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THE IMPACT OF THE CENTRAL BANK ON THE ECONOMIC REFORM PROCESS IN IRAQ

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Abstract
The central bank plays a pivotal role in establishing financial and monetary stability, which is essential for driving sustainable economic growth. In many cases, countries that have effectively implemented monetary policy and utilized its tools appropriately have seen substantial economic improvements. On the other hand, some nations have faced stagnation in economic activity due to various internal and external challenges that hindered the effectiveness of monetary policy. Iraq serves as a clear example, having endured severe economic fluctuations and structural imbalances, particularly throughout the 1990s. During that period, monetary policy was heavily influenced by central government directives, which hindered the achievement of targeted GDP levels. This study is designed to examine whether there exists a statistically significant relationship between the interest rate determined by the central bank and the real GDP index in Iraq, spanning the years 2010 to 2022. The research aims to gain insight into how the central bank has influenced the process of economic reform. One of the key findings of the study is the recommendation to safeguard the independence of the Central Bank of Iraq and avoid aligning its policies with governmental agendas. Furthermore, it emphasizes the importance of aligning monetary and fiscal policies to maximize the effectiveness of available tools in achieving economic stability.

Keywords: Central Bank, economic reform, GDP, Iraq.

Introduction

Through this important role, the central bank can achieve its defined objectives based on priorities to attain the desired economic outcomes. Sometimes, the central bank, represented by the highest monetary authority, uses intermediary tools such as the money supply, interest rates, and exchange rates, in order to achieve the ultimate goal of economic reform and attain a desirable level of GDP at constant prices, which is considered one of the most prominent and significant economic obstacles and issues that all economies around the world strive to achieve at the highest level due to its positive impacts. The challenge faced by the Iraqi monetary authorities after (2003) was due to the interventions of previous governmental

policies and measures. It became essential to seek a high level of GDP at constant prices, which is subject to control, and the Central Bank's efforts through interest rates aim to achieve this in Iraq.

1.1. importance of studying:

The central bank's influence plays a significant role, especially after its shift towards an open market economy and its retreat from the experience of a directed economy, Therefore, addressing the nature of the central bank's impact and the extent of its development has become an urgent necessity to understand the changes and influences in order to achieve the desired economic growth rates.

1.2. study Problem:

The research problem lies in the role of the central bank in addressing some of the economic reform issues in Iraq. The question arises as to how much the central bank can influence the economic reform process the Iraq during in research period?

1.3. study hypothesis:

This study is based on the assumption that a statistically significant correlation exists between the interest rate set by the central bank and the real GDP index in Iraq during the period from 2010 to 2022.

1.4. Research Objective:

The objective of this study is to examine the actual influence of the Central Bank on the economic reform process, and to assess the relationship and the extent to which the Central Bank's monetary tools have impacted economic growth in Iraq during the period from 2010 to 2022.

1.5. Research Methodologies:

In order to test the research hypothesis, fulfill its objectives, and derive insightful outcomes, the study utilized both inductive and deductive reasoning, alongside a quantitative statistical approach, to examine and interpret the relationship between the key variables.

1.6. Research Scope and Constraints:

This study focuses geographically on the Iraqi economy, with its temporal boundaries spanning the years 2010 to 2022.

1.7. Structure of the study paper:

The study is structured into three primary sections. The first section outlines the theoretical foundation related to the central bank. The second delves into the conceptual basis of economic reform. The third section is dedicated to examining the relationship between the central bank’s main indicator—namely, the interest rate—and the gross domestic product (GDP) at constant prices in Iraq over the period under review.

2. Section One: Theoretical Framework of the Central Bank:

2.1. The concept of the central bank:

The central bank is defined as the bank that takes on the responsibility of controlling the monetary base, through which it can manage the money supply, interest rates, and exchange rates **(Al-Samarrai, 26:2006-27).**

The central bank is defined as the monetary institution that sits at the top of the country's banking system, with its primary mission being the issuance of currency and the formulation of monetary policy aimed at achieving monetary and financial stability, maintaining the value of money, and ensuring price stability **(Rais, 2009: 162).**

It is clear from the above that the central bank is the overall controller of the monetary movement in the country, as it can control the money supply, currency issuance, interest rates, and other monetary tools in the state.

