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# CONTENTS

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From The Editor Syed Saad Andaleeb . . . . .	vi
Experience of a Professional Economist – Selected Episodes Nurul Islam . . . . .	1
Spatial Planning: A prerequisite for Sustainable Development of Bangladesh Sujaul Islam Khan, Syed Monirul Islam and Dibbendu Saha . . . . .	8
Landlockedness: Boon or Bane? Findings from a Household Survey in Two Selected Villages in Bangladesh Mausumi Mahapatro . . . . .	25
Standards as Trade Barriers: The Case of Shrimp Export of Bangladesh to EU S. J. Emran, Q. N. Taslim and M. A. Taslim . . . . .	36
Stock Market Bubble-Bust Cycle in Bangladesh – Policy Implications Sayera Younus . . . . .	46
The Economics of Social Business Wahiduddin Mahmud. . . . .	59
A Puzzling Stylized Fact about the Term Structure of Credit in the Banking Industry of Bangladesh Kazi Iqbal and M. G. Mortaza . . . . .	62
Book Review: “ <i>Financing for Overcoming Economic Insecurity</i> ” by Nazrul Islam and Rob Vos Munir Quddus . . . . .	69

# A Puzzling Stylized Fact about the Term Structure of Credit in the Banking Industry of Bangladesh

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## Abstract

This short note identifies and explains a puzzling fact about the term structure of credit in the banking sector in Bangladesh. Over the last twenty years or so Bangladesh economy has experienced significant structural shift from agriculture to manufacturing and service sector. As the economy shifts from shorter to longer cycle of production, the composition of term structure of loan is also expected to shift from shorter to longer term. As the economy becomes more industrialized, the demand for longer term credit increases. But the reality is that the shares of short and long term credit have been surprisingly stable over the last thirteen years at around 80 and 20 percent respectively. We argue that some combinations of both supply and demand side factors as well as stringent government regulations are responsible for the stable ratio of long term to short term credit.

## 1 Introduction

Over the last 20 years, the Bangladesh economy has experienced sustained economic growth of about over 5.5 percent per year, on an average. We all know the driving forces of this growth: the astonishing growth of ready-made garments, remittances, and growth in the service sector has largely contributed to this sustained growth. However, we have very little knowledge about how this growth has been financed. What are the relative roles of financial intermediaries, debt-financing and equity financing? In fact, it is argued that the engines of growth have been fueled by the banking sector alone in the absence of a well-developed capital market and effective non-bank financial institutions<sup>1</sup>. One of the driving forces of the growth of the real economy – the RMG sector – is largely bank-dependent.

It is important to note that credits are heterogeneous and they have differential impact on growth (Levine, 1997). The impact of credit on growth critically hinges on the use (e.g., industry, trade, agriculture, etc.) and term structure (short term vs. long term) of credit. There is a growing body of literature that shows the association between longer maturity of bank credit to the private sector and economic growth (Caprio and Demirgüç-Kunt, 1998). Generally, economic growth increases as

savings are invested in long-term assets. Credit products with longer maturity are essential for financing larger projects with higher returns. Investment in large projects such as heavy industry, infrastructure, etc. determines the course of long term growth of the economy (Kpodar and Gbenyo, 2010). While credit maturity varies substantially across countries, it is found that countries with higher credit maturity have strong institutions, low inflation, and large financial markets (Tasić and Valev, 2012). However, it is next to impossible to isolate the effect of term structure of credit on economic growth as the reverse effect is also strong.

Usually, short term credit is considered as a bank loan having maturity of less than a year. On the other hand, term lending or long term credit is defined as a loan repayable over a year. While long term loan is used for financing fixed capital for large projects, short term credit is used to finance working capital for a shorter period of time.

Short term finance is crucial for the sectors which have short production cycle such as agriculture and trade. In the developing countries which are predominantly agriculture based, short term credit overwhelmingly dominates the longer term ones. The composition of short and long term loan credit generally reflects the

structure of the economy. As the economy shifts from agriculture to service and manufacturing, the composition of term structure shifts from shorter to longer term. As the economy becomes more industrialized, the demand for longer term credit increases.

