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### The Response of Monetary Policy to Adjustments in Macroeconomic Dynamics in the United Arab Emirates

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#### ABSTRACT

*This study explores the response of monetary policy to changes in selected macroeconomic variables in the United Arab Emirates (UAE) over the period from 1990 to 2022. To achieve this objective, the study utilizes the autoregressive distributed lag (ARDL) approach alongside the Gregory-Hansen cointegration test. The results from the bounds-testing procedure provide evidence of a cointegrating relationship between monetary policy measured by the money market rate and, selected macroeconomic variables including the inflation rate, financial deepening, foreign direct investment, economic activity, and monetary uncertainty. In addition, the estimation results demonstrate that monetary policy responds positively to changes in economic activity, financial deepening, and FDI, and negatively to monetary uncertainty in the long run. Moreover, the short-term results show that the central bank follows an expansionary monetary policy in response to short-term changes in economic activity and financial deepening, and a lax monetary policy following short-term changes in FDI and inflation. Based on these findings, the UAE's monetary authority is encouraged to take advantage of the various monetary policy tools at its disposal to stimulate the economy, especially as the country attempts to diversify its economy away from oil.*

## INTRODUCTION

Monetary policy is a critical instrument for stabilising economies, influencing inflation, employment, and overall economic growth through the regulation of interest rates, money supply, and financial markets. Central banks across the world utilise monetary policy to manage the business cycle and mitigate external shocks, adjusting policy settings based on a range of macroeconomic indicators such as inflation, output, and investment (Mishkin, 2001). The effectiveness of monetary policy in achieving its objectives hinges largely on how responsive it is to changes in these macroeconomic variables (Cioran, 2014). At the core of this dynamic is the interaction between monetary policy and key economic indicators, which informs the optimal policy response in any given economic situation (Ahmad & Nasrin, 2017).

The relationship between monetary policy and macroeconomic variables has been extensively studied in both advanced and emerging economies. In advanced economies, the transmission of monetary policy typically involves a well-functioning financial system that efficiently channels policy adjustments into the broader economy, affecting consumption, investment, and inflation expectations (Taghizadeh-Hesary & Yoshino, 2016). In contrast, the transmission mechanism in emerging markets often differs due to less-developed financial systems, external vulnerabilities, and structural rigidities, which can lead to asymmetric responses to monetary policy shocks (Mishra et al., 2014). The degree to which monetary policy influences macroeconomic outcomes also depends on factors such as financial deepening, foreign direct investment (FDI), and the level of economic activity, all of which shape how quickly and effectively policy adjustments are felt throughout the economy (Islam & Lee, 2020).

Empirical research has demonstrated that monetary policy responds differently to various macroeconomic variables, depending on the structure and development of the financial system. For instance, monetary policy tends to be more responsive to inflation in economies with higher levels of financial development, where credit markets and banking sectors are more integrated into the real economy (Ma & Lin, 2016). Meanwhile, financial deepening, characterised by an expanding financial sector that provides greater access to credit and investment, enhances the effectiveness of monetary policy by amplifying its transmission channels (Seth & Kalyanaraman, 2017). Foreign direct investment also plays a significant role, as economies with substantial FDI inflows may experience stronger policy responses to global capital market shifts, necessitating adjustments in interest rates or liquidity management to stabilise domestic markets (Karahan & Bayir, 2022). These dynamics suggest that understanding how monetary policy responds to changes in macroeconomic variables is crucial for formulating effective economic policies, particularly in economies that are undergoing rapid structural changes.

While considerable research has focused on the effectiveness of monetary policy in advanced economies, less attention has been given to the interactions between monetary policy and macroeconomic variables in small, open economies, particularly those in the Gulf Cooperation Council (GCC) region (Polyzos, 2022). For GCC countries like the United Arab Emirates (UAE), monetary policy plays a significant role in managing external economic shocks, fluctuations in global oil prices, and evolving economic structures (Vandyck et al., 2018). Over the past few decades, the UAE's economy has undergone rapid transformation, shifting from an oil-dependent structure to a more diversified economy with notable investments in sectors such as tourism, financial services, and real estate (Shariq et al., 2015). This diversification necessitates a re-evaluation of the country's monetary policy framework, as the traditional approach of stabilizing oil revenue fluctuations may no longer be adequate to address the complexities of a diversified economy (Polyzos, 2022). Additionally, as the UAE deepens its financial sector and continues to attract substantial FDI, understanding the interaction between monetary policy and macroeconomic indicators—such as inflation, economic growth, and monetary uncertainty—becomes increasingly crucial for shaping the country's economic trajectory. The devastating impact of the 2008 global financial crisis highlighted the importance of effective monetary policy in managing such shocks (Elsayed et al., 2023). Thus, understanding how monetary policy responds to changes in key macroeconomic variables is essential for maintaining economic stability and ensuring sustainable long-term growth.

