Impact of Financial Development and Globalization on Inflation: The Role of Remittance and Economic Growth in Bangladesh

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Abstract: The present study investigates the impact of financial development and globalization on inflation by incorporating foreign remittances and economic growth in inflation function in case of Bangladesh. The study covers the period of 1976Q1-2012Q4. We have applied structural break unit root test to examine integrating properties of the variables. The long run relationship between the variables is examined by applying newly developed cointegration approach by Bayer and Hanck, (2013)accommodating structural breaks in the series.

Our results confirm the presence of cointegration between the variables in the presence of structural breaks. We find that financial development increases inflation. Globalization stimulates inflation. Economic growth declines inflation but foreign remittances raises it. The causality analysis reveals the bidirectional causality between financial development and inflation. The feedback effect exists between economic growth and inflation and, same is true for financial development and economic growth. Foreign remittances Granger cause inflation and inflation Granger cause foreign remittances.

Keywords: Financial Development, Globalization, Inflation, Bangladesh

Introduction

There is huge body of empirical and theoretical literature which examines the relationship of the financial development and economic growth (Banerjee and Newman, 1993, Galor and Zeira, 1993 and Aghion and Bolton, 1997). The empirics show that developed countries have well established financial market with moderate and stable GDP per capita. On other hand, less developed countries have less efficient financial market and face instability and low per capita income. For examining the impact of financial development on inflation, there are three alternative variables or proxies are used: broad money supply, bank deposits liabilities and private sector credit. Inflation inversely affects financial development, economic growth and poor people of an economy. For example, Cecchetic (2000) finds that even moderate levels of inflation damages real growth and stimulates uncertainty in the economy. King (1999), Blejeret al. (2000) argue that the controlling price level is the main objective of central bank or monetary policy. Allsopp and Vines (2000) note that money supply is used to set the price level via the operation of real balance effect.

Globalization is inevitable and has huge economic gains as well it has big changes for developing economies. The impact of globalization on inflation was become the center of discussion in last 1980's when globalization considered an important determinant of economic growth but it is still inconclusive. Pain et al. (2006, 2008), Wang and Wen (2007), Borio and Pehnelt (2007) expose that globalization raises inflation but Ball (2006) and Ihriget al. (2010) report that globalization declines inflation because in open economy for covering the high demand imported goods fulfill the domestic demand in this way further increase in prices is discouraged.

This study will empirically investigate the impact of financial development and globalization on inflation in case of Bangladesh.

II. Literature Review

There is huge body of theoretical and empirical literature is available on inflation and economic growth and, inflation and financial development (Beck et al. 2007, Clarke et al. 2006, Honohan, 2004 and Li et al. 2001). Despite of this research, our interest is to focus on the relationship financial development and inflation and it is still controversial. According to Mundell (1963) and Tobin (1965), it is the inflation which affects the decision of portfolio allocation of money demand, inflation lowers the real return on capital and increase real investment. Mankiw, (1989) exposes that the rising trends in inflation have seen in the period of booms and falling trends in the period of recessions and that would be happen in the absence of real shocks such as oil price changes. He also mentions that financial development is not only attached with long run financial deepening but also with short run financial instability. Bruno and Easterly, (1998) examine the relationship between inflation and financial development. They conclude that there is negative relationship between growth and inflation. They suggest that 40 percent inflation as level of threshold and before that inflation retards economic growth and financial development. English, (1999) argues that high inflation forces the household to find the substitute for purchasing transactions services for money balances. This process enhances the services of financial sector which further increases the size and volume of financial sector. He regress a cross country regression and reports the positive association between size of financial sector and inflation.

