Profitability Determinants in Public & Private Commercial Banks: Evidence from the Egyptian Banking Sector

Submitted By

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Abstract:

This paper analyze/examine different internal and external factors that might influence profitability levels of commercial banks operating in the Egyptian banking sector. A sample of twelve commercial banks were selected; six of them are listed banks and the other six represent non-listed banks covering a time span of eight years starting from 2015 till 2022. In the light of examined literature, determinants of banks profitability were categorized as internal/bank- specific factors and external/industry-specific factors. Results achieved support and contradicts some of examined previous studies, results show significant impact of internal factors such as credit risk (positive), liquidity Risk (negative), earning assets to deposits ratio (negative), operating expense ratio (negative), and capital adequacy ratio (positive) on banks profitability levels represented by ROAA, ROAE, and NIM. Also, findings demonstrate significant impact of such macroeconomic factors as inflation rate (positive), GDP growth rate (positive), real interest rate (positive), and Egyptian banking sector development rate (negative) on Egyptian banks profitability levels.

Key Words: Credit Risk, Liquidity Risk, Capital Adequacy, Real Interest Rate, Inflation Rate, Return on Assets, Return on Equity, Net Interest Margin.

1. Introduction:

Commercial banks play a critical role in any economy, their power & stability is a prerequisite for economic growth and econoimc development. To mainitain stable banking system, banks should channel and utilize availible financial resources in thier most productive use so as to be profitable entetities as well as benefiting their stakeholders (Peling & Sedana, 2021). Banks financial performance has a significant impact on country's growth & develooment, strong financial performance ensure availible liquidity with low cost, such position will boost inverstment rates and strengthen capital adequacy. Consequently, poor financial performance resrtict economic growth through limited liquidity associated with high cost of capital (Bandara et al., 2021).

Banks are financial institutions that act as financial intermediaries. This is because they collect financial resources from surplus units and allocate them to deficit units for the purpose of investment, which ultimately leads to the economic growth of the state (Rana-Al-Mosharrafa & Islam, 2021). Through performing exclusivly their intermediation function, commercial banks perform size transformation through converting small amount/volume of deposits into large amount/volume of loans, maturity transformation through converting deposites with different maturities to one maturity long-term loan, and risk transformation as investors utilize depositers savings in their different investment oppurunities. Moreover, the speed of financial control, technological progress, and financial innovation are forces that lead to new financial development & sustainability (Muriithi et al., 2016).

Accoring to Mohsin Jadah et al. (2020) and Farooq et al. (2021) critical role of banks is more pronounced & evidented in developing countries, in these countries financial markets are generally underdeveloped and high level of financial exclusion exisists, as a result, banks exert critical efforts towards financial inclusion in order to attract funds from surplus units and direct it towards its most productive use; as a result high level of economic grwoth, economic development, and economid welfare will exist.

Global financial crisis of 2008 reflects critical importance of banks profitability on both national economy level and global economy level

(Zampara et al., 2017). Classical approach for commercial banks management includes asset management strategies, liablity management stratgies, and asset-liability management strategy; all these stratgies attempt to aid banks towards acheieving high level of earning and profits as strong banks will support different invstment sectors locally and attract foriegner investors towards entering local investemnt environment (Elekdag et al., 2020).

With respect to Egypt, commercial banks play a significant role in the egyptian financial system as a whole especially in the egyptian non-banking financial sector. nowdays, many commercial banks in egypt offer great range of financial services other than financial intermediation including financial consultancy, promotion & underwriting of securities, credit rating, insurance services, mortgage financial services, and many other services. Size of Egyptian banking sector has doubled during the past five years (2018-2022), number of commercial banks operating nowdays in Egypt reach thirty-eight commercial bank, ten of them are belonging to public enterprise sector. Through this period, the Egyptian state worked with proactive steps in order to lay foundations of an efficient banking sector that capable of maintaining stability in economic conditions, supporting development plans, withstanding multiple challenges & crisis, and acheving high levels of financial inclusion. Through doing so, Egyptian banking sector can play critical role in mobilizing local & foreign savings aiming at acheieving strong levels of financial protection for all stakeholders.

Egyptian goverenmenet recently exterts great efforts in order to increase local & golbal confidence towards egyptian banking sector, this was done through proactive steps taken as well as adapting monetary policy tools to enhance financial inclusion rates through a set of measures & indicators developed by the central bank of Egypt. Egyptian banking sector plays a major role in mobilizing local & foreign savings as well as achieving financial protection for customers & investors. This makes this sector continulay in need to enjoy high level of liquidity & profitability, in doing so, Egyptian baanking sector can contributes directly in acheiving a state of financial stability that will helps in achieving sustainable economic growth & edveleopment. All these efforts has received praise & appreciation from international financial

institutions such as world bank & international monetary fund; the international monetary fund confirmed that the Egyptian banking sector continues to demonstrate its ability to withstand challenges, financial safety indicators of June 2022 show a highly liquid banking sector, with sufficient levels of capital and low shares of non-performing loans[1].

According to worldbank reports[2], the Egyptian banking sector has the ablity to withstand crises, as it enjoys a decrease in the ratio of loans to deposits, which indicates stability of the banking sector and the abundance of liquidity. However, reports confirmed that, the egyptian economy starting from 2013 was exposed to a group of shocks, which contributed to an increase in banks' exposure to financial risks. Also, human development report issued by united nations indicated that; Egypt has taken several steps to make necessary financing available to small & micro projects through its solod banking sector, in addition to increasing volume of revoloving credit allowed to these projects. Moody's also highlighted in its published reports that; financing structure of Egyptian banks is characterized by stability, significant buffer liquidity, as well as strong profitability & flexible loan performance. These factors together suggested an effecienct, solid, and sustainble banking sector[3].

During COVID-19 panademic, while banks in many countries attempt to close their branches, Egyptian banks succeeded in strengthening their presence. Reports[4] showed growing confidence in

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(1) IMF Country Report No. 23/2, Arab Republic of Egypt Request for Extended Arrangement Under the Extended Fund Facility (Press Release & Staff Report), January 2023. (https://www.imf.org/Publications/English).

(2) With one-hundred and eighty-nine member countries and staff from more than one-hundred and seventy countries; World Bank Group is a unique global partnership institution that aims as aiding developing countries in sustainable development process. (https://www.worldbank.org/en/country/egypt).

(3) According to published reports issued by central bank of Egypt (CBE). (https://www.cbe.org.eg/ar/economic-research/economic-reports).

(4) Egypt Information Portal; one of means of disseminating information to make all information available to all Egyptian citizens, this portal provided by Egyptian Cabinet

the Egyptian banking sector, deposits reached record numbers as total volume of deposits in the Eguptian banking sector reached 9.2 trillion pounds in March 2023, compared to 1.4 trillion pounds in March 2014. Deposits were relativly distributed among local & foreign currincies; family sector represented 59.2%, government sector represent 22.2%, private business sector 15.6%, and public business sector represents 15.6% & 2.3% respectively. Credit facility balances reached 4.5 trillion pounds in March 2023, compared to 0.6 trillion pounds in March 2014.

General indicators that ensure continous expansion in the egyptian banking sector includes [5] increasing number of automated teller machines (ATMs); number of ATM machines reached 21,975 machines in December 2022, compared to 7,290 machines in December 2014. On the other hand, number of credit cards reached 5 million cards in December 2022, compared to 2.5 million cards in December 2014. Finally, number of bank branches reached 4,649 branches in March 2023, compared to 3,690 branches in March 2014, moreover, an increase in the rate of return on overnight deposits reached 18.25% in June 2023, compared to 8.25% in June 2014.

