Journal of Economics and Administrative Sciences
2024; 30(140), pp. 404-416

P-ISSN 2518-5764
E-ISSN 2227-703X

Journal of Economics and Administrative Sciences (JEAS)

Available online at http://jeasiq.uobaghdad.edu.iq
DOI: https://doi.org/10.33095/f15grq34

The Effect of the Exchange Rate on Price Stability in Iraq from 2004-2022

Aras Abdulkareem Miho*
Akre Technical Institute,
Akre University for Applied Sciences,
Duhok- Akre, Iraq.
aras.miho@auas.edu.krd
***Corresponding author**

Received:24/11/2023 Accepted:24/12/2023 Published Online First: 30 /4/ 2024

Abstract:

This Paper examines how the exchange rate influences price stability in Iraq using the Autoregressive Distributed Lag (ARDL) method. Monthly data covering the period from January 2004 to April 2022 are employed, with the Consumer Price Index (CPI) used as the dependent variable and Exchange Rate (EX), Oil Prices (OILR), Money Supply (M2), Policy Interest Rates (IR), and Government Spending (GOSP) as independent variables. The ARDL bound test results confirm a long-run relationship between the exchange rate and price stability in Iraq; the results indicate that a more robust exchange rate is associated with higher price stability, emphasizing potential benefits from currency strength. The positive link between government spending and price stability suggests the stabilizing impact of fiscal policies. In contrast, the negative association between interest rates and price stability corresponds to expectations of reduced economic activity. Findings on money supply support the quantity theory of money, and the negative relationship between oil revenue and price stability highlights challenges associated with economic reliance on oil. The Paper offers valuable insights for policymakers, emphasizing the importance of exchange rate stability, economic diversification, and precise adjustments in monetary and fiscal policies to ensure sustained price stability in Iraq.

Paper type: Research paper.
Keywords: Exchange Rate, Price Stability, ARDL, Iraqi Economy.

P-ISSN 2518-5764
E-ISSN 2227-703X

1.Introduction:

This paper attempts to investigate the relationship between exchange rates and price stability in Iraq, employing the Autoregressive Distributed Lag (ARDL) method. The study spans from January 2004 to April 2022, utilizing monthly data. The primary focus revolves around understanding how fluctuations in the exchange rate impact the Consumer Price Index (CPI), serving as the dependent variable. The independent variables include Exchange Rate (EX), Oil Prices (OILR), Money Supply (M2), Policy Interest Rates (IR), and Government Spending (GOSP). The significance of studying exchange rate stability and price levels represents crucial economic policy goals for various nations, including Iraq. A steady exchange rate facilitates international trade, attracts foreign investments, and upholds macroeconomic stability. Simultaneously, price stability safeguards consumers' purchasing power and fosters sustainable economic growth.

Nonetheless, Iraq encounters formidable obstacles in realizing these objectives due to a confluence of internal and external factors, encompassing political turbulence, economic sanctions, and the volatility of global oil prices. Recent years have witnessed heightened volatility and uncertainty within the Iraqi economy. Since the US-led invasion in 2003, the nation has grappled with persistent political instability, resulting in ongoing conflict, societal unrest, and governance challenges. The international community's imposition of economic sanctions has further constrained Iraq's ability to engage in global trade and access international markets. The country's heavy reliance on oil exports also subjects its economy to the vagaries of global oil prices and demand fluctuations.

Several theoretical frameworks contribute to a nuanced understanding of the intricate relationship between exchange rates and price stability. These theories offer a theoretical foundation, elucidating the dynamics and complexities of achieving and maintaining stability in these critical economic indicators. By delving into the following theories, researchers and policymakers can garner valuable insights into the mechanisms governing exchange rate and price dynamics, paving the way for informed policy decisions. The theory of Purchasing Power Parity (PPP) posits that, in the long term, exchange rates should align with the prices of identical baskets of goods and services across different countries (Rogoff, 1996); in the context of this discussion, an exploration of PPP offers insights into how exchange rate movements impact domestic price levels. Analyzing deviations from PPP within Iraq's economic landscape provides a nuanced understanding of the challenges of maintaining price stability. According to the concept of Interest Rate Parity (IRP), there is a connection between interest rates and fluctuations in exchange rates. This means that differences in interest rates between two countries will be mirrored by changes in their currencies (Fama, 1984); delving into the applicability of IRP within the specific context of Iraq allows for an examination of the influence of monetary policy on the stability of the Iraqi Dinar, thus elucidating its implications for domestic price levels. This viewpoint focuses on how monetary policy inflation targeting can impact exchange rates and maintain price stability (Bernanke et al., 1999). By scrutinizing the effectiveness of Iraq's monetary policy in controlling inflation, researchers can discern its broader impact on exchange rates, providing valuable insights into the intricate relationship between monetary policy and economic stability. A crucial facet of the theoretical framework involves the consideration of structural economic reforms. These reforms, encompassing diversification and the reduction of dependence on specific economic sectors, are theorized to contribute significantly to long-term stability (Rodrik, 2008). Examining the feasibility and potential impact of such reforms within the Iraqi context offers a roadmap for addressing underlying issues contributing to exchange rate and price volatility. Acknowledging the impact of global economic conditions on exchange rates and commodity prices, especially in a nation like Iraq, reliant on international trade and exports, adds depth to the theoretical foundation (Obstfeld & Rogoff, 2009). This perspective underscores the necessity of formulating policies that account for external factors beyond the immediate control of the nation, thus providing a

