



The Asymmetric Impact of Economic Policy Uncertainty on the Demand for Money in the GCC Countries

Ahmed W. Elroukh*

Sultan Qaboos University, Oman. *Email: a.elroukh@squ.edu.om

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ABSTRACT

Heightened uncertainty in global economic policy has sparked a renewed interest in studying people's demand for money, particularly to explore whether this demand exhibits asymmetry. In this study, we utilize a nonlinear ARDL approach to investigate the asymmetric effects of global economic policy uncertainty on money demand in each GCC country. Understanding the impact of global economic policy uncertainty on money demand in GCC countries is essential for crafting effective monetary policies, especially given that these countries maintain a pegged exchange rate to the US dollar, leaving them susceptible to economic slowdowns and global business cycles. The findings show varying sensitivity to changes in economic policy uncertainty across GCC countries, with most countries demonstrating asymmetric responses. Policymakers should consider incorporating a nonlinear ARDL model when analyzing money demand in these nations.

Keywords: Money Demand, Gulf Cooperation Council, Policy Uncertainty, Asymmetry, Nonlinear Autoregressive Distributed Lag

JEL Classification: E41, C22, D801

1. INTRODUCTION

The literature on the demand for money is extensive, but recent heightened uncertainty in global economic policy has sparked renewed interest in studying people's demand for money. For example, if increased uncertainty is linked to expected inflation, individuals may opt to hold less cash and invest more in real assets as a hedge against inflation. Moreover, the impact of policy uncertainty on money demand may show asymmetry due to shifts in public expectations during periods of decreased versus increased uncertainty (Bahmani-Oskooee and Nayeri, 2018a). Heightened uncertainty could lead the public to hold more cash to prepare for uncertain future expenses. However, during periods of reduced uncertainty, individuals may not decrease their cash holdings at the same rate as they increase them during times of heightened uncertainty due to inertia in their expectations (Bahmani-Oskooee and Nayeri, 2020b).

The development of the economic policy uncertainty index by Baker et al. (2016) and the incorporation of asymmetry in the

autoregressive distributed lag (ARDL) bounds test approach by Shin et al. (2014) have sparked a renewed interest in examining asymmetric responses to policy uncertainty in the demand for money across different countries. For example, Bahmani-Oskooee and Nayeri (2018a) found that heightened policy uncertainty negatively impacted money demand in the United States. While Ivanovski and Churchill (2019) showed that economic policy uncertainty has a positive linear long-term effect on money demand in Australia, Bahmani-Oskooee and Nayeri (2018b) found evidence of nonlinearity. Moreover, Bahmani-Oskooee and Nayeri (2018c) and Bahmani-Oskooee and Nayeri (2020b) identified an asymmetric impact of policy uncertainty on money demand in Korea and the U.K., respectively. Additionally, Bahmani-Oskooee and Nayeri (2020a) identified long-run asymmetric effects of economic policy uncertainty on the demand for money in Japan. Murad et al. (2021) found symmetric effects of economic policy uncertainty on money demand in India, with no asymmetric effects observed. Bahmani-Oskooee and Aftab (2022) detected asymmetric effects

of economic policy uncertainty on money demand in China. Nusair et al. (2024) investigated the impact of economic policy uncertainty on the long-run demand for money in Canada, Japan, the United Kingdom, and the United States and found evidence of asymmetry in the response of money demand to economic policy uncertainty in these countries.

Previous studies have investigated money demand in Gulf Cooperation Council (GCC) countries, such as Hamdi et al. (2015), Mahmood (2016), Mahmood and Asif (2016), Al Rasasi (2020), Khawaja (2022), and Hasanov et al. (2022). However, none of these studies has explored the impact of economic policy uncertainty on money demand, whether symmetrically or asymmetrically. This paper aims to address this gap.

This study contributes to the existing literature by examining the asymmetric effects of global economic policy uncertainty and the U.S. monetary policy stance on money demand in each GCC country. Over the past decade, the GCC countries have experienced significant economic growth driven by oil revenues, surpassing many other emerging markets and advanced economies. They have also prioritized the modernization of their financial systems as part of a broader economic diversification strategy. The GCC has become a prominent financial hub, particularly for Islamic finance and insurance, attracting global financial institutions (Hamdi et al., 2015).

This paper employs the nonlinear ARDL approach since the previous literature favors the asymmetric models when it comes to examining the impact of economic policy uncertainty on money demand. Similarly, it is plausible to assume that impacts of the U.S. monetary policy stance on the demand for money in the GCC countries is asymmetric. An expansionary monetary policy may increase the demand for money due to higher aggregate demand components, while a contractionary monetary policy could lead to increased demand for money as a precautionary measure by the public.

