

The Effect of Monetary Policy Credibility on Inflation in Iraq: Application of the Bayesian VAR Method

Riyadh Mohammed Hassoon^{1,*}, Habib Aghajani ², Sakineh Sojoudi ³ and Jafar Haghighat ⁴



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¹ Ph.D. of Science in Economics, Monetary Economics, Faculty of Economics and Management, University of Tabriz, Tabriz, Iran; 

² Associate Professor, Department of Economics, Faculty of Management and Accounting, University of Tabriz, Tabriz, Iran; 

³ Associate Professor, Department of Economics, Faculty of Management and Accounting, University of Tabriz, Tabriz, Iran; 

⁴ Professor, Department of Economics, Faculty of Management and Accounting, University of Tabriz, Tabriz, Iran; 

* Correspondence: Ryaadrr3@gmail.com

Abstract: This study aimed to examine the effect of monetary policy credibility on inflation dynamics and inflation expectations in Iraq over the period 2004–2023. The primary focus of the study was to determine whether greater central bank credibility can anchor inflation expectations and reduce the magnitude and persistence of inflation. First, expected inflation was extracted as a latent variable using a state-space model and the Kalman filter. The monetary policy credibility index, denoted by CRED, was then calculated based on the deviations among actual inflation, expected inflation, and the long-run trend of inflation. Subsequently, the dynamic relationships among inflation, the policy interest rate, expected inflation, gross domestic product, and monetary policy credibility were examined using a Bayesian Vector Autoregressive (BVAR) model with a Minnesota prior and two lags. The Augmented Dickey–Fuller stationarity test, Johansen cointegration test, impulse response functions, and forecast error variance decomposition were also employed to analyze the results. The state-space model results indicated that expected inflation exhibited temporal persistence, with a persistence coefficient of 0.48. In addition, the positive effect of lagged actual inflation on expected inflation, with a coefficient of 0.12, confirmed the role of adaptive expectations in the Iraqi economy. In the BVAR model, the coefficient of the first lag of inflation in the inflation equation was 0.2137, indicating inflation persistence. The coefficient of the first lag of the monetary policy credibility index in the inflation equation was estimated at −0.0919; therefore, greater monetary policy credibility was associated with lower inflation. The variance decomposition results showed that at the 10-period horizon, 99.5881% of inflation fluctuations were explained by inflation’s own shock, whereas 0.1187% were explained by shocks to monetary policy credibility. This finding suggests that the effect of monetary policy credibility is neither direct nor immediate but is transmitted primarily through inflation expectations and develops gradually over time. The findings indicate that, despite its limited direct contribution to explaining inflation fluctuations, monetary policy credibility plays an important role in anchoring expectations and reducing inflation persistence in Iraq. Accordingly, increasing the transparency and predictability of central bank decisions, strengthening monetary–fiscal policy coordination, developing financial markets, and reducing dependence on oil revenues can enhance monetary policy credibility and contribute to sustainable price stability in Iraq.

Keywords: monetary policy credibility, inflation, expected inflation, state-space model, Kalman filter, BVAR model, Iraq.

1. Introduction

Inflation remains one of the most persistent and consequential macroeconomic challenges facing developing and oil-dependent economies, particularly where monetary institutions operate under conditions of fiscal dominance,

exchange-rate vulnerability, shallow financial markets, and recurrent external shocks. Persistent increases in the general price level erode household purchasing power, distort relative prices, weaken the informational role of market signals, discourage long-term investment, and increase uncertainty in both consumption and production decisions. In such environments, the effectiveness of monetary policy depends not only on the formal instruments available to the central bank but also on the degree to which households, firms, financial institutions, and market participants consider the monetary authority capable of achieving its announced objectives. This dimension is commonly captured by the concept of monetary policy credibility, which refers to the extent to which economic agents believe that the central bank will consistently implement policies compatible with its stated goals, particularly price stability. Credibility therefore constitutes an intangible but economically powerful component of the monetary transmission mechanism because it influences expectations before the full effects of policy actions materialize. Recent macrohistorical evidence has shown that monetary credibility can substantially alter the dynamics, persistence, and adjustment path of inflation, indicating that similar monetary interventions may generate markedly different inflationary outcomes depending on the degree of confidence attached to the monetary authority [1].

The importance of credibility becomes especially pronounced when inflation expectations play a significant role in current price-setting behavior. Inflation is not determined solely by contemporaneous changes in money supply, interest rates, government expenditure, exchange rates, or production costs. Expectations regarding future inflation influence current wage negotiations, markups, borrowing behavior, asset allocation, consumption timing, and investment decisions. If economic agents expect inflation to remain elevated, firms may raise prices in anticipation of higher future costs, workers may seek larger nominal wage adjustments, and households may accelerate purchases in an attempt to avoid future losses in purchasing power. These behaviors can generate self-reinforcing inflationary mechanisms even when the original shock has weakened. Conversely, if the central bank is credible, temporary shocks may be less likely to become embedded in medium-term expectations. The relationship between credibility and expectations is therefore central to modern monetary economics. Evidence from business-confidence and expectation formation research indicates that stronger monetary policy credibility can reduce disagreement regarding future inflation and interest rates and can improve confidence by making the future policy environment more predictable [2]. This suggests that credibility should not be interpreted merely as a reputational characteristic of the central bank but as a macroeconomic state variable with direct implications for the behavior of private agents.

Central bank communication is one of the major channels through which such credibility is built and maintained. The evolution of monetary policy frameworks in recent decades has increasingly emphasized transparency, forward guidance, systematic communication, publication of forecasts, and explicit articulation of policy objectives. These instruments are designed to reduce information asymmetry between the monetary authority and the public and thereby improve the predictability of policy decisions. Empirical evidence from the European Central Bank has demonstrated that communication strategies directed toward the general public can generate measurable credibility gains, particularly when communication clarifies the objectives and strategic framework of monetary policy [3]. This observation is highly relevant to developing economies, where uncertainty about central bank intentions can interact with political instability, exchange-rate pressures, and fiscal imbalances. In such contexts, credibility may depend not only on actual policy outcomes but also on whether policy decisions are communicated consistently and whether announced commitments are viewed as feasible. The informational dimension of monetary policy is therefore increasingly important for understanding inflation behavior.

Recent evidence also shows that expectations can react asymmetrically to monetary policy announcements, especially in high-inflation environments. Firms tend to incorporate both policy signals and realized inflation outcomes when revising their forecasts, and the effectiveness of announcements may depend on the perceived reliability of the institution delivering them. In economies where inflation is already high, economic agents may assign greater weight to observed inflation than to official projections if previous policy commitments have not been fulfilled. This pattern has been demonstrated in research on firm expectations, where monetary policy and inflation announcements were found to significantly influence expectation formation under high-inflation conditions [4]. Such evidence reinforces the argument that credibility cannot be separated from inflation expectations. Once confidence deteriorates, conventional monetary measures may need to be stronger and more persistent to achieve the same disinflationary effect because private agents discount policy announcements and rely more heavily on adaptive expectations based on past inflation.

