

Fluctuations in the exchange rate of the Egyptian pound against the dollar and its impact on exports.

Dr. Mahmoud Abdel Rahman Al-Sayed Al-Bahloul.

معهد الدلتا العالى لنظم المعلومات الإدارية والمحاسبية

Abstract:

The study sought to highlight its goal, by studying the rapid fluctuations of the exchange rate, of the local currency (the Egyptian pound) against the foreign currency, especially (the US dollar), as it is the strongest foreign currency in light of the global challenges. Exports. To accomplish this study, the researcher used several tests of the analytical method, the most important of which are: the model stability test, the autocorrelation test between the residuals, the variance instability test, the normal distribution test for the residuals, the white noise test for the residuals, examining the stability of the residuals, and then the structural analysis of the model, using function analysis. Immediate response and components analysis of variance. Also, the most important challenges that faced the study were monitored. According to which I reached the most important conclusions, it became clear through them: 1) The values of the exchange rate of the Egyptian pound against the dollar, and exports follow the normal distribution. 2) The effect of the dollar exchange rate on exports is very weak from a statistical point of view. Therefore, fluctuations in the exchange rate of the pound against the dollar are considered an influencing factor. The study also proved: 1) that the weighted average of the rates of return for a sample of banks, whose deposits represent 80% of the total deposits in the banking system, are calculated on a monthly basis. 2) The data showed that the weighted average of the rates of return, and the total volumes of transactions between banks for each maturity period, through the reserve period, is that the exchange rate regression coefficient has a positive value, meaning that the exchange rate decreases by one unit (one pound). 3) It was found through the unit root test for the variables that all the model variables are static at level (0), using the KPSS test, with a categorical test model with a significance level of 1%. To achieve the aim of the study, test its hypotheses, and adhere to its limits, its structure was organized and divided to include two axes: The first axis dealt with: the theoretical framework and previous studies of the subject of the study. As for the second axis: dealing with the practical (standard) framework of the study. **Hence:** 1) The most important conclusions and proposals. 2) References.

Key words: Exchange rate – Exports - Central bank – Inflation.

Introduction:

The Monetary Policy Committee indicates the continuation of inflationary pressures from the demand side, which was reflected in the development of real economic activity, compared to its maximum production capacity, and the impact of recent exchange rate fluctuations. These developments are consistent with the increase in the growth rate of domestic liquidity. The exchange rate constitutes the basis for the stability of the national economy. Therefore, the Central Bank of Egypt recently raised the value of the pound, in a subsequent step to take a series of measures to reduce the price of the currency due to the decrease in the size of the foreign exchange reserve, and to preserve the value of the Egyptian currency against other foreign currencies. There is a discrepancy between supply and demand for goods in US dollars. Which increases the volume of imports of goods (food and energy) more than the volume of exports by approximately three times, thus creating a trade deficit and increasing the demand for the dollar to import those goods.

Decreasing the value of the Egyptian currency should not be a strategy followed, but should be a reflection of the real value of the currency, which puts Egyptian products, goods and services in a more competitive space in the global market, as the Central Bank's strategy means controlling and regulating the exchange rate, to avoid major fluctuations in the value of the currency, which with the current economic turmoil, it is difficult to plan for many businesses. Hence, this strategy caused a shortage in the supply of goods in US dollars, as many businesses reduced the import of raw materials that were not necessary for their activities.

Study Problem:

Many economic problems have emerged. Therefore, the research problem with regard to the challenges that the economy faces as a result of the devaluation of the currency, and inflation is considered one of the biggest challenges, is that it has inflationary effects that lead to the redistribution of income, to the disadvantage of those with fixed incomes, and to the benefit of other categories that have The ability to increase their incomes at rates greater than inflation rates. Which leads to an increase in poverty rates in the Egyptian economy, which reached about 32.5% of the total population in 2018, in addition to a deterioration in the distribution of national income in favor of the middle and poor classes and low-income people. As a result, nearly half of the population living below or near the poverty line bears the burden of rising prices and struggles to obtain their basic needs for goods and services. Therefore, imported goods such as wheat, energy, and other basic commodities become more expensive, as the government subsidizes basic goods for citizens, which constitute a burden on them, and raises the prices of consumer goods or spends on them from the state budget, which is already suffering from a deficit. The problem of the study emerges, focusing on identifying some main questions, the most important of which are:

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- 1) The importance of launching an index to evaluate the Egyptian currency and linking it to a basket of currencies, not just the US dollar, to give a fair value to the pound's exchange rate against this basket.
- 2) The importance of developing economic plans to confront the challenges of exchange rate fluctuations, through frequent floating, and the extent of its impact on exports.
- 3) The importance of studying the impact of exchange rate fluctuations on exports and on producers and consumers.
- 4) Is the relationship between exchange rate fluctuations and its impact on exports due to crises and disasters multiple?

Study hypotheses: It started from a basic hypothesis: (digital processing), and sub-hypotheses, which are:

-Basic hypothesis: (Digital processing): This is to take advantage of digital data to increase the efficiency and effectiveness of the strength or weakness of the Egyptian pound against the dollar, to save time searching for digital information to use this information in a more effective way to classify it and facilitate access to it. From this we proceed to the following sub-

Hypotheses:

- 1) There is an inverse relationship between the exchange rate of the Egyptian pound and the inflation rate.
- 2) There is an inverse relationship between the local currency exchange rate and the poverty rate in Egypt.
- 3) The existence of a short- and long-term relationship, in both directions, between fluctuations in the exchange rate of the pound against the dollar and exports.
- 4) Reducing the exchange rate of the local currency leads to a redistribution of income, to the disadvantage of the poor classes and those with fixed income.

Objectives of the study: One of its most important objectives is to identify the direction and strength of the relationship between the decline in the exchange rate of the pound against the dollar, and to benefit to the maximum extent possible from the reality of its impact on the poverty rate and the fair distribution of income in Egypt. To achieve the objectives of this study, it focused on basic axes that it sought to achieve, which are:

- ! First axis: The study presents an accurate scientific vision that explains the nature of the relationship between fluctuations in the exchange rate of the Egyptian pound against the dollar, the importance of its impact on exports, and its contribution to consolidating the positive image of producers and consumers.
- ! The second axis: Identifying the most prominent strengths and weaknesses, the challenges facing the fact that the exchange rate of the local currency decreased, which led to a decrease in the purchasing power of the pound.
- ! Third axis: Is it necessary that with every devaluation of the currency, inflationary waves occur, leading to the development of some mechanisms to overcome the obstacles facing it?
- ! Fourth axis: Does highlighting the available opportunities to facilitate daily services have negative effects on the poor and income distribution? Who pays the inflation bill?

Study methodology:

The researcher relied on using the foundations of the inductive approach, then followed the descriptive, deductive, and analogical analysis approach, which relied on describing the study from reality, expressed in quantitative and qualitative terms, by setting some methodological hypotheses related to the quality and direction of the relationship between the decline in the local currency exchange rate, The impact of this on the inflation rate and its relationship to the level of poverty in Egypt, as well as using time series data for these variables and analyzing the mutual impact between them. The qualitative expression describes the phenomenon and shows its characteristics, while the quantitative expression gives a numerical description of the value, amount or size of the phenomenon. I combined the two through:

-Theoretical study method: Treating the proposed study by following the historical and descriptive approach by presenting the facts, as available in the theoretical framework related to the concepts, the most important economic variables affecting the economic growth of the research subject, and then following the deductive-inductive approach through presentation and analysis, where it depends On economic measurement, which combines mathematics as a deductive method (deriving results), and statistics as an inductive method, which represents statistical processing of data and as a tool for observing economic conditions, relying primarily on the latest references, which were obtained from various sources.

-Case study method: The research focuses on developments in the exchange rate of the Egyptian pound, covering the time period of the year (2016-2022), in addition to the first and second quarter of 2023, through an annual series, and comparing it to the annual inflation rate during the same period, in an attempt to find a model. Standard, explaining the exchange rate fluctuations of the pound and its impact on exports.

Importance of studying:

It stems from the extent of the impact of the inflation rate, and determining the extent of the impact of the policies of reducing the exchange rate of the pound against the dollar on exports, which the Egyptian state adopted in accordance with the instructions of the International Monetary Fund during the analysis period, due to the transformations and changes that the world is witnessing now, as a result of repeated and multiple crises, disasters, and wars. Hence, the research aims to highlight the importance of confronting and controlling inflationary pressures. Therefore, the Proactive Monetary Policy Committee, which emanates from the policy of the Central Bank of Egypt, took a decision to proactively raise the basic return rates at the Central Bank by 800 basis points during the past year, including 500 basis points during the fourth quarter of 2022. The committee also increased the percentage The cash reserve, which banks are obligated to maintain with the central bank, is 400 basis points in September 2022. The future path of the inflation rate depends on the cumulative increases in interest rates to date, which take time to affect the inflation rate.

We will review some of the tasks we hope to achieve, which are:

- 1) Controlling inflationary pressures, by reducing inflation expectations to the target level of (7%±2 percentage points), on average during the fourth quarter of 2024.
- 2) Keeping the basic interest rates at the Central Bank of Egypt unchanged.
- 3) Evaluating the impact of the proactive restriction policy according to the availability of economic data during the coming period.
- 4) The possibility of establishing guarantees to protect rapid changes that cause multiple tensions in the exchange rate of the local currency against global currencies.
- 5) Restricting monetary conditions to achieve targeted inflation rates, to stabilize prices in the medium term.

