capital. This can make it difficult for local banks to compete with foreign banks on price and quality.

The lower ROA of Egyptian local banks is a concern because it could lead to a reduction in lending to the private sector, which could dampen economic growth. It is therefore important for policymakers to understand the factors that are contributing to this lower ROA and to take steps to address them.

The transfer of foreign banks' capital across national borders has long been a topic of discussion by researchers of economics and finance. The entry of foreign banks into the banking sector leads to an increase in the degree of financial stability in the banking sector, and this is a critical matter for policymakers and all regulatory authorities, and on the other hand to understand the benefits resulting from the liberalization and privatization of banks, and thus the possibility of benefiting from the headquarters of banks located in developed countries. And its entry into developing countries by raising efficiency, diversifying and reducing risks, and reducing costs resulting from financial instability.

The variables relevant to foreign banks' entry have a negative impact on the rate of return on assets for local banks because foreign banks' existence increases the competition among banks operating in the same country.

Local banks can benefit from the experiences of foreign banks and learn from them, so the Egyptian government should attract more foreign banks and create the appropriate climate for dealing among banks. On the other hand, foreign banks are highly equipped with advanced technology, so local banks should possess advanced technology to compete with foreign banks at a high level.

Due to foreign banks attract big local companies and multinational companies, local banks must establish a strong relationship with customers, and this is the key; otherwise, they will lose their customers in favor of foreign banks; in addition, foreign banks have more experience and qualified employee than local banks, so it is necessary to local banks having skilled and productive employees, and enabling their employees to achieve this, In addition to taking into account the formulation and evaluation of the specific policy that governs foreign banks in the host country, and the strict supervision of central banks to regulate the financial situation. In context, this study can provide researchers with ideas relevant to the foreign bank's entry.

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تأثير دخول البنوك الأجنبية إلى القطاع المصرفي المصري على ربحية وأداء البنوك المحلية

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ملخص البحث باللغة العربية

تتناول هذه الدراسة تأثير دخول البنوك الأجنبية على أداء وربحية البنوك المحلية العاملة في مصر خلال الفترة (2011-2021)؛ وتعتمد الدراسة على تقارير البنك المركزي المصري للوصول إلى البيانات المصرفية وتوظيف قاعدة بيانات البنك الدولي لتحديد متغيرات الاقتصاد الكلي. وتم بناء نموذج الانحدار المتعدد لدراسة أثر دخول البنوك الأجنبية على البنوك المحلية من خلال مراجعة الدراسات السابقة لاختيار متغيرات الدراسة. وتوصلت الدراسة إلى وجود أثر سلبي لدخول البنوك الأجنبية على أداء البنوك المحلية خلال الفترة المذكورة. **الكلمات الدالة:** دخول البنوك الأجنبية، البنوك المحلية، إصلاحات القطاع المصرفي المصري، أداء البنوك، ربحية البنوك.

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