The Impact of International Banks on Banking Sector Development in Egypt (efficiency & depth & stability) [1]

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ABSTRACT

This study aims to test the impact of foreign banks' entry on banking sector development in Egypt; data for the period (2011-2021) were collected from the World Bank database and the central bank of Egypt (CBE) to estimate the used econometric model. Banking sector development represents the dependent variable; the study used a vector consisting of three variables and a multiple regression model to test the relationship between foreign banks' entry and Banking sector development. The results show a positive impact of foreign banks' entry on the banking sector development in Egypt.

Keywords: *Foreign Bank Entry, Bank Sector Development, Financial System, Development Bank*

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1. INTRODUCTION

The relationship between financial development and economic growth still occupies interests of many economists; the financial sector development is an important factor in improving developed and developing economies because it leads to increasing financial innovation, mobilizing a lot of savings, and directing them to the most productive and profitable investments (Shahbaz, M., Nasir, M. A., & Lahiani, A. 2015).

The recent decades have witnessed a significant expansion in the application of developing countries to programs of economic transformation and reform, the growing trend towards a free market economy, and integration into the global economy (Boughton, 2002). The banking sector is one of the largest sectors affected by the globalization movement and the liberalization of financial services (Yin, 2020). Foreign bank's entry affects local banks because it makes competition hard with local banks (Huong et al., 2022).

Thus, every local bank tries to improve the quality of the financial services it provides; the effects of foreign banks entry differ from one country to another according to the market situation and economic conditions, although there are several advantages to entering foreign banks; The recent literature on the role of foreign banks in accelerating economic growth is controversial (Wu et al., 2010).

Foreign banks' entry contributes to enhancing financial development by increasing competition, improving the quality of financial services, encouraging innovation in the sector, and facilitating openness to capital markets; however, Foreign banks' entry may harm the local banking sector, especially in case of the existence of monopolistic practices (Gopalan, 2018).

2. EGYPTIAN BANKING SECTOR OVERVIEW

At the beginning of the sixties, the Egyptian government took wholly control of the banking system through the nationalization of banks and forced mergers between Egyptian banks, since the nineties, many structural reforms have taken place in the sector at the legislative and institutional levels, despite the effects of the Russian-Ukrainian war and Covid-19 Pandemic the depreciation of the Egyptian pound more than once, the assets and liquidity position of Egyptian banks are still good, this is due to the fact that the banking sector has large local deposits (Stiftung, 2022).

(Alaa El-Shazly, 2001) The Egyptian authorities have undertaken major banking reforms in the 1990s towards a more liberal system. This included strengthening banking supervision and regulations based on internationally accepted standards to deal with the risks inherent in the new policy environment. The modern banking industry in the country began in the middle of the nineteenth century. At the time, Egypt was one of the most open and cosmopolitan economies in the region, and thus attracted a host of other foreign institutions over the following decades. These included the Crédit Lyonnais in 1866, the Ottoman Bank in 1867 and a number of Greek, French and Italian institutions. The National Bank of Egypt (NBE) and the Agricultural Bank of Egypt were established with British capital in 1898 and 1902, respectively. The first purely Egyptian bank was Banque Misr in 1920.

- **The Egyptian Banking System: Structure and Competition**

(Alaa El-Shazly, 2001) The Egyptian banking sector witnessed a remarkable expansion in the mid-seventies, driven by what is known as the country's open-door policy. This policy aims to achieve external growth with an effective role for the private sector to enhance economic performance. To serve the new policy, a Banking Law was enacted in 1975 (Law 120/1975) specifying the nature and method of operations for all banks. I identified three types of banks:

o Commercial banks, which usually accept deposits and provide financing for a variety of transactions.
o Business and investment banks, which carry out medium and long-term operations such as promoting new business and financing fixed asset investments. They can also accept deposits and finance foreign trade operations.
o Specialized banks that carry out operations serving a specific type of economic activity. They may accept deposits on demand.

- **Domestic Banks & Foreign Banks in Egypt**

The banking sector in Egypt consists of 38 banks, including 21 foreign banks and 17 local banks (Central bank bulletin). The following table shows all banks in Egypt and their classifications.

Table 1: Foreign and local Banks in Egypt

Foreign Banks		Local Banks	
Qatar National Bank	First Abu Dhabi Bank	National Bank of Egypt	The Export Development Bank of Egypt
The Hongkong and Shanghai Banking Corporation (HSBC)	Attijari Waffa	Banque Misr	Egyptian Arab Land Bank
Blom Bank Egypt	CITI Bank	Arab Investment Bank	Agriculture Bank of Egypt
Abu Dhabi Islamic Bank	Alexandria Bank	Arab International Bank	National Bank of Greece
AlBarka	Audi Bank	SUEZ Canal Bank	The United Bank
National Bank of Kuwait	Credit Agricole	EG Bank	Industrial Development Bank
Emirates NBD	Al Ahli Bank of Kuwait	Banque Du caire	Housing and Development Bank
Faisal Islamic Bank of Egypt	Mashreq Bank	Société Arabe Internationale de Banque	Misr Iran Development Bank
Arab Bank	Abu Dhabi Commercial Bank	Naser Social Bank	
Ahli United Bank	Commercial International Bank		
Arab Banking Corporation			

Source: https://www.bankygate.com/banky/banks

- Banks Listed In Egyptian Stock Market

The following table shows banks listed on the Egyptian Stock Exchange.