It is worth noting that short term and long term credit are not substitutes; rather they complement each other in financing the fixed capital and working capital. It is also argued that rollover of short-term loans enhances the firm-bank relationship and thus facilitates firms' access to long-term financing.

Therefore, one can envisage that as the economy of Bangladesh has experienced substantial structural shift from agriculture to manufacturing, the share of long term credit must have increased over time. It is worth noting that the share of industry in national income has increased from about 22% to about 29% in the last two decades (Bangladesh Economic Review, 2014). This shift implies that not only new industrial units have been set up, they have also become bigger and more capital intensive. This shift requires a proportional response from the financial side and it should be reflected in higher share of credit going to finance longer term large projects. But in reality, this is not the case.

## 2 The Puzzle

*The shares of short and long term credit have not changed over the last one and a half decades despite significant structural shift in the economy as well as in the banking sector.*

In fact, the share of long term loan in total loan has decreased slightly over the last one decade. In 2001, this share was about 20.44% and at end of 2013, the share dropped to about 18.72%<sup>2</sup>. The shares of short and long term credit have been surprisingly very stable over the last thirteen years at around 80 and 20 percent respectively (Figure 1).

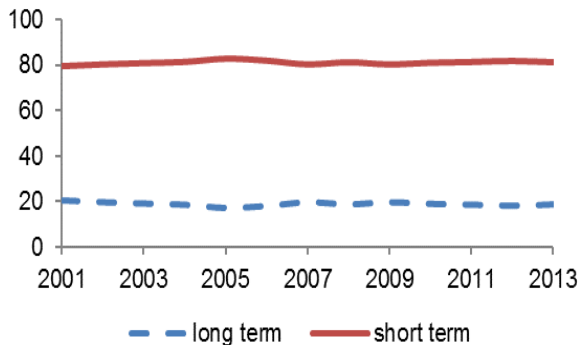


Figure 1: Share of long term and short term loan (%)

On the other hand, the Global Financial Report prepared by the World Bank documented a contrasting stylized fact - long-term credit was expanding substantially faster in emerging economies than short and medium-term credit (World Bank, 2016). This trend was also observed in the developed economies during the same period.

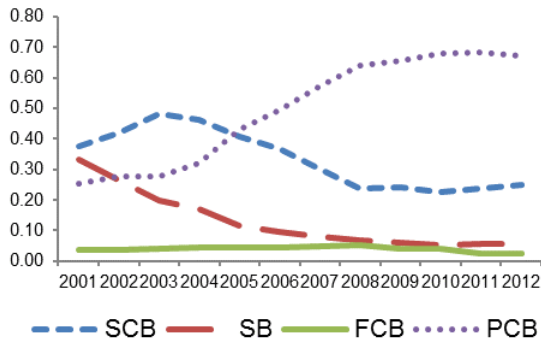
## 3 Evolution of Short-term and Long-term Loan

In order to set the tone of the context of the stylized fact, we first provide a brief overview of the evolution of short term and long term credit. The lion's share of the total banking system credit has been disbursed historically as short term loans and advances. Taka 3158 billion was disbursed as short term loan in 2012, which accounted for about 82% of the total credit. The outstanding long term lending amount of the overall banking sector in 2012 was only Taka 700.55 billion against the total bank credit of Taka 3,859.33 billion. Out of this amount, the PCBs provided Taka 469.07 billion (67%) for long term lending while Taka 174.73 billion (24.9%), Taka 39.62 billion (5.7%) and Taka 17.13 billion (2.4%) were given by the SCBs, SBs and FCBs respectively. The share of PCBs in total term credit was as large as the share of PCBs in total industry in 2012. In fact, the distribution of term loan across types of banks has changed over time in the similar fashion the industry-wide distribution has changed. PCBs' share of term loan surpassed SCBs' in 2005 (Figure 2 and Figure 3).

