International Journal of Applied Research
Journal HP: www.intjar.com; ISSN: 2411-6610

The impact of exchange rate, money supply and import on inflation in Bangladesh: an ARDL approach

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ARTICLE INFO

Article history

Received: 25 November 2024
Accepted: 27 December 2024

Keywords

Exchange rate, Import, Money supply, Inflation, Bangladesh

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ABSTRACT

This study investigated the impact of exchange rate fluctuations, money supply growth, and import dependency on inflation in Bangladesh using the Autoregressive Distributed Lag (ARDL) model. The analysis captured both short-run and long run dynamics. In the long run, exchange rate depreciation significantly reduced inflation, while increased imports raise it. This deflationary impact of depreciation aligns with the J-curve hypothesis, suggesting that currency depreciation may improve trade balance over time, easing inflationary pressures through enhanced export competitiveness. Money supply changes showed no significant long-term effect. In the short run, inflation was largely influenced by its own past values, with exchange rate and money supply effects remaining statistically insignificant. These findings highlight the monetary policy implication that effective exchange rate management and import cost control are vital tools for maintaining price stability and supporting sustainable economic growth in Bangladesh.

Introduction

The actual GDP growth rate for Bangladesh in the 2023–2024 fiscal year was 4.22%**,** according to the figures released by the Bangladesh Bureau of Statistics (BBS). The figure marks the country's lowest GDP growth in four years, reflecting economic challenges such as high inflation, reduced industrial output, and external shocks. Bangladesh faces the challenge of managing inflation, which stood at 8.00% during the same period. The exchange rate is a critical factor affecting Bangladesh's economic stability. The value of the Bangladeshi Taka (BDT) against major currencies such as the US Dollar (USD) influences import costs, export competitiveness, and domestic price levels. Depreciation of the Taka leads to increased import costs, which subsequently raises the overall price level in the economy (Chowdhury & Hamid, 2017). Bangladesh is heavily reliant on imports for essential commodities, including raw materials for its textile industry, machinery, and consumer goods. The country's import dependency makes it particularly vulnerable to external economic shocks, which can exacerbate inflationary pressures. Import prices significantly affect domestic price levels, as higher import costs are often passed on to consumers, contributing to inflation (Ahmed & Ali, 2016). It is widely believed that inflation will have a significant negative impact on the economy (Fischer and Modigliani, 1978). Menu expenses, the decline in real money balances, and the weakened efficacy of the pricing system are a few examples of cost types. Nonetheless, nothing is known about the mechanism that consistently causes inflation. Inflation management is one of the main goals of traditional monetary policy since it is thought that low inflation promotes rapid and stable economic growth in addition to better resource allocation. Bangladesh saw a nearly 37taka increase in the price of its currency relative to the US dollar over the two years that ended in July 2024. Bangladesh has managed to prevent a significant and sudden increase in nominal exchange rates, in contrast to many other developing nations. Such a sharp depreciation of the Bangladeshi taka is unprecedented in recent decades. The country's macroeconomic conditions had also been strained at the same time due to growing trade account deficits in the balance of payments and rising prices, respectively. Understanding the impact of exchange rate fluctuations, money supply growth, and import dependency on inflation in Bangladesh is of critical importance for several reasons. This study aims to provide comprehensive insights into these relationships, contributing to more effective policy formulation and economic management. The significance of this study is underscored by

Cite this article: *Akter, M. & Akter, E. (2024). The impact of exchange rate, money supply and import on inflation in Bangladesh: an ARDL approach. International Journal of Applied Research, 10 (1): 101-109. DOI: 10.5281/zenodo.15495623*

the complex and interconnected nature of these economic variables, which are crucial for maintaining macroeconomic stability and promoting sustainable growth in Bangladesh. According to Gillis et al. (1996), inflation is defined as a sustained increase in the price level for at least three years. One of a nation's major concerns is inflation. Policymakers need to understand the specific drivers of inflation to implement effective measures. This knowledge is vital for designing targeted monetary and fiscal policies. According to Hossain (2011), a clear understanding of inflation determinants is essential for the central bank to set appropriate monetary policies that can stabilize prices and support economic growth. Different kinds of political and economic issues are brought on by inflation. For this reason, policymakers work to keep prices within reasonable bounds. The practical implications of this study are profound. By offering detailed insights into the drivers of inflation, this research can guide policymakers in developing more effective and targeted interventions. This, in turn, can lead to better inflation control, improved economic stability, and enhanced living standards for the population. This study’s significance lies in its potential to inform and improve policy decisions related to inflation control, exchange rate management, monetary policy, and import regulation in Bangladesh.

