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Does Private Sector Credit gear up Private Investment in Bangladesh?

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Abstract: *This paper examines whether private sector credit gears up private investment in Bangladesh or not by using the annual data from FY1976 to FY2016. It is found from the estimated result that the private sector credit variable is the most persuasive factor stimulating private investment in Bangladesh. It is therefore arguable that policy-makers in Bangladesh can capitalize on the private sector credit to influence private investment directly or indirectly. It is also found that public investment affects private investment positively. In other words, public investment crowds in private investment in the context of Bangladesh. This implies that public investment can enhance private investment in Bangladesh by increasing private returns through the provision of infrastructures (Communication, transports, energy, etc.).*

Introduction

In recent years, private sector has been given special emphasis to help boost economic growth and reduce poverty in developing countries. Such a move has been come forward as a result of the fact that public sector driven economy resulted in resource inefficiency, poor service delivery and involved in corrupt practices. In the context of Bangladesh, the country followed a public sector led

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industrialization strategy in the early period of the independence. Government took over all industries occupied by Pakistani entrepreneurs and nationalized most of the industries and financial institutions. The performance of the economy under public sector led development strategy, however, was not satisfactory. All nationalizes industries and financial institutions have been turned into losing concerns. Consequently, the government had started to shift away from public sector led planned economy to private sector driven economy in late 1970s. The government has also adopted a comprehensive financial sector reform programs (FSRP) in 1990s.

The performance of Bangladesh under private sector led growth strategy has become very impressive uplifting its growth trajectory by roughly 1 percent in every decades. The economy maintained above 6 percent growth trajectory in the last decade. In FY15, Bangladesh graduated to the status of a lower middle income country from a low income country. In this backdrop, Bangladesh has designed its Seventh Five Year Plan for the period 2016-2020 aiming at uplifting GDP growth rate trajectory to 8 percent by 2020. To attain this higher growth trajectory, a gradual increase in investment will be required from existing 29.4 percent in FY16 to 34.4 percent of GDP by 2020. Since domestic private investment constitutes a large chunk (around 76.4 percent in FY15) of total investment, private sector investment will have to play a crucial role in attaining the targeted higher growth rate.

To boost up investment adequate financing facilities or access to credit, along with other economic and non-economic measures conducive to investment, are essential. Broadly there are two domestic sources of financing for capital formation; bank credit and financing from capital market. As capital market of Bangladesh is not so developed, most development activities are financed from bank credit. Private sector credit is instrumental in tapping the productive potentialities of the economy. Credit may be used in investment and productive purposes or it may be used for consumption purposes. If it is used in purchasing plant and machinery, seed, fertilizers, tractor, and pump set etc, then it directly augments investment. Even if it is used for consumption purposes still it contributes to investment indirectly by flourishing the economic activities of the economy. The private sector credit is particularly useful for the poor and rural people in the event of natural disaster such as flood, draught, disease or fire. However, if the excessive credit is provided for consumption purposes and unproductive sector, then there is a possibility of higher inflation and asset price bubble as aggregate demand surpasses aggregate demand. Therefore, the credit to

private sector should be provided which will be sufficient to support the desired investment and output growth but not fuelling the inflation in the country.

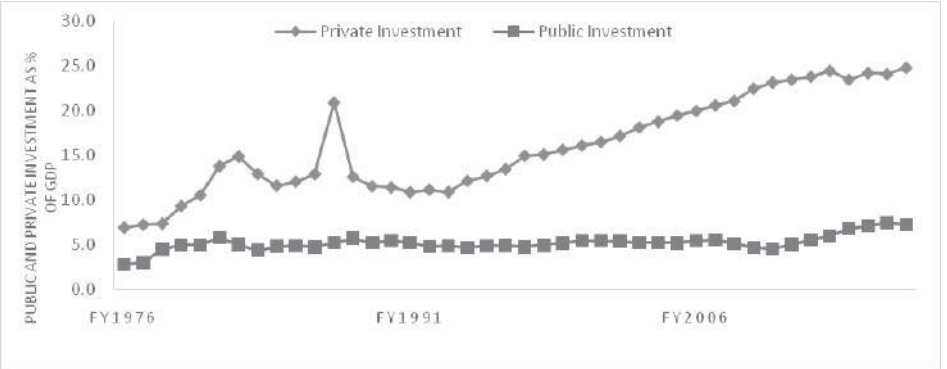
Given the stylized relationship between investment and credit, many authors tried to investigate the determinants of investment in developing countries. However, only few studies have been done on the behavior of investment in Bangladesh. Hassan and Salim (2011) estimated the determinants of investment in Bangladesh. E. Islam and N. Begum (2005) empirically analyzed the sensitivity of investment demand to interest rate. However, almost all the study mentioned above ignores the role of private sector credit on investment. This paper attempts to examine the empirical relationship between private investment (which constitutes major portion of investment) and private sector credit in Bangladesh. Dr. S. Younus (2010) examines relationship among output growth, private sector credit and inflation. She, however, found that private sector credit has no real effect on economic growth which is contrary to conventional belief. Moreover, there is a growing voice from many corners particularly from business men regarding higher credit ceiling for private sector to boost up recent stagnant private investment. However, there is no in-depth and updated study on the impacts of private sector credit on investment and economic growth. This persuades us to examine the relationship between private sector credit and private investment. The result of the study may be useful in designing monetary policy of Bangladesh Bank.