Table 2: Banks Listed in Egyptian Stock Market

Bank Name	Symbol
CIB	COMI
EG Bank	EGBE
E Bank	EXPA
AlBarka	SAUD
Housing and Development Bank	HDBK
SAIB	SAIB
Banque Du Caire	BQDC
Faisal	FAIT
QNB	QNBA
Suez Canal Bank	CANA
Credit Agricole	CIEB
Abu Dhabi Islamic Bank	ADIB

Source: The Egyptian Exchange
https://www.egx.com.eg/ar/ListedStocks.aspx

Table (2) illustrates 11 banks listed on the Egyptian Stock Exchange, which equal 28.9% of the total banks operating in Egypt.

3. LITERATURE REVIEW

This section summarizes literature focused on foreign banks' entry and its effects. Several researchers discussed this topic; however, there is a differentiation among their results because of the variations among countries (Wu et al., 2010).

Before discussing literature focused on foreign banks' entry effects, it is necessary to discuss literature focused on foreign banks' entry determinates. Clare et al. (2013) searched for the factors that make foreign banks open their headquarters in London, and they found that international banking activities in London are related Positively to the size of local operations and experience in the local market, while it is negatively related to the geographical dimension. Another study found that foreign bank entry is affected by the characteristics of the host and mother country (Belaounia et al., 2016; Alomar et al., 2022). Toh et al. (2021) agree with the previous study; they concluded that foreign bank entry is affected by economic, institutional, and cultural factors.

Regarding the effects of foreign banks' entry on local banks, a lot of studies have focused on this relationship; however, the results are controversial because of variations in economic circumstances for economies. Foreign banks' entry leads to an improvement in market competition, efficiency, and stability, an increase in the quality of asset management, and provide innovative financial products (Huong et al., 2022). In context, Nguyen (2022) found that the heavy presence of foreign banks enhances local banks' profits.

On the Macroeconomic Level, Khamphoumy & Sarntisart (2023) linked the economic growth rate and assets of foreign banks; they found that an increasing economic growth rate leads to an increase in foreign banks' assets and also foreign banks often act as an alternative to local banks. Vice versa, El Menyari (2019) attempted to identify the impact of the financial development of foreign banks on economic growth; the study found different results among African regions; these results agree with Naaborg et al. 2004 results, they found that foreign bank's entry affects financial development in European countries differently, with variations in countries.

Regarding the effects of foreign bank entry on financial inclusion and risks, Memon et al. (2021) found that foreign bank entry enhances financial inclusion by facilitating access to finance and providing new products. Chen et al. (2019)

studied the relationship between the presence of foreign banks and risky behavior, it found that the entry of foreign banks reduces the risks, and this relationship takes the form of an inverted letter U with financial stability.

3.1 Foreign Bank's Entry

International banking activity has become more important in recent decades due to the integration of economies resulting from the globalization of capital markets; the activities of foreign banks have received increasing attention because of the increasing presence within emerging economies in the late 1990s (Alberto et al., 2018).

The evaluation of financial sector performance is a significant factor for companies; however, the role of foreign banks in attracting foreign direct investment is controversial because the economic channels relevant to foreign banks are still not understood. Foreign banks can provide funds for corporate lending; however, they can exert competitive pressure on the domestic banking industry (Bruno & Hauswald, 2014).

- **Modes of Foreign Banks Entry**

o Branches vs. subsidiaries

Foreign banks can enter the local banking markets either by forming subsidiaries or branches; the foreign bank decision depends on regulatory requirements, tax rates, and the minimum capital; banks choose to establish branches to reduce the costs of establishment and to provide a few services to its customers, but they prefer a subsidiary if they need to make large operations in the local market with separate liquidity and capital, in addition to having management and boards of directors separately (Beck et al., 2014).

o Merger and Acquisition

Foreign banks can enter the local market through acquisition or merger with an existing financial institution, or by establishing a new investment starting from scratch within the host country (Beck et al., 2014).

o Representative Office

What distinguishes representative offices from establishing a branch or subsidiary is lower costs; representative offices enable foreign banks to build brands for

them without the obligation to pay the capital costs of a subsidiary, and representative offices have an advantage when there is a degree of uncertainty in the regulatory frameworks of the host country (Youssef, 2019).

- **Strategies of the Banks to Enter on a Foreign Market**

Foreign banks follow two strategies to determine ways to enter developing countries as below (Hurduc & Niţu, 2011):

Achieving the maximum benefit from their name, reputation, and prestige concerning their international clients, in addition to large domestic companies, which usually request large banking services such as listing shares or issuing bonds.

Making the most of the laws of countries that allow foreign banks to obtain a license that would provide the same treatment and not discriminate between local and foreign banks, especially since there are high barriers to entering this sector.

- **Laws Regulating The Entry of Foreign Banks into Egypt**

According to Article 64 of the Central Bank Law No. 194 of 2020, The Board of Directors of the Central Bank of Egypt may grant preliminary approval to establishments that wish to obtain a license to practice banking business when the following conditions are met (Central Bank Law 194-2020):

The foreign bank license takes one of two forms, either as an Egyptian joint stock company or as a branch of a foreign bank.

