

Effects of Macroeconomic Variables and Gold Prices on Banks' Total Deposits Using Empirical Evidence on Egypt from January 2022 to June 2023

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ABSTRACT

The research study the impact each of macroeconomic indicators of Exchange Rate, Inflation Rate, Interest Rate, in addition to global market indicator of Gold-Ounce 24k price daily and monthly data, on Total deposits, Government deposits, non-government deposits in local currency, in addition to non-government deposits in foreign currency for the period of Jan 1st, 2022, to June 30th, 2023 using the regression model of the Generalized Method of Moments (GMM). The correlation test showed that correlation coefficients among the variables under study, the outcomes indicate that all the variables are positively correlated with each other. By reviewing the Generalized Method of Moments (GMM) regression model. The results indicated that the macroeconomic indicators representing the independent variables of the research showed a strong significant effect on Egypt's total deposits with its different categories during the mentioned period.

KEYWORDS

Inflation, Interest Rate, Exchange Rate, Gold Prices, Total Bank Deposits, Government Deposit, Non-Government Deposit, Egypt, GMM

1- INTRODUCTION

Egypt is currently facing exceptional challenges and difficult choices since the outbreak of Russian Ukrainian war, that had deepened the effect of global inflation and caused an inflationary wave that is rising more and more on one hand and scarcity of foreign currency on the other that leads to a continuous raise in the interest rates, thus Egyptian authorities took forward policy actions to shift to a flexible exchange rate, the central bank of Egypt has devalued the Egyptian pound against the US dollar on three different occasions since the start of the war in Ukraine.

Exchange rate and monetary policies focused on restoring external resilience and maintaining price stability will be critical to absorb external shocks, including the ongoing spillovers from the war, improving the functioning of the FX market, rebuilding reserve buffers, and anchor inflation developments.

Given the recent striking changes in monetary policy i.e. the devaluation of the local currency and the rise in interest rates to restrain high inflation rates during the period of the research, which was expected to have an impact on the value of deposits in the banking sector whether in Egyptian or Foreign currency.

As the banking sector is considered the essence of the economy and the most vital institution for growth, economic development, and contribute to financial stability against the shocks of financial crises, this research focuses on the determinants of banking deposits that is considered the main indicator showing the success of monetary policy in curbing the inflation rates and local currency depreciation.

In this research, an investigation of the impact of monetary indicators measured by Exchange -Rate, Interest-Rates in addition to Inflation Rates and Gold-Prices on Egypt's banks total deposits (Government, and Non-government deposits) in Local and foreign currencies during the period of January 1st, 2022, to June 30th, 2023.

The research will discuss Section 1: research structure, Section 2: Empirical literature, Section 3: empirical analyses and Section 4 conclusion and recommendation.

2- RESEARCH OBJECTIVE

The major objective of this research is to examine the impact of recent changes in the structure of the monetary policy in Egypt concentrating on two key policy indicators, the exchange rates and the interest rates, moreover analyzing the impact of high inflation rates and the gold prices fluctuations on the total deposits in banking sector, including government and non-government deposits in local currency as well as non- government deposits in foreign currency USD, during the period from January 2022 to June 2023.

3- RESEARCH QUESTIONS

As mentioned before, the main purpose of this research is to address the impact of monetary indicators, and gold prices on banks' total deposits. Particularly, examine the following questions:

- 1-What is the impact of monetary indicators on bank deposits (Government and Non-government) in the local currency - EGP - in the Egyptian banking sector?
- 2-What is the impact of monetary indicators on the non-government banks deposits in foreign currency - USD - in the Egyptian banking sector?
- 3-What is the impact of Inflation rates on banks deposits (Government and Non-Government) in the local currency - EGP - in the Egyptian Banking sector?
- 4-What is the impact of Inflation rates on the non-government banks deposits in foreign currency - USD - in the Egyptian banking sector?
- 5-What is the impact of gold prices on banks deposits (Government and Non-Government) in the local currency - EGP - in the Egyptian Banking sector?
- 6-What is the impact of gold prices on the non-government banks deposits in foreign currency - USD - in the Egyptian banking sector?

4- RESEARCH HYPOTHESES

The following **hypotheses** were developed as follows:

H₁: Monetary indicators, inflation rate, and gold prices have a significant impact on total deposits in local currency in the banking sector.

H₁: Monetary indicators, inflation rate, and gold prices have a significant impact on government deposits in local currency in the banking sector.