It is mentionable that though our primary objective is to explore the relationship between private sector credit and private investment, other important determinants of private investment are used for robustness and to avoid the problem of omitted bias of variable of estimated result. It is also noted that though there are micro finance institutions, credit co-operatives and NGOs provide credit to private sector. In recent time, private sector has also been allowed to borrow foreign sources. However, availability of time series data for those institutions and private foreign borrowing are very limited. Therefore, in this study, domestic private sector credit provided by only commercial banks, who distributed major portion of the credit, is taken into consideration.

The rest of the paper is structured as follows. The next section discusses the pattern of private investment and public investment in Bangladesh. Section three provides the status and trend of private sector credit in Bangladesh followed by literature review in section four. Section five describes the analytical framework, data sources and time series properties of data followed by the analysis of empirical results in section six. Concluding remarks and policy implications are presented in the final section.

Pattern of Private Investment and Public Investment in Bangladesh

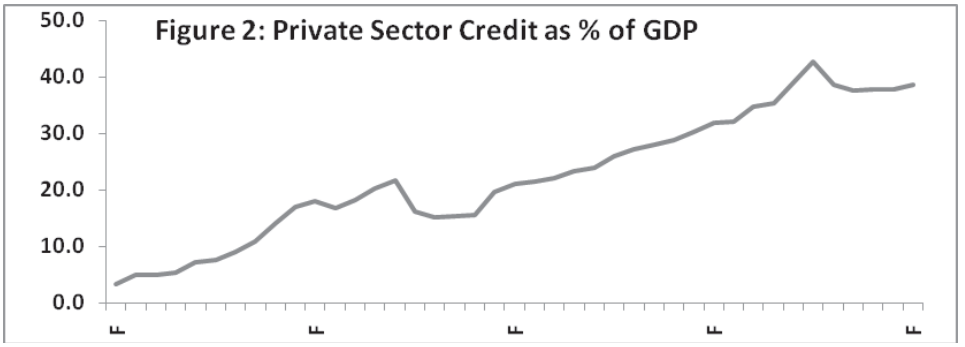
Private Sector investment in Bangladesh increased steadily amid some fluctuations over the past years. A number of good policies including sound macroeconomic management, trade and investment deregulation, privatization, removal of quantitative restrictions, simplifying business registration process, relaxation of ownership restrictions, relaxation of rules regarding inflow of foreign investment and outflow of profits, reduction of trade tariffs, the establishment of Export Promotion Zones (EPZs), the expansion of infrastructure services, expansion of labor and quality improvements and allowing of foreign borrowing for private sector contributed to the significant increase in private sector investment in Bangladesh. Real private sector investment increased from a meager 6.9 percentage of GDP in FY1975, reached to 10.5 percent in FY1979 and climbed to 14.0 percent in FY1981. During the period 1982-1991, private investment fluctuated considerably between 10.9 and 20.9 percent of GDP. After that it showed continuous increase and reached to 24.5 percent in FY2012. However, real private sector investment showed some signs of stagnation at 24.5 to 24.8 percent of GDP in last five years. Real public investment also increased during that period started from 2.8 percent of GDP in FY1975, reached to 5.0 percent in FY1978. It remained almost constant over the period FY1979-FY2006. During the period FY2006 to FY2009, it witnessed a declining trend from 5.6 percent of GDP to 4.5 percent of GDP. After that, public sector investment increased gradually increased and reached to above 7.0 percent of GDP in FY2016 (figure 1).