Haslag and Koo, (1999) show that inflation represses financial development and negative relationship between both variables disappears after a threshold level of inflation. Rousseau and Wachtel, (2001) report the negative relationship between inflation and economic growth which further indirectly or directly puts negative impact on financial development. They mention that the direct impacts of inflation are normally disappeared when the inflation is at moderate level and the indirect effects of inflation are unable to cover via economic growth. Boyd et al. (2001) also confirm that after the threshold level, inflation affects financial development positively and threshold level is 15 percent per year. Khan et al. (2006) uncover that threshold level of inflation is 3 to 6 percent and after that level, an increase in inflation has negative impact on financial development. Smith, (2003) highlights that rising inflation not only impacts financial systems but it also damages the financial markets or disturb its operations. Boyd and Champ, (2003) report that in the period of high inflation, the risk of bank crises is also at higher level, because high inflation stops financial development to work which affects the real economy in short run. Kim et al. (2010) investigate the long run and short run relationship of financial development and inflation. Their results show that inflation retards financial development in long run but in short run, the relationship between both variables is positive and significant. In case of Bangladesh, Wahid et al. (2011) investigated the impact of inflation on financial development by applying the ARDL bounds testing approach to cointegration. They found that the variables have cointegration relation with each other. Their empirical analysis indicated that inflation retards financial development.

Zaman et al. (2010) analyzed the relationship of economic growth, financial development and inflation in case of Pakistan. They find that supply of money growth affects real GDP growth

and as well as inflation. Their causality analysis reveals that financial development Granger causes inflation. In case of Brazil, Bittencourt (2011) reports that inflation has deleterious impact on financial development. Moreover, he notes that macroeconomic performance has negative impact on financial development which increases income inequality and lowers economic growth. Aboutorabi, (2012) constructs multilateral index (financial development) to examine relationship between inflation and financial development by applying the ARDL bounds testing approach to cointegration in case of Iran. The results show that rising inflation deteriorates the performance of financial market and reduces financial development. Odhiambo, (2012) investigates the relationship between financial development and inflation in case of Zambia. By applying the ARDL bounds testing, he reports the presence of cointegration between financial development and inflation. Odhiambo also discloses that the relationship between both variables is negative while bidirectional causality is confirmed by the VECM Granger causality approach.

Initially, Barro and Gordon (1983) present the prominent models of monetary policy where inflation is an outcome of dynamic consistency problem. The slope of short run Phillips curve is the main parameter which helps the central bank to control the dynamic consistency problem while formulating the monetary policy. They suggest that globalization makes Phillips curve steeper as inflation climbs more output is demanded[1]. Romer, (1993) unveils that openness of an economy lowers price levels via affecting real output growth. Wagner, (2001) introduces the concept of implications of globalization for monetary policy. He mentions two channels for inflation and monetary policy. First, an increase in global competition enhances the process of globalization, on other hand; it affects uncertainty about the monetary policy. Moreover, Wagner

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[1]The steeper Phillips curve demands expansionary policy from central bank to reduce inflation.

notes that globalization reduces inflation. Bernanke, (2004) points out the relationship between globalization and inflation has become the central point of debate due to recent financial crisis. Ball, (2006) notes that globalization affects domestic prices via imports pricing in an economy. IMF, (2006) investigates the determinants of inflation determinants and finds that that the slack variables are affected by trade openness and the monetary policy. IMF reports that the relationship between trade openness and domestic output gap is negative in non-oil importing countries.

Ihrig et al. (2007) tests the hypothesis whether globalization affects inflation in an open economy. Their results show that domestic output, trade openness and imports prices have insignificant impact but they favor the presence of flatter Phillips curve in the 1990s. They conclude that foreign output affects domestic inflation insignificantly and globalization does not affect domestic inflation. But, Mumtaz and Surico, (2007) note that globalization plays an important role in determining domestic inflation. Allard, (2007a) investigates the determinants of inflation in case of Poland by incorporating globalization. She finds that globalization plays an important role in the determination of inflation in case of Poland and many other east European countries, and globalization declines inflation. Allard (2007b) also examines the relationship between globalization and inflation in case of Central East European countries. She notes that in case of developing countries, it is the output level which determines inflation; if the output level is high then globalization has strong effect on inflation and vice versa. Mojon and Ciccarelli, (2007) considering inflation as a global phenomenon, they find that variability in domestic inflation depends upon the OECD member countries inflation. Borio and Filardo, (2007)

examine the factors explaining the national inflation. They also conclude that globalization plays an important role in determining inflation in open economies.