P-ISSN 2518-5764
E-ISSN 2227-703X

more comprehensive understanding of the complexities involved in maintaining exchange rate and price stability.

1.1. Literature Review:

The instability of the exchange rate in Iraq has been a cause for worry over an extended period, primarily attributed to the country's political and economic uncertainties. The frequent shifts in the value of the Iraqi dinar are a direct consequence of these instabilities. Numerous studies have investigated the factors influencing the volatility of the exchange rate in Iraq and other countries. Study by Ibrahim (2023) explored the connection between political stability and macroeconomic variables in Iraq from 2006 to 2021. Emphasizing the pivotal role of Iraq's oil sector, constituting over 90% of state revenues, the Study highlighted how political stability influences economic policies amid global oil price fluctuations. The study reveals a positive relationship between political stability and economic well-being, attributing stability to effective governmental institutions and linking instability to economic decline and pervasive corruption. Ibrahim's findings underscore the critical importance of political stability in shaping resilient economic policies for Iraq's sustained growth and development. Honoham and Lane's (2003) examination of annual inflation differentials in the Eurozone from 1999 to 2001 revealed a substantial influence of nominal effective exchange rate movements on divergent inflation rates. Udoh and Egwaikhide (2008) explored the repercussions of exchange rate volatility and inflation uncertainty on foreign direct investment in Nigeria. Their findings indicated significant adverse effects of exchange rate volatility and inflation uncertainty on foreign direct investment during the studied period. The research pointed to heightened volatility in both inflation and exchange rates, contributing to increased uncertainty and risk for foreign investors, thereby negatively impacting foreign investment in the country. Empirical investigations into exchange rate volatility and its Detrimental impact of exchange rate fluctuations on the efficacy of inflation control policies. Utilizing the VAR model in conjunction with qualitative study, the study discerned varying degrees of influence exerted by exchange rates on exports, inflation, interest rates, and overall economic growth. The study underscored the necessity for a comprehensive exchange rate policy capable of harmonizing diverse macroeconomic objectives over specific time frames. Hoang et al (2020) employed the VAR model to scrutinize the repercussions of alterations in money supply on growth and inflation, specifically examining interest rates, credit, and exchange rates as conduits. Granger tests, reaction functions, and variance decomposition revealed significant impacts of monetary policy on output variables and prices through the exchange rate channel. The study emphasized the pivotal role of exchange rate stability and the reduction of dollarization in achieving macroeconomic stability in Vietnam. Altunöz (2020) studied the pass-through effects of exchange rate volatility on inflation in Turkey using the ARDL Boundary Test for the period 2010-2018. The findings reveal a positive correlation between nominal exchange rate fluctuations and the Domestic Producer Price Index, though emphasizing limited long-term impact. The study underscores the significant influence of domestic factors, such as money supply and capacity utilization rates, on inflation, with crude oil prices exhibiting comparatively lower transitional effects. These insights contribute to a nuanced understanding of the interplay between exchange rates and inflation, warranting further exploration of multifaceted determinants in economic contexts.

The study by Frayyeh et al (2022) assessed the effectiveness of monetary policy in Iraq from 2004 to 2020, with a focus on achieving both monetary and economic stability. Notable factors include the transformative impact of legislative changes, particularly the granting of independence to the Central Bank in 2004. The study highlights successful outcomes, such as the reduction of inflation rates and overall price stability, attributed to the Central Bank's increased autonomy. The establishment of the currency auction is identified as a crucial mechanism in stabilizing the domestic economy through effective management of foreign currency transactions. The study concludes by emphasizing the dynamic nature of economic environments and advocating for continuous analysis and adaptation of monetary policy