Understanding the impact of global economic policy uncertainty and changes in the U.S. monetary policy on money demand in GCC countries is crucial for formulating effective monetary policies to reduce inflation, stabilize the economy, and promote economic growth. This is especially important for GCC countries as they maintain a pegged exchange rate to the US dollar. Therefore, any slowdown in the US economy could adversely affect the GCC economies, making them vulnerable to economic downturns and business cycles.

The findings of this paper reveal nuanced responses among GCC countries. Bahrain shows no significant asymmetric impact from changes in global economic policy uncertainty or federal funds rate. Kuwait, Oman, and Qatar experience a decrease in money demand with increased economic policy uncertainty. Kuwait also shows an increase in money demand with decreased federal funds rate. Oman exhibits an increase in money demand with increased federal funds rate and a decrease with decreased federal funds rate. Qatar and Saudi Arabia consistently show a decrease in money demand with changes in federal funds rate.

The UAE sees a decrease in money demand with increased economic policy uncertainty. Overall, the results highlight varying sensitivity to economic policy uncertainty and federal funds rate changes across GCC countries, with asymmetric responses in most countries.

Following this introduction, the next two sections present the empirical model and data, respectively. The discussion of results is presented in section 4, and section 5 concludes with policy recommendations.

2. LITERATURE REVIEW

Early theories of the demand for money focused on the importance of income and interest rates. Income, as a measure of economic activity, is expected to have a positive impact on money demand, while interest rates, representing the opportunity cost of holding money, are expected to have a negative impact (Baumol, 1952; Keynes, 1936; Tobin, 1956). Mundell (1963) later proposed that exchange rates also influence money demand through currency substitution. Friedman (1984) suggested that increased volatility in monetary growth leads to uncertainty, prompting the public to hold more cash for hedging purposes. Therefore, uncertainty should be considered as a determinant in the money demand function. Choi and Oh (2003) found that both monetary uncertainty and output uncertainty affect money demand in the US.

Policy uncertainty can stem from various factors such as recessions, political conflicts, media fragmentation, and technological advancements (Duca and Saving, 2018). The incorporation of asymmetry in the ARDL bounds test approach by Shin et al. (2014) and the development of the economic policy uncertainty index by Baker et al. (2016) have sparked a renewed interest in studying the demand for money in various countries, considering asymmetric responses to policy uncertainty.

In the United States, Bahmani-Oskooee and Nayeri (2018a) found that increased policy uncertainty negatively impacted the demand for money, as people became more cautious about the future. However, decreased policy uncertainty did not have long-term effects on money demand. This suggests that individuals may adjust their behavior during uncertain times but do not necessarily change their portfolio significantly when uncertainty decreases.

In Australia, Ivanovski and Churchill (2019) demonstrated that economic policy uncertainty has a positive linear long-term effect on the demand for money, indicating a precautionary motive for holding more cash during economic uncertainty. Additionally, Bahmani-Oskooee and Nayeri (2018c) found that the relationship between policy uncertainty and money demand in Australia is nonlinear, with decreased uncertainty leading to a decrease in money demand and increased uncertainty leading to an increase in money demand.

Bahmani-Oskooee and Nayeri (2018b) utilized nonlinear ARDL regression to identify a significant long-term negative asymmetric effect of policy uncertainty on the demand for money in Korea. They observed that an increase in uncertainty prompts the public

to hold less cash in favor of safer assets, while a decrease in uncertainty leads to the opposite effect.

In a study on the U.K., Bahmani-Oskooee and Nayeri (2020b) introduced asymmetric behavior of economic policy uncertainty in the demand for money function and found that both increased and decreased uncertainty prompt the public to hold more cash, indicating an asymmetric response to uncertainty. They attributed holding more money with increased uncertainty to precautionary behavior and holding more money with decreased uncertainty to inertia in individuals' behavior.

When including the measure of economic policy uncertainty in the demand for money in Japan, Bahmani-Oskooee and Nayeri (2020a) found long-run asymmetric effects where the public holds more money when there is either an increase or a decrease in uncertainty. Using a different measure of uncertainty, the Uncertainty Avoidance Index, Ongan and Gocer (2021) employed a nonlinear ARDL approach and found that the Japanese demand more money when uncertainties fall and demand less money when uncertainty rises.

Murad et al. (2021) investigated the effects of uncertainty on the stability of the money demand function in India using the ARDL bounds testing approach. They discovered that economic policy uncertainty has a linear impact on the demand for money in India in the short run, with no asymmetric effects detected.