The issued and fully paid-up capital shall not be less than five billion pounds, and the allocated capital shall not be less than $150 million or; its equivalent.

The ownership structure should be clear; in other words, the final beneficiary should be known, in addition to ensuring the legality of the source of funds.

Giving a license should not conflict with the country's economic interests.

The license granted to these units should not violate the competition rules and prevent monopolistic practices.

Absence of confusion or similarity between the bank's trade name and the other financial institutions.

The efficiency and quality of feasibility studies, which include the purpose of establishment and the nature of the activities it will perform.

Those wishing to obtain a license should have a good reputation, integrity, and financial solvency.

Clarity and efficiency of plans for internal control, work systems, management, risks, and governance that the bank intends to follow.

In addition to the conditions mentioned, a foreign bank subsidiary or branches of foreign banks must have a specific nationality at the head office of the foreign bank and be subject to the supervision of the central bank in the country in which it is located. Representative offices in Egypt should require the following procedures:

- Representative banks shall not have branches in the Arab Republic of Egypt.
- The main offices in foreign countries should be subject to the supervision of the competent foreign counterpart in the home country, in addition to obtaining approval from this authority to open a representative office in Egypt.
- The representative office's activities should be limited; in other words, the representative office is to identify investment opportunities and study the market, and join between their main centers abroad and the banks registered with the CBE, in addition to contributing to removing the difficulties that Egyptian banks operating in Egypt are likely to face when corresponding with foreign banks abroad.

In addition to the above, representative offices may not engage in commercial activities or financial intermediation activities. The approval of the Governor of the Central Bank must be obtained before the manager responsible for managing the representative office is appointed, in addition to paying the annual control fees, which do not exceed the amount of 5000 dollars annually.

- **Impact of Foreign Bank Penetration on Domestic Economy**

There is a set of effects through which foreign banks and their entry into host countries affect the economies of those countries. The most important of these effects can be summarized as follows:

o Impact of Foreign Banks on Credit Availability

Credit allocation is one of the significant factors leading to growth and development. Therefore, many economists have tried to study the effects of foreign banks' entry on the distribution of credit. The impacts of credit can be divided into two levels. On the macroeconomic level, Banks' lending to companies is the only way for companies to access funds, in addition to the role of credit in the effectiveness of monetary policy. On the Banking sector Level, most commercial bank revenues come mainly from the interests of lending.

o Impact of Foreign Banks on Economic Growth

Despite the role of foreign banks in promoting both financial and economic development, the impact of the entry of these banks is still an area of discussion. Bruno and Hauswald (2014) studied the effects of foreign banks on the real economic growth in both developed and developing countries. They found that foreign banks reduce financial restrictions and promote economic growth rates, especially in developing countries; this is due to the difficulties facing companies based in those countries to access financing. Foreign banks can provide finance to these companies, as well as the role played by foreign banks in reducing risks resulting from the experiences of those banks regarding risk management.

3.2 Banks Development

Before discussing the development of banks, it is necessary to review the definition and features of the financial sector quickly and also review the importance of the bank's development and its effects on economic growth and development, so this part has been divided as follows:

- **Financial Sector Overview**

The financial sector can be defined as a part of the economic environment that provides a framework for the execution of many transactions. According to the International Monetary Fund (2012), The financial sector consists of the central bank, banks, pension funds, stock market, and pension funds (Rosalia, 2013).

Ang (2008) found that the emergence of financial institutions comes as a response to reducing the costs of information and transactions within the market.

Finding savers and borrowers without trustworthy organizations is very expensive and complex because individuals who want to make investments face a lot of difficulties when they try to identify credible investment projects, and they take a long time, but with the presence of financial institutions, it is possible to reduce these costs because these institutions can reduce costs and give money to individuals willing to invest (Ang, 2008).

Four main variables determine financial institutions' characteristics which are the size of financial institutions, efficiency, access, and stability. The following table summarizes the sub-indicators of financial institutions' features.

Table 3: The Key Indicators of Financial Institutions

Chapter 1 Scope	Indicators
Size of Financial Institutions	Central bank assets to GDP
	Deposit money banks assets to GDP
	Other financial institutions assets to GDP
Access	Bank accounts per 1000 adults
	Account at a formal financial institution Age 15+
	Bank branches per 100000 adults
Efficiency	Lending deposits spread
	Net interest margin
	Overhead costs
	Concentration
Stability	Z- Score

Source: (Forouheshfar, Y. M. Z. 2017 & Sharma, K. 2016).

- **The Need for Banking Development**

The need for an advanced financial system has emerged because of the high costs of information and transactions. At a time when some companies can obtain sufficient funds to execute their business, many entrepreneurs cannot carry out their business due to the lack of finance, so they go to private companies to achieve their investments (Alghantari, 2018).

- **The Goals of Bank Development**

The banking development process seeks to achieve a set of objectives as below:

More Effective Resources Allocation:

The existence of a developed financial and banking system leads to the efficient allocation of resources because financial intermediaries have high efficiency in evaluating investment opportunities and providing low-cost loans for companies to invest in profitable projects; this encourages them to increase their investments; this way encourages only high-quality investments, which have a positive impact on economic growth, in addition to corporate information can be obtained more quickly and easily in the presence of a developed financial system (Ang, 2008).

o Savings Mobilizing

Banks and financial institutions contribute to coordinating saving and investment decisions because they grant individuals interest on their savings and allow companies to borrow and invest in economically feasible projects. Financial intermediaries try to attract individuals to increase their bank deposits if savings are not sufficient.

o Reducing Risks

A developed financial and banking system allows individuals to convert illiquid assets (stocks and bonds) into cash within a short time, it also encourages investors to invest in profitable projects, and this enables them to sell their investments and obtain cash when needed, just as the financial system and banking institutions allow investors to keep their savings in the form of liquid assets; which makes to avoid liquidity risk (Allen & Gu, 2015).