H₁: Monetary indicators, inflation rate, and gold prices have a significant impact on non-government deposits in local currency in the banking sector.

H₁: Monetary indicators, inflation rate, and gold prices have a significant impact on non-government banks' deposits in foreign currency (USD) in the banking sector.

This means that alternative hypothesis $H_1: \beta = 0$ versus null hypothesis $H_0: \beta \neq 0$, where β is the regression coefficient of the following functions:

$$1-CBE_{TD}-Y_1 = \alpha + \beta_1 E_{XR}-X_1 + \beta_2 G_{OP}-X_2 + \beta_3 I_{R}-X_3 + \beta_4 CBE_{IR}-X_4 + \varepsilon$$

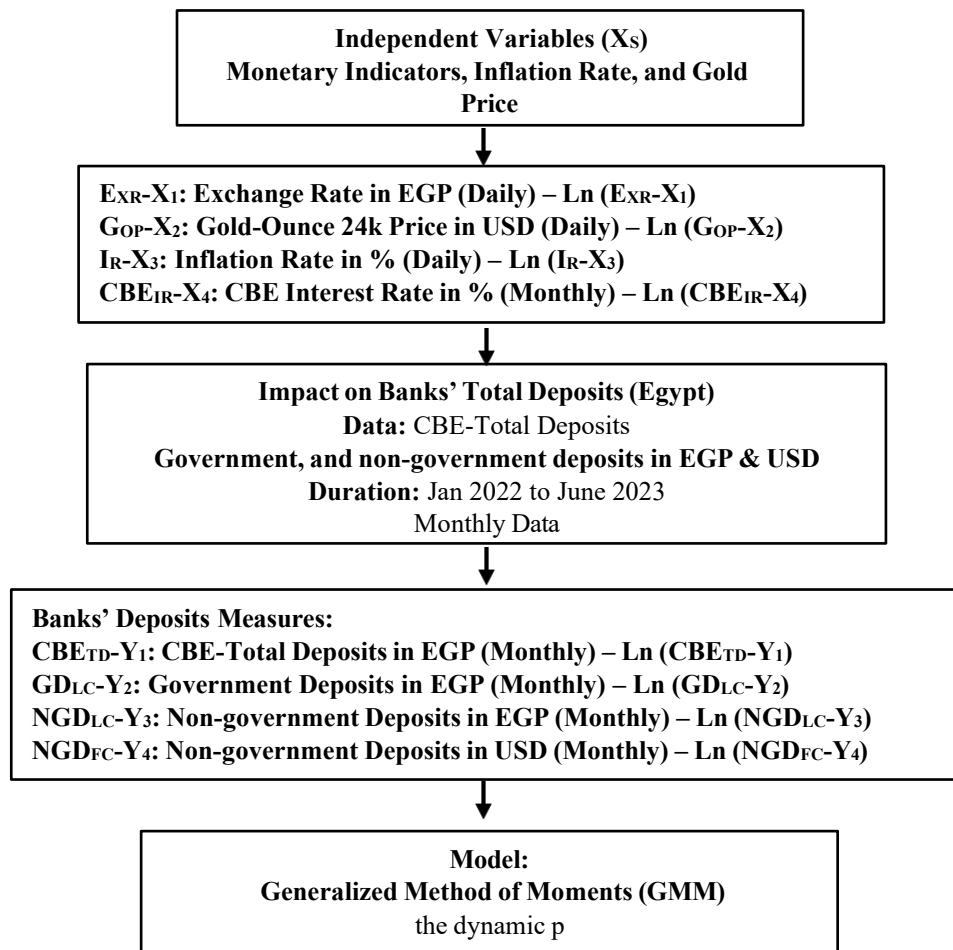
$$2-GD_{LC}-Y_2 = \alpha + \beta_1 E_{XR}-X_1 + \beta_2 G_{OP}-X_2 + \beta_3 I_{R}-X_3 + \beta_4 CBE_{IR}-X_4 + \varepsilon$$

$$3-NGD_{LC}-Y_3 = \alpha + \beta_1 E_{XR}-X_1 + \beta_2 G_{OP}-X_2 + \beta_3 I_{R}-X_3 + \beta_4 CBE_{IR}-X_4 + \varepsilon$$

$$4-NGDF_C-Y_4 = \alpha + \beta_1 E_{XR}-X_1 + \beta_2 G_{OP}-X_2 + \beta_3 I_{R}-X_3 + \beta_4 CBE_{IR}-X_4 + \varepsilon$$

The following figure illustrates the study structure in brief:

Figure 1: Impact of Monetary Indicators, Inflation Rate, and Gold Price on Banks Deposits Research Structure



Source: The Researchers

5- EMPIRICAL LITERATURES

Many empirical studies have tried to assess the interest rate as one of the main variables, as well as inflation, gold prices, and other macro-economic variables on the amount of deposits in banks.

