NON-PERFORMING LOANS IN BANGLADESH'S BANKING SECTOR:
WHAT HAS STATE INTERVENTION ACHIEVED?

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2. **Non-performing loans in Bangladesh's Banking Sector**

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1. Introduction

1.1 Context

- The banking sector of Bangladesh has been facing a number of serious challenges due to malpractices, scams and heists.

- These have affected the overall performance of the sector which are reflected through various efficiency and soundness indicators.

- Repeated concerns have been expressed by relevant stakeholders regarding the constant deterioration of banking performances and its potential implications for the sustainability of the sector.

- Given that the financial sector of the country is mainly bank based, poor health of the banking sector will also impact on economic growth.

- While much has been talked about, it is time to act to address the problems.

1.2 Political economy of NPLs

- **Studies have shown that in general, high interest rates are not causally related to high level of NPLs in Bangladesh**

- **Research has shown that the reasons behind the high amount of NPLs in Bangladesh include political instability, corruption, poor governance, and weak rule of law**

- **Poor management of state-owned commercial banks, coupled with malpractices and corruption, has contributed to the high levels of NPL**

- **State owned commercial banks (SCBs) have been awarding loans based purely on political grounds**

- **The government's tendency to fund loss-making state-owned enterprises, through SCBs, has aggravated the problem of NPLs even further**

- **Research has shown that on average, only 33% of first-time rescheduled loans, and 30% of third time rescheduled loans, were recovered during 2011–2014**

1.3 Research objectives

- **The main research objectives of this paper are:**
  - **i) to describe the trends of NPLs in the banking sector of Bangladesh**
  - **ii) to evaluate the effectiveness of state intervention in the banking sector of Bangladesh; and**
  - **iii) to empirically analyse the factors that influence NPLs in the banking sector of Bangladesh.**