- Factors Affecting The Development of Banks

There are many factors affecting the development of banks that can be mentioned as follow (Reid, 2010):

o Type of economy.

o Stage of development.

o Macroeconomic shocks.

o Social and political influences.

o Legal and regulatory constraints.

o Incentives for innovation.

o Financial infrastructure.

o Access to global investors.

o Fiscal and exchange rate regimes.

- **Research Variable & Metrics**

The following table shows the variables used in econometric model.

Table 4: Research Variable

Independent Variable: Foreign Banks	Dependent Variable The Development of Banks
- FNS: foreign number share (Number of foreign banks/ total banks) - FMS: foreign market share (Asset of foreign banks/ total assets)	- Domestic credit to private sector of GDP - Net Interest Margin - Z- Score

Prepared by the Researcher

3.3 Conclusion

In this chapter, the researcher has discussed the theoretical framework of the research variables represented in Foreign Bank Entry & Banking Development; it concluded that financial development is essential to better allocation of funds

4. METHODOLOGY

4.1 Introduction

This section aims to discover the theoretical framework of the research and the hypotheses based on the literature review and also discusses the research design and data collection.

4.2 Research Questions

The main question of the study can be formulated in: What is the impact of the entry of foreign banks on the development of banks?

From this question, a group of the following sub-questions emerges:

- Did foreign banks contribute to the development of the banking sector?
- What is the size of the impact of foreign banks on the banking development dimensions (Domestic credit to the private sector of GDP- Net Interest Margin - Z- Score)?
- How can the foreign bank's entry encourage local banks to provide better services?

4.3 RESEARCH OBJECTIVE

- Identify the impact of the foreign banks' entry on the development of banking sector in Egypt.

4.4 RESEARCH HYPOTHESES

This study attempts to test the following hypotheses:

H1: There is a significant statistical relationship between the dependent variable (Bank Sector Development) and the independent variables (foreign number share and foreign market share), as well as the control Variables of the study (Capital Adequacy ratio, Assets, efficiency of financial intermediation, liquidity ratio, Inflation Rate, Real Interest Rate).

H2: All The Research independent variables have a joint significant statistical impact on Bank Sector Development.

4.5 RESEARCH VARIABLES

The following table shows the variables used in econometric model.

Table 5: Research Variable

Independent Variable: Foreign Banks	Dependent Variable: The Development of Banks
- FNS: foreign number share (Number of foreign banks/ total banks) - FMS: foreign market share (Asset of foreign banks/ total assets)	- Domestic credit to private sector of GDP - Net Interest Margin - Z- Score

Prepared by the Researcher

4.6 RESEARCH MODEL

The measure of the development of the banking sector will be measured in three dimensions: depth, efficiency and stability of the banking sector, respectively. The functional models used are as follows:- private sector credit/GDP represent Depth of banking sector

- net interest margin represent banking sector efficiency

- Z-score represent banking sector stability

The regression model was as follows:

$$BD = \alpha_0 + \alpha_1 \, FNS + \alpha_2 \, FMS + \alpha_3 \, CAR + \alpha_4 \, LR + \alpha_5 \, EFI + \alpha_6 \, GDPG + \alpha_7 \, INF + \alpha_8 \, RIR + a_9 \, AG + e \qquad (3\text{-}1)$$

Where:

BD: bank development, this variable is vector consists of three variables Domestic credit to private sector of GDP, Net Interest Margin and Z- Score

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

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

CAR: Capital Adequacy ratio

AG: Assets (size and growth)

EFI: efficiency of financial intermediation

LR: liquidity ratio

INF: Inflation Rate

RIR: Real Interest Rate

GDPG: GDP Growth

a0,…, 9: parameters

e: stochastic error

4.7 Theoretical Framework

This part illustrates the study's theoretical framework by showing the study's variables and how they relate. The following Figure show the theoretical framework.