Against this backdrop, this study contributes to the literature by examining the response of monetary policy in the UAE to adjustments in key macroeconomic variables over the period from 1990 to 2022. Employing the autoregressive distributed lag (ARDL) method and the Gregory-Hansen cointegration test, this paper investigates the long-run and short-run relationships between monetary policy, as measured by

the money market rate, and selected macroeconomic variables, including inflation, financial deepening, FDI, economic activity, and monetary uncertainty. The findings provide valuable insights into the dynamics of monetary policy adjustments in the UAE, highlighting how the central bank strategically responds to both long-term economic shifts and short-term fluctuations in key economic indicators. Moreover, by exploring how the UAE's monetary policy responds to macroeconomic changes, this study contributes to a broader understanding of policy formulation in resource-rich economies pursuing economic diversification. The results also offer practical recommendations for the UAE's monetary authorities, particularly in utilising the various monetary policy tools available to stimulate non-oil sector growth and support the broader goals of economic diversification. As the UAE continues to transition toward a more complex and diversified economic structure, these insights are essential for ensuring that monetary policy remains an effective instrument for fostering sustainable economic growth and maintaining financial stability.

The remainder of this paper is organised as follows. Section two discusses the research method and data. Section three presents and discusses the empirical results. Section four concludes the paper.

## 1. DATA AND METHODOLOGY

### 1.1 Model specification

Following Elsayed et al. (2023), the following econometric model is specified to investigate the response of monetary policy to adjustments in selected macroeconomic variables:

$$mpr_t = a + \pi_1 y_t + \pi_2 p_t + \pi_3 fd_t + \pi_4 fdi_t + \pi_5 mu_t + \mu_t \quad (1)$$

where  $t = 1, 2, \dots, T$  denotes time.  $mpr$  is monetary policy regulation.  $y$  denote economic activities.  $p$  is inflation rate.  $fd$  is financial deepening.  $fdi$  represent foreign direct investment.  $mu$  is monetary uncertainty.  $a$  is the intercept.  $\pi_i$  is the vector of slope coefficients.  $\mu_t$  is stochastic error term, with zero mean and constant variance.

To reduce skewness, the model in Equation (2) is rewritten by taking the logarithm of economic activities and monetary uncertainty:

$$mpr_t = a + \pi_1 l.y_t + \pi_2 p_t + \pi_3 fd_t + \pi_4 fdi_t + \pi_5 l.mu_t + \mu_t \quad (2)$$

where  $l.$  represent log transformation.

### 1.2 Econometric Procedure

To explore the response of monetary policy to selected macroeconomic variables, both the Gregory-Hansen (GH) cointegration method and the ARDL bounds-testing approach are applied. The Gregory-Hansen cointegration method, developed by Gregory and Hansen (1996), is used to assess cointegration in the presence of a potential single structural break. This approach allows us to identify the exact point of structural change in the cointegrating relationship (Gamal et al., 2020).

To enhance robustness in determining the cointegrating relationship between monetary policy and macroeconomic variables, the ARDL bounds-testing approach (Pesaran et al., 2001) is used. The Gregory-Hansen method's structural time-break (Gamal et al., 2019a) is integrated into the ARDL model, ensuring accurate estimation of Equation (2) and a comprehensive understanding of the long-run dynamics of the relationship.