2.2. Characteristics of central banks:

Central banks have specific characteristics that distinguish them from the rest of the banking system, which are as follows**: (Al-Sahlani, 22:2008).**

1- The central bank occupies the forefront and the highest position in the banking system because it has the ability to create and manage money on one hand, and on the other hand, it influences commercial banks to create deposit money.

2- It is considered an independent monetary institution with public ownership, governed by the laws issued by the state, and is responsible for formulating monetary policies.

3- He does not seek to achieve financial interests but rather takes full social and economic responsibility for the economic and social sectors.

4- The only person responsible for all procedures related to issuing currency, such as determining the need for cash in the country's economy, allocating it to banks and governments, and mechanisms for retrieving cash from these entities.

5- The central bank usually does not deal with individuals; it monitors and oversees the operations of the banking system.

2.3. The main functions of the central bank:

One of the most important basic functions performed by the central bank is**: (Al-Abbasi, 2014: 15) (Al-Wadi et al., 2007: 325).**

1-Issuing currency: The function of issuing money is one of the primary roles of central banks, which is why the central bank is often referred to as the "issuing bank." The most significant motivation for the majority of countries in enacting legislation that led to the establishment of central banks for each nation was to regulate the process of money issuance. The exclusivity of the central bank and its granted right to monopolize the issuance of money is due to the close relationship between it and the government.

2-The central bank and its financial advisor: What distinguishes the central bank from other commercial banks is its status as a national bank and financial advisor to the government, a role that the central bank can only fulfill if it performs its duties and functions as a bank and financial advisor to the government. As the central bank, it manages and regulates the accounts of institutions and government projects, maintains the deposits of its affiliated

companies, oversees the loans granted by it, regulates international payments, manages foreign currency, and oversees the government's exchange rate and its financial advisor.

3-The central bank is the bank of banks and the last resort for lending. It is solely concerned with the institutions of the national banking system and the state itself in providing loans and banking finance, especially during economic crises, as it is the final refuge that banks turn to for loans when they need funds. Both the government and banks use it to maintain balances and reserves, in addition to... It is responsible for settling various accounts between banks, monitoring the banks, and managing their credit.

4-Supervision and oversight of credit: The function of supervising banking credit is one of the important roles performed by the central bank. Banks create deposit money, which leads to fluctuations in the money supply and subsequently affects the value of the national currency, its purchasing power, and ultimately the economic activity of the country.

5-The process of clearing between banks: The electronic system is based on sorting and organizing networks programmed and connected to a main computer whose task is to extract reports and retain them historically. It also scans checks and keeps the images in the electronic archive. Therefore, the central bank is responsible for settling these accounts through the clearing process.

6-One of the most important indicators of the central bank is the interest rate: the interest rate plays a significant and distinctive role in economic reform processes, and it is one of the key indicators that illustrate the analysis of macroeconomic movements. It represents a tool for influencing economic reform through the monetary policy adopted by the central bank. The interest rate can control investment and other economic decisions, as well as consumer decisions, in addition to raising the level of gross domestic product at constant prices within the country.

2.3.1. The second axis: The conceptual framework for economic reform:

2.3.2. The concept of economic reform:

Economic reform is defined as "the mechanism for reforming economic policy and moving towards a market system in order to overcome balance of payments issues, curb inflation, and work towards achieving the conditions that ensure the continued increase in individual income" **(Abdel Khalek, 1997: 134).**

It is known as the policies that align local expenditures with available resources by creating a combination of monetary, fiscal, interest rate, and trade policies to ensure that total domestic demand corresponds with total supply, relying on specific measures to stimulate the goods and services sectors, as well as resorting to partial economic policies aimed at improving the efficiency of resource use by eliminating price distortions, reducing administrative control, and enhancing competition**. (El-Naggar,1994; 6).**

2.3.3. Economic Reform Policies:

Most developing countries, along with some Arab countries, have followed the International Monetary Fund's policies for implementing economic reform strategies in managing demand, known as reform policies, and economic stabilization programs. Additionally, they have

adopted the World Bank's policies for implementing economic reform strategies in managing supply, known as structural adjustment programs, which focused on the following:

