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IMPACT OF REMITTANCES ON INFLATION INFLOW IN PAKISTAN

Ibrar Hussain

MPhil Economics, Qurtuba University of Management Science and Information Technology, Phase 3 Hayatabad Peshawar Pakistan

ibrarhussain221990@gmail.com

Corresponding Author: *

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ABSTRACT

This study examines the effects of remittances, GDP per capita, money supply and budget deficit on inflation rates in Pakistan employing an autoregressive distributed lag model. The data used for analysis was drawn from World Development Indicators database for the period of 1991 to 2023. Remittances, per capita GDP, money supply and budget deficit are insignificant determinants of inflation in the long run based on the current study's results. Further, based on these regression analysis findings normality tests; autocorrelation test, heteroskedasticity test and stability test indicate that these assumptions were mostly met thus enhancing the credibility of our results. These results suggest that something else not accounted for by the model may be more important as far as driving inflationary dynamics is concerned in Pakistan. Emerging from this is our policy recommendation which includes diversification of policy instruments; strengthening macroeconomic stability; improving management of remittance inflows structural reforms; continuous monitoring and surveillance of inflation trends. By providing an insight into the major influences behind inflation within developing countries through a comprehensive examination of long run as well as short run dynamics between remittances, per capita GDP ,money supply budget deficit and inflation. Also, we conduct diagnostic tests to verify robustness of model as well as reliability of our findings.

Keywords: *Remittances, Inflation, ARDL, GDP.*

INTRODUCTION

1.1: Background

Money sent by migrants to their home countries, known as remittances, largely contribute to the economies of most developing nations. The impacts that these have on inflation can however be complicated and are usually multi-faceted. The increased demand for goods and services as one of the positive influences of remittances on inflation. Receiving remittances raises the income of households which then increases consumption and demand for goods and services, if there is no enough supply it causes demand-pull inflation. Some studies suggest that remittances contribute to inflation, particularly in countries where the absorptive capacity of the economy is low (Tung et al., 2015). Alternatively, there are other studies which contend that such remittances can be neutral or even deflationary if invested productively. GDP per capita increase typically signals a rise in average individual income. Increased earnings often lead to higher consumer expenditure, an effect that increases demand for goods and services in aggregate. If the economy is at full employment, this upsurge in demand may outstrip supply thereby resulting to pull inflation (Herman, 2022). In short, money circulating in the market outstrips the goods and services being bought hence increasing their prices. Conversely, GDP per capita raises are usually

concomitant with enhanced productivity and economic efficiencies. Higher output means more production of goods and services without an increase in costs which can help to manage inflationary pressures.

Technological advances as well as better business practices for instance may raise production capacities of industries thereby averting any skyrocketing of prices due to increasing demands. Per Capita GDP's impact on inflation also relies on economy's structural characteristics as it has been noted by some scholars. In developing economies, rapid growths in per capita GDP could cause huge inflations if adequate development in infrastructure and supply chains does not happen simultaneously with such growths. On the other hand, in developed countries that have stronger markets and institutions, the effect of higher GDP per capita on inflation tends to be weaker because their economic systems are able to effectively balance between demand for goods/services and overall supplies.

Government policies serve as intermediaries between per capita GDP and inflation. Inflation is one of the key macroeconomic variables that central banks keep an eye on including real GDP growth rate or changes in purchasing power (inflation). If real Gross Domestic Product (GDP) per capita goes up accompanied by high inflation rates, then other policy of monetary can be applied by the central bank like increasing interest rates to curb and control for inflation. However, when there is low or negative inflation they may implement expansionary monetary policies to stimulate economic growth. The theory of money quantity holds that there is a linear relationship between the amount of money circulating within an economy and the price levels of goods and services being sold. This equation is often referred to as the classical quantity theory of money MV = PQ, where M stands for the money supply, V is the velocity of circulation or simply put how fast a unit of currency changes hands, P represents general price level while Q denotes real national income. As per this thought when (M) Money Supply rises faster than (Q) Real Output, incidence will be an increase in (P) Price Level resulting into inflation. When the central bank increases the money supply, it normally leads to decreased interest rates that are used to buffer borrowing thus reducing its cost for both enterprises and consumers. This excess demand drives up prices since increased production cannot satisfy increased consumption (Gatawa, Abdulgafar, & Olarinde, 2017). It occurs especially when full employment has already been reached by an economy or when it is getting close to that point so as to make it have difficulties in keeping up with people's ever changing demands because they cannot always produce all they want hence leading to demand-pull inflation.The proof on connection between money supply and inflation differs according to different circumstances it has been studied under. In addition there are other instantaneous factors such as changes in demand, external economic shocks that cause fluctuations in price indices but often they are not stable over a long run. However long-term empirical studies have shown that continuous money supply expansions will result into increased inflation rates which is evident where monetary policy doesn't match production levels, especially if accompanied by an increase industrial output & services provision by government.

