

THE IMPACT OF THE GENERAL BUDGET ON THE EXCHANGE RATE IN IRAQ

Lect. Dr. Jabbar Saadoon Darag
AL-Nahrain University: Baghdad, Iraq.
Email: jabbar.saadon@nahrainuniv.edu.iq.

ABSTRACT	KEYWORDS
The study included the concept of the general budget and the factors affecting it, as well as the concept of the exchange rate and the factors affecting it. Data were used, through the Central Bank of Iraq for the period 2004-2023, and the results of the study were that there was a significant relationship between the two variables in the short term and the long term, through the integration program. Joint and Single Test – Equation cointegration.	Exchange rate, general budget, and Single-Equation cointegration test

Introduction

The exchange rate and the general budget, especially in the Arab countries, including Iraq, which suffer from a budget deficit through borrowing sources, a chronic deficit in the general budget, and these internal and external deficits, both of which have major effects resulting from the continuous increase in public expenditures on the economy, including the corresponding rise in external debt. A decline in public revenues.

The general budget plays a very important role in influencing the exchange rate, as the latter is considered an economic variable that is very sensitive to changes caused by economic policy, whether at the internal or external level. Iraq, like other countries of the world, seeks to preserve the value of the Iraqi dinar by maintaining the balance of payments balance. On the one hand, and reducing the budget deficit on the other hand. Controversy still exists among researchers and monetary policy makers about the nature of the relationship between the general budget deficit and the exchange rate, as some studies have proven the existence of an inverse relationship between the two variables, meaning that reducing the budget deficit leads to an increase in the value of the currency, while other studies have confirmed that the increasing budget deficit It leads to a decline in the value of the currency, so we decided to research the nature of the impact of the general budget on the exchange rate in Iraq

1.1. the study Problem:

- . What do we mean by the general budget deficit and the exchange rate?
 - . What is the nature of the relationship between the general budget deficit and the exchange rate?
- Is there a long-term equilibrium relationship between the budget deficit and the exchange rate in Iraq?

1.2. Study hypotheses:

Based on the problem at hand, we can formulate the following hypotheses:

. There is a long-run equilibrium relationship between the general budget deficit and the exchange rate in Algeria during the study period.

There is an inverse relationship between the general budget deficit and the exchange rate in Algeria during the study period.

1. 3. Objectives and importance of the study:

This study aims to attempt to highlight the relationship between the public budget deficit and price Exchange in Algeria. The objectives of the study can be summarized in the following points:

Identify the basic concepts related to the general budget deficit and the exchange rate;

An attempt to highlight the nature of the relationship between the general budget deficit and the exchange rate.

Measuring the impact of the general budget deficit on the exchange rate in Algeria during the study period.

2 . Previous studies:

- Abdul Hussein Jalil Al-Ghalibi, Haqqi Amin, 2017, The relationship between the foreign exchange rate and the general budget deficit, Egypt, a case study - for the period (1990 - 2014), and the result of the study was that there was a relationship in the short and long term.

- Makkawi Hajira, Boubacar Muhammad, 2020, The impact of the general budget deficit on the exchange rate in Algeria, an econometric study using the autoregressive distributed time gap model (ARDL) during the period 2003-2018. The study concluded that there is a long-term inverse equilibrium relationship between the general budget deficit and the exchange rate, which It indicates that an increase in the general budget deficit by one unit will lead to a decrease in the Algerian dinar exchange rate.

- Harith Rahim Attiya Al-Zarfi, 2018, measuring and analyzing the relationship between the general budget, the exchange rate, and customs taxes in Iraq for the period (1988-2017). The study reached a set of conclusions, the most important of which is the existence of a long-term equilibrium relationship in addition to the short-term relationship. The term between the study variables.

- Wali, Sabreen Adnan, Iman Alaa Kazem, 2020, The impact of exchange rate fluctuations on the general budget of Iraq: A case study for the period (2004-2018). The study found that there is an inverse relationship between the dollar exchange rate and the general budget deficit, meaning that any decrease The exchange rate of any country leads to an increase in demand for its exports, and a decrease in the dollar exchange rate leads to an increase in the government's general budget deficit.

