

Nexus among Output, Inflation and Private Sector Credit in Bangladesh¹

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Abstract

This study examines the relationship if any among economic growth (output), private sector credit and inflation in Bangladesh. In many developed and developing countries, private sector credit has played a critical role by efficiently allocating resources for investment and is considered to be an engine of economic growth. The present study uses real private sector credit (from banks) and real GDP to examine whether private sector credit has any impact on economic growth in Bangladesh. Various econometric techniques, such as unrestricted VAR, Granger Causality are used to examine the relationship. The outcome of the econometric results suggests that private sector credit has no real effect on economic growth but is inflationary. Economic growth, however, has positive impact on real private sector credit growth reflecting higher credit demand emanating from increased economic activities. This result is consistent with the conventional belief that when an economy starts to grow it creates immediate additional demand for financial services and helps grow a better financial system. At this stage, the positive impact of financial development on economic growth could be modest or negligible. As development proceeds, a better and well functioning financial system is established where it can contribute to a greater extent to income growth.

The policy implication of the findings is that careful attention is required while expanding private sector credit, so that much of the credit goes for productive investment rather than consumption purposes.

I. Introduction

In many developed and developing countries, private sector credit has played a critical role and is considered as the engine of economic growth and development by providing resources for investment to the private sector (see for example Barth and Calari, 2006; Levine, 1997, Levine and Renelt, 1992, King and Levine, 1993a and 1993b). Historically, economists who have focused on banks e.g., Bagehot (1873) and Schumpeter (1911) have emphasized the critical importance of the banking system in economic growth and have highlighted circumstances when banks can actively drive innovation and future growth by identifying and funding productive investments (Levine and Zervos, 1998).

In a country like Bangladesh, due to excessive government borrowings from the banking system to support budgetary expenditure and to finance debt of the public sector, it is very difficult to support the private sector. The intention of this study is not to look into the impact of the borrowing from the banking system by the Government and other public sector though it has significant implication for the macroeconomic stability of our country. The present study concentrates mainly on investigation of whether private sector credit growth as measure of financial development expedites economic growth in Bangladesh due to its importance in policy making. Besides, an attempt has also been made to see if private sector credit has any inflationary impact on the Bangladesh economy.

Some recent literature (for example, Levine, 2003, Rajan and Zingales, 1998; Beck, Levine, and Loayza, 2000; Beck, Demirgüç-Kunt, and Levine, 2001, Arestis and Demetriades 1997) that evoked the link between financial development and growth has emphasized the importance of private sector credit. According to the proponents of this view, financial sector plays a fundamental role in allocating savings to productive enterprises, favoring economic efficiency and capital accumulation. In that context, rapid credit growth can,

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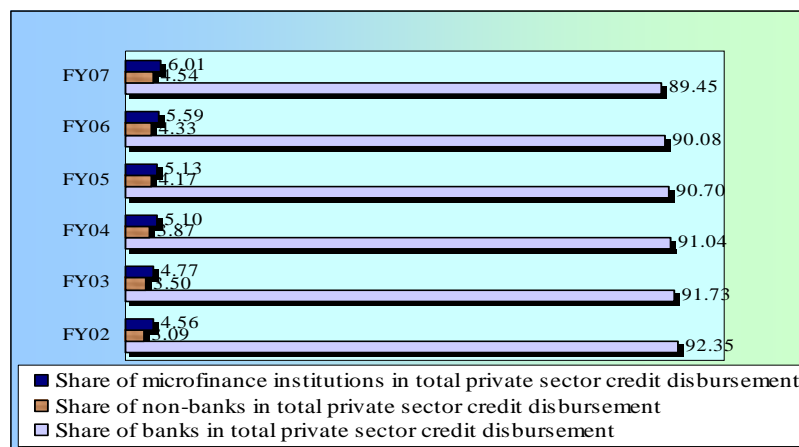
then, simply be the result of financial deepening that will eventually benefit the economy (Carlo, Ariccia and Hollar 2003). In contrast, Lucas (1988) and Robinson (1952) argued that economists 'badly overstress' the role of the financial system where banks respond passively to economic growth.