It is evident that banks prefer sectors which have comparatively shorter cycles of production. Hence they provide credit for trade, agriculture, working capital financing, etc. which have production cycle of 3 to 6 months. On an average, all banks made 34% of the total banking sector loans and advances for trade purpose. Working capital financing and agriculture have been accounted for 16% and 5% respectively of the total bank credits. Since short term lending involves lower risk of liquidity, banks rely on this type of credit for quick and higher return. Total short term loan outstanding was Taka 3,158.78 billion in 2012, of which about 66% was provided by Private Commercial Banks (PCBs) while about 20 percent by State owned Commercial Banks (SCBs). The rest was shared equally by Foreign Commercial Banks (FCBs) and Specialized Banks (SBs). The distribution of short term loan across types of banks is very similar to that of long term lending. In both cases, PCBs supplied two-thirds of the total loan (Figure 2 and Figure 3).

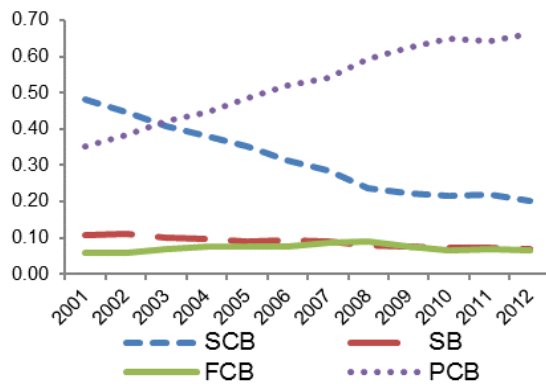
Among all types of banks, FCBs have been known for their inclination towards shorter term credit. On an

average, they made only 11.62% of their total credit for long term lending. FCBs' share in short term loan is twice as large as long term in 2012.



**Figure 2:** Share of long term credit by types of banks (%)

Data source: Bangladesh Bank



**Figure 3:** Share of short term credit by types of banks (%)

Data source: Bangladesh Bank

There are two Specialized Banks (SB)<sup>3</sup> designed for supporting industrial projects. However, these banks have made around 23% of their total credit for term lending. Market share of SBs is slightly higher for long term lending.

#### 4 The Constancy Ratio Despite Dominance of Private Sector Credit

Private sector banks arguably respond to the market demand more than the state owned banks. Therefore, one would expect that the composition of credit would reflect the structure of the economy more when the credit market is led by the private sector. This subsection will discuss when and why the transition of the composition of credit towards private sector occurred leaving the ratio of long term to short term credit constant.

The loans and advances of the banking industry, the lion's share of banks' asset, have experienced substantial structural changes over the last one decade or so with respect to the relative dominance of private vs. public banks. Market share of public banks has shrunk substantially over the period 2000-2012 (Table 1). In the year 2000, state owned commercial banks (SCBs) accounted for about 49 percent of the market while the state owned specialized banks (SBs) controlled about 17 percent. That is, about two-thirds of the total credit was disbursed by the public banks. The situation has reversed over time; the share of private banks started to grow fast and dominate the credit and deposit market.

On the other hand, private commercial banks (PCBs) and foreign commercial banks (FCBs) accounted for only about 34 percent of the total loans and advances in 2000. The amount of advances given by the PCBs increased from Taka 173.11 billion (29%) in 2000 to Taka 2,568.79 billion (67%) in 2012. About two-thirds of the total market share of advances has been captured by the PCBs in the recent years. The amount of advances by the PCBs has increased by about 1,380% in 2000-2012 as against 550% growth of the total market.

The share of privately owned banks started to pick up and share of public banks started to decline rapidly since 2000. In 2004, PCBs, for the first time in banking history, pumped more credit (Taka 403 billion) to the economy than the SCBs (Taka 377 billion). In this year, private banks (PCBs and FCBs) and public banks (SCBs and SBs) equally shared the total loans and advances. This is the period when this significant structural shift has occurred and since then private banks started to dominate the public banks in terms of market share. On June 30, 2012, the market shares of PCBs, SCBs, SBs and FCBs were 67%, 21%, 7% and 6%, respectively (Table 1).