Status and Trend of Private Sector Credit in Bangladesh

The ratio of credit to private sector credit to nominal GDP in Bangladesh increased over the study period except few years. The ratio increased steadily to

17.9 percent in FY1986 from only 2.3 percent in FY1975.Then it exhibited a volatile trend during the period 1987-1992 and varies between 15.0 percent to 21.7 percent. After 1992, it increased gradually and reached 42.8 percent in FY2011. However, the ratio declined to 38.7 percent in FY12 and showed some sorts of stagnation in last four years (figure-2).



Before 1990s, the credit policy of Bangladesh was mostly directed to some specialized sectors with controlled and subsidized interest rate policy. The asset of banking sector was mostly concentrated the state owned banks and credit to private sector was very volatile. The banking industry had been transformed from a highly inefficient state-owned sector to a dynamic private sector after implementation of financial liberalization in 1990s. After financial liberalization, the credit growth to private sector was relatively stable which varied between 10.6-16.8 percent during FY1996 to FY2007. The private sector credit was remarkably high in FY2008, FY2010, FY11 and FY12 which increased to 24.9, 24.2, 25.8 and 19.7 percent respectively. After FY2011, the private sector credit growth exhibited a declining trend and fell to 10.9 percent in FY2013. In last four years the credit growth again showed an increasing trend and reached to 16.8 percent in FY2016.

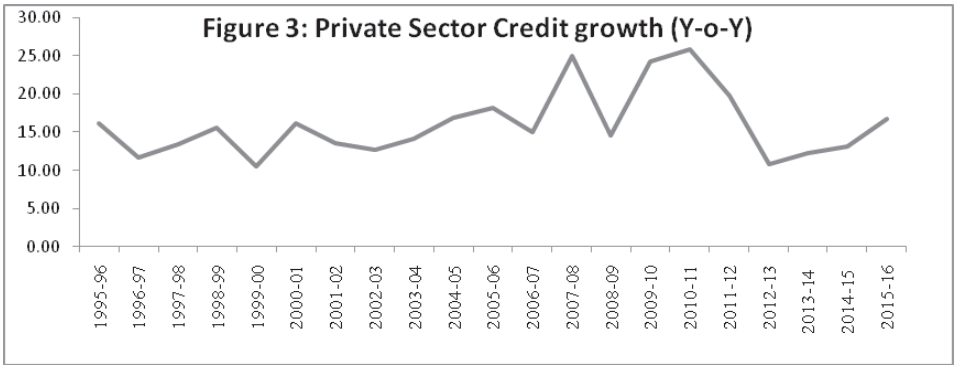
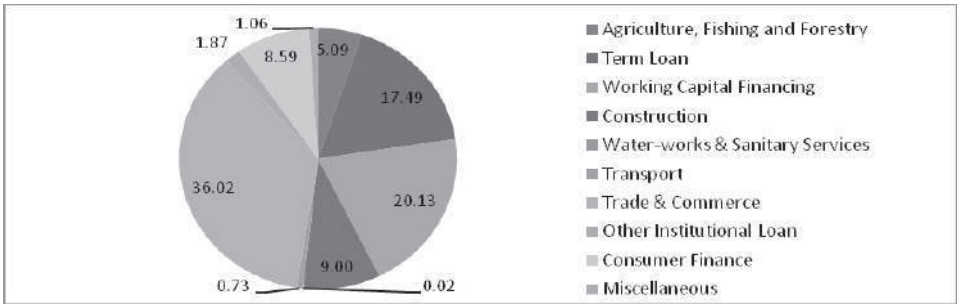


Figure 4: Share of Private Sector Advances by Economic Purposes (September 2016)



Secctor wise distribution of private sector credit showed that out of the total credit trade and commerce constituted highest 36.02 percent followed by working capital finance (20.13 percent), term loans (17.49 percent), construction (9.00 percent), consumer finance (8.59 percent), and agriculture, fishing and forestry (5.09 percent). It is clear from sector share of private sector credit that credit goes to consumer financing is very low (only 8.6 percent) and majority of credit to private sector used for investment and productive purposes. Another sticking figure is that though agriculture, fishing and forestry contribute roughly 15 percent of GDP in Bangladesh (National Account Statistics, BBS), whereas it has been provided only 5.09 percent of total private sector credit. The analysis of the private sector credit by economic purposes showed that there has been a significant increase in the credit to working capital finance, construction, transport, and trade & commerce while term loan and consumer financing decreased significantly in recent time (table-1) term loans (17.49 percent).

