



مجلة البحوث المالية والتجارية  
المجلد (25) – العدد الأول – يناير 2024



**The Impact of Liberalization of the Exchange Rate on  
the Long-Term Policies in Egyptian Insurance  
Companies (A comparative Study)**

By

**Sayed Mohamed Gouda**

Assistant Professor

Quantitative Sciences Department

Faculty of Commerce - Suez University

**Mohamed Abdelwahab Sharkawy**

Assistant Professor

Applied Statistics & Insurance Department

Faculty of Commerce – Suez Canal Univ.

2023-10-02	تاريخ الإرسال
2023-10-24	تاريخ القبول
رابط المجلة: <a href="https://jsst.journals.ekb.eg/">https://jsst.journals.ekb.eg/</a>	



## **Abstract**

**This research paper investigates the effects of exchange rate liberalization on long-term insurance policies in Egypt. Exchange rate liberalization, a policy aimed at allowing the market forces to determine the exchange rate, has the potential to influence various aspects of the insurance industry. The study explores how this economic reform may impact long-term insurance premiums, claims settlement, investment returns, and overall policy performance in the Egyptian insurance sector. Utilizing a of empirical data, case studies, and relevant literature, the paper combination aims to provide valuable insights into the relationship between exchange rate liberalization and long-term insurance policies in the Egyptian context.**

### **Keywords:**

**Exchange rate liberalization, long-term insurance policies, Egyptian insurance companies, premiums, claims settlement, investment returns, Life insurance.**

## 1. Introduction

Exchange rate liberalization is a critical aspect of economic reform that many developing countries, including Egypt, have undertaken in pursuit of sustainable economic growth and stability. It involves freeing the currency exchange rate from strict government controls and allowing market forces to determine its value. This paper delves into the historical context and rationale behind Egypt's exchange rate liberalization, highlighting its challenges, benefits, and potential impacts on the insurance industry.

### 1.1/ Research Problem

The liberalization of the exchange rate is a significant economic policy change that can have wide-ranging implications for various sectors, including the insurance industry. In the case of Egyptian insurance companies, the shift towards a liberalized exchange rate regime may introduce complexities and uncertainties that can significantly impact their long-term policies. Therefore, the research problem addressed in this study is to assess the impact of the liberalization of the exchange rate on the long-term policies adopted by Egyptian Life insurance companies.

Specifically, the research aims to investigate how the exchange rate liberalization affects long-term investment decisions, pricing strategies, risk management practices, and overall business operations in Egyptian insurance companies. The research will focus on understanding how insurance companies adjust their policies in response to currency fluctuations, foreign investments, and regulatory changes arising from exchange rate liberalization. Moreover, the study will explore the challenges and opportunities that emerge from the evolving exchange rate environment and provide recommendations for insurance companies to effectively navigate these shifts and make informed decisions regarding their long-term policies.

Overall, the research problem will contribute to the existing body of knowledge on the effects of economic policy changes on the insurance industry, specifically focusing on the impact of exchange rate liberalization on long-term policies in Egyptian life insurance companies. By addressing this research problem, the study aims to



provide valuable insights that can assist insurance companies, policymakers, and stakeholders in understanding the implications of exchange rate liberalization on the insurance sector and devising strategies to adapt and thrive in the dynamic economic landscape.

## 1.2/ Objective and scope

The liberalization of the exchange rate in Egypt has ushered in significant changes in the country's economic landscape, impacting various sectors, including the insurance industry. As exchange rate fluctuations can have far-reaching effects on long-term insurance policies, it is essential to conduct comprehensive research to understand the implications and devise strategies to navigate potential challenges. This paper outlines the research objectives and scope for studying the impact of exchange rate liberalization on long-term insurance policies in Egypt.

### 1.2.1/ Research Objectives:

**Analyze Exchange Rate Fluctuations and Policy Premiums:** The primary objective of the research is to investigate the relationship between exchange rate fluctuations and long-term insurance policy premiums in Egypt. By studying historical exchange rate data and insurance premium trends, the paper can identify patterns and correlations to determine the extent to which currency volatility influences premium adjustments.

**Assess Investment Performance and Policyholder Returns:** Another crucial objective is to evaluate the impact of exchange rate liberalization on long-term insurance policy investments and policyholder returns. This involves examining the performance of investment portfolios, considering the influence of exchange rate movements on returns, and identifying strategies insurers employ to manage investment risks.

**Analyze Exchange Rate Fluctuations and claims:** The objective of the research is to investigate the relationship between exchange rate fluctuations and long-term insurance policy claims in Egypt.

### 1.2.2/ Research Scope:

**Time Frame:** The study will focus on the period before and after the implementation of exchange rate liberalization in Egypt. It will cover data from the past ten years to capture the effects of various exchange rate movements on long-term insurance policies. The years 2022 and 2023 have been excluded from the study due to the unavailability of the necessary data for research.

**Data Sources:** The study will rely on a combination of data sources as the annual reports of regulatory and insurance companies, and historical exchange rate data, insurance premium trends, investment performance.

**Case Studies:** The study may choose to conduct in-depth case studies of all insurance companies in Egypt or policy types to gain a deeper understanding of how they have navigated exchange rate fluctuations and adapted to the new economic environment. Three companies have been excluded from the study due to the unavailability of necessary data for the research. These companies are Misr Emirates life insurance Company, Sarwa life insurance Company, and Wafa life insurance Company.

**Key Aspects:** The study will discuss the impact on long-term insurance premiums, claims settlement, investment returns in general, and will focus on and analyze the impact on Life Insurance's companies.

### 1.3/ Methodology

This research aims to study the impact of liberalization on the Long-Term Insurance Policies in Egypt. Therefore, the study relied on both descriptive and quantitative analysis to achieve its research objectives, where the linear trend equations were used.

Since the exchange rate liberalizing took place during November 2016, March 2022, October 2022 and January 2023, so the data are divided into two groups, the first group includes the years from 2012 to 2015 and the second group includes the years from 2017 to 2021, with ignoring 2022 and 2023 cause there are no data available for these two years, and the comparison between the two groups is done to see if there are significant differences between them regarding direct



premiums and direct claims and net investment income. By comparing the two groups, it is possible to know the level of impact of the liberalization policy on the Long-Term Insurance Policies in Egypt. This research has the following null hypotheses:

1. There is no statistical difference between the groups of before and after exchange rate liberalization with regard the average of direct premiums.
2. There is no statistical difference between the groups of before and after exchange rate liberalization with regard the average of direct claims.
3. There is no statistical difference between the groups of before and after liberalization with regard the average of net investment income.

