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The possibility of parallel market correction for exchange rate changes according to the ARDL and ARIMA models

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Abstract. The parallel market is an indicator of the prevailing economic situation in the country, and the exchange rate is one of the important tools that link the local economy to the global economy. It also plays an important role in influencing many variables in the Iraqi economy. Therefore, we find that the monetary authority represented by the Central Bank of Iraq is in a continuous monetary struggle across... Over the past few years and up to the present, we have sought to find accurate solutions to the problem of the difference between the official and parallel exchange rates.As the sustainable and growing difference between the two prices leaves the impression on the public of turning towards the foreign currency in their transactions and reducing transactions in the local currency, then the effect is greatly reflected in the Iraqi economic sectors, especially the commercial sector, causing large and sudden changes in price levels, which creates and stimulates a group of complicit traders and researchers. For their personal gains through illegal and fraudulent means, which harms the interests of society as a whole, and this is what we notice. Despite the attempts made by the Central Bank of Iraq, they did not significantly affect the reduction of the difference between the two prices. Therefore, this study attempted to find a predictive approach between the official and parallel exchange rates through the model. According to the standard forecast, we see that the parallel exchange rate will reach (1433.64) per US dollar in the future for the year 2027. Therefore, the Central Bank, the government, and members of society must use all measures necessary to address the imbalances in the exchange rate .

Keywords. official exchange rate. parallel exchange rate, ARIMA model

1- Introduction

The Central Bank uses the exchange rate as one of the necessary tools to achieve monetary and economic stability and contain inflationary pressures. The parallel exchange rate is one of the economic phenomena that various countries of the world, including Iraq, suffer from, as it witnesses continuous fluctuations as a result of the fragility of the Iraqi economy, which makes it have a bad impact on the economy. This matter is due to several reasons, including financial and administrative corruption, economic instability, low oil prices, and other factors whose impact was reflected in the decline in the value of the local currency. The exchange rates of the US dollar in the Iraqi parallel market are still much higher than the official price specified in

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the country's budget. Even after the efforts made by the Central Bank to address the matter (AL Abdullah et al., 2023.)

The parallel price of the US dollar in Iraq ranges between 1450-1470 Iraqi dinars per dollar, a continuous gap of about 20-30 points in the parallel market from the official price, and despite the attempts of the Central Bank to correct the path of external transfers and encourage their use to cover imports, their rates have not shown signs of decline (Al-Raamadan & Hasan, 2022). As long as currency smuggling continues and there are no strict laws to regulate the sale of the dollar and punish those involved, the exchange rate imbalances will continue .Many Iraqi researchers and economists believe that "the currency selling window works to deplete hard currency and smuggle stolen money or money resulting from corruption and money laundering." The continued exchange rate imbalance and the increase in the difference between the official and parallel exchange rates further deteriorate the economic situation, deteriorate the value of the currency, and decrease the purchasing power of citizens (Arora et al., 2022). This exacerbates the crises that may move from an economic crisis to a major social crisis that threatens societal peace and stability. Declaring the parallel exchange rate and solving the problem of imbalances in exchange rates is of great importance to the Iraqi economy, as it is a fragile economy, and the continuation of the imbalance means a collapse in the value of the local currency as well as a loss of confidence in it, which prompts individuals to increase the demand for foreign currency. Thus, the research seeks to find efficient and effective procedures that help The decision maker in the monetary authority, in cooperation with the rest of the decision makers in other policies, is to change and correct the parallel exchange rate, making it as close as possible to the official exchange rate, and controlling the exchange market to reduce the large fluctuations in it. The research is based on the hypothesis that minor changes that occur to the official exchange rate affect the parallel exchange rate, in addition to the existence of a statistically significant relationship between the two prices and the possibility of predicting the parallel exchange rate for years. The study aims to:

- the relationship between the exchange rate formal and parallel.
- Conduct a forecast of the parallel exchange rate until the end of the year 2026.
- Providing appropriate solutions that would help the monetary authority achieve exchange rate stability.