2. Non-performing Loans in Bangladesh's Banking Sector
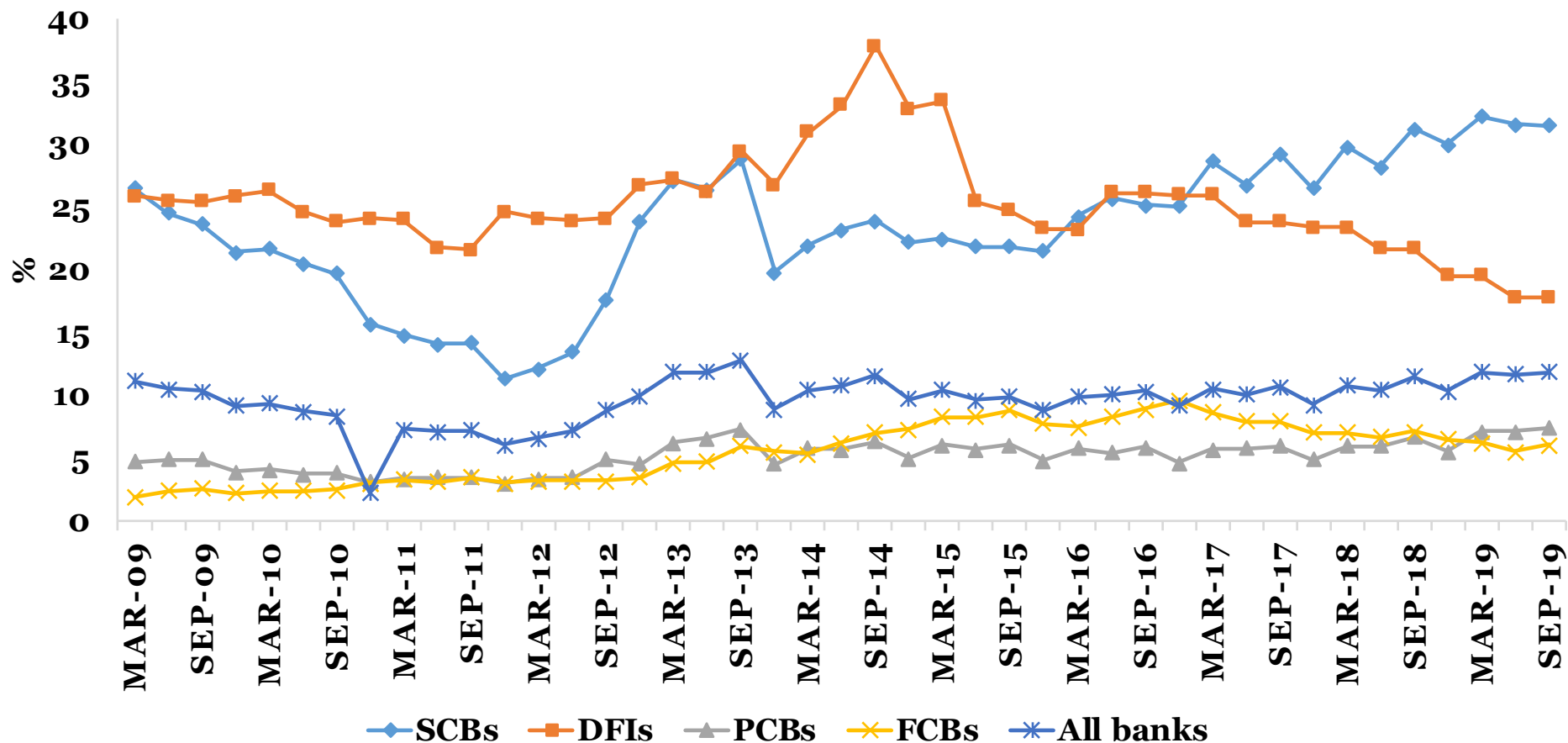
2.1 Total NPLs

Figure: Total classified loan (in billion of BDT)
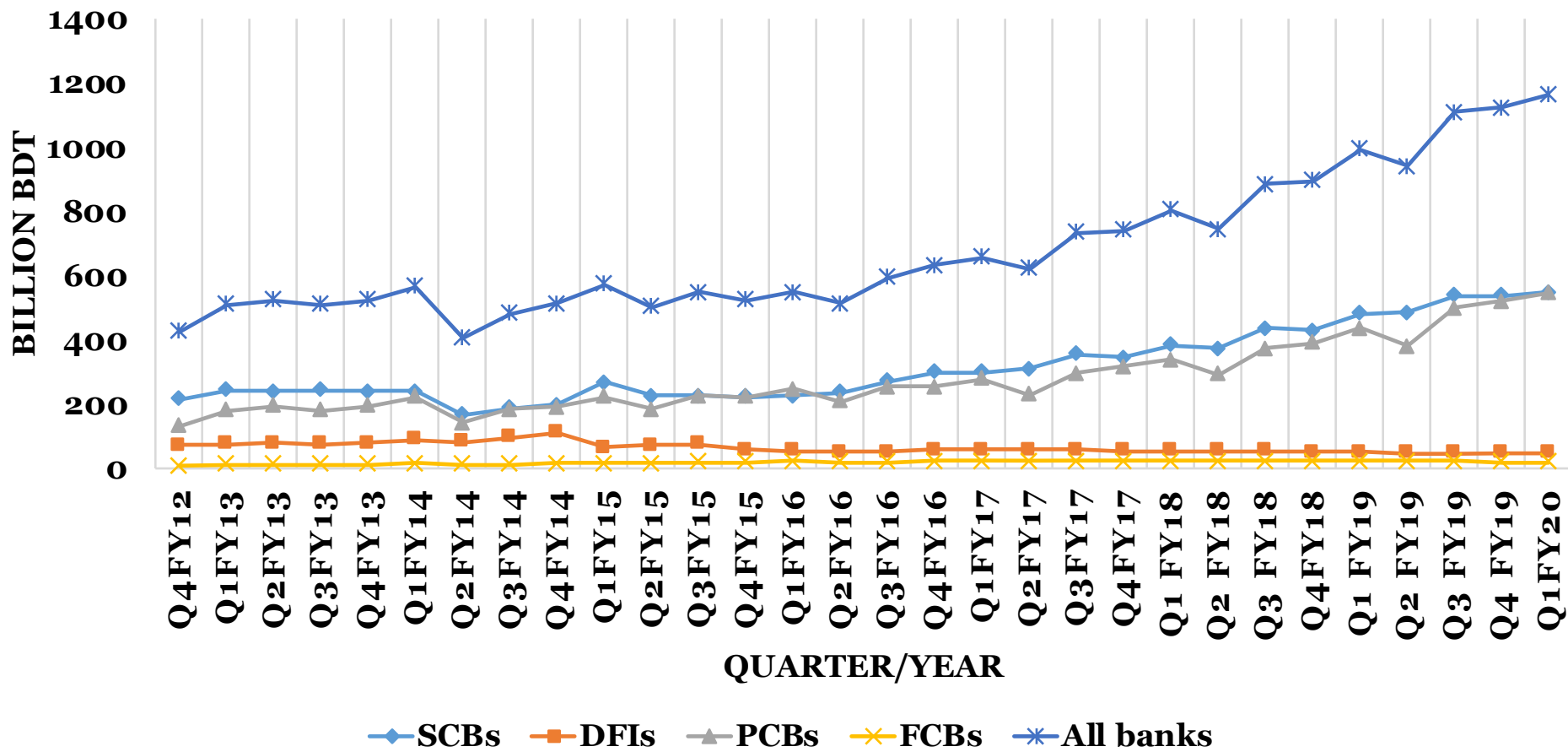
Source: Bangladesh Bank