3. The theoretical framework of the study of the general budget and the exchange rate:

3. 1. General budget:

The general budget has a significant impact on the economy. Government expenditures and revenues constitute a large portion of the overall economy, and the public budget affects economic growth, employment, inflation, and stability. A well-managed public budget can promote economic growth through increased public investment in infrastructure, education, and research and development. On the other hand, an unbalanced balance sheet, with high deficits or debt, can lead to higher interest rates,

inflation, and economic instability. In addition, government spending and revenue policies can affect consumer and business confidence, which in turn affects consumer spending and investment decisions.

3.1. 1. The concept of the general budget:

The general budget is defined as “a detailed estimate of the state’s expenditures and revenues during a future period of time, usually a year, approved by the competent legislative authority, and it represents a financial expression of the economic and social that society seeks to achieve. It is defined as a record of the government’s public revenues and expenditures during a period of time, which is usually a year.” During that period, the government seeks to finance these activities that were determined by the financial legislator (Abdul Hussein Jalil Al-Ghalibi 23, 2014).

The budget can be defined as, and it relies on the time-oriented activity-based costing (TDABC) technique, but on the contrary, it estimates the expected sales volume and the resources required to support production plans that cover sales volumes, (Salam Adel Al-Nasrawi, Salah Mahdi Al-Kawaz, 153, 2023).

3. 1. 2. What are the factors affecting the budget deficit:

There are several factors that affect the public budget deficit, including (Hakima Halimi, and Nawal Bahi. 45, 2018):

Excess spending: When government spending exceeds available revenues, a budget deficit occurs. The reason may be unsustainable government programs or increased spending on salaries and pensions.

Low revenues: When government revenues are lower than expected, a budget deficit occurs. The reason may be a downturn in the economy or a decline in tax revenues.

- Structural gap: A structural gap occurs when the future costs of government programs are higher than sustainable revenues in the long term. The reasons behind this could be changes in the structure of the population, such as an increase in the number of retirees compared to the number of workers, (Abdel Samad Saudi, 77, 2019).

- Public debt: When public debt increases, the public budget deficit can increase. Repaying the debt requires paying interest on it, which increases government spending and reduces the revenues available to finance other programs, (Nasser Boughelal, and Kamal Deeb, 89, 2019).

- Inflation: Inflation can increase government spending and reduce the real value of revenues. This may increase the budget deficit if inflation is not taken into account when planning revenues and spending.

- Economic crises: Economic crises such as the economic recession or the global financial crisis may cause a decline in revenues and an increase in government spending, leading to a budget deficit, (Shaaban Qassabi and Rabah Belabbes, 2020, 90)

The effects of these factors vary by country and economic context. Balancing the budget may require implementing austerity measures, raising revenues, or structural reforms to improve the sustainability of the financial system.

3. 2. exchange rate:

3. 2. 1. The concept of the exchange rate: The exchange rate is defined as the number of units of foreign currency that are paid to obtain one unit of the local currency. Paul Krugmen defined it as the number of monetary units with which one unit of the local currency is exchanged for another foreign currency (258). Krugmen, 2003, p) There are two methods for pricing currencies: direct pricing, which

means the number of units of foreign currency that must be paid to obtain one unit of the national currency, while indirect pricing is the number of units of the national currency that must be paid to obtain one unit of foreign currency. , (Latrash, 96, 2016).

The foreign exchange market can be defined as “a market for international currency transactions where individuals, companies and financial institutions buy and sell foreign currencies to make international payments” (Hanan Hassan Mustafa, Hajir Adnan Zaki, 126, 2023).

3. 2. 2. The impact of monetary policy on the exchange rate: Monetary policy affects exchange rates through three paths: the interest rate path, the income path, and the price level path. The expansionary monetary policy reduces the interest rate, which reduces the inflow of capital, reduces the demand for the local currency, and depreciates that currency. Contractionary monetary policy, on the contrary, raises the interest rate, which tends to bring in financial flows from abroad, and monetary policy also affects the country's income path. As the money supply increases, income expands and imports rise, while exports are not affected by the reduction in the exchange rate of the local currency in the short term. This effect is through the income path. Likewise, the expansionary monetary policy raises the level of local prices relative to foreign prices, and exports become more expensive while imports are cheaper, and this increases demand. on foreign currencies and reduces the demand for the local currency, (Nima, 2017, 113).