As shown in the previous reports, improvement in financial soundness indicators for the Egyptian banking sector noted a positive improvement in capital adequacy, which indicates ability of egyptian banks to absorb shocks and withstand unexpected losses. Ratio of capital base to risk-weighted assets reached 17% in the first quarter of 2023, compared to 13.7% in the first quarter of 2014.

2. Theoretical Framework & Literature Review:

According to Mehta & Bhavani (2017) banks in emerging market economies had witnessed important transformations during the last two

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Information & Decision Support Center to spread a climate of disclosure & transparency. (https://www.eip.gov.eg/IDSC/publication/View.aspx?ID=5356).

([5]) According to information disseminated by Egyptian Cabinet Information & Decision Support center. IDSC provides practical & scientific mechanisms in order to assist scientific research as well as raising community awareness regarding business and social practices. (https://www.idsc.gov.eg/datahub).

decades, reasons almost backed to global financial crisis arises since 2008 in addition to tremendous governmental efforts towards digital transformation & financial inclusion. Economic growth & development requires strong efficient banking sector in order to attract investors through lower funding costs. Efficient banking sector can absorb negative shocks while contributing to overall stability of the whole financial system (Ngweshemi & Isiksal, 2021). In the following section the researcher will present academic literature that deals directly with main research variables.

Abdou & Alarabi (2024) examine private commercial banks profitability inside the Egyptian banking sector, major determinants/factors related to individual commercial banks includes bank size, portfolio of assets, non-performing loans, credit risk, liquidity level, and capital adequacy. Researchers also examine industry-specific factors that might affect banks profitability; banking specific factors includes development rate of banking industry in addition to level of Egyptian banking industry concentration. Researchers also examine in this research some macroeconomic variables that might affect on commercial banks profitability profiles; these variables include both economic growth rate & inflation rate. Fifteen private sector commercial banks were selected, covering a time period of ten years, quantitative panel data was analyzed by applying generalized least square model in addition to conducting multiple linear regression analysis. Commercial private banks profitability was considered through calculating two basic profitability ratios which are return on assets & return on equity. Results show positive significant relationship between economic growth, bank size, inflation rate, capital adequacy and profitability levels in selected banks. On the other hand, ratio of non-performing loans, liquidity risk, and credit risk found to have negative significant impact on banks profitability.

Sayed & Mansour (2023) tries to explore the effect of digital transformation practices on Egyptian banks profitability & liquidity; the Egyptian economy had witnessed recently many efforts towards expanding level of financial inclusion, digital transformation, and reducing financial exclusion. A sample of twenty-seven Egyptian banks were selected through a time series of eight years starting from 2014 till 2021. Generalized method of moment model (GMM) was utilized within selected panel data. Results revealed that, digital transformation has a positive significant impact on Egyptian bank's level of profitability & liquidity; that's to say, more digital transformation practices & applications leads to higher levels of ROA, ROE, and NIM. This study ends up with a group of recommendations through which managers & decision makers can realize in order to enhance banks profitability & liquidity. Egypt's vision 2030 involves establishing strong digital economy, this will directly enhance performance of overall Egyptian banking sector.

(Wagdi & Salman, 2022) tries to examine determinants of banks performance in emerging markets through analyzing commercial banks operating in the Egyptian banking sector. Researchers examine twelve banks operating under supervision of central bank of Egypt within a twenty years of financial performance data staring from 2000 till 2019. Macroeconomic variables were considered also in this study as researchers considers only both bank's operational variables and bank's regulatory variables considering bank's maturity, size, ownership as a controlling variable. Results revealed that; most significant determinants of commercial banks performance include interest rates and economic growth rates. Researchers also concluded that, loan to deposit ratio beside non-performing loans ratio has a great impact on bank's performance. Finally, equity to assets ratio, bank efficiency ratio, governance activity, and size of the bank founded to have insignificant impact on bank's performance.

Abdelzaher (2022) analyze effectiveness of some macroeconomic factors that might affect performance of conventional and Islamic banks during and after global financial crisis and Egyptian financial crisis covering a time series of 17 years starting from 2003 till 2019. Eleven

listed Egyptian banks were selected and relevant data was collected from annual reports and annual published financial statements. performance of both conventional & Islamic banks was judged through two most commonly accepted profitability ratios which are return on assets & return on equity. Independent variables include, bank size, operating leverage, inflation rates, GDP growth rates, non-performing loans ratio, in addition to reinvestment rates. Relevant financial data were analyzed through descriptive statistics, normality tests, and unit root tests. Panel data analysis was also utilized in order to discriminate conventional & Islamic banks results. Results revealed positive relationship between global & Egyptian financial crisis and bank's performance, however, negative relationship were found between bank type and profitability indicators. Islamic banks were chosen in this study as these banks have a number of exclusive characteristics that make it totally distinguished from ordinary commercial banks, Islamic banks mainly based on PLS (profit and loss sharing ratio) were no fixed interest rate are granted for depositors on their deposits.

El Moslemany et al. (2021) investigate the relationship between liquidity risk inside commercial banks represented by cash ratio, current ratio, liquidity asset ratio and profitability indicators inside commercial banks including return on assets, return on equity, and net interest margin. Both private sector banks and public sector banks inside the Egyptian banking sector was examined throughout this research. Financial data required was collected from annual published financial statements for both types of banks, a time series analysis of seven years were conducted from 2013 till 2019. Multiple linear regression was constructed in order to identify fixed effect & random effect of independent variables on dependent variables. Results revealed significant relationship between liquidity risk and bank's profitability in both public & private banks.

(Abugamea, 2018) examine impact of bank-specific factors & general macroeconomic factors on profitability of commercial banks in Palestine. Researcher attempt to combine both internal & external factors that might effect on banks profitability. Accumulated time series analysis of twenty years from 1995 to 2015 was conducted through using

published financial statements of Palestinian banks. Statistical analysis was conducted through ordinary least square method (OLS) to trace the impact of loans, deposits, capital, asset size, inflation rate and economic growth on banks profitability indicators including return on equity, return on assets, and net interest margin. Findings show that, bank size represented by the figure of total assets have a positive significant impact on banks ROE, size of bank capital significantly affect ROA positively, while deposits figure found to have a negative significant impact on both return on assets and return on equity. With respect to net interest margin, neither banks internal-specific factors nor banks external factor found to have such significant impact on banks NIM. Moreover, Palestinian banking sector didn't benefit significantly from both the inflationary environment and economic growth.

Hashem (2016) examine determinants of profitability in the Egyptian banking sector, the basic aim was to highlight most critical factors that might effect on Egyptian commercial banks profitability. Time series analysis was conducted on a quarterly basis from 2004 to 2014, long-term relationships was examined between different financial variables related to banks operations and commercial banks profitability represented by return on equity (ROE). Different variables examined includes bank's liquidity, percentage of non-performing loans, and capital adequacy. Researcher utilize vector error correction model (VECM) to examine short term dynamics & adjustment speed for the model. Findings indicate negative relationship between banks profitability & capital adequacy, also negative relationship was found to exist between percentage of loan provisions & ROE. Consequently, results indicate positive relationship between banks liquidity and level of profitability achieved. Results provide number of sound recommendations that might benefit decision makers inside different banks in order to understand different relations that might exist between different banking variables & banks profitability.

