Dissection of the Behavior of Interest Rates in a Developing Country's Commercial Banking Sector

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Abstract

The comportment of interest rates within Bangladesh's commercial banking sector, particularly with regard to lending, has emerged as a matter of considerable concern. The modulation of these lending rates is swayed by an intricate web of determinants, such as statutory reserve requirements, policy rates dictated by the Bangladesh Bank, deposit interest rates, the Consumer Price Index (CPI), National Savings Certificate rates, banks' income-to-expenditure ratios, profitability metrics, liquidity and solvency conditions, as well as the overarching stance of both monetary and fiscal policies. Additionally, extraneous, non-economic forces exert their own influence. In this inquiry, an effort is undertaken to meticulously scrutinize the manifold factors shaping lending rate behavior through the application of the Ordinary Least Squares (OLS) methodology. The analysis reveals that CPI, excess reserves, deposit rates, and policy rates bear significant influence on the trajectory of interest rate behaviors within commercial banks. Contrary to popular conviction, which holds that Non-Performing Loans (NPLs) are the paramount factor compelling banks to impose elevated lending rates, our findings indicate that NPLs do not exhibit statistical significance in this context. In recent epochs, the growth of credit extended to the private sector has faltered beneath its anticipated pace, largely attributable to a circumspect approach adopted by investors amidst prevailing political turbulence. Given the persistence of high lending rates, it becomes imperative to initiate a systematic endeavor toward establishing a more judicious and sustainable interest rate framework, one that conscientiously aligns with the socio-economic fabric of the nation.

1. Introduction

The behavior of commercial banks' interest rates, particularly lending rates, has become a prominent concern in recent years due to its critical role in the economic development and growth of Bangladesh. In this context, banks must be equipped with the potential, scope, and foresight to mobilize financial resources and allocate them efficiently toward productive investments. Numerous factors influence the behavior of lending rates in commercial banks, including central bank policy rates, reserve requirements, deposit rates, profitability, liquidity, solvency, the investment climate, and the fiscal and monetary policy stances. Regulatory mandates may impact banks' balance sheets, influencing their optimal lending rate responses to policy interest rates (Dhal, 2010).

Generally, banks adjust their lending rates in accordance with the central bank's policy rates, ensuring the effective transmission of monetary policy through the interest rate channel. Contrary to the traditional interest rate channel, the bank lending channel focuses on two key conditions: monetary policy's effect on bank loan supply and the dependency of borrowers on these loans.

Moreover, political influences, particularly in state-owned banks, also shape lending behavior. Adherence to regulatory guidelines ensures that banks follow prudential measures, enhancing lending efficiency and maximizing profitability while avoiding failures.

Bangladesh's banking sector comprises four categories of scheduled banks: four state-owned commercial banks, 39 private commercial banks (PCBs, including seven Islamic banks), four development financial institutions (DFIs), and nine foreign commercial banks (FCBs). Since the Financial Sector Reform Program (FSRP), the banking sector has undergone gradual transformations that have impacted the determination of deposit and lending rates. Lending rates in Bangladesh are notably high, which hinders the growth of private-sector credit and investment demand, ultimately stunting economic progress. There is a significant interest rate spread (IRS) in the banking sector, which concerns policymakers and the business community, as it is believed to impede private investment and reflects inefficiencies in the banking system. High IRS implies low deposit rates, discouraging savings and reducing the availability of loanable funds. Additionally, the persistence of non-performing loans (NPLs) remains a major issue in Bangladesh's banking sector, seen as a reflection of the industry's underlying weaknesses.

The primary objectives of this paper are:
a) To analyze the behavior of commercial banks' interest rates (lending rates) in Bangladesh
b) To examine the factors influencing lending rate behavior;
c) To identify the underlying causes of the recent decline in private-sector credit growth in Bangladesh.

2. Literature Review

Extensive research has been conducted on the behavior of banks' interest rates (lending rates), given its importance and the complexities surrounding the issue. According to Adedoyin and Sobodun (1996), "lending is undoubtedly the heart of the banking business, requiring considerable skill and dexterity from bank management." The way commercial banks set their deposit and lending rates greatly influences the effectiveness of monetary policy. Typically, banks determine lending rates by adding a markup or premium over deposit rates. If this premium becomes too large or too small, market forces prompt banks to adjust back to an equilibrium spread (Thompson, 2006).