Typically, a bivariate ARDL model is given by:

$$y_t = \alpha + \sum_{i=1}^p \beta_i' y_{t-i} + \sum_{j=0}^q \omega_j' x_{t-i} + \chi_j' D_{t,j} + \mu_t \quad (3)$$

where  $i$  and  $j$  denote the lag indices, with  $i = 1, 2, \dots, p$ , and  $j = 0, 1, 2, \dots, q$ .  $t = 1, 2, \dots, T$  represents time.  $y_t$  is the dependent variable,  $x_t$  is the independent variable, and  $D_{t,j}$  denotes the structural break

dummy (identified by the Gregory-Hansen test).  $\beta_i$ ,  $\omega_i$  and  $\chi_j$  are the coefficients for the lags of  $y_t$ ,  $x_t$ , and  $D_{t,j}$ , respectively.  $\alpha$  is the constant term.  $\mu_t$  is the stochastic error term.

Re-parameterising equation (3) into an error correction representation yield:

$$\Delta y_t = \alpha + \rho' y_{t-1} + \gamma' x_{t-1} + \sum_{i=1}^{p-1} \lambda_i' \Delta y_{t-i} + \sum_{j=1}^{q-1} \delta_j' \Delta x_{t-i} + \eta_j' D_{t,j} + \varepsilon_t \quad (4)$$

where  $\Delta$  represents the difference operator;  $\lambda_i$ ,  $\delta_i$ ,  $\eta_i$  are the functions of the original parameters in Equation (2).  $\rho = -(1 - \sum_{i=0}^p \beta_i)$ , and  $\gamma = \sum_{j=0}^q \omega_j$ .

Pesaran et al. (2001) demonstrated that a cointegrating relationship between  $y_t$  and  $x_t$  can be established by testing the null hypothesis of no cointegration  $H_0: \rho = \gamma = 0$  against the alternative hypothesis of cointegration  $H_1: \rho \neq \gamma \neq 0$ . To reach a valid conclusion, the null hypothesis must be rejected. This is done by comparing the F-statistic, computed from the Wald test, with the upper and lower critical bounds provided by Pesaran et al. (2001). The null hypothesis  $H_0$  can be rejected if the F-statistic exceeds the upper critical bound. However, if the F-statistic falls between the lower and upper bounds, the inference remains inconclusive.

If cointegration is established, the long-run estimates are obtained by normalizing the coefficients of the lagged explanatory variables ( $\gamma$ ) by the coefficient of lagged dependent variables ( $\rho$ ), i.e.,  $-(\gamma/\rho)$ . Additionally, the dynamic short-run estimates of the ARDL model are obtained by estimating a dynamic restricted error-correction ARDL-ECM model as follows:

$$\Delta y_t = \alpha + \sum_{i=1}^{p-1} \zeta_i' \Delta y_{t-i} + \sum_{j=1}^{q-1} \xi_j' \Delta x_{t-i} + \chi_j' D_{t,j} + \phi \mu_{t-1} + \varepsilon_t \quad (5)$$

where  $\phi$  represents the coefficient of the lagged error term ( $\mu_{t-1}$ ), indicating the rate of adjustment back to the long-run equilibrium following a short-run deviation. The optimal lag length for both the restricted and unrestricted error correction models is determined using the Akaike Information Criterion (AIC).

## 1.3 The Data

The paper uses annual time-series data from 1990 to 2022. The variables are measured as follows: *mpr* is represented by the lending interest rate; *y* is proxied by GDP at current market prices; *p* is the annual percentage change in the Consumer Price Index (CPI); *fd* is the ratio of credit to the private sector relative to GDP; *fdi* is foreign direct investment inflow as a percentage of GDP; and *mu* is the uncertainty for aggregate money supply proxied by money supply fluctuations in millions of UAE Dirham. Data on the lending interest rate is obtained from the Central Bank of the UAE (CBUAE), while the remaining variables are sourced from the World Bank's World Development Indicators (WDI).