El-Ansary & Megahed (2016) insist that, level of profitability achieved by banking sector is very important to the whole economy; as strong and efficient banking sector that achieve continuously high level of profitability is a prerequisite for economic growth and economic

development. Researchers tries to examine profitability of Egyptian commercial banks before and after the global financial crisis of 2008, researchers utilize E-views statistical package through Generalized method of moments approach in order to analyze research data. Egyptian commercial banks were examined during the period from 2004 to 2013, a time series analysis for ten years. Explanatory variables analyzed throughout this research that researchers insists that it might affect banks profitability includes deposits to total assets ratio, operating income to asset ratio, loan rate, credit risk, capital adequacy, and ratio of Egyptian banks' total assets to Egyptian GDP. Findings suggest that; Significant negative relationship was found between Egyptian commercial banks with credit risk & loans intensity and profitability levels. On the other hand, Egyptian banks with higher capital strength, higher efficient management, and higher asset share, found to enjoy high level of profitability.

Eldomiaty et al. (2015) tries to examine Egyptian commercial banks profitability through identifying different financial aspects that might affect Egyptian banks operations. Banks' competitiveness & operating efficiency will be examined in this research; both large banks and small banks operating in the Egyptian banking sector was examined during this study as the researchers tries to examine link between different banks competitive positions & operating efficiency. Partial adjustment statistical model was utilized in order to measure to what extent do banks financial performance might affect level of operating efficiency. Sample of twenty-four Egyptian commercial banks were selected covering a time series of eight years from 2001 to 2008. Findings revealed positive significant relationship between asset quality, credit risk, liquidity and level of operating efficiency especially in large competitive banks; this turns back to efficient and rational financial policies followed and designed in high competitive banks compared to Egyptian lower competitive banks.

(Al-Jafari & Alchami, 2014) investigate profitability determinants of commercial banks in Syrian banking sector. Their efforts aim at identifying significant industry-specific factors and individual bank-specific factors that might influence profitability of Syrian commercial

banks. Researches in addition takes into consideration impact of some macroeconomic factors that might affect profitability of Syrian banks. Central bank of Syria exerts many efforts recently in order to maintain stability of commercial banks, but question that still arises; why some commercial banks in Syria is more profitable than another, this study tries to answer such questions through examining different profitability determinants. Generalized method of moments technique (GMM) was followed on panel data set on a time series of eight years starting from 2004 till 2011. Findings revealed that; all bank-specific factors including liquidity risk, credit risk, management efficiency, and bank size was found to have a significant impact on Syrian commercial banks profitability. However, no significant impact was found to exist between concentration ratio and commercial banks profitability. On the other hand, macroeconomic factors including real gross domestic product & inflation rate was found to have a significant impact on banks profitability.

3. Research Problem:

As mentioned before, factors affecting bank profitability have been widely examined throughout financial management and banking literature. Literature revealed that, banks performance isn't only influenced by bank specific factors but rather affected by range of external factors (Bandara et al., 2021). This research seeks to test the impact of some internal & external independent variables on profitability in commercial banks operating in the Egyptian banking sector. To achieve this objective; the researcher throughout this research will determine first nature &significance of different relationships that might exist between commercial banks profitability levels and their external & internal characteristics. Consequently, the researcher will identify critical external and internal factors that might affect levels of profitability in different commercial banks.

According to research literature (Tariq et al., 2014; Noman et al., 2015; Rahman et al., 2015; Ramadhanti et al., 2019; DAO & NGUYEN, 2020; Rohman, 2020; Uddin, 2022; Yuan et al., 2022; Puspitasari et al., 2023; Mirović et al., 2024) level of commercial banks' profitability will

be represented by three main indicators which are rate of return on average assets (ROAA), rate of return on average equity (ROAE), and bank's net interest margin (NIM). Internal factors that might affect profitability levels within commercial banks will be represented by credit risk, liquidity risk, earning assets to deposits ratio, operational efficiency ratio, and capital adequacy ratio. On the other hand, external factors that might affect profitability levels will be represented by banking sector development rate, annual inflation rate, growth rate of GDP, and real interest rate.

Accordingly, problem of this research can be represented in terms of the following questions:

1- To what extent can credit risk & liquidity risk affect profitability levels in commercial banks?

2- To what extent can earning assets to deposits ratio affect profitability levels?

3- To what extent can operational efficiency ratio affect profitability levels?

4- To what extent can capital adequacy ratio affect profitability levels?

5- To what extent can banking sector development rate affect profitability?

6- To what extent can annual inflation rate affect profitability levels?

7- To what extent can GDP growth rate affect profitability levels?

8- To what extent can real interest rate (RIR) affect profitability levels?

4. Research Hypotheses:

Dependent & independent variables of this research was chosen according to examined recent literature (Petria et al., 2015; Moudud-Ul-Huq et al., 2020; Jigeer & Koroleva, 2023). Three alternative dependent variables were followed in order to examine commercial bank's profitability which are ROAA, ROAE, and NIM. ROAA indicate to what extent banks are efficient in utilizing their assets, ROAE indicate level of earnings realized relative to owners invested funds, NIM finally demonstrate net return banks realized on their earning assets.

In the light of research problem & research questions stated earlier, main hypotheses of this research can be presented as follows:

First Main Hypothesis: Relevant Banking sector indicators along with internal characteristics of Egyptian commercial banks might significantly effect on Bank's return on average assets (ROAA).

Second Main Hypothesis: Relevant Banking sector indicators along with internal characteristics of Egyptian commercial banks might significantly effect on Bank's return on average equity (ROAE).
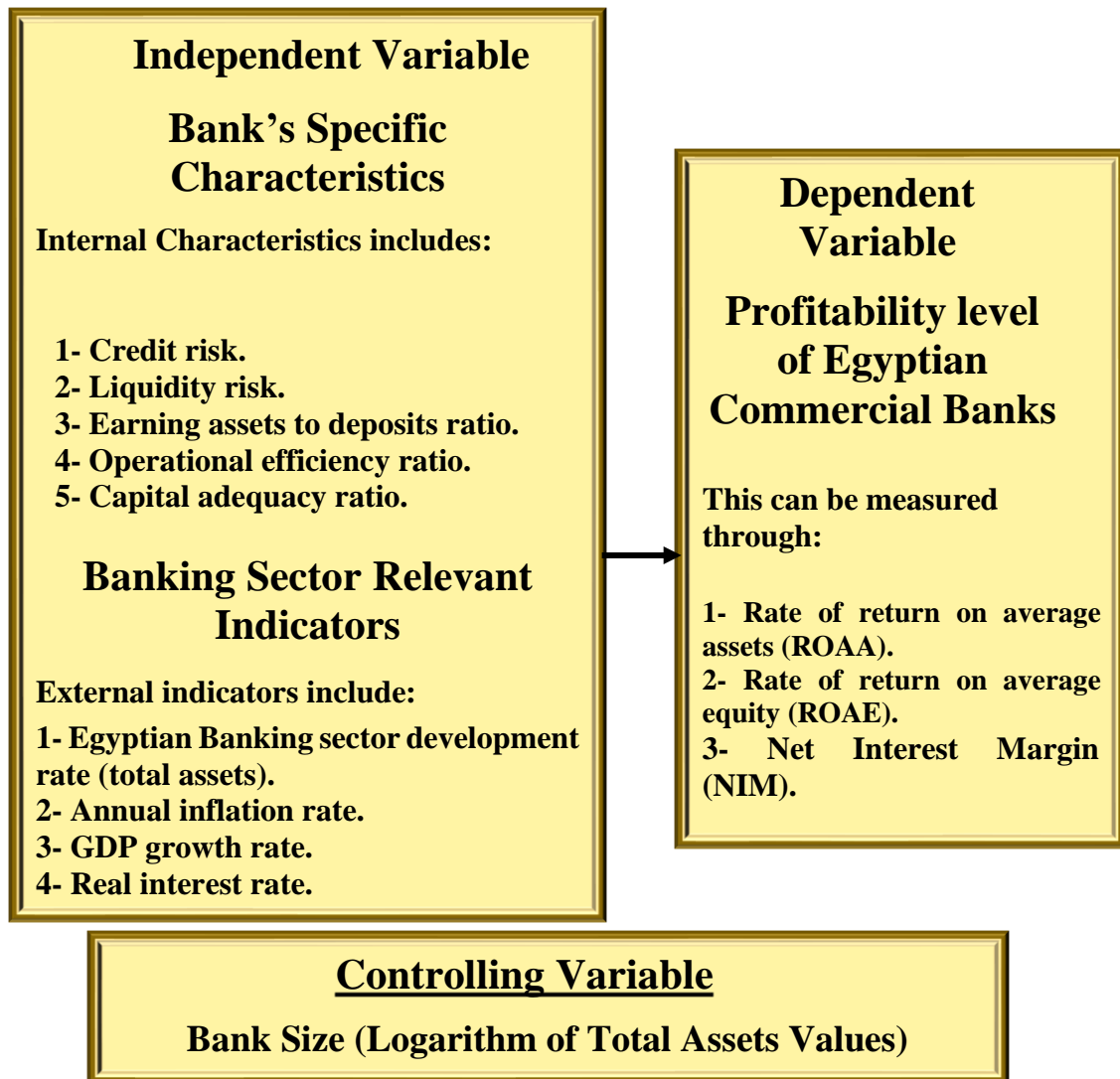
Third Main Hypothesis: Relevant banking sector indicators along with internal characteristics of Egyptian commercial banks might significantly effect on Bank's net interest margin (NIM).