2-Theoretical farmwork

2-1The concept of exchange rate

The exchange rate constitutes an important element in international economic relations by facilitating the process of international trade exchange. The exchange rate also has a prominent role in influencing the competitiveness of the economy, and other macroeconomic variables such as inflation, the position of the balance of payments, economic growth, and others. Depending on the exchange rate, commodity prices can be determined And local services abroad, as well as foreign goods and services at home, in order to establish trade between different countries. The exchange rate means that it is the price of one currency in the direction of another currency, that is, it represents the number of units of the local currency for every one unit of the foreign currency and vice versa .(Gerber, 2008) It is also known as "the fairness with which a particular currency deals with the currency of another country, or that amount of the national currency necessary to purchase one unit of foreign currency . (Martin Jasova, 2012))Brigham(2002 ، . The exchange rate is divided into two parts: the nominal exchange rate and the real exchange rate: - The nominal exchange rate is defined as "a measure of the value of a country's currency, which can be exchanged with the currency of another country,

Technium Business and Management (TBM)
Vol. 7, pp.111-123 (2024)
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www.techniumscience.com

which is the rate announced by the government as the official rate of its currency against other currencies. As well as supporting the imports of some goods and hindering transactions carried out by the private sector in the field of import, and in fact the nominal exchange rates are not an indicator that truly expresses the value of the currency, and because it ignores the inflation between the local country and the foreign country, so a new concept has emerged, which is the real exchange rate (Wang P., 2009). The nominal exchange rate does not take into account the purchasing power of goods and services between the two countries The nominal exchange rate of the currency is determined according to the demand for and supply of it in the exchange market at a specific moment in time. The nominal exchange rate is divided into an official exchange rate, that is, the price approved in official commercial exchanges. The parallel exchange rate is the price used in parallel markets (black).
As for the real exchange rate, it is the nominal exchange rate adjusted according to the ratio of the domestic price level relative to the price level abroad (Melvin, 2010).

2- 2Exchange rate systems

1- Fixed Exchange system

When the monetary authorities assume a fixed exchange rate system, this means that they do not allow the exchange rate to fluctuate in the market. In response to the forces of supply and demand for the foreign currency, the monetary authorities set upper and lower limits for the exchange rate, but they are very narrow, or the monetary authorities fix the value of their currency. At a certain level, while maintaining the exchange rate at that level. Or within those limits, by intervening in the foreign exchange market. As a seller or buyer of foreign currency, thus using its international reserves (Davidson, 2003) ,The system has faced a range of criticism – one of this, the fixed exchange rate. It represents a constraint on the use of economic policies. Domestic policy freely, since these policies will be subject to the requirements of the external conditions of the balance of payments. A country that is exposed to a deficit in its balance of payments must resort to following a contractionary monetary and financial policy to address this deficit (Gupta et al., 2022). Also, the fixed exchange rate is an easy tool in transmitting economic cycles such as inflation and deflation, through the state losing the use of flexibility in the exchange rate (reducing or raising the value of the national currency) to insulate the local economy from inflationary pressures or deflation (Cavaliere et al., 2021).

2- Floating Exchange system: It is divided into: -

A) Flexible exchange rate system: The exchange rate here is determined on the basis of a strong interaction of supply and demand, and this is due to the base of paper currencies that are not based on the gold base. Free or flexible exchange rate systems are called at present (the currency floating system) and that the monetary and financial authorities do not bear a certain burden in. The field of treating the balance of payments imbalance by adopting appropriate policies to treat the imbalance, such as limiting imports, making certain changes in price levels and incomes, and creating corresponding changes in interest rate rates, as well as setting restrictions on capital transfers. This is due to the price system that ensures by making appropriate changes in exchange rates, which in turn affects the value of exports, imports and capital transfers .(Edwards, 2005)

b) Managed floating exchange rate system: - Managed exchange rate system refers to the situation in which the exchange rate is determined mainly by the forces of supply and demand, but the monetary authority intervenes from time to time to stabilize the exchange rates or influence them in some way (Joseph G. Nellis, 2004).