Study terms:

- 1) **Exchange rate:** It is the monetary units that must be paid from the local currency to obtain one unit of foreign currency, which is known as (indirect pricing) and also called pricing, (uncertain, uncertain, or ambiguous), (there is no confirmed or indirect quote). This is the common pricing in most financial centers, including Algeria. Therefore, it is used procedurally when collecting statistics and data in this study.

It is also defined as: the number of units of foreign currency that must be paid to obtain one unit of the national currency. This is known as direct pricing and is also called certain, certain, or clear pricing (there is no specific deduction directive). This pricing is particularly widespread in the financial centers of Anglo-Saxon countries such as London, Sydney and Dublin.

- 2) **Exports:** These are goods and services produced in one country, which are purchased by residents of another country. Knowing the quality of these goods or services, or how to send them, is not considered an important matter, as these goods can be sent via freight, or carried in luggage. Personal on board, or sent via email.
- 3) **Central Bank:** It is the official central bank of the Arab Republic of Egypt. It was established in accordance with Law No. 250 of 1960 and is currently operating in accordance with Law No. 194 of 2020 and its amendments as an independent entity and an official bank of the Egyptian state and affiliated with the President of the Republic. Among the responsibilities of the Central Bank are the following: issuing the local currency, which is the Egyptian pound in all its denominations. Formulating monetary policy, determining the tools that can be used and the procedures for implementing it, maintaining the stability of the Egyptian pound, managing the state's gold and free currency reserves, supervising banks, and managing government debts.

On May 28, 2003, the Central Bank issued the "Banking System and Currency Law" as a replacement for its previous founding documents. The new law includes a set of principles or rules to curb the flow of money from the banking system and control the inflation rate, which reached 21.2% in 1990.

4) **Inflation**: It is one of the most important and most serious macroeconomic problems in all economies, and which faces many of the world's developed and developing countries alike, due to the large harmful negative effects that this phenomenon has on the economy in general, and on a large number of members of society in particular.

Inflation is one of the most common economic terms. Despite the widespread use of this term, there is no agreement among economists regarding its definition. This is due to the division of opinion regarding defining the concept of inflation, as this term is used to describe a number of different situations, **such as**:

- 1) Excessive rise in the general level of prices.
- 2) Inflation of money income or an element of money income such as wages or profits.
- 3) High costs.
- 4) Excessive creation of cash balances.

Study structure:

It requires talking about the structure of the study and the expected impact of economic crises, which affect the exchange rate and cause multiple tensions, with the possibility of establishing guarantees to protect rapid changes. Hence, the study focused on examining the most important features of the continuous change in the exchange rate of the local currency against foreign currencies, in light of the current data and international competition, and the wars and crises that the international environment is exposed to. Therefore, the study was organized and divided into two sections:

- ❖ The first section dealt with: the theoretical framework and previous studies.
- ❖ Then the second section dealt with: the practical (standard) framework of the study.
- ❖ Conclusion and recommendations.
- ❖ Reference list.

first topic

Introduction:

There is a general cloud of pessimism about the fate of the Egyptian currency, as major international companies have begun to formulate their budgets, based on the expectation of a massive reduction in the value of the Egyptian pound in 2016, with the expectation of an increase in prices, as Egypt is a net importer of foreign goods. Pressure is increasing from the business community and exporters, interested in maintaining business growth and devaluing the currency. For example, small commercial projects produce cotton shirts or T-shirts in Egypt, and therefore, they benefit from the devaluation of the currency against one dollar. This means that these projects can sell the product at a lower cost. Consequently, the demand for these shirts increases, and hotels also benefit from the devaluation of the Egyptian currency, so that they can attract foreign tourists with lower prices for hotel rooms, and so on for the rest of the sectors.

First: theoretical framework.

The black market and the course of the Egyptian pound, with the movement of the dollar price.

The situation on the black market did not improve significantly, as the dollar remained at very high levels against the pound. In this context, the Egyptian economy suffered from the repercussions of the global economic crisis, and the market is searching for the necessary solutions to confront the financial and economic problems. Therefore, some individuals resorted to the black market to buy the dollar, which affected the economic situation and made the dollar stronger, amid the deterioration of the Egyptian currency. Therefore, the government and financial institutions had to take effective measures to reduce the bad situation of the black market and work to improve the economy in general. Egypt has obtained deposits worth \$13 billion from Gulf countries, including Saudi Arabia and Qatar, to support its financial resources with more profound economic reforms.

The state of instability continues in the black exchange market in Egypt, as the price of the dollar on the black market rose to 15.20 pounds per dollar, while the Central Bank kept the official exchange rate unchanged at 8.78 pounds per dollar. Speculation in the black exchange market is increasing dramatically behind the scenes, as some traders trade the dollar at very high prices against the Egyptian pound, in light of the high demand for the dollar. Therefore, the exchange market witnessed a state of stability in transactions in 2022. The exchange rate of the dollar at the Central Bank stabilized at the level of 19.62 pounds for purchase, 19.72 pounds for sale, while the exchange rate of the dollar at the beginning of the transaction, at the National Bank of Egypt and Banque Misr, maintained the same level. Its level is at 19.63 pounds to buy, 19.69 pounds to sell. In its history, the central bank moved for the first time to a more flexible exchange rate regime, under the terms of a financial support package from the International Monetary Fund. At the end of the transactions, the pound reduced some of its losses, after volatile transactions throughout the day, and closed at the level of 29.74 pounds, according to the average exchange rate in banks, according to the Central Bank's website, compared to about 27.60 at the start of daily trading. The highest price of the dollar against the pound in the official market was at Abu Dhabi Islamic Bank at the level of 30.78 pounds for purchase, compared to 30.83 pounds for sale, and the average price at 20 other banks, led by the Commercial International Bank of Egypt, recorded a level of 30.73 pounds for purchase, compared to About 30.83 pounds for sale. The lowest dollar exchange rate at the National Bank of Egypt and Banque Misr was at 30.63 pounds for purchase, compared to 30.73 pounds for sale. Hence, the government should control the economy to reduce the impact of the black market. The continued decline of the pound is a result of the extremely high financing needs of the dollar and the relatively low capital flows in this period.

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In a parallel rise, at the end of December of last year 2022, the US dollar recorded the highest level ever against the Egyptian pound, as it reached the level of 38 pounds on the black market, and with the multiple measures announced by the Central Bank, the pace of parallel market activity declined, so that the dollar was traded at Level 31 pounds. Then the Egyptian pound reduced its losses against the dollar, by falling to a historic level during daily trading only, coinciding with the recent rises in the exchange rates of the dollar against the Egyptian pound in banks, and then the dollar's rise again on the black market, recording a level higher than 32 pounds to the dollar. Once again, the exchange rate of the US dollar rose again on the black market in Egypt on 4/3/2023, and recorded a new high in light of the stability of the price of the dollar in banks, as it reached 31.20 pounds for purchase, 31.30 pounds for sale, and is still continuing to rise against... The Egyptian pound, due to the continuous demand for the dollar on the black market, and the lack of sufficient supply of the American currency, while the price of the dollar in banks remains fixed at 30.75 pounds for purchase, 30.85 pounds for sale, then the price of the dollar on the black market recorded a new high. It reached 33.50 pounds to buy and 33.70 pounds to sell.

Central Bank and IMF loan:

The IMF estimated the external financing gap in Egypt at about \$17 billion, and that its program would help in releasing about another \$14 billion in financing from international and regional partners. Egypt turned to the IMF for help, after Russia's war in Ukraine. Egypt was exposed to financial pressures represented by rising bills for imports of goods such as wheat and oil, while it dealt a blow to tourism, a major source of hard currency from two of its largest markets, Ukraine and Russia. Which prompted the foreign investor to withdraw more than \$20 billion (hot money) from the economy. Therefore, the International Monetary Fund released the letter of intent that the Egyptian government addressed to fund officials on November 30, 2022, which revealed policies that the Egyptian economy will follow, to control inflation rates and confront difficult economic challenges.

! Flexible exchange rate.

The transition to a flexible exchange rate regime is challenging, and a combination of weak inflows and accumulated unmet demand for the dollar may temporarily overtake the pound. Therefore, the government devalued the pound three times last year, 2022, and intends to switch to a more flexible exchange rate, in steps that will help obtain a loan from the International Monetary Fund.

The concept of a flexible exchange rate: that there can be no shortage of foreign currencies. Therefore, confidence in the currency and its availability on demand are essential for inflows from Egyptian expatriates and portfolio investors to revive. The agreement between the bank and fund officials confirms the necessity of having a flexible exchange rate, and that the most important of these points is giving the central bank the right to intervene to avoid severe fluctuations (when the value of the currency falls above 5%).

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The Central Bank of Egypt revealed at the 2022 Economic Conference that it aims to launch a special index for the Egyptian pound, which includes a basket of international currencies and gold. The link between the pound and the dollar is wrong, because the United States of America is not Egypt's primary trading partner. This comes after the pound witnessed sharp and violent losses since the Central Bank reduced its value against the dollar in an extraordinary meeting in March 2023. After that, the pound lost more than a quarter of its value against the dollar. Therefore, we must change the culture that the pound is linked to the dollar, and focus only on the decline of the pound against the dollar, which rose against the majority of the world's currencies, while no one noticed that the pound rose against the pound sterling, the Turkish lira, and others. It is normal to reach the parallel market price, to prevent conflict in the value of the dollar. We also stress the importance of having a flexible exchange rate, given the existence of agreements through which a large portion of the shares of a group of companies on the stock exchange are acquired. Therefore, the current dollar exchange rate encourages companies that have announced the offering of part of their shares on the stock exchange to start moving. Hence, the net cash reserve of foreign currencies in Egypt increased, during the month of last November 2022, by about 121 million dollars in a successive increase, until it reached 33.532 billion dollars, (a statement issued by the Central Bank of Egypt).