The costs of losing credibility may therefore be substantial. When the central bank's commitment to price stability is questioned, inflationary shocks can become more persistent, expectation dispersion can increase, and disinflation can require larger sacrifices in output and employment. Evidence from Colombia's post-pandemic inflation experience shows that credibility losses can modify monetary transmission and complicate the process of returning inflation to target, with important implications for the design and timing of policy responses [5]. This finding is particularly important for emerging and developing economies that are frequently exposed to food-price shocks, exchange-rate depreciation, global interest-rate changes, fiscal imbalances, and commodity-price volatility. Under such conditions, the ability of monetary authorities to prevent temporary price increases from becoming entrenched may depend heavily on the credibility accumulated before the shock occurs.

The interaction between monetary expansion and central bank credibility has also attracted increased attention in the Middle East and North Africa. Monetary expansion does not necessarily generate identical inflationary consequences across countries because institutional credibility can moderate the extent to which liquidity growth is translated into expected and realized inflation. Cross-country evidence from the MENA region indicates that central bank credibility can play a moderating role in the relationship between monetary expansion and inflation, implying that the institutional quality of monetary policymaking affects the inflationary consequences of changes in monetary conditions [6]. This perspective is particularly relevant to Iraq, where monetary conditions are influenced by oil revenues, government expenditure, foreign-exchange flows, administered market structures, and the balance between fiscal and monetary authorities. Accordingly, an analysis confined solely to conventional monetary aggregates may overlook the institutional and expectation-based mechanisms through which inflation develops.

Iraq provides an especially important setting for studying this issue. The Iraqi economy has undergone profound structural, political, and institutional transformations since the early 2000s. Its heavy dependence on oil exports makes aggregate income, government revenues, liquidity conditions, and foreign-exchange availability highly sensitive to fluctuations in global oil markets. At the same time, the public sector plays a substantial role in economic activity, and fiscal developments can directly affect domestic liquidity and aggregate demand. These structural characteristics complicate the conduct of independent monetary policy and may weaken conventional transmission channels. Studies examining monetary policy and inflation in Iraq have confirmed that monetary variables significantly influence inflation dynamics, although the strength and direction of these effects may vary over time and across policy instruments. Empirical analysis covering 2004–2023 has shown that monetary policy plays a

measurable role in determining Iraqi inflation, highlighting the importance of systematic evaluation of the mechanisms through which central bank actions affect domestic prices [7].

Other evidence from Iraq emphasizes the interaction between monetary policy, inflation, and banking-sector activity. Banking institutions represent a central component of monetary transmission because policy measures affect the real economy partly through credit conditions, liquidity provision, deposit behavior, and financing costs. Panel ARDL evidence on Iraq indicates meaningful relationships among monetary policy, inflation, and banking activity, suggesting that inflation control is closely linked to the functioning and responsiveness of the financial system [8]. However, Iraq's financial structure remains characterized by relatively limited financial deepening and an important role for state-owned banks, which may weaken or delay the transmission of policy-rate changes. In such an environment, credibility can potentially compensate for some weaknesses in traditional interest-rate channels by influencing expectations directly. If firms and households believe that the central bank will act consistently against inflation, expectations may adjust even before lending rates, credit volumes, or investment decisions respond fully.

The Iraqi economy is also highly exposed to monetary shocks and their broader macroeconomic consequences. Evidence on the period 2004–2023 indicates that monetary shocks have contributed to economic volatility, illustrating the sensitivity of output, prices, and related macroeconomic variables to changes in monetary conditions [9]. This sensitivity reinforces the need to distinguish between the immediate effects of monetary shocks and the expectation-mediated effects of credibility. A contractionary policy action may initially influence interest rates, liquidity, or exchange-rate conditions, but its ultimate inflation effect may be amplified or weakened by the public's interpretation of that action. If the action is perceived as temporary or inconsistent, inflation expectations may remain unchanged. By contrast, the same action undertaken by a credible central bank may produce larger expectation adjustments and greater disinflationary effects.

External monetary conditions further complicate this relationship. Iraq is integrated into the global economy through oil exports, trade flows, foreign reserves, and the international financial system, making it vulnerable to global monetary tightening and changes in international interest rates. Research on the effects of restrictive global monetary policies on Iraqi macroeconomic stability shows that external monetary tightening can transmit to the domestic economy through financial conditions, trade, exchange rates, and capital flows [10]. Consequently, the Central Bank of Iraq must respond not only to domestic inflationary pressures but also to imported financial and monetary shocks. Credibility becomes particularly important in such episodes because external shocks may be misinterpreted as evidence of domestic policy failure unless the monetary authority clearly communicates the origin of the shock and the expected policy response.

Another important institutional challenge concerns the coordination of monetary and fiscal policies. In oil-dependent states, expansionary fiscal policy can increase liquidity and aggregate demand, while the central bank may simultaneously attempt to restrain inflation. If fiscal and monetary policies move in conflicting directions, the public may question the central bank's ability to maintain price stability. Research examining the role of the Central Bank of Iraq in coordinating monetary and fiscal policies during 2010–2021 emphasizes the importance of effective policy coordination for macroeconomic management [11]. Credibility may therefore be influenced not only by central bank decisions themselves but also by the broader policy configuration in which these decisions are implemented. A monetary authority that repeatedly confronts expansionary fiscal pressures may find it difficult to convince the public that inflation will be contained, even if its own policy stance is formally restrictive.

Structural characteristics of the Iraqi economy may further affect the persistence of inflation and the effectiveness of monetary interventions. Financial-cycle asymmetries, changing credit conditions, and fluctuations in economic activity can influence the sustainability of growth and alter the transmission of monetary policy. Evidence on asymmetric financial-cycle effects in Iraq suggests that macrofinancial conditions have nonlinear consequences for economic performance [12]. Such asymmetry implies that identical monetary shocks may not generate identical outcomes across expansionary and contractionary phases. It also suggests that credibility should be examined in a dynamic framework capable of accommodating lagged interactions among multiple macroeconomic variables rather than through a static single-equation model.