1-This is the first stage of economic reform, represented by the policies recommended by the International Monetary Fund to implement the necessary measures for stabilizing the economy. This is achieved by ensuring stability in the general price level, reducing the unemployment rate, achieving balance in the balance of payments, and increasing rates in the gross domestic product at constant prices. Therefore, the International Monetary Fund oversees the implementation of economic stabilization programs, which work to reduce aggregate demand in both its consumer and investment aspects **(Al-Afandi, 1993: 18).**

2-Structural Adjustment: The second phase of structural adjustment for countries suffering from deep structural imbalances accumulated over time due to internal policies or external shocks. These programs are considered complementary to economic stabilization programs, Structural adjustment can be defined as "a set of measures and changes that occur in public economic policies aimed at reducing and addressing internal and external structural imbalances to achieve sustainable growth. It also seeks to achieve certain objectives, including economic stability, combating inflation, and alleviating the burdens of debt" **(Ali, 2002: 760).**

2.3.4. Objectives of economic reform:

In order to provide a suitable environment for economic reform, the following objectives must be met: **(Mahdi, 51:2010).**

1-Creating organized, sound, and competitive financial systems to enhance macroeconomic stability and accelerate the pace of economic growth.

2-Increasing the mobilization of savings and using them optimally to achieve economic reform, and to raise the standard of living for the community by enhancing the capacity of the gross domestic product.

3-Empowering the economies of countries that implement economic reform mechanisms to adapt their economies to face external shocks and crises, which may occur in the commodity market or the monetary market.

4-Liberalizing interest rates on loans and allowing them to be determined within the framework of the market window enhances the banking sector's ability to allocate financial resources.

5-Increasing the effectiveness of efficiency in the banking sector by restructuring state-owned banks.

6-Benefiting from the advantages of the banking industry and the features of electronic transfer.

7-Removing restrictions on the entry of new banks into banking transactions, in addition to embodying oversight and supervision of banks to ensure banking stability and the soundness of performance.

2.3.5. The main indicators of economic reform: Gross Domestic Product (GDP).

The development and growth of GDP generally reflect the evolution of economic efficiency and living standards. Therefore, GDP is considered one of the most important fundamental

indicators of economic reform and a measure of well-being. GDP is defined as the value of the production that a country generates over a typical period of one year. Additionally, monetary policy plays a prominent role in other economic policies. By implementing an expansionary monetary policy, it will help increase distribution and subsequently have an impact, Positive on all economic reform policies, and thus achieving high economic growth rates, and vice versa. However, the degree of development of the production structure requires flexibility in the production system to properly and accurately direct these resources; otherwise, it will have a negative impact and may lead to severe consequences, such as inflation and other problems. Therefore, the following principles must be followed to stimulate the market, and an expansionary monetary policy should be planned when implemented in a detailed and realistic manner to achieve the expected goals, which is the process of economic reform **(Miller: 2008, 373).**

3. Axis Three: Analyzing the Central Bank's Impact on the Economic Reform Process in Iraq (2010–2022):

3.1. Specification of the Model Variables:

The econometric model includes two variables: the interest rate as the independent variable, and the gross domestic product (GDP) index at constant prices as the dependent variable. Table (1) displays the model's variables, their corresponding symbols, and classifications.

Table (1) Description of the research variables

His	The symbol	Variables names
Independents	**X1**	**Interest rate average**
Follow up	**Y1**	**Gross Domestic Product at constant prices**

Source: Timeline from the beginning.

3.2. Results of stationarity testing for time series:

The stability of the research variables will be evaluated using EViews 12 software to determine their stationarity and identify the presence of any unit roots. Conducting a stability test is crucial before estimating the econometric model to avoid the problem of spurious regression. Moreover, stable variables tend to revert to equilibrium over the long run. The outcomes of the time series stability tests are presented below.