The Central Bank used its mechanisms to control the banking market, and allowed banks to issue internal non-deliverable contracts and other options that allow for hedging the risks of further decline in the value of the pound. This step would increase transparency about expectations for the pound's movement, and would also protect local companies' derivatives from significant fluctuations in the pound, if the country moves toward more exchange rate flexibility. There is also speculation in the currency market inside Egypt (the parallel market), which works to price the value of the dollar against the pound. Therefore, the Central Bank was forced to reduce the value of the pound against the dollar to achieve several goals.

- Eliminating speculation in the currency market and eliminating the black market.
- Stimulating exports and reducing imports.
- Encouraging the inflow of foreign direct investment.
- Fulfilling the requirements of the World Bank in liberalizing the exchange rate, in order to obtain a loan from it.
- Floatation: The decision to float the new Egyptian pound has economic and political repercussions. It was taken recently by the Central Bank of Egypt, and it is the third in eight years. This time it came in light of the difficult situation of the Egyptian economy, due to the high inflation rates it is suffering from and a steady increase in the amount of debt.

Floatation losses.

- The first float: In November 2016, the pound fell from the level of 8.88 pounds to the dollar, to the level of 15.77 pounds to the dollar, a decline of 78 percent.

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- The second float: In March 2022, the pound fell from the level of 15.77 pounds to the dollar, to the level of 19.7 pounds to the dollar, a decline of 25 percent.
- The third float: In October 2022, the pound fell from the level of 19.7 pounds to the dollar, to the level of 24.7 pounds to the dollar, a decline of 25.4 percent.
- Fourth float: In January 2023, the pound fell from the level of 24.7 pounds to the dollar, to the level of 32 pounds to the dollar, a decline of 30 percent.

Bonds with new yields.

The National Bank of Egypt and the Banque Misr have collected more than 155 billion pounds, the proceeds of 25% certificates, 22.5% since their introduction, including 50% of the proceeds from purchases through new funds from outside banks, and the sale of dollars and foreign currencies, 50% from breaking existing certificates. . These returns are considered the highest in Egypt's history, in light of a high inflation wave and a sharp decline in the Egyptian pound against the dollar. At the beginning of 2023, the National Bank announced the launch of a new savings certificate for one year, with a return of 25%, to be redeemed at the end of the period, or 22.5% to be redeemed monthly.

On February 1, 2022, it was decided to keep interest rates unchanged, with an increase ranging between 1.5 and 2%. It was also decided to set interest rates at 16.25% on deposits and 17.25% on lending. Egypt's net foreign exchange reserves rose to \$34.35 billion at the end of February from \$34.2 billion last January 2023.

Second: Previous studies.

(1) The impact of monetary policies on the stability of the exchange rate in Egypt from 1990 - 2017.

The aim of the study is to identify the nature of the exchange rate in Egypt, and the inductive and analogical analysis approach was used to evaluate the impact of monetary policy on achieving exchange rate stability. The researcher concluded that there are structural obstacles in the Egyptian economy that prevent the actual exchange rate from having an impact on the path of the desired exchange rate, and that the discount rate is the main factor in the deterioration of the exchange rate of the pound against the dollar in the long term. However, it found that the relationship between the exchange rate and the inflation rate was not consistent with economic theory during the analysis period.

(2) The impact of monetary policies and exchange rate changes on a small-sized open economy.

Examine the impact of monetary policies and exchange rate changes on a small-sized open economy. The researcher used the quantitative analysis approach, and showed how the equilibrium movement can be reduced to levels that reduce domestic inflation and the output

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gap. To analyze the effects on the macroeconomy, he formulated three alternative systems for policies based on monetary rules in a small open economy (domestic inflation, Taylor rules based on the consumer price index, and the restricted exchange rate). The research concluded that the main difference between these systems is in the relative range of exchange rate fluctuations necessary for each system, the research also clarified the cases in which the policy of targeting domestic inflation is considered an optimal policy.

(3) Study the reasons for the significant decline in the exchange rate of the Egyptian pound, and its impact on the economy.

The study (Omar Osman) explained the reasons for the significant decline in the exchange rate of the Egyptian pound, and its impact on the economy, by focusing on three periods in which this policy was adopted in 1991, then the floatation decision in 2003, and finally the significant decline following the January 2011 revolution. The researcher used The monetary approach and historical data to analyze the development of monetary conditions in both Egypt and the United States, with the aim of arriving at the relationship between inflation rates and changes in the exchange rate of the pound. He concluded that the devaluation of the Egyptian pound has a negative impact on individual consumption, especially for poor families, but its impact on Egyptian exports is very slight, and no impact of the devaluation on labor and employment has been proven.

(4) The impact of the fluctuation of the dinar exchange rate against the euro on non-hydrocarbon exports, an econometric study of the case of Algeria 2000 - 2020

The study aims to measure the impact of exchange rate fluctuations on Algerian non-hydrocarbon exports in international markets for the period from 2000-2020, using statistical and measurement tools (vector autoregressive models (VAR)). It concluded that there is no statistically significant impact of the Algerian dinar exchange rate against the euro on exports. The development of exports outside of hydrocarbons is largely linked to the development of exports of fuel, because semi-finished products represent the largest percentage of exports outside of hydrocarbons and of hydrocarbon derivatives. Therefore, their prices are closely related to fuel prices. The decline and collapse of the Algerian dinar against the euro is due to the concealment of its value by the monetary authority, which attributes this measure to support and encourage Algerian exports, but this measure is inappropriate for the system of deficiencies in the national productive structure and its inability to cover the national market in quantity and quality, as well as access to foreign markets. This measure was withdrawn in order to curb foreign imports, which is also considered a useless measure given the needs of the national market and its connection to the European market in particular.

(5) Estimating the impact of a change in the real effective exchange rate on non-hydrocarbon exports.

This study (Bin Hamid Suhair, Masar Monsef 2019, pp. 83-97) aims to estimate the impact of a change in the real effective exchange rate on non-hydrocarbon exports in the short and long term, using an autoregressive slow distributed (ARDL) model for the period 2000-2017, after... Its presentation of some previous studies that dealt with the subject in different temporal and spatial frameworks, and its analysis of the development of the real effective exchange rate and exports outside of hydrocarbons, relied on standard estimation to study the effect between the two variables, by formulating a model to estimate and test the limits of cointegration, in which the logarithm of real exports outside the country was used. Hydrocarbons, the logarithm of the real effective exchange rate of the Algerian dinar, and the logarithm of real oil prices.

study reached results including:

- The study proved that there is no statistically significant effect of the change in the real exchange rate of the Algerian dinar on non-hydrocarbon exports in the short and long terms during the study period, while there is an effect of the oil price on non-hydrocarbon exports in both terms. This result reflects the importance of oil prices in creating the dynamism of production activity outside the hydrocarbons sector, and the extent to which the non-oil sector is dependent on oil prices.
- Despite the measures taken at the exchange rate policy level, to enhance the competitiveness of non-hydrocarbon exports, the reality shows that their contribution to the national economy is still marginal, which requires the authorities to make more efforts to advance this sector, by relying on an integrated structure of incentives. Export.

(6) Exchange rate liberalization policies and their impact on poverty and income distribution in Egypt.

The research aims to evaluate the repercussions of the policies of devaluing the Egyptian pound, which the Egyptian government followed as part of its economic reform policies, on poverty rates and the equity of income distribution in Egypt during the period from 1999 to 2019. The descriptive analysis approach was used to deduce the theoretical relationship between the various variables, and the extent of their applicability. The relationship to the economic reality in Egypt. The econometric analysis approach was also used to determine the extent of the quantitative impact of the policies of devaluing the Egyptian pound on poverty rates, and the extent of its impact on the fairness of income distribution. The research reached results that are consistent with economic theory. The decline in the exchange rate of the Egyptian pound led to successive increases in the prices of basic commodities, which led to higher inflation rates, which intensified the middle and low-income classes' feelings of a decrease in their real

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incomes, which increased the size of the poor. In Egypt, reaching about 62% of the Egyptian population, below the poverty line according to World Bank reports. The research also demonstrated the deterioration of income distribution to the disadvantage of low-income classes and the poor, and the rise in unequal income distribution in Egypt since 2015. It was recommended that the Egyptian government take many measures to develop the social security network, to confront the negative repercussions of economic measures on the poor and low-income people.

second topic

practical (standard) framework of the study.

Introduction:

At the global level: Expectations for global commodity prices indicate a slight increase compared to the expectations presented to the Monetary Policy Committee on the one hand. On the other hand, the financial conditions of the US economy continued to ease, while those conditions generally stabilized in the Eurozone, compared to the information available to the Monetary Policy Committee. Accordingly, many factors have contributed to the continued state of uncertainty associated with expectations for global prices of basic commodities, as the most important of these factors are the expected slowdown in global economic activity, the easing of precautionary measures related to the Corona epidemic, and the continuation of the Russian-Ukrainian crisis.