Budget deficits occur when a government spends more money than it receives in the form of revenues, usually leading to increased borrowing or money creation to finance the gap. This increase in demand can exceed a country's productive capacity if it is working near or at full employment, thus resulting in demand-pull inflation. It claims that more dollars are chasing the same amount of goods and services thereby increasing prices (Bulawayo, Chibwe, &Seshamani, 2018). In an effort to fill gaps in the budget, central banks buy government bonds and this puts additional money into circulation. Inflation in developing countries caused by remittances is a complex economic problem. This indicates that remittances are regarded as the only source of income for some underdeveloped nations which increases their living standards. However, huge amounts of foreign currencies entering into these states through cross-border money transfers still cause inflation challenges to policymakers because they too result in inflation. Individuals who get big amounts of money sent through them might need more goods and services. This leads to demands that can easily overtake supplies especially in places with limited supply networks thereby resulting into demand-pull inflation mainly in housing where real estate prices increase due to fueled by remittances Additionally , local monies appreciate against foreign exchange received along such channels However a stronger home currency would reduce short term inflations mitigations through cheapening imports while at the same time making exports less competitive thus creating long run macroeconomic

disequilibria also price pressures. There is a time gap. Already existing research is outdated and needed for new and updated research. The main aim is this study is to analyze the impact of remittances on inflation in Pakistan.

2.1. Related Literature

This part has been dwelt upon by the researchers Durand et al. (1996) in their study they analyzed thirty groups in Mexico and found out that only 10% of remittances were used for productive purposes. Also, they noted that 14% was spent on housing while the remaining 76% was spent on consumption.(Konte, 2016; Maduekwe &Adesina, 2015). Significant studies have been done by Lartey (2015), Vining &Elwertowski (1976), Parks (1978) regarding these issues. In these economies there is a positive association between relative price variability (RPV) and inflation but the direction of causality has always been controversial thereby arousing interest and curiosity among scholars and economists leading to further investigations.. Beforehand theories indicated that no matter what direction causality takes there is one external factor which generates both inflation along with relative price variability (RPV). Mughal (2012) analyzed the role of workers' remittances in overall inflation; he concluded that demand-pushes-inflation due to workers remittances' influence within Pakistani economy. Furthermore, results from research work indicate that macro-economic variables can be improved through use of short term inputs such as foreign exchange earned by means of migrants sending money home as remittances. In relation to developing and developed economies, Narayan et al. (2011) investigated the relationship between workers' remittance and inflation using panel data for 54 countries spanning the period 1995–2005. Hassan and Shakur (2016), in Bangladesh also conducted a similar study on this issue and they found out that inflation is affected both by long-run and short run impacts of worker's remittances that occur in economies falling under developing categories. Snudden (2017) and Viqueira (1991), any organization would have a positive correlation in terms of inflation with relative price variability (RPV) because different commodities' characteristics regarding price setting behavior coupled with their respective markets where transactions are made. Additionally, this effect depends on the sectors which distribute those products. To test the correlation between inflation rate and worker's remittances Nisar and Tufail (2013) also conducted a study. In their research for Pakistan, they evaluated yearly data for CPI, food price index, textile index, money supply, footwear, and per capita income from 1970–2010. The macro indicators such as effective per capita income, workers' remittances, and money supply influence overall inflation in general in all categories. Mpofu (2017) conducted a similar study on inflation of different categories among emerging economies due to the impact of remittances. They gave that the other sectors were less affected compared to food inflation whereas housing and construction proved to be least effective. It was found out that remittance led demand-pull inflation if government failed to channel funds into productive investments; this was concluded that food became the most affected category compared to others. For instance, like any other developing country Bangladesh has got huge amount of remittance received by it compared to all other developing countries. Khan and Islam (2013) have studied the effect of workers' remittances on inflation from 1972– 2010. This research demonstrated that probably poverty is reduced by workers' remittance variables significantly since causality runs only one way from workers' remittances towards poverty reduction in many cases such as Bangladesh economy. Wadood and Hossain (2017) analyzed the relationship between inflations and its impacts into different nations including Bangladesh where they experienced long run association between hyperinflation rates and workers' remittance but no short-term associativity with regards to currency conversions concerning Bangladeshi economy. Furthermore studies have been done about "The Relationship between Remittance Inflows and Inflation: Evidence from India" (Roy & Rahman 2014). Two models were used to establish a link with both finding out that remittances cause inflation. Besides, it is also revealed in the study that food inflation is 2.5 times higher than overall inflation for Bangladesh; this shows that higher percentage of the remittance received by the country is used for consumption purposes in terms of food. This therefore implies that these internal sources of income from workers are responsible for enhancing household food intake.