Bahmani-Oskooee and Aftab (2022) studied the impact of policy uncertainty on money demand in China. Their analysis, using linear and nonlinear ARDL, revealed asymmetric effects of economic policy uncertainty on money demand in China. Increased uncertainty led to higher cash holdings in the long run, while decreased uncertainty had no effect.

Using a nonlinear ARDL regression, Nusair et al. (2024) examined the impact of economic policy uncertainty (EPU) on the long-run demand for money in Canada, Japan, the United Kingdom, and the United States. The study found that an increase in EPU leads to an increase in long-run money demand in the US and Japan, while it decreases money demand in Canada and the UK. Conversely, a decrease in EPU reduces money demand in the US but increases it in Canada and the UK, with no significant effect in Japan. These results highlight the importance of analyzing money demand on a country-specific basis when designing monetary policy.

Several previous studies have examined the demand for money in the GCC countries and its stability. For instance, Basher and Fachin (2014) estimated the demand for money in each GCC country, incorporating income and interest rates in their regression analysis to determine whether the transaction motive or speculative motive predominates in people's demand for money. Their findings indicated that the transaction motive is more significant in Qatar, Saudi Arabia, and the UAE, whereas the speculative motive prevails in Oman, Bahrain, and Kuwait. Hamdi et al. (2015) estimated a linear money demand function for the GCC countries in a panel-data setting and found that income elasticities are positive for all countries, ranging from 0.057 to 1.32. Additionally,

the interest semi-elasticity ranged from -0.08 to -0.068 . Mahmood (2016) used linear panel data techniques and determined that the income elasticity for the GCC countries is approximately 1.2, while the interest semi-elasticity is very close to zero and barely significant at 10%. Mahmood and Asif (2016) conducted a study using annual data and a linear ARDL approach, revealing that income elasticities are positive for all the GCC countries, ranging from 0.49 to 1.51. However, they found mixed evidence regarding the interest semi-elasticity, as some countries such as KSA and Oman did not show a negative relationship between interest rates and the demand for money. In a study by Al Rasasi (2020) using a linear ARDL approach, an income elasticity of 0.97 and an interest rate semi-elasticity close to zero were found. Similarly, Khawaja (2022) estimated the money demand function for Saudi Arabia and found that the demand for money is responsive to income but not to interest rates. Hasanov et al. (2022) analyzed the demand for money function in Saudi Arabia with respect to oil prices and found that it plays a significant role in the formation of money demand using a linear ARDL regression.

An analysis of the aforementioned literature indicates that no previous study has considered the impact of global economic policy uncertainty on the demand for money function in the GCC countries. This paper aims to address this gap.

3. EMPIRICAL MODEL

This paper examines the impacts of global economic policy uncertainty and changes in the U.S. federal funds rate on the demand for money in the GCC countries. The conventional demand for money function typically includes a scale variable, such as real GDP, and an opportunity cost variable, like the domestic interest rate. While Mundell (1963) proposed the exchange rate as a determinant of money demand, for countries with pegged exchange rate, such as the GCC countries, it would be more appropriate to include interest rates in the anchoring country (i.e., the U.S.) rather than their effectively non-varying exchange rate (Basher and Fachin, 2014). This is a direct consequence of the impossible trinity.

This paper augments the traditional demand for money function by incorporating a measure of global economic policy uncertainty as follows:

$$\ln M_{t,j} = \alpha_j + \beta_j \ln Y_{t,j} + \gamma_j r_{t,j} + \delta_j FFR_t + \theta_j GEPU_t + \varepsilon_{t,j} \quad (1)$$

where $\ln M_{t,j}$ is the log of real monetary aggregates in country j , $\ln Y_{t,j}$ is the log of real GDP, $r_{t,j}$ is domestic interest rate, FFR_t is the U.S. federal funds rate, $GEPU_t$ the global policy uncertainty index developed by Baker et al. (2016). The expected sign of β_j is positive because real GDP represents the demand for money for transaction motives. The expected signs of γ_j and δ_j are negative because domestic and foreign interest rates indicate the opportunity cost of holding money. As mentioned in the introduction, the expected sign for θ_j can be positive if the public uses cash as a hedge against uncertainty. Conversely, θ_j can be negative if uncertainty is associated with higher expected inflation, leading the public to hold less cash and more real assets.

To estimate Equation 1, cointegration among its variables needs to be established. The bounds testing approach, proposed by Pesaran et al. (2001) and Pesaran and Shin (1996), is used to test for cointegration in the autoregressive distributed lags (ARDL) regression and it can be applied whether the underlying variables are integrated of order I(1), I(0), or a combination of both. However, it is important to ensure that none of the variables included in the ARDL regression are integrated of order I(2) or higher.