## 2. Overview of long-term insurance policies in Egypt

Long-term insurance policies in Egypt typically encompass life insurance and health insurance plans. These policies are designed to provide coverage and financial protection over an extended period, often spanning several years or even decades. Here's an overview of each type of long-term insurance policy in Egypt:

### *A- Life Insurance:*

Life insurance is a contract between an individual (policyholder) and an insurance company, where the insurer agrees to pay a designated beneficiary a sum of money upon the death of the insured person. There are several types of life insurance policies available in Egypt:

- a. Term Life Insurance:** This type of policy provides coverage for a specific term, usually ranging from 5 to 30 years. If the policyholder passes away during the policy term, the beneficiary receives the death benefit. However, if the policyholder outlives the term, there is no payout.
- b. Whole Life Insurance:** Unlike term life insurance, whole life insurance provides coverage for the entire life of the insured person. It combines a death benefit with an investment component, accumulating

cash value over time. Policyholders can borrow against this cash value or surrender the policy for a cash payout if needed.

c. **Endowment Insurance**: Endowment policies provide both life coverage and a savings element. These policies offer a payout either upon the death of the insured or at the end of a predetermined period. If the policyholder survives the term, they receive the endowment benefit.

#### ***B- Health Insurance:***

Long-term health insurance policies in Egypt offer coverage for medical expenses and healthcare services over an extended period. Health insurance plans can be provided by private insurance companies or government-sponsored programs. Some key features of long-term health insurance in Egypt include:

a. **Inpatient and Outpatient Coverage**: Long-term health insurance typically covers expenses related to hospitalization (inpatient care) and visits to doctors or specialists (outpatient care).

b. **Medication Coverage**: Depending on the policy, prescription drugs and medications may also be covered under long-term health insurance.

c. **Chronic Illness Coverage**: Some long-term health insurance policies may include coverage for chronic illnesses and ongoing treatments.

### **3. Understanding exchange rate liberalization**

#### **3.1/ Exchange rate liberalization**

Exchange rate liberalization refers to the process of removing or easing government-imposed restrictions and controls on the exchange rate of a country's currency. It involves allowing the foreign exchange market to determine the value of the national currency relative to other currencies through supply and demand forces.

Before exchange rate liberalization, many countries used to have fixed or managed exchange rate systems, where the government or central bank would set an official exchange rate and intervene in the foreign exchange market to maintain that rate. This intervention often



involved buying or selling foreign currencies to stabilize the exchange rate.

With exchange rate liberalization, governments adopt a more flexible approach, allowing the exchange rate to be determined by market forces, supply, and demand. This means that the value of the currency can fluctuate freely in response to economic conditions, capital flows, trade imbalances, and other factors.

The key features of exchange rate liberalization include:

- **Floating Exchange Rate:** Under a fully liberalized system, the exchange rate floats or fluctuates based on market dynamics, without direct government intervention.
- **Market Determination:** The exchange rate is determined by the forces of supply and demand in the foreign exchange market, reflecting the relative strength of the domestic economy and its trade relationships with other countries.
- **Minimal Government Intervention:** While exchange rate liberalization reduces government intervention, authorities may still intervene in exceptional circumstances to prevent excessive volatility or sharp currency devaluation/appreciation.
- **Open Capital Account:** Exchange rate liberalization often goes hand in hand with an open capital account, allowing for the free flow of capital across borders. This means fewer restrictions on foreign investment and capital mobility.

Benefits of exchange rate liberalization include increased economic efficiency, improved competitiveness in international markets, and greater attractiveness to foreign investors. However, it also comes with challenges, such as increased exchange rate volatility and potential impacts on domestic industries sensitive to currency fluctuations.

Countries may choose to liberalize their exchange rates as part of broader economic reforms to enhance economic growth, attract foreign investment, and integrate into the global economy more effectively. The timing and pace of exchange rate liberalization depend on a country's economic and political considerations, and some countries may choose to implement gradual reforms to manage potential risks.

### **3.2/ Historical context**

**Egypt's exchange rate system underwent significant changes over the past century. During the colonial era, the British Pound Sterling was the dominant currency in Egypt due to its status as a British protectorate. Following Egypt's independence in 1952, the Egyptian Pound (EGP) was established as the national currency. Over the subsequent decades, the Egyptian government adopted various exchange rate regimes, including fixed, pegged, and managed float systems.**

**In the 1950s and 1960s, Egypt maintained a fixed exchange rate with the U.S. dollar, supported by capital controls and import restrictions. Where the Central Bank controlled the value of the Egyptian Pound (EGP) in relation to a specific foreign currency or a basket of currencies. This system provided stability and predictability in foreign trade and investment, it also created challenges, such as currency shortages, trade imbalances, and foreign exchange reserves depletion.**

**However, the oil price shocks of the 1970s and subsequent balance of payments crises forced the country to adopt a more flexible exchange rate regime in the 1980s. Throughout the 1990s and early 2000s, Egypt operated a managed float system, which led to multiple devaluations in response to economic challenges.**

**To address these challenges and encourage economic growth, Egypt began moving towards a more flexible exchange rate system in 2016. The Central Bank adopted a managed floating exchange rate regime, allowing the EGP's value to be determined by market forces within certain bands.**

### **3.3/ Rationale for Exchange Rate Liberalization**

**The decision to liberalize the exchange rate in Egypt was influenced by a combination of internal and external factors. Some of the key drivers include:**

- Economic Diversification: Egypt aimed to boost its export-oriented industries and attract foreign investments to diversify**



its economy away from a heavy reliance on tourism and remittances.

- **Balance of Payments Crisis:** The country faced persistent balance of payments deficits due to a mismatch between its foreign exchange reserves and rising import demand. Exchange rate liberalization was perceived to address this issue and restore macroeconomic stability.
- **Attracting Foreign Investment:** A more flexible exchange rate was expected to enhance Egypt's attractiveness to foreign investors by reducing uncertainty and providing better market signals.
- **IMF Support:** In 2016, Egypt secured a \$12 billion loan from the International Monetary Fund (IMF) to support its economic reform program, which included exchange rate liberalization as one of the key measures.

### 3.4/ Benefits and Potential Impacts

Despite the challenges, exchange rate liberalization can bring several benefits to the Egyptian economy:

- **Enhanced Export Competitiveness:** A more competitive exchange rate can boost Egypt's export-oriented industries, potentially leading to increased export earnings and job creation.
- **Foreign Direct Investment (FDI) Inflows:** A transparent and flexible exchange rate can attract foreign investors, as it signals a commitment to economic reforms and reduces currency risk.
- **Economic Diversification:** A flexible exchange rate encourages the growth of domestic industries, promoting economic diversification and reducing reliance on a narrow range of sectors.
- **Strengthened Resilience:** A more market-driven exchange rate allows the economy to adjust to external shocks more efficiently, enhancing overall resilience.