Therefore, it indicates that the structural shift of the economy is closely associated with the changes in relative share of public and private credit, but not with the changes in the relative shares of long term and short term credit.

The reason behind the association between structural shift of the economy and the dominance of private sector credit is obvious. This private sector led growth has created huge demand for credit and private sector banks responded proportionately to this demand. The third generation banks which entered the market in the late 1990s also have contributed extensively in meeting the burgeoning demand. With the introduction of third generation banks, second and first generation private banks also aggressively expanded their coverage and products. While private sector banks came forward aggressively to meet the demand, public sector banks remained lazy and inefficient in capturing the growing market and gave rise to this shift in the banking sector in the mid-2000s.

**Table 1:** Total loans and advances (billion taka) and market share (%) by types of banks

Year	SCB	Market Share (%)	SB	Market Share (%)	FCB	Market Share (%)	PCB	Market Share (%)
2000	288.05	48.53	101.44	17.09	31.02	5.22	173.11	29.16
2001	315.84	45.92	106.14	15.43	37.37	5.43	228.42	33.21
2002	339.08	44.17	108.4	14.12	41.7	5.43	278.55	36.28
2003	358.49	42.31	100.98	11.92	54.4	6.42	333.47	39.35
2004	376.62	39.59	105.42	11.08	66.29	6.97	402.98	42.36
2005	402.46	36.02	106.37	9.52	78.2	7.00	530.29	47.46
2006	417.6	32.33	119.98	9.29	89.09	6.90	664.98	51.48
2007	422.18	28.80	128.66	8.78	114.05	7.78	800.85	54.64
2008	431.41	23.76	141.55	7.80	147.64	8.13	1,094.92	60.31
2009	475.72	22.76	153.15	7.33	145.65	6.97	1,315.96	62.95
2010	558.12	21.68	179.29	6.96	154.91	6.02	1,682.11	65.34
2011	710.34	22.11	222.78	6.93	190.95	5.94	2,088.79	65.01
2012	813.14	21.07	259.68	6.73	217.73	5.64	2,568.79	66.56

Data source: Bangladesh Bank

The structural shift of the economy that came with the constant ratio of long term to short term credit is apparently very puzzling.

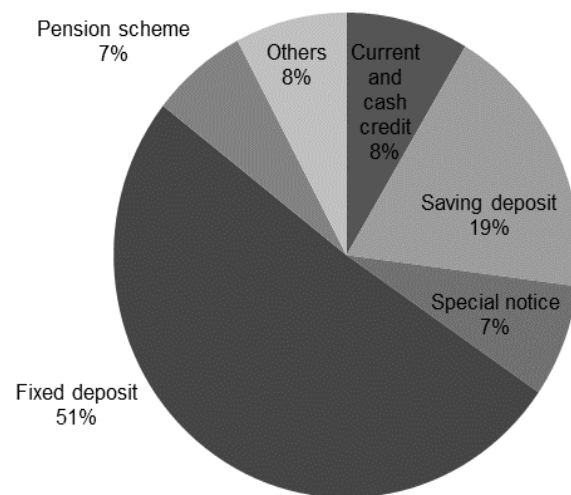
## 5 What gave rise to the constant ratio of long term to short term credit? Plausible arguments

### 5.1 Supply Side Problems

One could argue that it is primarily due to the supply side problems. The lower share of long term deposits may determine the under supply of long term credit. It is often argued that the mismatch between short term deposit and long term credit is responsible for under supply of long term credit in the absence of markets for derivatives. That is, long term loans are highly illiquid and banks having higher share of assets in long term loans are more susceptible to liquidity risks. If there were instruments and secondary markets for trading loans (e.g., derivatives) the risk associated with long term loan would diminish. However, there is no such instruments in Bangladesh.