On the other hand, Islam et al (2017) conducted a research and applied different econometric models to determine the relationship of remittances and inflation, with similar findings for Bangladesh. Nath and Vargas-Silva (2012) have examined the effect of

remittance on cross circulation of prices as well as development of distinct relative prices using monthly data for CPI covering 272 consumer items over the period 1996–2001 in Mexico. Abosedra and Fakih (2017) have analyzed impact of remittances on inflation within Lebanon. Again, there was a significant increase during long periods about consumption related price but then positive shocks to remittance lowered prices highest consuming items when analyzed under short run effects. In Nepal Thapa& Acharya (2017), it was found out while performing this research that various categories changed; hence increasing amount given towards remittances had serious implications over relative prices too. Monetarist economists believe that inflation is primarily a financial phenomenon. This point has been further supported by the fact that Friedman et al. have shown a direct relationship between money supply and inflation with these words: "Inflation is always and everywhere a monetary phenomenon, in the sense that it is and can be produced only by a more rapid increase in the quantity of money than in output" (Friedman, 1963, 1968, 1970). There are two reasons for this conclusion: first, it is believed among economists that too much money being circulated leads to excess aggregate demand which causes inflation; secondly, they assume such causality due to changes in prices brought about by alterations made on supplies of money but not vice versa. The domino principle helps us understand how these relate to each other. Equilibrium of money market assumed in equilibrium starting from market indicates excess supply over demand. In order to return into balance some part of this surplus will be used to purchase goods and services however scarcity of resources within an economy restricts total production thus aggregate supply cannot meet aggregate demand resulting into situation where commodity markets experience shortage or excess requests called disequilibrium. This pushes up prices until it establishes a new balance in commodity markets. As per Aggregate demand and Supply model when there is an increase in money supply there is rightward shift of aggregate demand curve resulting into increase in price level since long run supplies are vertical (Vinh, 2015). M.V = P.Y represents Irving Fisher's equation of exchange where M denotes volume currency exchanged; V velocity; P chosen basket price level and Y real income level (output). According to monetarists velocity of money (V) remains relatively constant over time. Thus if rate at which output grows exceeds rate at which supply does so then we expect no inflation though higher rates would lead to greater inflations than lower ones given same other conditions. Monetary policy in this view is regarded as the main weapon against inflation; this means that through reducing money supply controls prices which in turn reduces inflation rates within economies.