Table (2) Results of the Phelps-Perron (PP) test for the research variables at level

UNITI ROOT TESTS TABLES (PP), At Level			
With Constant	variable	X1	Y1
	t-Statistic	-1.2351	-3.9610
	Proble.	0.6217	0.0130
	Morale level	n0	**
With Constante & Trend	t-Statistic	-1.2856	-1.8120
	Proble.	0.8390	0.6364
	Morale level	n0	n0
Without Constante & Trende	t-Statistic	0.1992	1.6324
	Proble.	0.7266	0.9662
	Morale level	n0	n0
Note: (*) Significant at the 10%; (**) Significant at the 5%; (***) Significant at the 1%. and (no) Not Significant			

Source: Compiled by the researchers based on outputs generated from the(EViews 12)software.

Table (2) shows that the variables are unstable at the level according to the Phillips-Perron test results.

Table (3): Results of the Phillips-Perron (PP) test for the research variables at the first difference level.

UNITROOTI TESTES TABLES (PP), At First Difference			
With Constant	variabls	d(X1)	d(Y1)
	t-Statistic	-3.0664	-3.6460
	Proble.	0.0593	0.0238
	Morale level	*	**
With Constanted & Trend	t-Statistic	-3.2734	-7.1585
	Proble.	0.1225	0.0009
	Morale level	no	***
Without Constanted & Trend	t-Statistic	-3.1660	-3.0113
	Proble.	0.0047	0.0064
	Morale level	***	***
Notes: (*) Significant at the 10%; (**) Significant at the 5%; (***) Significant at the 1%. and (no) Not Significant			

Source: Compiled by the researchers based on outputs generated from the(EViews 12)software.

Table (3) indicates that all variables became stationary at the first difference according to the results of the Phillips-Perron test. Consequently, it is appropriate to proceed with applying the Autoregressive Distributed Lag (ARDL) approach, given the stability of all variables at the first difference.

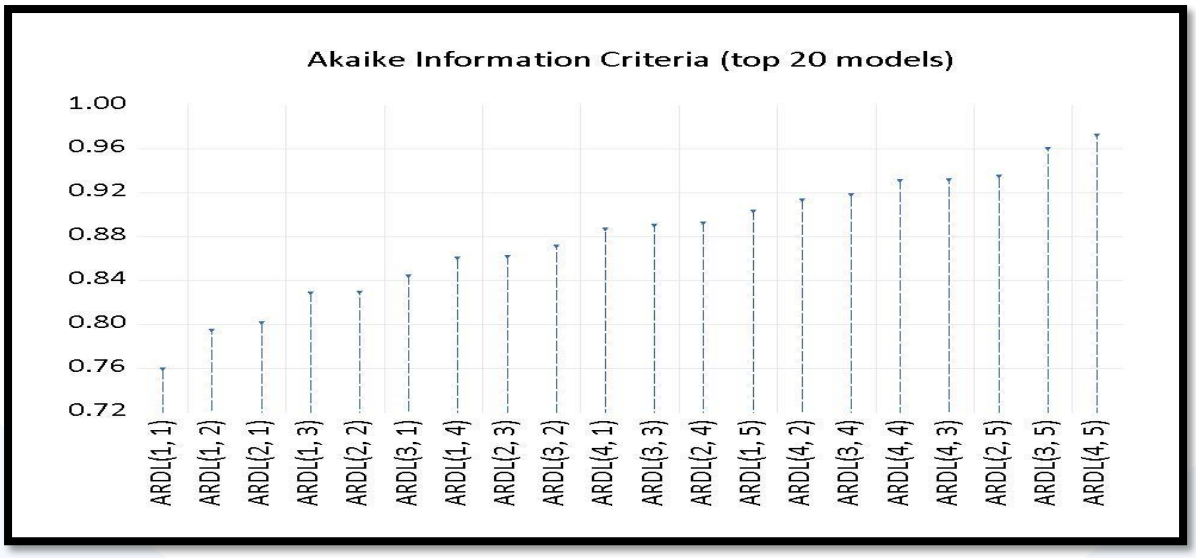
3.3. Initial model assessment: Table (4) presents the estimation results of the Autoregressive Distributed Lag (ARDL) model, which examines the relationship between

the central bank's interest rate and the economic reform indicator, represented by the gross domestic product (GDP) at constant prices, over the period from 2010 to 2022."