The macroeconomic implication of faster bank credit growth is not straight forward because, unlike demand for money, literature on demand for credit is scarce. If demand is rising faster than supply, then the economy may be overheating which may lead to inflation or other macroeconomic instability.

II. The Financial System in Bangladesh

The financial system of Bangladesh consists of Bangladesh Bank (BB), the Central Bank, four nationalized commercial banks (NCB), five government owned specialized banks, thirty domestic private banks, nine foreign banks and twenty nine non-bank financial institutions (NBFIs) as of December 2006. The financial system also contains insurance companies, stock exchanges and various co-operative banks, microfinance institutions (MFIs) and credit rating agencies. Besides, three state owned development financial institutions, namely House Building Finance Corporation (HBFC), Ansar-VDP Unnayan Bank and Karma Shangsthan Bank are operating in Bangladesh. Among them the commercial banks, NBFIs and MFIs are widely engaged in the private sector credit disbursement in Bangladesh. Figure-1 shows the share of private sector credit disbursed through various institutions.

Figure-1: Share of Private Sector Credit of Different Institutions (In percent)



We can see from Figure-1, that the scheduled banks provide a significant amount of credit of about 89.45 percent to the private sector. However, their share is declining gradually, from 92.35 percent in FY02 to 89.45 percent in FY07, while the share of microfinance and non-bank financial institutions has increased during the same period i.e., from 3.09 percent and 4.56 percent in FY02 to 4.54 percent and 6.01 percent respectively in FY07.

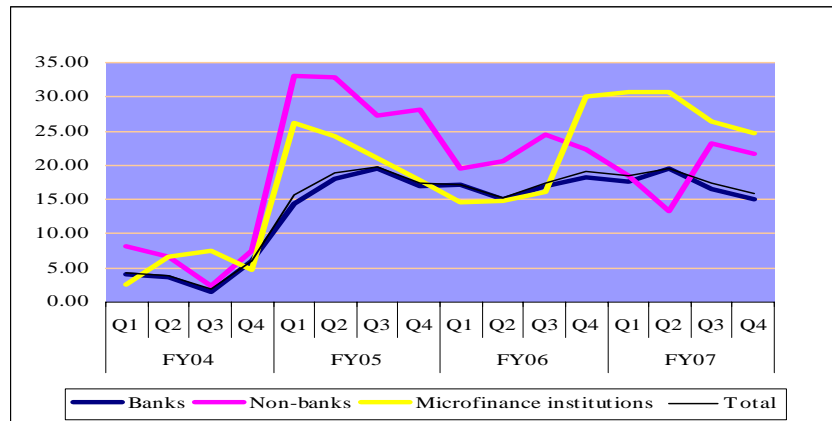
III. Trend Analysis of Private Sector Credit in Bangladesh

After independence in 1971, the Government sector was given the leading role in the development process in Bangladesh. The situation reversed in 1975 and various measures have been undertaken since then to facilitate private sector growth. Various supportive measures were undertaken in favor of privatization in agriculture, private investment, foreign investment, trade liberalization, exports, and other areas. However, despite significant government initiatives the development of the private sector in Bangladesh is still in an early stage. This indicates that in order to facilitate private sector development, the government also has to create an environment which is conducive to investment, fiscal, trade, monetary and financial development such as, good law and order situation, strong physical and infrastructural facilities and suitable macroeconomic policies that are essential for development of the private sector. A very smooth access to credit by private sector is very essential to create an environment that generates employment; expands opportunities for people to earn income and improve standards of living. It has been argued that a dynamic

private sector can help develop a tax base necessary to finance socio-economic programs which are crucial to making development sustainable. In the following paragraphs trends in the private sector credit development in Bangladesh have been analyzed.

