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The Impact of Foreign Banks Admission on Local Banks Performance and Profitability in Egypt

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Abstract

This study examines the impact of foreign banks' entry on Egyptian local banks covering the period from 2011 to 2021 and its impact on banks' performance and profitability. It aims to determine how the entry of foreign banks triggers domestic banks to become more competitive and improve their efficiency. The study depends on the Central Bank of Egypt's (CBE) reports to obtain bank data and employs the World Bank database to examine macroeconomic variables. A multiple regression model is used to investigate the impact of foreign banks' entry on local banks. The study confirms the negative impact of foreign banks' entry on the local bank's performance during the sample period. However, foreign banks improve the functioning of the banking industry in general and domestic banks specifically.

Keywords

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

Article history

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1. 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, presenting challenges for economists and policymakers (Patterson et al., 2004).

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

Over the past three decades, numerous countries have undertaken economic liberalization and implemented reform programs. The privatization of publicly owned banks has been a driving force behind the overall liberalization process. This form of ownership is associated with financial repression, wider interest margins, a deceleration in financial development, and lower economic growth rates. Empirical studies find that public banks incur substantial losses, placing financial burdens on economies (Mohieldin & Nasr, 2007).

Developing countries have historically imposed a range of restrictions on their banking sectors, including limitations on deposits and borrowing, interest rate caps, and government ownership of banks. These conditions persisted until the advent of financial liberalization. Developing countries still grapple with challenges related to limited competition among banks and high transaction costs. These issues hinder the efficiency and effectiveness of their banking systems (Hassan, 2022). However, the empirical findings from prior research 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 (Demirgüc-Kunt and Detragiache 1998; Claessens et al., 2001; Moguillansky et al., 2004, Sturm and Williams, 2004, Yeaty and Micco, 2007, Mishkin, 2007; Berger, 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).

Until 1994, the Egyptian government acquired four commercial banks and three specialized banks and had a majority right of 51% in 23 other banks. To enhance competition and reduce market concentration, the government triggered the four wholly-owned commercial banks to sell their holdings in 23 banks or to reduce their ownership percentages to less than 51%. Despite all the mentioned reforms, there was no evidence of increased bank privatization until 1996. 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. In 1999, the process of privatizing banks was discontinued because of a group of factors including

weak performance of the Egyptian stock market and the change in the income tax law of 1998. According to the changes in the income tax law in 1998, the government took steps toward banks' investment taxes in government debt, resulting in a significant decrease in the profitability of banks. Hence the attractiveness of privatizing the Egyptian banking sector deteriorated (Omran, 2007).

The Egyptian sector of financial service providers comprises a group of institutions, namely: local and foreign banks, money transfer companies, exchange companies, and other institutions. The structure of the Egyptian banking sector consists of 17 local and 21 foreign banks as of 2022[1]. The Central Bank supervises 81 exchange companies, 19 representative offices of foreign banks, 82 financial expertise houses, and one money transfer company. Over the years 2011–2019, the Egyptian banking sector demonstrated a steady increase in the number of indicators such as the number of branches increased from 4.62 branches per 100,000 in 2011 to 6.64 in 2019[2], bank deposits amounted to 3.1 trillion Egyptian pounds in 2019 compared to 965 billion pounds in 2011[3], and nonperforming loan ratio[4] declined from 13.6% in 2011 to 4.5% in 2019. Given the larger presence of foreign banks in the Egyptian banking system compared to local banks, it is reasonable to investigate the impact of the entry of foreign banks on the banking industry. This investigation is particularly relevant considering the observable improvements in statistics and the increasing number of foreign bank entrances.

Throughout history, structural changes in the financial system have often been driven by innovations and the introduction of new financial products and services (Frame et al., 2018; Frame & White, 2014). Financial innovation often leads to the improvement of processing IT systems and lower costs of data storage, thus reducing transaction costs and diminishing information asymmetry. The financial sector advancements have provided banks with improved capabilities to effectively manage their assets. Furthermore, the ongoing process of digitization has the potential to reshape the competitive landscape for financial service providers, altering their traditional competitive advantages (Buch, 2019).