As for the local level: Economic activity recovered during the third quarter of 2022, recording a real GDP growth rate of 4.4% compared to a rate of 3.3% during the second quarter of 2022. The recovery was driven by improved economic activity in sectors, Tourism, agriculture, wholesale and retail trade. Most preliminary indicators also continued to record positive growth rates, albeit at a slower pace, during the fourth quarter of 2022. It is expected that during the coming period the GDP growth rate will follow a moderate pace during the fiscal year 2022/2023, compared to the previous fiscal year. Before it rises again.

Labor Market: The unemployment rate recorded 7.4% during the third quarter of 2022, compared to a rate of 7.2% during the previous quarter.

The soundness of the monetary and banking system and price stability within the framework of the state's economic policy.

1) Monetary policy (the effect of exchange rate changes on inflation):

The importance of the exchange rate comes mainly from its direct effects on the prices of imported goods, which means its impact on the inflation rate prevailing in the economy. Hence, the importance of studying the impact of changes in the exchange rate on local prices, through three possible effects of that policy on the inflation rate. It begins with the exacerbation of

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inflation after the “COVID 19 virus” epidemic, followed by the Ukraine war, and the reopening of the economy, which caused severe and multiple tensions in several regions of the world, pushing millions of people into the abyss of extreme poverty and fueling societal tensions, a danger that exceeded the risks of natural disasters. , extreme weather events, or even conflicts. Rising inflation would put pressure on the central bank's monetary policy committee to raise interest rates. The global pandemic and war in Europe have put the energy, inflation, food and security crises first. There is also another danger, which is the polarization of societies through misinformation and misinformation, or even (geo-economic wars).

The report of the World Economic Forum, held in Davos from January 16-20, 2023, on global risks for the year 2023, revealed that inflation is the greatest risk threatening the world in the next two years, and included that (conflicts and geo-economic tensions) have led to a series of severe and interconnected global risks. Then it rose in December 2022 to reach 21.3%, the highest since 2017. The report also indicated that the decline in the local currency exchange rate adds burdens to the already high prices, and the inflation rate could rise above 40% during the subsequent period. Accordingly, the cost of living crisis caused by inflation constituted the first global threat during the next two years.

These risks include: pressure on energy and food supplies, which is expected to continue over the next two years, and a sharp rise in the cost of living crisis and the cost of debt, due to rising energy prices and interest rates. In turn, they harm efforts to combat other long-term threats, especially climate change and the collapse of biodiversity. Therefore, the world should begin to cooperate effectively on moderation (of climate change) and climate adaptation, to prevent further (global warming and environmental collapse) in the coming years. In parallel: crises linked to (geopolitical competition) between various countries threaten to create societal distress at an unprecedented level, with the absence of investments in health, education, and economic development, which further erodes social cohesion.

Current target inflation rate: 7.0%. (± 2 percentage points) on average during the fourth quarter of 2024. Accordingly, the Central Bank of Egypt aims to achieve the soundness of the monetary and banking system and price stability, within the framework of the general economic policy of the state in accordance with the Central Bank and the Banking System Law No. 194 of 2020, the rate was recorded Annual general inflation was 18.7%, on average during the fourth quarter of 2022, compared to the previously announced target by the Central Bank, which amounted to ($7\% \pm 2$ percentage points) on average during the same period. The annual urban inflation rate also rose to record 21.3% in December 2022. The upward trend in the annual core inflation rate continued to record 24.4% during the same month.

These developments come as a result of the impact of the Russian-Ukrainian conflict, and the disruption of global supply chains, on the rise in global prices of basic commodities, despite their recent decline, and the fluctuations in the exchange rate of the Egyptian pound since March

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2022, in addition to other inflationary pressures from the demand side. Therefore, this problem has serious repercussions on the standard of living of a large group of members of society, represented by the group of poor people and those with fixed and limited incomes. Hence, treating inflation or alleviating its severity is considered one of the main goals that countries seek to achieve.

The Central Bank is committed to maintaining a low and stable inflation rate over the medium term. The Monetary Policy Committee also decided to keep key interest rates unchanged. Then, on February 2, 2023, it also decided to maintain the overnight deposit and lending rates and the central bank's main operation rate at 16.25%, 17.25%, and 16.75%, respectively. The credit and discount rates were also maintained at 16.75%.

Savings decline. Total savings relative to national income declined sharply in Egypt over the past few years, reaching its lowest levels between 2015 and 2020, according to the World Bank's national accounts data. Total savings fell from 35% in 1992 to 11% in 2020, and in 2015 and 2016, it recorded the lowest level ever when it reached only 10% of gross national income. At the level of funds: Non-governmental deposits in local currency amounted to 5.055 trillion pounds by the end of July 2022, the share of the household sector being about 4.214 trillion pounds (one dollar equals 24.10 pounds), according to data from the Central Bank of Egypt. mic development, which further erodes social cohesion.

Economic measurement.

First: statistical analysis of the study variables.

- (1) Methodological foundations: The study follows the descriptive and analytical approach, which depends on describing the study from reality, and expresses it in quantitative and qualitative terms. The qualitative expression describes the phenomenon and shows its characteristics, while the quantitative expression gives a numerical description of the value, amount or size of the phenomenon.

Variable indicators:

- (1) **Exchange rate (y) (independent variable)**: Deal with this variable (exchange rate) by monitoring the results of the indicators that make up the variable, as follows:
- (A) Methods: At this point, we discuss the method by which the study was conducted in its experimental and field parts, and then we explain the tools that were used, as the researcher processed a standard model that studies the relationship between the exchange rate of the Egyptian pound against the dollar and its impact on exports, using Autoregressive vector models. VAR

Therefore, the study relies on two basic variables: The first variable: the exchange rate, which is an independent variable. The second variable: exports in the period from 2016-2022, which is a dependent variable. To measure these variables, reliance was placed on information

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and statistics (CNIS), emanating from the Ministry of Foreign Trade for the previous period, and thus reliance was placed on the tripartite statistical bulletins issued by the Central Bank of Egypt. Variable values were reported in percentages, amounts in US dollars, and prices as average over the period.

Symbols for the study variables that were used in estimating the statistical equations are **as follows**:

- ❖ **ERDEURO**: Exchange rate: for the Egyptian pound against the dollar.
- ❖ **EXHH**: Exports: According to it, it gave the semantic form of the model, as follows:

$$\text{EXHH}_t = F(\text{ERDEURO}_t)$$

Assuming a linear relationship between the variables, we formulate the following statistical model:

$$\text{EXHH}_t = \text{B}_0 + \text{B}_1 * \text{ERDEURO}_t + 3t$$

Whereas:

- **B₀: fixed limit.**
- **B₁: ERDEURO parameter**
- **3t**: A random variable that includes variables that are not included in the system, but affect it.

(B) Tools (study population): Here we discuss the tools that were used in the collection process, which were chosen based on characteristics that are compatible with the study population, the computer programs used in processing data and data to obtain primary data, and the various statistical and measurement tools used, as a means Convince, therefore, use the statistical program (EViews 10) to process the data, since it provides smoothness and ease, for dealing with time series and analyzing them, in light of economic measurement (Econometrics), and also use the electronic spreadsheet program, EXCEL, to obtain some graphical curves. The applied study relies on time series. Therefore, the researcher relied on statistical data despite its difficulty. The nature of the time series was determined by simple observation. Therefore, statistical measures were used to test the presence or absence of a general trend in the series. Then we proceeded to study the autocorrelation function and partial autocorrelation, determine the degree of lag (lag period) for the study variables, and study the stability of time series using the unit root test, as Philips & Perron P, 1988, pp. 335 used. -346) With several tests, the most important of which are: The Dickey-Fuller test (DICKEY & FULLER, 1979, pp. 427-431), and the expanded Dickey & FULLER 1981 (ADF) test. From here, it turns out that the export series EXHH and the pound exchange rate series The Egyptian dollar against the ERDEURO, both of which are stable at the first difference with no cointegration relationship between the two series. Therefore, we begin by estimating the relationship between them using the autoregressive VAR model.

(C) Study sample (validity and reliability calculation): to ensure the validity of the data collection tool needed for the current study, as it represents the original population. The internal consistency of the scale items was selected using the VAR model, and the following results emerged:

- ❖ **The absence of a long-term relationship between the exchange rate of the Egyptian pound against the dollar**: as a result of the lack of cointegration between the two series, on the one hand, and exports on the other hand. Accordingly, we must look for the existence of a short-term relationship between them through the autoregressive vector model. VAR, to show the short-term relationship between the two series.
 - ❖ **Determine the delay period for the two series together**: in order to use it in estimation by building the model, then studying and determining the causal relationship in the short run, that is, knowing the dependent variable and the independent variable, and then diagnosing the residual model, and ensuring that it is free of measurement problems using several tests, the most important of which are: The stability of the model, testing the autocorrelation between the residuals, testing the non-stationarity of variance, testing the normal distribution of the residuals, testing the white paper of the residuals, examining the stability of the residuals, and then structural analysis of the model, using instant response function analysis, and analysis of variance components.
- 2) **Exports** {**dependent variable (X)**}: Egypt's current account deficit: The trade balance shows the difference between merchandise exports and imports, and the service balance determines the state's net receipts from service industries such as tourism and transportation, which suffer from a huge deficit due to the deterioration of tourism revenues after 2011, The balance of current transfers (aid and grants) is also monitored unilaterally. The trade balance also recorded a deficit of \$10 billion in the first quarter of fiscal year 2015, due to the decline in global oil prices, which negatively affected Egyptian exports and imports. The proceeds of merchandise exports also declined by about 26.5%, to become \$4.6 billion in the first quarter of 2016, after it was \$6.3 billion in the first quarter of the fiscal year 2015. The reason for this decline is the decline in the proceeds of petroleum exports (crude or Products) amounted to about \$1.2 billion, due to the decline in global oil prices by more than 51% during the comparison period, and it includes several indicators that were presented, **as follows**:
- ❖ Determine the lag period for the two series together: We obtained a lag period of $1 = p$, and it became clear that the exchange rate of the pound against the dollar affected the export values for the current year compared to the previous year.
 - ❖ The effect of the exchange rate on exports: The exchange rate of the pound against the dollar can be predicted using exports, and exports can be predicted using the exchange rate. From here, it turns out that the causal relationship is in two directions. This result is due to the nature of international economic relations and the geographical distribution of exports destined for Europe. Therefore, it is considered very sensitive to any change in the value of the pound against the dollar on the one hand, and on the other hand, the increase in demand for exports means the demand for the national currency. Accordingly, it is affected The value of the national currency.