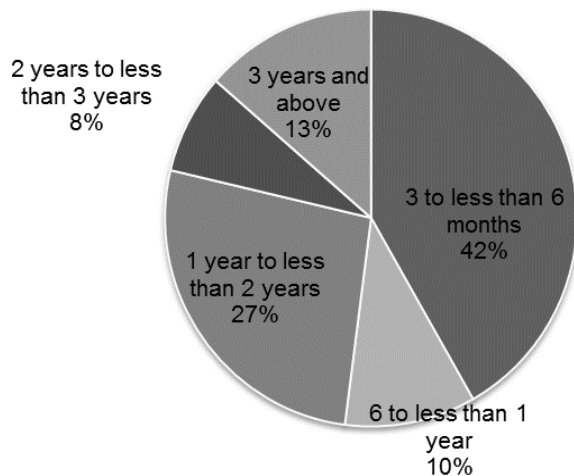
There are broadly 5 categories of deposit, namely, current and cash credit, saving deposit, special notice, pension scheme and fixed deposit. Fixed deposit accounted for about half of the total deposit whereas saving deposit was about 19% at the end of 2012. The

shares of other accounts varied between 7 and 8 percent (Figure 4). The composition of deposit has changed substantially over time. At the end of 2000, the share of fixed deposit was about 32% while the share of saving deposit was about 30%. That is, over time shares of fixed deposit has increased and saving deposit has decreased considerably. Share of current account has also decreased slightly from 12% in 2000 to 9% in 2012.



**Figure 4:** Types of deposit (31st December 2012)

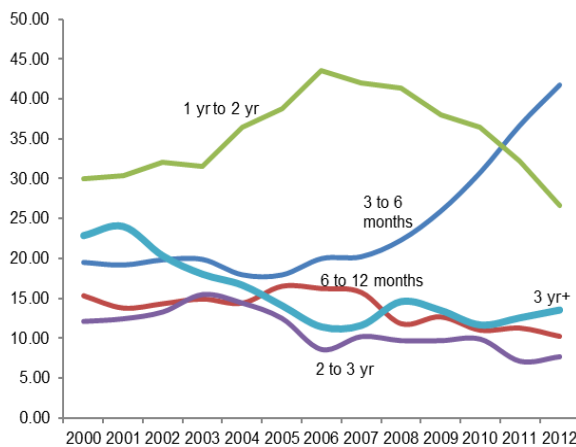
Data source: Bangladesh Bank



**Figure 5:** Term structure of fixed deposit (31st December, 2012)

Though the share of fixed deposit in total deposit has increased substantially over time, this increase is largely due to the increase in deposit with the lowest maturity of 3 to 6 months. The share of 3-6 month deposit has doubled from about 20% in 2000 to about 42% in 2012 (Figure 6). On the contrary, share of deposits with maturity 3 years and above has declined from 23% in 2000 to 14% in 2012. Deposit with 1-2 years of maturity saw a significant increase in mid-2000 but it dropped gradually from 2006. At the end of 2012, it constituted about 27 percent of total fixed deposit (Figure 5).

In short, the fixed deposit is about half of the total deposit and deposit with maturity of above 12 months is about half of the fixed deposit. That is, only about one-quarter of total deposit has maturity of 12 months and above. This partly explains why the share of long term credit is about 20 percent.



**Figure 6:** Trends in term structure of deposit (%)

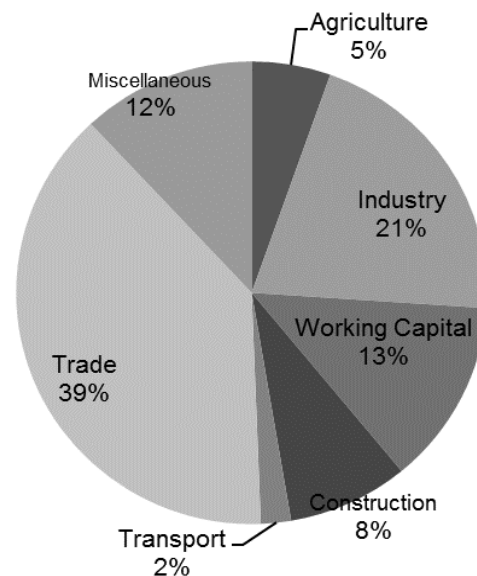
Data source: Bangladesh Bank

Furthermore, the supply side problems also include banks' inadequate ability to assess different types of risks involved in term loan. It is also argued that private banks are making handsome amount of profit investing in short-term-low-risk assets. Hence, why would the banks take additional risks in investing in term loan? This indicates that there are still ample arbitrage opportunities to make profit relying largely on short term loan.