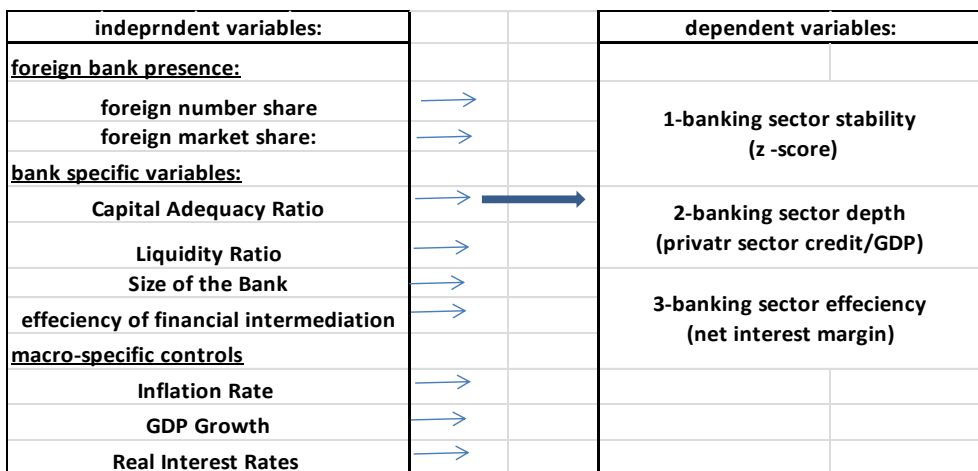| indeprndent variables:				dependent variables:	
foreign bank presence:					
foreign number share	→			1-banking sector stability	
foreign market share:	→			(z -score)	
bank specific variables:					
Capital Adequacy Ratio	→	⟹		2-banking sector depth	
Liquidity Ratio	→			(privatr sector credit/GDP)	
Size of the Bank	→				
effeciency of financial intermediation	→			3-banking sector effeciency	
macro-specific controls				(net interest margin)	
Inflation Rate	→				
GDP Growth	→				
Real Interest Rates	→				

Figure 1: The study Theoretical Framework
Model theoretical framework

4.8 Variables Description

This Part is critical because it illustrates the variables and how to measure them. The Following Table shows that.

Table 6: Variables Description

Variable	Equation
Z-score	(ROA+ Equity/Total Assets)/SD ROA
DEBTH	PRIVATE SECTOR CREDIT / GDB
EFFECIENCY	NET INTREST MARGIN
Capital Adequacy Ratio	Capital / Total Asset
Foreign Number Shares	Number of foreign Banks/ Total Banks
Real Interest Rates	Nominal Interest Rate - Inflation Rate
Liquidity Ratio	LCR = High-quality Liquid Assets (HQLA) / Total expected cash outflows
Inflation Rate	GDP Defaltor
GDP Growth	$((GDP_t - GDP_{t-1})/ GDP_t)*100$
Foreign Market Share	assets of foreign banks/ Total Banking Assets
SIZE OF BANK	the natural logarithm of the value of total assets
efficiency of financial intermediation	credit to the private sector

4.9 Variable and Sources

The following table summarizes the local and international sources that research depended on to obtain the data.

Table 7: Variables and Sources

Variable	source
Z-score	center bank of egypt (monthly and yealy bulletins)
Capital Adequacy Ratio	center bank of egypt (monthly and yealy bulletins)
Foreign Number Shares	decypha database
Real Interest Rates	worldbank
Liquidity Ratio	center bank of egypt (monthly and yealy bulletins)
Inflation Rate	worldbank
GDP Growth	worldbank
Foreign Market Share	decypha database
Domestic credit to private sector of GDP	center bank of egypt (monthly and yealy bulletins)
Size of the Bank	center bank of egypt (monthly and yealy bulletins)
Net Interest Margin	center bank of egypt (monthly and yealy bulletins)
Efficiency of Financial Intermediation	center bank of egypt (monthly and yealy bulletins)

4.10 The Variables of this Study

- Dependent Variable (Banking Sector Development) Measures

Based on Aluko and Ajayi (2018), three dimensions of banking sector development (depth, efficiency, and stability) were considered for the index construction.

The researcher performed three alternative measures of banking sector development. The alternative measures are private sector credit/GDP, net interest margin, and Z-score, which are commonly used for depth, efficiency, and banking sector stability, respectively.

o Depth

Banking depth is often used in financial development literature to determine how successful a banking system is in mediating and whether it plays an important role. The researcher will compute the depth of the banking sector by Private sector credit/GDP.

o Efficiency /NIM

Several studies have revealed that the net interest margin is calculated by dividing net interest income by earning assets (Ghenimi, A., Chaibi, H. and Omri, M. A. B. (2017),; Korbi & Bougatef, 2017; Ozili, 2018; Albaity, M., Mallek, R. S. and Noman, A. H. M. (2019), so the researcher will compute efficiency by using this formula.

o Stability/Z-score

The bank stability concept varies across regions; a single recognized widespread definition of bank stability is yet to be found (Ozili, 2018). Despite the absence of a unified concept of bank stability, some legislators define bank stability as the nonexistence of banking crises. Other regulators view bank stability as a global financial stability risk, where macroeconomic stability is an integrated part of financial stability, meaning that a stable economy leads to bank stability; this also insinuates that price stability leads to bank stability (Korbi and Bougatef, 2017).

The Z-score was calculated using asset returns, and its volatility and leverage ratio as follows: Z-score: $(ROA_{i,t} + E_{i,t}/TA_{i,t})/\sigma ROA_{i,t}$; where $ROA_{i,t}$ and $\sigma ROA_{i,t}$ are the return-on-assets and its standard deviation respectively, and

(Ei,t/TAi,t) is the equity-to-total Assets ratio; this ratio can be translated as the number of standard deviations less than the mean would the returns of the bank have to fall before all its equity.

The Z-score determines the distance to insolvency; the higher the ratio results in higher the bank's stability, and the lower the overall risk means higher returns and lower leverage would increase bank stability. The same z-score formula was also used by (Ghenimi et al., 2017; Korbi & Bougatef, 2017; Ali & Puah, 2018).