Tung & Duong(2019) also indicated that loose fiscal policy influences inflation since budget deficit may be financed by borrowing from central bank thereby increasing money supply. Nevertheless, various empirical studies on relationship between money supply and inflation have been conducted. While Hung and Wade (2008) found no strong association between prices Phu's (2008) study discovered that price increase can be influenced by raising four quarters' worth of additional cash though with different impacts for individual quarters but one thing they all agreed upon was that an increase in money supply leads to Price. Gambetti et al.'s (2008) study showed how time affects price stability vis-a-vis output volatility due monetary policy interventions over periods whereas it has been established by Vo Tri Thanh(2010) that level nominal growth greatly affects variability as well predictions concerning CPI With tight implementation of money policy therefore Nominal Money Supply Growth Rate has Great Impact On Volatility And Inflation Predictions. The European Central Bank (ECB) implements its monetary policy transmission mechanism through which when ECB chooses to tighten monetary policy it increases interest rates in the money market, reduce the amount of credit made available to the economy, drive down asset prices (leading to a fall in wealth and income), decrease the internal demand for goods, and thereby ease inflationary pressures. However, during this period domestic currency appreciates hence reducing the price of imported goods. The rate at which prices are rising will also slow via increases in expected inflation thus workers don't ask for pay rises. This means that as prices and wages go down, cost of imported goods falls and then the pressure against inflation reduces. Some previous studies by Hang & Thanh (2010) together with Anh (2019) suggested that past inflation predicts current inflation better than any other economic variable does. Moreover, expansion of money supply does not immediately affect the economy but it takes some time for it to have an effect; this is called Policy Lag which can be divided

into inside lag or outside lag; inside lag is the time taken for gathering information; processing information and making decisions; while outside lag is dissemination process; it is also implementation phase plus time frame when given policies turn to become operational like knowing what selling technique works best (Tung & Duong 2019). Zarate-Hoyos (2004), another notable researcher, compared expenditure arrays of workers' remittance recipients' households (RRH) with non-recipient households.

2.3. Underpinning Theory and Conceptual Framework

The Quantity Theory of Money can often be equated as MV = PQ, where M is the money supply, V indicates the velocity of money, P refers to the price level and Q stands for the quantity of goods and services produced. Remittances increase the recipient country's money supply (M) and may cause a rise in the general price level (P) if this increase in money supply exceeds output growth rate (Q).