Mashamba, 2014, discussed the relationship between bank deposit rates and bank deposits in a group of Zimbabwean commercial banks between the years 2000-2006, empirical results showed a positive relationship between the response and explanatory variables, whereas the coefficient of determination was found to be relatively high showing that interest rates account for the variation of the dependent variable.

Boadi et al., 2017, also examined the impact of interest rate liberalization, inflation and other Macro Economic variables on bank deposits in Ghana, using Ordinary Least Squares (OLS) to estimate the specified model, the findings revealed that the interest rate impacted the variation in the amount of bank savings deposits, and that all other, the study has also shown that the liberalization of the interest rates has independent variables were significantly related.

Where **Mushtaq**, 2017, applied an ARDL approach to differentiate the impact of the interest rate on Islamic banks versus non-Islamic banks for data collected from 1999 to 2104, the results found out that the interest rate had no significant impact on bank deposits in Islamic countries in both short and long term, while a positive significant relationship between interest rate and bank deposits in non-Islamic countries.

Moreover **Pasaribu et al.**, 2020, conducted exploration research to study the impact of interest rates, inflation, and gold prices on the value of deposits at one of the Indonesian banks namely Mandiri on the branch office of Ahmad Yani from 2016 to 2019, the results indicated non significance impact of interest rates and inflation on deposits amount, whereas gold prices have a negative significant impact on deposits.

Youssef et al., 2021, studied and analyzed the impact of both interest rates and inflation on the behavior of deposits in banks in Egypt during the period from 2000 to 2018, where ARDL methodology was applied. Results indicated that the volatility of interest rates is not correlated to the behavior of banks' deposits in local or foreign currency, while the volatility of the inflation rate is positively correlated to the behavior of banks' deposits in local and foreign currency.

Owoeye et al., 2023, focused on the impact of monetary policy, specifically the interest rate and the cash reserve ratio, on the financial performance of banks deposits in Nigeria during the period from 2000 to 2018. The study used an ARDL model that showed that the previously mentioned indicators influenced the performance of banks in terms of their commitment to deposits.

Mushtaq, 2023, empirically examined the impact of inflation CPI and other macroeconomic variables on bank deposits in Pakistan using time series data, from 1960 to 2010. The results clearly signify a negative relationship between inflation and bank deposits.

After reviewing the above literature, it can be concluded that there are many papers that studied the impact different of various macroeconomic indicators on banking deposits in many countries, with no extensive time-series analysis on Egypt. The studies upon Egypt mainly emphasized inflation, and interest rates, as main determinants of deposits amount in banks. However, those studies have ignored some other critical determinants as Exchange rates and gold prices which determine the banking deposits in a country like Egypt. The study will empirically investigate the impact of monetary indicators and gold prices on banks total deposit in Egypt.

6- RESEARCH VARIABLES

In this section, the researchers illustrate the research indicators as of the monetary indicators, inflation rates, and gold prices figures and growth rate, in addition to the Total deposits in Egypt during the research period. The first part will show the monetary indicators, inflation rate and gold price as independent indicators, on the other hand, the total deposits in Egypt as dependent indicators will be shown in the second part.

6.1 Independent Variables

6.1.1 Monetary Indicators (CBE-Interest Rates & Exchange Rate)

The table below illustrates the Exchange rate between the Egyptian pound and the United States dollars, also the Central Banks of Egypt proposed interest rates of lending and borrowing during the period of Jan 2022 to June 2023 monthly data, beside the growth rate in Exchange rate and interest rate to show the effect of local currency devaluation during the mentioned period.