Technium Business and Management (TBM)
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www.techniumscience.com

3-Exchange control system

After the First and Second World War and the economic crises, many countries resorted to imposing direct control on exchange. In this system, equality is achieved between exports and imports, that is, between the supply and demand of foreign exchange, that is, through state intervention in determining the value of imports and control over the movement of capital, as the balance In the exchange market, this is not achieved through the movements of gold, as in the fixed exchange rate, nor through the movements of exchange rate fluctuations, as in the flexible exchange rate system, but through direct state intervention in the market. Under this system, the government achieves an obligatory balance. In the balance of payments. This is because imports are limited to the value of exports, and since the distribution steps are in the hands of the government, it distinguishes between local importers .(Liao, 2020) The currency is withheld from importers who import luxury or non-essential goods for the purpose of providing it to those who import essential goods. This system is criticized for being based on sacrificing the consumer's freedom of choice in order to direct foreign exchange towards the goods that the state deems necessary and not others, with the consequences. It should encourage the black market and harm some import companies, and the lack of imports means a lack of exports to other countries, and then a recession in the export industries, which results in a decrease in the national product of those countries. (Mart, 2023)

2-3 factors affecting the exchange rate

There are many factors affected by the exchange rate, and inflation is one of the most important of these factors. Inflation rates are the percentage change in the general level of prices in the economy from one period of time to another . (Joseph G. Nellis, 2004) , The rise in inflation rates leads to a decline in the purchasing power of the local currency and then a deterioration in its exchange rate, provided that the foreign inflation rate is constant (target inflation), which increases the deterioration and decline in the value of the local currency, which casts a shadow on its foreign exchange rate as the increase Foreign inflation rates greater than local inflation makes local exports more competitive in global markets, and makes the prices of imported goods higher than the prices of local goods, and this results in an increase in foreign demand for local goods and services, which leads to an increase in foreign demand for the local currency, and this It leads to an increase in the flow of foreign capital into the country, and then the value of the local currency rises. Countries with low inflation rates lead to a long period of economic stability, which helps reduce unemployment rates in the long term, and helps create new job opportunities and reduce this phenomenon. (Casta, 2022) Also, an increase in the money supply could lead to a decrease in the local interest rate. Local prices and local income rise, and with it the competitiveness of local goods in international markets decreases, so the demand for imported goods and foreign assets that are lower in price than local goods and assets increases, meaning local investors will shift towards investment. In foreign assets because they have a higher interest, the increase in the desire to obtain imported goods and foreign assets also represents an increase in the need for foreign currency(Richard T. Froyen, 2009) Likewise, the balance of payments and the imbalances that occur to it will inevitably affect the exchange rate because it is the link that reflects the country's relationship with the outside world. If a deficit occurs in the balance of payments for a particular country as a result of an increase in imports over exports, this leads to an increase in its demand for foreign currencies to fill that deficit, and in return. Foreigners' demand for their local currency decreases, and then the local currency exchange rate deteriorates, and vice versa in the event of a surplus in the balance of payments. The exchange rate is also affected by a group of other variables that are no less important than what we mentioned above. Among these factors are the unrest, wars, and sanctions imposed by

Technium Business and Management (TBM)
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the US Federal Reserve, and rumors and news, regardless of their degree of validity, affect the exchange rate, as they work to raise or lower the value of the currency for a period of time. For a short period, then it returns to normal after the rumor disappears. In addition, the experience of traders in the financial markets, their negotiating ability, and the methods used in carrying out their various operations also have a role in influencing exchange rates.

3-Measuring and analyzing the relationship between the parallel and official exchange rates

3-1 Analysis of the reality of the parallel and official exchange rate

The exchange rates do not reflect the true value of the Iraqi dinar. In the years before 2003, there were multiple prices for the local currency without acceptable economic justifications, as there was an official and parallel exchange rate and other administrative exchange rates and the exchange rate for citizens' remittances and others. The exchange rates that prevailed are estimated at that time, at approximately ten prices, this pluralism in exchange rates resulted in major negative effects on the economy, including the lack of equal opportunities between the public and private sectors and the failure to direct sufficient foreign exchange resources to foreign trade. The Iraqi dinar was linked to an almost fixed exchange rate for a long period, as The exchange rate of the US dollar was used as a medium to evaluate the Iraqi dinar daily against foreign currencies, so the exchange rate of the Iraqi dinar was affected by other currencies in the same proportion as the rise and fall of the dollar towards it.