By conducting an empirical analysis using robust econometric models, the study aims to provide a comprehensive understanding of how these key economic variables interact and contribute to inflationary pressures.
The objectives of the research are

i) to investigate the complex interactions between exchange rate, money supply and import with their collective impact on inflation in Bangladesh and

ii) ii) to identify the most significant contributors to inflation in the Bangladeshi context.

Methodology

The study used annual time series data for 1980 to 2023 to analyze relationship among inflation, exchange rate, money supply, and import in Bangladesh. The data set was compiled from BB (2024). To ensure validity and consistency, the collected data were compared with data from other sources including various published reports from the Bangladesh Bureau of Statistics (BBS) and the World Bank (World Development Indicators). Generally, data were found to be consistent across the various sources.

Model specification

This research paper aims to examine the impact of exchange rate, money supply, and import on inflation. We have specified the following econometric model. The independent variables are exchange rate, import and money supply, while the dependent variable is inflation. The empirical analysis used data from 1980 to 2023.

The model is stated as follows:

The following model is specified for the empirical analysis:

Inflation = f (Exchange rate, money supply, and import)

INF = f (EX, MS, IM)

LINF = $\alpha + \beta_1$ LEX + β_2 LMS + + β_5 LIM + μ_i

LINF = Inflation

LEX= Exchange rate

LMS = Money supply

LIM = import (in crore taka)

In Natural Logarithm

β= parameters to be estimated,

μi=stochastic term, and t = 1, 2, 3...43 (from 1980-2023).

Testing for Unit Root

According to (Challis and Kitney, 1991), a process is considered stationary if its statistical parameters, the mean and standard deviation, remain constant over time. To prevent misleading regressions, the study examined the static properties of all variables prior to estimating. Inference approaches are invalid if the series is not stationary. Regression model findings will yield erroneous conclusions if non-stationary data is utilized. As a result, the first objective was to determine whether the series of all variables possesses the stationary property. Applying the Augmented Dickey-Fuller (ADF) test (Dickey & Fuller, 1981) through STATA, the researcher verified if the data were stationary. The null hypothesis was tested using the Autoregressive unit root Augmented Dickey-Fuller (ADF) test against the alternative hypothesis $H_1 \neq 0$ and in favor of $H_o = 0$ in the regression.

Autoregressive Distributed Lag (ARDL) approach

The study applied the Autoregressive Distributive Lag Model (ARDL) bound test approach developed by Pesaran et al. (2001) to analyze the causal relationship among inflation, exchange rate, money supply, and import. Originally, Engle and Granger (1987) demonstrated that once variables (say X and Y) are cointegrated, there always exists a corresponding error correction representation. Impliedly, changes in the dependent variables are the function of disequilibrium in the co-integrating relationship captured by the error correction term and changes in explanatory variables (Erjavec & Cota, 2003). Similarly, the long run and short-run relationships among variables have been analyzed using ARDL model. The ARDL method yields more consistent and robust results. The ARDL bounds testing approach is more efficient with small samples and permits the analysis of the long-run and short-run relationships irrespective of whether the underlying variables are I(0), I(1), or a mixture of the two (Fosu & Magnus, 2006) and a critical condition is that the explanatory must not be I(2). As such, the test for unit roots is necessary to ensure that variables are not I (2).

The general ARDL model can be presented as shown in equation 1.