Table 1: Monetary Indicators during the period of 18 months (Monthly data)

Date	Ex-Rate in EGP	Growth Rate %	CBE-Interest Rate %	Growth Rate %
30/06/2023	30.8969	-0.005%	11.9%	0.844%
31/05/2023	30.8983	0.006%	11.8%	2.575%
30/04/2023	30.8966	-0.006%	11.5%	6.280%
31/03/2023	30.8983	0.870%	10.8%	9.716%
28/02/2023	30.6307	1.454%	9.8%	3.109%
31/01/2023	30.1885	19.890%	9.5%	1.058%
31/12/2022	24.7434	0.678%	9.4%	2.151%
30/11/2022	24.5762	1.863%	9.2%	5.588%
31/10/2022	24.1227	21.006%	8.7%	4.707%
30/09/2022	19.5523	1.698%	8.3%	1.212%
31/08/2022	19.2231	1.417%	8.2%	8.923%
31/07/2022	18.9526	0.794%	7.5%	-2.632%
30/06/2022	18.8028	1.126%	7.7%	2.632%
31/05/2022	18.5924	-0.001%	7.5%	0.000%
30/05/2022	18.5925	0.541%	7.5%	0.000%
30/04/2022	18.4922	1.240%	7.5%	0.000%
31/03/2022	18.2643	15.037%	7.5%	0.000%
28/02/2022	15.7145	0.011%	7.5%	0.000%
31/01/2022	15.7128		7.5%	

Source: CBE-Monthly Bulletin Report

6.1.2 Inflation Rate and Gold-Price Per Ounce

The table below illustrates the inflation rate in Egypt, and global gold price measured by 24k (31.1g) troy ounce in USD during the period of Jan 2022 to June 2023 monthly data, beside the growth rate in inflation rate to show the effect of local currency devaluation during the mentioned period.

Table 2: Inflation Rate & Gold Price during the period of 18 months (Monthly data)

Date	Inflation-Rate in %	Growth Rate %	Gold Price in USD	Growth Rate %
30/06/2023	35.70%	8.78%	1921.10	-2.20%
31/05/2023	32.70%	6.64%	1963.90	-1.33%
30/04/2023	30.60%	-6.64%	1990.10	1.07%
31/03/2023	32.70%	2.48%	1969.00	7.38%
28/02/2023	31.90%	21.22%	1828.90	-5.35%
31/01/2023	25.80%	19.17%	1929.50	5.86%
31/12/2022	21.30%	13.02%	1819.70	4.13%
30/11/2022	18.70%	14.35%	1746.00	6.51%
31/10/2022	16.20%	7.70%	1635.90	-1.61%
30/09/2022	15.00%	2.70%	1662.40	-2.99%
31/08/2022	14.60%	7.10%	1712.80	-2.88%
31/07/2022	13.60%	2.99%	1762.90	-2.31%
30/06/2022	13.20%	-2.25%	1804.10	-2.12%
31/05/2022	13.50%	0.00%	1842.70	-0.47%
30/05/2022	13.50%	3.01%	1851.30	-3.08%
30/04/2022	13.10%	22.12%	1909.30	-2.07%
31/03/2022	10.50%	17.66%	1949.20	2.59%
28/02/2022	8.80%	18.69%	1899.40	5.65%
31/01/2022	7.30%		1795.00	

Source: CBE-Monthly Bulletin Report& Tradingview.com database

6.2 Dependent Variables

In this part, the table below illustrates the total deposits in Egyptian banking sector in local currency, government, and non-government deposits, in addition to non-government deposits in foreign currency and its growth rate borrowing during the period of Jan 2022 to June 2023 monthly data.

Table 3: Total Deposits (Government & Non-Government) in EGP and USD 18 months (Monthly Data)

Date	CBE-Deposits	%	GD (LC)	%	NGD (LC)	%	NGD (FC)	%
30/06/2023	9,472,630	0.51%	2,157,550	-0.76%	5,750,808	1.02%	1,564,272	0.39%
31/05/2023	9,424,403	1.24%	2,173,988	3.23%	5,692,287	1.02%	1,558,128	-0.69%
30/04/2023	9,308,552	1.00%	2,104,838	2.62%	5,634,783	-0.02%	1,568,931	2.54%
31/03/2023	9,215,737	0.85%	2,050,415	-0.74%	5,635,714	1.21%	1,529,608	1.63%
28/02/2023	9,138,184	1.29%	2,065,556	1.06%	5,567,803	1.33%	1,504,825	1.44%
31/01/2023	9,021,252	5.01%	2,043,837	4.62%	5,494,121	1.11%	1,483,294	21.58%
31/12/2022	8,580,275	2.44%	1,951,543	7.43%	5,433,367	1.31%	1,195,365	-0.28%
30/11/2022	8,373,091	2.44%	1,811,713	4.02%	5,362,716	1.69%	1,198,662	3.42%
31/10/2022	8,171,650	4.20%	1,740,259	6.28%	5,273,085	0.00%	1,158,306	22.18%
30/09/2022	7,835,244	2.42%	1,634,302	2.81%	5,273,040	2.41%	927,902	1.77%
31/08/2022	7,648,066	2.08%	1,589,076	3.19%	5,147,301	1.80%	911,610	1.76%
31/07/2022	7,490,815	1.63%	1,539,203	3.36%	5,055,607	0.90%	895,749	2.81%
30/06/2022	7,369,624	2.18%	1,488,343	3.62%	5,010,313	2.19%	870,968	-0.26%
31/05/2022	7,210,628	1.70%	1,435,490	1.88%	4,901,913	1.49%	873,225	2.61%
30/04/2022	7,089,048	1.54%	1,408,704	2.22%	4,829,614	1.23%	850,730	2.18%
31/03/2022	6,980,528	4.91%	1,377,731	0.30%	4,770,430	4.13%	832,367	18.04%
28/02/2022	6,646,190	1.46%	1,373,670	1.78%	4,577,537	1.30%	694,983	1.93%
31/01/2022	6,549,592		1,349,465		4,518,430		681,697	