P-ISSN 2518-5764
E-ISSN 2227-703X

measures to address future challenges in Iraq. Iliyasu and Sanusi (2022) investigated how exchange rate policies affect the link between exchange rate movements and consumer prices in Nigeria, aiming for stable prices in its small open economy. It finds that when interventions are anticipated and communicated effectively, the impact of exchange rate changes on inflation decreases significantly by about 12.81%. Nigeria experiences a gradual and incomplete pass-through, suggesting that well-anticipated depreciations, when communicated, result in lower inflation compared to unexpected changes. Effective communication of exchange rate policies during shocks could mitigate reserve losses with lesser inflationary effects. This study emphasizes the vital role of clear communication and announced policies in managing inflation tied to exchange rate fluctuations in Nigeria's small, open economy. Anderl and Caporale (2023) examined nonlinearities within the exchange rate pass-through (ERPT) concerning consumer and import prices. Spanning from January 1993 to August 2021, the study employs a smooth transition regression model across various inflation expectations regimes in five inflation-targeting nations (the UK, Canada, Australia, New Zealand, and Sweden), as well as three non-targeters (the US, the Euro-Area, and Switzerland). The investigation integrates both market and survey-based measures of inflation expectations as transition variables, contrasting the nonlinear model against a linear benchmark model. Results reveal a stronger ERPT to both consumer and import prices within the nonlinear framework, sometimes nearing completeness. Notably, this heightened pass-through is prominent within regime 2, characterized by high future inflation expectations among markets and consumers, emphasizing the potential for anchoring inflation expectations as a means to diminish ERPT. Additionally, the study underscores the greater impact of inflation expectations on ERPT within inflation targeting economies, highlighting the significance of these expectations in shaping exchange rate pass-through dynamics.

While existing studies provides valuable insights into various aspects of exchange rates, inflation, and economic growth. However, there's a noticeable gap regarding the specific relationship between exchange rate fluctuations and price stability. Studies explore factors influencing inflation and exchange rates in other contexts, yet there's a lack of focused study addressing how exchange rate volatility directly impacts price stability within Iraq's unique socio-economic context. A detailed investigation into the direct effects of exchange rate fluctuations on price stability in Iraq is needed to fill this gap and offer tailored insights for policymakers navigating the country's economic dynamics.

Despite concerted efforts by the Iraqi government and central bank to stabilize the exchange rate and ensure price stability, sustained economic growth still needs to be discovered. The economy's pronounced dependence on oil exports exposes it to external shocks, notably fluctuations in global oil prices. Furthermore, enduring issues such as political instability, corruption, suboptimal macroeconomic policies, and structural deficiencies in the economy persistently impede the realization of exchange rate and price stability in Iraq. Thus, the paper seeks to answer the following question: "To what extent the exchange rate fluctuations affect price stability in Iraq?" Given the issue, the subsequent questions can be addressed: What is the relationship between exchange rate movements and the overall price level in Iraq, both in the short and long term?

1.What are the key determinants of price fluctuations in Iraq?

2.How effective are the policy interventions implemented to attain Iraq's exchange rate and price stability?

The paper aims to examine and analyze the effect of exchange rate fluctuations on price stability in Iraq. The research explores the relationship between exchange rate movements and price levels. Through this analysis, the paper aims to provide insights into the role of exchange rate dynamics in shaping price stability within the country's economic landscape.

P-ISSN 2518-5764
E-ISSN 2227-703X

2.Material and Methods:

2.1. Data:

This paper investigates the impact of exchange rates on price stability in Iraq, utilizing monthly data from January 2004 to April 2022. The paper used official sources, and the data were gathered from the Central Bank of Iraq (CBI). The Consumer price index (CPI) is used as a dependent variable. For the independent variable, we use exchange rate (EX), oil prices (OILPR), money supply (M2), policy interest rates (IR), and government spending (GOSP).

2.2. Methodology:

The paper estimates the relationship between the exchange rate and price stability in Iraq. ARDL (Autoregressive et al.) is a widely used econometric technique for time series data analysis, adopted by (Shin et al., 2014). It is particularly suitable for investigating the long-run relationship between variables, including those with different orders of integration. This model assesses how changes in the independent variables (exchange rate, oil prices, money supply, policy interest rates, and government spending) are associated with changes in the Consumer Price Index. The fundamental econometric model is presented in equation (1) as follows:

$$CPIt = \alpha + \beta 1EXt + \beta 2OILRt + \beta 3M2t + \beta 4IRt + \beta 5GOSPt + \epsilon t \quad (1)$$

Here:

α is the intercept and $(\beta_1, \beta_2, \beta_3, \beta_4, \beta_5)$ are the coefficients representing the effects of the respective variables on the change in CPI, and ϵ_t is the error term.