$\Delta ln\mathrm{L}INFt = \beta_0 + \beta_1 \ln\mathrm{INF}_{t-1} + \beta_2 \ln\mathrm{Ex}_{t-1} + \beta_3 \ln \mathrm{MS}_{t-1} + \beta_6 \ln\mathrm{IMP}_{t-1} + \sum_{t=0}^{j} \alpha_{1i} \Delta\ln\mathrm{INF}_{t-I} + \sum_{t=0}^{k} \alpha_{2i} \Delta\ln\mathrm{EX}_{t-i} + \sum_{t=0}^{l} \alpha_{3i} \Delta\ln\mathrm{MS}_{t-i} + {}_{t-I} + \sum_{t=0}^{p} \alpha_{6i} \Delta\ln \mathrm{IMP}_{t-i} + \varepsilon_i$

Where, Δ is the first-difference operator, LA is the logarithm of variable A and ε_i is the white-noise disturbance term. The coefficients β_i (i =1, 2,…, 7) measure the long-run effects of the variables, whereas coefficients α_{ri} (r = 1, 2,…, 7) measure the short-run dynamics of the model. The structural lags j, k, l, m, n, p and q are determined by using the minimum Akaike Information Criterion (AIC).

Based on equation 1, the hypotheses for empirical testing of the long-run relationship can be formulated as follows:

H0: $\beta_1 = \beta_2 = \beta_3 = \beta_4 = 0$ (No co-integration or no long-run relationship)

H1: $\beta_1 \neq \beta_2 \neq \beta_3 \neq \beta_4 \neq 0$ (Co-integration or long-run relationship exists)

From hypotheses 1 and 2, the bounds testing is conducted whereby the F-test is performed to determine whether there exists co-integration among the variables under study. The results are then compared; the computed values of F-statistics with the critical values (Pesaran, 1997; Pesaran et al., 2001). If the null hypothesis (H0) is rejected, it implies that the long-run relationship exists. In the bound testing approach, if the computed F-statistics lies below the lower bound critical value, the null hypothesis (H0) cannot be rejected. If the computed F-statistics lies above the upper bound critical value, the null hypothesis (H0) can be rejected, meaning that there exists a long-run relationship among the variables. There is also a possibility of no decision, which occurs when the computed F-statistics fall within the lower and upper bounds.

Once co-integration was established, the conditional ARDL long-run model for INF could be estimated based on the following equation:

$lnINF_t = \beta 0 + \gamma 1 lnMS_{t-1} + \gamma 2 lnE\mathrm{X}_{t-1} + \gamma 3 \ln\mathrm{I}M\mathrm{P}_{t-1} + \mu t$ (2).

All variables were as defined earlier, while μ is the error term.

The last step is obtaining the short-run dynamic coefficients, which entails estimating an error correction model.

The ARDL-ECM model can be expressed as follows:

$\Delta lnINF_t = \partial 0 + \partial 1 \Delta lnINF_{t-1} + \partial 2 \Delta lnE\mathrm{X}_{t-1} + \partial 3 \Delta lnMS_{t-1} + \partial 4 \Delta ln\mathrm{IM}\mathrm{P}_{t-1} + \delta ECM_{t-1} + \varepsilon t$ (3).

The coefficients $\partial 1$, $\partial 2$ and $\partial 3$ are the short-run dynamic coefficients of the model's convergence to equilibrium, while ECM is error correction term. Its coefficient, that is, δ measures the speed of adjustment. The coefficient of ECM is expected to be negative, implying that the dependent variable was above the equilibrium in the previous period, it would thus be corrected through a downward movement in the next period, that is, period t.

Data analysis

For simplicity of analysis, the gathered data was sorted, coded, and classed before being tabulated. The Statistical Package STATA was used to analyze the data. The study gathered information from central banks of Bangladesh and calculated the annual average. A set of observations about the values a variable takes at various times was gathered. The Auto Regressive Distributed lags (ARDL) models included in the analysis explained how variables behave in terms of linear relationships with variables' values. The relative association among inflation rate, exchange rate volatility, import, and money supply were ascertained using a multivariate regression model.

Unit root test

The unit root problem was tested in each variable using the Augmented Dickey-Fuller (1981) test; its results are given in Table 2.