(D) **Estimating the VAR model:** The estimators of this model appear in the following two equations:

$$1) D1EXHH = C (1) *D1EXHH (-1) + C (2) *D1ERDEURO (-1) + C (3)$$

$$2) D1ERDEURO = C (4) *D1EXHH (-1) + C (5) * D1ERDEURO (-1) + C (6)$$

The first equation shows that the value of exports was affected by a slope of C (1), in addition to being affected by the value of the exchange rate of the Egyptian pound for the previous year with a slope of C (2), with a fixed limit of C (3). The second equation shows that the value of the exchange rate of the pound to the dollar was affected by its value for the previous year with a slope of C (5), in addition to being affected by the values of exports for the previous year with a slope of C (4), with a fixed term of C (6). Therefore, the first equation must be analysed. To serve the problem, the model was estimated on this basis using the least squares (OLS) method, and the following equation was concluded:

$$D1EXHH = 0.529759863272 * D1EXHH (-1) + 12.5453278227 * D1ERDEURO (-1) - 453.670925353$$

It has been shown that the model has overall significance, with a significant Fisher statistic, F-statistic = 19.148. Therefore, it indicates where Prob (F-statistic) = 0.00 < 0.05, and the model has acceptable explanatory power, as indicated by the coefficient of determination R-squared. = 0.7053, according to which the independent variable explains the dependent variable by 70.53%, and the rest is attributed to factors outside the model, because it does not suffer from problems of autocorrelation between errors, as shown by the Durbin-Watson statistic = 2.1634, which is in the null hypothesis area, that is, there is no autocorrelation, and this is a positive point in the model. However, some model parameters are not significant, as:

Table (1) Study of the statistical significance of the parameters of the first equation for Model C.

Teacher	t-statistic	Prob (t-statistic)	Resolution at 5%
C(1)	2,6725	0,0167	Moral.
C(2)	1,6683	0,1147	Not significant.
C(3)	- 0,8091	0,4303	Not significant.

Source: Prepared by the researcher, based on the outputs of the (Eviews 10) program.

It was found that the value of exports in the previous year was affected by the significance of parameter C (1), and was not affected by the exchange rate of the pound against the dollar, due to the non-significance of its parameter C (2), and was not affected by the fixed term due to the non-significance of its parameter C (3). Accordingly, it was diagnosed and confirmed to be empty. Of the standard problems.

(E) **Diagnosing the VAR model:** To diagnose it and test its validity, it must be ensured that it is free of measurement errors, such as testing its total and partial stability, with the residuals stable and subject to a normal distribution.

- ❖ Testing the stability of the model: After estimating the VAR model, its stability should be tested with the necessary tests. Therefore, it was found that the estimated VAR model fulfills the stability conditions as most of the coefficients are smaller than one, and all the roots lie within the unit circle.
- ❖ Test of autocorrelation between the remainders: It was found that there is no autocorrelation between the remainders of the model. Therefore, the null hypothesis states that there is no autocorrelation between the remainders of the model, and the alternative hypothesis states that there is an autocorrelation between them.
- ❖ LM test results: It was found that all probability values at degrees of lag are greater than the critical values at the 5% level, up to the tenth period with a probability of 0.0238, as well as, with a probability of 0.0404, which are late periods, which leads to accepting the null hypothesis, and that the remainder The model does not have autocorrelation, and it also shows that the error in the model for period (t) is independent, and is not affected by the error in the model in period (t-1). The VAR model is suitable for use if there is a correlation between the residuals of the model's equations (Attiya, 2005, p. 738).
- ❖ Test for non-stationarity of variance: The results of the White test confirm that the model is free of the problem of non-stationarity of variance, because its value has a probability greater than 5%. Therefore, we accept the null hypothesis, i.e. the series of residuals has a homogeneous variance.
- ❖ Test of the normal distribution of the residuals: To reveal the nature of the distribution of the model's residuals, we rely on the Jarque-Bera test. This test shows, through the results in the table, that the degree of significance is greater than 5%. Therefore, we accept the null hypothesis that the remainders of the two series follow a normal distribution.

Table (2) Jarque-Bera test results.

Series.	Statistics.	The value.	Degree of morale.
The exchange rate of the pound against the dollar.	(Jarque-Bera).	0,632613	0,728836
Exports.		1,277764	0,527882

Source: Prepared by the researcher based on the outputs of the (Eviews 10) program.

- ❖ The white patch test for residues: Where we use the Ljung-Box test to determine whether the residues are white scraps or not? Therefore, to what extent does it affect the VAR model or not? The statistic for this test corresponds to the last value in the Q-Stat column as follows:

Table 3: Ljung-Box test results.

Series.	Statistics.	The value.	Degree of morale.
The exchange rate of the Egyptian pound against the dollar.	Ljung-Box	9,4147	0,667
Exports.		13,987	0,302

Source: Prepared by the researcher based on the outputs of the (Eviews 10) program.

It is clear from this table that the remainders of the exchange rate series for the pound against the dollar, and the remainders of the export series, represent a blank canvas, because they are random shocks that do not affect the estimated VAR model.

- ❖ Testing the stability of the residues: It was found that through the stability test, the series of residues was free of instability, as it was proven that it was stable at the level.

(F) **Structural analysis of the VAR model:** This study was conducted during the time period from 2000 to 2020, as it witnessed several changes in the country and abroad, which required ensuring that the data used in the study were free of any structural changes or shocks. Therefore, we should use one of the tests such as:

Response to CHOLESKY, Or Chow test, Or Cusum, Or Rcursoric Coefficient.

(G) **Impulse Response Functions:** The response function describes the economy's response over time to exogenous shocks. In the context of VAR models, shocks are treated as an exogenous variable. Therefore, the function traces the time course of the various sudden shocks to which the various variables included in the VAR model are exposed, as the reaction of internal variable systems to the effect of a shock was shown within the limits of errors, and it also showed the effect of a sudden decrease of a variable on itself, and on the rest of the system variables in All times to reflect how each variable responds to any sudden shock in the model over time (ALKHATHLAN, 2006, p. 101). Analysis of the variance components and the response function is important in forecasting processes. The Response to CHOLESKY test was also used to study the response of any shock to the exchange rate of the pound against the dollar and its impact on exports. It is analyzed as **follows:**

Part One: This part studies the response in the shock to exports and its impact on the exchange rate of the Egyptian pound against the dollar, the Response of EXHH to ERDEURO, which was shown at the beginning of the first period until the end of the third period, the formation of any shock in EXHH that has a strong positive impact on ERDEURO, and then after that It begins in the neutral effect starting from the fourth period.

The second part: where he studied the response of the shock to exports and its impact on itself, the response of EXHH to EXHH, which was shown that at the beginning of the first period until the middle of the second period, any shock in EXHH has a sharp negative impact on

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itself, after which the negative impact gradually decreases, until the end of the middle of the period. Sixth, because it is logical, then the neutral effect begins starting from the sixth period.

The third part: studied the response to the shock on the exchange rate of the pound against the dollar, and its impact on itself, Response of ERDEURO to ERDEURO, from which it became clear that at the beginning of the first period, until the end of the second period, any shock in ERDEURO has a sharp negative impact on itself, the negative impact then continues, but with decreasing severity.

Part Four: It studies the response to the shock on the exchange rate of the Egyptian pound against the dollar, and its impact on exports. The response of ERDEURO to EXHH, which showed that at the beginning of the first period until the middle of the second period, the formation of any shock in ERDEURO has a strong positive impact on EXHH, and then the effect continues. Positive from the middle of the second period until the middle of the fourth period, less strongly until the beginning of the sixth period, after which the neutral effect begins.

These results are explained based on the nature of export contracts that oblige exporters and importers to sign them for a relatively long period, from one to five years on the one hand, and on the other hand the volume of exports denominated in dollars, given their geographical distribution close to the dollar zone.

(H) Variance Decomposition. The variance components were analyzed for each of the model variables, to identify the amount of variance in the prediction for each variable, which leads to the prediction error in the variable itself, and the amount of prediction error in the other explanatory variables in the VAR model, as the importance of analyzing the variance components highlights its relative importance, due to the effect Any sudden change in each variable in the model that affects all other variables in the model. The analysis of variance also aimed to test the importance of different variables in their impact on the behavior of economic phenomena, by determining the proportion of each variable responsible for changing the phenomenon (Attiya, 2005, p. 390). It relied on the Cholaski Decomposition, which affected the arrangement of the variables in the model to be tested. To avoid this problem, the reliability of these results must be confirmed by changing the order of the variables used in the study model.