III. The Data and Model Construction

We have searched world development indicators (CD-ROM, 2013) to obtain data on real GDP, foreign remittances, domestic credit to private sector (as share of GDP), inflation (consumer price index). We have borrowed data on globalization index from Dreher, (2006). We have used consumer price index data to transform foreign remittances and domestic credit to private sector into real terms. We have converted the series of real GDP, real foreign remittances, real domestic credit to private sector into per capita using population series. We have converted all the annual series into quarterly data to avoid the problem of degree of freedom and efficient empirical results. We used quadratic match sum method to transform all the variables into quarter frequency[2].The general form of inflation function is given below:

$$I_t = f(F_t, R_t, Y_t, G_t) \qquad (1)$$

All the series are transformed into logarithm. The estimable empirical equation is modeled as following:

$$\ln I_t = \alpha_1 + \alpha_F \ln F_t + \alpha_R \ln R_t + \alpha_Y \ln Y_t + \alpha_G \ln G_t + \mu_i \qquad (2)$$

where, $\ln I_t$ = natural log of inflation proxies by consumer price index, $\ln F_t$ = natural log of financial development is measured by real domestic credit to private sector per capita, $\ln R_t$ =

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[2]See more details Romero, (2005) and, McDermott and McMenamin, (2008).

natural log of real foreign remittances per capita, $\ln Y_t$ = natural log of real GDP per capita, $\ln G_t$ = natural log of globalization index and μ_i is normally distributed error term. $\alpha_F < 0$ if financial development declines inflation otherwise $\alpha_F > 0$. If foreign remittances increases the pressure on domestic inflation then $\alpha_R > 0$ otherwise $\alpha_R < 0$. Economic growth lowers inflation if domestic supply is more than domestic demand i.e. $\alpha_Y < 0$ otherwise $\alpha_Y > 0$. $\alpha_G < 0$ if globalization increases consumer surplus otherwise $\alpha_G > 0$.

IV. Econometric Methodology

In econometric analysis, the time series is said to be integrated if two or more series are individually integrated, but some linear combination of them has a lower order of integration. Engle and Granger, (1987) formalized the first approach of cointegration test which is a necessary criteria for stationarity among non-stationary variables. This approach provides more powerful tools when the data sets are of limited length as most economic time-series are. Later, another cointegration test called *Johansen maximum eigen value test* was developed by Johansen (1991). Since it permits more than one cointegrating relationship, this test is more generally applicable than the Engle–Granger test. Another main approach of cointegration testing of which its technique is based on residuals is the *Phillips–Ouliar is cointegration test* developed by Phillips and Ouliaris (1990). Other important approaches include the Error Correction Model (ECM) based F-test of Peter Boswijk (1994), and the ECM based *t*-test of Banerjee et al (1998).

However, different tests might suggest different conclusion. To enhance the power of cointegration test, with the unique aspect of generating a joint test-statistic for the null of no-cointegration based on Engle and Granger, Johansen, Peter Boswijk, and Banerjee tests, the so

called B*ayer-Hanck* test was newly proposed by Bayer and Hanck (2013). Since this new approach allows us to combine various individual cointegration test results to provide a more conclusive finding, it is also applied in this paper to check the presence of cointegrating relationship between financial development and inflation in Bangladesh's economy. Following Bayer and Hank (2013), the combination of the computed significance level (*p*-value) of individual cointegration test in this paper is in Fisher's formulas as follows:

$$EG - JOH = -2[\ln(p_{EG}) + (p_{JOH})] \tag{3}$$

$$EG - JOH - BO - BDM = -2[\ln(p_{EG}) + (p_{JOH}) + (p_{BO}) + (p_{BDM})] \tag{4}$$

Where p_{EG}, p_{JOH}, p_{BO} and p_{BDM} are the *p*-values of various individual cointegration tests respectively. It is assumed that if the estimated Fisher statistics exceed the critical values provided by Bayer and Hank (2013), the null hypothesis of no cointegration is rejected.