Benkovskis (2008) noted that changes in policy-driven interest rates impact the real economy by affecting various relative prices. Higher capital costs raise the required returns on investment projects, thereby reducing investment expenditures. Changes in interest rates also influence consumption, as higher rates reduce the price of future consumption. However, the traditional interest rate channel overlooks some key processes within the banking sector. The existence of the bank lending channel suggests that monetary policy's transmission depends on the structure of the financial system, with structural shifts in the financial era potentially altering monetary transmission.

A.K. Kashyap and J.C. Stain (1995) argue that the influence of monetary policy on bank loan supply depends on the regulatory framework. Risk-based capital requirements can link a bank's capacity to lend to its equity capital, thereby constraining lending. The speed of monetary transmission hinges on the loan maturity and the type of interest rate—loans with shorter maturities and floating interest rates respond faster to changes in monetary policy.

The interest rate spread (IRS) is a significant determinant of banking efficiency. According to Prince (2017), the IRS reflects the cost of intermediation, including operating costs and liquidity risks borne by banks in connecting savers with investors. Additionally, banks in Bangladesh incur high costs, such as those related to NPLs, administrative expenses, setting up new branches, personnel retention, and marketing efforts to expand their market share. High IRS in Bangladesh is often attributed to inefficiencies and a lack of competition in the banking sector (Prince, 2017; Prince, 2021). Both internal and external factors influence banks' decisions regarding the setting of deposit and lending rates. In practice, Bangladesh Bank has limited tools to influence

the interest rate structure, necessitating greater corporate social responsibility from banks and more coordinated use of fiscal policy to reduce IRS, rather than relying solely on monetary measures.

A recent study by Bangladesh Bank (2014) titled "Lending Rates Behavior in Bangladesh: Some Facts and Determinants" found that bank deposit rates (i.e., the cost of funds) are a primary determinant of lending rates in Bangladesh. The study showed that a 100-basis-point increase in deposit rates would lead SCBs and FCBs to adjust their lending rates by more than 100 basis points (135 and 150 basis points, respectively). For FCBs and SPBs, the adjustment would be 85 and 63 basis points, respectively. Additionally, NSD certificate rates affect lending rates across all bank categories except for FCBs, with lending rates increasing by 24, 28, and 17 basis points for every 100-point increase in the 3-year NSD certificates for SCBs, PCBs, and SPBs, respectively. Only FCBs take repo and reverse repo policy rates into account, adjusting lending rates by 34 basis points for every 100-basis-point increase. The study suggests that a threshold lending rate of 11.5–12.0% is necessary to avoid adverse effects on private-sector credit growth, with a minimum weighted average deposit rate of 5.6–5.7%.

A seminar paper presented by the Bangladesh Bank study group (June 2014) titled "A Comparative Analysis of Interest Rate Spread in the Banking System" highlighted how higher lending rates and lower deposit rates in some PCBs and FCBs contribute to the high IRS in Bangladesh. It suggests using the WAIS method (excluding SME) to monitor IRS monthly, as it better captures intermediation costs and bank efficiency.

A presentation titled "An Analysis of Recent Slow-moving Credit Flows" by BRPD (July 10, 2014) pointed out that borrowers and investors have recently lacked confidence in the investment climate, leading to reduced credit demand. Banks have also been hesitant to extend new loans, and the availability of cheaper foreign funds has further diminished credit demand, resulting in sluggish economic activity.

Preliminary findings from a Bangladesh Bank survey on Loan against Trust Receipt (LTR, June 2014) revealed a tendency among banks to convert LTR into term loans through improper practices, negatively affecting the banking system.

3. An Overview of the Interest Rates Behavior in Bangladesh

Until 1990, Bangladesh maintained a comprehensive system of controls over the level and structure of interest rates. Changes in the nominal administered rate structure were infrequent, even in response to inflation. Despite deposit rates being exceptionally high in real terms during the period from 1985-1990, the rigidity and complexity of these administered rates undermined the effective role of interest rates in both mobilizing savings to meet investment demands and efficiently allocating investible resources among competing users. Under this regime, the government sought to incentivize savers with positive returns while simultaneously maintaining low lending rates to reduce investment costs. However, this conflicting policy squeezed the margins of commercial banks, diminishing their motivation to attract deposits.

