

# **The influence of floating exchange rate on economic development in Egypt until 2022**

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## **ABSTRACT**

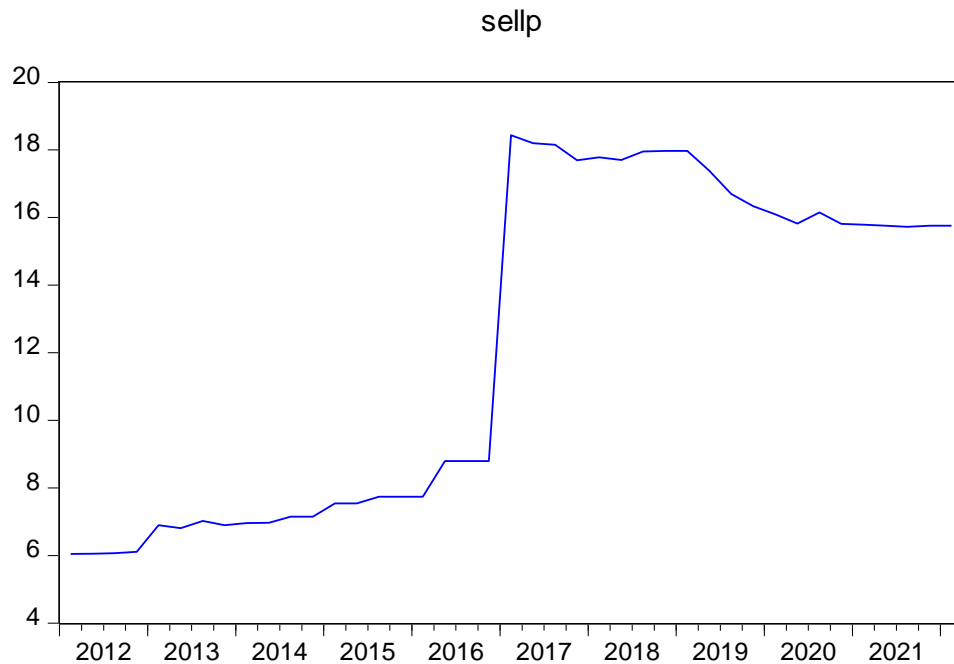
The decision to float the currency is one of the important decisions taken by the state on November 3, 2016; this date is considered an important date for the occurrence of many important events that affected people. Some see these effects as negative and others see them as positive, but the real effects appear on the short run and become clear on the long run, the positive effects appear only through the development of a long-run program. The state must adopt this program to increase exports of high value. Courageous policies are required for this decision to succeed and for the state to reach what it aspires to, so in in this paper, the authors attempts to shed light on the important effects of floating the Egyptian pound, by studying the effects of pricing the national currency before and after the flotation, to find out whether this flotation has negative or positive impact on the economic growth of the Egyptian state.

**Keywords:** Floating exchange rate, International economics, Macroeconomics, influence of changing economic policies.

# 1 INTRODUCTION

In a world full of fluctuations, countries often want to change their policies to improve their economic capacity in the so-called economic growth rate. Therefore, in 2016, Egypt took an important step to promote economic growth. This study monitors one aspect of the effects of that step, and the study wonders whether this step changed from the trends of economic growth in Egypt, will the step lead to prosperity in the long run, what are the possible effects of this step.

We applied the least squares method on the data of economic growth rates and the dollar exchange rate from 2014 to 2019 to discover the break point endogenously and exogenously, which appears in the following figure:



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Then the study analyzes the effects accompanying this decision before after in order to evaluate this courageous step by two models, the first before the floating decision, and the second after the floating decision, in order to focus on the short run and long run effect, all before and after floating by the ARDL method.

This research presents a new viewpoint on the results of flotation to look at flotation in a positive way in the long term, despite the fact that there are some challenges in the short term in order to reap the results of development in the long term.

## 2. Literature review.

The first paper examines Real Exchange Rate Behavior and Economic Growth: Evidence from Egypt, Jordan, Morocco, and Tunisia<sup>i</sup>, it examines the effect of the real exchange rate misalignment (RERMIS) on the economic growth of Egypt, Jordan, Morocco, and Tunisia. The paper constructs three measures of exchange rate based on purchasing power parity; a black market exchange rate; and a structured model. The empirical investigation confirmed the negative effect of RERMIS on growth, using all measures of RERMIS, as predicted by endogenous growth models. The results also highlighted the role of other factors; specifically, capital growth and population have the theoretical signs predicted by the Solow growth model and are statistically significant.

The second paper conduct A comparative analysis of exchange rate fluctuations and economic activity: The cases of Egypt and Turkey<sup>ii</sup>, it aims to examine the effects of exchange rate fluctuations on real output, the price level, and the real value of components of aggregate demand in Egypt and Turkey.

The methodology approach Building on a theoretical model that combines movements in the exchange rate into anticipated and unanticipated components, the empirical investigation traces the effects through demand and supply channels.

The researchers find that In Turkey, anticipated exchange rate appreciation has significant negative effects, contracting the growth of real output and the demand for investment and exports, while raising price inflation. Random fluctuations in Turkey have asymmetric effects that highlight the importance of unanticipated depreciation in shrinking output growth and the growth of private consumption and investment, despite an export growth. In Egypt, anticipated exchange rate appreciation decreases export growth. Given asymmetry, the net effect of unanticipated exchange rate fluctuations, in Egypt, decreases real output and consumption growth and increases export growth, on average, over time.