Table 2: Unit Root Test

Variables Name	Dickey-Fuller Test		Conclusion
	Test statistics	Critical Value	
Level From			
Exchange Rate	-2.698	0.2369	Not Stationary
Money supply	-5.328	0.0000	Stationary
Inflation	-4.755	0.0006	Stationary
Import	-2.509	0.3236	Not stationary
1st Difference			
Exchange Rate	-4.181	0.0007	Stationary
Inflation	-3.429	0.0100	Stationary
Money supply	-9.905	0.0000	Stationary
Import	-6.693	0.0000	Stationary

The results of the ADF unit root tests are shown in Table. When evaluated at the 5% p value of significance level, the test statistics revealed that the exchange rate and import were not stationary at a level but money supply and inflation variables were stationary at level. All variables were stationary when evaluated at the first difference. The ARDL bounds testing is a legitimate method for analyzing long-run relationships when the variables are integrated of order 0 and 1 (Pesaran et al., 2001).

Lag order selection

Table 3 shows the results of testing the optimal lag length of the ARDL model. The lag selection criteria namely AIC, HQIC and SBIC recommend 1 lag. In this respect, the study proceeded to estimate the ARDL model with one (1) lags as suggested all selection criteria.

Table 3: Results of Lag Order Selection Criteria

lag	LL	LR	df	p	FPE	AIC	HQIC	SBIC
0	-26.8771				.000057	1.58344	1.64466	1.75406
1	176.926	407.61	16	0.000	3.8e-09*	-8.0475*	-7.74141*	-7.19439*
2	187.207	20.562	16	0.196	5.2e-09	-7.75421	-7.20325	-6.21862
3	198.725	23.035	16	0.113	7.1e-09	-7.52435	-6.72852	-5.30626
4	214.672	31.895*	16	0.010	8.2e-09	-7.52165	-6.48095	-4.62109
5	225.394	21.444	16	0.162	1.4e-08	-7.25098	-5.96541	-3.66792

Results and Discussion

The ARDL model's bound test of co-integration was used to determine the coefficients' joint significance. The table shows the results of an F-test of co-integration relationship. it's being used to assess the existence of a co-integration relationship between variables.

The F-statistic was constructed with two sets of tabulated critical values. All variables are assumed to be 1(0) in one set and I(I) in the other. If the computed F-statistic is greater than critical value of the upper bound, the null hypothesis that there is no co-integration is rejected. It is not possible to reject the null hypothesis of no co-integration if it is below the lower boundaries. If the result is inside the crucial value range, the test yields is inconclusive.

Table 4 shows the results of the ARDL bounds test. The value of F-statistics is 4.246, which is certainly greater than the upper bound critical value (3.77) at the 10 percent significance level. Hence, there exists a long-run relationship among inflation, exchange rate, money supply, and import. Having determined the existence of the long-run equilibrium relationship, the long run and short-run models were estimated to determine causal relationships among the variables of the study.

Table 4: F-test of Co-integration Relationship

Test Statistics	Value	Significance	Bound Critical Values	
			I(0)	I(1)
F-statistic	4.246	1%	4.29	5.61
		2.5%	3.69	4.89
		5%	3.23	4.35
		10%	2.72	3.77

Based on the results shown in Table 4, it is clear that the estimated F-statistic for the ARDL bound test is 4.246, which is larger than the upper limit critical values and hence, the null hypothesis of no co-integration is rejected at 10% significance level.

This suggests that the ARDL model's variables are co-integrated across time. This implies that there is a consistent long-term relationship between the variables, and that any temporary deviations will be corrected. In order to estimate the short-term dynamics that bring variables back to their long-term equilibrium, the ARDL model may be used.