Yet, Equation 1 assumes symmetry in the response of the demand for money to GEPU and FFR. As outlined in the introduction, the previous literature on the demand for money favors the asymmetric models. Therefore, this paper utilizes the recent refinement by Shin et al. (2014) which allows for the assessment of asymmetric effects of exogenous variables on the dependent variable in a nonlinear ARDL model. To incorporate asymmetric impacts of GEPU on the demand for money, Equation 1 will be modified by replacing GEPU with its positive and negative changes, representing increases and decreases in policy uncertainty, respectively:

$$GEPU^+ = \sum_{k=1}^t \max(\Delta GEPU_k, 0), \text{ and}$$

$$GEPU^- = \sum_{k=1}^t \min(-GEPU_k, 0),$$

where $GEPU^+$ is the partial sum of positive changes indicating increased uncertainty, while $GEPU^-$ is the sum of negative changes indicating decreased uncertainty. Similarly, positive and negative changes in FFR, denoted as FFR^+ and FFR^- , will replace FFR in Equation 1. The unrestricted version of this modified equation will be a nonlinear ARDL and will take the following form.

$$\begin{aligned} \Delta \ln M_{t,j} = & \alpha_j + \sum_i^{n1} \phi_{i,j} \Delta M_{t-i,j} + \sum_i^{n2} \beta_{i,j} \Delta Y_{t-i,j} + \\ & \sum_i^{n3} \gamma_{i,j} \Delta \ln Y_{t-i,j} + \sum_i^{n4} \delta_{i,j}^+ \Delta FFR_{t-i}^+ + \sum_i^{n5} \delta_{i,j}^- \Delta FFR_{t-i}^- + \\ & \sum_i^{n6} \theta_{i,j}^+ \Delta GEPU_{t-i}^+ + \sum_i^{n7} \theta_{i,j}^- \Delta GEPU_{t-i}^- + \\ & \omega_0 \ln M_{t-1} + \omega_1 \ln Y_{t-1} + \omega_3 r_{t-1} + \omega_4^+ FFR_{t-1}^+ + \\ & \omega_5^- \ln M_{t-1} + \omega_6^+ \ln Y_{t-1} + \omega_7^- GEPU_{t-1}^- + \mu_{t,j} \end{aligned} \quad (2)$$

Equation 2 can be estimated using ordinary least squares. The critical values from Pesaran et al. (2001) for the F-statistic of the bounds test in the linear ARDL model can also be used to establish cointegration in the nonlinear one (Shin et al., 2014).

4. DATA

Data for this study are sourced from various sources. Quarterly data on broad money ($M2$), real GDP (Y), and interest rates (r) in the GCC countries are obtained from the International Financial Statistics of the International Monetary Fund and the World Development Indicators of the World Bank. The broad money series is adjusted by the GDP deflator to derive real monetary aggregates for each country. Data on the federal funds rate (FFR) are sourced from FRED of the Federal Reserve Bank of St. Louis. The study utilizes the Global Economic Policy Uncertainty

($GEPU$) index developed by Baker et al. (2016) as a measure of uncertainty. Data on $GEPU$ are obtained from policyuncertainty.com. Table 1 presents the sample period covered in the analysis for each country. The sample period for each country is chosen based on the availability of data for all included series in that particular country.

5. DISCUSSION OF RESULTS

The analysis begins with a series of diagnostic tests. Initially, the Augmented Dickey-Fuller unit root test is conducted to ensure that none of the included series is integrated of order 2 or higher. Table 2 shows that all included series are a mix of I(0) and I(1), suggesting the appropriateness of using an ARDL approach. The Akaike information criterion (AIC) was used to select the optimal lag specification for each country's regression. The validity of the nonlinear ARDL approach estimates depends on whether the error terms in Equation 2 are well-behaved. The F-statistics for the Breusch-Godfrey and Breusch-Pagan-Godfrey tests of serial correlation and homoscedasticity of the error terms in Equation 2 are reported in Table 3, indicating that the error terms are white noise.

The next step in applying a nonlinear ARDL approach is to establish cointegration among the included series in the estimated equation for each country. The F-statistics of the bounds test suggest the presence of a long-run relationship between the demand for money in all GCC countries and the included regressors. The coefficients of the error-correction term (EC_{t-1}) are significant, negative, and between 0 and 1 for all countries, suggesting a tendency for the estimated long-run relationship to converge to its steady state in response to external shocks.