The analysis of the variance of exports during the study period was studied on itself, and then on the exchange rate of the pound against the dollar. It was found that the effect of the variance occurring in EXHH on itself in the first period was 100%, with no effect of the variance on ERDEURO, and then it affects the second period with a variance of 98.89% and 1.11% on the same ERDEURO respectively, until at the end of the period the amount of variance reaches 70.84% and 29.15% respectively. Therefore, the variance of EXHH affects ERDEURO with an increasing average throughout the period. Therefore, this result is consistent with the previous GRANGER causality test, where EXHH was shown to cause ERDEURO. Accordingly, exports cause a change in the exchange rate, and from it we conclude that it is possible to predict the

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exchange rate of the pound against the dollar using exports, given the small size of the variance and difference. As for the analysis of the variation of the exchange rate of the pound on itself during the study period, and then on exports, it was found that the effect of the variation occurring in ERDEURO on itself and on EXHH in the first period was 100%, then in the second period it was estimated at 99.8% and 20.02%. Respectively, until at the end of the period the amount of variance was estimated at 98.5% and 1.5% respectively. Hence, ERDEURO variation affected EXHH weakly and increasingly throughout the study period. Hence, this result is consistent with the previous GRANGER causality test, where it was found that ERDEURO causes EXHH, and from it we conclude the possibility of predicting exports based on the exchange rate of the pound against the dollar, given the small size of the variance and difference.

Second: Descriptive analysis of the study:

(1) Central bank exchange rates and inflation rate.

24% of (NMG) is spent on purchasing imported goods and services, as a result of a large percentage of local consumption being made up of imported goods, which led to an increase in prices due to the high cost of imports and the decline in the value of the pound. Therefore, the importer raises prices to compensate for the difference in the cost of importing in order to maintain his profit margin. The import bill for goods and services in the Egyptian state's general budget rose to 32 billion pounds, in addition to reducing the gains resulting from the drop in oil prices in the budget by about 5 billion pounds. The inflation rate also rose to exceed 21.42% in 2018.

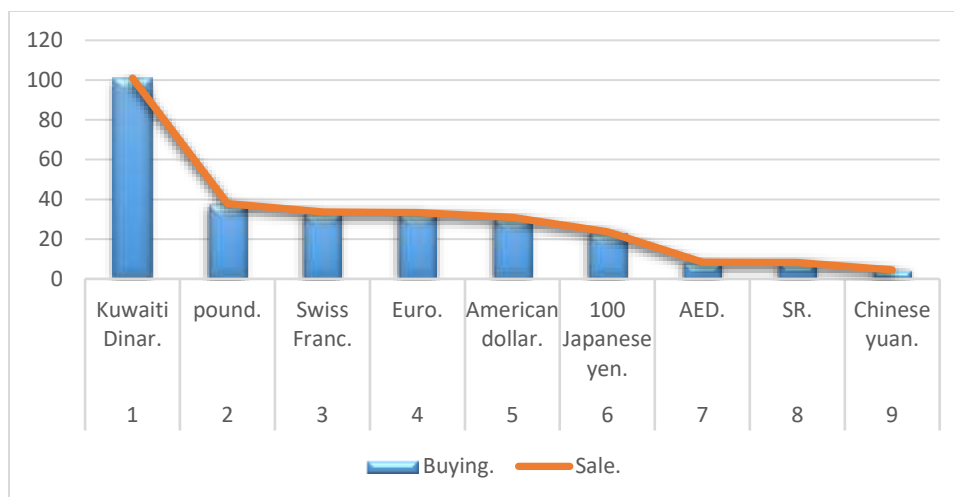
Reducing the exchange rate of the pound is undesirable at the economic level in the event of a chronic and structural deficit in the balance of payments, because most imported goods are considered basic commodities. This reduction is reflected in the level of prices and inflation rates, which rose sharply after liberalizing the exchange rate at the beginning of 2016. It recorded a new high in light of the stability of the price of the dollar in banks, as it reached 31.30 pounds for sale, and it is still continuing to rise against the Egyptian pound, and it continued to rise along with all the various stages of flotation until it approached about 40%, at the beginning of 2023.

Table No. (4) Average Central Bank exchange rate, for the Egyptian pound against the dollar.

Number.	The currency.	Buying.	Sale.
1	Kuwaiti Dinar.	100.6416	100.9981
2	pound.	37.7131	37.8437
3	Swiss Franc.	33.5071	33.6294
4	Euro.	33.1771	33.2961
5	American dollar.	30.8366	30.9357
6	100 Japanese yen.	23.5898	23.6711
7	AED.	8.3962	8.4243
8	SR.	8.2082	8.2357
9	Chinese yuan.	4.4896	4.5047

Source: Central Bank of Egypt, Cairo, Egypt, March 26, 2023.

Fluctuations in the exchange rate of the Egyptian pound against the dollar and its impact on exports.



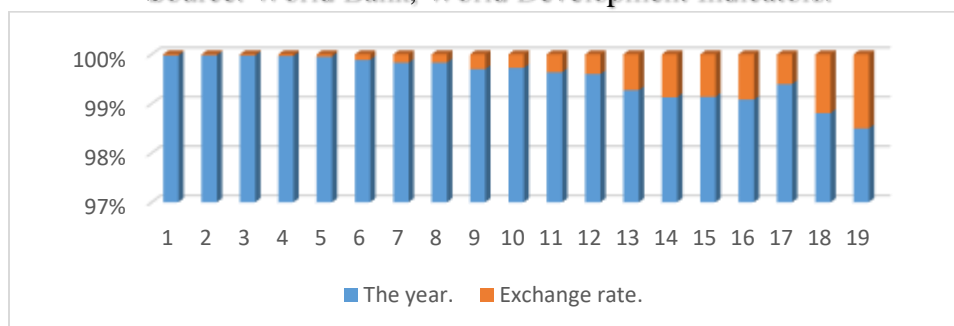
Source: Prepared by the researcher, based on the data in Table (4).

- ❖ **Statistical evaluation:** We find in Chart No. (1) that the highest average exchange rate is in the Kuwaiti dinar, followed by the British pound, then it gradually decreased in the rest of the currencies, but it constituted the average exchange rate in the Egyptian pound against the US dollar in March 2023, reaching about 30.8366 to buy, 30.9357 to sell respectively.

Table No. (5) Evolution of the Egyptian pound exchange rate during the period from 1965-2019.

The year.	Exchange rate.
1965	0.45
1970	0.39
1975	0.45
1980	0.72
1985	0.95
1990	2.23
1995	3.39
2000	3.41
2005	6.00
2010	5.51
2015	7.34
2016	8.138
2017	14.743
2018	17.686
2019	17.55
2020	18.7
2021	12.3
2022	24.4
2023	30.85

Source: World Bank, World Development Indicators.



Source: Prepared by the researcher, guided by data from the World Bank, World Development Indicators, Table (5).

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Statistical evaluation: We find in this figure No. (2) that there is a noticeable development in the exchange rate of the Egyptian pound against the dollar in the period referred to, not to mention the period that preceded it. Therefore, we find that, starting in 1965, it reached about 0.45. of the Egyptian pound against one dollar, and it continued to rise gradually, until it broke the decimal barrier in 1990, achieving an amount of 2.23%, and then recorded a new high in successive years with only one decrease in 2010, when it reached about 5.51% in The price of the dollar remained stable in banks, then it rose again, reaching about 31.20 pounds for purchase, 31.30 pounds for sale, and it is still continuing to rise against the Egyptian pound, due to the continuous demand for the dollar on the black market, and the lack of sufficient supply of the American currency. While the price of the dollar in banks remains stable at 30.75 pounds for purchase and 30.85 pounds for sale, respectively, and in contrast, the price of the dollar on the black market recorded a new high, reaching 33.50 pounds for purchase and 33.70 pounds for sale.

Table No. (6) is an indicative model that shows that prices change around the clock between the rise and fall of the exchange rate of the Egyptian pound against the dollar and the rest of the foreign currencies for one day 4/4/2023.

Nu	CURRENCY	VALUE.	CHANGE	Percentage of change %.	Nu	CURRENCY	VALUE.	CHANGE.	Percentage of change %.
1	US dollar.	30.9000	- 0.0206	- 0.0666%	15	Philippine peso.	0.5752	?	+ 1.7873%
2	euro.	33.8605	+ 0.1572	+ 0.4664%	16	Thai baht	0.9168	?	+ 1.4384%
3	Sterling pound.	38.6250	+ 2278	+ 0.5933%	17	Singapore dollar.	23.3120	?	+ 0.0425 %
4	Japanese Yen.	23.4705	+ 0.1210	+ 0.5182%	18	Czech cards.	1.4421	?	+ 0.2642%
5	Swiss franc.	34.1078	+ 0.2278	+ 0.6724%	19	Russian ruble.	0.3885	?	-1.5209%
6	Chinese yuan.	4.5356	+ 0.0291	+ 0.6457%	20	Mexican peso.	1.7210	?	+ 0.5316%
7	Canadian dollar.	22.9786	?	- 0.1560%	21	Brazilian Real.	6.5885	?	- 0.2997%
8	South African rand.	1.7251	?	- 0.4501%	22	Emirati dirham.	8.4135	?	- 0.0665%
9	Taiwan dollar.	1.0235	?	- 0.4668%	23	Saudi riyal.	8.2390	?	- 0.0570%
10	New Zealand dollar	19.5071	?	+ 0.1869%	24	Qatari riyal.	8.4111	?	- 0.0796%
11	Malaysian ringgit.	7.0160	?	+ 0.2572%	25	Omani Riyal.	80.2598	?	- 0.0720%
12	Indonesian rupiah.	0.0021	?	+ 0.4358%	26	Kuwaiti dinar.	100.7615	?	+ 0.0115%
13	Indian rupee.	0.3756	?	- 0.2390%	27	Jordanian Dinar.	43.5061	?	- 0.0873%
14	Hong Kong dollar.	0.3756	?	+ 0.9422%	28	Bahraini dinar.	81.9531	?	- 0.0760%