3. 2. 3. The effect of fiscal policy on the exchange rate: The government's adoption of a contractionary fiscal policy leads to an increase in the budget surplus, or a reduction in its deficit, which in turn contributes to reducing overall demand, so the growth rate and then inflation fall, which reduces the import process and stimulates exports. Total net spending increases, which leads to a decline in the exchange rate of the currency of the country in question. Conversely, when shifting towards an expansionary financial policy, the government budget surplus decreases or the budget deficit increases (through resorting to public loans, and this raises real interest rates, which stimulates the flow of Foreign capital, and thus the supply of the country's currency in question in the foreign exchange market will decrease, and its exchange rate will rise against the other currencies on offer (Marouf, 312, 2015). Also, the increase in tax affects the exchange rate in a direct way, that is, through its impact on other activities in the economy. Increasing the tax affects the ability of individuals in society to spend, and this is through its effect on a decrease in their incomes and thus a decrease in the supply of the currency, as well as a decrease in prices that results in an increase in foreign demand for local goods due to their lower prices compared to other countries, in which prices are high and therefore their value increases. Local currency (Al-Ajal and Sahnoun, 208, 2015).

4. Statistical analysis

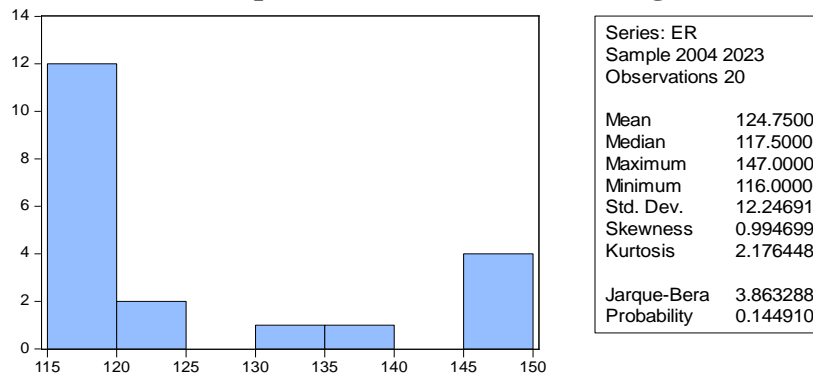
4.1. Data testing: Testing is performed through central tendency, histograms, dispersion, normal distribution tests, etc., and all of these statistical operations are considered part of data testing.

4. 1. 1. The table below shows Iraq's descriptive statistics for the dependent variable, represented by inflation, and the independent variable, represented by money supply.

	PB	ER
Mean	10936684	124.7500
Median	8571617.	117.5000
Maximum	44737855	147.0000
Minimum	-12882754	116.0000
Std. Dev.	14940915	12.24691
Skewness	0.349887	0.994699
Kurtosis	2.651660	2.176448
Jarque-Bera	0.509187	3.863288
Probability	0.775232	0.144910
Sum	2.19E+08	2495.000
Sum Sq. Dev.	4.24E+15	2849.750

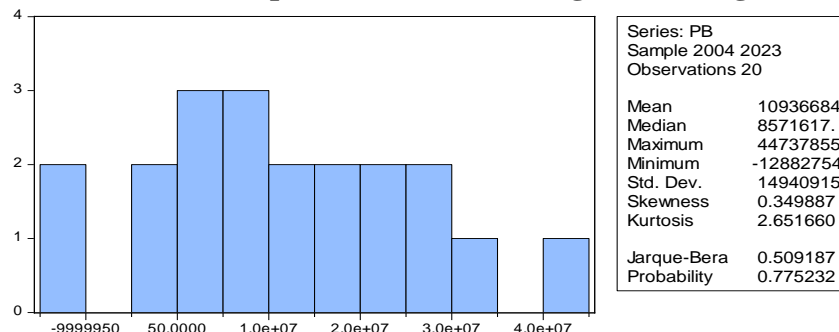
Observations 20 20

4. 1. 2. The table below shows descriptive statistics for the exchange rate variable in Iraq.