The third literature examines the Exchange rate when pass-through to inflation in Egypt using a structural VAR approach<sup>iii</sup>, The theoretical and empirical literature stipulated that exchange rate shocks do influence the domestic price of imports. Hence, this paper aims to investigate the underlying relationship between the exchange rate and prices known as the exchange rate pass-through.

The paper uses a structural vector auto-regression (SVAR) model, drawing on Bernanke (1986) and Sims (1986), to empirically examine and analyze the pass-through of exchange rate fluctuations to domestic prices in Egypt.

The empirical results of the monthly data between 2003 and 2015 revealed that the exchange rate pass-through in Egypt is fairly substantial but incomplete and slow in the three price indices [IMP, producer price index and consumer price index (CPI)]. However, the impact is more prominent for consumer prices than for any other price index. This finding could be attributed to the fact that the CPI in Egypt is composed of a relatively large number of subsidized commodities and goods with administered prices as well as the authorities' behavior in manipulating prices (i.e. export ban). This is expected to weaken the transmission of exchange rate shocks.

The fourth paper examines The effects of exchange-rate volatility on industry trade between the US and Egypt<sup>iv</sup>, Recent instability in Egypt has brought attention to the role of risk in this important economy. At the same time, there is room in the ever-expanding literature on the link between exchange-rate volatility and trade flows, particularly for individual commodities, in Egypt. This study examines 36 separate export and import industries vis-à-vis the United States, from 1994 to 2007. An application of cointegration analysis and error-correction modeling finds evidence of long-run relationships for many import and export industries, with exports increasing due to higher risk in a large proportion of cases. Although most industries, particularly in imports, are nevertheless unaffected, our results differ from other studies in the literature. An analysis of our industry-level results shows that chemical imports, and exports of industries with large trade shares, are likely to increase than are other products or imports.

The fifth paper trying to answer the question : How Do Trade Margins Respond to the Exchange Rate? The Case of Egypt<sup>v</sup>, it tries to examine the impact of devaluation on the increase in the quantity of exports, as well as the ability to export new products and/or venture into new export markets. In other words, this paper seeks to examine how both the intensive (the quantity of exports) and the extensive (the probability of exporting a new product to a new destination, exporting a new product to an existing destination or exporting an existing product to a new destination) margins to trade are affected by the devaluation of the Egyptian pound, using firm-level data. Exchange rate is measured by the real effective exchange rate and the exchange rate misalignment. The researchers find that while a depreciation of the real exchange rate increases the value of exports (intensive margin), the quantity of exports is not affected showing that the price effect is more significant than the quantity effect. In other words, depreciation lowers the foreign currency price of exports, but does not increase the quantity of exports. Furthermore, the number of destinations and the number of products

(extensive margins) respond positively to exchange rate depreciation. At the sectoral level, the intensive margin seems to matter for some products more than others. Indeed, the most beneficial group includes products that are sensitive to real depreciations and for which Egypt has a comparative advantage. These products are fruits and vegetables, apparel and clothing, fibers, mineral fuels and oils and some chemical products. At the destination level, European countries seem to be the most sensitive.

The sixth literature examines Economic Trilemma and Exchange Rate Management in Egypt<sup>vi</sup>, The recent banking and exchange rate crises in Latin America, East Asia, Eastern Europe and Turkey have proved that a fixed exchange rate is unsustainable in the context of growing financial globalization. The other corner solution advocated by the IMF—the free float—makes economies subject to high fluctuations. Therefore, the main question for most emerging market economies, and particularly for Egypt since January 2003, is what kind of managed float to have. This paper presents a single-equation econometric model approach to define the variables that determined the real exchange rate behavior in Egypt during the 1971–99 period as an indicator of the government’s de facto exchange rate policy. The empirical findings confirm that the Egyptian economic policy mix has almost always led to some real exchange rate volatility, which is inconsistent with the fixed exchange rate policy. Therefore, it is believed that the most viable solution for Egypt is the ‘managed bands’ regime around a crawling effective equilibrium central parity, with no pre-announced management bands parameters. This choice will allow Egyptian policy-makers to steer the economy out of the numerous regional and international political and economic shocks.

The seventh literature looking towards inflation targeting in Egypt : the relationship between exchange rate and inflation<sup>vii</sup>, Since the Egyptian economy has recently moved towards inflation targeting, it became very important to know whether exchange rate movements have serious inflationary implications or not. To investigate this subject, the study aims to analyse the relevance of inflation with the exchange rate by using the Granger-causality test. Two indicators of inflation will be used, the consumer price index (CPI) and wholesale price index (WPI). In general, the results show a strong relationship between the two variables in a way that may give support to the application of 'flexible inflation targeting regime instead of strict inflation targeting regime.