### 3.5/ Challenges of Exchange Rate Liberalization

While exchange rate liberalization offers numerous potential benefits, it also poses several challenges for an economy like Egypt:

- **Inflationary Pressures:** A sudden depreciation of the currency can lead to higher inflation rates, especially for imported goods and commodities, impacting the cost of living for the general population.
- **Fiscal Constraints:** Exchange rate fluctuations can affect the government's ability to service foreign-denominated debt, leading to increased fiscal pressures.
- **Income Inequality:** Exchange rate fluctuations can disproportionately impact low-income households, as they often face difficulties in coping with rising prices.
- **Capital Flight:** A sudden depreciation may lead to capital flight as investors seek more stable currencies, potentially destabilizing financial markets.
- **Currency Volatility:** Exchange rate liberalization can lead to increased currency volatility, impacting businesses and individuals who conduct cross-border transactions or hold foreign-denominated assets.
- **Speculative Activities:** A free-floating exchange rate may attract speculative activities in the foreign exchange market, leading to short-term fluctuations unrelated to economic fundamentals.
- **Currency Overvaluation:** In some cases, exchange rate liberalization may lead to an overvaluation of the domestic currency, making exports less competitive and potentially hurting export-oriented industries.
- **Policy Coordination:** Liberalization requires careful coordination of monetary and fiscal policies to ensure macroeconomic stability and mitigate potential negative effects on the economy.

## **4. Exchange Rate Liberalization and Its Effects on Long-Term Insurance Policies in Egypt**

### **4.1/ Potential effects on premiums**

Exchange rate liberalization in Egypt can have various potential effects on long-term insurance premiums. These effects arise due to changes in the value of the local currency (Egyptian Pound - EGP) against foreign currencies, which, in turn, impact the cost of providing insurance coverage and conducting international transactions. Below



are some potential effects of exchange rate liberalization on long-term insurance premiums in Egypt:

- **Currency Depreciation and Premium Adjustments:** Exchange rate liberalization may lead to currency depreciation, making the EGP weaker relative to other currencies. A depreciating EGP could increase the cost of imported goods and services, including reinsurance costs for insurance companies. To maintain profitability and cover increased expenses, insurers may need to adjust premiums for long-term insurance policies.
- **Inflationary Pressures:** A depreciating EGP can contribute to inflationary pressures in Egypt, leading to higher costs across the economy. Inflation can affect the pricing of insurance products, including long-term policies, as insurers consider the rising costs of claims payouts, operational expenses, and investments.
- **Investment Returns and Policy Value:** Long-term insurance policies, such as life insurance and annuities, often involve investments that generate returns over time. Exchange rate fluctuations can influence the value of these investments, affecting the policy's overall performance and returns for policyholders. A depreciating EGP may lead to lower investment returns and potentially impact the policyholder's savings or payout upon policy maturity.
- **Foreign Currency-Denominated Policies:** After exchange rate liberalization, insurers may offer long-term insurance policies denominated in foreign currencies to cater to certain market segments. Policyholders seeking protection against potential EGP depreciation or those with foreign income streams may prefer these policies. The premiums for such policies would be determined based on the foreign currency exchange rates.
- **Policyholder Behavior:** Exchange rate liberalization can influence policyholder behavior. Policyholders may become more cautious about purchasing long-term insurance policies due to uncertainties surrounding the future value of the EGP. This cautiousness may affect the demand for certain types of long-term insurance products.
- **Reinsurance Costs:** Insurance companies often seek reinsurance to spread risks and manage their exposure. Exchange rate fluctuations can impact the cost of reinsurance, especially for

policies that involve foreign reinsurers. Higher reinsurance costs can affect the pricing of long-term insurance premiums.

- **Regulatory Considerations:** Exchange rate liberalization may necessitate regulatory adjustments for the insurance industry. Regulators may need to consider how exchange rate fluctuations could affect insurers' capital requirements and solvency margins, ensuring financial stability within the sector.

#### 4.2/ Potential effects on claims settlement

Exchange rate liberalization in Egypt can have various potential effects on claims settlement practices in the insurance industry. The fluctuations in the exchange rate can significantly impact both insurers and policyholders, influencing the process and outcomes of claims settlement. Below are some potential effects and implications for claims settlement practices in Egypt after exchange rate liberalization:

- **Currency Conversion and Claim Amounts:** Exchange rate fluctuations can affect the value of the local currency (Egyptian Pound - EGP) against foreign currencies. If a claim involves payments in foreign currencies, the conversion rate at the time of settlement may result in variations in the claim amount received by policyholders or insurers. Policyholders may receive more or less in EGP, depending on the exchange rate at the time of conversion.
- **Currency Risk for Insurers:** Exchange rate volatility exposes insurers to currency risk, especially for claims involving foreign currency-denominated policies or reinsurances. If the EGP depreciates against the foreign currency, insurers may incur higher costs in settling claims, impacting their profitability and financial stability.
- **Hedging Strategies:** In response to exchange rate fluctuations, insurers may adopt hedging strategies to mitigate currency risk. Hedging involves using financial instruments to offset potential losses due to currency movements. However, the effectiveness of these strategies may vary depending on market conditions and the scope of hedging instruments available.
- **Impact on Claims Settlement Timing:** Exchange rate volatility may create uncertainties for insurers and policyholders



regarding the timing of claims settlement. Policyholders may choose to delay filing claims in anticipation of more favorable exchange rates, while insurers may aim to settle claims promptly to avoid potential losses from currency depreciation.

- **Claims Processing Costs:** Exchange rate liberalization may lead to increased claims processing costs for insurers. Insurers may need to implement systems and mechanisms to account for exchange rate fluctuations and ensure accurate conversion of claim amounts.
- **Regulatory Compliance:** Insurance regulators in Egypt may need to review and update claims settlement guidelines and regulations to address potential issues arising from exchange rate fluctuations. Ensuring transparency and fairness in claims settlement practices becomes crucial in a liberalized exchange rate environment.
- **Policyholder Communication:** Insurers may need to improve communication with policyholders regarding the potential impact of exchange rate fluctuations on claims settlement. Clear and transparent communication can help policyholders understand the implications and manage their expectations.
- **Investment Returns and Claims Payment:** Exchange rate volatility can affect the investment returns earned by insurers, influencing the funds available for claims payment. A depreciating EGP may reduce investment returns and, in turn, affect the liquidity of insurers to settle claims promptly.