2.2.1. Unit root test:

In our investigation, we employed two essential unit root tests—the Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) tests—to assess the stationary of variables. These tests are crucial in determining whether trending data should undergo differencing or be regressed on deterministic time functions to achieve stationarity. The ADF test assesses the presence of a unit root, indicating non-stationarity, while the PP test identifies deterministic trends in the data. The inclusion of both tests ensures a comprehensive evaluation, helping us understand whether differencing, detrending or a combination of both is necessary for subsequent analyses as presented in equation (2):

$$\Delta Yt = \alpha + \beta Yt - 1 + \gamma \Delta Yt - 1 + \delta 1 \Delta Yt - 2 + \cdots + \delta p - 1 \Delta Yt - p + 1 + \epsilon t \quad (2)$$

Where, Y_t is the variable you are testing for stationarity. ΔY_t is the first difference of Y_t. α is the intercept term. β is the coefficient on the lagged level of Y. γ is the coefficient on the lagged first difference of Y. δ_1, δ_{p-1} are coefficients on the lagged differences up to order p−1. ϵt is the error term.

2.2.3. ARDL (Autoregressive Distributed Lag):

This Paper explores the relation between the level of exchange rates and price stability in Iraq. It utilizes the Autoregressive Distributed Lag (ARDL) framework to conduct an analysis. The ARDL model, renowned for its ability to capture both short-term dynamics and long-term equilibrium relationships, offers a comprehensive lens through which to explore the impact of exchange rate fluctuations on the country's inflationary trends. The ARDL model can be written as equation (3):

$$\Delta \mathrm{CPI}t = \alpha + \beta 0 \mathrm{CPI}t - 1 + \sum_{i=1}^{n} \beta i \Delta \mathrm{EX}it + \sum_{i=1}^{n} \beta i \Delta \mathrm{OILR}it + \sum_{i=1}^{n} \beta i \Delta \mathrm{M2}it + \sum_{i=1}^{n} \beta i \Delta \mathrm{IR}it \sum_{i=1}^{n} + \sum_{i=1}^{n} \beta i \Delta \mathrm{GOSP}it + \epsilon t. \quad (3)$$

P-ISSN 2518-5764
E-ISSN 2227-703X

Here, α is the intercept term, β_0 is the coefficient on the lagged CPI, and βi (for i=1 to n) are the coefficients on the monthly changes of the independent variables. The error term ϵ_t captures unobserved factors influencing the monthly change in the CPI."

2.2.4. Error Correction Model (ECM) with ARDL:

Using the ECM, this paper intends to establish the pattern of change in price levels in Iraq resulting from fluctuations in exchange rates through time. In the context of exchange rates and price stability, it allows us to explore how quickly any inconsistencies between the observed and equilibrium levels of the Consumer Price Index (CPI) is corrected. This model as shown in equation (4), by incorporating lagged values and differences, captures the dynamics of adjustment and provides better understanding of the stability in the inflationary environment following shocks or disturbances.

$$\Delta CPIt = \alpha + \beta 0 CPIt - 1 + \sum_{i=1}^{n} \beta i \Delta EXit + \sum_{i=1}^{n} \beta i \Delta OILRit + \sum_{i=1}^{n} \beta i \Delta M2it + \sum_{i=1}^{n} \beta i \Delta IRit \sum_{i=1}^{n} + \sum_{i=1}^{n} \beta i \Delta GOSPit + \lambda(CPIt - 1 - \beta 0 CPIt - 2 - \sum_{i=1}^{n} \beta i \Delta EXi, t - 1 - \sum_{i=1}^{n} \beta i \Delta OILRi, t - 1 - \sum_{i=1}^{n} \beta i \Delta M2i, t - 1 - \sum_{i=1}^{n} \beta i \Delta IRi, t - 1 - \sum_{i=1}^{n} \beta i \Delta GOSPi, t - 1 + \epsilon t \quad (4)$$

Here, α is the intercept term, β_0 and β_i (where i=1 to n) are coefficients, and λ is the coefficient on the error correction term. The error term is denoted by ϵt. the model provides insights into both short-term dynamics and the adjustment process towards the long-term equilibrium relationship between exchange rates and price stability.

3. Discussion of Results :

3.1. Unit root tests:

The stationary tests conducted in this paper play a pivotal role in assessing the characteristics of the variables under consideration. The Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) tests were employed to discern whether the variables exhibit stationarity or require differencing or regression on deterministic time functions to achieve stationarity. This step is crucial, especially when considering the potential impact on the reliability of F statistics used for examining long-term relationships, as noted by Pesaran et al. (2001) and highlighted by Ang (2007). In Table (1), Given that the investigated variables collectively possess orders of integration I (0) and I (1), the implementation of the Autoregressive Distributed Lag (ARDL) approach becomes particularly valuable. The ARDL methodology is well-suited for modelling data characterized by a combination of orders I (0) and I (1), offering a robust framework for analyzing the relationships among the variables.