Source: CBE-Monthly Bulletin Report

7- MEASURING VARIABLES AND TESTING HYPOTHESES

In this part, the researchers will examine the impact each of macroeconomic indicators of Exchange Rate, Inflation Rate, Interest Rate, in addition to global market indicator of Gold-Ounce 24k price daily and monthly data, on Total deposits, Government deposits, non-government deposits in local currency, in addition to non-government deposits in foreign currency for the period of Jan 1st, 2022, to June 30th, 2023. The regression model of the Generalized Method of Moments (GMM) will be used as a regressor model as it shows the highest explanation power. The research variables will be illustrated as follows:

7.1 Research Variables

In this part, an illustration of the research macroeconomic indicators and global gold price as independent variables (X_s), Central bank of Egypt total deposits (Y_s) as dependent variables for the period of January 1st, 2022, to June 30th, 2023.

7.1.1 Independent Variables

Independent Variables are illustrated as exchange rate, gold-ounce 24k, inflation rate, and CBE-corridor interest rates as follows:

Table 4: Research Independent Variables (X_s)

Variables	Category	Sign	Calculation Method
Exchange-Rate in EGP (Daily Data)	Macroeconomic-Indicator	$E_{XR}-X_1$	$\ln(E_{XR}-X_1)$
Gold-Ounce 24k Price in USD (Daily Data)	Global Market-Indicator	$G_{OP}-X_2$	$\ln(G_{OP}-X_2)$
Inflation-Rate in % (Monthly Data)	Macroeconomic-Indicator	I_R-X_3	$\ln(I_R-X_3)$
CBE Interest Rate in % (Monthly Data)	Macroeconomic-Indicator	$CBE_{IR}-X_4$	$\ln(CBE_{IR}-X_4)$

7.1.2 Dependent Variables

Dependent Variables are shown by CBE-Total Deposits in EGP, Government Deposits in EGP, Non-Government Deposits in EGP, and finally Non-Government Deposits in foreign currency.

Table 5: Research Dependent Variables (Y_s)

Variables	Category	Sign	Calculation Method
CBE-Total Deposits in EGP (Monthly Data)	Banking-Sector	$CBE_{TD}-Y_1$	$\ln(CBE_{TD}-Y_1)$
Government Deposits in EGP (Monthly Data)	Banking-Sector	$GD_{LC}-Y_2$	$\ln(GD_{LC}-Y_2)$
Non-Government Deposits in EGP (Monthly Data)	Banking-Sector	$NGD_{LC}-Y_3$	$\ln(NGD_{LC}-Y_3)$
Non-Government Deposits in Foreign Currency (Monthly Data)	Banking-Sector	$NGD_{FC}-Y_4$	$\ln(NGD_{FC}-Y_4)$