"Table (4): Preliminary estimation of the ARDL model examining the relationship between the study variables.

Dependent Variable: X1				
Methodes: ARDL				
Selected Modeles: ARDL (1, 1)				
Variables	**Coefficiented**	**Stded. Errors**	**Stded. Errors**	**Proble.***
Y1	**-4.54E-08**	**7.30E-09**	**-6.211666**	**0.0000**
Y1(-1)	**4.53E-08**	**7.12E-09**	**6.363135**	**0.0000**
X1(-1)	**0.983481**	**0.045641**	**21.54826**	**0.0000**
C	**0.204562**	**0.480750**	**0.425506**	**0.6724**
R-squared	**0.911507**	**Means dependent var**	**5.944118**	
Adjusted R-squared	**0.905858**	**S.D. dependent var**	**1.063468**	
S.E. of regression	**0.326299**	**Akaike info criterion**	**0.673180**	
Sum squared resid	**5.004140**	**Schwarz criterion**	**0.824695**	
Log likelihood	**-13.16608**	**Hannan-Quinn criters.**	**0.731078**	
F-statistic	**161.3712**	**Durbin-Watson stat**	**2.157221**	
Prob(F-statistic)	**0.00000**			

Source: Compiled by the researchers based on outputs generated from the(EViews 12)software.



Source: Compiled by the researchers based on outputs generated from the(EViews 12)software.

The shape: (1) represents the best period of slowing down the relationship between the research variables.

Based on the findings presented in Table (4) and Figure (1), the optimal lag structure for the ARDL model is identified as (1,1). This structure highlights the relationship between the

central bank's interest rate and the economic reform indicator, represented by GDP at constant prices, according to the AIC criterion. The coefficient of determination reached (0.91), suggesting that (91%) of the variation in the dependent variable is explained by the independent variable, while the remaining (9%) is attributed to other factors not captured by the model. Comparing the adjusted R-squared (0.90) with the Durbin-Watson statistic (2.15) indicates the absence of spurious regression, reinforcing the existence of a long-term relationship between the variables.

3.4. Results of the Cointegration Test:

To assess the long-term relationship between the independent variable (the central bank, represented by the interest rate) and the dependent variable (economic reform, represented by GDP at constant prices), the Fisher statistic (F) was computed through the cointegration test. The boundary test results are shown in Table (5).

Table (5) presents the outcomes of the boundary test conducted on the research variables.

Test Statistic	Values	Signif.	I(0)	I(1)
F-statistic	6.569110	10%	3.02	3.51
k	1	5%	3.62	4.16
		2.5%	4.18	4.79
		1%	4.94	5.58

Source: Compiled by the researchers based on outputs generated from the(EViews 12)software.

It can be observed that the calculated value of the Fisher statistic (F) is (6.569110), which exceeds its critical value at the 5% significance level. This suggests the existence of a significant relationship between the variables, leading to the acceptance of the alternative hypothesis and the rejection of the null hypothesis. In other words, a cointegrating relationship is present, indicating a long-term equilibrium relationship between the research variables.

Table (6) presents the results of predicting the short-term behavior of the research variables.

Errores Correctioned Regressions				
Variables	Coefficiented	Std. Errores	t-Statistic	Proble.
D(Y1(-1))	-4.54E-08	6.82E-09	-6.657211	0.0000
CointEq(-1)*	-0.016519	0.007798	-2.118467	0.0395

Source: Compiled by the researchers based on outputs generated from the(EViews 12)software.

As shown in Table (6), the error correction coefficient for the model is (-0.016), represented by (CointEq(-1)), with a highly significant probability value of (Prob = 0.039). This indicates

a dynamic interplay, alongside an intrinsic short-term error correction mechanism that guides the system back toward long-run equilibrium. The negative coefficient and its statistically significant probability value suggest that approximately 3.9% of the short-term errors due to fluctuations in the independent variables are corrected, guiding the system towards long-term equilibrium. This implies that it would take about six years and five months for the GDP at constant prices to reach its equilibrium value.