Core Variables

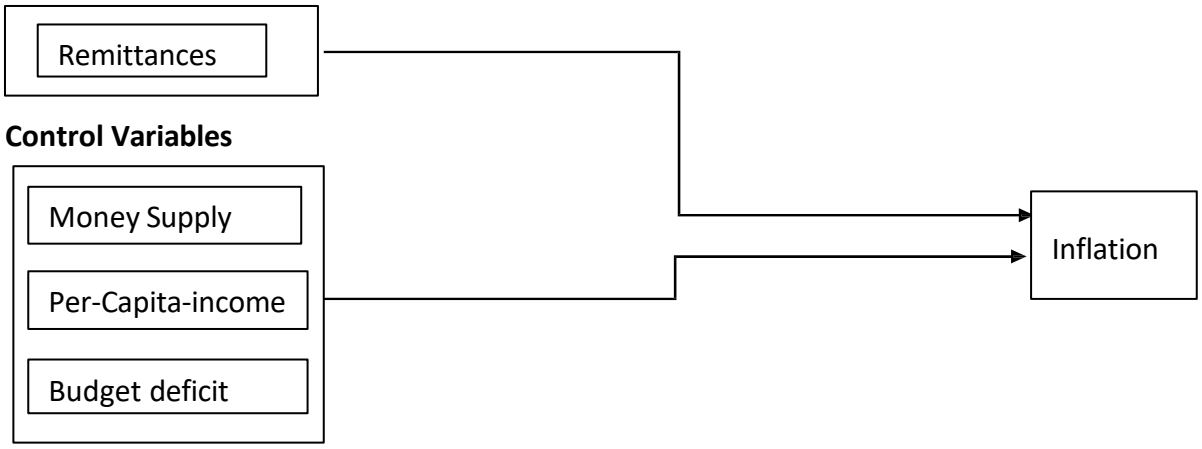

Figure: 1. Conceptual Framework

Research Methodology

3.1. Nature, Sources and Time Frame of the Data

The present chapter will discuss the methodology used to examine the impact of remittances on inflation rates in developing nations. Autoregressive Distributed Lag (ARDL) model, an econometric method that can account for both short-run and long-term relationships between variables even when they are non-stationary, will be employed in this research. ADF test and PP test were conducted on integrated order of time series data as a requirement to ensure reliability and validity of findings. Furthermore, normality, stability, autocorrelation, heteroscedasticity diagnostic tests such as are carried out to check whether ARDL model is sufficient enough and robust. The purpose of using these tests is to ascertain that the above assumptions hold true so that statistically significant and meaningful outcomes can be obtained. The research was carried out using secondary data from the World Development Indicators that covered a time span of fifteen years. The range of economic conditions and trends has been covered over the study period from 1991 to 2023, which is more than thirty years.

1. ADRL model is use for structured reflection it show the result in systematic way.
2. It helps the study to be applied in future.

3.2. Model Specification

$$INFt = \beta 1 + \beta 2REMt + \beta 3MSt + \beta 4PCIt + \beta 5BDt + \mu \quad (3.2)$$

INF = Inflation REM = remittances MS= money supply PCI= per capita income BD = budget deficit

3.3 The Auto-Regressive Distributed Lag (ARDL) model

The ARDL model is expressed as a regression equation that encapsulates the relationship between the dependent variable (inflation) and one or other independent variable(s) (remittances and maybe other interesting factors) over time. The ARDL model enables both long-run and short-run dynamics between these variables, which makes it suitable for evaluating the influence of remittances on inflation over an extended period.The equilibrium relationship between the dependent and independent variables is captured by the long-run component of the ARDL model (equation 3.2). In terms of this long run relation (eq. 3.3), any changes in remittances are forecast to have lasting effects on inflation because they reflect underlying structural links between these two variables. This element helps establish the steady state or long-term trend relationship between remittances and inflation.

The equation (3.4) of the ARDL model represents the short-run dynamics after a long-run equilibrium has been disrupted. For instance, temporary inflationary pressure is expected if there is any change in remittance which will gradually vanish with time. For instance, consider the ARDL model's Error Correction Mechanism (ECM) presented in equation 3.4 where a system moves back to its long-run equilibrium after going too far from it during recent times which has been explained above. Conversely, ECM illustrates how fast dependent variable adjusts itself to achieve another equilibrium point upon the occurrence of shock. Thus, within next few periods we can know from ECM the number of corrections made towards restoring relationship between remittances and inflation which had deviated from their long-term state.

3.4. Tests of Stationarity

The statistical finding called the Augmented Dickey-Fuller (ADF) test is used to check whether a unit root is present in time series data. When a series has a unit root, it means that it does not have stationarity. This implies that the process being modeled has long-run trends or stochastic drifts around an average that never changes or returns to any fixed value for all time periods considered. On the other hand, while referring to Phillips-Perron (PP) tests these are just different ways of doing the same thing – testing for non-stationarity against stationarity in time series dataset. Like the ADF test however, PP test helps in identifying the existence of a unit root indicating data non- stationarity. The difference between them all is that PP test applies slightly different regression framework and estimation procedure as compared to the ADF test. While estimating similar regression equation with ADF test, PP also provides correction for serial correlation in error term. This correction enables PP become more resistant to lethargic data thus giving true results than would be obtained by an autocorrelation biased approach.

In contrast, under alternative hypothesis also known as H1 the series is stationary but not under null hypothesis called H0 where it contains just one unit root. The critical values are used to compare with value of t-statistic determine whether null hypothesis can be rejected or not.

According to the ADF and PP results, it can be observed from this study that Inflation and budget deficit variables incorporated of order zero indicate that they are stationary or have a constant mean over time. On the other hand, per capita GDP, remittances, and money supply variables integrated of order one reveal that they are non-stationary and display a trend or stochastic drift over time.