Table 1: Private Sector Credit by Economic Purposes

(Y-O-Y % changes)

Major Sectors	Jun.15	Sep.15	Dec.15	Mar.16	Jun.16	Sep.16[P]
Agriculture, Fishing and Forestry	9.4	21.5	21.3	8.8	21.8	9.5
Term Loan	20.9	30.4	30.9	32.8	10.3	12.7
Working Capital Financing	15.0	16.8	17.9	5.2	30.2	17.2
Construction	8.0	9.8	9.6	31.0	23.0	17.1
Transport	-23.4	-18.3	-18.7	22.7	16.1	7.4
Trade & Commerce	5.7	1.2	12.4	18.6	15.3	15.8
Consumer Finance	81.2	34.7	8.7	8.1	1.8	14.4

Source: Statistics Department, Bangladesh Bank. P=provisional.

Literature Review

Hassan Kamrul *et al* (2011) examined the determinants of private investment in Bangladesh using time series econometric analysis. They found that real interest rate is not statistically significant in determining private investment whereas national output is very much effective in the long run. Government expenditures crowd out private investment, however, the effect is minimal as the investment is not interest responsive. They also found that one percent increase in long-term loan increases private investment by 0.54 percent.

Elhiraika (2001) examined the role of the domestic financial system in Swaziland in supporting private investment in order to enhance economic growth and reduce the country's vulnerability to factors affecting foreign capital inflow. Using the co-integration, vector error correction model with annual series data over the period 1971-1998, the author found that the flow of domestic bank credit to the private sector has a positive and significant effect on private investment. After highlighting the potential and constraints of the domestic financial system, the paper emphasized the need for policies to enhance the availability of investment loans as well as non-credit support to domestic enterprises.

Okorie (2013) investigated the effect of private sector credit on private domestic investment. Using the Error Correction Model (ECM) with time series data, the author found that an increase in private sector credit though not statistically significant leads to increase in private domestic investment in the Nigerian economy.

The effect of credit to the private sector on private investment is expected to be positive. Private firms in developing countries rely heavily on bank credit as a source of financing. On the empirical level, although the vast majority of studies seem to ascertain the positive impact of increase in private sector credit on private investment there are cases where these credits do not appear to have any effect on it. For example, Oshikoya (1994) found that increase in credit to the private sector were not associated with increase in investment for Morocco, Tanzania and Zimbabwe.

The paper by Ouattara (2004) estimated the determinants of private investment in Senegal over the period of 1970-2000. It first tests the variables for unit root using two, relatively, new tests namely the Dicky-Fuller generalised least square de-trending test proposed by Elliot et al. (1996) and the Ng-Perron test following Ng and Perron (2001). The long-run private investment equation is derived using the Johansen co-integration techniques and bounds test approach. In both cases, the

results indicated that public investment, real income and foreign aid flows affect private investment positively, whilst the impact of credit sector and terms of trade is negative.

Neoclassical investment theory suggests that private investment is positively related to the growth of real GDP (Greene and Villanueva 1991, Fielding 1997). Similarly, it has also been hypothesised that private investment is affected positively by income level, as countries with higher income level would tend to dedicate more of their wealth to domestic savings which would then be used to finance investment (Greene and Villanueva 1991). Empirical studies by Chhiber and Van Wijnbergen (1988) reported a negative effect of public investment on private investment.

Ghura and Goodwin (2000) examined the determinants of private investment in Asia, Sub-Saharan Africa (SSA), and Latin America with panel data for the period 1975-1992. Econometric tests indicated a preference for the random effects estimation procedure over other alternatives. The result, with pooled data for all the 31 countries in the sample, confirmed that private investment was stimulated by increase in private sector credit in Asia and SSA, but not in Latin America. Also, real GDP growth stimulated private investment in Asia and Latin America but not in SSA. In addition, increase in credit to the government had significant adverse effects on private investment in SSA and Latin America.

Sakr (1993) investigated the determinants of private investment in Pakistan with special emphasis on the impact of government investment. Using the OLS estimation with annual data for the period 1973/74- 1991/92, it is estimated that private investment was positively correlated with GDP growth, with credit extended to private sector and with government investment. The paper argued that in promoting both infrastructural government investment and credit extended to the private sector, policymakers must give due consideration to maintaining macroeconomic stability.