After examining the long run relationship between the variables, we use the Granger causality test to determine the causality between the variables. If there is cointegration between the series then the vector error correction method (VECM) can be developed as follows:

$$
\begin{bmatrix} \Delta \ln I_t \\ \Delta \ln F_t \\ \Delta \ln R_t \\ \Delta \ln Y_t \\ \Delta \ln G_t \end{bmatrix} = \begin{bmatrix} b_1 \\ b_2 \\ b_3 \\ b_4 \end{bmatrix} + \begin{bmatrix} B_{11,1} & B_{12,1} & B_{13,1} & B_{14,1} & B_{15,1} \\ B_{21,1} & B_{22,1} & B_{23,1} & B_{24,1} & B_{25,1} \\ B_{31,1} & B_{32,1} & B_{33,1} & B_{34,1} & B_{35,1} \\ B_{41,1} & B_{42,1} & B_{43,1} & B_{44,1} & B_{45,1} \\ B_{51,1} & B_{52,1} & B_{53,1} & B_{54,1} & B_{55,1} \end{bmatrix} \times \begin{bmatrix} \Delta \ln I_{t-1} \\ \Delta \ln F_{t-1} \\ \Delta \ln R_{t-1} \\ \Delta \ln Y_{t-1} \\ \Delta \ln G_{t-1} \end{bmatrix} + ... + \begin{bmatrix} B_{11,m} & B_{12,m} & B_{13,m} & B_{14,m} & B_{15,m} \\ B_{21,m} & B_{22,m} & B_{23,m} & B_{24,m} & B_{25,m} \\ B_{31,m} & B_{32,m} & B_{33,m} & B_{34,m} & B_{35,m} \\ B_{41,m} & B_{42,m} & B_{43,m} & B_{44,m} & B_{45,m} \\ B_{51,m} & B_{52,m} & B_{53,m} & B_{54,m} & B_{55,m} \end{bmatrix}
$$

$$
\times \begin{bmatrix} \Delta \ln I_{t-1} \\ \Delta \ln F_{t-1} \\ \Delta \ln R_{t-1} \\ \Delta \ln Y_{t-1} \\ \Delta \ln G_{t-1} \end{bmatrix} + \begin{bmatrix} \zeta_1 \\ \zeta_3 \\ \zeta_3 \\ \zeta_4 \\ \zeta_5 \end{bmatrix} \times (ECM_{t-1}) + \begin{bmatrix} \mu_{1t} \\ \mu_{2t} \\ \mu_{3t} \\ \mu_{4t} \\ \mu_{5t} \end{bmatrix} \tag{5}
$$

where difference operator is $(1-L)$ and ECM_{t-1} is the lagged error correction term, generated from the long run association. The long run causality is found by significance of coefficient of lagged error correction term using t-test statistic. The existence of a significant relationship in first differences of the variables provides evidence on the direction of short run causality. The joint χ^2 statistic for the first differenced lagged independent variables is used to test the direction of short-run causality between the variables. For example, $B_{12,i} \neq 0 \forall_i$ shows that financial development Granger causes inflation and financial development is Granger of cause of inflation if $B_{11,i} \neq 0 \forall_i$.

V. Empirical Results

Unit root is the precondition for finding the cointegration among the variables of the model, there are different tests are available for checking the unit root problem of the variables. Augmented Dickey-Fuller (1979) unit root test is widely used test of stationarity but Perron (1989) mention that Augmented Dickey-Fuller test is unable to explain the problem of structural break and

endogenity in the data. Zivot and Andrews (1992) and Perron (1997) proposed the method for determining the break point endogenity in the data. Lumsdine and Papell (1997) extended Zivot and Andrews (1992) model for investigating the two structural breaks. Zivot and Andrews (1992) is best test for finding the endogenous structural break in full sample data, for that they use different dummy for each break date. The selection of the break date is base on T-statistic, where the T-statistic from the ADF test of unit root is at a minimum. Consequently, the break date will be selected where the evidences are favorable for the unit root null hypothesis. The critical value of the Zivot and Andrews (1992) to the critical value of the ADF, the difference is base on the selection of the time break rather than exogenously. We have applied ADF and PP unit root tests and found that all the variables have unit root problem at level with intercept and trend. We note that the series are found to be stationary after first difference. It shows that variables are integrated at I(1)[3].To avoid the problem associated with traditional unit root test such as ADF and PP, we have also applied Zivot and Andrews unit root test which accommodates information about single unknown structural break arising in the series.The results are shown in Tbale-1. Table-1 indicates the unit root problem in the series at level in the presence of structural breaks. At first difference, all the variables are stationary. This shows that the order of integration of the variables is I(1).