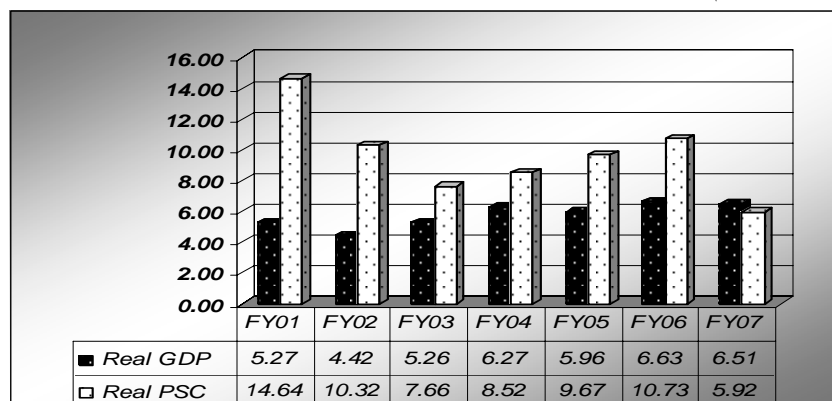
Figure-2 shows quarterly trends in the private sector credit during FY04—FY07. It can be seen that credit given by the NBFIs dominates credit by MFIs and Banks since the third quarter of FY04 which continued up to third quarter of FY06. However in the second quarter of FY06, the pattern changed direction and MFIs credit to the private sector outweighed the NBFIs and Banks. Overall, the total growth rate of the private sector credit increased to 15.12 percent in FY07 from 16.30 percent in FY01. In real terms, however the growth rate declined to 5.92 percent in FY07 from 14.64 percent in FY01 (Figure-3). Real GDP and real PSC relationship is unclear from the graph.

Figure 2: Trends in Private Sector Credit Growth in Bangladesh (In Percent)



Source: Bangladesh Bank Quarterly, PAU, BB

Figure 3: Trend in Real GDP and Real Private Sector Credit (PSC) (In Percent)



Source: Bangladesh Bank Quarterly, PAU, BB

From the data analysis the direction of the relationship between private sector credit and economic growth in Bangladesh is unclear. Therefore, some sophisticated econometric methods are used to investigate the responses of the real output to real private sector credit innovations. The responses of output due to innovations in the real private sector credit are analyzed by the impulse response functions (IRFs) derived from VAR model and Granger causality tests are used to see the robustness of the study. The IRFs show the dynamic response of each variable in the system to shock from each variable in the system.

IV. Model Variables and Data Sources

A VAR approach and Granger Causality tests are used to estimate the model. The sample periods covers from 1990:4 to 2006:4. All data are in log form. Descriptions of the variables used in this paper appear below.

LCPI (1995=100) = the log of consumer price index (CPI); the cost of living index of middle income families in Dhaka is used as a price variable. The seasonally unadjusted quarterly data on consumer price index are available from various issues of Economic Trends, a Bangladesh Bank publication and Research Department, Bangladesh Bank.

LY (1995=100) = the log of real Gross Domestic Product (GDP) is used as the real output variable. Seasonally unadjusted quarterly data on GDP have been constructed using quarterly data on Agriculture, Industry and Services.

LPSC=Log of quarterly private sector credit is used as the financial development variable. Seasonally unadjusted quarterly data are available from the online version of the International Financial Statistics (IFS), IMF website (www.imf.org)

IPI=Industrial production is also used as real output variable. The seasonally unadjusted quarterly data of the industrial production also available from the online version of the International Financial Statistics (IFS), IMF website (www.imf.org)

V. Empirical Results

(a) Impulse Response Functions (IRFs): The IRFs show the response of each variable in the system due to a shock from each variable in the system. A two-standard-deviation confidence interval is reported for each IRF. A confidence interval containing zero indicates lack of significance. Figure-3 shows the response of the real GDP due to shock to real private sector credit and vice-versa. IRF of real GDP in Figure-3 indicates that a shock to real private sector credit does not have any statistically significant impact on real GDP, IRF of the private sector credit, on the other hand, shows that real GDP though initially produces an insignificant impact on the private sector credit, becomes significant and positive after time horizon 4 and remains significant for the rest of the period implying that the response of the real private sector credit due to real output shock is persistent with some lag. The results of pair-wise Granger Causality tests, as reported in Tables-2 also support the finding of VARs analysis. Granger causality test rejects the null hypothesis of real output does not Granger cause real private sector credit, while it rejects the null hypothesis that private sector credit Granger causes real output, which implies that an increase in output increases private sector credit, while private sector credit does not help to increase output for the sample period used in this study.