Recognizing the drawbacks of this system, Bangladesh Bank (BB) transitioned toward a market-oriented approach to interest rate determination. This allowed deposit rates to better reflect market dynamics and lending rates to account for the cost of funds, intermediation costs, and associated risks. The Financial Sector Reform Program (FSRP), effective in January 1991, liberalized the interest rate regime, permitting banks to set lending and deposit rates within limits prescribed by BB. All deposit rates were deregulated, with the exception of DPS and certain short-term deposit rates, while lending rates became market-driven, except for sectors like agriculture, small industries, and exports. By February 1997, these regulatory bands were fully removed, granting banks the autonomy to set interest rates. Further flexibility was introduced in July 1999, allowing banks to differentiate rates for individual borrowers, except for exporters.

In parallel, Islamic banks in Bangladesh operated under the Islamic shariah system, following an interest-free policy. Investment modes such as bai-murabaha, bai-muajjal, hire purchase under shirkatul melk, mudaraba, musharaka, bai-salam, and bai-as-sarf were conducted based on pre-agreed profit-sharing ratios, ensuring a fair return on investments.

Despite liberalization, interest rates have not fully responded to market conditions, owing to persistent rigidities within the banking system, including directed lending to priority sectors and state-owned enterprises. In response, BB introduced policy instruments such as the Repo in July 2002, Reverse Repo in April 2003, and reintroduced the Bangladesh Bank Bill in 2006 to influence the financial sector.

In January 2010, BB adopted a risk-based capital adequacy framework to ensure that banks accurately assess their material risks and maintain sufficient capital in accordance with their risk profiles. Banks were mandated to maintain a capital adequacy ratio of at least 10% of risk-weighted assets. Additionally, BB laid out a roadmap and action plan for the phased implementation of Basel III.

Near the end of FY13, BB revised its policies on loan classification and provisions for loan-losses. It was observed that state-owned commercial banks (SCBs) and development financial institutions (DFIs) continued to have high levels of non-performing loans (NPLs), largely due to loans extended for reasons other than commercial viability. Poor loan appraisals and inadequate supervision of disbursed loans resulted in poor-quality assets. Moreover, these banks were hesitant to write off long-accumulated bad loans, primarily due to the weak quality of underlying collateral. However, recent years have shown some improvement in NPL recovery due to internal restructuring efforts aimed at strengthening recovery mechanisms, loan recovery drives, and write-off measures. In FY13, a temporary relaxation in BB's loan scheduling standards led to an abnormal surge in loan rescheduling.