Table-1: Zivot-Andrews Unit Root Test

Variable	At Level		At 1st Difference	
	T-statistic	Time Break	T-statistic	Time Break
$\ln I_t$	-3.768 (2)	1995Q2	-5.991(3)**	2001Q2

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[3]Results are available from authors upon request.

ln F_t	-4.997 (3)	1989Q2	-7.181 (3)*	1994Q2
ln R_t	-4.220 (1)	1994Q2	-8.178(3)*	1983Q3
ln Y_t	-2.941(3)	1990Q1	-8.340 (3)*	1982Q2
ln G_t	-3.199 (1)	1998Q2	-8.340 (3)*	1982Q2
Note: * and *** represent significant at 1 and 10 per cent level of significance. Lag order is shown in parenthesis.				

The unique order of integration of the variables lends us to apply the Bayer and Hanck combined cointegration tests such as EG-JOH, and EG-JOH-BO-BDM tests. It is necessary to select the appropriate lag length of the variables to compute Fisher-statistic to examine whether cointegration exists among the series. The Fisher-statistic is sensitive with lag length selection. We choose lag order 6 following the minimum value of Akaike information criterion due to its superior properties. The results are reported in Table-2.

Table-2: VAR Lag Order Selection Criteria

VAR Lag Order Selection Criteria						
Lag	LogL	LR	FPE	AIC	SC	HQ
1	2925.915	3486.936	7.43e-25	-41.3702	-40.7398	-41.1140
2	3061.223	249.3539	1.54e-25	-42.9460	-41.7904*	-42.4764
3	3069.689	14.9959	1.96e-25	-42.7098	-41.0289	-42.0267
4	3076.900	12.2600	2.54e-25	-42.4557	-40.2494	-41.5591
5	3152.601	123.2833	1.24e-25	-43.1800	-40.4484	-42.0700

6	3221.298	106.9716*	6.76e-26*	-43.8042*	-40.5474	-42.4807*
7	3232.821	17.1196	8.37e-26	-43.6117	-39.8296	-42.0747
8	3246.452	19.2787	1.01e-25	-43.4493	-39.1419	-41.6989

* indicates lag order selected by the criterion

LR: sequential modified LR test statistic (each test at 5% level)

FPE: Final prediction error

AIC: Akaike information criterion

SC: Schwarz information criterion

HQ: Hannan-Quinn information criterion

As the unit root test shows that all variables follow the $I(1)$, the combined cointegration tests are proceeded. Table-3 illustrates the combined cointegration tests including the EG-JOH, and EG-JOH-BO-BDM tests. The result reveals that Fisher-statistics for EG-JOH and EG-JOH-BO-BDM tests, in case of I_t, Y_t, F_t, R_t are greater than 5% critical values indicating that both EG-JOH and EG-JOH-BO-BDM tests statistically reject the null hypothesis of no cointegration between variables. However, the result of combined cointegration tests for the case of G_t fails to reject the null hypothesis of no cointegration. Our finding shows that there is a cointegration between inflation and theirdeterminants. This implies that long run relationship exists between economic growth, financial development, foreign remittances, globalization and inflation over the period of 1976QI-2012QIV in case of Bangladesh.

Table-3: The Results of Bayer and Hanck Cointegration Analysis

Estimated Models	EG-JOH	EG-JOH-BO-BDM	Break Year	Cointegration

$I_t = f(Y_t, F_t, R_t, G_t)$	13.512	22.060		Yes
$Y_t = f(I_t, F_t, Y_t, G_t)$	16.100	35.233		Yes
$F_t = f(I_t, Y_t, R_t, G_t)$	14.237	24.641		Yes
$R_t = f(Y_t, I_t, F_t, G_t)$	13.451	20.934		Yes
$G_t = f(Y_t, I_t, R_t, F_t)$	14.008	15.099		No

Note: ** represents significant at 5 per cent level. Critical values at 5% level are 10.576 (EG-JOH) and 20.143 (EG-JOH-BO-BDM) respectively.