Bayesian econometric methods are particularly suitable for analyzing such environments because macroeconomic datasets for developing economies often contain relatively few observations, while the number of potentially relevant variables is large. Conventional vector autoregressive models can become heavily parameterized as additional variables and lags are introduced, increasing estimation uncertainty and the risk of overfitting. Bayesian Vector Autoregressive models address this problem by incorporating prior distributions that shrink coefficients toward plausible values while allowing the data to update these priors. Earlier applications of Bayesian methods to inflation analysis demonstrate their usefulness for identifying complex and potentially nonlinear monetary relationships. Bayesian model averaging has been employed to evaluate the determinants of inflation and address uncertainty regarding model specification, providing evidence that inflation dynamics depend on multiple interacting macroeconomic factors [13]. Similarly, a Bayesian Markov-switching framework has been used to identify asymmetric effects of monetary aggregates on inflation, illustrating the ability of Bayesian methods to capture state-dependent monetary transmission [14].

The Bayesian VAR approach is also valuable for examining the effects of monetary policy shocks on prices because it provides a coherent framework for analyzing the dynamic interdependence of multiple endogenous variables while imposing economically meaningful shrinkage through prior distributions. Evidence using Bayesian VAR models has demonstrated that monetary policy shocks can affect different price categories in heterogeneous ways and that dynamic responses may unfold across several periods rather than contemporaneously [15]. Such findings justify the use of impulse response functions and forecast error variance decomposition when assessing monetary policy credibility because the effects of credibility shocks are unlikely to be immediate. Instead, they may operate gradually through expected inflation, policy interest rates, output, and other macroeconomic channels.

In this respect, expected inflation constitutes a critical empirical variable, yet direct and consistent measures of expectations are often unavailable in Iraq. Survey-based expectations, market-implied expectations, and professional forecasts are either incomplete or unavailable over long historical periods. A state-space approach provides a practical method for addressing this limitation by treating expected inflation as a latent process inferred from observed inflation dynamics. Combining a state-space model with the Kalman filter permits the extraction of a time-varying expectations series that can subsequently be incorporated into a BVAR framework. This methodology is particularly consistent with the broader literature emphasizing that monetary credibility operates substantially through expectations rather than solely through contemporaneous changes in policy instruments. The relevance of expectations is further supported by evidence that credibility affects business confidence and disagreement over future inflation and interest rates [2], while policy and inflation announcements influence firm expectations in high-inflation settings [4].

A further methodological issue concerns the measurement of credibility itself. Monetary policy credibility is not directly observable and must therefore be inferred from observable policy outcomes or from the consistency

between announced objectives and realized economic performance. In countries with explicit inflation targets, credibility may be evaluated through deviations between expected inflation and the announced target. In the Iraqi context, where a consistent formal inflation-targeting framework is not available across the full sample period, credibility can instead be assessed through the degree to which actual inflation remains aligned with expected inflation and its long-term trend. Smaller deviations imply greater predictability and a stronger ability of monetary authorities to anchor expectations, whereas larger deviations indicate instability and weaker policy credibility. This operationalization is consistent with the theoretical proposition that credibility reduces the uncertainty surrounding the future path of inflation and monetary policy.

Despite the growing literature on monetary policy and inflation in Iraq, an important research gap remains. Most existing studies emphasize the effects of money supply, policy rates, exchange rates, banking activity, global tightening, or general monetary shocks on inflation and macroeconomic stability [7-10]. These studies provide valuable evidence regarding the effectiveness of monetary instruments but generally do not explicitly model monetary policy credibility as a dynamic variable that interacts with expected inflation. Similarly, research on policy coordination highlights the institutional constraints facing the Central Bank of Iraq [11], but the quantitative connection between credibility, expectations, and inflation persistence remains insufficiently investigated. International evidence clearly suggests that credibility conditions the inflationary consequences of monetary expansion [6], shapes the persistence of inflation [1], affects expectation disagreement and business confidence [2], and determines the economic consequences of losing confidence in monetary authorities [5]. Transferring these insights to Iraq requires an empirical framework capable of integrating both latent expectations and dynamic macroeconomic interactions.

Addressing this gap is important for both monetary theory and policy design. If credibility significantly reduces inflation or weakens its persistence, then inflation stabilization in Iraq cannot rely exclusively on adjustments to interest rates, exchange-rate management, or liquidity control. It must also involve institutional measures that improve transparency, policy consistency, communication, fiscal–monetary coordination, and the predictability of central bank behavior. Conversely, if credibility contributes little to inflation dynamics, priority may need to be placed on structural constraints, external shocks, fiscal policy, or financial-market development. Determining the magnitude, timing, and transmission channels of credibility effects is therefore essential for designing an effective anti-inflation strategy for Iraq.

Accordingly, the aim of this study is to examine the effect of monetary policy credibility on inflation dynamics and inflation expectations in Iraq by estimating expected inflation through a state-space model and Kalman filter and analyzing the dynamic relationships among inflation, the policy interest rate, expected inflation, output, and monetary policy credibility within a Bayesian Vector Autoregressive framework.

2. Methods and Materials

This study was conducted to examine the effect of monetary policy credibility on inflation in Iraq over the period 2000–2024. Given the dynamic and endogenous nature of the relationships among macroeconomic variables, a Bayesian Vector Autoregressive (BVAR) model was employed to analyze the interactions among inflation, the policy interest rate, the exchange rate, gross domestic product, expected inflation, and monetary policy credibility. The principal advantage of this approach over a conventional VAR model is its capacity to incorporate prior information and mitigate the problem of overfitting in samples with a limited number of observations, which is particularly important in macroeconomic studies of developing countries.

The data used in this study consist of annual observations for the Iraqi economy over the period 2000–2024 and were collected from official domestic and international databases. The dependent variable is the inflation rate, calculated based on changes in the Consumer Price Index (CPI). The inflation rate is obtained from the following equation:

$$INF_t = 100 \times [\ln(CPI_t) - \ln(CPI_{t-1})]$$

where CPI denotes the Consumer Price Index and $\ln$ denotes the natural logarithm. In addition to inflation, the Central Bank of Iraq's policy interest rate, the Iraqi dinar–U.S. dollar exchange rate, and real gross domestic product were incorporated into the model as macroeconomic variables affecting inflation.

Because regular and reliable data on expected inflation are not available for the entire study period, this variable was estimated using a state-space model and the Kalman filter. Within this framework, expected inflation is treated as a latent variable extracted from the information contained in the time series of actual inflation. The measurement equation and transition equation are specified as follows:

$$INF_t = EINF_t + v_t$$

$$EINF_t = \alpha + \rho EINF_{t-1} + \beta INF_{t-1} + w_t$$

where $EINF$ denotes expected inflation, while v and w represent the model disturbance terms. The estimates obtained from the Kalman filter were subsequently used as the expected inflation indicator in the later stages of the analysis.