Iraq followed the fixed price system in the eighties and nineties until 2002, and after the events of 2003, Iraq followed the managed floating price system.

The change in the exchange rate affects the local economy through its effect on the volume of trade and the trade balance, or through its effect on foreign investment and capital flows to and from abroad.

Table (1) Evolution of the official and parallel exchange rates

Parallel exchange rate	Official exchange rate	Years	Parallel exchange rate	Official exchange rate	Years
1214	1166	2014	1453	1453	2004
1247	1167	2015	1472	1469	2005
1275	1182	2016	1475	1467	2006
1259	1184	2017	1267	1255	2007
1209	1182	2018	1203	1193	2008
1196	1182	2019	1182	1170	2009
1233	1182	2020	1185	1170	2010
1475	1460	2021	1196	1170	2011
1482	1460	2022	1233	1166	2012
1500	1320	2023	1232	1166	2013

After 2003, monetary authority was established. (Central Bank of Iraq) took a number of measures to investigate. Stability in the value of the currency. Local, including:

1. The old currency was replaced with a new one of high quality that made individuals feel safe in carrying it because it has formal specifications that keep pace with international standards.
2. The Central Bank provided foreign currency to cover local demand and conduct trade and services, in addition to withdrawing surplus currency. Local currency sales window, i.e. buying and selling foreign currency.

Technium Business and Management (TBM)
Vol. 7, pp.111-123 (2024)
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3. The relative stability for successive years that we referred to in the previous table is due to the Central Bank's endeavor to raise the value of the local currency through the window for selling foreign currency and providing appropriate funds from the dollar to maintain financial and monetary and then economic stability and achieve comprehensive economic development and progress, as well as the stability of the security situation in general in the country.
4. In the years (2014-2017)، the value of the dinar decreased as a result of the contribution of circumstances. Security, social, and economic instability (low oil prices, general budget deficit, and trade imbalance).
5. In the years (2020-2021)، the official exchange rate increased. It reached (1304) (1450) dinars per dollar. With the rise in the parallel exchange rate. It reached (1351) (1474), as a result of the double crisis that the Iraqi economy went through, represented by the spread of the Corona pandemic and the change in crude oil prices, on the other hand, the exchange rate. It is not compatible with regional developments and the reform process. Economic (White Paper Reforms) as the decision to devalue the currency. The local policy of the Central Bank in 2021 came to preserve foreign reserves to encourage national production.
6.In 2023, numerous sanctions were imposed on a group of banks by the US Federal Reserve to confront currency smuggling operations, as is claimed.

3-2 Measuring the relationship between the variables using the ARDL model

The model consists of an independent variable, represented by the official exchange rate (EXN) and a dependent variable, represented by the parallel exchange rate (EXM), where the parameter values were calculated in logarithms according to the following formula: -
LOGEXM.=.B0+B1LOG(EXN).+U
EXM: parallel exchange rate
EXN: Official exchange rate
U: variable. Random

Table2. Dickey-Fuller Test

variable	Integration rank	level			The first difference		
		A	B	Non	A	B	Non
EXM	**I(1)**	**-1.25**	**-1.27**	**0.10**	**-6.009***	**-6.574***	**-6.082***
EXN	**I(2)**	**-1.92**	**-1.74**	**-0.35**	**-6.017***	**-6.214***	**-6.801***

Means the regression contains only a secant:
b: means that the regression contains a secant and a general trend.
Non: means that the regression has neither a secant nor a general trend.
*: means significant at 5% level

We notice from Table (2) that the time series for the variable (EXM, EXN) is unstable at the level (Level), so the test was conducted after taking the first-difference of the original series, as it stabilized at a 5% significance level and will be integrated in degree (1)I, whether there is a secant or a secant and a general direction.