## 2. EMPIRICAL RESULTS

### 2.1 Unit Root test

To examine the stationarity properties of the series, the Augmented Dickey-Fuller (ADF), Phillips-Perron (PP), and Zivot-Andrews (ZA) unit root tests were conducted. The results, summarized in Table 1, indicate that both the ADF and Phillips-Perron tests reject the null hypothesis of non-stationarity for all six series at the 1 percent significance level after first differencing, suggesting that the series are integrated of order I(1). Since these tests do not account for structural breaks, the ZA and Perron (1997) tests were applied for robustness. Unlike the traditional tests, the ZA results show that financial deepening and FDI are stationary at level at the 1 percent significance level, while the monetary policy rate, inflation, aggregate economic activities, and monetary uncertainty are stationary after first differencing at the 5 percent significance level. This implies that, apart from financial deepening and FDI, the other variables are I(1). Despite

the differences among the tests regarding the order of integration, the series comprise a mix of I(0) and I(1), justifying the use of the ARDL bounds-testing technique.

**Table 1.** Results of Unit Root Tests

		<i>mpr</i>	<i>l.y</i>	<i>p</i>	<i>fd</i>	<i>fdi</i>	<i>l.mu</i>
ADF	Level	-1.968	-1.235	-2.494	-0.763	-2.434	-0.689
	1 <sup>st</sup> Diff.	-4.647***	-4.927***	-5.114***	-4.102***	-3.609**	-2.676*
PP	Level	-1.579	-1.235	-2.494	-0.545	-2.001	-0.744
	1 <sup>st</sup> Diff.	-3.333**	-4.927***	-5.388***	-5.099***	-5.072***	-2.672*
ZA	Level	-4.243	-2.504	-4.082	-5.989***	-6.015***	-3.441
	$T_b$	1998	2015	2009	2007	2003	2004
	1 <sup>st</sup> Diff.	-5.064*	-6.237***	-6.036***	-	-	-5.248**
	$T_b$	2000	2009	2009	-	-	2009

Notes: *l.* represent log transformation.  $T_b$  is the structural break-date. ADF represents the Augmented Dickey-Fuller (1979) test, PP denotes Philips-Peron (1988) test, ZA is the Zivot and Andrews (1992) test with one break, and Perron represents Perron (1997) unit root test with one break. The ADF and PP unit root test tests the null hypothesis of unit root against the alternative hypothesis of a stationary process. ZA and Perron tests the null of unit root against the alternative hypothesis of a trend-stationary process with one-time structural break occurring at an unknown point in time. Both the ZA and Perron unit root tests are conducted based on Model A which represent structural change in the level shift or intercept. The optimal lag length selection in ADF, ZA, and Perron tests are based on the Schwarz Information Criteria (SIC) of Schwarz (1978), while the maximum lag-length is set to 8. For PP test, the bandwidth is automatically determined based on the Newey-West method using the Bartlett kernel spectra estimation method. MacKinnon's (1996) critical values (CV) for ADF and PP tests (intercept only) are given as: -3.679, -2.968, and -2.623, at 1%, 5% and 10% levels, respectively. ZA's CV for structural change in the level shift are: -5.34 (1%), -4.93 (5%) and -4.58 (10%). Perron (1997)'s CV for structural change in level are -5.92 (1%), -5.23 (5%), and -4.92 (10%). Asterisks (\*\*\*) (\*\* and \*) indicate significance at 1%, 5% and 10% level, respectively.

Source: Estimation's output

## 2.2 Cointegration test

To assess the cointegrating relationship between the regressand and its variables in Equation (1), the Gregory-Hansen (GH) cointegration test and the ARDL bounds-testing approach by Pesaran et al. (2001) are applied. The results, presented in Tables 2 and 3, show that the GH test's  $ADF^*$  statistic (-6.653) exceeds the critical value of -4.72 (in absolute terms) at the 5 percent significance level in GH-2 (cointegration with level shift and trend), indicating evidence to reject the null hypothesis of no cointegration for model GH-2. However, there is insufficient evidence to reject the null hypothesis for models GH-1 and GH-3. The identified 2001 break point aligns with heightened monetary regulation in the UAE following the September 11, 2001 terrorist attacks, which led to increased scrutiny of the country's financial sector by international bodies (Alkrisheh & Jaffal, 2018). This came after investigations revealed that the attackers used UAE financial institutions to facilitate the plot (Malnick & Heighton, 2017).