Fatihudin and Mochklas (2018) define financial performance 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. Abdullahi and Mamuda (2022) define it as measuring the results of the company's policies and operations in monetary terms. Finally, Yankah (2022) defines financial performance as the extent to which the organization can generate flows, whether from its operational or investment activities, and also achieve a surplus from the exercise of its activities as a reward for the production factors contributing to the production process.

[1] Central Bank of Egypt reports for supervision and control, 2022
[2] World Bank Database, Egypt Profile
[3] Egypt Ministry of Finance, monthly financial report, Different Versions
[4] World Bank Database https://data.worldbank.org/country/egypt-arab-rep?view=chart

Prior studies examine 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 prior research in other countries, foreign banks can offer several 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:

1. What does the entry of foreign banks into Egypt entail, and what is the size of their assets in the country?
2. 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 the Central Bank of Egypt and the World Bank database. The findings of the study confirm that the entry of foreign banks has hurt the 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 might weakly perform because problems have already existed (Berger et al., 2000). Some studies confirmed 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 indicated that foreign banks appear more efficient than local banks (Barajas et al., 1999; Clarke et al., 1999; Clarke et al., 2001; DemirgucKunt et al., 1998; Denizer, 1999; Honohan, 2000; Kiraly et al., 2000). Some studies 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, the findings were further confirmed by Alomar et al. (2022). Shahid et al. (2019) studied the reasons behind foreign banks failures and found the differences in the work environment between the home country and the host country as the main reason.

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

Most of the existing literature focused on examining the effects of the entry of foreign banks on the performance of local banks. Khamphoumy and Sarntisart (2023) found that foreign banks' 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 between the entry of foreign banks and the efficiency of banks operating in China. That is, at the beginning, an improved efficiency of local banks is observed – a positive effect, and then this relationship turns into a 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 negatively impacts 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 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) examined 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 the 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 is better than local banks and increases the amount of available financial products, which positively contributes to the 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.

The Egyptian financial sector is considered a relatively promising sector. Banking reforms are necessary for the economic reform program that Egypt began to follow in the early nineties of the last century. Banking reforms included repressive measures such as abolition, interest rate liberalization, removal of Credit ceilings, liberalization of bank fees, and allowing foreign ownership of banks. Despite all the above-mentioned reforms, local banks still did not offer a full range of financial products (Deabas, 2006).

When the privatization program started in Egypt in the nineties, 314 companies were grouped under 27 holding companies and further reduced to only 14 in 2001 since the Egyptian government intended to withdraw its investments from state-owned companies. The Egyptian government followed three different methods to execute privatization: the first one was to sell shares through the stock market, the second one was to sell a group of strategic shares to attract investors by holding public auctions, and the last one was to carry out the sale of companies to shareholder assemblies (Deabas, 2006).

Until 1994, The Egyptian government-owned four commercial and three specialized banks and had a majority right of 51% in 23 other banks. To enhance competition and reduce market concentration, the government triggered the four wholly-owned commercial banks to sell their holdings in 23 banks or to reduce their ownership percentages to less than 51%. Despite all the mentioned reforms, there was no evidence of increased bank privatization until 1996. 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 was discontinued in 1999 because of a group of factors among which are: the weak performance of the Egyptian stock market and the change in the income tax law of 1998. According to the changes in the income tax law of 1998, the government took steps to tax banks' investments in government debt, which led to a significant decrease in the profitability of banks. Hence, the attractiveness of privatizing the Egyptian banking sector declined (Omran, 2007).