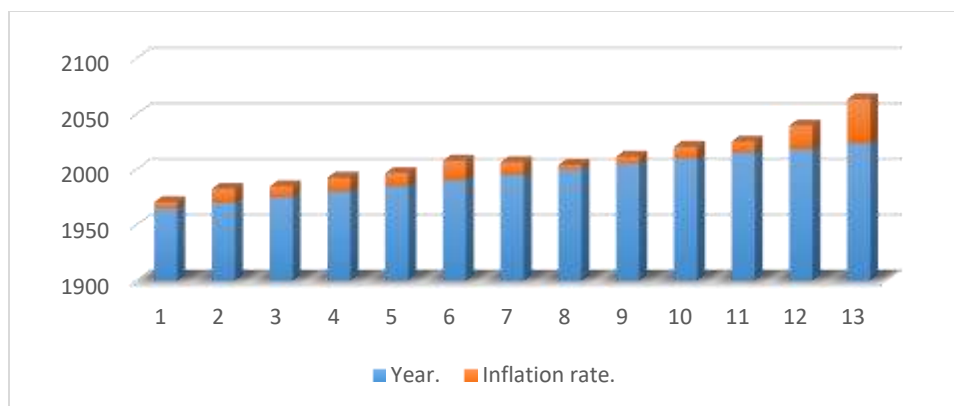
Source: Central Bank of Egypt, Cairo, Egypt, April 2023.

Table No. (7) Development of the inflation rate in Egypt in the period from 1965 - 2018. (%)

Year.	1965	1970	1975	1980	1985	1990	1995	2000	2005	2010	2015	2018	2023
Inflation rate.	5.46	12.51	9.66	12.43	11.576	17.74	11.399	3.94	6.21	10.1	9.93	21.42	40

Source: World Bank, World Development Indicators.

Fluctuations in the exchange rate of the Egyptian pound against the dollar and its impact on exports.



Source: Prepared by the researcher, based on the data in Table (7).

- ❖ **Statistical evaluation:** You can notice in Chart No. (3) that the development of the inflation rate, beginning in 1965, reached 5.46%, and continued to rise gradually until 1990, when it reached about 17.74%, then it decreased again until it reached 3.94% in the year 2000, and then it rose again in a rapid and very large manner, reaching about 21.42% in 2018, and it continued to rise accompanying all the various stages of flotation until it approached about 40%, at the beginning of 2023.

Table No. (8) Inflation rate for the previous month of February 2023.

Nu	The changes.	Inflation rate.
1	General consumer price figure (monthly change).	%.6.531
2	Core consumer price figure (monthly change).	%.8.117
3	General consumer price figure (annual change).	%.31.932
4	Core consumer price figure (annual change).	%.40.262
5	Goods and services whose prices are administratively determined (monthly change).	%.0.338
6	Vegetables and fruits (monthly change).	%.9.242
7	Goods and services whose prices are administratively determined (annual change).	%.10.315
8	Vegetables and fruits (annual change).	%.18.206

Source: Central Bank of Egypt, Cairo, Egypt, February 2023.

By comparing the development of the exchange rate of the Egyptian pound with developments in the inflation rate in Egypt during the same period, it became clear from the previous presentation that there is a direct relationship between changes in the exchange rate and the inflation rate, even if the responses differed from one period of time to another. From here, we see that during the period from 1960 to 1980, the inflation rate was characterized by an increase in varying proportions despite the stability of the exchange rate. This is due to multiple economic and political factors that Egypt was exposed to during that period. Also, in the period from 1980 to 1990, it was found that the rise in the inflation rate was significant when compared to the rise in the exchange rate of the dollar during that period, and the reason for the inflation in that period was due to the increase in the money supply as a result of financing the general

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budget deficit by printing money. However, the cessation of this policy since 1990 led to a significant decrease in the inflation rate despite the exchange rate's tendency to rise in this period, which means that the effect of the exchange rate in that period does not affect inflation rates. However, the situation has changed since the year 2000. Therefore, the rise in the inflation rate is accompanied by a continuous increase in approximately the same proportions in the dollar exchange rate. Which means that the impact of exchange rate policies in that period had a direct impact on the inflation rate.

- ❖ **The standard model:** We find in this part that we relied on World Bank data from the period 1999-2017, due to the availability of data during that period, with the possibility of estimating some missing years. This is to estimate the relationship between changes in the exchange rate of the pound and its impact on exports.

Variables included in the model:

- POV: National poverty in Egypt.
- PER_GDP: GDP per capita (in current dollars).
- INF2: Inflation: prices paid by consumers (% annually).

Suggested model:

$$POV = C (1) + C (3) *R_POP+C (4) *EX+U1$$

$$POV = C (6) + C (2) *INF2 + C (5) *PER_GDP+U2$$

Where:

- POV: National poverty in Egypt.
- R_POP: Population growth rate.
- PER_POP: GDP per capita (in current dollars).
- INF2: Inflation at prices paid by consumers (annual %).
- EX: exchange rate of the pound against the dollar (number of units of the local currency against the dollar).
- C (1): The intercepted part of the y-axis of the first model.
- C (6): The segmented part of the y-axis for the second model.
- C (2): Regression coefficient.INF
- C (3): Regression coefficient. R_POP
- C (4): EX regression coefficient.
- C (5): PER_GDP regression coefficient.
- U1: Random error of the first model.
- U2: Random error of the second model.

Unit root test for variables: By conducting this test for the variables of the statistical model, it became clear that all the model variables are stationary at level (0), using the KPSS test, with a categorical test model with a significance level of 1%.

Estimated models:

$$POV = -0.0355267713019 + 30.4385634524*EX + 0.0046087534956*PER_GDP$$

$$POV = -12.6665233073 + 0.439960670318*INF2 + 15.905877337*R_POP$$

❖ **First model:**

The entire model is significant at a significance level approaching zero, and each of the explanatory variables is significant at a significance level approaching zero. The model explains 95.25% of the changes that occur in the dependent variable, meaning that 95.25% of the changes that occur in poverty according to the national poverty line are due to the change in both the exchange rate EX and the average per capita income of GDP at current prices. In dollars, 4.75% of changes in poverty according to the national poverty line are due to other factors not taken into account. The model does not suffer from the problem of autocorrelation according to the Breusch-Godfrey Serial Correlation LM Test, nor does the model suffer from the problem of non-stationarity of variance according to the Heteroskedasticity Test: White, and the distribution of the error term follows the normal distribution in the Histogram Normality Test.

The model is consistent with economic theory as:

The exchange rate regression coefficient is 30.43856, and its value is positive, meaning that a decrease in the exchange rate by one unit (one pound) leads to an increase in the poverty rate by 30.43856%. The regression coefficient of the per capita share of (NMG) at current prices of the dollar has a positive value of 0.004609. That is, increasing the average per capita share of (NMG) at the current dollar price by one unit (one pound annually) leads to an increase in the poverty rate by 0.004609%. Which reflects the unfairness in the distribution of national income, as distributional justice is achieved if the relationship is inverse between the average per capita share of (NMG) and poverty. All previous results are consistent with economic theory.

❖ **The second model:**

The model is significant at a significance level approaching (0). All explanatory variables are significant at a significance level also approaching (0). The model explains 88.37% of the changes that occur in the dependent variable, meaning that 88.37% of the changes that occur in poverty, according to the poverty line due to the change in the inflation rate of consumer prices, the population growth rate, 11.63% of the changes that occur in Poverty, according to the poverty line due to other factors. The model does not suffer from the problem of autocorrelation according to the Breusch-Godfrey Serial Correlation LM Test, nor does the model suffer from the problem of non-stationarity of variance according to the Heteroskedasticity Test: White, and the distribution of the error term follows the normal distribution in the Histogram Normality Test.

The model is consistent with economic theory as:

The regression coefficient of the inflation rate for consumer goods prices is 0.439961, which is a positive value, which means that increasing the inflation rate by one unit (1%) leads to an increase in poverty by 0.439961%. The regression coefficient of the population growth rate is

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15.90588, which is also a positive value, meaning that increasing the population growth rate by one unit (1%) leads to an increase in the poverty rate by 15.90588%. All previous results are consistent with economic theory.

(2) Liquidity.

The data below provides the daily liquidity position in the banking sector during each reserve period, including required reserves and overnight deposit and lending facilities.

Table No. (9) Daily liquidity in the banking sector during the March 2023 reserve period.

Reserve holding period: from 03/21/2023 to 03/23/2023				
Average reserve requirement: 710,816.0 (million Egyptian pounds).				
Nu	Statement.	3/21	3/22	3/23
1	Current reserve holdings.	787,084,0	739,284,6	740,031,9
2	Average reserve balances*	787,084,0	763,184,3	755,466,8
3	Overnight deposit facility.	97,466,0	114,276,0	110,490,0
4	Overnight lending facilities.	0,0	0,0	0,0

Source: Central Bank of Egypt, Cairo, Egypt, March 26, 2023.