8- DESCRIPTIVE AND STATISTICS ANALYSIS

8.1 Descriptive Statistics

Table 6: Research Variables Descriptive Analysis

	$CBE_{TD}-Y_1$	$GD_{LC}-Y_2$	$NGD_{LC}-Y_3$	$NGDF_{C}-Y_4$	$E_{XR}-X_1$	$G_{OP}-X_2$	I_R-X_3	$CBE_{IR}-X_4$
Mean	15.89814	14.35383	15.46515	13.89531	3.101567	7.518639	-1.731964	-2.423291
Median	15.89516	14.33814	15.47812	13.85158	2.973093	7.518309	-1.858639	-2.465381
Maximum	16.06392	14.59207	15.56485	14.26590	3.430780	7.624619	-1.030019	-2.128632
Minimum	15.69491	14.11522	15.32368	13.43234	2.754390	7.392216	-2.617296	-2.590267
Std. Dev.	0.122116	0.171944	0.073130	0.285702	0.250346	0.056831	0.470742	0.165719
Skewness	-0.093194	0.028762	-0.423439	0.015988	0.183531	-0.271871	-0.023096	0.547422
Kurtosis	1.631103	1.415006	2.032165	1.576209	1.495212	2.199452	1.935512	1.897499
Jarque-Bera	43.42112	57.22796	37.62640	46.14161	54.58004	21.30613	25.82735	54.92286
Probability	0.000000	0.000000	0.000000	0.000000	0.000000	0.000024	0.000002	0.000000
Sum	8680.383	7837.194	8443.971	7586.838	1693.455	4105.177	-945.6522	-1323.117
Sum-Sq-Dev	8.127279	16.11284	2.914669	44.48603	34.15683	1.760205	120.7708	14.96726
Observations	546	546	546	546	546	546	546	546

Descriptive statistics in table 6, results showed that Central Bank of Egypt interest rates (CBE_{IR-X_4}) have the lowest mean of -2.423291 with a standard deviation of 0.165719 among the research variables and outliers of maximum - 2.128632 and minimum of -2.590267.

Central Banks total deposits (CBE_{TD-Y_1}) showed the highest mean among other research variables with 15.89814 and a standard deviation of 0.122116, outliers with maximum of 16.06392 and minimum of 15.69491.

Regarding Standard deviation (**STD**) for the rest of research variables, it is concluded that Non-Government Deposits in local currency (NGD_{LC-Y_3}) represent the lowest STD of 0.073130. On the other hand, the Inflation Rate (I_R-X_3) represents the highest STD of 0.470742.

8.2 Correlation Coefficient

Table 7: Research Variables Correlation Coefficient

	CBE_{TD-Y_1}	GD_{LC-Y_2}	NGD_{LC-Y_3}	$NGDF_{C-Y_4}$	E_{XR-X_1}	G_{OP-X_2}	I_R-X_3	CBE_{IR-X_4}
CBE_{TD-Y_1}	1.000000							
GD_{LC-Y_2}	0.991995	1.000000						
NGD_{LC-Y_3}	0.986628	0.966805	1.000000					
$NGDF_{C-Y_4}$	0.989712	0.978642	0.960627	1.000000				
E_{XR-X_1}	0.973058	0.970654	0.938931	0.977615	1.000000			
G_{OP-X_2}	0.256904	0.257773	0.168606	0.325884	0.382242	1.000000		
I_R-X_3	0.982865	0.965234	0.969202	0.980490	0.977206	0.352232	1.000000	
CBE_{IR-X_4}	0.941581	0.951284	0.904689	0.934944	0.939325	0.411910	0.928161	1.000000

Table 7 shows the correlation coefficients among the variables under study, the outcomes indicate that all the variables are positively correlated with each other. It can be also concluded that the correlation coefficient Exchange Rate (E_{XR-X_1}) and Inflation Rate (I_R-X_3) is strong positively correlated of 0.977206, and with CBE Interest Rate (CBE_{IR-X_4}) 0.939325. Also, the CBE Interest Rate (CBE_{IR-X_4}) and the Inflation Rate (I_R-X_3) are 0.928161. Therefore, the independent variables must be tested against the multicollinearity problem.

9- TESTING HYPOTHESES

In this section, the researchers measured and tested the research hypotheses as follows:

9.1 CBE-Total Deposits in EGP (Monthly Data) – CBE_{TD-Y_1}

Table 8: CBE-Total Deposits in EGP (Monthly Data) – CBE_{TD-Y_1}

Variables	Exchange-Rate E_{XR-X_1}	Gold Ounce 24k G_{OP-X_2}	Inflation-Rate I_R-X_3	CBE Interest Rate CBE_{IR-X_4}	Constant- C
Coefficient	0.106761	-0.290232	0.153199	0.179431	18.44931
Prob.	0.0050	0.0000	0.0000	0.0000	0.0000
R-squared	0.987981				
Adjusted-R ²	0.987892				
Durbin-Watson	0.080191				
F-Statistic	11118.03				
Prob.	0.000000				