**Table 2.** Results of Gregory-Hansen Cointegration Test

<i>Model</i>	$ADF^*$	$T_b$	<i>t-critical</i>	<i>Decision</i>
GH-1 (Level shift)	-4.584	1994	-4.61	Accept null hypothesis
GH-2 (Level shift with trend)	-6.653**	2001	-4.72	Reject null hypothesis
GH-3 (Region shift of full break)	-4.5832	2000	-4.68	Accept null hypothesis

Notes:  $T_b$  is time break. Asterisk (\*\*) denote statistical significance at 5 percent level. Critical values are obtained from Gregory and Hansen (1996, Table 1 pp.109) for  $m=1$ .

Source: Estimation's output

The ARDL bounds-testing results (including a 2001 break dummy) indicate that the F-statistic (9.66) exceeds the upper critical bound value (4.15) at the 1 percent significance level. This provides strong evidence to reject the null hypothesis of no cointegration among the series. Therefore, it can be concluded that a significant long-run cointegrating relationship exists between the monetary policy rate and the selected macroeconomic variables.

**Table 3.** Results of ARDL Bounds Testing

Lag Length	F-statistic	k	n	Bounds	10%	5%	1%
				I(0)	2.08	2.39	3.06
2,2,1,2,3,1	9.660***	5	27	I(1)	3.00	3.38	4.15

Notes:  $k$  is the number of regressors, and  $n$  represent the sample size Asterisk (\*\*\*) denotes significance at 1% level based on critical values provided by Pesaran et al. (2001). The optimal lag-length is suggested by AIC.

Source: Authors' estimation output

## 2.3 Estimation Results of the ARDL Model

Following the determination of the presence of cointegrating (long-run) relationship between the monetary policy and the selected macroeconomic variables, a long-run and short-run error correction model with an optimal lag-length of (2,2,1,2,3,1), as suggested by AIC, are estimated. The long-run and short-run estimates of the ARDL model, alongside the post-estimation diagnostics (for autocorrelation, heteroscedasticity, normality, and stability), are summarised in panel A, panel B, and panel C of Table 4, respectively.

The long-run (panel A) and short-run (panel B) estimation results reveal that the immediate and long-term response of monetary policy to changes in aggregate economic activities is positive, and the relationship is significant at 5 percent level of significance. The result indicates that a percent increase in the size of aggregate economic activities leads to about 0.04637 percent increase in monetary policy rate in the long-term and 0.05581 percent in the short-run. This demonstrate that monetary policy in the UAE responds positively to changes in aggregate economic activities which is in line with the Taylor rule as well as previous empirical studies (Elsayed et al., 2023). Moreover, the coefficient of inflation, it is reported to be negative both in the short-run and long-run estimation, but only significant in the short-term. The results reveal that the UAE's monetary authority response to inflationary pressure in the short-term by adjusting money market rates downward by 19.2 percent. The outcome simply explains that inflation is negative and significantly associated with the market rate in the short run. The evidence supports the findings of Elsayed et al. (2023), which demonstrate that monetary policy in the UAE responds negatively to changes in inflationary pressure in the short-term.

**Table 4.** Estimation Results of ARDL Model

Panel A: ARDL(2,2,1,2,3,1) Long-run coefficient estimates-Dependent variable: $mpr$					
Cons	$l.y$	$p$	$fd$	$fdi$	$l.mu$
47.462	4.637 (1.853)*	-0.034 (-0.322)	0.093 (1.997)*	0.408 (2.419)**	-6.214 (-2.792)**
Panel B: ARDL(2,2,1,2,3,1) Short-run coefficient estimates - Dependent variable: $\Delta mpr$					
Regressors	Lag order				
	0	1	2		
$\Delta mpr_{t-1}$		0.578 (5.387)***			
$\Delta l.y$	5.581 (2.629)**	-10.902 (-4.309)***			
$\Delta p$	-0.192 (-3.669)***				
$\Delta fd$	0.096 (2.656)**	-0.185 (-5.081)***			
$\Delta fdi$	-0.268 (-4.311)***	-0.576 (-6.149)***	-0.280 (-3.982)***		
$\Delta l.mu$	-2.213 (-1.253)				
$d_{2001}$	2.415 (3.681)***				
Panel C: Diagnostic test statistics					
$ECT_{t-1}$	$\chi^2_{SC}(3)$	$\chi^2_{HET}$	$\chi^2_{FF}(1)$	$\chi^2_{J-B}$	Adj. R <sup>2</sup>
-1.293 (-10.62)***	0.080 [0.777]	12.704 [0.756]	0.812 [0.394]	2.125 [0.346]	0.843