Table 1: Unit Root Tests Results

Variables	ADF (Constant)	Stationary / non-stationary	PP (Constant)	Stationary / non-stationary
At Level				
CPI	-4.857***	Stationary	-4.407***	Stationary
EX	-1.473	non-stationary	-1.586	non-stationary
OILR	-1.482	non-stationary	-7.382***	Stationary
M2	1.468	non-stationary	1.076	non-stationary
IR	-1.981	non-stationary	-1.526	non-stationary
GOSP	-1.482	non-stationary	-7.382***	Stationary
At first level				
D(CPI)	-3.931***	Stationary	-4.020***	Stationary

P-ISSN 2518-5764
E-ISSN 2227-703X

D(EX)	-6.673***	Stationary	-9.450***	Stationary
D(OILR)	-4.757***	Stationary	-29.300***	Stationary
D(M2)	-13.173***	Stationary	-13.436***	Stationary
D(IR)	-7.258***	Stationary	-14.728***	Stationary
D(GOSP)	-4.757***	Stationary	-29.300***	Stationary

Notice: (i) c; Indicates the most comprehensive model with a constant and no linear trend.
(iii) D: Stands for the first difference.
*** Signifies a significant level at 1%.
** Signifies a significant level at 5%.
* Signifies a significant level at 10%.
Source: EViews result

3.2. ARDL estimation results:

Conducting Autoregressive Distributed Lag (ARDL) analysis enabled an exploration of dynamic relationships among the variables of interest, facilitating examining both short-term and long-term effects. The ARDL model incorporates automatic lag selection, and the chosen specification is ARDL (1,0,1,0,1,1). This signifies an autoregressive order of 1 for the dependent variable. The selection of this particular model is informed by the Akaike Information Criterion (AIC), which considers both the goodness of fit and complexity of the model among the various options evaluated. Table (2) presents the ARDL estimations results:

Table 2: ARDL Estimations Results

Variables	Coefficient	Std. Error	T-statistics	Prob.*
CPI (-1)	0.941784	0.008744	107.711948	0.000000
EX	0.004998	0.001485	3.366394	0.000906
GOSP	0.000000	0.000000	3.367886	0.000902
GOSP (-1)	0.000000	0.000000	2.012339	0.045468
IR	-0.210051	0.051026	-4.116544	0.000055
M2	0.000000	0.000000	1.673866	0.095653
M2(-1)	0.000000	0.000000	-2.011342	0.045574
OILR	0.000000	0.000000	-3.458435	0.000658
OILR (-1)	0.000000	0.000000	-2.234490	0.026510
C	5.769000	1.966212	2.934069	0.003719

Source: EViews result

Table (2) reveals the ARDL estimation results. Notably, the Exchange Rate (EX) demonstrates significance with a negative effect on the Consumer Price Index (CPI), aligning with economic theory. This suggests that a decrease in the exchange rate corresponds to a decrease in CPI, potentially attributed to higher import costs influencing inflation. However, Government Spending (GOSP) must exhibit statistical significance, deviating from theories emphasizing its impact on price stability. Similarly, changes in policy interest rates (IR) show non-significance contrary to certain theoretical expectations, suggesting a limited influence on CPI in this model.

P-ISSN 2518-5764
E-ISSN 2227-703X

Conversely, significant negative coefficients for changes in money supply (M2) and its lagged value (M2(-1)) indicate that decreases in money supply are associated with lower inflation, aligning with economic theories on the relationship between money supply and inflationary pressures. The negative and significant result of oil prices (OILR) on CPI suggests that a decrease in oil prices corresponds to a decrease in CPI, consistent with economic theory linking lower oil prices to reduced production costs and overall price levels. The robustness of this relationship is underscored by its significance at the 0.05 level. In Table (3), we present the results of the F-bound test, which serves as a crucial component in assessing the presence of cointegration among the variables under examination. The calculated F-statistic, registering a value of 6.122, is contrasted with critical values at different integration orders (I (1) and I (0)) and significance levels (10%, 5%, 1%). The obtained result lies beyond the established boundaries, strongly indicating the presence of cointegration between exchange rate and price stability.

Table 3: F-Bound Test

F-statistic value	29.71	
Signif.	I (0)	I (1)
10%	2.08	3
5%	2.39	3.38
2.5%	2.7	3.73
1%	3.06	4.15

Source: Eviews result

3.3. Error Correction Term (ECM) and short run results:

The Error Correction Term (COINTEQ) assumes a significant and damaging role, as indicated by Table (4), signifying its pivotal function in capturing short-run disequilibrium between the exchange rate and price stability in Iraq. The negative coefficient implies that deviations from the long-run equilibrium, stemming from various shocks or disturbances, are corrected in the short run. This aligns with economic theory, wherein the error correction term is a mechanism for steering the system back towards its long-term equilibrium. The non-significant constant implies that, in the short run, the initial level of the Consumer Price Index (CPI) does not significantly deviate from zero when all other variables are zero. This observation may be attributed to unique factors within the Iraqi economic landscape or specific dynamics influencing short-term inflationary pressures. The notable negative coefficient for the lagged CPI (D (CPI (-1))) corresponds with economic theory, indicating a short-term adjustment toward equilibrium following deviations in the previous month's CPI levels. The anticipated negative impact of the change in the exchange rate (D(EX)) on CPI is consistent with conventional economic expectations, where currency depreciation tends to lead to lower import costs and, consequently, reduced inflation. However, the counterintuitive positive short-term impact of policy interest rates (D(IR)) on CPI raises questions and warrants further investigation, given the conventional expectation that higher interest rates typically dampen inflationary pressures.