Table 5: Result of ARDL model

Variable	Coefficients	Standard Errors	T ratio	P value
Adjusted Term (ECT)	-.0930499 -	.0290708	-3.20	0.003
Long-run Dynamics				
Exchange rate	-1.228681	.5874697	-2.09	0.044
Moneys	-.0001773	.0314687	-0.01	0.996
Import	.782548	.1644115	4.76	0.000
Short- run Dynamics				
Δ Inflation (L1)	.4158151	.1584822	2.62	0.013
L2.	-.2958211	.1462344	-2.02	0.051
Δ Exchange rate	-.0029539	.0835662	-0.04	0.972
Δ Moneys	-.0015662	.002365	-0.66	0.513
Δ Import	.043624	.0265118	1.65	0.110

Note. Self-estimation by STATA

Table shows the results of the analysis of the long-run and short run ARDL model. Both import and exchange rate variables are statistically significantly with p value p=0.000 and p=0.044 respectively. The negative and significant coefficient of exchange rate suggests that a depreciation of the exchange rate leads to a reduction in the dependent variable in the long run. This indicates that an increase in the exchange rate (depreciation) is associated with lower inflation. That is to say, depreciation of the Bangladeshi taka causes the domestic price to decrease, which is in line with the exchange rate J curve thesis. The J-curve effect posits that a currency depreciation might initially worsen the trade balance (since import prices rise before export volumes increase), but over time, the trade balance improves as exports become more competitive. This long-term improvement can lead to a stronger economic position, potentially reducing inflationary pressures as the economy adjusts. An increase in exchange rate decreases the prospects for higher demand within the economy. Specifically, a 1 per cent increase in exchange rate would generate a 122 per cent decrease in exchange rate in the long run, provided all other things being equal. This finding aligns with the work of Bhattacharya and Mukherjee (2011), who also found that exchange rate depreciation can have a deflationary effect in the long run due to increased competitiveness and export growth in south Asia. Kalyoncu and Yucel (2006) conducted the study on the exchange rate and inflation dynamics supports the finding that exchange rate depreciation leads to lower inflation. Dornbusch (1976) in his overshooting model explained that a currency depreciation might initially lead to higher prices, but as monetary policy tightens, the long-term effect might be deflationary.

Similarly, import has a strong, positive, and significant effect on inflation. The positive and significant coefficient suggests that an increase in imports leads to an increase in the dependent variable (inflation) in the long run. This implies that higher import levels contribute to inflationary pressures. That is, estimated coefficient for the import variable is positive and statistically significant (0.000). A 1 per cent increase in import leads to 78.25 per cent increase in inflation, ceteris paribus. This reveals that improvements in import facility climb the inflation to Bangladesh. This finding is in line with the study by Kamin and Klau (2001), which demonstrated that increased imports, especially of consumer goods, could drive up domestic prices due to higher demand and cost-push inflationary pressures. New Keynesian Phillips Curve framework supports the finding that past inflation affects current inflation (Gali & Gertler, 1999).

The coefficient for money supply is very small and statistically insignificant ($p > 0.05$), indicating that changes in money supply have no significant long-term impact on the dependent variable in this model. This is consistent with the findings of McCandless and Weber (1995), who argued that the long-term relationship between money supply and inflation is weak and often insignificant when controlling for other variables. Although traditionally money supply is believed to impact inflation, some modern studies suggest limited long-run effects, as reflected in this result (Friedman, 1963).

The results of the estimated short-run dynamic model are shown in the same table as well. Given that inflation, money supply, import and exchange rate are co-integrated, the Error Correction Model (ECM) was estimated for assessing short-run dynamics and the speed of adjustment towards the equilibrium relationship. The Error Correction Coefficient (ECM) has the expected sign, with a value of -.0930499 and statistically significant (p=0.003). The ECT coefficient indicates the speed at which deviations from the long-run equilibrium are corrected. A significant negative coefficient ($p < 0.05$) implies that about 9.3% of the disequilibrium is corrected each period, bringing the system back to equilibrium. This suggests that about 9 percent of the deviation from the equilibrium in the previous year is corrected in the current year. As such, it appears that inflation was above the long-run equilibrium in the previous period, thus, it decreases towards the equilibrium in the current period. The size of the coefficient suggests that the speed of adjustment towards equilibrium is reasonably low (-.0930499).

The coefficient for the first lag of inflation is positive and significant (p=0.013), indicating that past inflation positively about 42% influences current inflation in the short run. The coefficient of inflation of lag period one is positive and highly significant, suggesting that inflation in previous year causes inflation in the short run. This result implies that Bangladesh economy is likely to continue to be vulnerable to inflation volatilities. These results align with the findings of Catao and Terrones (2005), who observed that inflation inertia is common in emerging economies, where past inflation significantly influences current inflation rates due to adaptive expectations.