Table 1: Unit Root Tests

	ADF Test						
Variables	At Level			At First difference			Order of Integration
	Intercept	Trend--Intercept	None	Intercept	Trend--Intercept	None	
INF	-4.71***	-5.64***	-0.48	-5.73***	-5.81***	-5.82***	I(0)
REM	2.52	-1.08	4.78	-3.78***	-5.36***	-2.89***	I(1)
PGDP	1.36	-2.12	4.77	-3.98***	-4.49***	-2.89***	I(1)
MS	4.34	4.03	18.66	1.14	-3.68**	2.54	I(1)
BD	-3.25**	-3.18	-1.17	-6.47***	-6.33***	-6.57***	I(0)
	PP-Test						

Variables	At Level			At First difference			Order of Integration
	Intercept	Trend--Intercept	None	Intercept	Trend--Intercept	None	
INF	-2.23	-2.03	-0.37	-5.75***	-5.82***	-5.84***	I(1)
REM	3.33	-0.78	5.53	-3.78***	-5.50***	-2.82***	I(1)
PGDP	1.36	-1.24	4.30	-4.01***	-4.50***	-2.85***	I(1)
MS	13.99	12.76	17.24	-0.81	-3.41*	0.33	I(1)
BD	-3.24**	-3.19	-1.18	-7.26***	-7.57***	-7.38***	I(0)

4- Results and Discussions

In this chapter, we present the results from our empirical research into the effect of remittances, per capita GDP, money supply and budget deficit on inflation in developing nations. We build on the methodological framework presented in earlier chapters to examine the findings of ARDL model estimation and determine the connections between such variables. We show regression results for coefficients, levels of significance and goodness-of-fit measures for ARDL model estimation. By providing an insight into the major influences behind inflation within developing countries through a comprehensive examination of long run as well as short run dynamics between remittances, per capita GDP ,money supply ,budget deficit and inflation . Also, we conduct diagnostic tests to verify robustness of model as well as reliability of our findings. To understand how these factors affect inflation dynamics in relation to remittances and other macro-economic variables it is important to analyze economic theories alongside empirical evidence that has been reviewed previously. These conclusions are useful to students who want to understand what really controls inflation rates in developing countries therefore will be used by policy makers; practitioners; and academicians.

4.1. Bounds Test

The bounds test is a concept often used in the framework of the Autoregressive Distributed Lag (ARDL) model to ascertain whether the included variables are cointegrated. Cointegration refers to long-run relationship between variables that makes them move together overtime despite short- term changes. It involves estimating an F-statistic which tests whether the estimated coefficients of the long run relationship from ARDL model exceed critical values. In this case, an F-statistic value from the bounds test has been computed as 3.45, which is higher than the upper bound at 10% level of significance. Thus, there exists cointegration among variables in the model under consideration.

Table 2: Bounds Test Result

Test-statistic	Value	Sig.	Lower-bound	Upper-bound
Asymptotic; n = 1000				
F-statistic (k)	3.45 (4)	10%	2.2	3.09
		5%	2.56	3.49
		2.5%	2.88	3.87
		1%	3.29	4.73

4.2. Long-run Analysis

The coefficient is statistically insignificant, indicating that the relationship between remittances and inflation is not reliably different from zero. This suggests that remittances do not have a statistically significant impact on inflation in the long run, based on the current model specification and data. This estimated coefficient for per capita income suggests that in the long run one unit increase in per capita income will associate with a decrease in inflation by 0.0026 units while holding all other variables constant. The same as with remittances, however, it's important to note that this coefficient for per capita income lacks statistical significance which implies that changes in per capita do not have dependable impact on inflation over time. The estimated coefficient of money supply indicates that an increase of one unit in money supply results to a change of -7.06E-11 units in inflation all else held constant and inflation changes only when other variables are kept at their initial values this means a

one-unit increase (or decrease) in money supply would result to approximately 7.06E-11 units rise (or fall) respectively. Similarly, once again, the coefficient for money supply is statistically insignificant showing no appreciable effect of changes in money supply on long-run inflation rates. According to this estimation's results there exists a negative relationship between budget deficit and inflation rate since its estimated coefficient amount stand at -51.84 meaning any one unit rise in budget deficit will cause fall decline of inflation by 51.84 while keeping all other factors constant. Despite its size, the magnitude of the coefficient is statistically insignificant which shows changes in budget deficit do not have reliable effect on inflation running through years.