P-ISSN 2518-5764
E-ISSN 2227-703X

Table 4: Short-run results (ECM)

Variables	Coefficient	Std. Errors	T-statistic	Prob.*
COINTEQ*	-0.058216	0.003980	-14.626703	0.000000
CPI (-1) *	-0.058216	0.008744	-6.658165	0.000000
EX**	0.004998	0.001485	3.366394	0.000906
GOSP (-1)	0.000000	0.000000	7.641418	0.000000
IR**	-0.210051	0.051026	-4.116544	0.000055
M2(-1)	0.000000	0.000000	-6.860304	0.000000
OILR (-1)	0.000000	0.000000	-9.332815	0.000000
C	5.769000	1.966212	2.934069	0.003719

Source: Eviews result

3.4. Long Run ARDL results:

The Long Run Autoregressive Distributed Lag (ARDL) results, as presented in Table (6), illuminate key relationships between economic variables and long-term price stability in the context of Iraq. The exchange rate (EX) exhibits a positive and statistically significant coefficient, suggesting that an exchange rate increase is associated with improved price stability. Government spending (GOSP) shows a positive coefficient with high significance, indicating a potential positive relationship between increased government spending and higher price stability. Conversely, the negative coefficients for interest rate (IR), money supply (M2), and oil revenue (OILR) align with economic expectations, implying that higher interest rates, increased money supply, and elevated oil revenue may be associated with lower price stability. The constant term (C) represents a baseline level of price stability with statistical significance. In summary, the Long Run ARDL results offer valuable insights into the complex dynamics of the Iraqi economy, highlighting the roles of exchange rates, government spending, interest rates, money supply, and oil prices in influencing long-term price stability.

Table 6: Long Run ARDL results

Variables	Coefficient	Std. Error	T-statistics	Prob.*
EX	0.08586	0.026614	3.226018	0.0015
GOSP	0.00000	0.000000	5.191463	0.0000
IR	-3.60814	1.158092	-3.115589	0.0021
M2	0.00000	0.000000	-4.497450	0.0000
OILR	0.00000	0.000000	-5.589865	0.0000
C	99.09655	33.335700	2.972685	0.0033

Source: EViews result

Next comprehensive diagnostic tests were performed to evaluate the appropriateness and reliability of the model employed in the paper. These tests aimed to ensure the statistical soundness and effectiveness of the analytical approach.

Table 5: Results of Diagnostic tests for a Suitable Model

R^2	F-statistic	Prob. (F)	ARCH-test	LM-test
0.986	1642.76	0.0000	241.54 (0.000)	567.42 (0.000)

Digits in the parenthesis show the probability value of the tests.

Source: EViews result

P-ISSN 2518-5764
E-ISSN 2227-703X

In Table (5), the coefficient of determination (R^2) stands impressively high at 0.986, indicating that approximately 98.6% of the variability in the dependent variable is accounted for by the collective influence of the independent variables. Transitioning to other diagnostic assessments, the LM-test for autocorrelation registers a value of 567.42, accompanied by a probability value of 0.000, supporting the retention of the null hypothesis and suggesting an absence of significant autocorrelation. The ARCH-test for heteroskedasticity yields a statistic of 241.54, with a corresponding probability value of 0.000, leading to the acceptance of the null hypothesis that there is no heteroscedasticity in the model. The Prob(F) value, signaling the probability associated with the overall significance of the estimated regression, is 0.000, underscoring the statistical significance of the model. Furthermore, the F-statistic is 1642.76, reinforcing the model's overall significance.

In summary, these diagnostic test outcomes collectively validate the reliability and appropriateness of the model for the provided dataset. Next, we evaluate the stability coefficient test for assessing both short-term and long-term stability coefficients in ECM. The findings in Figure (1) indicate that the CUSUM and CUSUMQ test statistics fall within the 5 per cent limit and a 95 per cent confidence interval. In other words, the results support the null hypothesis, affirming the presence of stability in the estimated model coefficients over both short and long-term periods.