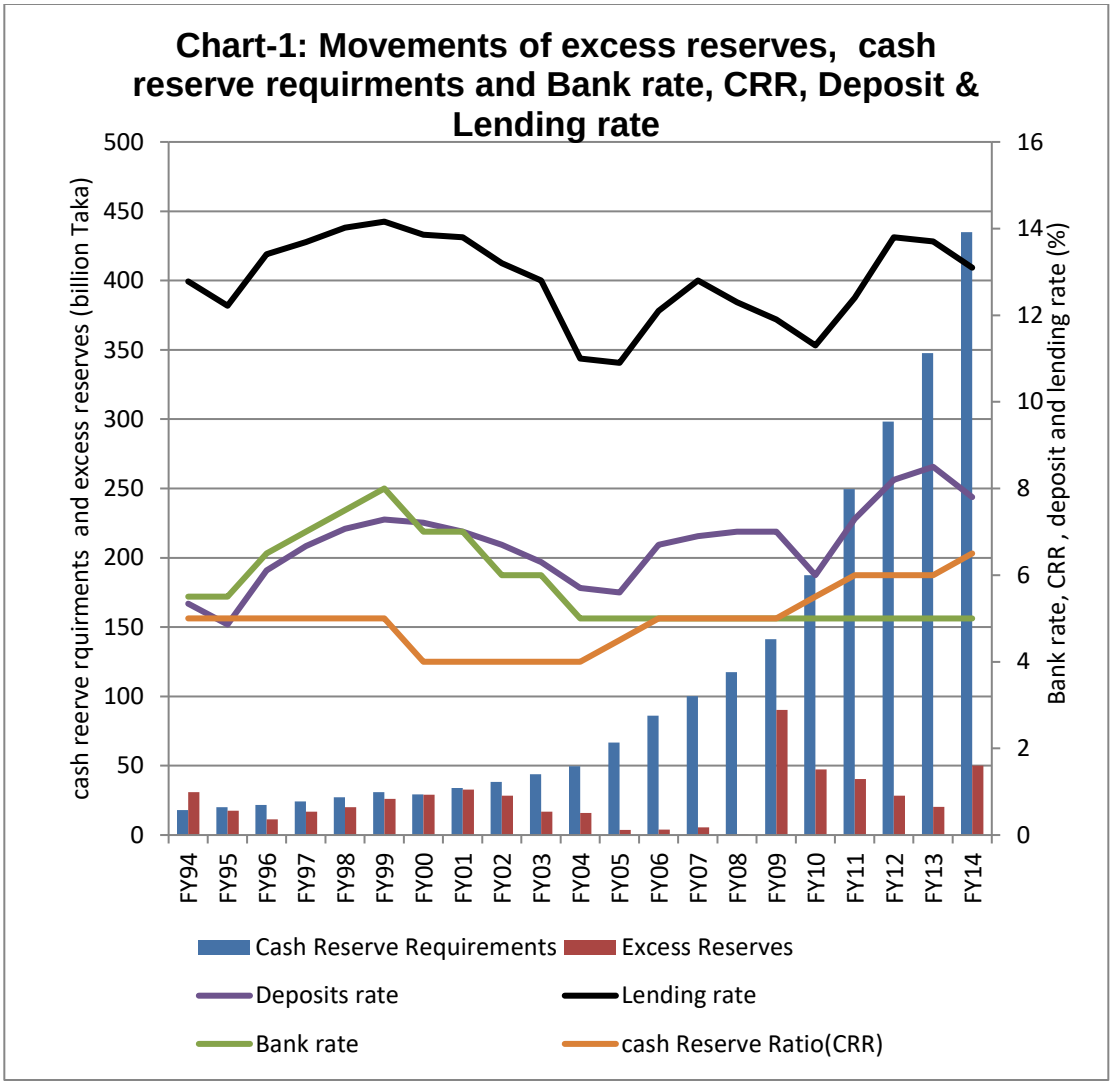
Political interference, particularly in state-owned banks, remains a significant issue in Bangladesh, far more pronounced than in private banks. These banks are highly sensitive to government decisions, often disbursing loans to politically connected individuals, enterprises, or prominent figures, many of which eventually turn into non-performing loans, exacerbating the problem.

4. Current Status of Interest Rates

The weighted average lending rate declined to 13.10 percent in FY14 from 13.67 percent in FY13. The deposit rate also declined to 7.8 percent in FY14 compared to 8.5 percent in the preceding year. The large excess liquidity in the banking system resulted in lowering the deposit rate. The trends of the spreads between lending and deposits rates were above 5 percent from FY10 to FY14. The interest rate spread (nominal) was stood at 5.31 percent in FY14 compared to 5.13 percent in the preceding year where the real spread was -1.99 percent during the same period (Chart-1). The weighted average lending rate of banks declined to 12.8 percent at the end of august from 13.6 percent a year earlier. In addition to lower private credit demand, higher competition among banks contributed to

the decline in the lending rate. The deposit rate also declined to7.6 percent from 8.6 percent, remaining positive in real terms as it was still higher than inflation. The large excess liquidity in the banking system contributed to the lower deposit rate. The interest spread of the banking system widened marginally to 5.1 percentage points from 5.0 in August 2013. Due to slower private credit growth, liquidity in the banking system remained high despite the cautious monetary stance and significant sterilization operations conducted by BB. Excess liquidity in the banking system stood higher at TK. 1.5 trillion at the end of August 2014 compared to TK.823.2 billion a year earlier.