Table 3 presents the long-run estimates of the nonlinear ARDL model in Equation 2.¹ The main variables of interest in this paper are GEPU and FFR. The estimated results for the GCC countries show varied responses to economic policy uncertainty. In Bahrain, both increased and decreased uncertainty coefficients indicate no significant impact on the demand for money, suggesting a stable economic environment or effective monetary policies. Kuwait, Oman, and Qatar demonstrate asymmetric responses with negative coefficients for both increased and decreased uncertainty. This implies that increased uncertainty leads to a decreased demand for money as individuals hedge against expected inflation

1. The paper focuses on the long run cointegrating relationship and omits the results for the short-run adjustment for brevity, but they are available upon request.

Table 1: Sample periods used in the analysis

Country	Sample period
Bahrain	1997Q1-2015Q4
Kuwait	2001Q4-2023Q3
Oman	2007Q1-2017Q4
Qatar	2004Q3-2022Q4
Saudi Arabia	1999Q1-2017Q4
UAE	2007Q4-2023Q4

Source: Table is prepared by the author using available data from the IFS of the IMF and the WDI of the World Bank

Table 2: Results of the ADF unit root tests

Series	levels											
	Bahrain		Kuwait		Oman		Qatar		Saudi Arabia		UAE	
	t-stat	spec.	t-stat	spec.	t-stat	spec.	t-stat	spec.	t-stat	spec.	t-stat	spec.
<i>Y</i>	-1.4	T	-3.6***	C	-7.7***	T	-3.0**	C	-3.6**	T	-5.7***	T
<i>r</i>	-2.0	C	-2.5	C	-0.3		-2.1	C	-1.9*		-2.2	C
<i>FFR</i>							-2.8*, C					
<i>GEPU</i>							-3.4*, T					
Series	1 st difference											
	Bahrain		Kuwait		Oman		Qatar		Saudi Arabia		UAE	
	t-stat	spec.	t-stat	spec.	t-stat	spec.	t-stat	spec.	t-stat	spec.	t-stat	spec.
<i>Y</i>	-3.4**	C										
<i>r</i>	-5.9***		-3.2***		-2.3**		-6.0***		-4.3***		-4.2***	
<i>FFR</i>							-4.3***					
<i>GEPU</i>							-11.0***					

***, **, and * denote significance at the 1%, 5%, and 10%, respectively. Specification indicates whether the test specification included a significant constant (C), significant constant and Trend (T), or none (blank). Source: Author's calculations using EViews

Table 3: Long-run coefficient estimates of the nonlinear ARDL regression and diagnostic statistics

Variable	Bahrain	Kuwait	Oman	Qatar	Saudi Arabia	UAE
<i>Y</i>	1.42** (2.61)	-0.61 (-0.88)	4.49 (1.36)	-0.38 (-1.20)	0.08 (0.19)	3.73*** (6.16)
<i>r</i>	0.03 (0.70)	-0.30** (-2.50)	0.05 (0.42)	0.16*** (6.56)	0.33*** (3.23)	-0.06 (-0.64)
<i>FFR</i> ⁺	-0.02 (-0.48)	0.12 (1.31)	1* (1.80)	-0.23*** (-5.57)	-0.37*** (-3.78)	0.12 (1.27)
<i>FFR</i> ⁻	-0.01 (-0.29)	0.12** (2.23)	-0.21** (-2.63)	-0.21*** (-4.06)	-0.29*** (-2.92)	-0.03 (-0.27)
<i>GEPU</i> ⁺	0.02 (0.28)	-0.91*** (-3.78)	-1.41*** (-3.23)	-0.69*** (-4.06)	-0.10 (-1.24)	-0.23*** (-3.94)
<i>GEPU</i> ⁻	0.04 (0.47)	-1.25*** (-6.23)	-0.81** (-2.13)	-1.14*** (-5.75)	-0.44*** (-4.69)	0.05 (0.54)
<i>C</i>	-6.66* (-1.75)	11.29** (1.98)	-40.79 (-1.41)	10.46*** (3.1)	5.96 (1.11)	-37.65*** (-4.97)
F-bounds test	3.68**	4.87***	3.29**	10.16***	5.35***	5.60***
<i>EC</i> _{<i>t-1</i>}	-0.19*** (-5.74)	-0.28*** (-6.84)	-0.22*** (-5.86)	-0.30*** (-9.64)	-0.23*** (-7.02)	-0.28*** (-7.28)
Adj. R ²	0.59	0.77	0.71	0.63	0.72	0.75
H ₀ : no serial correlation	0.49	1.73	1.73	2	0.16	1.56
H ₀ : Homoskedasticity	1.19	0.76	0.48	0.89	0.58	0.57