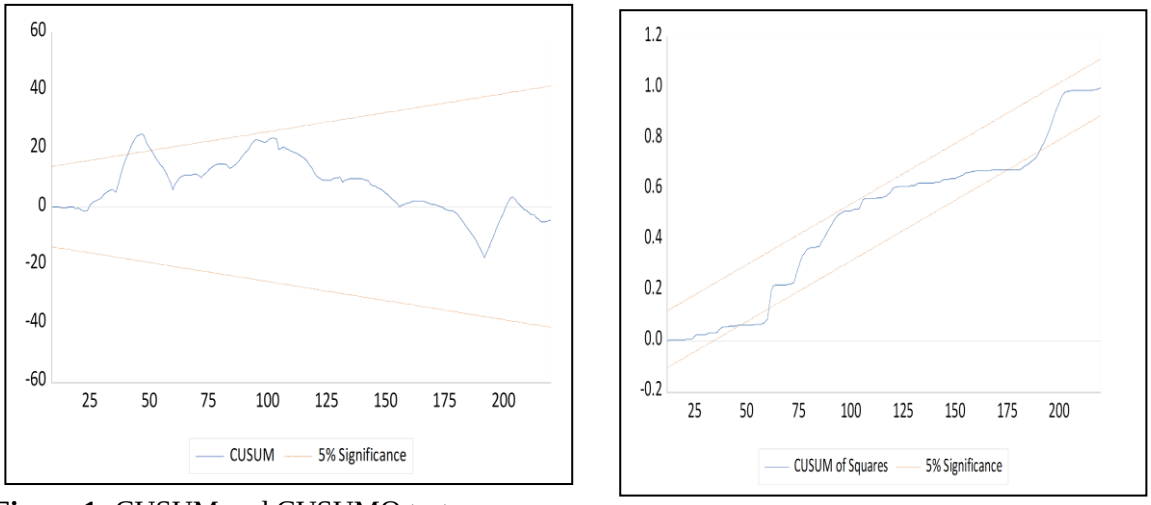

Figure 1: CUSUM and CUSUMQ test
Source: EViews result

3. Conclusion:

This paper has investigated the relationship between the exchange rate and price stability in Iraq, employing the Autoregressive Distributed Lag (ARDL) approach. Initially, Unit root tests were applied using the Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) tests to assess the characteristics of the variables, ensuring their stationarity for reliable analysis. The implementation of the Autoregressive Distributed Lag (ARDL) approach proved valuable, given the mixed orders of integration (I (0) and I (1)) observed in the variables. The F-Bound test highlights the long-run relationship between exchange rates and price stability The results align with established economic theory. Notably, a stronger exchange rate is associated with higher price stability, emphasizing potential benefits from currency strength. The positive link between government spending and price stability suggests the stabilizing impact of fiscal policies, while the negative association between interest rates and price stability corresponds to expectations of reduced economic activity. The findings on money supply support the quantity theory of money, indicating a potential influence on inflation. Moreover, the negative relationship between oil revenue and price stability highlights challenges associated with economic reliance on oil. These findings provide valuable insights into the multifaceted dynamics of the Iraqi economy,

emphasizing the roles of exchange rates, government spending, and other factors in shaping long-term price stability. The Error Correction Term (ECM) confirms the short-run relation between the exchange rate and price stability in Iraq. The significance and negative sign of the Error Correction Term (COIN TEQ) highlight its role in short-run adjustment towards equilibrium, with a speed of adjustment of -0.058. The findings align with economic theories for some variables, while others deviate, indicating the complex interplay of factors influencing price stability in the Iraqi context. The significance of certain variables underscores their importance in shaping inflationary pressures, contributing to the broader understanding of economic dynamics in Iraq. Policymakers in Iraq should prioritize measures to stabilize the exchange rate, employing effective monetary policies and strategic exchange rate management. Additionally, targeted increases in government spending can stimulate economic activity, positively influencing long-term price stability. Careful adjustments to interest rates, along with cautious management of money supply and strategies to address oil price fluctuations, are essential for maintaining economic stability and fostering steady price stability in Iraq.

Authors Declaration:

Conflicts of Interest: None

-We Hereby Confirm That All The Figures and Tables In The Manuscript Are Mine and Ours. Besides, The Figures and Images, Which are Not Mine, Have Been Permitted Republication and Attached to The Manuscript.

- Ethical Clearance: The Research Was Approved By The Local Ethical Committee in The University.

References:

1.Altunöz, U. 2020. Pass-through effects of exchange rate on inflation: *The case of Turkey*. *Journal of Ekonomi*, 2(2), pp.71-75.

2.Anderl, C., and Caporale, G. M. 2023. Nonlinearities in the exchange rate pass-through: The role of inflation expectations. *International Economics*, 173, pp. 86-101.

3.Fama, E. F. (1984). Forward and spot exchange rates. *Journal of Monetary Economics*, 14(3), pp. 319-338.