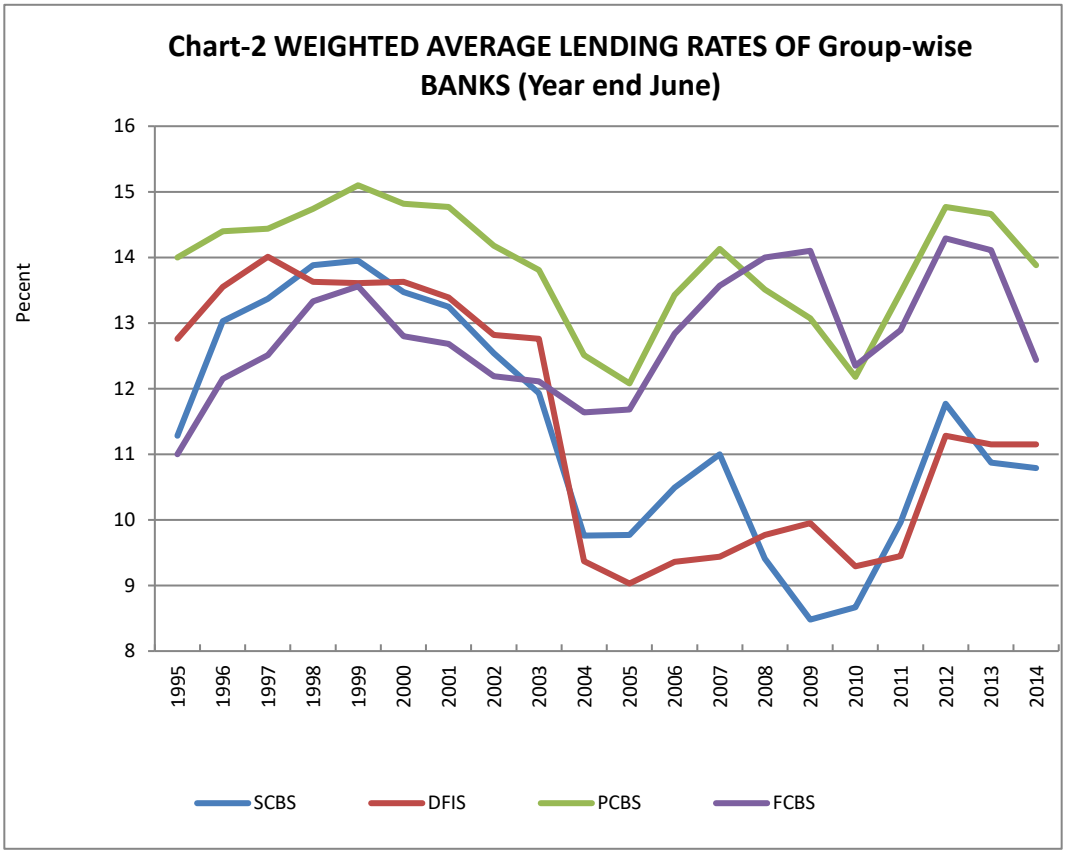
The foreign borrowing during the last couple of years is too small compared to the domestic borrowing by the entrepreneurs from the local banks. But regarding lending rates, they are not at all competitive as compared with interest on lending by their foreign counterparts. Because of higher cost of fund, the local banks would not be able to offer such low interest rate which creating threats to the domestic banks as some banks with high lending rates may face the problem of excess liquidity if foreign sources of borrowing become gradually available to all potential investors. It has been observed that lending rates of local banks are around 12-15 percent while for foreign borrowing the rate is 3-4 percent plus LIBOR. As the interest rate offered by local banks on term deposits are much higher than the rates on external borrowing, this may encourage some borrowers to deposit funds in the local banks borrowed from outside to earn some easy profit.



The weighted average lending rate of SCBs, DFIs, PCBs and FCBs were 10.79, 11.15, 13.88 and 12.44 percent respectively in FY14 where deposit rates were 7.19, 9.47,7.94 & 4.52 percent respectively compared to SCBs, DFIs, PCBs and FCBs the preceding year.

The nominal interest rate spreads were 3.10, 1.68, 5.94 & 7.92 respectively for SCBs, DFIs, PCBs and FCBs during the same period (Chart-2).

It is mentioned in the Monetary Policy Statement (MPS) of BB (January-June 2015) that Bangladesh Bank will endeavour to reduce the existing spread of 5.2 percent between lending and deposit rate so that the lending rate can be pulled down to incentivize the investors. The business community views the existing average lending rate of 12.5 percent as high enough to dampen investment vigour. However, reducing interest rates will require bringing inflation down further. Otherwise real deposit rates will be negative, discouraging domestic savings and making investment finance inadequate. Bangladesh Bank urges the commercial banks to device ways to reduce the lending rates which did not come down along with inflation correspondingly. The MPS has also drawn attention to the fact that inflation dropped by almost 5 percent age points since the end of 2011, but the average lending rate dropped by only 1 percentage point since then, empowering the banks to earn higher real rates of interest and thus making investment more expensive than before.