The eighth literature examines the Impact of Exchange Rate Changes on Sectoral Activity: The Case of Egypt<sup>viii</sup>, it investigates the effect of changes in exchange rate on sectoral production in Egypt. For this purpose, the study, first,

uses a MIDAS regression to compare between the sign and magnitude of the effect of two exchange rate measures on 22 subsectors and 4 aggregate sectors' production in the period between 1982 till 2014. One measure is the monthly deflated official bilateral exchange rate of EGP against the US dollar and the other is the annual real effective exchange rate of the EGP. The results show opposite signs and magnitudes when comparing both measures which is a highly important finding as the effect of exchange rate on production is a debatable topic where each study shows different results depending on many aspects including the choice of exchange rate measure. As the real effective exchange rate is more representative of a currency's real value, the interpretation of the estimation results is based on comparing public sectors and subsectors with private ones, export orientation with import orientation of each sector and sectors being tradable vs. non-tradable. Finally, results show that most of the low elasticity sectors are public, non-tradable and contribute by only little to GDP, while most tradable large sectors are highly elastic regardless of import and export shares of sectors.

The ninth literature<sup>ix</sup> concluded that Egypt has experimented with a variety of exchange rate regimes over the past 15 years. Up until 1991, a multiple exchange rate regime occurred. The exchange rate was then unified, devalued, and kept fixed to curb inflation. The fixed regime was abandoned in favor of an intermediate regime in January 2001. But the new regime was never put to the test, which eventually gave way to a floating regime in January 2003. The key challenge now is making the new regime work.

The analysis offers suggestions regarding the conduct of monetary policy under the newly initiated exchange rate regime in both the short and medium runs. Key to the success of the new regime, however, is how expectations will be managed. And here is where the announcement of a consistent macro framework with clear targets, the adoption of market-based exchange rules, and possibly the support of international institutions could make a big difference. The sooner such measures are taken, the sooner the benefits from the new regime could be realized.

The tenth literature examines the Potential Impact of the Floating Exchange Rate Policy on the Egyptian Trade Balance, Agricultural Trade and Food Trade<sup>x</sup>. The researcher concluded that Egypt has a long history of problems regarding its exchange rate with US Dollar. Egypt decided to float its currency against the foreign currencies including the US Dollar on 3/11/2016. There is a great controversy among the economists concerning the policy impacts of the new policy. The research question was what is the expected impact of floating the

Egyptian pound exchange rate on the trade balance, agricultural trade balance, and food trade balance? The research paper aims at studying the possible impact of exchange rate policy and the of total trade balance, agricultural trade balance, and food trade balance. Two econometric methods used for the estimation of export and import elasticities, the Feasible generalized least squares (FGLS) estimator and the Vector Error Autoregressive Models (VAR). The estimated Marshall-Lerner condition ranged from 1.72 to 1.92 for the Egyptian total trade, while ranged from 1.44 to 1.46 for the agricultural trade, while it is ranged from 0.64 to 2.09 in the case of food trade. The results indicated the validity of the Marshall-Lerner condition (MLC) for the Egyptian total trade, agricultural trade, and food trade. The new Egyptian floating exchange rate policy associated with institutional reforms will probably has positive impacts on the Egyptian trade, the agricultural trade, and the food trade.

### **3. Data and methodology**

#### **Model data:**

For the chow model, data taken for the period from the beginning of 2014 until the end of 2019 for the OLS method.

Independent variable sellp (exchange rate from \$1 to LE)<sup>xi</sup>

Dependent variable rgdp (real GDP growth rate)<sup>xii</sup>.

For the ARDL model, Data was taken before 2017 and after 2017 to measure the influence of floating exchange rate on economic development before and after the floating decision.

(Before 2017)

Data was taken on a quarterly basis from 1/1/2012 until 3/10/2016 according to the availability of data for the following variables

Independent variable sellp (exchange rate from \$1 to LE)

Dependent variable rgdp (real GDP growth rate).

(After 2017)

Data was taken on a quarterly basis from 2/1/2017 until 1/1/2022 according to the availability of data for the following variables

Independent variable sellp (exchange rate from \$1 to LE)

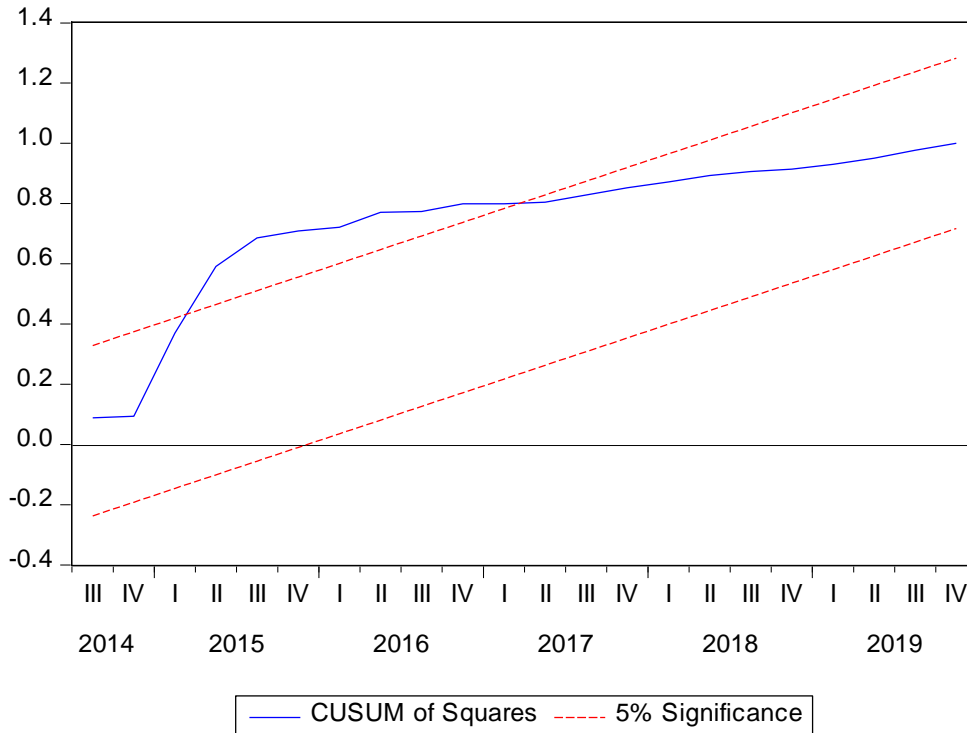
Dependent variable rgdp (real GDP growth rate).