By reviewing the Generalized Method of Moments (GMM) regression model results of the first model $CBE_{TD}-Y_1$, the following equation is conducted as follows:

$$CBE_{TD}-Y_1 = 18.44931 + 0.106761E_{XR}-X_1 - 0.290232G_{OP}-X_2 + 0.153199I_R-X_3 + 0.179431CBE_{IR}-X_4 + \varepsilon$$

Results showed that independent variables were significant with $p\text{-value} < 0.01$. The explanatory power of the model or the value of coefficient of determination (R-squared 0.987981) means that the independent variables included in the model explain almost (98.80%) from the variance in the dependent variable ($CBE_{TD}-Y_1$ =Total Deposits in EGP). F-Test results indicate that the effect of the independent variable on the dependent variable is significant because the level of significance = 0.00000 is less than $p\text{-value} < 0.01$. According to the previously mentioned results the null hypothesis is accepted. "There is a significant impact of monetary indicators on CBE-Total Deposits in EGP.

From the variance inflation factors (VIF) Test, it showed that $E_{XR}-X_1$, and I_R-X_3 variable centered VIF is greater than 10. Therefore, there will be a multicollinearity problem but after examining the results, the problem has no significant effect. As for the heteroscedasticity problem, it will be solved by applying HAC (Newey-West).

9.2 Government Deposits in Local Currency (Monthly Data) - $GD_{LC}-Y_2$

Table 9: Government Deposits in Local Currency (Monthly Data) - $GD_{LC}-Y_2$

Variables	Exchange-Rate $E_{XR}-X_1$	Gold Ounce 24k $G_{OP}-X_2$	Inflation-Rate I_R-X_3	CBE Interest Rate $CBE_{IR}-X_4$	Constant- C
Coefficient	0.315730	-0.457498	0.077279	0.399872	17.91719
Prob.	0.0000	0.0000	0.0010	0.0000	0.0000
R-squared	0.978061				
Adjusted-R ²	0.977899				
Durbin-Watson	0.072300				
F-Statistic	6029.672				
Prob.	0.000000				

With the results of the second model $GD_{LC}-Y_2$, the following equation is conducted as follows:

$$GD_{LC}-Y_2 = 17.91719 + 0.315730E_{XR}-X_1 - 0.457498G_{OP}-X_2 + 0.077279I_R-X_3 + 0.399872CBE_{IR}-X_4 + \varepsilon$$

Results showed that independent variables were significant with $p\text{-value} < 0.01$. The explanatory power of the model or the value of coefficient of determination (R-squared 0.978061) means that the independent variables included in the model explain almost (97.81%) from the variance in the dependent variable ($GD_{LC}-Y_2$ = Government Deposits in Local Currency). F-Test results indicate that the effect of the independent variable on the dependent variable is significant because the level of significance = 0.00000 is less than $p\text{-value} < 0.01$. According to the previously mentioned results the null hypothesis is accepted. "There is a significant impact of monetary indicators on government deposits in local currency.

9.3 Non-Government Deposits in Local Currency (Monthly Data) - $NGD_{LC}-Y_3$

Table 10: Non-Government Deposits in Local Currency (Monthly Data) - $NGD_{LC}-Y_3$

Variables	Exchange-Rate $E_{XR}-X_1$	Gold Ounce 24k $G_{OP}-X_2$	Inflation-Rate I_R-X_3	CBE Interest Rate $CBE_{IR}-X_4$	Constant- C
Coefficient	-0.043151	-0.270587	0.155603	0.088433	18.11723
Prob.	0.0531	0.0000	0.0000	0.0000	0.0000
R-squared	0.977917				
Adjusted- R^2	0.977753				
Durbin-Watson	0.093051				
F-Statistic	5989.278				
Prob.	0.000000				

The results of the third model $NGD_{LC}-Y_3$, the following equation is conducted as follows:

$$NGD_{LC}-Y_3 = 18.11723 - 0.043151E_{XR}-X_1 - 0.270587G_{OP}-X_2 + 0.155603I_R-X_3 + 0.088433CBE_{IR}-X_4 + \varepsilon$$

Results showed that independent variables were significant with p-value < 0.10. The explanatory power of the model or the value of coefficient of determination (R-squared 0.977917) means that the independent variables included in the model explain almost (97.79%) from the variance in the dependent variable ($NGD_{LC}-Y_3$ = Non-Government Deposits in Local Currency). F-Test results indicate that the effect of the independent variable on the dependent variable is significant because the level of significance = 0.00000 is less than p-value < 0.01. According to the previously mentioned results the null hypothesis is accepted. "There is a significant impact of monetary indicators on non-government deposits in local currency.