The parallel exchange rate function was estimated as in Appendix (1) of the standard appendices, according to the ARDL model, with lag periods of (4). After conducting the estimation, we obtained the results shown in Table 3

Technium Business and Management (TBM)
Vol. 7, pp.111-123 (2024)
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www.techniumscience.com

Table (3) Results of ARDL tests of the parallel exchange rate function

EP	Coefficient	Std. Error	t-Statistic	R^2	Adjusted R^2	F	Prop F	D.W
B0	0.11799	0.0308	3.8190					
B1	0.68519	0.6742	12.516	0.99	0.98	339.7	0.000	2.39

The source: was prepared by the researcher based on the outputs of the Eviews.12a

The function was estimated after taking the values of the variables in logarithms, and after testing, the following functional formula was reached- :

LOG EXM = 0.11799 + 0.6851LOG (EXN)

S.E: (0.0308(0.6742) (

T: (3.8190(12.516) (

R2 = 99% Adjusted R2 = 98% F= 339.7 D.W= 2.39

The results were evaluated according to the following criteria based on Appendices (1) (2 :(3) (-

1- Statistical standard

The explanatory power of the estimated model R2 was (99%) and the value of Adjusted R-squared (98%), meaning that the independent variables included in the estimated model explain (0.99) of the changes in the dependent variable, while the remaining (0.01) is due to other variables not included in The model is also significant, as the calculated F value was (339.7), which is greater than the tabulated F value of (2.97) at the 5% level. That is, the estimated model is significant. We reject the null hypothesis and accept the alternative hypothesis. Also, the (calculated t) value for the variable parameter (EXN) is significant.) of (12.516), which is greater than the tabular T value of (1.72) at the 5% level, so we accept the alternative hypothesis, and we conclude from this that parameter (B1) has a significant effect on the parallel exchange rate (EXM.(

2- The Standard

To detect the problem of autocorrelation, by using the (D.W) test, the value of (D.W) for this model was (2.39), and by comparing it with the lower (DL = 1.20) and upper (DU = 1.41) tabular values, and according to the probability distribution, we notice that the achieved (D.W) value falls in the region Definiteness, i.e. there is no autocorrelation problem.

The Breusch-Godfrey Serial Correlation LM Test for serial correlation and the Heteroskedasticity Test: Harvey for heterogeneity of variance of the parallel exchange rate function also showed that the value of the F and Chi-Square test was non-significant, meaning we will accept the null hypothesis that there is no serial correlation, and the model is free of the problem of non-existence. Homogeneity of variance as in the table- :

Table 4: Serial correlation test and heterogeneity of variance

Breusch-Godfrey. Serial Correlation LM Test:
Null hypothesis: No serial correlation at up to 2 lags

F-statistic	**1.230143**	**Prob. F (2,24)**	**0.3100**
Obs*R-squared	**3.254311**	**Prob. Chi-Square (2)**	**0.1965**

Heteroskedasticity Test: Breusch-Pagan-Godfrey
Null hypothesis: Homoskedasticity

BUSINESS & MANAGEMENT

Technium Business and Management (TBM)
Vol. 7, pp.111-123 (2024)
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F-statistic	**0.466093**	**Prob. F(8,26)**	**0.8686**
Obs*R-squared	**4.389893**	**Prob. Chi-Square (8)**	**0.8203**
Scaled explained SS	**2.542397**	**Prob. Chi-Square (8)**	**0.9597**

3- Economic standard

LOG EXM = 0.11799 + 0.6851LOG (EXN)