The next step is to examine the marginal impact of financial development, economic growth, foreign remittances and globalization on inflation after having cointegration between the series. Table-4 reveals that financial development adds in inflation at 1 per cent level of significance. All else is same, a 1 per cent increase in financial development leads inflation by 0.3041 per cent. This finding is contradictory with Zaman et al. (2011) in case of Pakistan who reported that financial development lowers inflation. Foreign remittances have positive effect on inflation and it is statistically significant at 1 per cent level. A 1 per cent increase in foreign remittances leads inflation (positively) by 0.2487 per cent by keeping other things constant. This empirical result is in line with existing literature such as Narayan et al. (2011) who reported that remittances induce inflation in developing countries. Economic growth is inversely linked with inflation at 1 per cent significance level. If other things remain same then a 1.0226 per cent inflation is declined by 1 per cent increase in economic growth. This finding supports the view reported by Henderson, (1999) that economic growth decline inflation via activating real economy. Globalization has positive and statistically significant impact on inflation. It is noted that a 0.5637 per cent inflation is increased with 1 per cent increase in globalization by keeping other things constant.

This is consistent with findings of Sbordone, (2008) who claimed that globalization affect inflation via trade openness channel.

Table-4: Long Run Analysis

Dependent Variable = $\ln I_t$				
Variables	Coefficient	Std. Error	T-Statistic	Prob.
Constant	1.7672*	0.3315	5.3304	0.0000
$\ln F_t$	0.3041*	0.0463	6.5634	0.0000
$\ln R_t$	0.2487*	0.0446	5.5726	0.0000
$\ln Y_t$	-1.0226*	0.1782	-5.7366	0.0000
$\ln G_t$	0.5637*	0.1972	2.8579	0.0049
R^2	0.9603			
Adj. R^2	0.9592			
F-Statistic	8.6678*			
Diagnostic Checks				
Test	F-statistic	Prob.		
$\chi^2 NORMAL$	0.6434	0.7249		
$\chi^2 ARCH$	0.3419	0.8833		
$\chi^2 REMSAY$	0.1238	0.8967		
Note: * shows significance at 1%level respectively.				

Table-5: ShortRun Analysis

Dependent Variable = $\Delta \ln I_t$				
Variables	Coefficient	Std. Error	T-Statistic	Prob.
Constant	0.0063*	0.0005	12.2981	0.0000
$\Delta \ln F_t$	-0.0031	0.0119	-0.2600	0.7952
$\Delta \ln R_t$	0.0649*	0.0122	5.2790	0.0000
$\Delta \ln Y_t$	-0.7576*	0.2198	-3.4458	0.0008
$\Delta \ln G_t$	-0.1155***	0.0599	-1.9266	0.0560
ECM_{t-1}	-0.0249*	0.0058	-4.2537	0.0000
R^2	0.4358			
Adj. R^2	0.4158			
F-Statistic	21.7873*			
Diagnostic Checks				
Test	F-statistic	Prob.		
$\chi^2 NORMAL$	0.2277	0.6632		
$\chi^2 ARCH$	0.3589	0.7933		
$\chi^2 REMSAY$	0.4306	0.6892		
Note: * and *** show significance at 1%and 10% levels respectively.				

In short run analysis (Table-5), we find that financial development declines inflation but it is insignificant. Foreign remittances add in inflation significantly at 1 per cent level of significance.

Economic growth is inversely linked with inflation and it is statistically significant at 1 per cent significance level. Globalization decreases inflation at 10 per cent level of significance. The negative sign of coefficient of ECM_{t-1} is -0.0249 and it is statistically significant at 1 percent level of significant. This confirms our established long run relationship between the variables. The coefficient of lagged error term indicates the speed of adjustment from short run towards long run equilibrium path. We find that short run deviations in previous period are corrected by 2.49 percent in future in case of Bangladesh. It may consume almost 10 years to reach at long run equilibrium path using growth function. The short run model shows that error term is normally distributed with zero mean and constant variance. There is no problem of autoregressive conditional heteroskedisticity and short run model is well constructed.