1. Data Source and Methodological Framework

This study used the annual data of private investment, public investment, private sector credit and lending rate from FY1976 to FY2016. The data were taken from various sources like; Bangladesh National Accounts Statistics (Bangladesh Bureau of Statistics), Bangladesh economic Review (Ministry of Finance) and Monthly Economic Trends (Bangladesh bank).

The study will test the short run as well long run impact of private sector credit on private investment using a modern time series co-integration based on the

Autoregressive Distributed Lag (ARDL) ''Bounds test'' approach developed by Pesaran, Shin, and Smith (2001), with annual time series data from 1974 to 2015 having 41 observations The use of the bounds technique is based on three validations. First, Pesaran *et al*. (2001) advocated the use of the ARDL model for the estimation of level relationships because the model suggests that once the order of the ARDL has been recognised, the relationship can be estimated by OLS. Second, the bounds test allows a mixture of I(1) and I(0) variables as regressors, that is, the order of integration of appropriate variables may not necessarily be the same. Therefore, the ARDL technique has the advantage of not requiring a specific identification of the order of the underlying data. Third, this technique is suitable for small or finite sample size (Pesaran *et al*., 2001).

2. Model

Neoclassical investment theory suggests that private investment is positively related to the growth of real GDP (Greene and Villanueva, 1991; Fielding, 1997). Similarly, it has also been hypothesized that private investment is affected positively by income level, as countries with higher income level would tend to dedicate more of their wealth to domestic savings which turns out to be used for financing investment (Greene and Villanueva, 1991).

Public sector investment has also been suggested to affect private investment, although its impact remains ambiguous. Public investment can boost private investment by increasing private returns through the provision of infrastructures (Communication, transports, energy, etc.). Complimentary relationship between public and private saving has been found by studies such as Blejar and Khan (1984), Aschauer (1989), and Greene and Villanueva (1991). Conversely, public investment may crowd out private investment if the additional investment is financed by a deficit, which leading to an increase in the interest rate, credit rationing, and a tax burden. Empirical studies by Chhiber and Van Wijnbergen (1988) and Rossiter (2002) report a negative effect of public investment on private investment.

The effect of credit to the private sector on private investment is expected to be positive. Private firms in developing countries rely heavily on bank credit as a source of financing. With financial markets being generally repressed, credit policies generally affect private sector investment via the stock of credit available to firms that have access to preferential interest rates. On the empirical level, although the vast majority of studies seem to ascertain the positive impact of increases in private sector credit on private investment there are cases where these credits do not appear to have any effect on it.

Terms of Trade (TOT) has negative effect on private investment. TOT has been frequently used to proxy the external shocks. TOT affects private investment in two ways either by increasing import price or by decreasing export price. Due to increase in import price, domestic price level will increase, which will increase demand for credit and interest rate, which in turn, will reduce private investment. Again, As a result of the reduction in export price, it deteriorates the TOT which will lead to the reduction in private investment in export sector of the economy. Empirical studies by Seruvatu and Jayaraman (2001) on Fiji and Ouattara, (2004) on Senegal find that terms of trade significantly affect private investment in those countries in recent decades.

Finally, lending rate is also considered the influential factor for private investment. According to the neoclassical investment model, lending rate is treated as a key component of the user cost of capital and therefore affects private investment negatively. This study assumes negative relationship between lending rate and private investment.

According to above discussion and evidence the empirical model is as follows:

$PINV = f$ (PSC, GDP, PUBINV, TOT, LR)..... (1)

Here,

PINV = Private Investment
PSC = Private Sector Credit
GDP = Gross Domestic Product
PUBINV = Public Investment
TOT = Terms of Trade
LR = Lending Rate

Log transformation of equation (1) is as follows:

$$LogPINV_t = \beta_0 + \beta_1 LogPSC_t + \beta_2 LogGDP_t + \beta_3 LogPUBINV_t + \beta_4 Log\ TOT_t + \beta_5 LR_t + U_t$$

or

$$LNPINV_t = \beta_0 + \beta_1 LNPSC_t + \beta_2 LNGDP_t + \beta_3 LNPUBINV_t + \beta_4 LNTOT_t + \beta_5 LR_t + U \quad \text{..... (2)}$$