9.4 Non-Government Deposits in Foreign Currency (Monthly Data) – $NGD_{FC}-Y_4$

Table 11: Non-Government Deposits in Foreign Currency (Monthly Data) – $NGD_{FC}-Y_4$

Variables	Exchange-Rate $E_{XR}-X_1$	Gold Ounce 24k $G_{OP}-X_2$	Inflation-Rate I_R-X_3	CBE Interest Rate $CBE_{IR}-X_4$	Constant- C
Coefficient	0.443699	-0.255251	0.307675	0.207108	15.47305
Prob.	0.0012	0.0522	0.0000	0.0000	0.0000
R-squared	0.972912				
Adjusted- R^2	0.972711				
Durbin-Watson	0.086075				
F-Statistic	4857.672				
Prob.	0.000000				

The results of the fourth model $NGD_{FC}-Y_4$, the following equation is conducted as follows:

$$NGD_{FC}-Y_4 = 15.47305 + 0.443699E_{XR}-X_1 - 0.255251G_{OP}-X_2 + 0.307675I_R-X_3 + 0.207108CBE_{IR}-X_4 + \varepsilon$$

Results showed that independent variables were significant with p-value < 0.10. The explanatory power of the model or the value of coefficient of determination (R-squared 0.972912) means that the independent variables included in the model explain almost (97.29%) from the variance in the dependent variable ($NGD_{FC}-Y_4$ = Non-Government Deposits in Foreign Currency). F-Test results indicate that the effect of the independent variable on the dependent variable is significant because the level of significance = 0.00000 is less than p-value < 0.01. According

to the previously mentioned results the null hypothesis is accepted. "There is a significant impact of monetary indicators on non-government deposits in foreign currency.

It can be concluded that, the four independent variables of the research showed a strong significant effect on the total deposits in Egypt with its different categories.

10- RECOMMENDATIONS AND SUGGESTIONS

After reviewing the research results that indicates the effect of monetary indicators, inflation, and gold price on the total deposits in Egypt. The researchers recommend the following recommendations are proposed to guide bank management, policymakers, and regulators:

1. Control Inflation & Interest Rates: The Central Bank needs to keep inflation and interest rates stable to safeguard the value of deposits and encourage people to save.
2. Keeping the exchange rate stable is important because it helps people trust the local currency and encourages them to save more in banks.
3. Provide more attractive and flexible foreign currency deposit products.
4. Establish stronger forecasting units within banks to anticipate macro shifts (such as inflation, interest rate, exchange rate).
5. Banks in Egypt should create more attractive savings and deposit products, especially when interest rates go up, to encourage people to save more.
6. Banks are encouraged to offer deposit accounts in both local and foreign currencies to deal with the different effects of exchange rate changes.
7. Boost Financial Awareness: We should educate the public so they can make smart saving choices, especially during economic shifts.
8. Targeted Deposit Strategies: Banks ought to create different products tailored for local and foreign depositors based on their specific behaviors.
9. Encourage Long-Term Saving: Offering deposit products with perks like inflation protection can motivate people to save for the long haul.
10. Improve Communication: Banks and policymakers should communicate their economic policies clearly to prevent panic withdrawals.

10.1 General Recommendations for Egyptian Bank Sector.

1. Enhance Financial Inclusion Initiatives.

- Implement programs targeting unbanked and under banked populations to broaden the depositor base.
- Leverage mobile banking and fintech solutions to increase accessibility, especially in rural areas.

2. Diversify Deposit Products.

- Introduce a range of deposit accounts with varying interest rates and terms to cater to different customer needs and risk appetites.
- Offer inflation-linked savings products to protect depositors' real returns.

3. Strengthen Monetary Policy Framework.

- Maintain a transparent and predictable monetary policy to manage inflation and interest rate expectations effectively.
- Coordinate fiscal and monetary policies to ensure economic stability, which in turn fosters depositor confidence.

4. Implement Risk Management Practices.

- Encourage banks to adopt robust risk assessment tools to manage interest rates and inflation risks.
- Utilize hedging instruments to protect against adverse macroeconomic movements.

5. Promote Economic Diversification.

- Reduce reliance on volatile sectors by promoting investment in diverse industries, thereby stabilizing income sources and enhancing deposit growth.

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