Table 7: presents the optimal estimate for the long-term relationship between the research variables

Long run coefficients				
Variable	**Coefficient**	**Std. Errors**	**t-Statistic**	**Proble.**
Y1	**-2.80E-08**	**7.26E-09**	**-3.859506**	**0.0010**
C	**10.54028**	**1.430254**	**7.369516**	**0.0000**
EC = X1 - (-0.0000*Y1 + 10.5403)				

Source: Compiled by the researchers based on outputs generated from the(EViews 12)software.

As shown in Table (7) presents the long-run estimation outcomes, revealing a statistically significant negative association at the (1%)level between the central bank's indicator, represented by the interest rate, and the economic reform indicator, represented by GDP at constant prices in Iraq during the study period. This finding aligns with economic theory, which suggests an inverse and significant relationship between these two indicators in the long term.

3.5. Results of the autocorrelation test and the instability of variance homogeneity:

Table (8) Results of the autocorrelation test for the relationship between the research variables.

Breuschs-Godfrey Seriales Correlationed LM Tests			
F-statistic	**0.143765**	**Proble. F (2,19)**	**0.8670**
Obs*R-squared	**0.596302**	**Proble. Chi-Square (2)**	**0.7422**

Source: Compiled by the researchers based on outputs generated from the(EViews 12)software.

The table (8) shows us that the estimated standard model **(LM Test)** is free from the problem of autocorrelation, as the p-values indicate acceptance of the null hypothesis and rejection of the alternative hypothesis.

"The relationship between the study variables was examined for non-stationarity and variance homogeneity, as presented in Table (9)."

Heteroskedasticityls Tests: ARCH			
F-statistic	**0.051213**	**Proble. F (1,37)**	**0.8222**
Obs*R-squared	**0.053907**	**Proble. Chi-Square (1)**	**0.8164**

Source: Compiled by the researchers based on outputs generated from the(EViews 12)software.

It is evident from relationship (9) that the estimated standard model **(ARCH)** is free from the problem of non-constant variance homogeneity, as the p-values appear to be insignificant, meaning we accept the null hypothesis and reject the alternative hypothesis.

4. Last thoughts and suggestions:

Based on the information provided above, the following conclusions can be drawn:

4.1. Final thoughts:

1- The results showed a relationship between the variables, indicating a positive correlation among the research variables.

2- The stability test results indicate that the variables are unstable at their initial levels. However, once the first difference is applied to both variables, stability is attained

3- The results of the standard analysis indicated a significant positive effect in the short term between the central bank's independent variable, represented by the interest rate, and the dependent variable of economic reform, represented by GDP at constant prices in Iraq during the period from 2010 to 2022.

4- The results of the standard analysis showed a significant long-term effect between the independent variable of the central bank, represented by the interest rate, and the dependent variable of economic reform, represented by the gross domestic product at constant prices, in Iraq for the period. (2010-2022).

5- The central bank was able to achieve a tangible impact on the GDP at constant prices by controlling the interest rate that was introduced after a year. (2003).

6- The study has proven that the interest rate policy adopted by the central bank has an impact on the dependent variable represented by the gross domestic product at constant prices.

7- The study proved that the interest rate applied, or what is known as the central bank's policy rate, has a significant impact on the dependent variable.

4.2. Some suggestions:

1- The necessity for the central bank to link its interest rate policy with foreign trade movements to support local goods and make them more competitive, in order to achieve the desired level of GDP at constant prices.

2- It is necessary to adopt a policy of an alternative interest rate rather than the policy of fixing the lending and borrowing interest rates set by the central bank at 6% to attract foreign

and domestic investment, as this would lead to an improvement in the standard of living and achieve economic growth.

3-There must be coordination between the quantitative tools of monetary and fiscal policy when adopting either contractionary or expansionary policies, so that these tools do not conflict with each other and to ensure an increased impact on the gross domestic product.

4-A very significant increase and support for the private sector, as well as enhancing its contribution to the general economic policies in Iraq, to absorb the surplus of monetary supply and increase gross domestic production.

5-Emphasizing the necessity of maintaining the independence of the Central Bank in Iraq and not linking its policies to the government, as well as coordinating between monetary policy and fiscal policy, in order to utilize these tools to achieve economic stability goals.