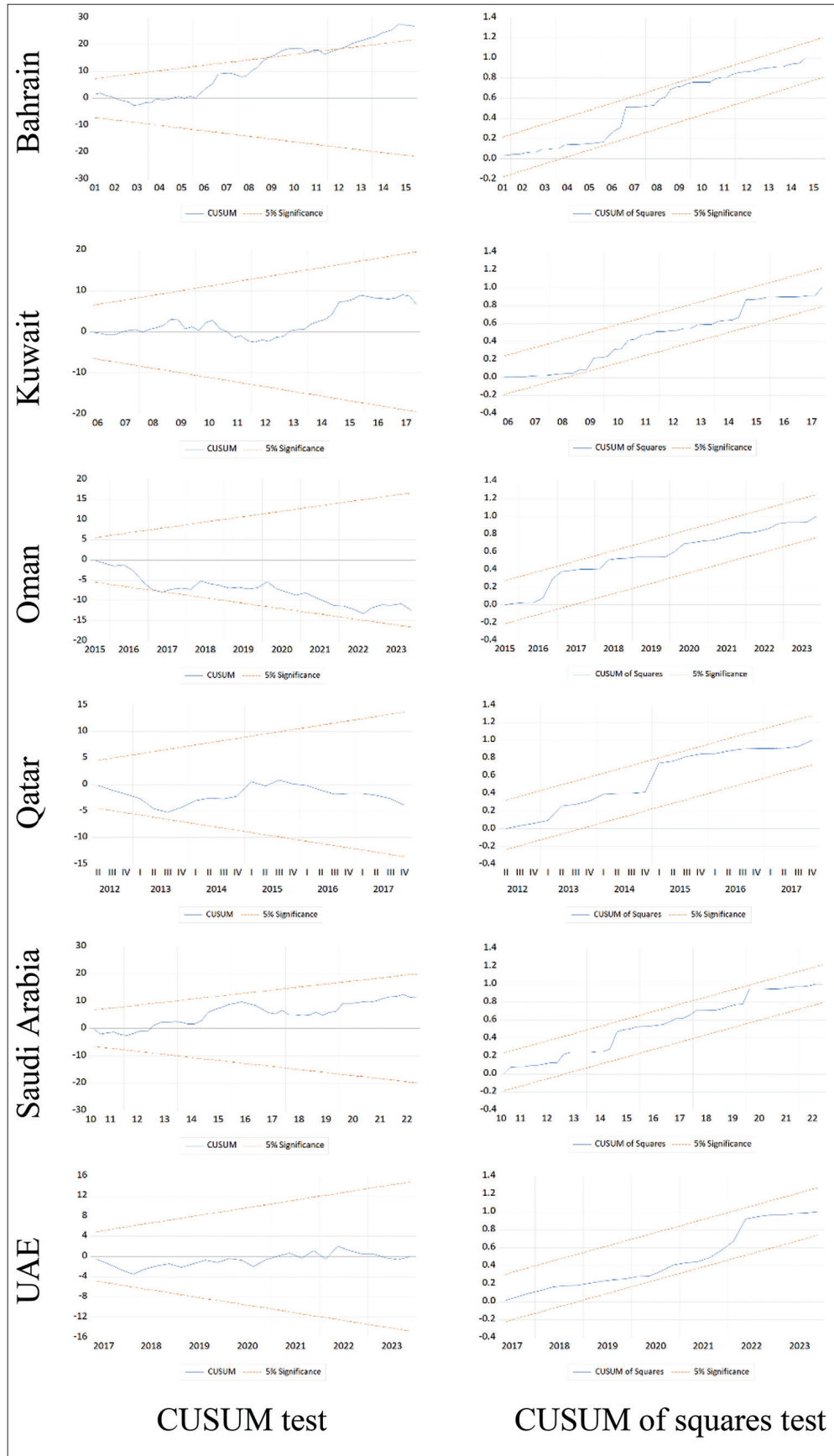
Prepared by the author using EViews. t-ratios are in parentheses. *, **, and *** denote a P<10%, 5%, and 1%, respectively. Newey and West (1987) standard errors are applied. LM test statistics for the null hypothesis of no serial correlation are presented. F statistics for the null hypothesis of homoskedasticity are presented

by investing in real assets. Decreasing uncertainty also reduces the demand for money, possibly due to inertia in behavior. In Saudi Arabia, the asymmetric response is evident with a zero coefficient for increased uncertainty and a negative coefficient for decreased uncertainty. This indicates that while increased uncertainty does not affect money demand, decreased uncertainty increases it, reflecting transaction motives. The UAE also shows an asymmetric response with a negative coefficient for increased uncertainty and a zero coefficient for decreased uncertainty. This suggests that increased uncertainty decreases money demand due to a preference for real assets, while decreased uncertainty does not significantly alter cash holdings, possibly due to lingering doubts about economic stability. These findings highlight the varying economic behaviors across the GCC, influenced by inflation expectations, precautionary motives, and inertia in adjusting cash holdings.