ARDL transformation of equation (2) is as follows:

$$LNPINV_t = \beta_0 + \sum_{i=0}^{n}\beta_{1i}\Delta LNPINV_{t-1} + \sum_{i=0}^{n}\beta_{2i}\Delta LNPSC_{t-1} + \sum_{i=0}^{n}\beta_{3i}\Delta LNGDP_{t-1} + \sum_{i=0}^{n}\beta_{4i}\Delta LNPUBINV_{t-1} + \sum_{i=0}^{n}\beta_{5i}\Delta LNTOT_{t-1} + \sum_{i=0}^{n}\beta_{6i}\Delta LR_{t-1} + \beta_7 LNPINV_{t-1} + \beta_8 LNPSC_{t-1} + \beta_9 LNGDP_{t-1} + \beta_{10} LNPUBINV_{t-1} + \beta_{11} LNTOT_{t-1} + \beta_{12}\Delta LR_{t-1} + \varepsilon_t \quad \text{.....(3)}$$

Model Estimation and Results

Stationarity and Co-integration Tests

Before estimating the model in equation 3, we have first tested for non-stationarity in all the variables using the Augmented Dickey-Fuller (ADF) test. This test helps us to ascertain the order of integration and the degree of differencing needed to make each time series stationary. All real variables are expressed in constant 2005-2006 price and natural logarithmic form, except lending rates.

The standard Augmented Dickey-Fuller (ADF) unit root test was exercised to check the order of integration of these variables. The results obtained are reported in Table 1. Based on the ADF test statistic, it was initiate that out of six variables, 5 have unit root i.e., LNPINV, LNGDP, LNPUBINV, LNTOT and LR, while LNPSC is I(0) variable. Noticeably, the mixture of both I(0) and I(1) variables would not be possible under the Johansen procedure. This gives a good justification for using the bounds test approach, or ARDL model, which was proposed by Pesaran *et al*. (2001).

Table 1: Unit Root Estimation (Augmented Dicky- Fuller Test)

Variables	Model	Level	First Difference	Integration
LNPINV	Intercept	-0.81[0.80]	-6.94[0.00]	I(1)
LNPSC	Intercept & Trend	-3.65[0.03]	……..	I(0)
LNGDP	Intercept & Trend	0.24[0.99]	-13.11[0.00]	I(1)
LNPUBINV	Intercept	-0.75[0.82]	-4.45[0.00]	I(1)
LNTOT	None	-0.51[0.87]	-5.47[0.00]	I(1)
LR	None	-0.20[0.60]	-4.44[0.00]	I(1)

Table-2 shown that the computed F-statistic based on Wald test is 4.93. The F-Statistic exceeded the all upper bounds value, suggested that the null hypothesis of no co-integrating relation is rejected for the investment function. Thus the analysis of data confirms that the presence of long-run relationship among the private investment, public investment, private sector credit, gross domestic product, terms of trade and lending rate. As the co-integration exists among the variables used in the model, therefore, the result presented for the long run are reliable.

Table 2: Co-integration Analysis (Bounds Test)

F-statistic = 4.93

Level of Significance	Lower Bound Value	Upper Bound Value
10%	2.08	3
5%	2.39	3.38
1%	3.06	4.15

Results and Discussions

The results in table 3 and 4 depict the relationship between private investment and the explanatory variables and P-values.

The results suggest that the private sector credit variable is the most potent factor stimulating private investment in Bangladesh in the long run. The coefficient of this variable is 0.31 and has been statistically robust. It is therefore arguable that policy-makers in Bangladesh can capitalize on the credit variable to influence private investment directly or indirectly. The lending rate has a negative and significant, but small, effect on private investment. This signifies the importance of the cost of capital for businesses. The terms of trade has also significant effect on private investment. The results indicate that public investment affects private investment positively but not significantly. Put differently, public investment crowds in private investment in the context of Bangladesh. This relation holds because public development expenditure, in many cases a strong linkage with private investment. This implies that public investment can enhance private investment in Bangladesh by increasing private returns through the provision of infrastructures (Communication, transports, energy, etc.).

The econometric estimates of the dynamic error correction model are displayed in table 3. The residuals from level regressions (**CointEq (-1)**) are included in a lag form in order to capture the process of adjustment. In general, the econometric results are significant and the diagnostic tests are good. The speed of adjustment implied by the **CointEq (-1)** is –0.66 per annum. The coefficients of the explanatory variables in the dynamic model are consistent with the long-run level regression in that, all the independent variables retained their signs. Moreover, the statistical significance of the private sector credit variable, terms of trade and lending rate remained intact.