- Independent Variable Measures

Various scholars argued and proposed some different variables that can be used to explain and measure banking sector development and determine the relative importance variable of measurement for foreign bank presence. The following variables are considered to play an important role in defining the foreign bank effect. They include; capital adequacy (CA), costs of financial services (CFS), size and growth (SnG), and efficiency of financial intermediation (EFI). Foreign bank entry was measured by calculating the Assets of Foreign banks/ Total Assets (AFB/TAB) and the number of foreign banks/the Total number of banks (NFB/TnB).

- Foreign Bank Presence

Foreign bank entry measure using the asset share of foreign banks as a share of total assets in the banking sector; this approach was used by Wadaki (2013). The alternative way is using the number of foreign banks as a share of the total number of banks in the banking sector (Wadaki, 2013)

o Assets of Foreign banks/ Total Assets (FMS) (Foreign Market Share)

This RATIO is measured by:

= Assets of Foreign banks/ Total Assets

o Number of foreign banks/ Total number of banks

Is measured by the ratio:

Number of foreign banks/ Total number of banks

- Capital Adequacy Ratio

Capital-to-risk weighted assets ratio (CRAR) reflects the bank's ability to absorb losses in the case of specific crisis or insolvency (Korbi & Bougatef, 2017).

On the other hand, there is a negative relationship between capital and bank development because capital is a margin of safety in case of losses. (Korbi & Bougatef, 2017).

- Size and Growth

Most prior empirical evidence shows a negative effect of bank size on banking development (Ghenimi et al., 2017; Trad et al., 2017; Korbi & Bougatef, 2017; Ali &Puah, 2018). sustained by "the assumptions of the agency theory." However, this contrasts with the findings of (Ozili, 2018; Albaity, Mallek, and Noman, 2019), which suggest that bank size affects banking stability positively by ensuring stable earnings without excessive risk-taking

Bank sector size as a macroeconomic variable is used by Ozili (2018); it can be measured by bank deposit to GDP ratio or LOG (ASSETS). The majority of prior literature's empirical evidence shows that bank size effect positively on banking sector development.

- Efficiency of Financial Intermediation

Most empirical literature shows that efficiency has a positive effect on banking development (Ali & Puah, 2018; Ozili, 2018; Albaity et al., 2019; Hassan et al., 2019). However, this contrasts with (Ghenimi et al., 2017). Two other efficiency measures were used by (Albaity et al., 2019). The Lerner index and the Boone indicator; showed that efficiency has a positive and significant effect on banking stability. The study includes a measure to calculate the loan-to-deposit ratio by dividing a bank's total amount of loans by the total amount of deposits for the same period.

So research will use Formula and Calculation for LDR as follow:

LDR=Total Deposits/ Total Loans

- Net Interest Margin

Is a measurement comparing the net interest income a financial firm generates from credit products like loans and mortgages with the outgoing interest it pays holders of savings accounts and certificates of deposit (CDs). Expressed as a

percentage, the NIM is a profitability indicator that approximates the likelihood of a bank or investment firm thriving over the long haul. This metric helps prospective investors determine whether or not to invest in a given financial services firm by providing visibility into the profitability of their interest income versus their interest expenses.

- Liquidity Coverage Ratio

The LCR is designed to ensure that banks hold a sufficient reserve of high-quality liquid assets (HQLA) to allow them to survive a period of significant liquidity stress lasting 30 calendar days.

- Macroeconomics Independent Variables

Macroeconomic condition variables include real annual GDP growth, real interest, and inflation rates. Macroeconomic variables are an important variable that affects bank development, and literature also confirmed that.

o Annual Real Gross Domestic Product Growth Rate (GDP)

Total economic activity measurement by the annual Real GDP growth rate; this variable will be obtained from the World Bank database.

o Annual Inflation Rate (IF)

Is the change in price over a period of time; this variable measures the percentage of increase in the Consumer Price Index (CPI) for all goods.

o Real interest rate

The real interest rate is the lending interest rate subtracted from the inflation rate; it differs by country. The data of the variable will be obtained from the World Bank database.

- Population & sample

Population is banks and we will be taking banks from EGYPTION BANKING SECTOR our sample from the period from 2011 -2021

- Conclusion

In this chapter, the researcher dealt with research design and hypothesis development, as the chapter included: Research Questions, Research Hypotheses, Research Model, Theoretical Framework, Variables description and use in the studies, variable use in study.

4.11 Research Limitations

The research was conducted within the following limits:-

- The research focused on the impact of foreign banks entry on Banking Sector Development.

5. data result

5.1 The Estimation Model

BD = -86.65 + 58.75*FMS - 43.88*FNS + 5.41*AG + 28.54*CAR + 0.05*EFI - 0.04*GDPG + 0.009*INF + 0.15*LR - 0.009*RIR   (4-2)