### 5.2 Demand Side Problems

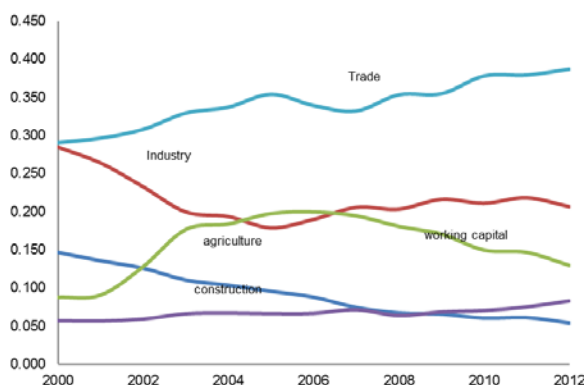
The alleged 'under-supply' of long term credit can be attributed to demand side problems too. It is also argued that the lower supply of long term loan has been due to the lower demand. The economy of the country has not yet grown to the extent that requires greater investment of savings in longer term credit; large number of short term loans may be sufficient to support the growth of the real sector. That is, the current mix between short and long term loan may not be 'sub-optimal', given the current structure of the economy.

Sectoral composition of credit and how it has evolved over time provides us with some demand side explanation of this puzzle. The largest share of banking sector credit, which is about 39 percent, went to finance trade in 2012. Industry sector stood second which is about 21 percent. About 13 and 8 percent went to finance working capital and construction respectively. The shares of credit to finance trade and working capital have increased over time while the share of agriculture has decreased. Industrial credit has remained more or less stable over the last one decade. (Figure 7).



**Figure 7:** Sectoral composition of loans and advances (On June 30, 2012)

Data source: Bangladesh Bank



**Figure 8:** Trends in sectoral composition of loans and advances (%)

The composition of banks' credit portfolio has seen substantial changes over the period 2000-12 (Figure 8). While shares of agriculture and industry have gone down during this period, trade, working capital and construction have experienced a rise in share. The agriculture sector received about 15 percent of total credit in 2000 and this allocation went down drastically to about 5% in 2012. The banks provided about 26 percent of their credit to the industry sector in 2000 and this relative contribution has seen gradual decline over the study-period. In 2012 about 21 percent of banks' credit went to industry. Both working capital and construction sector saw about 1.5% increase of their share in this period. The share of total credit going to trading rose from 29 percent in 2000 to 39 percent in 2012. The rising share of working capital, trade, construction and others (include transportation, consumer finance, etc.) reflects that the economy has been on the path of becoming more commercialized and industrialized. However, the declining share of the long term loan to the industry sector reveals that the extent of industrialization is limited to manufacturing sectors where productions are characterized by short lived cycles and lower capital. However, it is important to note that state owned specialized banks such as Bangladesh Shilpa Bank (BSB) and Bangladesh Shilpa Rin Sangstha (BSRS) had gradually cut down their targeted industrial credit because of their recurrent loss.

The credit that goes to the industry and construction sector is largely the long term credit while all other credits, including trade and working capital are the short term ones. This composition sheds light on the fact that it is the growth of trade and working capital financing that contributed to the sustained increase in short term credit which matches well with the growth of the long term credit, leaving the ratio of the two constant. It indicates that the growth of the real sector is characterized by extensive commercialization of the economy as well as the burgeoning growth of the small and medium enterprises with short production cycles.