The Egyptian banking sector has been 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 during the 2008-2010 period. 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 banks. Elbannan and Elbannan (2014) examined the relationship between bank governance quality and banks' cost of capital during the 2000-2009 period and found a positive relation between the variables. Apergis and Polemis (2016) investigated the relationship between competition and efficiency in Egypt during their research of the banking system of the MENA region for the period 1997-2011. Their evidence contributes to the rejection of the "Efficient Structure Hypothesis". El Ansary and Hafez (2015) studied the factors influencing the 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. Hashem (2016) conducted a time series analysis over 2004-2014 to examine the performance drivers of the Egyptian Banking sector and claim that the profitability of banks has an inverse relationship with capital adequacy, the percentage of loan provisions, and the ratio of deposits to total assets. Conversely, it shows a positive correlation with the size of the banking sector, indicating the presence of economies of scale within the industry. Hassan and Jreisat (2016) found that medium-sized banks in Egypt were more efficient than foreign banks during the 1997-2013 period. Abobaker (2018) further investigated factors leading to increased banking profitability in Egypt from 2015 to 2016. The findings confirmed those of Al-Ansary and Hafez (2015). Although previous studies on the Egyptian banking system have been examined in the past five years, they either deviated from our specific research focus or did not encompass the entire population of Egyptian banks. Therefore, there is still a significant gap that needs to be further addressed.

This 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 from 2011 to 2021. By focusing on this specific aspect, the study contributes 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 the research enhance the understanding of the dynamics within the Egyptian banking sector and serve as a valuable resource for policymakers, researchers, and industry practitioners.

3. Data and Methodology

The primary 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 over the period spanning from 2011 to 2021. This study depended on Egyptian banking sector data during the period 2011-2021 comprising 38 local and foreign banks for the study period.[5] The data were gathered through the monthly bulletins of the Central Bank of Egypt. The World Bank database was further used to obtain some data especially those related to the macroeconomic indicators. The bank data which was needed for the research included the 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 the privatization of local banks by foreign. However, these increases in the number of foreign banks raised a set of questions about the effects of the presence of these foreign banks on

[5] The 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.

local banking markets 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) used the GLS multi-factor fixed effect model in research on the "economic effect of foreign bank presence" in the Philippines (1990-2006) and examined the impact of competition on performance 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) reflect 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 assets of foreign banks divided by total assets. Total loans to total assets depend mainly on lending to achieve profits, increasing this ratio represents a risk to banks. Therefore, there is a set of rules and guidelines for the Basel Committee and central banks that this ratio should be within safe limits. Domestic credit to the private sector of GDP refers to the percentage of the private credit granted by commercial banks within the country to the private sector of the gross domestic product. Securities (including TBs) to total assets refer to the safe investments of banks since treasury bills are considered risk-free instruments and are guaranteed by governments. GDP Growth refers to the economic growth rate within the country. The inflation rate affects the economic growth of the country in addition to its significant effects on banks, the high rate of inflation leads to high interest rates. Real interest rate is one of the most important indicators for the banking sector and 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 increase projects on the ground.

3.1. Research Hypotheses

This study seeks to test two main hypotheses:

H1: There is a statistically significant relationship between the entry of foreign banks and the performance of local banks

H2: There is a statistically significant relationship between the income of foreign banks and 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 Variable 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

The research is limited to studying the impact of foreign banks' entry on domestic banks in Egypt during the 2011–2021 period.

3.4. Research Model

The model has been stated as follows:

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

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
$a_1,\ldots, {}_8$: parameters
e: stochastic error

4. Population and sample

4.1. Descriptive Statistics

The following table shows 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	-.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 the GDPG mean was 3.46, its highest value was 5.55, its lowest value was 1.76, and the value of its standard deviation was 1.33, indicating that the deviation of this variable from its mean is 1.33.

The mean of the inflation variable was 13.09 during the study period. The variable's highest value was 22.9 and its lowest value was 5.86. The standard deviation for this variable was 6.18, showing that it was highly volatile during the study period.

The mean of the real interest rate variable was 0.55, the lowest value was -6.26, and the highest value reached 6.92, 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, the lowest value was 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 was 34.1, the lowest value was 24.02, and the standard deviation was 3, meaning that the values are away from the average of their mean.

Regarding total loans to total assets, the mean was 0.33, the highest value for this variable was 0.37, and the lowest was 0.30, indicating 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 the variable was 0.54, the highest value 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 was 0.8, the highest value was 2, and the standard deviation value was 0.37.

4.2. Correlation Matrix

A correlation matrix displays the correlation coefficients for different variables. It depicts the correlation between all the possible pairs of values in a table. It is a powerful tool for summarizing a large dataset and identifying and visualizing 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.