From the table we note that the exchange rate variable does not follow a normal distribution, i.e Jarque – Bera test: $P < 0.05$, it is not a normal distribution, so we reject the alternative hypothesis and accept the null hypothesis.

4. 1. 3. The table below shows descriptive statistics for the general budget variable in Iraq.



From the table we note that the general budget variable does not follow a normal distribution, i.e Jarque – Bera test: $P < 0.05$, it is not a normal distribution, so we reject the alternative hypothesis and accept the null hypothesis.

4. 2. Unit root test for both the exchange rate and the general budget:

4. 2. 1. Unit root test on the static of the exchange rate variable, through the Augmented Dickey-Fuller test

Null Hypothesis: ER has a unit root

Exogenous: Constant

Lag Length: 1 (Automatic - based on SIC, maxlag=1)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-3.193285	0.0374
Test critical values: 1% level	-3.857386	
5% level	-3.040391	
10% level	-2.660551	

*MacKinnon (1996) one-sided p-values.

Warning: Probabilities and critical values calculated for 20 observations and may not be accurate for a sample size of 18

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(ER)

Method: Least Squares

Date: 01/13/24 Time: 10:18

Sample (adjusted): 2006 2023

Included observations: 18 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ER(-1)	-0.471040	0.147509	-3.193285	0.0060
D(ER(-1))	0.472934	0.219500	2.154594	0.0479
C	57.20933	18.24065	3.136365	0.0068
R-squared	0.436417	Mean dependent var	-0.833333	
Adjusted R-squared	0.361273	S.D. dependent var	8.382405	
S.E. of regression	6.699254	Akaike info criterion	6.792881	
Sum squared resid	673.2000	Schwarz criterion	6.941276	
Log likelihood	-58.13593	Hannan-Quinn criter.	6.813343	
F-statistic	5.807710	Durbin-Watson stat	2.004516	
Prob(F-statistic)	0.013558			

The table above shows that the exchange rate variable is fixed at 1% level, where the value of Prob.* = 0.0060, and t Stat = - 3.193285 , greater than -2.717511 .

4. 2. 2. Testing the unit root on the rest of the general budget variable, through the Augmented Dickey-Fuller test.

Null Hypothesis: PB has a unit root

Exogenous: Constant

Lag Length: 1 (Automatic - based on SIC, maxlag=1)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-4.154802	0.0055
Test critical values: 1% level	-3.857386	
5% level	-3.040391	
10% level	-2.660551	

*MacKinnon (1996) one-sided p-values.

Warning: Probabilities and critical values calculated for 20 observations and may not be accurate for a sample size of 18

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(PB)

Method: Least Squares

Date: 01/13/24 Time: 11:19

Sample (adjusted): 2006 2023

Included observations: 18 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
PB(-1)	-1.343414	0.323340	-4.154802	0.0008
D(PB(-1))	0.569642	0.264051	2.157319	0.0476
C	13778034	4639452.	2.969755	0.0095
R-squared	0.555988	Mean dependent var		115142.7
Adjusted R-squared	0.496786	S.D. dependent var		20160454
S.E. of regression	14301336	Akaike info criterion		35.94062
Sum squared resid	3.07E+15	Schwarz criterion		36.08901
Log likelihood	-320.4655	Hannan-Quinn criter.		35.96108
F-statistic	9.391427	Durbin-Watson stat		1.846874
Prob(F-statistic)	0.002267			

The table above shows that the general budget variable is fixed at 1% level, where the value of Prob.* = 0.0055, and t Stat = - 4.154802 - is greater than - 4.154802.