(b) Private Sector Credit and the Price level

An attempt has also been made to see whether private sector credit fueled inflation. The estimation results from Figure-4 shows that a positive shock to private sector credit increased inflation instantly which remained significant and positive up to 5 quarters and became insignificant thereafter. Granger causality tests, as reported in Table-3 also support this finding that private sector credit increases the price level in Bangladesh, while an increase in the price level does not increase private sector credit.

VI. Conclusion

The purpose of this study is to examine the response of economic growth due to changes in private sector credit. The Impulse response functions (IRFs) derived from a VAR with Cholesky decompositions, Granger causality tests are used to examine whether private sector credit contributes to the recent trend of economic growth as in the case of other developed and developing country. The results suggest that the response of real output growth is insignificant due to shock to real private sector credit growth. In level form, however, the output has significant and positive impact on the level of private sector credit expansion, which is consistent with the conventional belief that when an economy starts to grow it creates immediate additional demand for financial services and helps grow a better financial system. At this stage the positive impact of financial

development on economic growth could be modest. As development proceeds a better and well functioning financial system is established. A well developed financial system can contribute by a greater extent to income growth by reducing transaction costs and providing better information, pooling risks, easing trade and contracts. Bangladesh is still in its initial stage of development process which could be the reason why we do not see the impact of the private sector credit to economic growth as measured by real GDP or Industrial Production Index.² In contrast, we have seen that real output helped real private sector credit to increase. Another finding of this paper is that private sector credit from banks is also responsible for increase in the price level. Therefore, one of the policy implications of this study is that we should keep an eye in private sector credit disbursement from banks so that much of the credit goes for productive investment rather than used for consumption purposes.

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² The empirical results from Industrial Production Index have not been reported here due to similar results with the real GDP.

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Table-2 Pair wise Granger Causality Tests

Null Hypothesis:	F-Statistic	Probability
LRPC does not Granger Cause LY	0.73040	0.60388
LY does not Granger Cause LRPC	2.67331	0.03178*

Note: * indicate significant at the 5% level.

Table-3: Pair-wise Granger Causality Tests

Null Hypothesis:	F-Statistic	Probability
LCPI does not Granger Cause LPC	1.93779	0.15279
LPC does not Granger Cause LCPI	6.21351	0.00350*

Note: * indicate significant at the 1% level.

Figure-3: Response of the Real output due to Real Shock to private sector credit

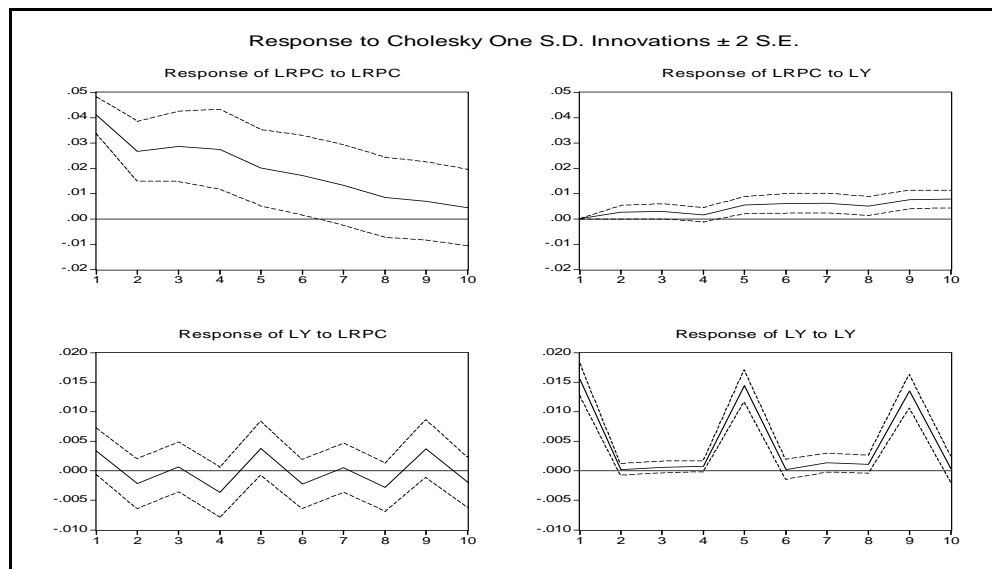


Figure-4: Response of the price level, due to nominal private sector credit shock