Table 3: Long Run Coefficients using ARDL

Dependent Variable (INF)	Coefficients	SE	t-statistic	Prob.
REM	5.83E-08	9.58E-08	0.609135	0.5753
PGDP	-0.002667	0.005994	-0.500032	0.6433
MS	-7.06E-11	1.14E-10	-0.621930	0.5677
BD	-51.84195	89.15055	-0.581510	0.5921
C	616.5343	1112.053	0.554411	0.6088
ECMt-1	0.181589	0.026579	6.832137	0.0024

4.4. Diagnostic Tests

Diagnostic tests were such as normality test, autocorrelation test and heteroscedasticity test are applied and the results are provided tables 4, 5 and 6 respectively. While the stability test result is depicted in figure 2 and 3. The p-value of 0.53 suggests that the residuals show no significant departure from Normality; hence, there is no evidence to reject the null hypothesis of normality, indicating the assumption of normality has been met. The autocorrelation test result was not significant at a level of 0.084 for the residuals. Although the p value is slightly higher than 0.05 (the common α) this still means that we don't have enough grounds to refute any null hypothesis regarding non-serial correlation within the same time series' disturbances. This leads us to conclude that it is likely true that there is no serial correlation among residuals used in regression analysis. The heteroscedasticity test result with a p-value equaling 0.063 indicates absence of heteroscedasticity. Although the p value is just around 0.05 as normally used, it still reflects lack of adequate facts for rejecting a zero hypothesis concerning homoscedasticity Thus, we can say that we fail to reject the assumption that the variance in errors does not vary across levels of all independent variables taken collectively. Finally, the CUSUM and CUSUM Square tests results indicate that blue line falls between the red lines in both cases, this implies the model is stable over time.

Table-4

	Exports Model	
	Test Statistic	**P-Value**
Serial Correlation	F-Statistic = 10.85	0.084
Heteroscedasticity	F-Statistic = 3.77	0.06
Normality	Jarque-Bera = 1.25	0.53

5-Conclusions and Policy Recommendations

An Autoregressive Distributed Lag (ARDL) model is used to study how remittances, per capita GDP, money supply and budget deficit affect inflation in developing countries. These variables will be studied by applying the ARDL model to data from three developing countries. In this study, we have considered developing countries. We examine the impact of remittance, GDP per capita, money supply and budget deficit on inflation in these nations using an Autoregressive Distributed Lag (ARDL) model. The findings from this diagnostic testing shows that there are no significant long run relationships among remittances, per capita GDP, money supply and budget deficit as well as inflation. It should be noted that these findings are based on the current specification of the model and data for the period under consideration. Thus our conclusions here are

not very reliable since we have failed to consider other specifications for regression such as heteroskedasticity. This is important because it enables us to apply tests available in existing literature to ascertain whether or not a specific model has been specified correctly. These results show that independent variables like remittances, GDP per capita, money stock and budget deficits can influence inflation rates though their significance is doubtful due to statistical insignificance of their regression coefficients at 0.05 level of significance. However some diagnostic tests such as normality test confirm these preliminary inferences about appropriateness of our further analysis. As a result of these considerations therefore one would conclude that long-run empirical evidence
regarding the determinants of inflation remains inconclusive; hence more research may be needed before any firm conclusions can be made.

5.1 Policy Recommendations

- The analysis fails to reveal any significant long-run relationships between remittances, per capita GDP, money supply, and budget deficit with inflation in developing countries but this does not mean that policy makers can ignore the several implications and possible policy recommendations.
- Inflation dynamics are complex hence diversification of monetary and fiscal policy instruments is necessary for policymakers to address inflationary pressures effectively. It is important for policies that promote macroeconomic stability like prudent fiscal management, exchange rate stability and the adoption of an inflation targeting framework which are still crucial in mitigating inflationary risks. Remittances may not directly cause a statistically significant effect on inflation; however, it is recommended that policymakers should take advantage of such opportunities so as to benefit from remittances through financial inclusion, investment in productive sectors and poverty reduction efforts.

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