To measure monetary policy credibility, a composite index was constructed to reflect the central bank's ability to guide inflation expectations and maintain price stability. First, the deviation between actual inflation and expected inflation was calculated as follows:

$$CRED1_t = -|INF_t - EINF_t|$$

Next, the long-run trend of inflation was extracted using the Hodrick–Prescott filter, and the deviation of actual inflation from this trend was calculated:

$$CRED2_t = -|INF_t - INF^{LT}_t|$$

Finally, the monetary policy credibility index was obtained as the average of these two components:

$$CRED_t = 0.5CRED1_t + 0.5CRED2_t$$

Accordingly, higher values of the index indicate greater monetary policy credibility and a stronger ability of the central bank to control inflation expectations.

Before estimating the model, the statistical properties of the data were examined. The Augmented Dickey–Fuller (ADF) test was employed to assess the stationarity of the variables, and appropriate transformations, including differencing or the calculation of growth rates, were applied when necessary. The optimal lag length was also determined using the Akaike Information Criterion (AIC), Schwarz Bayesian Information Criterion (BIC), and Hannan–Quinn criterion (HQ). After determining the optimal lag length, the BVAR model was estimated using the Minnesota prior. The general form of the model is expressed as follows:

$$Y_t = c + \sum (A_i Y_{t-i}) + \varepsilon_t$$

where Y denotes the vector of endogenous variables, A represents the matrices of lag coefficients, and ε denotes the vector of disturbances.

To analyze the dynamic effects of economic shocks and assess the role of monetary policy credibility in controlling inflation, Impulse Response Functions (IRFs) and Forecast Error Variance Decomposition (FEVD) were employed. The impulse response functions show how inflation responds to a shock to monetary policy credibility

over different time horizons, whereas forecast error variance decomposition determines the relative contribution of each model shock to explaining fluctuations in inflation.

Finally, to ensure the reliability of the results, diagnostic tests were conducted, including model stability assessment, residual autocorrelation testing, and error normality testing. Sensitivity analyses with respect to changes in lag length and alternative specifications of the monetary policy credibility index were also performed to assess the robustness of the findings. This approach provides a comprehensive and dynamic assessment of the role of monetary policy credibility in containing inflation and managing inflation expectations in the Iraqi economy over the period 2000–2024.

3. Findings and Results

To extract expected inflation in Iraq, a state-space model and the Kalman filter algorithm were employed. Because expected inflation is not directly observable at regular frequencies in official statistics, it was treated as a latent variable in this study. Within this framework, actual inflation, as the observed variable, consists of expected inflation combined with measurement error, whereas the dynamics of expected inflation are explained by its own lags and lagged actual inflation. The state-space model makes it possible to distinguish the expected component of inflation from its observed fluctuations and to obtain a dynamic indicator of inflation expectations throughout the study period. The results of the parameter estimation for this model are presented in Table 1.

According to the results presented in Table 1, all parameters of the state-space model are statistically significant at the 5% level. The persistence coefficient of expected inflation is 0.48. This result indicates that expected inflation in Iraq exhibits temporal persistence; that is, inflation expectations in the previous period affect expectations in the current period. Therefore, inflation expectations do not adjust rapidly, and households and firms consider not only new economic conditions but also their previous inflation experience when forecasting future inflation.

The coefficient of lagged actual inflation is positive and equal to 0.12. This coefficient indicates that an increase in inflation in previous periods leads to higher expected inflation in the current period. This finding is consistent with the adaptive expectations hypothesis and suggests that persistent inflation can entrench higher inflation expectations in the Iraqi economy. Furthermore, the model constant, equal to 0.52, confirms the existence of a baseline component in the formation of inflation expectations. This component may be influenced by factors such as economic uncertainty, exchange-rate volatility, import dependence, and the structural characteristics of the Iraqi economy.

The Q parameter, equal to 0.007, indicates the presence of shocks and unanticipated changes in the expected inflation process. In addition, the R parameter, with a value of 0.081, indicates a discrepancy between observed inflation and expected inflation. In other words, actual inflation is not determined exclusively by expectations; short-term factors and unanticipated shocks also influence it. Therefore, the use of a state-space model and the Kalman filter is appropriate for distinguishing expected inflation from actual inflation.

Based on the estimated values of expected inflation, the monetary policy credibility index was calculated. This index is constructed based on the deviations among actual inflation, expected inflation, and the long-run inflation trend. The smaller these deviations are, the more predictable monetary policy becomes and the greater the credibility of the central bank. In the remainder of the study, the monetary policy credibility index is denoted by CRED. This notation is used instead of MPC because MPC commonly refers to the marginal propensity to consume in the economics literature, and its use for monetary policy credibility could therefore create ambiguity.

Table 1. State-Space Model Estimation Results for Expected Inflation in Iraq

Parameter	Estimated Value	t Statistic	p Value
c	0.52	3.45	0.001
q	0.48	2.87	0.004
β	0.12	2.15	0.032
Q	0.007	1.98	0.049
R	0.081	4.22	0.000

To examine the stationarity of the study variables for Iraq, the Augmented Dickey–Fuller test was performed. The results are presented in Table 2. According to the ADF test results in Table 2, inflation, the interest rate, expected inflation, and monetary policy credibility are stationary at level because the p values of the tests for all these variables are below 0.05. In other words, these variables exhibit relatively stable means and variances over the study period, and shocks affecting them do not have permanent effects. In contrast, gross domestic product is not stationary at level because its p value is 0.3721, which exceeds 0.05. However, after first-differencing GDP, the test statistic was -18.13 and the p value was 0.0000; therefore, the first difference of GDP is stationary. Consequently, gross domestic product is integrated of order one, $I(1)$, whereas the other model variables are integrated of order zero, $I(0)$. Accordingly, to avoid spurious regression, the output variable should enter the estimated model in first-difference or growth-rate form, whereas the remaining variables can be used in levels.

Table 2. Augmented Dickey–Fuller Test Results

Variable	Form	ADF Statistic	p Value	Conclusion
Inflation (INF)	Level	-18.63	0.0000	Stationary
Interest Rate (IR)	Level	-16.20	0.0000	Stationary
Expected Inflation (EINF)	Level	-16.37	0.0000	Stationary
Gross Domestic Product (GDP)	Level	-2.41	0.3721	Nonstationary
Gross Domestic Product (GDP)	First difference	-18.13	0.0000	Stationary
Monetary Policy Credibility (CRED)	Level	-16.88	0.0000	Stationary

To investigate the existence of long-run relationships among the model variables, the Johansen cointegration test was conducted using both the trace statistic and the maximum eigenvalue statistic. The results of the trace test are presented in Table 3, while the results of the maximum eigenvalue test are presented in Table 4.