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. The ratio of foreign banks' assets to total assets also came in an inverse relationship with the return on assets variable, its value came -0.3031, and this 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 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.

Table (3): Correlation Matrix

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

		ROA	FMS	FNS	TLTA	DCPS	GDPG	SA	INF	RIR
ROA	Correlation	1.000000								
	t-Statistic	-----								
	Probability	-----								
FMS		-0.303196	1.000000							
		-0.954519	-----							
		0.3648	-----							
FNS		0.316495	-0.799811	1.000000						
		1.000938	-3.997377	-----						
		0.3430	0.0031	-----						
TLTA		-0.629352	0.230548	-0.185234	1.000000					
		-2.429553	0.710793	-0.565487	-----					
		0.0380	0.4952	0.5856	-----					
DCPS		0.094417	0.495305	-0.358627	0.277427	1.000000				
		0.284522	1.710468	-1.152547	0.866287	-----				
		0.7824	0.1213	0.2788	0.4088	-----				
GDPG		0.822451 *	-0.525755 **	0.686677 **	-0.532849 **	-0.292576 **	1.000000			
		4.337545	-1.854217	2.833752	-1.889066	-0.917892	-----			
		0.0019	0.0967	0.0196	0.0915	0.3826	-----			
SA		-0.306050	0.440456	-0.844046	0.001666	0.010035	-0.583436	1.000000		
		-0.964426	1.471826	-4.721751	0.004998	0.030106	-2.155129	-----		
		0.3600	0.1752	0.0011	0.9961	0.9766	0.0595	-----		
INFLATION_RATE		-0.068965	-0.019860	0.356614	-0.162908	-0.260855	0.201852	-0.498022	1.000000	
		-0.207389	-0.059592	1.145133	-0.495342	-0.810631	0.618284	-1.668369	-----	
		0.8403	0.9538	0.2817	0.6322	0.4385	0.5517	0.1296	-----	
REAL_INTEREST_RATE		0.437077	-0.240555	0.000582	-0.111402	0.208535	0.221678	0.113654	-0.863129	1.000000
		1.457858	-0.743496	0.001745	-0.338299	0.639867	0.682002	0.343185	-5.127664	-----
		0.1789	0.4761	0.9986	0.7444	0.5383	0.5124	0.7393	0.0006	-----

4.3. Significance of Model

Adjusted R^2 for this model is 94.77%, which indicates that 94.77% of the changes in the dependent variable are due to the independent variables. The model as a whole was significant, where the f-statistic value of the model was 23.69, which is greater than the tabulated value. The value of the Durbin-Watson coefficient is 2.70, which indicates that the model does not suffer from an autocorrelation problem. The results confirmed that all variables were significant at 5% except for the variables of inflation and the real interest rate where their significance was 10%.

4.4.The Estimation Model

ROA = 46.73 -72.95*FNS - 7.93*FMS - 7.22*TLTA+ 0.04*DCPS -0.06*SA+ 0.28*GDPG - 0.03*INF - 0.05*RIR

After estimating the econometric model, the results indicated an inverse relationship between (FNS) and (ROA). The FNS coefficient was -0.72, indicating 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). The FMS coefficient was - 7.93, showing that every change of one unit in the FMS leads to a change of -7.93 in ROA. The results also indicated that there is an inverse relationship between (TLTA) and (ROA). The coefficient for (TLTA) was -7.22, that is, every change of one unit in the (TLTA) led to a change of -7.22 in the dependent variable. The (DCPS) had a direct relationship with the dependent variable. The coefficient of the (DCPS) was 0.04, meaning that every one-unit change in the (DCPS) led to a change of 0.04 units in the dependent variable. The (SA) had an inverse relationship with the (ROA) variable, the value of the parameter of (SA) was -0.06, meaning that every change of one unit in a variable (SA) led to a change of -0.06 units in (ROA). The relationship of (GDPG) was

directly related to (ROA), a change of one unit in (GDPG) led to a change of 0.28 units in the variable (ROA). The inflation rate (INF) had an inverse relationship with the dependent variable (ROA), every one-unit change in the inflation variable led to a change of -0.03 in (ROA). Finally, (RIR) had an inverse relationship with (ROA), each one-unit change in the RIR variable led to a change of -0.05 units in the ROA variable.