### **4- Discussion and results**

#### **4-1 - Structure breaking model (Chow model)**

To indicate that there is a break point endogenously we use ordinary least square method for the period from the beginning of 2014 until the end of 2019, then apply

CUSUM of square test to indicate that there is a break which appear in the following graph.



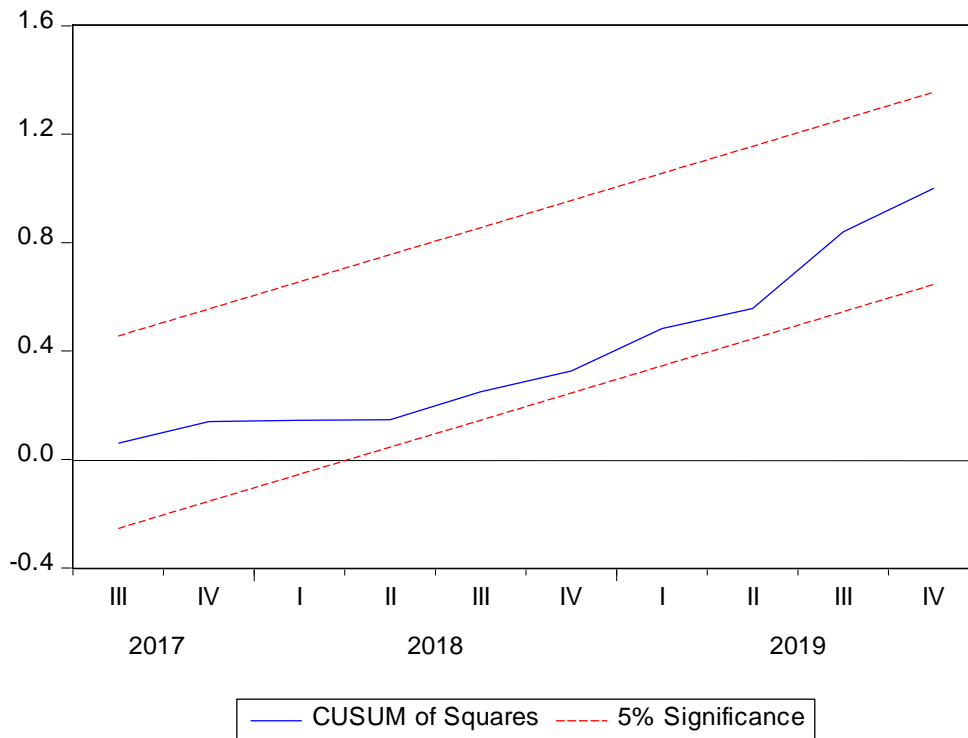
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To indicate that there is a break point exogenously we use the chow model for the period from the beginning of 2014 until the end of 2019, three years before floating and 3 years after floating, we suggest a dummy variable equal to zero from beginning of 2014 until the end of 2016, then equal to 1 from the beginning of 2017 until the end of 2019, a new variable was suggested which is  $SELLP * \text{the dummy variable}$ , and performed under the ordinary least square method, which appear as follows

$$RGDP = C(1)*SELLP + C(2)*DUM + C(3)*DSELLP + C(4)$$

Then applying the CUSUM of square test to indicate that there is a break point which appear as follows





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Therefore, the model is stable within the 5% significance, so the structure-breaking model has been conveniently taking care of.

#### 4-2 - ARDL model and discussion

The initiation of the autoregressive distributed lag (ARDL) method or Bounds test is due to Pesaran and Shin (1999)<sup>xiii</sup>, while its further development is due to Pesaran et al. (2001)<sup>xiv</sup>. It is acknowledged as one of the most flexible methods in the econometric analysis.

The ability to host sufficient lags enables best capturing of the data generating process mechanism. This translates into that the method can be applied irrespective of whether the time series is  $I(0)$ , namely stationary at levels,  $I(1)$  namely stationary at first differences or fractionally integrated. Nevertheless, within the ARDL framework, the series must not be  $I(2)$ , because this integration order invalidates the F-statistics and all critical values established by Pesaran.

Furthermore, the ARDL method provides unbiased estimates and valid t-statistics, irrespective of the endogeneity of some regressors<sup>xv xvi</sup>. Actually, because of the appropriate lag selection, residual correlation is eliminated and

thus the endogeneity problem is mitigated<sup>xvii</sup>. As far as the short-run adjustments are concerned, they can be integrated with the long-run equilibrium through the error correction mechanism (ECM). This occurs through a linear transformation without sacrificing information about the long-run horizon. One other aspect is that the method allows the correction of outliers with impulse dummies and the approach distinguishes between dependent and independent variables.