It is clear from the results of the estimated model that there is a positive relationship between the (FMS) variable and the dependent variable (BD); Where the coefficient of (FMS) was 58.75, which indicates that every change of one unit in the variable (FMS) leads to a positive change of 58.75 in the dependent variable (BD), while (FNS) was in an inverse relationship with variable (BD), where the coefficient (FNS) was -43.88, which indicates that every one-unit change in the variable (FNS) leads to a change of -43.88 units in the dependent variable (BD), while (AG) variable; It came in a positive relationship with (BD); Where the coefficient of (AG) was 5.41, meaning that every change of one unit in the variable (AG) leads to a change of 5.41 units in (BD), as for the variable (CAR); Each increase of one unit in this variable will lead to a change of 28.54 units in the dependent variable (BD), and (EFI) has a direct relationship with (BD), where the value of coefficient of (EFI) is 0.05, which means every one unit increase in the EFI variable will result in an increase of 0.05 in (BD), but (GDPG) was in an inverse relationship with (BD); Whereas, each one-unit change in the variable (GDPG) leads to a change of -0.04 in (BD), and with respect to the inflation variable; It came in a positive relationship with the variable of banking development. Every one-unit increase in the inflation variable leads to an increase of 0.009 units in the banking development variable,

and the (LR) variable has a positive relationship with the banking development variable, where the value of the coefficient of the variable (LR) came to 0.15, which indicates that each change is one unit in the variable (BD). Finally, the variable (RIR) came in an inverse relationship with the variable of banking development, whereas every one-unit increase results in a decrease of -0.009 in the dependent variable. The following table shows the summary of the relationships between the dependent variable and independent variables.

Table 8: The Summary of the Relationships between The Dependent Variable and Independent Variables

Independent Variables	Relation to Dependent Variable According to Expected	Relation to Dependent Variable According to Research Findings
Foreign Market Share (FMS)	Positive	Positive
Foreign Number Share (FNS)	Negative	Negative
Assets Growth (Ag)	Positive	Positive
Capital Adequacy Ratio (CAR)	Positive	Positive
Efficiency of Financial Intermediation (EFI)	Positive	Positive
GDPG (GDP Growth)	Positive	Negative
Inflation (INF)	Negative	Positive
Liquidity Ratio (LR)	Positive	Positive
Real Interest Rate (RIR)	Negative	Negative

Table (8) illustrates the Similarities and differences between the research findings and what was expected. All results are similar to what was expected except the inflation rate and GDP Growth, which was expected first came negative but came

5.2 Interpretation of Results

The positive relationship between the banking sector development and the share of foreign banks can be interpreted as the increase in the presence of foreign banks leading to more liquidity and creating new banking products. The bank development and (FNS) are inverse Because the increase in foreign banks may lead to intense competition with local banks, and this has been confirmed by many researches that focused on this topic.

The size of assets correlates positively with the dependent variable, so the increase in bank assets leads to an improvement in the condition of the banking sector.

(CAR) and (EFI) correlate positively with bank development; this can be interpreted as the efficiency of managing financial institutions and the adequacy of capital leading to the development of the banking sector.

GDP growth rate correlates negatively with banking development; the researcher explains this correlation by the high economic growth rates that may encourage individuals to invest more, which leads to the withdrawal of many funds from within banks; the previous explanation can be applied in the short term only.

Inflation rate and banking sector development correlate positively because a high inflation rate leads to higher interest rates, which encourages individuals to deposit their money in banks; Hence, this enhances the state of development of the banking sector.

The relationship between the liquidity ratio and the development of the banking sector is positive because increasing liquidity protects the banking sector from risk and enhances stability. Real interest rates have an inverse relationship with the banking sector development variable because the higher rates are in favor of individuals dealing with the banking sector, not banks.

5.3 Quality Tests of the Estimation Model

The following table summarizes the quality tests results

Table 9: Summary of Econometric Tests

Econometric Diagnose	Test Indicator	Significance	Treat
Normality	Jarque-Bera	If p-value is more than 5%; it is Normal	P-value is 0.41
Autocorrelation	Durbin-Watson	If Durbin-Watson value around 2; there is no Autocorrelation	Durbin-Watson estimated 1.90; so there is no Autocorrelation problem
Hetroscedasticity	Breuch Pegan	If P>0.05; there is no problem	P-value is ; So there is no Hetroscedasticity
Serial Correlation	Breusch-Godfrey	If P>0.05; there is no problem	P-Value is 0.48; So there is no problem

- **Conclusion**

o Financial development contributes to achieving economic growth and accelerating economic development, especially for emerging economies, because the development of the banking sector leads to an accumulation of capital, increasing savings, improving the allocation and distribution of capital, and reducing poverty.

o The effects of foreign bank's entry are controversial in the literature, where Some confirmed the negative effect, while others found a positive effect. Therefore, this study attempted to identify the impact of the entry of foreign banks on the development of the banking sector in Egypt from 2011 to 2021. Studying the case of Egypt is important for several reasons; Egypt has been preventing foreign banks' entry for long periods, in addition to the scarcity of studies that discuss the relationship between foreign banks' entry and banking sector development.

o Study results found a positive relationship between increasing foreign ownership and the development of the Egyptian banking sector; however, foreign bank entry has a negative effect on local banks because of increasing competition with local banks.

o The results also found that increasing the size of a bank's assets affects positively the development of the banking sector. They also found that the efficiency of financial intermediation, capital adequacy, and liquidity of the banking sector has positive effects on the development of the banking sector, which is consistent with the theoretical frameworks.