The regression results indicate that the variables used to explain private investment in Bangladesh are generally significant either in the short-run or the long-run or both. In the long-run, credit to the private sector, has a strong

Table 3: Estimated ARDL Co-integrating Equation

Dependent Variable: LNPINV		
Variable	Coefficient	P-value
D(LNPINV(-1))	0.22	0.13
D(LNPINV(-2))	0.34	0.01***
D(LNGDP)	0.21	0.57
D(LNPSC)	0.27	0.14
D(LNPSC(-1))	0.49	0.02**
D(LNPUBINV)	0.05	0.70
D(LNTOT)	-0.67	0.00***
D(LNTOT(-1))	0.66	0.00***
D(LR)	-0.07	0.00***
D(LR(-1))	0.05	0.03**
CointEq(-1)	-0.66	0.00***

***= Significant at 1%, ** = Significant at 5%, *= Significant at 10%.

stimulating influence on private investment, whereas, the lending rate and terms of trade have strong but adverse effects. The direction of the impact of the independent variables on private investment is always consistent.

Diagnostic Test

The validity of the estimated equations is confirmed by employing relevant diagnostic tests such as the Breusch–Godfrey serial correlation LM test, the Breusch-Pagan-Godfrey test for heteroscedasticity and stability tests such as the CUSUM and CUSUM of Squares test.

The ARDL model is found to be robust against residual autocorrelation (Appendix-1). The Breusch-Pagan-Godfrey test confirms that the residuals are

Name of the Test	F -Version[p-value]
Breusch-Godfrey Serial Correlation LM Test	0.42[0.67]
Heteroskedasticity Test: Breusch-Pagan-Godfrey	1.63[0.13]

homoscedastic. The CUSUM and CUSUM-SQ tests suggest that the parameters were stable over the sample period. The results of the CUSUM and CUSUM-SQ tests are presented in Appendix-1.

Conclusion and policy Recommendations

The empirical results suggest that bank credit to private sector have a positive and significant impact on private investment in both short and long run. Conventional wisdom suggested that private sector credit is positively related with private investment. However, the magnitude i.e. how much they are associated depends on the nature of the economy and use of credit. As Bangladesh is a developing country, its financial sector is weaker than required for project financing, foreign capital inflows received less than satisfactory, so credit to private sector be the key factor of private investment. Considering this fact Bangladesh Bank should pursue its monetary policy and ceiling of private sector credit may be enhanced to boost up private investment in Bangladesh with keen attention to the use of credit**.** The empirical results also imply that policy makers should also focus on long run policy to promote investment. In Bangladesh, commercial banks received mostly short and medium term deposit and they do not have sufficient fund for long term financing. Therefore, venture capital, pension fund, share issuing and other long-term source of financing should be developed for long run private investment. The outcomes also suggest that public investment also helps private investment (though not significantly), the government, therefore, should investment in infrastructure development and may undertake investment friendly environment for boosting private investment, thereby, growth and development.

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Appendix-1

Correlogram of Residuals

Date: 01/02/17 Time: 21:50
Sample: 1 42
Included observations: 38
Q-statistic probabilities adjusted for 3 dynamic regressors

Autocorrelation	Partial Correlation		AC	PAC	Q-Stat	Prob*
		1	-0.145	-0.145	0.8584	0.354
		2	-0.004	-0.026	0.8591	0.651
		3	0.189	0.189	2.4166	0.491
		4	-0.154	-0.105	3.4712	0.482
		5	0.020	-0.015	3.4893	0.625
		6	-0.041	-0.079	3.5700	0.735
		7	0.037	0.075	3.6383	0.820
		8	-0.024	-0.029	3.6676	0.886
		9	0.061	0.082	3.8650	0.920
		10	-0.206	-0.248	6.1697	0.801
		11	-0.178	-0.230	7.9529	0.718
		12	-0.147	-0.289	9.2177	0.684
		13	0.022	0.085	9.2463	0.754
		14	-0.035	-0.014	9.3248	0.810
		15	-0.184	-0.196	11.566	0.712
		16	0.083	-0.162	12.042	0.741

*Probabilities may not be valid for this equation specification.