Last but not the least, the interpretation of the ARDL approach and its implementation is quite straightforward<sup>xviii</sup> and the ARDL framework requires a single form equation<sup>xix</sup>, while other procedures require a system of equations. The ARDL approach is more reliable for small samples as compared to Johansen and Juselius's cointegration methodology. Halicioglu (2007)<sup>xx</sup> also mentions two more advantages of the method, which are the simultaneous estimation of short- and long-run effects and the ability to test hypotheses on the estimated coefficients in the long run. This is not done in the Engle–Granger method.

### **Unit root test**

The first step in the ARDL analysis, is the unit root analysis. It informs about the degree of integration of each variable. To satisfy the bounds test assumption of the ARDL models, each variable must be  $I(0)$  or  $I(1)$ . Under no circumstances, should it be  $I(2)$ . Unit root analysis is performed with a long array of tests such as for example the augmented Dickey Fuller (ADF) and the Kwiatkowski–Phillips–Schmidt–Shin (KPSS), the Phillips–Perron (PP), the Ng–Perron test, the cross-sectional augmented IPS-CIPS (Pesaran 2007)<sup>xxi</sup>, the LS (Lee and Strazicich 2003)<sup>xxii</sup>, and many others. Each one is more compatible with different data characteristics, but this paper will not discuss them for brevity reasons. However, it should be stressed that researchers should apply both augmented Dickey Fuller (ADF) and Phillips–Perron (PP) unit root tests to make sure that the variables are not  $I(2)$ .

## Unit root test for the first model from 2012 to 2022 (Quarterly data)

<b>UNIT ROOT TEST TABLE (PP)</b>			
	<b><u>At Level</u></b>		
		RGDP	SELLP
With Constant	t-Statistic	-3.0915	-1.2331
	<b>Prob.</b>	<b>0.0353</b>	<b>0.6506</b>
		**	n0
With Constant & Trend	t-Statistic	-3.3207	-1.6401
	<b>Prob.</b>	<b>0.0775</b>	<b>0.7587</b>
		*	n0
Without Constant & Trend	t-Statistic	-0.6066	0.4625
	<b>Prob.</b>	<b>0.4483</b>	<b>0.8101</b>
		n0	n0
	<b><u>At First Difference</u></b>		
		d(RGDP)	d(SELLP)
With Constant	t-Statistic	-6.7718	-6.3574
	<b>Prob.</b>	<b>0.0000</b>	<b>0.0000</b>
		***	***
With Constant & Trend	t-Statistic	-6.7836	-6.3168
	<b>Prob.</b>	<b>0.0000</b>	<b>0.0000</b>
		***	***
Without Constant & Trend	t-Statistic	-6.8674	-6.2766
	<b>Prob.</b>	<b>0.0000</b>	<b>0.0000</b>
		***	***
<b>UNIT ROOT TEST TABLE (ADF)</b>			
	<b><u>At Level</u></b>		
		RGDP	SELLP
With Constant	t-Statistic	-3.4994	-1.2411
	<b>Prob.</b>	<b>0.0136</b>	<b>0.6471</b>
		**	n0
With Constant & Trend	t-Statistic	-4.2216	-1.5788
	<b>Prob.</b>	<b>0.0101</b>	<b>0.7837</b>
		**	n0
Without Constant & Trend	t-Statistic	-0.6066	0.4431
	<b>Prob.</b>	<b>0.4483</b>	<b>0.8053</b>
		n0	n0
	<b><u>At First Difference</u></b>		
		d(RGDP)	d(SELLP)
With Constant	t-Statistic	-6.8044	-6.3574
	<b>Prob.</b>	<b>0.0000</b>	<b>0.0000</b>
		***	***
With Constant & Trend	t-Statistic	-6.8129	-6.3168
	<b>Prob.</b>	<b>0.0000</b>	<b>0.0000</b>
		***	***
Without Constant & Trend	t-Statistic	-6.9049	-6.2766
	<b>Prob.</b>	<b>0.0000</b>	<b>0.0000</b>
		***	***

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It is clear from the previous table that all-time series are stable at the first difference at 1% significance, which is compatible with the conditions of the ARDL model Auto regressive distributive lag model equation

### **The first model from 2012 until 2017**

#### **1- ARDL long run form and bound test.**

The ARDL analysis occurs as follows: If the existence of cointegration is confirmed in Equations (1) and (2), then the long-run and the short-run models are estimated and both long and short-run elasticities are derived, namely the ARDL equivalent of the UECM (Unrestricted error correction model). Cointegration, in the ARDL bounds test approach, is examined under the following hypothesis set up:

$$H_0 : a_1=a_2=a_n=0$$

$$H_1 : a_1\neq a_2\neq a_n\neq 0$$

The setup of the hypotheses reads as follows: there is cointegration if the null hypothesis is rejected. The F-statistics for testing are compared with the critical values developed by Pesaran et al. (2001)<sup>xxiii</sup>. Narayan critical values are more appropriate for small samples. Pesaran et al. (2001) provide a table enumerated as CI and entitled: “Asymptotic critical value bounds for the F-statistic. Testing for the existence of a levels relationship” in five versions. These are (i) no intercept and no trend, (ii) restricted intercept and no trend, (iii) unrestricted intercept and no trend, (iv) unrestricted intercept and restricted trend, (v) unrestricted intercept and unrestricted trend. They also provide a table CII entitled “Asymptotic critical value bounds for the t-statistic. Testing for the existence of a levels relationship” in three versions: (i) No intercept and no trend, (ii) unrestricted intercept and no trend, (iii) unrestricted intercept and unrestricted trend. Next we reproduce a part of these tables (CI-iii and CI-v) in order to explain how the decision for cointegration was made in Bölük and Mert (2015)<sup>xxiv</sup> based on Pesaran tables. Note that Pesaran tables are not valid for I(2) variables (Ali et al. 2016)<sup>xxv</sup>. The interested reader can find these tables in Pesaran et al. (2001).