3-3 The equation constant in the estimated model was (0.11799), and its value represents the value of the dependent variable if the independent variables are equal to zero. The model also shows that the parameter (EXN) is the exchange rate. The official exchange rate has a positive value, which means that there is a direct relationship between the official exchange rate (EXN) and the parallel exchange rate (EXM), and it is significant at the level of 5%, that is, an increase. The official exchange rate by (1%) leads to an increase in the parallel exchange rate by (0.68%), as the rise in the official exchange rate. It leads to a decline in the value of the local currency, which will have an impact on rising levels of demand for foreign currency. With pessimistic expectations, this will lead to a significant rise in the parallel exchange rate. With the weakness of the local production system, imports will increase, the demand for foreign currency will increase, and the exchange rate will decline. In a vicious circle that feeds itself towards the collapse of value. Local currency, and we note that the correction parameter. The error or speed of adaptation reached (-0.26) and is significant at the 5% level, as in Appendix (3) of the appendices. Standard, meaning that short-term deviations are corrected by (26%) towards the value. Long-term equilibrium within the same year, and here we will reject the null hypothesis and accept. The alternative hypothesis is that there is a long-run equilibrium relationship.

4-3 Forecasting using the ARIMA model

After the stability was tested. The time series of the parallel exchange rate as. In Table (2), we found that it stabilized at the first difference. We went to test the autocorrelation. And partial autocorrelation in the difference. The first is as shown in Table (5):

Table (5) Autocorrelation function. And self-correlation. Correlogram of the parallel exchange rate

Date: 03/19/24 Time: 23:20
Sample (adjusted): 2004S2 2023S2
Included observations: 39 after adjustments

Autocorrelation	Partial Correlation		AC	PAC	Q-Stat	Prob
.|. |	.|. |	1	-0.001	-0.001	1.E-05	0.997
.|** |	.|** |	2	0.227	0.227	2.2183	0.330
.|. |	.|. |	3	-0.000	0.000	2.2183	0.528
.|. |	.*|. |	4	-0.029	-0.085	2.2574	0.689
.|. |	.|. |	5	-0.000	-0.000	2.2574	0.813
.*|. |	.*|. |	6	-0.139	-0.119	3.1895	0.785
.|. |	.|. |	7	0.000	0.000	3.1895	0.867
.|. |	.|. |	8	-0.060	-0.002	3.3735	0.909
.|. |	.|. |	9	-0.000	-0.000	3.3735	0.948
.|. |	.|. |	10	-0.001	0.002	3.3736	0.971
.|. |	.|. |	11	-0.000	-0.000	3.3736	0.985
.|. |	.|. |	12	0.054	0.036	3.5452	0.990

Technium Business and Management (TBM)
Vol. 7, pp.111-123 (2024)
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www.techniumscience.com

.|. |	.|. |	**13**	**-0.001**	**-0.001**	**3.5453**	**0.995**
.|. |	.|. |	**14**	**-0.027**	**-0.059**	**3.5918**	**0.997**
.|. |	.|. |	**15**	**-0.001**	**-0.001**	**3.5919**	**0.999**
.|. |	.|. |	**16**	**-0.062**	**-0.043**	**3.8575**	**0.999**

The partial autocorrelation function (AR) indicates the presence of the first slowdown within the confidence limits, and the autocorrelation function (MR) indicates the presence of the first slowdown also within the confidence limits region. By including the fixed term, we are faced with the following possibilities for the ARIMA model, which can be estimated as in Appendix - :(4)

Table (6) ARIMA test for the parallel exchange rate

P , Q	SIGMA SQ	Prop AR	Prop MA	Adjusted R^2	AIC	SC	S.E
ARIMA (1,1,1)	2812.4	0.000	0.984	0.78	10.95	11.12	53.97
ARIMA (1,1,2)	**2621.5**	0.000	0.369	**0.79**	**10.95**	**11.12**	**53.97**
ARIMA (2,1,1)	2815.3	**0.036**	**0.016**	0.78	11.02	11.19	55.92
ARIMA (2,1,2)	5005.5	0.015	0.411	0.61	11.61	11.78	74.57
ARIMA (1,1,3)	2811.0	0.000	0.972	0.78	11.02	11.19	55.88
ARIMA (3,1,1)	5527.6	0.165	0.012	0.57	11.68	11.85	78.36
ARIMA (2,1,3)	5194.7	0.006	0.413	0.59	11.63	11.80	75.97
ARIMA (3,1,2)	5876.6	0.099	0.003	0.54	11.76	11.93	80.80
ARIMA (3,1,3)	7373.5	0.558	0.075	0.43	12.01	12.17	90.51

he table indicates multiple possibilities for ARIMA, given that the time series stabilized at the first term and was free of autocorrelation problems. Thus, the model was built on the probability (ARIMA 1,1,2), and after that, a Correlogram test was conducted to examine the chosen ARIMA model. And ensure that it is free of any slowdowns outside the confidence limits for the autocorrelation and partial autocorrelation functions, as in the following table:(7)