The estimated results for the GCC countries reveal varied responses to changes in the federal funds rate (FFR). In Bahrain,

both increases and decreases in FFR show no significant impact on the demand for money, indicating a stable economic environment or effective monetary policies that mitigate FFR changes. In Kuwait, an increase in FFR alters the demand for money, while a decrease in FFR decreases the demand for money, suggesting an asymmetric response. Oman exhibits a symmetric response to FFR changes. Qatar and Saudi Arabia both show asymmetric responses: Increases in FFR reduce the demand for money, possibly due to inflation expectations and a preference for real assets. However, decreases in FFR also decrease the demand for money, possibly reflecting concerns about a potential upcoming recession. In the UAE, both increases and decreases in FFR have zero coefficients, indicating no significant impact on the demand for money, similar to Bahrain. These findings underscore the varied economic behaviors across the GCC, influenced by the opportunity cost of holding money and the direct spillover effects of changes in the US interest rate due to the pegged exchange rate to the US dollar.

Figure 1: Stability diagnostics for the estimated nonlinear autoregressive distributed lag model



Source: Author's calculations using EViews

In line with previous literature on the demand for money in the GCC countries but inconsistent with economic theory, the estimated coefficients for real GDP and domestic interest rates show mixed and inconclusive results.

To assess the stability of the estimated money demand function, Figure 1 displays the results of both the CUSUM and CUSUM2 tests. The tests confirm the stability of the estimated long-run relationships, except for Bahrain where the CUSUM test shows some instability, although the CUSUM2 test indicates stability in its estimated money demand function. The adjusted R^2 values for all six countries are reasonable, indicating a good model fit.

6. CONCLUSION AND POLICY RECOMMENDATIONS

Heightened global economic policy uncertainty may lead to an increase in cash holdings for future expenses. However, if uncertainty is associated with higher inflation, individuals may opt to invest in real assets instead. The development of the global economic policy uncertainty index by Baker et al. (2016) and the incorporation of asymmetry in the ARDL model by Shin et al. (2014) have spurred research on the asymmetric impact of policy uncertainty on money demand. This area remains unexplored for the GCC countries, making it essential to understand this impact for effective monetary policy formulation to curb inflation, stabilize the economy, and foster growth, particularly given the GCC countries' fixed exchange rate to the US dollar.

This study aims to assess the asymmetric impact of global economic policy uncertainty and the U.S. monetary policy stance on money demand in the GCC countries. The findings of the study reveal varied responses among GCC countries to changes in global economic policy uncertainty and the U.S. monetary policy stance. Bahrain shows no significant asymmetric impact, while Kuwait, Oman, and Qatar experience asymmetric changes in money demand. Kuwait sees an increase in money demand with decreased FFR, while Oman shows an increase with increased FFR. Qatar and Saudi Arabia consistently decrease money demand with FFR changes. The UAE experiences a decrease in money demand with increased economic policy uncertainty. The results indicate that economic policy uncertainty and shifts in U.S. monetary policy significantly influence money demand in GCC countries, underscoring the importance of establishing a stable money demand function in these nations. The effects exhibit asymmetry across most GCC countries, emphasizing the need for policymakers to use a nonlinear ARDL model in modeling money demand in these countries.