***Average balances for days following the reserve retention period.**

(3) Central bank credit and debit rates.

The Central Bank of Egypt's discount rates are determined by the Monetary Policy Committee, along with the Corridor rates, which are used in special cases, when the Central Bank grants credit to banks by discounting treasury bills, and the rate is used as a reference rate.

❖ Last price until 12/25/2022* at: 16.75%

(4) Daily Interbank rate and transaction volume.

This data shows the rates of return and the volumes with which local banks borrow and lend to each other in the interbank market to manage their liquidity and meet investment needs. The rate of return for each maturity period is the weighted average rate of all transactions within that period, while interbank transaction volumes are the total transaction volumes in the same period. Overnight interbank rates of return are the operational target of monetary policy.

Table No. (10): Volume of daily interbank transactions (in million Egyptian pounds).

Nu	Statement.	3/21	3/22	3/23
1	For one night.	25,019,0	18,418,0	39,718,0
2	Less than a week.	0,0	3,100,0	0,0
3	One week.	5,900,0	0,0	0,0
4	less than a month.	1,000,0	1,000,0	1,550,0
5	one month.	0,0	2,000,0	0,0
6	more than a month.	0,0	0,0	0,0
7	Total summation.	31,919,0	24,518,0	41,268,0

Source: Central Bank of Egypt, Cairo, Egypt, March 26, 2023.

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Figure No. (4) Average exchange rate of the Egyptian pound against the dollar.



Source: Prepared by the researcher, based on the data in Table (10).

(5) Interbank semi-monthly price and transaction volume.

The data shows the weighted average of return rates and total interbank transaction volumes for each maturity, by reserve period.

Table No. (11): Average semi-monthly interbank rate in Egyptian pounds.

Average rate* (%)			
Grand total (million Egyptian pounds).			
Nu	Statement.	من 2023/03/07 إلى 2023/03/20	
1	For one night.	%16,391	210,516,00
2	Less than a week.	%16,440	3,650,00
3	One week.	%16,572	23,950,00
4	less than a month.	%16,708	4,100,00
5	One month.	%0,000	0,00
6	more than a month.	%16,700	3,000,00
Total summation.		245,216,00	

Source: Central Bank of Egypt, Cairo, Egypt, March 26, 2023.

* Weighted average of actual transactions.

(6) Average monthly rates of return.

The data below shows the weighted average rates of return for outstanding deposits and loans provided by 23 banks, whose deposits represent more than 80% of total deposits in the banking sector.

Table No. (12) Weighted average rates of return.

(A) Deposits in Egyptian pounds.	(B) Loans in Egyptian pounds.
1 > month <= 3 months. 10,7%	<=1 year (companies). 14,4%
3 < months <= 6 months. 9,7%	
< 6 months <= 1 year. 9,5%	

Source: Central Bank of Egypt, Cairo, Egypt, January 2023.

* The weighted average of return rates for a sample of banks, whose deposits represent about 80% of the total deposits in the banking system, and are calculated on a monthly basis.

** Domestic Money Monitoring System (DMMS).

(7) The secondary market for treasury bills in Egyptian pounds.

Table No. (13) Secondary market for treasury bills in Egyptian pounds.

Duration.	M weighted return %.	Minimum return %.	Highest return %.	Number	volume (m EGP m).	date.
One month (maximum 30 days).	16,070	14,600	21,070	64	1,239,150	2023/03/26
two months(31 - 60 days).	16,920	15,000	17,000	2	6,250	2023/03/26
3 months(61 - 91 days).	20,643	18,800	21,000	14	183,025	2023/03/26
6 months(92 - 182 days).	21,172	16,000	22,080	19	6,238,100	2023/03/26
9months (183 - 273 days).	21,740	16,000	21,950	4	1,392,700	2023/03/26
12months (274 - 365 days).	21,949	21,250	23,310	16	11,195,825	2023/03/26
The total.	00	00	00	00	20,255,050	00

Source: Central Bank of Egypt, Cairo, Egypt, March 26, 2023.

Table No. (14) Secondary market for treasury bills in Egyptian pounds.

Duration.	Weighted average return %	lowest return %	highest return %.	Number	Trading volume (in EGP m).	due date.	Transaction history.
3months T-Bills:	20,673	18,800	20,870	3	36,800	2023/6/20	2023/3/26

Source: Central Bank of Egypt, Cairo, Egypt, March 26, 2023.

(8) An indicator of the average overnight return rate for interbank transactions (CONIA).

It is an indicator of the average overnight rate of return for interbank transactions (CONIA), risk-free in Egyptian pounds, based on overnight interbank lending data, which is collected by the Central Bank of Egypt, to serve as a reliable standard limit, for knowing and managing rates of return on... Transactions. The index is calculated as the truncated, volume-weighted arithmetic average of the overnight unsecured interbank transaction rate of return. The Central Bank, as the body responsible for the CONIA index, publishes compound rates of return on 30 days, 90 days, and 180 days, in addition to the same index to support the development of a wider range of products linked to the new benchmark. The CONIA composite rates of return represent the daily compound averages of the overnight rate of return for interbank transactions for specified maturity periods, while the index itself (CONIA) represents the composite value of the overnight rate of return for interbank transactions since January 2, 2017.

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Table No. (15) Secondary market for treasury bills in Egyptian pounds. (One million Egyptian pounds).

The date.	The return rate is for one night.	Value (M C M).
March 23, 2023.	16,369%.	27,790,00

Source: Central Bank of Egypt, Cairo, Egypt.

Table No. (16) Compound rate of return index. CONIA

The date.	Composite price For 30 days.	Composite price For 90 days.	Composite price For 180 days.	An indicator of the average overnight return rate.
March 26, 2023.	16,5016%.	16,7658%.	15,1336% >	2,357,42715

Source: Central Bank of Egypt, Cairo, Egypt.

(9) The main operations of the open market.

❖ Fixed rate: 16.75%

(10) Overnight deposit and lending rate.

The rate of return on a one-night deposit.	16,25 %.
❖ The rate of return on overnight lending.	17.25 %.

Conclusion and recommendations:

By presenting and analyzing the fluctuations of the exchange rate of the Egyptian pound against the dollar and its impact on exports, according to the scientific points contained in the study, we exposed the general features of the structure and importance of the national economy, and the organization of foreign trade to ensure the completion of the export process, and then evaluated the economic effects caused by frequent exchange rate fluctuations. From here, the researcher concluded that the study was based on a main hypothesis and a set of sub-hypotheses. Based on all of the above, **the following set of results can be extracted:**

- 1) The Egyptian government's pledge not to interfere in foreign currency markets to achieve stability or guarantee the exchange rate, except in cases of extreme volatility.
- 2) The decline in the price of the local currency, despite the presence of some positive effects on the national economy, these effects may be long-term, while the negative effects of the process of devaluing the local currency are short-term effects, the most important of **which are:**
 - ❖ High inflationary waves occur as a result of the high cost of imports, i.e. the high cost of living.
 - ❖ Inequality in income distribution, which is characterized by an increasing gap between the rich and the poor.

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- 3) The decline and collapse of the pound against the dollar, as a result of the devaluation by the monetary authority, to support and encourage exports, despite its inability to cover the national market and curb foreign imports.
- 4) Launching a new index to evaluate the Egyptian currency and linking it to a basket of currencies, not just the US dollar, to give a fair value to the exchange rate of the pound against this basket determined by the Central Bank of Egypt.
- 5) The effect of the dollar exchange rate on exports is statistically very weak, therefore, fluctuations in the exchange rate of the pound against the dollar are an influential factor.
- 6) The exchange rate values of the Egyptian pound against the dollar and exports follow a normal distribution.

According to all of the above, the validity of the research hypotheses has been proven in:

- ❖ The inverse relationship between the exchange rate of the Egyptian pound and the inflation rate has been proven.
- ❖ It has been proven that there is an inverse relationship between the local currency exchange rate and the poverty rate in Egypt.
- ❖ It has been proven that the decline in the local currency exchange rate works to redistribute income to the disadvantage of the poor classes and those with fixed incomes.

Recommendations:

Therefore, the research recommends the need for the government to take several decisive measures to reduce the severity of the negative effects of exchange rate liberalization policies, through developing monetary policies, in order to confront the problem of inflation and the decline in the purchasing power of money, and we can suggest some recommendations for future studies in light of the results concluded. **To the study, as follows:**

- 1) World governments should begin to cooperate effectively on moderation (of climate change) and climate adaptation, to prevent further (global warming and environmental collapse).
- 2) Establishing a higher body to determine fair prices for goods and services, to confront rising prices.
- 3) Injecting new liquidity in US dollars, to reduce the accumulated accumulation of foreign currency demand.
- 4) Adding the necessary flexibility to monetary policy to eliminate parallel currency markets.
- 5) Slow down the pace of investment in public projects to reduce inflation to preserve foreign currency, by ensuring that the implementation of any new projects that have not been started and have a clear dollar component are postponed.
- 6) Launching a new system for distributing foreign currency, with the aim of reducing the sharp decline in the value of the Egyptian pound against the US dollar.
- 7) Reducing the burden on the country's foreign currency reserves, by raising funds to stimulate the stock market and attract new foreign investors.
- 8) The state's interest in balanced growth (industry and agriculture), as they are wealth-creating sectors to reach a production base that is useful in achieving self-sufficiency and providing a vessel for export.
- 9) Improving the quality of national products to increase their competition in foreign markets as exports.

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