The first model from 2012 to 2017, ARDL long run form and bound test

ARDL Long Run Form and Bounds Test				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
SELLP	-5.631169	0.947137	-5.945463	0.0019
EC = RGDP - (-5.6312*SELLP )				
F-Bounds Test		Null Hypothesis: No levels relationship		
Test Statistic	Value	Signif.	I(0)	I(1)
			Asymptotic: n=1000	
F-statistic	6.937400	10%	5.59	6.26
k	1	5%	6.56	7.3
		2.5%	7.46	8.27
		1%	8.74	9.63
Actual Sample Size	16		Finite Sample: n=35	
		10%	5.95	6.68
		5%	7.21	8.055
		1%	10.365	11.295
			Finite Sample: n=30	
		10%	6.01	6.78
		5%	7.36	8.265
		1%	10.605	11.65
t-Bounds Test		Null Hypothesis: No levels relationship		
Test Statistic	Value	Signif.	I(0)	I(1)
t-statistic	-3.578313	10%	-3.13	-3.4
		5%	-3.41	-3.69
		2.5%	-3.65	-3.96
		1%	-3.96	-4.26

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Here the long-run equation indicates that the relationship is negative between exchange rate and economic growth, the F bound test indicates that the calculated F is more than the upper value of tabulated F at 10% significance, the t bound test indicates that the calculated t value is more than the upper value of tabulated t at 10% significance.

## 2- ARDL Error Correction Regression (the short run)

ARDL Error Correction Regression				
ECM Regression				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	82.88078	20.24481	4.093927	0.0094
@TREND	2.090213	0.508016	4.114465	0.0092
D(RGDP(-1))	1.342866	0.375602	3.575240	0.0160
D(RGDP(-2))	0.717310	0.329238	2.178695	0.0812
D(RGDP(-3))	0.576352	0.238727	2.414271	0.0605
D(SELLP)	-2.385321	1.039819	-2.293977	0.0703
D(SELLP(-1))	10.57797	2.871128	3.684256	0.0142
D(SELLP(-2))	7.669813	2.505921	3.060677	0.0281
D(SELLP(-3))	3.319001	1.418180	2.340325	0.0664
CointEq(-1)*	-2.451704	0.600847	-4.080412	0.0095

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In the error correction model the cointegration coefficient has a significance of 1% with negative sign which is compatible with the ARDL method, the coefficients of the independent variable has a significance of 5% and 10%, negative effect on the level, positive on the first, second, third differences, which does not give accurate direction for negative or positive relationship, the coefficient of determination showed that the independent variable explains 82% of the short-term changes that occur in the dependent variable.

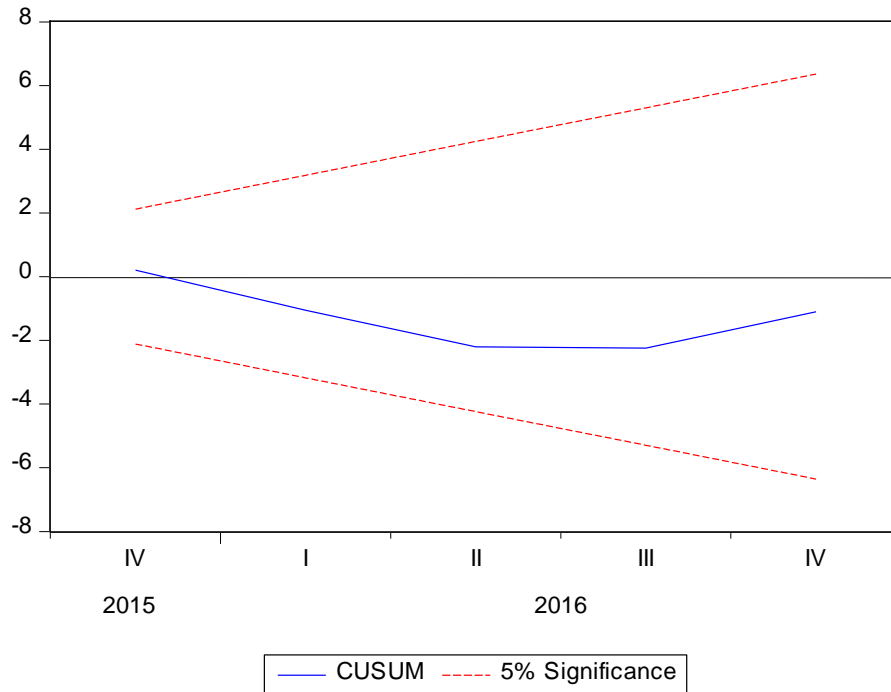
## 3- Breusch-Godfrey Serial Correlation LM Test:

Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	2.333036	Prob. F(4,1)	0.4516