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Descriptive Statistics of Measuring variables during the period (2011- 2021)

	Mean	Med	Max	Min	SD	Skewn-ess	Kurtos-is	Jarque-Bera	Pro	Sum	Sum Sq. Dev.
1. The Values of Foreign Number Shares	0.54	0.54	0.55	0.54	0.006	0.18	1.03	1.83	0.39	6.00	0.03
2. Real Interest Rates in Egypt	0.18	0.41	6.92	-6.26	3.56	-0.02	2.86	0.01	0.99	2.01	127.42
3. Inflation rates in Egypt	13.13	11.66	22.9	5.68	5.86	0.46	1.98	0.86	0.64	144.51	344.05
4. GDP Growth Rates in Egypt	3.74	4.18	5.55	1.76	1.31	-0.20	1.69	0.85	0.6	41.2	17.20
5. Liquidity Coverage Ratios	53.21	55.40	62.7	40.3	7.58	-0.36	1.78	0.90	0.63	585.36	574.9
6. Foreign Market Share Values	0.26	0.27	0.32	0.21	0.03	-0.11	2.30	0.24	0.88	2.94	0.09
7. Domestic credit to private sector of GDP	27.60	26.70	34.1	24.02	3.00	1.11	3.33	2.12	0.34	276	81
8. Capital Adequacy Ratio	0.09	0.09	0.10	0.08	0.01	-0.85	3.03	1.31	0.51	1.04	0.00
9. Assets Size and Growth in Egypt	14.98	15.19	15.7	14.0	0.63	-0.22	1.41	1.24	0.53	164.87	4.03
10. Efficiency of Financial Intermediation values in Egypt	45.70	46.40	50.2	40.8	2.82	-0.59	2.71	0.66	0.71	502.80	79.62

correlation Matrix

Covariance Analysis: Ordinary
Date: 12/10/22 Time: 01:14
Sample: 2011 2021
Included observations: 11

Correlation
t-Statistic

Probability	BD	FNS	FMS	CAR	AG	EFI	LR	GDPG	INF	RIR
BD	1.000000									

FNS	0.211207	1.000000								
	0.648244	---								
	0.5330	---								
FMS	-0.164448	-0.836189	1.000000							
	-0.500155	-4.574001	---							
	0.6290	0.0013	---							
CAR	-0.085082	0.611657	-0.687714	1.000000						
	-0.256174	2.319453	-2.841863	---						
	0.8036	0.0455	0.0193	---						
AG	0.602620	0.879998	-0.830313	0.521282	1.000000					
	2.265407	5.558143	-4.469683	1.832523	---					
	0.0497	0.0004	0.0016	0.1001	---					
EFI	-0.117230	0.214061	0.008666	0.030731	0.052844	1.000000				
	-0.354132	0.657420	0.025998	0.092237	0.158753	---				
	0.7314	0.5274	0.9798	0.9285	0.8774	---				
LR	-0.247041	-0.866398	0.521779	-0.515479	-0.753252	-0.406376	1.000000			
	-0.764829	-5.205121	1.834922	-1.804684	-3.435682	-1.334268	---			
	0.4640	0.0006	0.0997	0.1046	0.0074	0.2149	---			
GDPG	0.629362	0.684033 **	-0.525581 **	0.493356	0.840951	-0.131733	-0.753933	1.000000		
	2.429620	2.813209	-1.853370	1.701567	4.662360	-0.398675	-3.442869	---		
	0.0380	0.0203	0.0968	0.1230	0.0012	0.6994	0.0074	---		
INF	-0.297514	0.376906	-0.019729	0.464962	0.065775	0.205538	-0.541958	0.201775	1.000000	
	-0.934874	1.220747	-0.059197	1.575555	0.197754	0.630067	-1.934631	0.618037	---	
	0.3743	0.2532	0.9541	0.1496	0.8476	0.5443	0.0850	0.5519	---	
RIR	0.525325	-0.227776	0.011018	-0.288147	0.147299	-0.227305	0.223216	0.182520	-0.815129	1.000000
	1.852123	-0.701775	0.033056	-0.902729	0.446769	-0.700245	0.686981	0.556913	-4.221428	---
	0.0970	0.5006	0.9744	0.3902	0.6656	0.5015	0.5094	0.5912	0.0022	---

** significant at 10%

تأثير البنوك العالمية على تنمية القطاع المصرفي في مصر (الكفاءة والعمق والاستقرار)

أ.د. حسن أحمد منير الصادى   أية محمد سامي

ملخص البحث باللغة العربية

تهدف هذه الدراسة إلى اختبار أثر دخول البنوك الأجنبية على تطور القطاع المصرفي في مصر. تم جمع بيانات الفترة (2011-2021) من قاعدة بيانات البنك الدولي والبنك المركزي المصري لتقدير النموذج الاقتصادي القياسي المستخدم. ويمثل تطور القطاع المصرفي المتغير التابع؛ استخدمت الدراسة متجهاً يتكون من ثلاثة متغيرات ونموذج الانحدار المتعدد لاختبار العلاقة بين دخول البنوك الأجنبية وتطور القطاع المصرفي. وتظهر النتائج الأثر الإيجابي لدخول البنوك الأجنبية على تطور القطاع المصرفي في مصر. وقد توصلت نتائج الدراسة إلى وجود علاقة إيجابية بين زيادة الملكية الأجنبية وتطور القطاع المصرفي المصري. إلا أن دخول البنوك الأجنبية له تأثير سلبي على البنوك المحلية بسبب المنافسة المتزايدة مع البنوك المحلية.

الكلمات الدالة: دخول البنك الأجنبي، تطوير القطاع المصرفي، النظام المالي،تطوير البنوك.

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