Notes: The model is estimated with a maximum lag of 4, while the optimal lag-length is suggested by AIC.  $\Delta$  represents the first difference operator. Asterisk (\*\*\*), (\*\*), and (\*) denote significance at 1%, 5%, and 10% level, respectively. In panels A and B, in parenthesis (.) are the t-ratio, and values in square parenthesis [.] in panel C are the probability values of the LM test statistics.  $\chi^2_{SC}$ ,  $\chi^2_{HET}$ ,  $\chi^2_{J-B}$ , and  $\chi^2_{FF}$  denote the Breusch-Godfrey serial correlation, Breusch-Pagan-Godfrey heteroscedasticity, Jarque-Bera normality, and Ramsey's functional form test statistics, respectively.

Source: Authors' estimation output

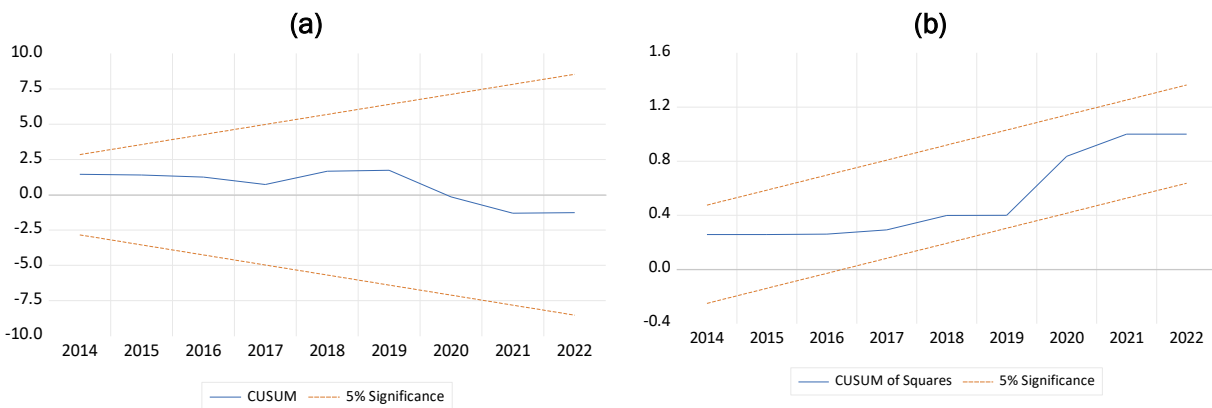
Furthermore, the estimation results illustrate a significant positive long-term and short-term relationship between financial deepening and monetary policy at 5 percent level of significance. An increase in the level of depth and development of the financial sector by a percent lead to an upward adjustment in the UAE's monetary policy rate by 9.3 percent and 9.6 percent in the long- and short-run, respectively. As the conduit for transmitting monetary policy actions to the real economy, development in the financial system play a significant role in shaping the effectiveness or otherwise of monetary policy (Sena et al., 2021). Indeed, this finding supports the findings of several empirical studies (Takyyi et al., 2023), and further reinforce the important role of the financial sector in the conduct of monetary policy. In addition, the estimation results reveal the significant positive response of money market rate to the adjustment in FDI in the short-term in the UAE, while the short-term evidence demonstrate that the UAE central bank follows contractionary monetary policy in the short-run in response to changes in FDI inflow into the country. An increase in FDI by a percent is associated with an increase in long-term money market interest rate by 40.8 percent, but it leads to a decrease in short-term money market interest rate by 26.8 percent. The results imply that the central bank will reduce the money market rate or contract money supply in response to short-term inflows in FDI to control inflationary pressures (especially when the inflow becomes rapid to deviates from its target), but increase the rate over the long-term to stimulate the economy.