In the short run, the coefficient for the change in exchange rate, money supply and import are very small and statistically insignificant ($p > 0.05$), suggesting that short-term changes in these variables do not significantly impact inflation. Ghosh and Phillips (1998), who found that short-term exchange rate fluctuations often do not have a significant direct impact on inflation unless there are persistent changes, reported similar finding. Christiano, Eichenbaum, and Evans (1999) noted that the short-term impact of monetary policy on inflation is often muted and can take time to materialize.

The empirical results showed a significant long-term relationship between exchange rates, imports, and inflation in Bangladesh, with exchange rate depreciation reducing inflation and higher imports increasing it. In the short term, past inflation significantly affects current inflation, but changes in the exchange rate and money supply do not show a significant impact on inflation. These findings align with existing literature on the interplay between these economic variables and provide a comprehensive understanding of the inflationary dynamics in Bangladesh.

Diagnostic Tests of ARDL Bound Test on Short Run and Long Run ARDL Model

Diagnostic tests for serial correlation, functional form, normality and heteroscedasticity of the models were conducted, and the results are presented in Table 6.

Table 6: Diagnostic test

Test	Statistics	P value
Autocorrelation (B-Godfrey)	Chi2=0.025	0.8733
Model specification	t=-0.18	0.859
Heteroscedasticity (Breusch-Pagan)	Chi2=0.10	0.7575
Normality test (Jerque- Bera)	Chi2=.3715	.8305

The null hypothesis for the Breusch-Godfrey test is that there is no autocorrelation in the residuals. Since the p-value (0.8733) is much greater than the significance level (typically 0.05), we fail to reject the null hypothesis. This indicates that there is no significant autocorrelation in the residuals of the model, suggesting that the model's error terms are independent and the model specification is appropriate in this regard.

This model specification test checks for the correct specification of the model. A high p-value (0.859) suggests that there is no evidence of misspecification in the model. In other words, the model appears to be well-specified, and there is no significant issue with omitted variables or incorrect functional form.

The Breusch-Pagan test checks for heteroscedasticity in the residuals. The null hypothesis is that the residuals have constant variance (homoscedasticity). Since the p-value (0.7575) is well above the 0.05 threshold, we accept the null hypothesis. This suggests that there is no significant heteroscedasticity, and the residuals have constant variance, indicating that the model's assumptions about the error variance are valid.

The Jarque-Bera test checks whether the residuals of the model are normally distributed. The null hypothesis is that the residuals are normally distributed. Given the high p-value (0.8305), we accept the null hypothesis. This indicates that the residuals are normally distributed, which is a desirable property for many statistical models as it validates the use of standard inferential techniques.

The diagnostic tests indicate that the model is robust and reliable. There is no evidence of autocorrelation, misspecification, heteroscedasticity, or non-normality in the residuals. This suggests that the model provides a good fit for the data and that the assumptions underlying the regression analysis are met. These results enhance confidence in the validity of the empirical findings and the reliability of the policy implications drawn from the study.

Cusum test

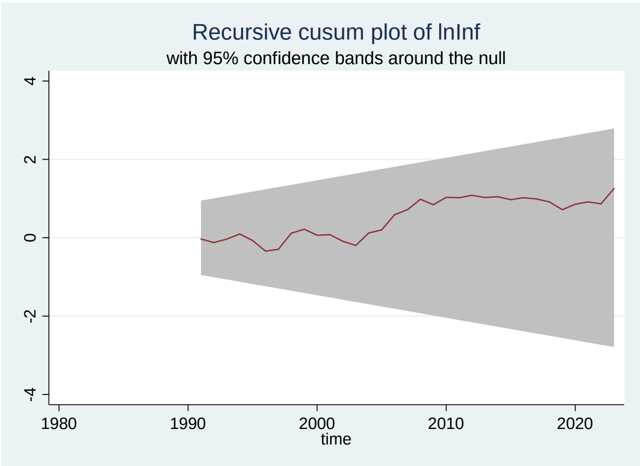
The cumulative sum (CUSUM) of recursive residuals and the CUSUM of square (CUSUMSQ) tests are applied to assess the parameter stability (Pesaran & Pesaran, 1997). The cumulative sum test identifies systematic changes in the regression coefficients, while the cumulative sum of squares test detects sudden changes from the constancy of the regression coefficients. Figure plots the results for CUSUM and CUSUMSQ tests.