#### 4.3/ Potential effects on investment returns for insurance companies

Exchange rate liberalization in Egypt can have several potential effects on investment returns for insurance companies. As the value of the local currency (Egyptian Pound - EGP) fluctuates in response to market forces, insurers' investment portfolios, particularly those containing foreign-denominated assets, may experience varying returns. Below are some potential effects of exchange rate liberalization on investment returns for insurance companies in Egypt:

- **Currency Translation Gains/Losses:** Exchange rate fluctuations can lead to currency translation gains or losses for insurers holding foreign-denominated assets. If the EGP appreciates

against foreign currencies, the value of these assets in EGP terms may decrease, resulting in currency translation losses. Conversely, if the EGP depreciates, insurers may experience currency translation gains.

- **Impact on Foreign Investments:** Exchange rate liberalization may lead insurers to diversify their investment portfolios by including foreign assets. Changes in exchange rates can significantly impact the performance of these investments. A depreciating EGP could enhance the value of foreign investments when translated back into EGP, potentially boosting investment returns for insurers.
- **Risk Management Strategies:** Insurance companies may adopt risk management strategies to mitigate the impact of exchange rate fluctuations on investment returns. Strategies such as currency hedging or using derivatives to manage currency risk can provide insurers with more stability in their investment portfolios.
- **Reinvestment Risk:** Exchange rate volatility can pose reinvestment risk for insurers. When interest rates fluctuate in response to currency movements, insurers may face challenges in reinvesting proceeds from maturing investments at favorable rates.
- **Foreign Currency-Denominated Liabilities:** Insurers may also have foreign currency-denominated liabilities, such as reinsurance contracts or policyholder benefits payable in foreign currencies. Fluctuations in exchange rates can influence the cost of these liabilities, potentially affecting insurers' profitability.
- **Impact on Solvency and Capital Adequacy:** Significant fluctuations in exchange rates can impact insurers' solvency and capital adequacy. If a depreciating EGP leads to losses on foreign-denominated investments, insurers may need to maintain higher capital reserves to meet regulatory requirements.
- **Impact on Investment Decisions:** Exchange rate movements can influence insurers' investment decisions. Currency depreciation may lead insurers to prioritize local currency-denominated assets over foreign-denominated assets to reduce currency risk exposure.



- **Asset-Liability Mismatch:** Exchange rate volatility can create asset-liability mismatches for insurers. If policyholder liabilities are denominated in foreign currencies, insurers may need to manage the risk of fluctuations in currency exchange rates against the EGP.

#### 4.4/ Other potential effects

- **Foreign Currency Policies:** Liberalization of the exchange rate can encourage insurers to offer policies denominated in foreign currencies to cater to certain market segments. This can attract investors who seek protection against currency depreciation or who have income streams in foreign currencies.
- **Regulatory Adjustments:** Insurance regulators may need to adapt to the new exchange rate environment by revising prudential regulations to address the potential risks posed by currency fluctuations. This could include updating capital adequacy requirements and risk management guidelines to safeguard the stability of the insurance sector.
- **Impact on Policyholders' Behavior:** Policyholders' perception of long-term insurance policies may change in response to exchange rate fluctuations. As the value of the local currency fluctuates against foreign currencies, policyholders may become more cautious in their insurance decisions, potentially opting for policies with more predictable returns and stable premium structures.

## 5. Data Analysis

This section presents the data employed, its sources, frequencies, and statistical properties.

### 5.1/ Exchange Rate USD/EGP in Egypt

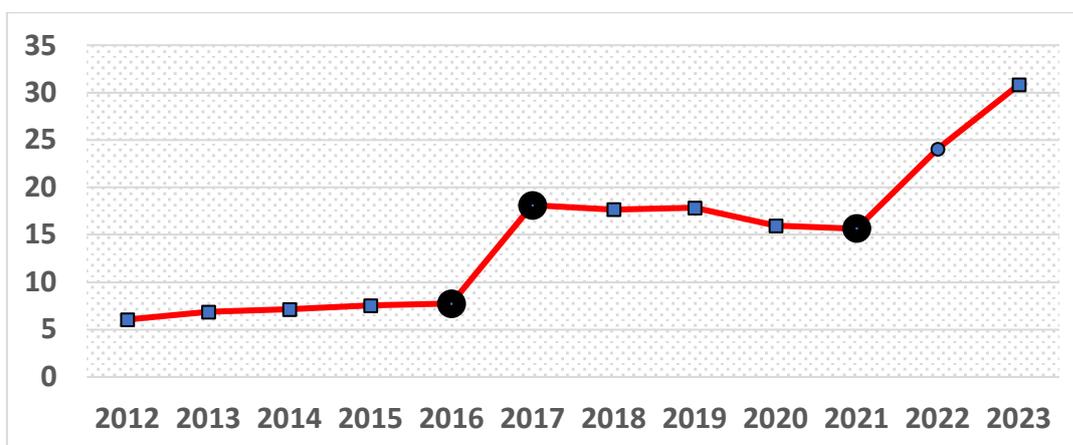
The following table shows the dollar rate data published by Central Bank of Egypt. The data period is from 2012 to 2023. As can be seen from data, the dollar value increased in all the years between 2012-2023. In the period between 2012-2016 the rate is generally stable while after 2016, the trend keeps increasing especially after 2021.

**Table (1): The Average Market Rate USD in EGP**

Year	Value (LE)
2012	6.06
2013	6.87
2014	7.13
2015	7.52
2016	7.72
2017	18.12
2018	17.66
2019	17.85
2020	15.97
2021	15.65
2022	24.05
2023	30.83

Source: Central Bank of Egypt.

**Figure 1: Exchange rate of the Egyptian Pound against the US Dollar over 12 years (2012 – 2023)**



Source: constructed by the researcher based on data compiled from CBE

As depicted in Figure (1), concerning the exchange rate development, its minimum value was approximately 6.06 Egyptian Pounds per US Dollar in 2012, while its maximum value reached around 30.83 Egyptian Pounds per US Dollar in 2023, where the price of the Egyptian pound has declined by about 50% since March 2022, after the government reduced the official exchange rate of the local currency against the dollar three times, to now close to 31 pounds to the dollar.



### 5.2/ Direct Premiums by Companies

Table (2) shows the direct premiums for the Egyptian Life insurance companies in thousands during the period from 2012/2013 to 2020/2021. The results showed an increase in the direct premiums after the exchange rate liberation (17089494), compared to the direct premiums before the liberation of the exchange rate (6743441), by (10346052.8) thousands LE.

Table (3) shows the descriptive statistics of the average of direct premiums in the Egyptian Life insurance companies before and after the policy of the exchange rate liberalizing of the US dollar against the Egyptian pound. The results showed that (Misr Life Insurance Company as an example) the average of direct premiums before the liberalization amounted to 2383295 thousand LE with a standard deviation of 409164 and a coefficient of variation equal to 17.17 %, while the average of direct premiums after the liberalizing amounted to about 5247988 thousand LE with a standard deviation of 1653208 and a coefficient of variation equal to 31.50 %. Accordingly, there is an increase in the average of direct premiums due to the exchange rate policy.