The Johansen cointegration test results reported in Tables 3 and 4 confirm the existence of long-run relationships among the model variables. According to the trace test, the null hypotheses of no cointegrating relationship and of at most one, two, and three cointegrating relationships are rejected at the 5% significance level because the trace statistics exceed their corresponding critical values and the p values are below 0.05. However, under the hypothesis of at most four cointegrating relationships, the trace statistic is 0.05, which is below the critical value of 3.84, and the p value is 0.8074; therefore, this hypothesis cannot be rejected. The maximum eigenvalue test confirms the same pattern. In this test, the hypotheses ranging from no cointegrating relationship to at most three cointegrating relationships are rejected, whereas the hypothesis of at most four cointegrating relationships cannot be rejected. Overall, the results of both tests indicate the existence of long-run equilibrium relationships among inflation, the interest rate, expected inflation, output, and monetary policy credibility in Iraq. In other words, although these variables may fluctuate in the short run, they tend to move toward a common equilibrium path in the long run.

Table 3. Johansen Cointegration Test Results Based on the Trace Statistic

Null Hypothesis	Eigenvalue	Trace Statistic	5% Critical Value	p Value
No cointegrating relationship	0.3569	286.53	69.81	0.0000
At most one cointegrating relationship	0.2013	156.31	47.85	0.0000

At most two cointegrating relationships	0.1631	89.98	29.79	0.0000
At most three cointegrating relationships	0.1190	37.44	15.49	0.0000
At most four cointegrating relationships	0.0002	0.05	3.84	0.8074

Table 4. Johansen Cointegration Test Results Based on the Maximum Eigenvalue Statistic

Null Hypothesis	Eigenvalue	Max-Eigen Statistic	5% Critical Value	p Value
No cointegrating relationship	0.3569	130.22	33.87	0.0000
At most one cointegrating relationship	0.2013	66.32	27.58	0.0000
At most two cointegrating relationships	0.1631	52.54	21.13	0.0000
At most three cointegrating relationships	0.1190	37.38	14.26	0.0000
At most four cointegrating relationships	0.0002	0.05	3.84	0.8074

To determine the appropriate number of lags in the model, the LogL, LR, FPE, AIC, SC, and HQ criteria were employed. The results are presented in Table 5. As shown in Table 5, increasing the number of lags increases the value of the log-likelihood function and generally reduces the values of the information criteria. However, the minimum values of the FPE, AIC, SC, and HQ criteria are observed at lag 2; therefore, these criteria identify two lags as the optimal model specification. Although the LR criterion suggests lag 4, selecting lag 2 is more appropriate because it is supported by the majority of the information criteria and avoids an unnecessary increase in the number of model parameters. The choice of two lags allows the model to capture the short-run effects and dynamics of variables such as inflation, the interest rate, expected inflation, output, and monetary policy credibility without substantially reducing the model's degrees of freedom. Accordingly, the BVAR model is estimated with two lags in the subsequent analysis.

Table 5. Optimal Lag Length Selection

Lag	LogL	LR	FPE	AIC	SC	HQ
0	622.8794	NA	5.07E-05	4.3005	4.3635	4.3257
1	494.1392	2188.132	2.86E-08	-3.1790	-2.8012	-3.0277
2	1104.4848	1174.706	5.20E-10*	-7.1882*	-6.4957*	-6.9108*
3	1116.0021	21.7723	5.70E-10	-7.0959	-6.0885	-6.6924
4	1140.3499	45.1937*	5.73E-10	-7.0914	-5.7693	-6.5618
5	1155.7723	28.0982	6.13E-10	-7.0258	-5.3889	-6.3701

The results presented in Table 6 indicate that inflation in Iraq exhibits temporal persistence. The coefficient of the first lag of inflation in the inflation equation is 0.2137. Therefore, an increase in inflation in one period can explain part of the inflation observed in the subsequent period. This result indicates that inflationary shocks in the Iraqi economy do not disappear rapidly and that their effects persist into subsequent periods. The coefficient of the first lag of the interest rate in the inflation equation is 0.0104, whereas the coefficient of its second lag is -0.0066. The difference in the signs of these coefficients suggests that the effect of the interest rate on inflation is neither constant nor uniform in the short run and is transmitted with a time lag through channels such as aggregate demand, the exchange rate, and inflation expectations.

The coefficient of the first lag of monetary policy credibility, CRED(-1), in the inflation equation is -0.0919. The negative sign of this coefficient indicates that greater monetary policy credibility is associated with lower inflation. In other words, the more successful the central bank is in implementing announced policies, controlling inflation, and communicating transparently, the lower inflation expectations become and the more inflationary pressures are moderated. Conversely, declining central bank credibility can increase uncertainty and intensify inflation through higher inflation expectations.

In the monetary policy credibility equation, the coefficient of CRED(-1) is 0.2728. This positive value indicates that monetary policy credibility exhibits a degree of persistence; that is, credibility gained or lost in one period influences the level of credibility in the subsequent period. Furthermore, the coefficient of the first lag of credibility

in the interest-rate equation is 0.5339. This result indicates that greater policy credibility may be associated with a more systematic and predictable interest-rate response.

In the expected inflation equation, the coefficient of the first lag of expected inflation is 0.2118. The positive sign of this coefficient indicates that inflation expectations also exhibit temporal persistence in the Iraqi economy. Therefore, sustainably reducing inflation requires policymakers not only to control monetary variables but also to manage the expectations of economic agents. Overall, the BVAR results indicate that monetary policy credibility can contribute to reducing inflation and limiting its persistence in Iraq by influencing inflation expectations and enhancing the predictability of central bank decisions.

The R^2 and adjusted R^2 values are negative in the inflation, interest-rate, and monetary policy credibility equations. These values should be interpreted cautiously in BVAR models because coefficient estimation in these models is based on Bayesian priors, and goodness-of-fit measures do not have precisely the same interpretation as in ordinary least squares regression. Nevertheless, the findings indicate that the final evaluation of the model should be based not only on coefficient estimates but also on impulse response functions, forecast error variance decomposition, and diagnostic tests.