Moreover, the short-term estimation results show that the monetary uncertainty coefficient is negative but statistically insignificant. However, the long-term estimation results in panel A of Table 4 demonstrate that the central bank follows contractionary monetary policy in response to monetary uncertainty in the UAE. The negative and significant negative long-term monetary policy response to monetary uncertainty suggest that the central bank adjust the money market rate downward by 0.0621 percent following a unit change in monetary uncertainty. During periods of monetary uncertainty, central bank central banks are often more cautious about raising interest rates because they don't want to make unpredictable changes that could destabilise the economy. In such cases, they may lower or hold rates steady to avoid causing disruptions in borrowing, lending, and spending, while also reducing both risk aversion and uncertainty (Bekaert et al., 2013).

Finally, Table 4 shows that the coefficient of the error correction term lagged by one period ( $ECT_{t-1}$ ), which represents the speed of adjustment to long-run equilibrium, is negative, statistically significant at 1 percent level of significance, and lies between -1 and -2. The size of the coefficient being between -1 and -2 suggests that the speed of adjustment of monetary policy to long-run equilibrium is very rapid, with a possibility of leading to overshooting (Narayan & Smyth, 2005). This implies that if the system is a unit away from equilibrium, it will move 1.293 units towards the equilibrium in the next period, potentially causing oscillations or instability as the system over-adjusts and then corrects again. In other words, "rather than converging monotonically directly to the equilibrium path, the process of error correction fluctuates around the long-run value in a dampened manner. However, the convergence to equilibrium path becomes rapid upon completion of the error correction process" (Abu et al., 2024).

## 2.4 Results of diagnostic and model stability tests

To assess the adequacy and stability of the estimated model, a series of diagnostic tests for serial correlation, heteroscedasticity, normality, and model specification bias were conducted. The results of the Breusch-Godfrey (BG) serial correlation test, Breusch-Pagan-Godfrey (BPG) heteroscedasticity tests, and Ramsey's test, summarised in panel C of Table 4, indicate that the estimated ARDL model is free from issues of serial correlation, heteroscedasticity, and specification bias. Additionally, the Jarque-Bera test statistic shows that the errors in the estimated model are normally distributed. Furthermore, the plots of the cumulative sum of recursive residuals (CUSUM) and the cumulative sum of squares of recursive residuals (CUSUMSQ), shown in Figure 1(a) and Figure 1(b), respectively, demonstrate that the parameters of the estimated monetary policy model remain stable over time.



**Figure 1.** Plots of CUSUM (a) and CUSUMQ (b)  
Source: Authors' estimation

## CONCLUSION

This research examines the response of monetary policy to changes in selected macroeconomic variables in the UAE over the period from 1990 to 2022. Adopting the Gregory-Hansen cointegration test and the ARDL bounds-testing procedure provide evidence of a cointegrating (long-run) relationship between monetary policy (money market rate) and selected macroeconomic variables (inflation rate, financial deepening, foreign direct investment, economic activity, and monetary uncertainty). In addition, the estimation results based on the ARDL model reveal that monetary policy responds positively to changes in economic activity, financial deepening, and FDI, and negatively to monetary uncertainty in the long run. Moreover, the short-term results show that the central bank follows an expansionary monetary policy in response to short-term changes in economic activity and financial deepening, and a lax monetary policy following short-term changes in FDI and inflation. Given this outcome, the UAE's monetary authority is encouraged to take advantage of the various monetary policy tools at its disposal to stimulate the economy, especially as the country attempts to diversify its economy away from oil. This finding indicates that the monetary authority must adopt a judicious approach, particularly given the fixed exchange rate regime associated with the US Dirham policy. This situation requires a coherent strategy for monetary policy to effectively address external pressures and uphold currency stability.

Although this study offers novel insights into the response of monetary policy to changes in selected macroeconomic variables in the UAE, it is not without limitations. One key limitation is the use of only the money market interest rate, rather than a range of monetary policy tools, to gauge the response of monetary policy to macroeconomic adjustments. Additionally, the focus on just the UAE restricts the generalisability of the findings. Nevertheless, these limitations do not diminish the study's uniqueness or its relevance to policy. Future research could build on this work by using a more comprehensive dataset with alternative indicators of monetary policy, and by extending the analysis to other countries, regions, or economic blocs, such as the GCC, the Organization of the Petroleum Exporting Countries (OPEC), or BRICS, of which the UAE is a member, using alternative estimation strategies.

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