Fourth Main Hypothesis: Significant statistical differences might exist between listed & non-listed commercial banks regarding the impact of examined factors on profitability levels.

5. Research Model

According to researcher knowledge, no previous work has examined profitability determinants of private & public sector commercial banks in Egypt through using previously mentioned indicators of banks profitability accompanied with internal & external factors for explaining it. Therefore, the researcher throughout this research tries to fill this gap in the literature. Based on the aforementioned research hypotheses and problem, research model can be represented as follows (Veizi et al., 2016; Noor et al., 2018; Bintara, 2020; Caterini et al., 2020; Islam et al., 2020; Biswas et al., 2021).

Independent Variable

Bank's Specific Characteristics

Internal Characteristics includes:

1- Credit risk.
2- Liquidity risk.
3- Earning assets to deposits ratio.
4- Operational efficiency ratio.
5- Capital adequacy ratio.

Banking Sector Relevant Indicators

External indicators include:

1- Egyptian Banking sector development rate (total assets).
2- Annual inflation rate.
3- GDP growth rate.
4- Real interest rate.

Dependent Variable

Profitability level of Egyptian Commercial Banks

This can be measured through:

1- Rate of return on average assets (ROAA).
2- Rate of return on average equity (ROAE).
3- Net Interest Margin (NIM).

Controlling Variable

Bank Size (Logarithm of Total Assets Values)

6. Research Objectives

According to a recent report issued by union of Arab banks[6], many Egyptian banks topped the list of best 100 most powerful Arab banks for the year 2022, these banks include National bank of Egypt, Misr Banque, Commercial International bank, Faisal-Islamic bank,

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(6) The Union of Arab Banks, a non-profit organization established on March 1974, it serves as a referral institution for Arab banking community. Banks all over the Arab world are tied together through this union, this union aid these banks to strengthen their bonds cooperation, coordinate their financial activities, and defending their interests. Through this union also, Arab banks can be integrated into the global banking industry. (https://uabonline.org/profile/)

Alexandria bank, Housing & Development bank, Abu Dhabi-Islamic bank, and Agricultural bank of Egypt. Capital value of these banks approximately amounted to 29.7 billion USD, while total assets of these banks approximately amounted to 385.4 billion USD. According to the report, National Bank of Egypt came in first place locally and 13th in the Arab world in terms of its capital volume for the year 2022, followed by Misr Banque that came in second place locally and 17th in the Arab world.

Main objective of this research is to examine determinants of commercial banks profitability in the Egyptian banking sector. Throughout this research and based on corresponding academic literature (Menicucci & Paolucci, 2016; Yao et al., 2018; Bolarinwa et al., 2019; Gurung & Gurung, 2022; Shrestha, 2023) the researcher attempts to examine the impact of both internal factors (credit risk, liquidity risk, earning assets to deposits ratio, operational efficiency ratio, capital adequacy ratio) & external factors (banking sector development rate, annual inflation rate, GDP growth rate, real rates of interest) on Egyptian commercial banks profitability (ROAA, ROAE, NIM).

Accordingly, objectives of this research can be presented as follows:

1- Identifying impact of credit risk & liquidity risk on profitability levels.
2- Identifying impact of earning assets to deposits ratio on profitability levels in commercial banks.
3- Identifying impact of operational efficiency ratio on profitability levels.
4- Identifying impact of capital adequacy ratio on profitability levels.
5- Identifying impact of banking sector development rate on profitability.
6- Identify impact of annual inflation rates on profitability levels.
7- Identify impact of GDP growth rates on profitability levels.
8- Identify impact of RIR on profitability levels in commercial banks.

7. Research Significance

Current research derives its scientific significance from the importance of its topic, the Egyptian banking sector plays a vital and

critical role in achieving Egypt's Vision 2030, it is the second largest banking sector in Africa after South Africa. According to central bank of Egypt published reports, liquidity in Egyptian banking sector rises to EGP 9.12 trillion in February 2024 up from EGP 8.87 trillion in December 2023. The Egyptian banking sector has grown rapidly, according to financial inclusion published reports; number of credit cards & ATMs increased by more than three times from 2014 to 2023.

This research primarily attempt is to analyze & investigate profitability determinants in the Egyptian banking sector through examining both public enterprise banks & private sector banks. The researcher also aims to contribute directly in increasing Egyptian banks manager's awareness regarding critical factors that might subsequently affect levels of profitability inside their banks. Finally, this research will contribute in opening ways in front of researchers to conduct future studies in the light of its empirical findings.

Profitability determinants in this research include a comprehensive set of bank characteristics (credit risk, liquidity risk, earning assets to deposits ratio, operational efficiency ratio, and capital adequacy ratio), in addition to some sectorial indicators (banking sector development rate, annual inflation rate, GDP growth rate, and real interest rate). In the light of global financial crisis since 2008, in addition to extraordinary risks that appeared recently in the global context, financial performance of commercial banks become a matter of great importance from perspective of both academics & practitioners, as a result, this research focus on commercial banks performance due to their critical role in the whole economy.

8. Research Limits:

Financial figures show critical role that Egyptian banking sector play in the Egyptian economy; according to central bank of Egypt, Egyptian banking sector assets volume rose to reach 14.742 trillion pounds at the end of September 2023, compared to 13.798 trillion pounds at the end of June 2023, with an increase of 944 billion pounds.