Table 6. BVAR Model Estimation Results for Iraq

Variable/Lag	INF Equation	IR Equation	EINF Equation	GDP Equation	CRED Equation
INF(-1)	0.2137	0.4283	-0.0004	0.0701	0.0145
Standard deviation	0.0518	0.1684	0.0020	0.0885	0.0175
INF(-2)	-0.0078	-0.1191	-0.0157	-0.0236	-0.0030
Standard deviation	0.0386	0.1251	0.0015	0.0658	0.0130
IR(-1)	0.0104	0.3160	-0.0008	0.0009	0.0056
Standard deviation	0.0158	0.0515	0.0006	0.0270	0.0053
IR(-2)	-0.0066	-0.0143	0.0002	-0.0054	-0.0016
Standard deviation	0.0117	0.0384	0.0005	0.0200	0.0040
EINF(-1)	-1.6440	-8.1346	0.2118	0.2488	0.1167
Standard deviation	1.3147	4.2829	0.0509	2.2515	0.4458
EINF(-2)	1.1120	2.6605	-0.0500	0.4127	0.0897
Standard deviation	0.9299	3.0292	0.0361	1.5925	0.3513
GDP(-1)	-0.0041	0.0005	-0.0003	0.9789	0.0006
Standard deviation	0.0048	-0.0038	0.0003	0.0204	-0.0003
GDP(-2)	0.0207	0.0675	0.0008	0.0357	0.0070
Standard deviation	-0.0919	0.5339	-0.0041	0.1659	0.2728
CRED(-1)	0.1507	0.4909	0.0058	0.2581	0.0512
Standard deviation	0.0778	0.1379	0.0004	-0.0104	-0.0036
CRED(-2)	0.1123	0.3660	0.0043	0.1924	0.0383
Intercept (C)	0.5606	6.1595	0.4316	-0.0605	0.2019
Intercept standard deviation	0.8480	2.7627	0.0329	1.4522	0.2876
R^2	-0.0534	-0.0009	0.5638	0.9995	-0.0495
Adjusted R^2	-0.0901	-0.0358	0.5486	0.9995	-0.0861

The forecast error variance decomposition results for inflation presented in Table 7 indicate that the majority of inflation fluctuations in Iraq are attributable to inflation's own shocks. In the first period, 100% of the variation in inflation is explained by inflation shocks themselves. This contribution declines slightly in subsequent periods but remains as high as 99.5881% even at the 10-period horizon. Therefore, inflation in Iraq exhibits an exceptionally high degree of persistence and endogenous dynamics, with inflationary shocks remaining in the economy for several subsequent periods after they occur. The contributions of the interest rate, expected inflation, output, and

monetary policy credibility to explaining inflation fluctuations are limited, although they gradually increase over the forecast horizon. At the 10-period horizon, the contribution of the interest rate is 0.1272%, expected inflation accounts for 0.1622%, output accounts for 0.0038%, and monetary policy credibility accounts for 0.1187%. Although the direct contribution of monetary policy credibility is small relative to inflation's own shock, its gradual increase indicates that central bank credibility can contribute to inflation control in the medium term by influencing expectations and the behavior of economic agents.

Table 7. Forecast Error Variance Decomposition of Inflation in Iraq

Period	S.E.	INF	IR	EINF	GDP	CRED
1	0.3034	100.0000	0.0000	0.0000	0.0000	0.0000
2	0.3098	99.6319	0.1241	0.1503	0.0029	0.0908
3	0.3101	99.6052	0.1244	0.1555	0.0029	0.1119
4	0.3103	99.5902	0.1267	0.1619	0.0029	0.1184
5	0.3103	99.5893	0.1270	0.1621	0.0030	0.1186
6	0.3103	99.5888	0.1272	0.1622	0.0031	0.1187
7	0.3103	99.5886	0.1272	0.1622	0.0033	0.1187
8	0.3103	99.5884	0.1272	0.1622	0.0035	0.1187
9	0.3103	99.5882	0.1272	0.1622	0.0036	0.1187
10	0.3103	99.5881	0.1272	0.1622	0.0038	0.1187

Table 8 presents the ranges of responses of the model variables to shocks over a horizon of 1 to 10 periods. The widest response range is observed for the interest rate, which varies between -0.20 and 1.00 ; therefore, the interest rate demonstrates greater sensitivity to monetary and macroeconomic shocks. The response of inflation ranges from -0.10 to 0.40 , indicating that inflation may respond either positively or negatively to different shocks, particularly shocks to the interest rate, expected inflation, and monetary policy credibility. The response range of expected inflation is substantially smaller, extending from -0.008 to 0.012 , which indicates a gradual adjustment of inflation expectations. Monetary policy credibility also fluctuates within a range of -0.020 to 0.12 . This finding indicates that policy credibility is responsive to shocks, although its effects are primarily gradual and are transmitted through the inflation expectations channel.

Table 8. Ranges of the Impulse Response Functions

Response Examined	Vertical-Axis Range	Time Horizon
Response of inflation (INF) to shocks in model variables	-0.10 to 0.40	1–10 periods
Response of the interest rate (IR) to shocks in model variables	-0.20 to 1.00	1–10 periods
Response of expected inflation (EINF) to shocks in model variables	-0.008 to 0.012	1–10 periods
Response of output (GDP) to shocks in model variables	-0.10 to 0.60	1–10 periods
Response of monetary policy credibility (CRED) to shocks in model variables	-0.020 to 0.12	1–10 periods

4. Discussion and Conclusion

The findings of this study provide evidence that monetary policy credibility is an important component of inflation dynamics in Iraq, although its influence appears to operate gradually and largely through the expectations channel rather than through an immediate and dominant direct effect on observed inflation. The state-space estimates showed that expected inflation is persistent over time, with a persistence coefficient of 0.48 , while lagged realized inflation positively affects current expected inflation with a coefficient of 0.12 . These results indicate that inflation expectations in Iraq are partly backward-looking and adaptive, meaning that households, firms, and other economic agents form their expectations by considering not only current economic signals but also their previous

experience with inflation. Such persistence is particularly important because it implies that inflationary episodes may continue to influence price-setting and decision-making even after the initial macroeconomic shock has weakened. This result is consistent with evidence showing that firms revise expectations in response to both inflation outcomes and monetary policy signals, especially in high-inflation environments where past inflation acquires greater informational importance [4]. The findings also support the broader argument that inflation persistence cannot be understood exclusively in terms of contemporaneous monetary conditions and must also be analyzed through the dynamics of expectation formation.

The positive coefficient of lagged inflation in the expected inflation equation also suggests that the Iraqi economy contains a meaningful adaptive expectations component. When realized inflation rises, economic agents appear to incorporate part of that increase into their expectations of future inflation. This process can contribute to inflation persistence because higher expected inflation may affect wage demands, markups, contract pricing, borrowing decisions, and consumption timing. The result is consistent with the evidence reported by [1], who emphasized that monetary credibility plays an important role in determining how inflationary shocks propagate over time. Where credibility is weak, inflation shocks are more likely to become embedded in expectations and persist for longer periods. Similarly, [2] showed that differences in monetary policy credibility are associated with disagreement in inflation and interest-rate expectations, suggesting that credible policy can reduce uncertainty and help coordinate private-sector expectations. In the Iraqi context, the persistence identified in this study indicates that stabilizing current inflation is not sufficient by itself; successful disinflation also requires policies capable of reshaping expectations regarding the future inflation path.