4.3. Co-integration testing, through the Single – Equation cointegration test model.

Dependent Variable: ER

Method: Least Squares

Date: 01/13/24 Time: 12:36

Sample: 2004 2023

Included observations: 20

Variable	Coefficient	Std. Error	t-Statistic	Prob.
PB	4.21E-06	1.25E-06	3.373624	0.0032
R-squared	-67.930160	Mean dependent var		124.7500
Adjusted R-squared	-67.930160	S.D. dependent var		12.24691
S.E. of regression	101.6790	Akaike info criterion		12.13023
Sum squared resid	196433.7	Schwarz criterion		12.18001
Log likelihood	-120.3023	Hannan-Quinn criter.		12.13994
Durbin-Watson stat	0.611350			

Null Hypothesis: U has a unit root

Exogenous: Constant

Lag Length: 1 (Automatic - based on SIC, maxlag=1)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-3.957666	0.0082
Test critical values: 1% level	-3.857386	
5% level	-3.040391	
10% level	-2.660551	

*MacKinnon (1996) one-sided p-values.

Warning: Probabilities and critical values calculated for 20 observations

and may not be accurate for a sample size of 18

From the above table it is clear to us:

Significance of the relationship through Prob. , as well as t-Statistic, which is (-3.957666), which is greater than (-3.857386), at 1% level.

4.4. Testing the stillness after taking the remainders by testing the Single – Equation cointegration model.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(U)

Method: Least Squares

Date: 01/13/24 Time: 12:49

Sample (adjusted): 2006 2023

Included observations: 18 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
U(-1)	-1.269048	0.320656	-3.957666	0.0013
D(U(-1))	0.472804	0.256358	1.844311	0.0850
C	99.98398	29.86295	3.348094	0.0044
R-squared	0.534752	Mean dependent var	-1.318275	
Adjusted R-squared	0.472719	S.D. dependent var	82.97741	
S.E. of regression	60.25331	Akaike info criterion	11.18600	
Sum squared resid	54456.93	Schwarz criterion	11.33440	
Log likelihood	-97.67404	Hannan-Quinn criter.	11.20647	
F-statistic	8.620436	Durbin-Watson stat	1.863339	
Prob(F-statistic)	0.003218			

From the above results, it is clear that the two variables are complementary to each other, and therefore we reject the null and accept the alternative hypothesis.

5 . Conclusions and recommendations

5.1. Conclusions:

1. The exchange rate plays a major role in economic stability and restructuring the economy.
2. The exchange rate links the local economy to the global economy and redistributes income.
3. Through studying the research sample, the existence and allocation of resources was proven and a causal relationship between the budget deficit and exchange rates can be compared to the prices of local goods with foreign goods.
4. The general budget is one of the most important government accounts through which the state's financial position can be stated.

5.2. Recommendations:

- 1- The necessity of diversifying sources, to increase revenues and reduce the semi-permanent deficit in public budgets due to reliance on external loans to finance the deficit. The continuous increase in public expenditures is offset by a budget shortfall, because it is not in the country's interest, and it increases, even significantly, in public revenues.
- 2- Working to follow an exchange policy, to activate other economic variables, and give the central bank independence. We see most countries, especially developed countries, directing the exchange rate to suit the country's situation, with an intended budget deficit for the purpose of stimulating economic activity.
- 3- Adopting new methods in budget formulation.

References

1. Irfan Taqi Al-Hasani. (1999). International finance. Amman: Dar Al Majdalawi.
2. Salam Adel Al-Nasrawi, Salah Mahdi Al-Kawaz, 2023,
3. Marouf Hoshyar (2005) Macroeconomic Analysis, Amman: Dar Al-Safa. Muhammad Taqah, and Hoda Al-Azzawi. (2007). Economics of public finance. Dar Al Maysara.