This research was conducted within the following limits:

Theoretical limits: This research is limited to studying & analyzing determinants of profitability in Egyptian commercial banks. These determinants include both internal factors that are directly linked to commercial banks internal characteristics (credit risk, liquidity risk, earning assets to deposits ratio, operational efficiency ratio, capital adequacy ratio), and external factors that are related to the whole Egyptian banking sector environment (Banking sector volume of T.A, annual inflation rate, GDP, real interest rate).

Application limits: This research is limited to studying determinants of profitability in Egyptian commercial banks, profitability indicators exclusively include bank's ROAA, ROAE, and NIM. Practical part of this research will be applied on all Egyptian banks operating & belonging to the Egyptian banking sector whether those banks are listed on the Egyptian Stock Exchange or not listed. Islamic banks will be excluded due to their special and different nature.

Time limits: Due to the difficulty for accessing financial data for all banks operating in the Egyptian banking sector especially non-listed banks, applied part of this research will be conducted on a time series of eight years[7], starting from January 2015 till December 2022.

9. Research Population & Sample:

As mentioned before, research population consists of all commercial banks operating in the Egyptian banking sector whether listed or non-listed in Egyptian Stock Exchange. During 2023, total number of commercial banks operating in the Egyptian banking sector reached thirty-eight banks, twelve of them are listed in the Egyptian

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([7]) A time series of eight years was chosen because financial statements available for non-listed banks (specifically National Bank of Egypt and Banque Misr) are only available to the researcher starting from 2015. After reviewing different sources, the researcher was unable to access financial statements before 2015 especially for both Banque Misr & National Bank of Egypt.

Stock Exchange[8]. Due to the large size of research population and in the light of financial data available from published financial reports (either published through central bank or commercial banks); the researcher settled on choosing a research sample consisting of Twelve Egyptian commercial banks, six of them are listed banks and the remaining six are non-listed banks.

Listed banks were chosen according to their listing dates as well as market share of their assets as a percentage from total assets of the whole banking sector. Likewise, the researcher chose non-listed commercial banks according to market shares of their assets from the total assets of the Egyptian banking sector. Research sample can be represented in the following table.

Table (1): Research Sample

Listed Banks				
N	Bank name	Ownership	Listing date	Market share
1	CIB	Private Sector	2/2/1995	5.45%
2	QNB	Private Sector	3/7/1996	4.07%
3	Egyptian Gulf Bank	Private - Shared	17/11/1983	0.8%
4	Egyptian Arab International Bank (SAIB)	Private - Shared	29/11/1980	0.77%
5	Credit Agricole Bank	Private - Foreign	3/7/1996	0.62%
6	Suez Canal Bank	Private - Shared	15/9/1982	0.62%
Non-Listed Banks				
N	Bank name	Ownership		Market share
1	National Bank of Egypt	Public enterprise sector		35%
2	Banque Misr	Public enterprise sector		18.5%
3	Bank of Alexandria	Private - foreign		1.16%
4	Emirates NBD Bank	Private - Arabic		0.86%
5	Ahli United Bank	Private - Arabic		0.74%
6	Arab Bank	Private - Arabic		0.44%

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(8) Among the twelve listed banks on the Egyptian stock exchange, there are three Islamic banks (Abu Dhabi Islamic Bank, Faisal Islamic Bank, and Al Baraka Bank). These Islamic banks will be excluded by the researcher from the research population & sample due to their special and different nature.

According to published financial statements on December 31, 2022, the National Bank of Egypt achieved pre-tax profits of 71 billion pounds, and net profits after taxes of 35 billion pounds (the bank paid about 36 billion pounds in taxes to state treasury). Total assets volume reached 4.4 trillion pounds in December 2022 compared to 3.2 trillion pounds in December 2021, reaching about 4.9 trillion pounds by the end of June 2023. SMEs financing portfolio volume reached 143 billion pounds in December 2022 and increased to 159 billion pounds by the end of June 2023, compared to 110 billion in December 2021. National Bank of Egypt was regarded as the most valuable banking brand in Egypt for 2022, and was ranked 22nd in the Arab world, and the 315th globally, followed by Misr Banque in second place locally, 26th in the Arab world and 343rd globally. Finally, Commercial International Bank came in third place locally, 32nd in the Arab world and 387th globally[9].

According to the central bank of Egypt, total net profits of all banks operating in the Egyptian banking sector rose to 212.582 billion pounds at the end of September 2023, compared to 93.396 billion pounds at the end of September 2022. Considering the five largest commercial banks; volume of net profits increased to record 129.692 billion pounds by the end of September 2023, also amount of total deposits increased to reach 6.690 trillion pounds during the same period.

According to the central bank of Egypt, total assets of top ten largest banks operating in the Egyptian banking sector reached 11.685 trillion pounds in September 2023, accounting for about 80% of total assets of the whole banking sector. According to a report issued by Cabinet Information Center, Egyptian banks have succeeded in strengthening their presence, regulatory capital of Egyptian banks is supported by strong internal capital generation despite global economic challenges. The report also referred to the improvement in financial soundness indicators noting positive improvements in capital adequacy;

([9]) Financial data released by Central Bank of Egypt & National Bank of Egypt. (https://www.cbe.org.eg/ & https://manshurat.org/node/11062 & https://www.nbe.com.eg/NBE/E/#/AR/GRISustainabilityReportt).

which indicates bank's ability to absorb shocks while withstanding unexpected losses.

10. Description of Research Variables:

According to previously examined literature, in addition to (Almaqtari et al., 2019; Ammar & Boughrara, 2019; Le & Ngo, 2020; Maulana M et al., 2023; Amaral, 2024), description of research variables can be summarized in the following table:

Table (2): Description of Research Variables.

Variable	Measurement Method	Data Sources
Independent Variables	(A) Bank's Specific Characteristics. 1- Credit risk: Ratio of annual provision for loan losses to total loans & leases. 2- Liquidity risk: Ratio of liquid assets to total assets. 3- Earning assets to deposits ratio: Ratio of earning assets to total bank deposits. 4- Operational efficiency ratio: Ratio of total operating expenses to total revenues. 5- Capital adequacy ratio: This ratio can be calculated through adding tier 1 capital & tier 2 capital, then dividing this total by banks total risk weighted assets (RWA). Risk weighted assets are used to fix the least amount of capital that should be held by the bank to hedge against insolvency risk. Banks capital requirements mainly based on risk assessment of each type of bank assets. when calculating capital adequacy ratio, two types of capital are measured; tier 1 capital (core capital) which includes ordinary share capital, equity capital, revenue reserves, intangible assets, and tier 2 capital which includes unaudited reserves, unaudited retained earnings, and general loss reserves. (B) Banking Sector Relevant Indicators. 1- Banking sector development rate: percentage of increase in total assets figure for the whole Egyptian banking sector. 2- Annual inflation rate. 3- GDP growth rate. 4- Real interest rate.	Published financial statements & annual reports issued by commercial banks
Dependent Variables Commercial Banks Profitability	Profitability of commercial banks will be measured through three main ratios which are: 1- Rate of return on average assets (ROAA): Ratio of bank's net income to average total assets. 2- Rate of return on average equity (ROAE): Ratio of bank's net income to average total stockholders' equity. 3- Net Interest Margin (NIM): Ratio of bank's net interest revenue to total earning assets.	Published financial statements issued by commercial banks
Controlling Variable	Bank size: Size of commercial banks will be measured through calculating logarithm of bank's total assets.	