The BVAR estimates reinforce this interpretation. The coefficient of $INF(-1)$ in the inflation equation was 0.2137, indicating that inflation itself exhibits temporal persistence. This means that part of current inflation can be explained by inflation in the immediately preceding period, providing evidence that price shocks in Iraq do not disappear rapidly. Such persistence may reflect indexation behavior, exchange-rate pass-through, imported inflation, recurrent fiscal injections, administered prices, production bottlenecks, and expectations formed from previous inflation experience. The result is broadly consistent with the findings of [7], who reported a significant role for monetary policy in shaping Iraqi inflation during 2004–2023, and with [8], who demonstrated dynamic relationships among monetary policy, inflation, and banking activity in Iraq. These studies collectively support the proposition that inflation in Iraq is a dynamic process that cannot be explained by a single contemporaneous policy variable.

One of the central findings of this study is the negative coefficient of $CRED(-1)$ in the inflation equation, estimated at -0.0919 . This result indicates that higher monetary policy credibility is associated with lower inflation. Although the magnitude of the coefficient is relatively modest, its sign is theoretically important because it supports the view that a credible central bank can moderate inflationary pressure by influencing the behavior and expectations of economic agents. Greater credibility implies that firms and households are more likely to believe that the central bank will respond consistently to inflationary pressures and will maintain policies compatible with price stability. As a result, the need for defensive price adjustments may decrease, wage and pricing decisions may become less inflationary, and economic agents may attach less weight to temporary shocks. This finding strongly aligns with [6], who showed that central bank credibility can moderate the inflationary effects of monetary expansion in Middle Eastern and North African economies. Their findings suggest that credibility acts as an institutional buffer that changes the inflationary consequences of monetary conditions rather than functioning merely as a reputational characteristic.

The negative relationship between credibility and inflation is also consistent with the broader evidence on the economic costs of credibility loss. [5] demonstrated that a decline in monetary policy credibility can make inflation stabilization more difficult by increasing the persistence of inflation and weakening the effectiveness of policy interventions. The Iraqi results reported here suggest the reverse mechanism: when credibility improves, inflationary pressures can be moderated because private agents respond more strongly to signals that inflation will be controlled. This interpretation is also compatible with the findings of [3], who documented credibility gains arising from effective central bank communication. Transparent and understandable communication can reduce uncertainty about policy objectives and increase confidence that the monetary authority will act consistently with its announced goals. Therefore, the observed negative effect of credibility on inflation in Iraq may reflect not only the actual policy stance but also the degree to which that stance is understood and trusted by the public.

The persistence of monetary policy credibility itself is another noteworthy result. In the credibility equation, $CRED(-1)$ had a positive coefficient of 0.2728. This indicates that credibility is path-dependent: credibility gained in one period tends to carry over into subsequent periods, while credibility lost may also take time to rebuild. This feature is economically plausible because trust in monetary institutions is generally accumulated through repeated policy consistency rather than through a single announcement or policy action. The result is consistent with the conceptual implications of [3], whose findings emphasize that credibility can be strengthened through sustained and coherent communication. It is also consistent with [5], whose analysis implies that credibility loss has consequences extending beyond the period in which the loss initially occurs. In practical terms, the Iraqi evidence suggests that central bank credibility should be treated as a stock variable accumulated over time through consistent policy performance, institutional transparency, and alignment between announced objectives and observable outcomes.

The positive coefficient of the first lag of credibility in the interest-rate equation, reported at 0.5339, further suggests that credibility is associated with a more systematic and predictable interest-rate response. This finding can be interpreted as evidence that when policy credibility is higher, monetary authorities may be better able to signal and implement interest-rate adjustments that are consistent with inflation stabilization. The result also reflects the importance of predictable policy behavior in establishing an effective transmission mechanism. In a credible policy regime, interest-rate decisions are less likely to be interpreted as temporary, politically constrained, or inconsistent. Instead, economic agents may perceive them as part of a coherent monetary strategy. This interpretation is compatible with [2], who found that monetary policy credibility is related to business confidence and disagreement concerning inflation and interest-rate expectations. Reduced disagreement can make the policy-rate channel more effective because firms and financial institutions interpret central bank actions with greater consistency.

The coefficients of the first and second lags of the policy interest rate in the inflation equation, 0.0104 and -0.0066 respectively, show that the effect of interest rates on inflation is not immediate or uniform. The sign reversal across lags suggests that monetary transmission in Iraq may operate with delay and through multiple channels, including exchange rates, credit availability, domestic demand, and expectations. This result is plausible in an economy where financial markets are relatively shallow and where the banking system may not transmit policy-rate changes rapidly to households and firms. [8] similarly highlighted the importance of banking activity in the Iraqi monetary transmission mechanism, suggesting that the effectiveness of policy depends partly on financial intermediation. The result is also consistent with [9], who showed that monetary shocks contribute to macroeconomic volatility in

Iraq, implying that their effects may unfold through complex dynamic interactions rather than through a single contemporaneous channel.

The findings concerning Iraq's vulnerability to external monetary conditions also help explain the relatively gradual response of inflation to domestic policy credibility. Because Iraq is highly integrated into global markets through oil exports, foreign-exchange revenues, imports, and international financial conditions, domestic inflation may reflect substantial external pressures that cannot be offset immediately by domestic policy actions. [10] showed that global monetary tightening has significant implications for Iraqi macroeconomic stability. Such external influences can weaken the apparent short-run contribution of domestic credibility to inflation fluctuations, even when credibility remains important for medium-term stabilization. In this sense, a relatively small direct contribution of credibility should not be interpreted as evidence that credibility is unimportant. Rather, it suggests that credibility operates within a broader system in which imported shocks, exchange-rate movements, oil-market fluctuations, and fiscal conditions also play major roles.

The variance decomposition results are particularly informative in this regard. At the 10-period horizon, 99.5881% of inflation fluctuations were explained by inflation's own shock, while the shares attributable to the interest rate, expected inflation, output, and monetary policy credibility were 0.1272%, 0.1622%, 0.0038%, and 0.1187%, respectively. The dominance of inflation's own innovations confirms the very high degree of inflation persistence identified by the BVAR coefficients. This finding may reflect a strong autoregressive structure in Iraqi inflation, where shocks propagate across periods through adaptive expectations and structural rigidities. Similar concerns regarding the persistence and endogenous dynamics of inflation are consistent with [7] and [9], both of whom documented the importance of dynamic monetary influences in Iraq. The result is also compatible with the Bayesian literature showing that inflation may display complex and persistent responses to monetary variables, as illustrated by [13] and [14].