4.Frayyeh, J. S., Battal, A. H., and Hamad, A. A. 2022. Evaluation of the role of monetary policy in achieving monetary and economic stability in Iraq for the period (2004-2020). *Tikrit Journal of Administrative and Economic Sciences*, 18(58, 1), pp. 304-328.

5.Hoang, T., Thi, V., and Minh, H. 2020. The impact of exchange rate on inflation and economic growth in Vietnam. *Management Science Letters*, 10 (5), pp. 1051-1060.

6.Honohan, P., and Lane, P. R. 2003. Divergent inflation rates in EMU. *Economic Policy*, 18(37), pp. 357-394.

7.Ibrahim, L. K. 2023. Political stability and its Impact on Macroeconomic Variables in Iraq after 2010. *The International and Political Journal*, 54, pp. 409-436.

8.Iliyasu, J., and Sanusi, A. R. 2022. The role of announced exchange rate policies on exchange rate pass-through to consumer prices in an oil-based small open economy. *SN Business & Economics*, 3(1), pp. 10.

9.Obstfeld, M., and Rogoff, K. 1995. The mirage of fixed exchange rates. *Journal of Economic Perspectives*, 9(4), pp. 73-96.

P-ISSN 2518-5764
E-ISSN 2227-703X

10. Posen, A. S. V., Laubach, T., and Mishkin, F. S. 1998. Inflation targeting lessons from the international experience. Princeton University Press.
11. Rodrik, D. 2008. Normalizing industrial policy.
12. Rogoff, K. 1996. The Purchasing Power Parity Puzzle. *Journal of Economic Literature*, 34(2), pp. 647–668.
13. Shin, Y., Yu, B., and Greenwood-Nimmo, M. 2014. Modelling asymmetric cointegration and dynamic multipliers in a nonlinear ARDL framework. *Festschrift in honor of Peter Schmidt: Econometric methods and applications*, pp. 281-314.
14. Trang, L.T. 2017. Exchange rate policy boosts Vietnam's exports, Ph.D. Thesis at Trade University. National Library of Vietnam.
15. Udoh, E., and Egwaikhide, F. O. 2008. Exchange rate volatility, inflation uncertainty and foreign direct investment in Nigeria. *Botswana Journal of Economics*, 5(7), pp. 14-31.

Journal of Economics and Administrative Sciences
2024; 30(140), pp. 404-416
P-ISSN 2518-5764
E-ISSN 2227-703X

تأثير سعر الصرف على استقرار الأسعار في العراق للفتره مابين ٢٠٠٤-٢٠٢٢

اراس عبدالكريم محو
جامعة ئاكرئ للعلوم التطبيقية / المعهد التقني ئاكرئ
دهوك-عقرة، العراق
aras.miho@auas.edu.krd سلطان

Received:24/11/2023 Accepted:24/12/2023 Published Online First: 30 /4/ 2024

مستخلص البحث:
يتناول هذه الدراسة كيفية تأثير سعر الصرف على استقرار الأسعار في العراق باستخدام طريقة نموذج الانحدار الذاتي للإبطاء الموزع (ARDL) وتم استخدام البيانات الشهرية التي تغطي الفترة من يناير 2004 إلى أبريل 2022. في هذا البحث، استُخدم مؤشر أسعار المستهلك (CPI) كمتغير تابع، وسعر الصرف ((EX، إيرادات النفط ((OILR، عرض النقود ((M2، أسعار الفائدة السياسية ((IR، والإنفاق الحكومي (GOSP) كمتغيرات مستقلة. أكدت نتائج اختبار نموذج الانحدار الذاتي للإبطاء الموزع (ARDL) وجود علاقة طويلة المدى بين سعر الصرف واستقرار الأسعار في العراق، وتشير النتائج إلى أن سعر الصرف الأقوى يرتبط بارتفاع استقرار الأسعار، مما يؤكد الفوائد المحتملة من قوة العملة. ويشير الارتباط الإيجابي بين الإنفاق الحكومي واستقرار الأسعار إلى التأثير المستقر للسياسات المالية، في حين أن الارتباط السلبي بين أسعار الفائدة واستقرار الأسعار يتوافق مع توقعات انخفاض النشاط الاقتصادي. وتدعم النتائج المتعلقة بعرض النقود نظرية كمية النقود، كما أن العلاقة السلبية بين عائدات النفط واستقرار الأسعار تسلط الضوء على التحديات المرتبطة بالاعتماد الاقتصادي على النفط. تقدم هذه الدراسة رؤى قيمة لصانعي السياسات، حيث تبرز أهمية استقرار سعر الصرف، والتنويع الاقتصادي، والتعديلات الدقيقة في السياسات النقدية والمالية لضمان استقرار الأسعار المستدام في العراق.

نوع البحث: ورقة بحثية.
المصطلحات الرئيسة للبحث: سعر الصرف، استقرار الأسعار،ARDL ، الاقتصاد العراقي.