It is opined by many that NPL is the most crucial factor that forces banks to fix high lending rates and high nominal spreads in order to recover past loan losses. It has been observed that the ratio of NPL to total loans of all the banks had shown an overall declining trend from its peak (34.9 percent)in 2000 up to 2011 before it increased to 10.0 percent in December 2012. The ratio further increased to 10.8 percent at the end of June 2014. The rise in the gross NPL ratio has been attributed in part to the high NPL of the SCBs and the DFIs, and also due to the reasons of issuance of the circular regarding new classification and rescheduling of loans and a few notable scams in the banking industry. The SCBs and DFIs continue to have high level of NPLs mainly due to substantial loans provided by them on considerations other than commercial criteria. Furthermore, these

banks were reluctant to write-off the historically accumulated bad loans because of poor quality of underlying collaterals. The NPLs for PCBs & FCBs are significantly lower than SCBs. Though the macroeconomic indicators showed better performances in FY 14 but the banking sector's classified loan increased steadily during the year .It's a matter of concern that the banks' capital adequacy ratios are shrinking with the rising bad loans when implementation of the BASEL-III is under process.

Regarding policy rates, the rate of interest for repo, special repo and LSF remained unchanged at 7.25 percent, 10.25 and 7.25 percent respectively for 1-2 day tenor till to date. On the other hand, interest rate against reverse repo remained unchanged at 5.25 percent during the same period. Bank rate remained unchanged at 5.00 percent which has been in effect since 6 November 2003.

The Cash Reserve Requirement for the scheduled banks with the Bangladesh Bank has been increased by 50 basis points to 6.50 percent of their total demand and time liabilities with effect from 24 June 2014. The statutory liquidity ratio(SLR) for the conventional banks shall not be less than 13.0 percent of their total demand and time liabilities, and for the shariah based Islami banks, this rate shall not be less than 5.5 percent. This has been in effect from 1 February 2014.

Private sector credit growth during FY14 was 12.3 percent which was lower than the programmed growth of 16.5 percent mainly due to investors had been a bit conscious and followed a go slow strategy in the backdrop of political uncertainty, cautious lending practices by banks following scams in few banks, strong supervision activities by BB and facilitation of private sector trade credit from abroad.

5. Methodology and Sources of Data

5.1. Sources of Data

Data used in this paper is secondary in nature and are taken from various issues of Annul Report and Monthly Economic Trends of Bangladesh Bank. Data duration is 1994-2014.

5.2. Formulation of Empirical Model

The model is specified implicitly below:

$$LENR = f(CPI, CRRQ, NPL, EXP\_INCOME\_RATIO, RETURN\_ASSET, EXCESS\_RESERVE, DEP\_RATE, NSD\_CERTI, GDP, POLR, Z) \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (1)$$

Where Z contains other variables not explicitly included in the model. The explicit form of equation (1) is:

$$LNR=\alpha 0+\alpha_1 CPI+\alpha_2 CRRQ+\alpha_3 NPL+\alpha_4 EXP\_INCOME\_RATIO+\alpha_5 RETURN\_ASSET+\alpha_6 EXCESS\_RESERVE+\alpha_7 DEP\_RATE+\alpha_8 NSD\_CERTI+\alpha_9 GDP+\alpha_{10} POLR+\mu$$

Where,

LNR = Lending Rate

CPI = Consumer Price Index

CRRQ = Cash Reserve Requirements

NPL = Ratio of Net Non-Performing Loan to Total Loans

EXP_INCOME_RATIO = Expenditure Income Ratio

RETURN_ASSET= Return on Assets

EXCESS_RESERVE = Excess Reserve

DEP_RATE = Deposit Rate

NSD_CERTI= National Savings Certificate

GDP = Gross Domestic Product

POLR = Policy Rate

μ = Error Term

6. Estimation Results and Analysis

According to Gujarati (2004), most macroeconomic time series are not stationary at levels. This implies that most ordinary least squares (OLS) regressions that are carried out at levels may not be reliable. Giving this knowledge, testing for stationary of variables to obtain a more reliable result becomes very essential. This research paper carried out stationary test of the variables using Augmented Dickey-Fuller (ADF). First, unit roots for all variables at levels are tested. It is found that all the variables contain unit roots at levels. However, when first difference is used, it is found that variables used in the research are stationary (Table 1).