### 5.3 Stringent regulations

Apart from demand and supply side problems, stringent prudential regulations also hold back banks from investing in long term lending. Banks are restricted to take funded exposure on a single borrower up to 15% of their capital, and non-funded exposure up to 35% of their capital<sup>4</sup>. Bangladesh Bank further limits percentage of total credit portfolio that can be in the form of large loan (i.e. loan size exceeding 10% of Bank's capital) based on percentage of classified loan. For example, large loan can be maximum 56% of portfolio for non-performing loan (NPL) below 5%, maximum 52% for NPL exceeding 5% but less than 10%, etc. Moreover, minimum capital requirement based on risk-weighted asset also induces banks to shift from risky asset (e.g., large loan) to safer investment (e.g., government bond).

## 6 Conclusion

Some numbers – levels, ratios and elasticities – capture the structure of an economy. The constant ratio of long term to short term credit is such an important 'ratio' about which we lack knowledge. This note sheds light on this ratio in order to bring the issues of long term financing into forefront. While the constant ratio of long term to short term credit underscores the growth of trade and small and medium scale industries, it posits that the economy may be trapped in lower growth trajectory, for the given structure of finance. Since the growth of Bangladesh is largely self-financed, the economy may not achieve double-digit growth with the current supply of long term large credit<sup>5</sup>. If we want to lift the country to the middle income level in less than a decade, both supply and demand side problems in the credit markets should be addressed simultaneously. We need reorientation of the government regulations in the financial sector which will promote innovative tools to finance higher sustained growth, be it debt or equity financing, domestic or foreign. For example, a viable secondary market for mortgage securities backed by housing loans can increase liquidity of the primary lenders and broaden the asset bases of long-term funds providers such as pensions and insurance companies (ADB, 2009). In this context, it is worth quoting World Bank Group President Jim Yong Kim, "It would be a challenge to achieve high and sustainable rates of economic growth if countries fail to invest in schools, roads, power generation, electricity distribution, railways and other modes of transport, and communications. Private sector construction of plants and investment in machinery and equipment are also important. Without long-term financing, households face great hurdles in raising income during their lifetime—for example by investing in housing or education—and may not benefit from higher long-term returns on their savings."<sup>6</sup>



## Endnotes

1. While the role of non-bank financial institution (NBFIs) has been increasing in supplying long term credit, this market is still in a nascent stage. The share of total assets of the NBFIs was only meager 4% of the banking sector's asset in 2012.
2. The data used in this note are largely collected from the Statistical Division of the Bangladesh Bank. Some of the aggregated data are taken from the Bangladesh Bank's website.
3. Now this number is one after the first quarter of 2010.
4. In case of funded facilities, the funds of the banks are directly used such as bank overdraft, cash finance, etc. On the other hand, non-funded facilities are those which do not involve any fund of banks directly such as letter of credit, letter of guarantee, etc.
5. The historical average of Foreign Direct Investment (FDI) over the last two decades is about 1 percent of GDP. Further, the share of Official Development Assistance (ODA) has also declined to about 1.5 percent of GDP (Bangladesh Economic Review, Ministry of Finance, 2015).

6. <http://www.worldbank.org/en/news/press-release/2015/09/14/long-term-finance-shortage-post-2008-crisis-blunts-progress-in-developing-countries>

## References

- ADB, 2009, Bangladesh Financial Sector: An Agenda for Further Reforms, Manila: Asian Development Bank
- Caprio, G., and A. Demirgüç-Kunt, 1998, "The Role of Long-Term Finance: Theory and Evidence", World Bank Research Observer, Vol. 13, No 2, pp. 171-89.
- Kpodar, Kangni and Kodzo Gbeno, 2010, Short versus Long Term Credit and Economic Performance: Evidence from the WAEMU, IMF Working Paper, 10/115
- Levine, R., 1997, "Financial Development and Economic Growth: Views and Agenda", Journal of Economic Literature, Vol. 35, No. 2, pp. 688-726.
- Tasić, Nikola and Neven Valev, 2012, The Maturity Structure of Bank Credit: Determinants and Effects on Economic Growth, unpublished mimeo.
- World Bank, 2016, Global Financial Development Report 2015-2016: Long-term Financing, Washington DC.