Although the direct contribution of monetary policy credibility to the variance of inflation is quantitatively small, its contribution rises gradually over the forecast horizon. This pattern is theoretically meaningful because credibility is expected to affect inflation primarily through expectations, policy predictability, and behavior rather than through an instantaneous mechanical effect. The gradual increase in the share explained by CRED suggests that credibility has a cumulative influence that becomes more visible over time. This interpretation is supported by [1], who linked monetary credibility to inflation dynamics over extended horizons, and by [6], who showed that credibility changes the inflationary effect of monetary expansion. Thus, the Iraqi results indicate that credibility should be regarded as a medium-term stabilizing mechanism rather than as a variable expected to explain large proportions of inflation variability immediately after a shock.

The impulse response results provide further support for this interpretation. The response of inflation varied within a range of approximately -0.10 to 0.40 , whereas expected inflation showed a narrower response range of approximately -0.008 to 0.012 . The relatively small response range of expected inflation suggests gradual adjustment, which is consistent with the estimated persistence in the state-space model. Monetary policy credibility itself varied within a range of approximately -0.020 to 0.12 in response to shocks, suggesting that credibility is not fixed but responds to changing macroeconomic conditions. The adjustment pattern is consistent with the idea that credibility reflects both historical policy performance and current macroeconomic signals. In high-inflation settings, [4] showed that economic agents react to both policy announcements and observed inflation, implying that expectations and credibility are jointly updated over time.

The results also highlight the importance of fiscal–monetary policy coordination. In Iraq, monetary policy operates in an economy where government expenditure is strongly influenced by oil revenues and where fiscal injections can have substantial effects on liquidity and aggregate demand. If monetary policy attempts to restrain inflation while fiscal policy remains expansionary, the public may question the consistency and sustainability of the anti-inflation strategy. [11] emphasized the role of the Central Bank of Iraq in coordinating fiscal and monetary policy, and the current findings reinforce the importance of such coordination. A credible central bank cannot fully stabilize expectations if broader macroeconomic policy sends conflicting signals. Consequently, the effectiveness of credibility depends partly on the consistency of the overall policy framework.

Structural and financial-cycle conditions may further explain why credibility and inflation interact gradually. [12] showed that financial cycles exert asymmetric effects on the sustainability of economic growth in Iraq, suggesting that the macroeconomic environment responds differently across phases of expansion and contraction. These nonlinearities may also influence the transmission of monetary policy. During periods of financial expansion, changes in liquidity and credit may reinforce inflationary pressures, whereas during contractions, the same policy measures may have weaker effects on prices. Such asymmetries can reduce the apparent average impact of interest rates or credibility in a linear model. They nevertheless strengthen the argument for using a dynamic Bayesian framework capable of incorporating multiple lagged interactions.

The usefulness of the BVAR framework in this study is supported by earlier applications of Bayesian methods to inflation and monetary policy. [13] demonstrated the value of Bayesian model averaging for evaluating competing determinants of inflation, while [14] employed a Bayesian Markov-switching approach to identify asymmetric effects of monetary aggregates on inflation. Moreover, [15] used a Bayesian VAR framework to examine the price effects of monetary policy shocks, showing that monetary disturbances can influence prices dynamically across several periods. In line with these studies, the present results illustrate that Bayesian techniques are particularly valuable when analyzing macroeconomic systems characterized by limited sample sizes, multiple endogenous variables, and lagged transmission mechanisms.

Taken together, the results indicate that monetary policy credibility matters for inflation stabilization in Iraq, even though its direct contribution to short-run inflation variability is limited. The negative coefficient of credibility in the inflation equation, the persistence of credibility itself, the adaptive behavior of expected inflation, and the gradual rise in the contribution of credibility over the forecast horizon all support a common interpretation: credibility works mainly by changing the formation of expectations and improving the predictability of central bank behavior. The findings therefore suggest that inflation stabilization in Iraq should not be viewed solely as a technical matter of adjusting interest rates or liquidity. It is also an institutional process in which the consistency, transparency, and perceived reliability of the monetary authority shape the response of economic agents to policy.

The first limitation of this study concerns the relatively small number of annual observations available for Iraq over the study period. Although the BVAR framework and Minnesota prior help reduce overparameterization and mitigate estimation problems associated with small samples, limited observations may still constrain the precision of coefficient estimates and the ability to capture structural changes. A second limitation is that expected inflation was estimated as a latent variable using a state-space model rather than obtained directly from surveys or market-based measures. While this approach is appropriate in the absence of consistent expectation data, the estimated series may not fully capture heterogeneity in expectations across households, firms, and financial institutions. In addition, the monetary policy credibility index is constructed from deviations between realized inflation, expected inflation, and the long-run inflation trend; therefore, it represents one operational definition of credibility and may

not capture dimensions such as institutional independence, communication quality, political pressures, or the public's subjective trust in the central bank. Finally, annual data may obscure high-frequency monetary transmission and short-run responses that could be identified more clearly using quarterly or monthly observations.

Future research should examine monetary policy credibility in Iraq using alternative measures and more disaggregated data. Survey-based measures of household and firm inflation expectations would make it possible to compare directly observed expectations with those estimated through state-space methods. Future studies could also construct multidimensional credibility indices incorporating central bank communication, policy consistency, forecast accuracy, independence, and deviations from announced targets or policy objectives. The use of quarterly or monthly data could provide a more detailed assessment of the timing of monetary transmission. Researchers may also employ nonlinear BVAR, time-varying parameter VAR, Markov-switching VAR, structural BVAR, or regime-dependent models to examine whether the effect of credibility changes during high- and low-inflation periods, oil-price booms and busts, exchange-rate crises, or periods of fiscal expansion. Comparative studies involving Iraq and other oil-exporting economies in the Middle East could further clarify whether the mechanisms identified in this study are specific to Iraq or reflect broader characteristics of resource-dependent monetary systems.

From a practical perspective, the findings indicate that the Central Bank of Iraq should treat credibility management as an integral component of inflation stabilization policy. Improving transparency in monetary decisions, explaining the rationale for policy actions, publishing clearer inflation assessments, and maintaining consistency between announced objectives and actual interventions can help strengthen expectations management. Monetary authorities should also improve coordination with fiscal policymakers so that expansionary fiscal actions do not undermine monetary tightening or create contradictory signals. Developing deeper financial markets and strengthening the banking transmission mechanism would increase the effectiveness of policy-rate changes, while reducing excessive dependence on oil revenues would lower the economy's exposure to external shocks that complicate inflation control. More systematic communication with firms, households, banks, and market participants can also improve the predictability of policy and reduce uncertainty. Overall, the practical implication is that sustainable price stability in Iraq requires not only appropriate monetary instruments but also institutional consistency, policy coordination, credible communication, and long-term efforts to strengthen the structural foundations of monetary transmission.

Authors' Contributions

Authors equally contributed to this article.

Ethical Considerations

All procedures performed in this study were under the ethical standards.

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Conflict of Interest

The authors report no conflict of interest.

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