4.5. Interpretation of Results

The variables relevant to foreign banks' entry had 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. An increase in the loan-to-asset ratio should impact the return on assets positively, which is not the case based on our observations. This could be caused by increased interest rates as a bank's TLTA increases, and this would lead to borrowing more money from other banks or the central bank to fund its loans. Hence, increasing interest expenses, which would reduce the bank's profits and ROA. Real interest rates increased from 0-.56 in 2011 to 4.39% in 2021. Another reason for such a negative relationship between variables could be the increased risk of default, however, additional research is needed to fully explain this.

Regarding DCPS, it had a positive relationship with the return on assets variable, an increased in the proportion of private credit granted by banks in GDP enhanced the profits of banks and return on assets. Regarding SA, it had an inverse relationship with the rate of return on assets, and this might be due to the large number of fluctuations that investments in securities experienced from 2011 to 2021 and volatility in the real interest rate.

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

The inflation rate had an inverse relationship with the rate of return on assets because it was 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) could 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 the Quality Tests of the Estimation Model as follows:

Table (4) Quality Tests of the Estimation Model

Econometric Diagnose	Test Indicator	Significance	Treat
Normality	Jarque-Bera	If the p-value is more than 5%, it is normal	P-value is 0. 0.80
Autocorrelation	Durbin-Watson	If the Durbin-Watson value is around 2; there is no autocorrelation	Durbin – Watson is 2.70
Heteroscedasticity	Breuch Pegan	If P>0,05; there is no heteroscedasticity	P- value is 0.47
Serial Correlation	Breusch-Godfrey	If P>0,05; there is no serial correlation	-P-value is 0.09
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 examine the effects of 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.

Regarding the first factor, the increase in the number of foreign banks increased competition in the Egyptian banking sector. This could lead to lower interest rates on loans and higher interest rates on deposits, thus reducing local banks' profits and ROA.

In relation to the second factor, the increase and diversification of foreign banks' assets gave 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, thus hindering local banks’s abilities 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 indeed dampen economic growth. It is therefore important for policymakers to consider 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. This is a critical matter for policymakers and all regulatory authorities to understand the benefits resulting from the liberalization and privatization of banks. Thus, the possibility of benefiting from the headquarters of banks located in developed countries and their entry into developing countries by raising efficiency, diversifying products, and reducing risks and costs resulting from financial instability.

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

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

Since foreign banks attract big local companies and multinational companies, local banks must establish a strong relationship with customers, otherwise, they would lose their customers in favor of foreign banks. In addition, foreign banks had more experienced and qualified employees than local banks, so it would be necessary for local banks to acquire skilled and productive employees, hence enabling their employees to achieve higher performance. In addition to considering 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. This study can provide researchers with ideas relevant to the foreign bank's entry.

References

Alberto, M., Tan, L., Regalado, K., & Reyes, M. (2018). The Effect of Foreign Bank Entry on the Performance of Philippine Domestic Banks, *DLSU Research Congress*.

Alomar, N., Sathye, M., & Graham, P. (2022). The Determinants Influencing Foreign Banks‟ Entry into Saudi Arabia. *Saudi Journal of Economics and Finance, 6*(9), 319-332.

Belaounia, S., Chtioui, T., & Nekhili, M. (2016). The Determinants of Foreign Location and Market-Entry Mode by Multinational Banks: A Simultaneous Approach. *Journal of Applied Business Research (JABR), 32*(3), 883-902.

Cardillo, C., Montanjees, M. M., Motala, M. J., & Patterson, M. N. K. (2004). Foreign direct investment: trends, data availability, concepts, and recording practices, *International Monetary Fund*.

Chen, S. H., & Hsu, F. J. (2022). National Governance Differences and Foreign Bank Performance in Asian Countries: The Role of Bank competition, *Computational Economics*, 59(4), 1283-1333.