The long run and short run analysis just shows the impact of independent variables on dependent variables and ignores the cause and effect of the variables (direction of causal relationship between the variables). This is solved by applying the VECM Granger causality approach. Table-6 reports the empirical findings of the VECM Granger causality framework.

Table-6: The VECM Granger Causality Analysis

Variables	Direction of Granger Causality					
	Short Run					Long Run
	$\ln I_t$	$\ln F_t$	$\ln R_t$	$\ln Y_t$	$\ln G_t$	ECT_{t-1}
$\ln I_t$	....	0.0879 [0.9158]	0.6791 [0.5090]	1.2104 [0.3017]	0.8252 [0.4406]	-0.005*** [-1.6789]

$\ln F_t$	0.2138 [0.8078]	**....**	0.1171 [0.8896]	1.7404 [0.1799]	0.5757 [0.5639]	-0.066* [-3.8144]
$\ln R_t$	0.3206 [0.7263]	0.5339 [0.5842]	**....**	4.5782** [0.0121]	0.8815 [0.4168]	-0.0392** [-1.9649]
$\ln Y_t$	2.2145 [0.1137]	1.5513 [0.2162]	10.5417* [0.0000]	**....**	3.1256** [0.0472]	-0.007*** [-1.6771]
$\ln G_t$	2.6721*** [0.0727]	0.7264 [0.4855]	1.3610 [0.2599]	7.8126* [0.0000]	**....**	**....**
Note: *, ** and *** represent significance at 1%, 5% and 10% levels respectively.						

In long run, the results of Granger causality analysis reveal the feedback effect between inflation and financial development i.e. financial development Granger causes inflation and inflation Granger causes financial development. The relationship between financial development and foreign remittances is bidirectional and same is true between inflation and foreign remittances. The bidirectional causality is found between economic growth and financial development. Economic growth Granger causes foreign remittances and foreign remittances Granger cause inflation. The feedback effect exists between inflation and economic growth. The unidirectional causality is found running from Globalization to inflation, financial development, foreign remittances and economic growth. The bidirectional casual relationship is found between foreign remittances and economic growth in short run. Economic growth Granger causes globalization and globalization Granger causes economic growth. Globalization is Granger cause of inflation.

VI. **Concluding Remarks and Policy Recommendations**

The present study investigated the impact of financial development on inflation by incorporating foreign remittances and globalization in case of Bangladesh over the period of 1975QI-2011QVI. We have applied structural break unit root test to test the integrating properties of the variables. The combined cointegration is used to examine the presence of cointegration among the series. We find that the variables are linearly cointegrated for long run relationship. Financial development facilitates inflation. Foreign remittances increase inflation. Economic growth declines inflation. Globalization also adds in inflation. The causal analysis reveals that the relationship between financial development and inflation is bidirectional. The feedback effect is found between inflation and economic growth. Foreign remittances Granger cause inflation and inflation Granger causes foreign remittances. Globalization Granger causes inflation, financial development, foreign remittances and economic growth. There is bidirectional causality exists between financial development and economic growth and same is true between foreign remittances and economic growth. The feedback effect is found between foreign remittances and financial development.

This study suggests that financial sector should need to reform her polices to control inflation. Issuance of loans on political basis to white elephants (unproductive public sectors)should be banned. The credit must issue to productive and real sectors of the economy and money supply should be under control. Economic growth can be used as an instrument to control inflation. Globalization increases inflation. This shows that Bangladesh government must direct her trade policies to reap optimal fruits of trade openness particularly and globalization generally.

For future research, the present study can be augmented by investigating the impact of foreign capital inflows on inflation. In this regards, an index of foreign capital inflows should be generated consisting on sub indices such as foreign remittances, foreign direct investment, foreign portfolio investment and foreign aid using Principal Component Analysis (PCA). Although, we have incorporated foreign remittances variable but it could not capture the scenario of whole variables as mentioned above. Our findings show that foreign remittances and globalization have positive impact on inflation. One should go for further study as mentioned for rigor and depth analysis which might be helpful in designing a comprehensive economic and trade policies to control and sustain economic growth in Bangladesh.If state level data of financial development and inflation is available then financial development and inflation relationship can be investigated for more consistent and reliable economic policy.

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