11. Statistical Analysis & Testing Hypotheses:

11.1 Descriptive Statistics for Research Variable:

The following table illustrates descriptive statistics for all research variables including dependent, independent, and controlling variables. Independent variables were fatherly divided into two main clusters in order to represent commercial banks Internal characteristics in addition to external banking sector relevant indicators.

Table (3): Descriptive statistics for research variables.

Variable	Obs	Mean	Std. dev.	Min	Max
ROAA	96	.0232677	.0188005	.0028	.0978
ROAE	96	.209251	.114686	.021	.4733
NIM	96	.0535719	.0204372	.0085	.1222
CR	96	.0172531	.0141898	.0007	.059
LR	96	.2162615	.0878839	.0628	.504
EADR	96	.8862354	.1466036	.492	1.1724
OER	96	.1811438	.0623209	.0565	.3269
CAR	96	.1088146	.0435836	.0476	.2254
INF	96	.126725	.0728895	.0504	.295
GDP	96	.0379625	.0147519	.0197	.0617
RIR	96	.011175	.0464001	-.0876	.0692
BZ (Bank size)	96	$2.84e+10$	$8.13e+10$	1769093	$4.77e+11$
TA (Total Assets)	96	5.7625	2.685605	2.5	11.2

Descriptive statistics revealed that; ROAA (Return on Average Assets) indicates level of profitability achieved relative to total assets, average value was 2.33% with a standard deviation of 1.88%, reflecting variability in profitability across different examined commercial banks. ROAA figures ranges from minimum value of 0.28% to a maximum

value of 9.78%, suggesting a wide disparity in asset utilization efficiency among commercial banks. Regarding ROAE (Return on Average Equity) which measures level of profitability relative to shareholders' equity, average value was 20.93%, this higher average value compared to ROAA reflects leverage effect. ROAE standard deviation value was 11.47% indicating substantial variation in how effectively equity is employed across commercial banks, ROAE values range from a minimum value of 2.1% to a maximum value of 47.33%.

Considering NIM (Net Interest Margin), which represent difference between interest income generated and interest expenses paid, relative to total earning assets; NIM found to have an average value of 5.36% and a standard deviation of 2.04%. NIM values range from minimum value of 0.85% to a maximum value of 12.22%, indicating differences in asset liability management strategies followed by different commercial banks.

Average value of credit risk was 1.73% with a standard deviation of 1.42%, showing level of risk that commercial banks are exposed to due to borrower's potential failure in making required payments. credit risk range exist between (0.07% to 5.9%) suggests a broad spectrum of credit risk management effectiveness across commercial banks. Average value of liquidity risk was 21.63% with 8.79% standard deviation, this ratio measures liquidity, indicating ease of converting bank's assets into cash. liquidity ratio range exist between (6.28% to 50.4%) reflects differences in liquidity management strategies across banks. Average value of EADR (Earning assets to deposits ratio) was 88.62%, with a standard deviation of 14.66%, EADR ratio ranges from 49.2% to 117.24% reflecting diverse earning assets & deposits volumes across banks.

Considering OER (Operational Efficiency Ratio) which reflects operating costs relative to realized earnings, average value was 18.11% with standard deviation of 6.23%, suggesting differences in operational efficiencies across banks. Values of operational efficiency ratio range from 5.65% to 32.69%. Regarding CAR (Capital Adequacy Ratio) which measures bank's capital relative to its risks, average value was

10.88% and range spins from 4.76% to 22.54%, indicating how well different banks are capitalized against potential losses.

INF (Inflation), an economic indicator, average value was 12.67% with a substantial spread (standard deviation of 7.29%), showing possible impact of economic environment on banking operations, inflation values range from 5.04% to 29.5%. GDP (Gross Domestic Product Growth Rate) reflects economic growth rates in the economy, average value was 3.80% while ranges spins from 1.97% to 6.17%, indicating varying macroeconomic conditions during research period. RIR (Real Interest Rate), show lending rates adjusted for inflation, average value was 1.12% with a high degree of variability (standard deviation of 4.64%), including negative values, which suggests periods of real cost of borrowing being less than revealed inflation.

Controlling variable in this research was represented by bank size, which reflects scale of bank operations represented by value of total assets. average value of banks assets was 28.4 trillion, with a considerable deviation (81.3 trillion), suggesting a mix of small to very large commercial banks included in this research. Range values spins from 1.77 trillion to 477 trillion underscores this variety/diversity.

11.2 Dependent Variables Trend:

This section demonstrates results obtained from statistical analysis and descriptive statistics of research variables. Regression analyses between explanatory variable and response variable while taking effect of controlling variable will be presented in the following charts; the following charts summarizes each dependent variable trend across research time series.

Line Plots for the Dependent variables
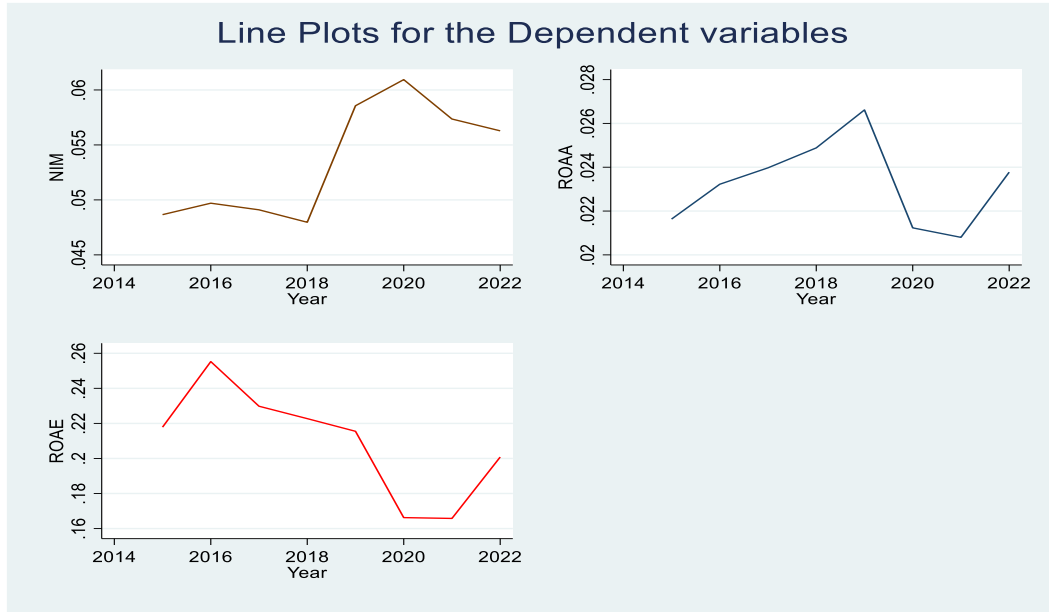
As shown in previous charts, return on average equity for all examined banks over the whole time series had a lot of variation since 2015, reaching its lowest rates in 2020, then starting to increase again by 2022. on the other hand, return on average assets continue to increase till reaching its peak in 2018 then decreased to its lowest rates in 2021, then started to increase again by 2022. Finally, net interest margin didn't change rapidly from 2015 to 2018, increased to its peak in 2020, then start to decrease slightly by 2021 & 2022.

11.3 Data analysis

The following heat-map correlation matrix illustrates the relationship between dependent variables & independent variables, and detects presence of multi-collinearity.