As displayed in Figure (2), The direct premiums increased after the liberalization of the exchange rate compared to the direct premiums before the flotation of the Egyptian pound.

### 5.3/ Direct claims by Companies

Table (4) shows the direct claims for the Egyptian Life insurance companies in thousands during the period from 2012/2013 to 2020/2021. The results showed an increase in the direct claims after the liberation of the exchange rate (9705411), compared to the direct claims before the liberation of the exchange rate (4287827), by (5417584) thousands LE.

Table (5) shows the descriptive statistics of the average of direct claims in the Egyptian Life insurance companies before and after the policy of the exchange rate liberalizing of the US dollar against the Egyptian pound. The results showed that (Misr Life Insurance Company as an example) the average of direct claims before the liberalization amounted to 2005150 thousand LE with a standard deviation of

325185 and a coefficient of variation equal to 16.2 %, while the average of direct claims after the liberalizing amounted to about 3474399 thousand LE with a standard deviation of 613421 and a coefficient of variation equal to 17.6 %. Accordingly, there is an increase in the average of direct claims due to the exchange rate policy.

As displayed in Figure (3), The direct claims increased after the liberalization of the exchange rate compared to the direct claims before the flotation of the Egyptian pound.

#### 5.4/ Net investment income by Companies

Table (6) shows an increase in the net investment income after the liberation (5512851), compared to the net investment income before the exchange rate liberation (2991817), by (2521034) thousands LE.

Table (7) shows the descriptive statistics of the average of net investment income. The results showed that (Misr Life Insurance Company as an example) the average is 1632744 thousand LE with a standard deviation of 195281 and a coefficient of variation equal to 12 %, while the average after the liberalizing amounted to about 3220860 thousand LE with a standard deviation of 216541 and a coefficient of variation equal to 6.7%. Accordingly, there is an increase in the average of net investment income due to the exchange rate policy.

As displayed in Figure (4), The net investment income increased after the liberalization compared to the net investment income before the liberalization.

## 6. Result

This part of the research addresses the establishment of a model to measure the impact of exchange rate change on life insurance companies during the period 2012-2021, assuming the presence of a linear relationship between the dependent variable and the independent variable through the following equation:

$$\hat{Y} = \alpha + \beta X + \varepsilon$$

The aim is to determine the relationship between the exchange rate and the research variables (Premiums, Claims and Net Investment



Income). Additionally, it seeks to assess the degree of alignment between the Egyptian economy's state and the economic theory that emphasizes that a decrease in the exchange rate of the Egyptian pound against the dollar leads to an increase in research variables. Furthermore, tests were conducted to confirm the presence of a long-term relationship between the fluctuations in the dollar exchange rate and the research variables.

To measure the relationship between the exchange rate and the research variables, the Ordinary Least Squares method was employed to analyze the overall trends of the study's variable fluctuations. This involved utilizing the coefficient of determination, which indicates the extent to which one variable is affected by changes in the other.

The study's model was limited to examining the relationship between Premiums, Claims and Net Investment Income as dependent variables and the exchange rate of the dollar as an independent variable, during the period from 2012 to 2021. Consequently, any fluctuation in the exchange rate will impact the overall long term insurance policies.

#### 6.1/ The impact on direct Premiums:

By studying the general trend line equation for direct premiums in table 9 and 10 over the period (2012-2021), the equation indicates that direct premiums increase annually by approximately 0.826 billion Egyptian pounds, with an annual change rate 0.69% of the average, amounting to around 11,908,092 thousand Egyptian pounds. The significance of this increase has been established, and the value of  $R^2$  indicates that about 47% of the variation in direct premiums is attributed to the exchange rate changes, while the remaining portion is attributed to other factors.

Based on the calculated F value, which was 33, and is greater than the tabulated F value at a significance level of 1%, the model is considered significant and statistically accepted. To determine the impact, an equation was estimated for each period separately, as follows:

$$\text{Before } \hat{y}_1 = 18682868 + 3481581X$$

$$\text{After } \hat{y}_2 = 83473432 + 3932205X$$

It is evident from the above two equations the presence of a positive impact of the exchange rate liberalization decision on direct premiums, where the magnitude of the annual change increased from 3.4 billion Egyptian pounds before implementing this decision to around 3.9 billion pounds after implementing it. This is further confirmed by the increase in the of average direct premiums from 6.7 billion pounds before the decision's application to approximately 17.4 billion pounds after the decision's application. Therefore, the null hypothesis is rejected.

#### 6.2/ The impact on direct claims:

By studying the general trend line equation for direct claims in table 9 and 10 over the period (2012-2021), the equation indicates that direct claims increase annually by approximately 0.45 billion Egyptian pounds, with an annual change rate 6.5% of the average, amounting to around 6990296 thousand Egyptian pounds. The significance of this increase has been established, and the value of  $R^2$  indicates that about 54% of the variation in direct claims is attributed to the exchange rate changes, while the remaining portion is attributed to other factors.

Based on the calculated F value, which was 13.3, and is greater than the tabulated F value at a significance level of 1%, the model is considered significant and statistically accepted. To determine the impact, an equation was estimated for each period separately, as follows:

$$\text{Before } \hat{y}_1 = 12513209 + 2288786X$$

$$\text{After } \hat{y}_2 = 41741083 + 1906148X$$

It is evident from the above two equations the presence of a negative impact of the liberalization decision on direct claims, where the magnitude of the annual change decreased from 2.2 billion LE before implementing this decision to around 1.9 billion pounds after implementing it. This is further confirmed by the increase in the average of direct claims from 4.2 billion pounds before the decision to approximately 9.7 billion pounds after the decision's application. Therefore, the null hypothesis is rejected.



### 6.3/ The impact on net investment income:

By studying the data in table 9 and 10 over the period (2012-2021), the equation indicates that net investment income increases annually by approximately 0.2 billion LE, with an annual change rate 4.9% of the average 4213025 thousand LE. The significance of this increase has been established, and the value of  $R^2$  indicates that about 62% of the variation in net investment income is attributed to the exchange rate changes, while the remaining portion is attributed to other factors.

Based on the calculated F value, which was 11.9, and is greater than the tabulated F value at a significance level of 1%, the model is considered significant and statistically accepted. To determine the impact, an equation was estimated for each period separately, as follows:

$$\text{Before } \hat{y}_1 = 2783223 + 790085X$$

$$\text{After } \hat{y}_2 = 12943514 + 441222X$$

From the above two equations the presence of a positive impact of the liberalization decision on net investment income, where the magnitude of the annual change increase from 0.79 billion LE before the liberalization to around 0.84 billion LE after implementing it. This is further confirmed by the increase in the average of net investment income from 3 billion pounds before the decision's application to approximately 5.5 billion pounds after the decision's application. Therefore, the null hypothesis is rejected.