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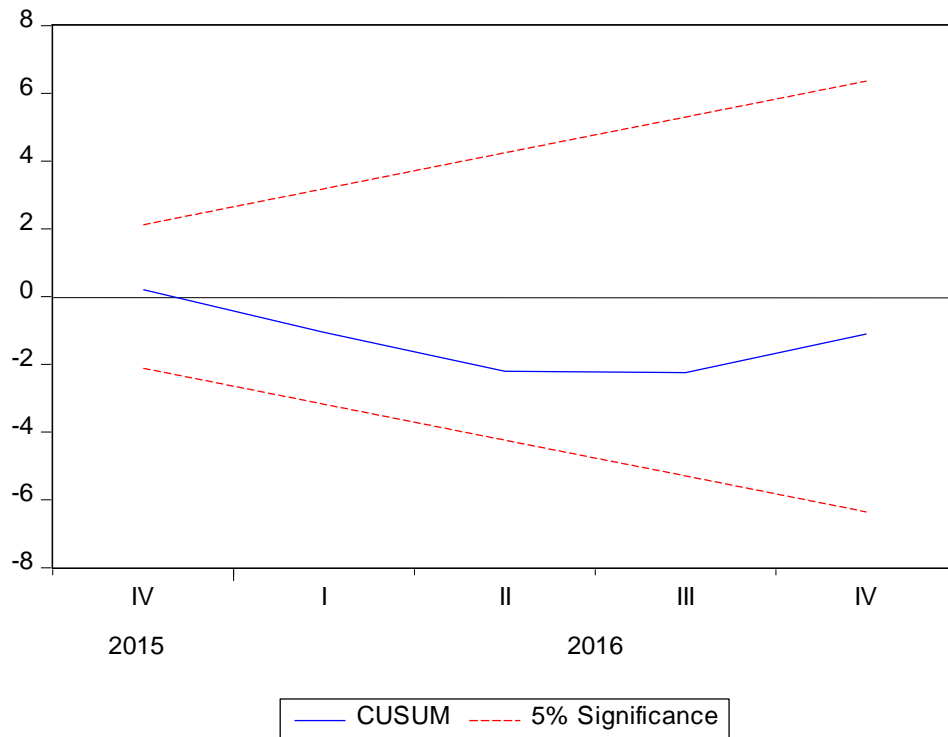
In the Heteroskedasticity Test: Breusch-Pagan-Godfrey the significance of F- statistics stands at 0.4516 so we can deny the null hypothesis, so there is no homoscedasticity problem.

#### 4- Cusum test



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#### 5- Cusum of square test



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The previous two figures indicate that the blue line appears between the two red lines of the 5% significance which are compatible with ARDL method.

The second model from 2017 to 2022, ARDL long run form  
**1- ARDL Long Run Form and bound test**

ARDL Long Run Form and Bounds Test				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
SELLP	0.570672	0.254942	2.238440	0.0491
EC = RGDP - (0.5707*SELLP )				
F-Bounds Test		Null Hypothesis: No levels relationship		
Test Statistic	Value	Signif.	I(0)	I(1)
			Asymptotic: n=1000	
F-statistic	14.92872	10%	4.04	4.78
k	1	5%	4.94	5.73
		2.5%	5.77	6.68
		1%	6.84	7.84
Actual Sample Size	17		Finite Sample: n=35	
		10%	4.225	5.05
		5%	5.29	6.175
		1%	7.87	8.96
			Finite Sample: n=30	
		10%	4.29	5.08
		5%	5.395	6.35
		1%	8.17	9.285
t-Bounds Test		Null Hypothesis: No levels relationship		
Test Statistic	Value	Signif.	I(0)	I(1)
t-statistic	-5.414005	10%	-2.57	-2.91
		5%	-2.86	-3.22
		2.5%	-3.13	-3.5
		1%	-3.43	-3.82

Calculated by researchers using statistical data packages E-VIEWS



The long run form indicates a positive relationship between the exchange rate and economic growth at a significance of 5%, there is a positive long run relationship between GDP growth rate and dollar selling price after floating the exchange rate, the F bound test indicates that the calculated F is more than the upper value of tabulated F at 1% significance, the t bound test indicates that the calculated t value is more than the upper value of tabulated t at 1% significance.

## 2- Error correction form (the short run)

ARDL Error Correction Regression				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-7.849065	1.399637	-5.607928	0.0002
D(RGDP(-1))	1.138030	0.234981	4.843081	0.0007
D(RGDP(-2))	0.850017	0.221644	3.835054	0.0033
D(RGDP(-3))	0.866555	0.215284	4.025180	0.0024
D(SELLP)	-3.504879	1.273798	-2.751519	0.0204
CointEq(-1)*	-1.505205	0.262647	-5.730897	0.0002

Calculated by researchers using statistical data packages E-VIEWS

In the error correction model the cointegration coefficient has a negative sign at a significance of 5%, which is compatible with ARDL method, the dollar selling price coefficient has a negative sign, which means it has a negative effect on the short run, with 5% significance value.