Deabes, T. N. (2006). Competition and Privatization of the Egyptian banking. *Available at SSRN 970017*.

Delis, M. D., Hasan, I., & Mylonidis, N. (2020). Foreign Bank Ownership and Income Inequality: Empirical Evidence, *Applied Economics*, 52(11), 1240-1258.

Hassan, A. A. (2022). The Impact of Financial Inclusion on Poverty in Both Egypt and Kenya Since 2005, *Doctoral Dissertation- Cairo University*.

Khamphoumy, C., & Sarntisart, S. (2023). The Impact of Foreign Bank Entry on Domestic Banks and Economy of LAO PDR, *Doctoral dissertation, National Institute of Development Administration*.

Le, P. T., Harvie, C., Arjomandi, A., & Borthwick, J. (2019). Financial Liberalisation, Bank Ownership Type and Performance in a Transition Economy: The Case of Vietnam, *Pacific-Basin Finance Journal, 57*.

Liu, L. X., Jiang, F., Sathye, M., & Liu, H. (2021). Are Foreign Banks Disadvantaged Vis-À-Vis Domestic Banks in China? *Journal of Risk and Financial Management*, *14*(9).

Lu, S. (2020). The Impact of Foreign Banks' Entry into China on the Operating Efficiency of China's Banking Industry, *Financial Engineering and Risk Management*, *3*(1), 156-164.

Lu, W., & Mieno, F. (2020). Impact of Foreign Entry into the Banking Sector: The Case of Thailand in 1999–2014, *Pacific-Basin Finance Journal*, 64.

Marcelin, I., Egbendewe, A. Y., Oloufade, D. K., & Sun, W. (2022). Financial Inclusion, Bank Ownership, and Economy Performance: Evidence from Developing Countries, *Finance Research Letters*, *46*.

Memon, A. A., Ghumro, N., Rajput, O., Kumar, S., & Memon, A. A. (2021). Role of Foreign Banks Entry in Promoting Financial Inclusion A Time Series Analysis of Five Permanent Members of UN Security Council, *Available at SSRN 3850307*.

MENA-OECD Investment Programme (2002) Egypt National Investment Reform Agenda Workshop Privatisation Session: Reforming State Owned Banks, OECD.

Mohieldin, M., & Nasr, S. (2007). On Bank Privatization: The case of Egypt. *The Quarterly Review of Economics and Finance*, *46*(5), 707-725.

Oino, I., & Ukaegbu, B. (2014). The impact of Foreign Bank Entry on Domestic Banking in a Developing Country the Kenyan Perspective. *Banks and Bank Systems*, *9*(1), 28-35.

Omran, M. (2007). Privatization, State Ownership, and Bank Performance in Egypt. *World Development*, *35*(4), 714-733.

Sathye, M. (2002). The Impact of Foreign Banks on Market Concentration: The Case of India. *Applied Econometrics and International Development*, *2*(1).

Shahid, K. G., Omar, M., & Kiran, J. (2019). Why Foreign Banks Fail in Emerging Economies: Risk Management Perspective from Pakistan. *Journal of Islamic Financial Studies*, *5*(2).

Wu, J., Chen, M., Jeon, B. N., & Wang, R. (2017). Does Foreign Bank Penetration Affect the Risk of Domestic Banks? Evidence from Emerging Economies. *Journal of Financial Stability*, *31*, 45-61.

Yin, H. (2021). Foreign Bank Entry and Bank Competition: Cross-country heterogeneity, *Global Finance Journal*, *48*.

Abobaker, M. J. (2018). Bank Specific, Industry Concentration and Macroeconomic Determinants of Egyptian Bank Profitability. *International Journal of Accounting and Financial Studies*, *8*(1), 380-397.

Apergis, N., & Polemis, M. L. (2016). Competition and Efficiency in the MENA Banking Region: A Non-structural DEA Approach. *Applied Economics*, *48*(54), 5276-5291.

Berger A.N., Hasan I., & Zhou, M. (2009). Bank Ownership and Efficiency in China: What Will Happen in the World's Largest Nation? *Journal of Banking & Finance, 33*(1), 113–130.