Table (7) Correlogram test. For ARIMA model (1,2)

Date: 03/19/24 Time: 23:35
Sample (adjusted): 2004S1 2023S2
Q-statistic probabilities adjusted for 2 ARMA terms

Autocorrelation	Partial Correlation		AC	PAC	Q-Stat	Prob
.|. |	.|. |	**1**	**0.062**	**0.062**	**0.1680**	
.|. |	.|. |	**2**	**0.037**	**0.033**	**0.2293**	
.|. |	.|. |	**3**	**0.036**	**0.032**	**0.2889**	**0.591**

Technium Business and Management (TBM)
Vol. 7, pp.111-123 (2024)
ISSN: 2821-4366
www.techniumscience.com

.|. |	.|. |	4	0.042	0.037	0.3713	0.831
.|. |	.|. |	5	0.027	0.021	0.4076	0.939
.*|. |	.*|. |	6	-0.189	-0.197	2.1780	0.703
.|. |	.|. |	7	-0.007	0.012	2.1806	0.824
.|. |	.|. |	8	-0.041	-0.032	2.2683	0.893
.|. |	.|. |	9	-0.012	0.004	2.2762	0.943
.|. |	.|. |	10	-0.026	-0.008	2.3138	0.970
.|. |	.|. |	11	-0.009	0.008	2.3186	0.985
.|. |	.|. |	12	0.055	0.024	2.5032	0.991
.|. |	.|. |	13	-0.003	-0.003	2.5037	0.996
.|. |	.|. |	14	-0.022	-0.038	2.5344	0.998
.|. |	.|. |	15	-0.003	-0.002	2.5348	0.999
.|. |	.*|. |	16	-0.055	-0.067	2.7442	0.999
.|. |	.|. |	17	-0.009	-0.002	2.7502	1.000
.|. |	.|. |	18	0.026	0.051	2.8033	1.000
.|. |	.|. |	19	-0.014	-0.014	2.8195	1.000
.|. |	.|. |	20	0.032	0.031	2.9077	1.000

The researchers also expect that the parallel exchange rate for the Iraqi dinar will range between (1476 - 1407) per US dollar during the coming years, as in Table (8), until the end of 2030 according to. The standard model estimated according to the (ARIMA) model, and this prediction comes after the continuation of the Central Bank of Iraq. In the face of the monetary crises affecting the Iraqi economy and limiting any market movements that seek to create continuous speculation in the exchange rate, as we find that the measures taken by the monetary authority in late 2023 and until the present time have affected in varying proportions the difference between the official and parallel exchange rates, it is It is necessary to sustain these measures in a way that reduces the difference to its lowest levels.

Table (8) Price prediction. Parallel exchange of the Iraqi dinar for the period (2024-2026).

Expected exchange rate	Years
1476.43	2024 S1
1467.42	2024 S2
1459.26	2025 S1
1451.88	2025 S2
1445.81	2026 S1
1439.13	2026 S2
1433.64	2027 S1
1428.67	2027 S2
1424.14	2028 S1
1420.09	2028 S2
1416.40	2029 S1
1413.06	2029 S2
1410.03	2030 S1
1407.29	2030 S2