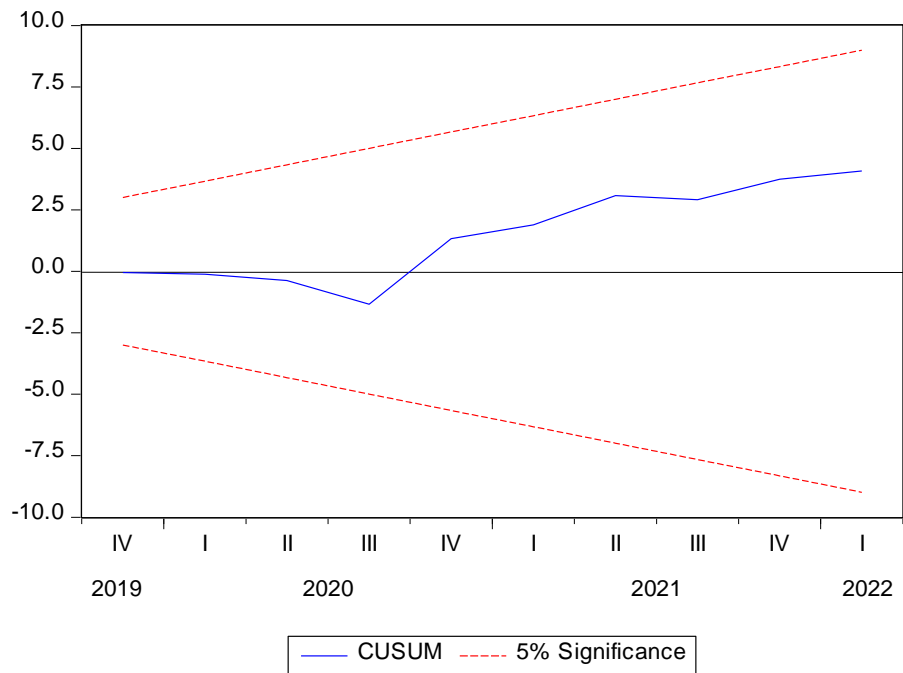
## 3- Serial correlation LM test

Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	1.387406	Prob. F(2,8)	0.3039

Calculated by researchers using statistical data packages E-VIEWS

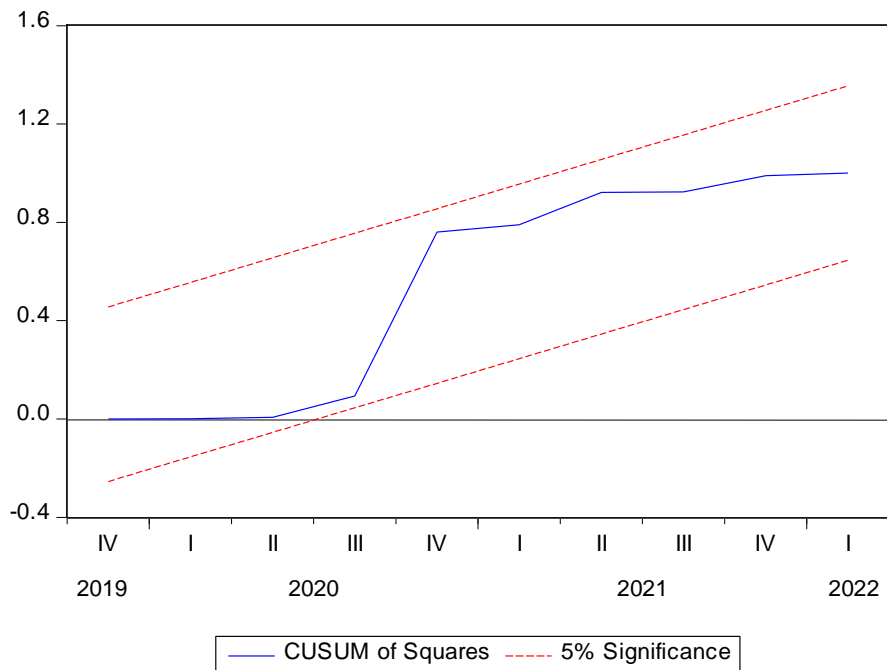
Serial correlation LM test indicates that there is no serial correlation problem as the significance of f- statistics stands at 0.3039, so that we can deny the null hypothesis.

#### 4- Cusum test



Calculated by researchers using statistical data packages E-VIEWS

#### 5- Cusum of square test



Calculated by researchers using statistical data packages E-VIEWS

The previous two figures indicate that the blue line appears between the two red lines of the 5% significance which are compatible with ARDL method.

## 5- Conclusion

There is a break in the selling price of dollar in Egypt, this break detected indigenously and exogenously, the result of the CUSUM of square test after conducting the OLS method, and the chow model showed that there is a break in the beginning of 2017, rather endogenous or exogenous.

The results of the study showed the existence of a long-term negative relationship between exchange rates and the real growth rate before 2017, also a negative relationship on the short run after floating and a positive long-term relationship between exchange rates and the real growth rate after 2017, so it harms on the short run, it can raise inflation to Unprecedented degrees, it can increase the intensity of poverty, but in long run it appears to be optimistic and hopeful.

## 6- Policy implementation

We argued that the Egyptian state could reach a better position by changing the industrial structure by entering modern industries to improve its competitive position. The market will gradually become open to speed. There must be modern industries that are in demand internationally. It is necessary to delve into the modern automobile and electrical industries, and other industries. Electronics and computers to enter the global competition, for which the flotation was a door, it is necessary to improve the quality of local industries, encourage the private sector, stimulate shareholding companies, and direct the industry by the state to go to modern competitive industries.

It is the state's tendency to encourage exports, not any exports, but exports with higher value and higher technology, because the market has become open to its speeds, and the stronger is the one who exports the most value-added and technological commodities.

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