REFERENCES

- Al Rasasi, M.H. (2020), Assessing the stability of money demand function in Saudi Arabia. *International Journal of Economics and Financial Research*, 62, 22-28.
- Bahmani-Oskooee, M., Aftab, M. (2022), On the impact of policy uncertainty on the demand for money in China: An asymmetric analysis. *The Chinese Economy*, 55(6), 399-409.
- Bahmani-Oskooee, M., Nayeri, M. (2018a), Asymmetric effects of policy uncertainty on the demand for money in the United States. *Journal of Risk and Financial Management*, 12(1), 1.
- Bahmani-Oskooee, M., Nayeri, M. (2018b), Policy uncertainty and the demand for money in Australia: An asymmetry analysis. *Australian Economic Papers*, 57(4), 456-469.
- Bahmani-Oskooee, M., Nayeri, M. (2018c), Policy uncertainty and the demand for money in Korea: An asymmetry analysis. *International Economic Journal*, 32(2), 219-234.
- Bahmani-Oskooee, M., Nayeri, M. (2020a), Policy uncertainty and the demand for money in Japan. *Review of Economic Analysis*, 12(1), 73-87.
- Bahmani-Oskooee, M., Nayeri, M. (2020b), Policy uncertainty and the demand for money in the United Kingdom: Are the effects asymmetric? *Economic Analysis and Policy*, 66, 76-84.
- Baker, S.R., Bloom, N., Davis, S.J. (2016), Measuring economic policy uncertainty. *The Quarterly Journal of Economics*, 131(4), 1593-1636.
- Basher, S.A., Fachin, S. (2014), Investigating long-run demand for broad money in the Gulf Arab countries. *Middle East Development Journal*, 6(2), 199-214.
- Baumol, W.J. (1952), The transactions demand for cash: An inventory theoretic approach. *The Quarterly Journal of Economics*, 66(4), 545.
- Choi, W.G., Oh, S. (2003), A money demand function with output uncertainty, monetary uncertainty, and financial innovations. *Journal of Money, Credit, and Banking*, 35(5), 685-709.
- Duca, J.V., Saving, J.L. (2018), What drives economic policy uncertainty in the long and short runs: European and U.S. evidence over several decades. *Journal of Macroeconomics*, 55, 128-145.
- Friedman, M. (1984), Lessons from the 1979-82 monetary policy experiment. *The American Economic Review*, 74(2), 397-400.
- Hamdi, H., Said, A., Sbia, R. (2015), Empirical evidence on the long-run money demand function in the GCC countries. *International Journal of Economics and Financial Issues*, 5(2), 2.
- Hasanov, F.J., Al Rasasi, M.H., Alsayaary, S.S., Alfawzan, Z. (2022), Money demand under a fixed exchange rate regime: The case of Saudi Arabia. *Journal of Applied Economics*, 25(1), 385-411.
- Ivanovski, K., Churchill, S.A. (2019), Economic policy uncertainty and demand for money in Australia. *Applied Economics*, 51(41), 4516-4526.
- Keynes, J.M. (1936), *The General Theory of Employment, Interest and Money*. London: Macmillan.
- Khawaja, M.J. (2022), Exploring the stability of money demand function for GCC countries. *Pakistan Journal of Humanities and Social Sciences*, 10(2), e0240.
- Mahmood, H. (2016), Revisiting money demand function for GCC countries and testing its stability. *Journal of Economics and Economic Education Research*, 17(2), 137-147.
- Mahmood, H., Asif, M. (2016), An empirical investigation of stability of money demand for GCC countries. *International Journal of Economics and Business Research*, 11(3), 274-286.
- Mundell, R.A. (1963), Capital mobility and stabilization policy under fixed and flexible exchange rates. *The Canadian Journal of Economics and Political Science*, 29(4), 475.
- Murad, S.M.W., Salim, R., Kibria, M.G. (2021), Asymmetric effects of economic policy uncertainty on the demand for money in India. *Journal of Quantitative Economics*, 19(3), 451-470.
- Newey, W.K., West, K.D. (1987), A simple, positive semi-definite, heteroskedasticity and autocorrelation consistent covariance matrix. *Econometrica*, 55(3), 703-708.
- Nusair, S.A., Olson, D., Al-Khasawneh, J.A. (2024), Asymmetric effects of economic policy uncertainty on demand for money in developed countries. *The Journal of Economic Asymmetries*, 29, e00350.

- Ongan, S., Gocer, I. (2021), Monetary policy uncertainties and demand for money for Japan: Nonlinear ARDL approach. *Journal of the Asia Pacific Economy*, 26(1), 1-12.
- Pesaran, M.H., Shin, Y. (1996), Cointegration and speed of convergence to equilibrium. *Journal of Econometrics*, 71(1-2), 117-143.
- Pesaran, M.H., Shin, Y., Smith, R.J. (2001), Bounds testing approaches to the analysis of level relationships. *Journal of Applied Econometrics*, 16(3), 289-326.
- Shin, Y., Yu, B., Greenwood-Nimmo, M. (2014), Modelling asymmetric cointegration and dynamic multipliers in a nonlinear ARDL framework. In: Sickles, R.C., Horrace, W.C., editors. *Festschrift in Honor of Peter Schmidt*. New York: Springer, p281-314.
- Tobin, J. (1956), The interest-elasticity of transactions demand for cash. *The Review of Economics and Statistics*, 38(3), 241.