	ROAA	ROAE	NIM	CR	LR	EADR	OER	CAR	Total Asset	INF	GDP	RIR	Bank size
ROAA	1												
ROAE	0.8682	1											
NIM	0.6303	0.6431	1										
CR	0.0601	0.1795	0.2176	1									
LR	-0.355	-0.2329	-0.3929	0.3789	1								
EADR	0.2235	0.156	-0.2056	0.4097	0.3161	1							
OER	0.0775	-0.0547	0.1009	0.2397	0.0516	0.3097	1						
CAR	0.6903	0.3436	0.3852	-0.0491	-0.3329	0.3565	0.3797	1					
Total Asset	-0.0074	-0.1522	0.1435	-0.0221	0.0554	-0.123	0.1244	0.0986	1				
INF	0.038	0.1544	-0.1499	0.0472	0.2345	0.2204	-0.1947	-0.0718	-0.2225	1			
GDP	0.0724	0.0501	-0.0129	0.0487	0.1966	0.0783	-0.1517	0.0104	0.3631	0.2327	1		
RIR	0.0003	0.0904	-0.1302	-0.0389	0.15	0.0873	-0.0654	-0.0779	0.035	0.4338	-0.0946	1	
Bank size	-0.0374	-0.0345	0.0335	-0.2836	-0.3638	-0.039	-0.3539	-0.0249	0.1185	-0.0241	0.0476	0.0014	1

Results shows that, all independent variables have a weak to moderate relationship with each other, which indicates no evidence for multi-collinearity, as a result, more investigation is needed; this investigation will be done through VIF (variance inflation factor). Results of variance inflation factor can be presented in the following table.

Table (4): Variance Inflation Factor.

Variable	VIF	Tolerance
EADR	2.21	0.452428
LR	2.11	0.473504
CAR	1.94	0.515782
INF	1.73	0.576939
OER	1.67	0.599525
Total Asset	1.66	0.601306
Bank size	1.63	0.614736
GDP	1.57	0.636714
CR	1.46	0.685925
RIR	1.44	0.693992

VIF test confirmed results obtained from the heat-map correlation matrix as all variables have VIF value lower than 5 and tolerance lower than 1.

11.4 Testing Research Hypotheses

As mentioned before, main objective of this research is to study profitability determinants in the Egyptian banking sector, regression analysis will be conducted in order to achieve this objective. The researcher will start with testing the first three main hypotheses of this researcher through constructing three main models for ROAA, ROAE, and NIM. First three main hypotheses of this research was formulated as follows:

H₁: Relevant banking sector indicators along with internal characteristics of Egyptian commercial banks might significantly effect on bank's return on average assets (ROAA).

H₂: Relevant banking sector indicators along with internal characteristics of Egyptian commercial banks might significantly effect on bank's return on average equity (ROAE).

H₃: Relevant banking sector indicators along with internal characteristics of Egyptian commercial banks might significantly effect on bank's net interest margin (NIM).

Linear models for testing these three hypotheses can be formulated as follows:

Model 1:

$$\text{ROAA}_t = b_0 + b_1 CR_t + b_2 LR_t + b_3\ EADR_t + b_4 OER_t + b_5 CAR_t + a_1 INF_t + a_2 GDP_t + a_3 RIR_t + a_4 BZ_t + a_5 TA_t + \varepsilon;$$

Model 2:

$$\text{ROAE}_t = b_0 + b_1 CR_t + b_2 LR_t + b_3\ EADR_t + b_4 OER_t + b_5 CAR_t + a_1 INF_t + a_2 GDP_t + a_3 RIR_t + a_4 BZ_t + a_5 TA_t + \varepsilon;$$

Model 3:

$$\text{NIM}_t = b_0 + b_1 CR_t + b_2 LR_t + b_3\ EADR_t + b_4 OER_t + b_5 CAR_t + a_1 INF_t + a_2 GDP_t + a_3 RIR_t + a_4 BZ_t + a_5 TA_t + \varepsilon;$$

Where b_i represents coefficients for internal characteristics and a_i represents coefficients of relevant banking sector indicators and the controlling variable, The following table illustrates these three models:

Table (5): Research Models.

	ROAA	ROAE	NIM		ROAA	ROAE	NIM
C	0.0065217	0.217296	.0891196	INF	0.040129	0.955895	0.1382
$p-val$	0.49	0.004	0.000	$p-val$	0.017	0.006	0.006
CR	0.2714849	2.725978	0.8590284	GDP	0.9205538	0.911655	0.0812
$p-val$	0.016	0.002	0.000	$p-val$	0.027	0.04	0.015
LR	-0.061819	-0.416529	-0.055464	RIR	0.363077	0.88215	-0.1684
$p-val$	0.005	0.015	0.027	$p-val$	0.0281	0.001	0.009
EADR	-.043494	0.012287	-0.07846	BZ	-3.66e-12	-1.67e-11	2.36e-11

	ROAA	ROAE	NIM		ROAA	ROAE	NIM
$p-val$	0.007	0.008	0.000	$p-val$	0.007	0.002	0.003
OER	-0.178594	-0.949744	-0.08303	TA	-0.02398	-0.657	0.0362
$p-val$	0.008	0.0035	0.007	$p-val$	0.007	0.0018	0.0061
CAR	0.300901	0.9829925	0.2560914	R^2	0.7974	0.65	0.5845
$p-val$	0.0000	0.003	0.000	$Adj\ R^2$	0.7501	0.5971	0.5356
F	126.1	42.5	13.39	RMSE	0.01061	0.1249	0.0137
$p-val$	0.000	0.000	0.000	Obs.	96	96	96

Model 1: ROAA as a Dependent Variable.

This model suggests that credit risk (CR) has a significant positive impact on ROAA, indicating that higher credit risk corresponds to higher profitability up to a point. This could be due to higher interest rates charged to compensate banks for exposing to higher level of risk. Liquidity Risk (LR) has a negative impact on ROAA, which could suggest that higher liquidity risk will leads to lower rate of return on assets. Earning assets to deposits ratio (EADR) shows a negative relationship, indicating that a higher ratio is associated with lower profitability as measured by ROAA. Operating Expense Ratio (OER) is also negatively associated with ROAA, implying that higher operational costs are detrimental to asset profitability. Capital Adequacy Ratio (CAR) displays a positive and significant relationship with ROAA, suggesting that a stronger capital base is beneficial for profitability. Inflation (INF) and Gross Domestic Product growth (GDP) show positive relationships with ROAA, implying that higher inflation and economic growth could be favorable for bank profitability. The Real Interest Rate (RIR) and Bank Size (BZ) have mixed effects, with RIR having a positive and BZ having a negative but not easily interpretable coefficient due to its scale. Total Assets (TA) negatively affect ROAA, indicating that larger asset bases may not be as efficiently profitable. The model has a high explanatory power, with an R-squared value of 0.7974, meaning around 79.74% of the variation in ROAA is explained by the model.

Model 2: ROAE as a Dependent Variable.

As same as the first model, this model follows the same pattern in terms of relationships directions between independent variables and ROAE, the main difference exists only in the magnitude of coefficients and statistical significance. Credit risk (CR) and capital adequacy ratio (CAR) found to have a significant positive impact on ROAE. Liquidity risk found to have a negative impact on ROAE, earning assets to deposits ratio (EADR) & operating expense ratio (OER) shows a negative significant relationship with ROAE. Inflation (INF) & gross domestic product growth (GDP) show positive relationships with ROAE. Impact of real interest rate (RIR) was positive, while Bank Size (BZ) impact was negative but not easily interpretable due to its large scale. Total Assets (TA) found to have a negative impact on ROAE. Adjusted R-squared value is 0.5971, indicating that approximately 59.71% of the variation in ROAE can be explained by the model, which is a strong fit as the first model.