Bremus, F. M. (2015). Cross-border Banking, Bank Market Structures and Market Power: Theory and Cross-country Evidence. *Journal of Banking & Finance , 50*, 242–259.

Chen, M., Wu J., Jeon, B. N., & Wang, R. (2017). Do Foreign Banks Take More Risk? Evidence from Emerging Economies. *Journal of Banking & Finance*, *82*, 20–39.

Claessens, S., Demirguc-Kunt, A., & Huizinga, H. (2001). How Does Foreign Entry Affect Domestic Banking Markets? *Journal of Banking and Finance*, *25*, 891–911.

Cubillas, E., & González, F. (2014). Financial Liberalization and Bank Risk-taking: International Evidence. *Journal of Financial Stability*, *11*, 32–48.

Demirgüc-Kunt, A., Detragiache, E., & Merrouche, O. (2013). Bank Capital: Lessons from the Financial Crisis, *Journal of Money, Credit and Banking*, *45*, 1147–1164.

El-Ansary, O., & Hafez, H. (2015). Determinants of Capital Adequacy Ratio: An Empirical Study on Egyptian Banks. *Corporate Ownership & Control*, *13*(1).

Elbannan, M. A., & Elbannan, M. A. (2014). Do Corporate Governance Disclosures Matter for Bank Cost of Capital? Empirical Evidence from Accounting Statements of Egyptian Banks. *Accounting and Finance Research*, *4*(1), 59-77.

Fayed, M. E. (2013). Comparative Performance Study of Conventional and Islamic Banking in Egypt. *Journal of Applied Finance and Banking*, *3*(2).

Ghosh, A. (2016). Banking Sector Globalization and Bank Performance: A Comparative Analysis of Low Income Countries with Emerging Markets and Advanced Economies. *Review of Development Finance*, *6*(1), 58–70.

Hafez, H. M. M. (2018). Examining the Relationship between Efficiency and Capital Adequacy Ratio: Islamic versus Conventional Banks An Empirical Evidence on Egyptian Banks. *Accounting and Finance Research, 7*(2), 232-247.

Hashem, H. Y. M. (2016). Determinants of Egyptian Banking Sector Profitability: Time-Series Analysis from 2004-2014. *International Journal of Business and Economic Sciences Applied Research (IJBESAR), 9*(2), 73-78.

Hassan, H., & Jreisat, A. (2016). Does Bank Efficiency Matter? A Case of Egypt. *International Journal of Economics and Financial Issues*, *6*(2), 473-478.

Jeon, B. N., Olivero, M. P., Wu, J. (2011). Do Foreign Banks Increase Competition? Evidence from Emerging Asian and Latin American Banking Markets. *Journal of Banking & Finance*, *35*(4), 856–875.

Kim, H. E., & Lee, B. Y. (2004). The Effects of Foreign Bank Entry on the Performance of Private Domestic Banks in Korea. *Bank of Korea Institute of Monetary and Economic Research*.

Luo, Y., Tanna, S., De Vita, G., (2016). Financial Openness: Risk and Bank Efficiency: Cross-country Evidence. *Journal of Financial Stability*, *24*, 132–148.

Mishkin, F.S. (2007). Is Financial Globalization Beneficial? *Journal of Money, Credit and Banking, 39* (2–3), 259–294.

Moguillansky, G., Stuart, R., & Vergara, S. (2004). Foreign Banks in Latin America: A Paradoxical Result. *CEPAL Review. 82*, 19–28.

Sturm, J. E., & Williams, B. (2004). Foreign Bank Entry, Deregulation and Bank Efficiency: Lessons from the Australian experience, *Journal of Banking & Finance*, *28*(7), 1775–1799.

Yeyati, E. L., & Micco, A. (2007). Concentration and Foreign Penetration in Latin American Banking ectors: Impact on Competition and Risk. *Journal of Banking & Finance.* ;*31*(6), 1633–1647.

Yin, H. (2019). Bank Globalization and Financial Stability: International Evidence, *Research in International Business and Finance. 49*, 207–224.