Table 7: Cumulative sum test for parameter stability

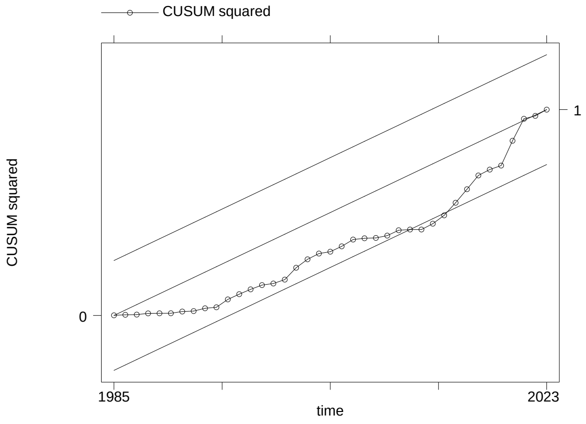
Test statistic	Critical value		
	1%	5%	10%
0.4691	1.1430	0.9479	0.850

The Cumulative Sum (CUSUM) test is used to assess the stability of the parameters in a regression model over time. The test statistic (0.4691) is compared to the critical values. Since 0.4691 is less than all the critical values (1.1430, 0.9479, and 0.850), we fail to reject the null hypothesis of parameter stability. This means that there is no evidence to suggest that the parameters of the regression model have changed over time. The model's parameters are stable, and there are no significant structural breaks or parameter instabilities during the sample period. This suggests that the model's estimates are reliable and consistent, enhancing the credibility of the empirical findings and any policy recommendations derived from the analysis.

Figure 1: Cumulative sum test for parameter stability



The shaded area represents the 95% confidence bands around the null hypothesis of parameter stability. As the red line stays within the shaded area, it indicates that there is no significant evidence of parameter instability. The model's parameters are considered stable over the time.



The black line with circles represents the cumulative sum of squared recursive residuals over time. Since the CUSUM squared line stays within the confidence bands, it indicates no significant evidence of parameter instability or structural breaks. The model's parameters are considered stable over the time.

Conclusion

The study meticulously investigates the interplay of exchange rates, trade, growth, and monetary policy on inflationary pressures in Bangladesh. Empirical results from the ARDL model indicate a significant long-term negative relationship between exchange rates and inflation, suggesting that a depreciation of the exchange rate leads to a reduction in inflation over time. This counterintuitive finding aligns with the J-curve hypothesis, where initial impacts of exchange rate depreciation may lead to a trade balance improvement and, subsequently, a reduction in inflationary pressures as export revenues increase. Additionally, the positive long-run relationship between imports and inflation underscores the inflationary impact of import prices in a developing economy like Bangladesh. The study also reveals short-term dynamics where previous periods' inflation rates and exchange rates significantly affect current inflation, highlighting the importance of lagged effects. The error correction term further confirms that deviations from the long-run equilibrium are corrected over time, ensuring a return to stability. These findings have profound policy implications, suggesting that maintaining a flexible exchange rate regime, implementing sound monetary policies, and promoting export diversification are crucial for managing inflation. Overall, the study provides valuable insights into the complex mechanisms driving inflation in Bangladesh and offers a robust framework for policymakers to develop strategies that foster economic stability and growth.

Limitations of the study

The ARDL model was used in this study. Future research could employ other econometric models or machine learning techniques to better understand the nonlinear and dynamic aspects of inflation. The study does not account for global economic shocks, political instability, or natural disasters, which can have significant impacts on inflation. Future research can consider these external factors to provide a more comprehensive analysis.

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