## 7. Conclusion

The success of the insurance sector in the context of exchange rate liberalization will depend on the ability of insurers to implement effective risk management strategies, offer innovative products that cater to changing market demands, and remain responsive to evolving regulatory requirements. Policymakers should also be vigilant in monitoring market developments to ensure that the insurance industry remains stable and resilient, fostering long-term growth and sustainability in Egypt's insurance sector.

The impact of liberalization of the exchange rate on long-term insurance policies in Egypt is a multifaceted subject that warrants in-depth research to understand its implications fully. The defined research objectives and scope will facilitate a comprehensive analysis of how exchange rate fluctuations influence policy premiums, investment performance, claims, and regulatory adaptations. By undertaking this research, policymakers, insurers, and other stakeholders can develop informed strategies to navigate the challenges and capitalize on the opportunities arising from exchange rate liberalization in the context of long-term insurance in Egypt.

Exchange rate liberalization in Egypt can introduce complexities and uncertainties into claims settlement practices for insurers and policyholders. The impact of exchange rate fluctuations on claims settlement outcomes depends on various factors, including the magnitude and direction of currency movements, the proportion of foreign currency-denominated policies, and insurers' risk management strategies.

Exchange rate liberalization in Egypt can introduce significant uncertainties into insurers' investment returns due to fluctuations in the value of the EGP. Insurance companies need to carefully manage currency risk and adopt appropriate risk management strategies to protect their investment portfolios and ensure stable returns. Additionally, insurers must consider the potential impact of exchange rate movements on their solvency and capital adequacy to maintain financial stability and regulatory compliance. By closely monitoring currency movements and employing prudent investment practices, insurance companies in Egypt can navigate the challenges and



capitalize on potential opportunities arising from exchange rate liberalization.

## **8. Recommendations & Future Studies**

Based on the previous results, this research makes the following recommendations:

- The researcher recommends studying the impact of exchange rate liberalization in Egypt on reinsurance operations that were contracted in foreign currency before the exchange rate liberalization occurred, and then the insured risk occurred after the exchange rate liberalization, leading to a claim for compensation.
- The researcher recommends studying the impact of exchange rate liberalization in Egypt on automobile insurance policies that were contracted before the exchange rate liberalization occurred, and then the insured risk occurred after the exchange rate liberalization, leading to a claim for compensation. The study should also examine the effects of this on the insurance company and the insured parties, particularly regarding the increase in car prices and spare parts.
- **Examine Foreign Currency Policy Offerings:** The researcher recommends assessing the prevalence and scope of foreign currency-denominated long-term insurance policies offered in Egypt after exchange rate liberalization.
- **Evaluate Regulatory Adaptations and understanding the regulatory adjustments made in response to exchange rate liberalization.**
- **Study Policyholder Behavior and Perception of long-term insurance policies after liberalization. And explore how currency fluctuations influence policyholder decision-making and preferences for insurance products.**

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Table (2): Direct Premiums for Egyptian Life insurance companies

In thousands

Company Year	12/13	13/14	14/15	15/16	17/18	18/19	19/20	20/21
Misr LI	1871742	2256307	2601157	2,803,972	3,974,449	4,403,427	4,961,503	7,652,574
Suez Canal LI	141373	168895	278183	431,688	415,980	603,920	560,355	673,136
Mohandes LI	58163	59763	48278	74,759	91,931	106,105	91,077	103,312
Delta LI	127005	124310	157348	170,223	287,340	216,429	241,067	272,968
Metlife Egypt (Alico)	915851	989580	1188777	1,404,145	2,374,033	2,854,613	3,685,876	4,085,402
AXA Life Egypt (CIL)	635183	781203	915289	1,094,706	1,598,558	2,000,233	2,529,557	3,308,188
Allianz Life Egypt	1052307	1140994	1295841	1,362,529	1,977,820	3,120,291	4,216,677	5,042,720
QNB Alahli LI	197473	230296	277943	318,414	501,267	671,582	735,854	933,680
Chubb Life Egypt (ACE)	92338	100019	111029	138,791	228,021	252,453	242,958	267,133
Egyptian for Takaful (Life)	123800	233426	342206	391,423	415,271	657,969	632,883	923,044
KAF Life Takaful (Tokyo)	38730	53448	57867	41,664	33,516	42,293	42,292	49,410
Arope LI	11765	12620	20561	30,379	54,203	61,667	74,454	88,483
Libano-Suisse	1582	3696	28747	53,932	125,254	206,898	255,706	261,861
Total	5267312	6154558	7294479	8262693	11952389	14990982	18014553	23400050
Average			6743441			17089494		

**Table (3): Descriptive Statistics of the direct premiums (Before and after Liberalization)**

Company	Before			After		
	Avg.	Std.	CV%	Avg.	Std.	CV%
Misr LI	2383295	409163.95	17.1679979	5247988	1653208.23	31.5017517
Suez Canal LI	255034.75	131758.949	51.6631358	563,348	108667.348	19.2895681
Mohandes LI	60240.75	10930.5727	18.1448151	98,106	7716.30099	7.86524914
Delta LI	144721.5	22658.7636	15.6568054	254,451	31881.9152	12.5296875
Metlife Egypt (Alico)	1124588.25	219142.753	19.4864879	3,249,981	777074.311	23.9101186
AXA Life Egypt (CIL)	856595.25	195660.472	22.8416481	2,359,134	738700.046	31.3123394
Allianz Life Egypt	1212917.75	141690.543	11.6817932	3,589,377	1332024.63	37.11019
QNB Alahli LI	256031.5	53113.4133	20.7448745	710,596	178647.847	25.1405736
Chubb Life Egypt (ACE)	110544.25	20333.5707	18.3940555	247,641	16431.3552	6.63514465
Egyptian for Takaful (Life)	272713.75	119219.533	43.7159963	657,292	208002.041	31.6453145
KAF Life Takaful (Tokyo)	47927.25	9185.04253	19.1645515	41,878	6506.34789	15.5365269
Arope LI	18831.25	8657.44537	45.9738221	69,702	15056.4238	21.6012134
Libano-Suisse	21989.25	24611.0091	111.922913	212,430	63104.3948	29.7060063