4. Abdul Karim Jaber Al-Issawi. (2008). International finance, a modern introduction to Dar Al-Kutub and Documents.
5. Al-Taher Latrash. (2010). Banking technologies. Algeria: Office of University Publications.
6. Amin Sayed. (2013). Exchange policy as a tool for settling imbalances in the balance of payments. Beirut - Lebanon: Hassan Al-Asriya Library.
7. Samir Fakhry Nehme. (2017). The reciprocal relationship between the exchange rate and the interest rate and its impact on the balance of payments. Amman: Dar Al-Yazouri Scientific Publishing and Distribution.
7. -Usman Khudr Badawa B, Sardar, and Usman Ismail Hiwa (2015). Analysis of the impact of foreign exchange rate fluctuations on the general budget of the Kurdistan Region of Iraq for the period 1997-2013 Anbar University Journal of Economic and Administrative Sciences
8. Adala Al-Ajal, and Maryam Sahnoun (2015). The impact of monetary shocks on the Algerian dinar exchange rate. Al-Andalus Journal for Humanities and Social Sciences.
9. Abdul Hussein Jalil Al-Ghalibi, and Haqqi Amin Thomas. (2017). The relationship between the foreign exchange rate and the general budget deficit, Egypt, a case study for the period 1990-2014, Journal of the College of Education for Girls for the Humanities.
10. Nazim Abdullah Abdul Mohammadi, Majid and Jassim Mohamed Al-Issawi (2017) Measuring and analyzing the factors affecting the dinar exchange rate in the Iraqi economy using an autoregressive model for distributed time gaps for the period 1990-2015, Anbar University Journal of Economic and Administrative Sciences.
11. Ali Boudalal. (09, 2018). The budget deficit in Algeria (causes, results and solutions). Journal of Business and Trade Economics.
12. Hakima Halimi and Nawal Bahi. (2018) The public budget deficit in Algeria and financing options after the oil crisis for the period 2001-2017. Journal of Advanced Economic Research,
13. Abdul Samad Saudi. (2019). The role of the Resource Control Fund in financing the general budget deficit in Algeria 2000-2018. Journal of Economic Studies.
14. Bin Daas Zuhair. (2019). A reading of the development of the budget deficit and its financing methods in Algeria (2000-2016). Scientific Horizons Magazine.
15. . Bouazza, Ziad, and Ratia Muhammad (2019). Using the ARDL model to measure the impact of economic variables on fixed capital formation, Journal of Strategy and Development
16. -Nasser Boudjellal, and Kamal Deeb, (2019), Quantitative Easing as a Mechanism for Financing the State Budget Deficit, the Case of Algeria, Journal of Economic, Management and Commercial Sciences, 12 (01).
17. -Shaaban Qassabi, and Rabah Belabbes (2020), The impact of oil price fluctuations on government spending in Algeria, an econometric study using an autoregressive model with time gaps distributed during the period 2000-2018. Journal of Development and Strategy.
18. Krugmen, P. (2003). Economie internationale. brusselle: édition de boeck . 2. Hakkio, C. S. (1996). The Effects of Budget Deficit Reduction on the Exchange Rate. FEDERAL RESERVE BANK OF KANSAS CITY.
19. Apergis, N. (1998). Budget deficits and exchange rates: further evidence from cointegration and causality tests. Journal of Economic Studies, 25(03), 161-178.
4. Khan, R. E., Akhtar, A. A., & Rana, A. S. (2002). Relationship between Exchange Rate and Budgetary Deficit-Empirical from Pakistan. Journal of Applied Sciences Evidence, 02, 839-842.

20. Gülcan, Y., & Bilman, M. E. (2005). THE EFFECTS OF BUDGET DEFICIT REDUCTION ON EXCHANGE RATE:EVIDENCE FROM TURKEY. the 1stInternational Conference on Business, Managementand Economics. Çeşme, İzmir: Yaşar University.
21. Frimpong, Magnus, J., Oteng-Abayie, & Fosu, E. (2006). BOUNDS TESTING APPROACH: AN EXAMINATION FOREIGN
22. DIRECT, INVESTMENT,TRADE,AND GROWTH Récupéré sur <https://mpa.ub.uni-muenchen.de/352/> OF RELATIONSHIPS.
23. Shah, A. (2007). Budgeting and Budgetary Institution. THE WORLD BANK.
24. Salam Adel Al-Nasrawi, Salah Mahdi Al-Kawaz ,The role of time-oriented activity-based budgeting technique in reducing costs: an applied study, , Al-Reyadah Journal of Finance and Business, Al-Nahrain University, College of Business Economics, Vol 4, No 2, Apr., 2023.
25. Hanan Hassan Mustafa , Hajir Adnan Zaki , The window for selling foreign currency and its role in influencing the exchange rate of the Iraqi dinar (An analytical study for the period 2003-2021), , Al-Reyadah Journal of Finance and Business, Al-Nahrain University, College of Business Economics, Vol 4, No 4, Dec. , 2023.