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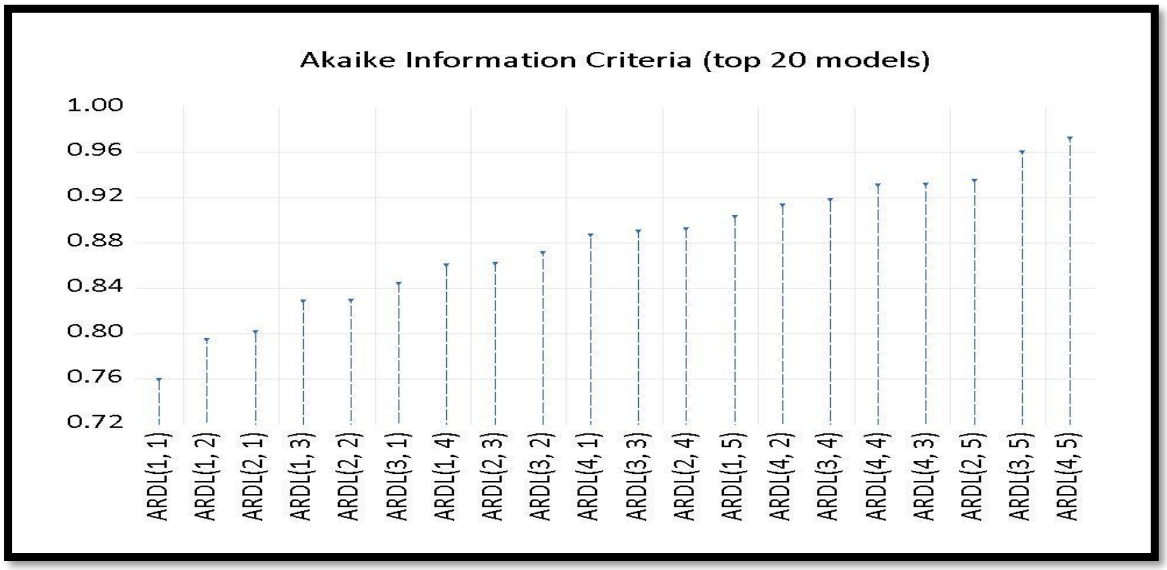
Appendices

Central Bank data in the economic reform process		
Gross Domestic Product at constant prices (billion dinars)	**Interest rate average**	**The years**
132687028	**6.25**	**2010**
142700217	**6**	**2011**
162587533	**6**	**2012**
174990175	**6**	**2013**
178951406	**6**	**2014**
183616252	**6**	**2015**
208932109	**4**	**2016**
205130066	**4**	**2017**
202776268	**5.5**	**2018**
211789774	**5.5**	**2019**
188112265	**7.3**	**2020**
202523457	**7.3**	**2021**
212322326	**7.5**	**2022**

The Central Bank of Iraq - Annual Economic Reports for Various Years (2010-2022).

UNIT ROOT TEST RESULTS TABLE (PP)
Null Hypothesis: the variable has a unit root

		X1	Y1
At Level			
With Constant	t-Statistic	-1.2351	-3.9610
	Prob.	*0.6217*	*0.0130*
		n0	**
With Constant & Trend	t-Statistic	-1.2856	-1.8120
	Prob.	*0.8390*	*0.6364*
		n0	n0
Without Constant & Trend	t-Statistic	0.1992	1.6324
	Prob.	*0.7266*	*0.9662*
		n0	n0
At First Difference			
		d(X1)	d(Y1)
With Constant	t-Statistic	-3.0664	-3.6460
	Prob.	*0.0593*	*0.0238*
		*	**
With Constant & Trend	t-Statistic	-3.2734	-7.1585
	Prob.	*0.1225*	*0.0009*
		n0	***
Without Constant & Trend	t-Statistic	-3.1660	-3.0113
	Prob.	*0.0047*	*0.0064*
		***	***



F-Bounds Test		Null Hypothesis: No levels relationship		
Test Statistic	Value	Signif.	I(0)	I(1)
		Asymptotic: n=1000		
F-statistic	6.569110	10%	3.02	3.51
k	1	5%	3.62	4.16
		2.5%	4.18	4.79
		1%	4.94	5.58