**Table (4): Direct Claims for Egyptian Life insurance companies - In thousands**

<b>Company</b> <b>Year</b>	<b>12/13</b>	<b>13/14</b>	<b>14/15</b>	<b>15/16</b>	<b>17/18</b>	<b>18/19</b>	<b>19/20</b>	<b>20/21</b>
<b>Misr LI</b>	<b>1694660</b>	<b>1795507</b>	<b>2120974</b>	<b>2,409,458</b>	<b>2,989,267</b>	<b>3,178,235</b>	<b>3,364,759</b>	<b>4,365,336</b>
<b>Suez Canal LI</b>	<b>75209</b>	<b>101327</b>	<b>177764</b>	<b>269,256</b>	<b>281,967</b>	<b>263,057</b>	<b>450,186</b>	<b>544,179</b>
<b>Mohandes LI</b>	<b>51657</b>	<b>50310</b>	<b>42114</b>	<b>69,305</b>	<b>73,473</b>	<b>73,184</b>	<b>103,311</b>	<b>121,018</b>
<b>Delta LI</b>	<b>64713</b>	<b>160865</b>	<b>89615</b>	<b>131,095</b>	<b>101,903</b>	<b>133,353</b>	<b>151,991</b>	<b>190,454</b>
<b>Metlife Egypt (Alico)</b>	<b>605742</b>	<b>601693</b>	<b>755584</b>	<b>821,707</b>	<b>1,480,585</b>	<b>1,608,442</b>	<b>1,927,998</b>	<b>2,948,983</b>
<b>AXA Life Egypt (CIL)</b>	<b>377335</b>	<b>601693</b>	<b>324197</b>	<b>578,173</b>	<b>882,693</b>	<b>977,196</b>	<b>1,319,203</b>	<b>1,893,304</b>
<b>Allianz Life Egypt</b>	<b>347104</b>	<b>447483</b>	<b>553713</b>	<b>725,964</b>	<b>1,255,809</b>	<b>1,375,872</b>	<b>1,548,912</b>	<b>2,116,165</b>
<b>QNB Alahli LI</b>	<b>66853</b>	<b>64999</b>	<b>79307</b>	<b>88,349</b>	<b>149,137</b>	<b>179,195</b>	<b>200,395</b>	<b>272,646</b>
<b>Chubb Life Egypt (ACE)</b>	<b>22106</b>	<b>26856</b>	<b>29016</b>	<b>30,777</b>	<b>63,480</b>	<b>92,902</b>	<b>91,399</b>	<b>109,115</b>
<b>Egyptian for Takaful (Life)</b>	<b>53204</b>	<b>112697</b>	<b>167245</b>	<b>265,217</b>	<b>251,554</b>	<b>322,917</b>	<b>311,194</b>	<b>412,872</b>
<b>KAF Life Takaful (Tokyo)</b>	<b>2917</b>	<b>7326</b>	<b>13351</b>	<b>18,319</b>	<b>28,475</b>	<b>32,392</b>	<b>31,710</b>	<b>43,274</b>
<b>Arope LI</b>	<b>643</b>	<b>1856</b>	<b>1659</b>	<b>4,316</b>	<b>6,594</b>	<b>10,835</b>	<b>15,867</b>	<b>29,609</b>
<b>Libano-Suisse</b>	<b>2165</b>	<b>3180</b>	<b>16051</b>	<b>28,680</b>	<b>70,783</b>	<b>92,011</b>	<b>137,132</b>	<b>145,319</b>
<b>Total</b>	<b>3364307</b>	<b>3975792</b>	<b>4370590</b>	<b>5440616</b>	<b>7635720</b>	<b>8339591</b>	<b>9654057</b>	<b>13192274</b>
<b>Average</b>	<b>4287827</b>			<b>9705411</b>				

**Table (5): Descriptive Statistics of the direct Claims (Before and after Liberalization)**



Company	Before			After		
	Avg.	Std.	CV%	Avg.	Std.	CV%
Misr LI	2005149.75	325184.248	16.2174545	3,474,399	613420.965	17.6554541
Suez Canal LI	155889	87210.2184	55.9437923	384,847	135490.43	35.2062876
Mohandes LI	53346.5	11444.322	21.4528077	92,747	23558.7604	25.4012393
Delta LI	111572	42773.9138	38.3374985	144,425	36998.3012	25.6176127
Metlife Egypt (Alico)	696181.5	110140.347	15.8206368	1,991,502	665475.712	33.4157692
AXA Life Egypt (CIL)	470349.5	140106.237	29.7876869	1,268,099	457039.477	36.0413089
Allianz Life Egypt	518566	161968.364	31.2338957	1,574,190	380820.329	24.1915175
QNB Alahli LI	74877	11001.1991	14.6923609	200,343	52589.6658	26.2497817
Chubb Life Egypt (ACE)	27188.75	3748.75316	13.7878834	89,224	18944.3371	21.2323334
Egyptian for Takaful (Life)	149590.75	90060.4549	60.2045614	324,634	66608.8401	20.5181185
KAF Life Takaful (Tokyo)	10478.25	6753.7455	64.4548994	33,963	6438.34644	18.9570822
Arope LI	2118.5	1558.43436	73.5631043	15,726	10001.2145	63.5956729
Libano-Suisse	12519	12490.9992	99.7763335	111,311	35769.0597	32.1342718

**Table (6): Net investments income for Egyptian Life insurance companies**

**In thousands**

<b>Company</b> <b>Year</b>	<b>12/13</b>	<b>13/14</b>	<b>14/15</b>	<b>15/16</b>	<b>17/18</b>	<b>18/19</b>	<b>19/20</b>	<b>20/21</b>
<b>Misr LI</b>	1425134	1523710	1859190	1722939	2994885	3088572	3462954	3337026
<b>Suez Canal LI</b>	37883	44790	48443	69317	138562	166289	164006	158708
<b>Mohandes LI</b>	54122	64591	45350	76572	126643	144407	146400	133982
<b>Delta LI</b>	58180	66661	62452	59273	131025	164046	183822	194277
<b>Metlife Egypt (Alico)</b>	216950	261821	272003	330824	275732	278600	352102	408175
<b>AXA Life Egypt (CIL)</b>	237056	447012	357382	284870	193064	248499	255257	297843
<b>Allianz Life Egypt</b>	281068	656774	411158	433971	900419	857057	970186	1149879
<b>QNB Alahli LI</b>	52945	61255	87096	130628	91016	115427	139350	154243
<b>Chubb Life Egypt (ACE)</b>	16744	23399	22849	23260	62571	64800	115667	83534
<b>Egyptian for Takaful (Life)</b>	11736	17891	20067	27222	44241	33701	38997	58488
<b>KAF Life Takaful (Tokyo)</b>	3086	5839	7412	8960	5538	6302	3977	2566
<b>Arope LI</b>	7293	8406	8906	10900	15972	19510	24549	28584
<b>Libano-Suisse</b>	805	820	903	- 652	2813	3890	6502	6749
<b>Total</b>	2403002	3182969	3203211	3178084	4982481	5191100	5863769	6014054
<b>Average</b>	2991817				5512851			