Model 3: NIM as a Dependent Variable.

As same as the two previous models, this model follows the same pattern in terms of relationships directions between independent variables and NIM, although the influence of GDP growth is less pronounced here. However, impact of real interest rate (RIR) was negative suggests that higher real interest rates may reduce net interest margins. Adjusted R-squared value is 0.5356, which is lower than other models, showing that 53.56% of variation in NIM can be explained by this model.

Adjusted R^2 for these three models can be represented in the following figure.

Comparison of adjusted R-Squared Values For the Research Models
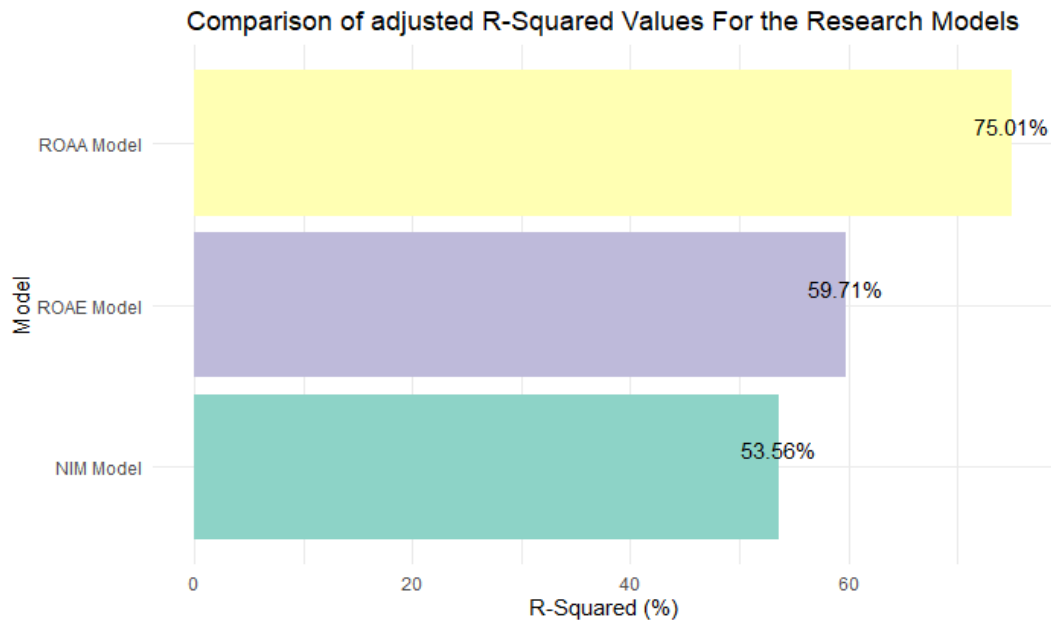
As shown in this chart, adjusted R^2 for the three models are ordered from the highest to the lowest. Return on average assets (ROAA) take the first rank, followed by return on average equity model (ROAE), then net interest margin (NIM) model.

Considering the fourth main hypothesis, this hypothesis states that "significant statistical differences might exist between listed and non-listed commercial banks regarding the impact of examined factors on profitability levels". Banks were grouped in this research in two main categories which are listed and non-listed banks, in order to identify whether there is a statistical significant differences between these two groups regarding the impact of examined variables on profitability levels, T-test analysis will be conducted, results of T-test can be summarized as follows:

Table (6): T-Test Results.

Variable	T - value	df	$p - value$
ROAA	-1.1556	94	0.123069
ROAE	-0.7253	94	0.4700
NIM	0.4062	94	0.6855

Since all the P–values greater than 0.05 level of significance, T-Test results indicates no significant differences between listed and non-listed banks regarding the impact of examined factors on banks profitability levels represented by return on average assets (ROAA), return on average equity (ROAE), and net interest margin (NIM).

12. Findings & Recommendations:

Through its financing efforts to support Egyptian economic development plans, the Egyptian banking sector has proven that it is a strong & important partner in economic growth & development processes. Egyptian banking sector succeeded throughout the past years in maintaining stability in the foreign exchange market through adapting with global & local economic changes; the sector succeeded also to withstand challenges & crises occurred over successive years in the light of many extraordinary events that have swept the world.

Egyptian banks contributed in enhancing stability of economic conditions, supporting development plans, and adapting to global & local changes through their proactive plans. Local & international reports issued by major financial institutions confirmed the; the Egyptian banking sector succeed recently to achieve high level of liquidity & profitability, in addition to following good management strategies that aims at utilizing loans portfolios while financing projects with a positive return on the whole economy.

The Egyptian banking sector supposed to play a critical role in improving level of financial services provided while accelerating digital transformation practices that support financial inclusion strategy, in the light of Egypt vision 2030.

Findings revealed that; credit risk was found to have a positive significant impact on bank's ROAA, ROAE, and NIM. On the other hand, both liquidity risk & earning assets to deposits ratio found to have a significant negative impact on ROAA, ROAE, and NIM. These results go with findings achieved by (El Moslemany et al., 2021; Wagdi & Salman, 2022). Considering operating expense ratio and capital adequacy ratio, operating expense ratio was found to have a significant

negative impact on profitability of Egyptian banks while capital adequacy ratio displays positive significant impact on bank's ROAA, ROAE, and NIM. These results go in parallel with findings achieved by (Fajar Putra et al., 2021; Merry et al., 2022) but contradicts what was achieved by(Hashem, 2016).

With respect to Inflation rate & GDP growth ratio; positive significant impact was found between both inflation rate & GDP growth rate and Banks profitability indicators represented by ROAA, ROAE, and NIM. Finally, real interest rate displays positive significant impact on banks profitability, while the impact of total assets volume of the whole banking sector on profitability was found to be a significant negative impact. These results go in parallel with findings achieved by (Abdou & Alarabi, 2024) but contradicts what was achieved by (Abugamea, 2018).

According to the first linear regression model constructed throughout this research, the researcher can insist that; about 80% of variation that occur in ROAA among selected commercial banks turns back to such variables as credit risk, liquidity Risk, earning assets to deposits ratio, operating expense ratio, capital adequacy ratio, inflation rate, GDP growth rate, real interest rate, and bank size. Considering the second linear regression model constructed throughout this research, the researcher can insist that; about 60% of variation that occur in ROAE among selected commercial banks turns back to such variables as credit risk, liquidity Risk, capital adequacy ratio, inflation rate, GDP growth rate, and real interest rate. Finally, according to the third linear regression model constructed throughout this research, the researcher can insist that; about 54% of variation that occur in NIM among selected commercial banks turns back to such variables as credit risk, liquidity Risk, capital adequacy ratio, inflation rate, GDP growth rate, real interest rate, and banking sector volume of total assets.

Research findings might provide banks' managers & policymakers with range of benefits through highlighting main internal and external factors that might influence profitability levels of commercial banks operating within the Egyptian banking sector. Operating expense ratio might harm banks profitability levels as same

as liquidity risk, therefore banks managers should continuously exert great efforts in order to hedge against high level of operating expense ratio and liquidity risk. Banks management & policymakers should also give proper concentration to earnings that can be realized away from credit risk and interest rate volatilities. Commercial banks almost seek to achieve high level of profitability in the light of high levels of inflation rates revealed in the Egyptian economy, as a result, the researcher suggest macroeconomic strategies that encourage slow rates of inflation while growing GDP annual rates; this might enhance rate of loans growth as a result banks profitability levels will increase (Abobakr, 2018).

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