Table 1: Unit Root Test and First Difference Test of Variables

Variables	Level	First Difference
LNR	I(0)	I(1)***
CPI	I(0)	I(1)***
CRRQ	I(0)	I(1)***
NPL	I(0)	I(1)***
EXP_INCOME_RATIO	I(0)	I(1)***
RETURN_ASSET	I(0)	I(1)***
EXCESS_RESERVE	I(0)	I(1)***
DEP_RATE	I(0)	I(1)***
NSD_CERTI	I(0)	I(1)***
GDP	I(0)	I(1)***
POLR	I(0)	I(1)***

Estimation results of the research paper are presented in Table 2.

Table 2: Estimation Results

Dependent variable: Lending Rate; Number of observations=17; F(10,6)=11.34; Prob>F=0.0038, R-squared =0.9497; Adjusted R-Squared=0.8660; Root MSE: 0.29246				
	Co-efficient	**Std.Err**	**t**	**p>|t|**
CPI	-0.11**	0.04	-2.61	0.04
CRRQ	-0.00	0.00	-0.66	0.53
NPL	0.07***	0.03	1.93	0.10
EXP_INCOME_RATIO	-0.08***	0.04	-2.08	0.08
RETURN_ASSET	-0.73	0.39	-1.88	0.11
EXCESS_RESERVE	-0.02**	0.00	-2.81	0.03
DEP_RATE	0.97*	0.18	5.50	0.00
NSD_CERTI	-0.06	0.10	-0.61	0.56
GDP	-0.06	0.18	0.37	0.73
POLR	0.15**	0.07	2.40	0.05

Note: * Significant at 1% confidence interval; ** Significant at 5% confidence interval; *** Significant at 10% confidence interval

From the estimation results, it is found that CPI, excess reserve, deposit rate and policy rate significantly affect lending rate behavior of banks. Deposit rate is positively correlated with banks' lending rates behavior and a change in deposit rate will yield higher change in banks' lending rate. Increase in the deposit rate also results in the increase in the cost of funds of the banks, therefore, in order to minimize the cost of funds of the banks, banks raise interest rate. Policy rate is also found positively correlated with banks' lending rate which implies that monetary policy significantly affect on banks' lending rate. If policy rate increases then it increases the lending rate which has also incidence on money market rate. It is found that CPI and excess reserve are negatively correlated with lending rate behavior of banks. Depressed investment scenario and business largely contribute the low demand for funds from banks. Variables such as cash reserve requirements, non-performing loan, expenditure income ratio, return on assets, excess reserve, national saving certificate and gross domestic product does not have significant relationship with lending rate. This may be because of other non-economic factors like corruption, political influence, political uncertainty and over cautious lending practices by banks.

7. Conclusion

The behavior of commercial banks' interest rates, particularly lending rates, has emerged as a significant issue in recent years. This behavior is shaped by a myriad of factors, including interest rates, deposit levels, investment patterns, profitability, liquidity, solvency, and the stance of monetary policy. While it is widely assumed that non-performing loans (NPLs) are the primary driver behind high lending rates and nominal spreads—implemented to recover past loan losses—our study reveals that NPLs are not statistically significant in influencing lending rates. This may be due to the impact of non-economic factors on banks' lending practices.

State-owned commercial banks (SCBs) and development financial institutions (DFIs) continue to suffer from high levels of NPLs, primarily because they extend substantial loans based on political and non-commercial considerations. Political interference in state-owned banks is notably stronger than in private banks, where loans are frequently disbursed to politically connected individuals, enterprises, or even prominent political figures, many of which eventually become non-performing loans. Additionally, some banks have exhibited a tendency to manipulate the loan against trust receipt (LTR) facility by converting it into term loans, further complicating the lending landscape.

Recently, private sector credit growth has fallen short of expectations, driven by cautious investor sentiment amid political uncertainty, over-cautious lending by banks following several banking scandals, enhanced supervision by Bangladesh Bank (BB), and the increased availability of private sector trade credit from abroad. To ensure the effective transmission of monetary policy through the interest rate channel, commercial banks should align their lending rates with BB's policy rates. It is widely recognized that a reduction in lending rates is necessary to foster a more investment-friendly environment in the country.

In addition, there is a pressing need for systematic efforts to establish a sustainable and reasonable interest rate structure within the banking sector, taking into account the socio-economic realities of Bangladesh.

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