**Table (7): Descriptive Statistics of the Net investments income (Before and after Liberalization)**



Company	Before			After		
	Avg.	Std.	CV%	Avg.	Std.	CV%
Misr LI	1632743.25	195280.358	11.9602612	3220859.25	216540.112	6.72305416
Suez Canal LI	50108.25	13533.7806	27.0090866	156891.25	12625.3628	8.04720647
Mohandes LI	60158.75	13475.67	22.4001828	137858	9249.41018	6.70937499
Delta LI	61641.5	3805.43756	6.17349928	168292.5	27828.3963	16.5357317
Metlife Egypt (Alico)	270399.5	46847.7361	17.3253782	328652.25	63716.9238	19.3873384
AXA Life Egypt (CIL)	331580	91482.0574	27.5897393	248665.75	43024.911	17.3023068
Allianz Life Egypt	445742.75	155977.179	34.9926451	969385.25	129038.256	13.3113492
QNB Alahli LI	82981	34934.9405	42.0999271	125009	27734.6342	22.18611
Chubb Life Egypt (ACE)	21563	3221.14172	14.9382819	81643	24553.5896	30.0743354
Egyptian for Takaful (Life)	19229	6390.7638	33.2350294	43856.75	10661.1061	24.3089288
KAF Life Takaful (Tokyo)	6324.25	2506.79801	39.6378702	4595.75	1663.51643	36.1968434
Arope LI	8876.25	1508.22907	16.9917371	22153.75	5546.43383	25.0360947
Libano-Suisse	469	748.575091	159.610894	4988.5	1943.32576	38.9561142

Table (8)

In thousands

Year	USD/ LE Ex. rate	Direct Premiums	Direct Claims	Net Investment Income
2013/2012	6.87	5267312	3364307	2403002
2014/2013	7.13	6154558	3695752	3182969
2015/2014	7.52	7323228	4370590	3203211
2016/2015	7.72	8324850	5440616	3179990
2017/2016	18.12	10178063	7036763	3793227
2018/2017	17.66	12165345	7640387	4989679
2019/2018	17.85	15,307,834	8349095	5215381
2020/2019	15.97	18476067	9701730	5898541
2021/2020	15.65	23975570	13313420	6051220
<b>Avg.</b>	<b>12.72</b>	<b>11908092</b>	<b>6990296</b>	<b>4213025</b>

Table (9): The impact of the exchange rate liberalization on insurance variables during the period (2012-2021)

Variables		$\alpha$	$\beta$	R <sup>2</sup>	Avg.
Direct Premiums	Before	18682868	3481581	0.99088968	6767487
	After	83473432	3932205	0.78221936	17481204
Direct Claims	Before	12513209	2288786	0.91106579	4217816
	After	41741083	1906148	0.73231003	9751158
Net investment Income	Before	2783223	790085	0.59036614	2992293
	After	12943514	841222	0.93964254	5538706

Table (10): The general trend line equation (2012-2021)

Variables	$\alpha$	$\beta$	R <sup>2</sup>	T	F	Sig. F
Direct Premiums	1401599.2	825910	0.469	8.49	33.20	0.0415
Direct Claims	1187719.3	456138	0.544	5.89	13.34	0.0233
Net investment	1608242.6	204761	0.630	4.91	11.88	0.010

Figure 2: The average of the direct premiums for Egy. LI companies

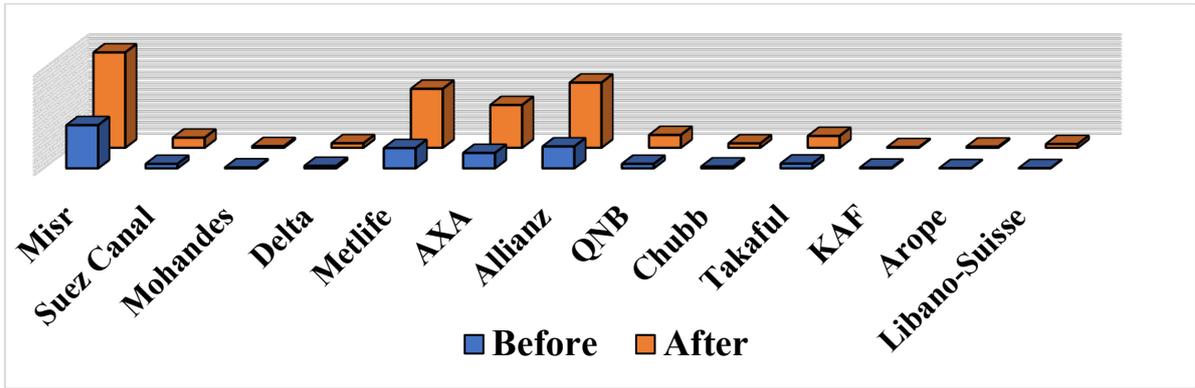


Figure3: The average of the direct claims for Egyptian LI companies

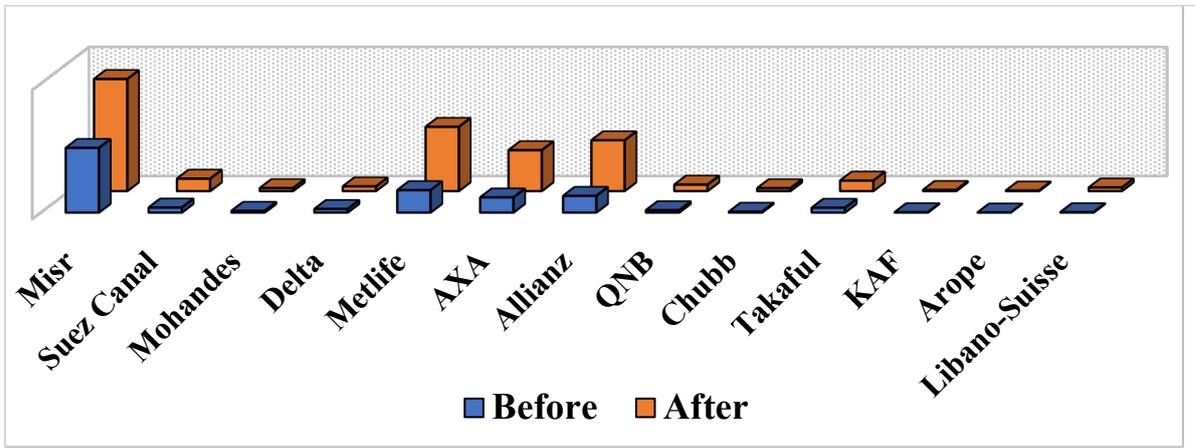


Figure 4: The average of the net investment income for LI companies