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Vol. 7, pp.111-123 (2024)
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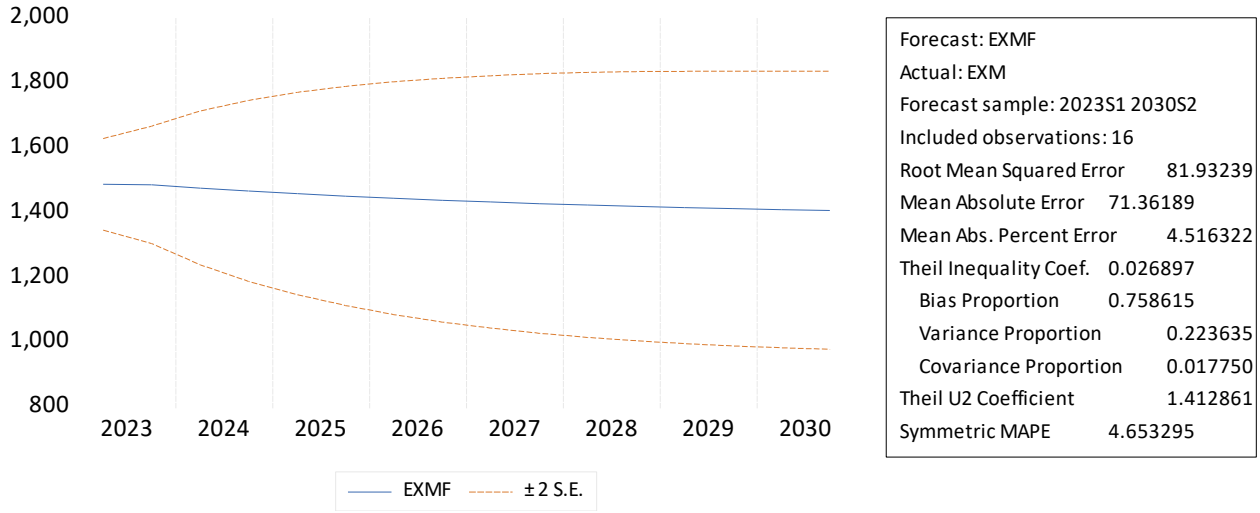

Figure (1) Prediction chart for the parallel exchange rate of the Iraqi dinar

Conclusions

The official exchange rate was characterized by relative stability as a result of the monetary authority's control over it through the currency auction, while the changes that occur to it are due to the intervention of the Central Bank of Iraq to achieve monetary or economic stability. The parallel exchange rate has witnessed several fluctuations as a result of the fluctuation of the economic conditions surrounding the local markets and the existing collusion in those markets, which serves the interest of a group of traders and speculators and does not reflect the market's real need for hard currency. Currency (the dollar), as most parties to the request aspire to speculation more than paying the value of purchase invoices for imports from abroad.

Despite the measures taken by the Central Bank and controlling the window for selling foreign currency, they did not eliminate the differences between the official and parallel exchange rates. This is not related to the type of exchange systems used, but rather goes beyond that to include the irrationality of most economic units' possession of hard currency (hoarding) and others, which was imposed by the American SWIFT platform, and the most influential thing was monitoring the flow of the US dollar to the beneficiaries through official means, and this matter was complicated with Sanctions imposed by the US Federal Reserve on most Iraqi private banks for not complying with that system. In addition, the Iraqi exchange rate is very sensitive to local and global political and economic conditions due to the weak sources of financing in the Iraqi economy and the inflexibility of the production system, which makes the Iraqi economy vulnerable to collapse. Through the standard forecast model, it was found that the parallel exchange rate will reach (1407) for the US dollar. In the future, in 2030, this means that the difference will remain 10 degrees from the official rate unless the monetary authority takes more stringent measures to preserve the value of the local currency. This requires careful monitoring of the currency selling window and maintaining a close margin that supports the stability of the value of the local currency, pushing towards optimistic expectations and reducing the depletion of foreign exchange reserves.

The public's reactions and expectations towards dealing with the exchange rate should also be studied, because the exchange rate is one of the components of individuals' wealth and a major tool in evaluating local and foreign trade, financial transfer, and the activity of individuals and institutions. in Iraq. The monetary authority must strive to stabilize the official exchange rate at the level (1320) because it will work to stabilize the parallel exchange rate in the short term,

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which will restore confidence in the local currency and the prevalence of appropriate and optimistic expectations for the current situation. Movement of local markets.

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