2.2 Gross NPLs as % of total loans

Figure: Gross NPL ratios by type of banks (as % of total loans of the bank)

Legend: SCBs — DFIs — PCBs — FCBs — All banks

Source: Bangladesh Bank
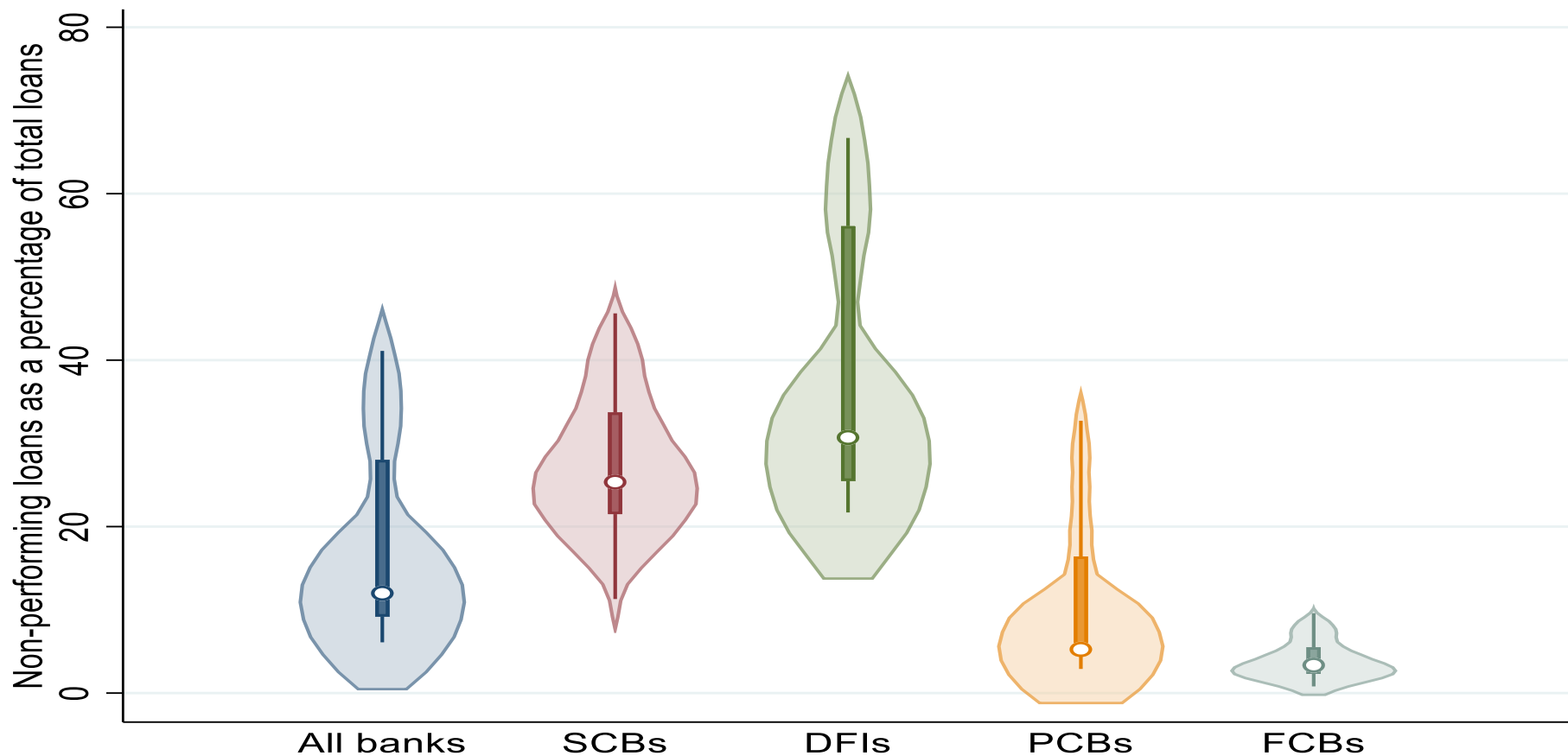
2.3 Distribution of NPLs

Figure : Distribution of NPL, by type of bank (as % of total NPL of banking sector)
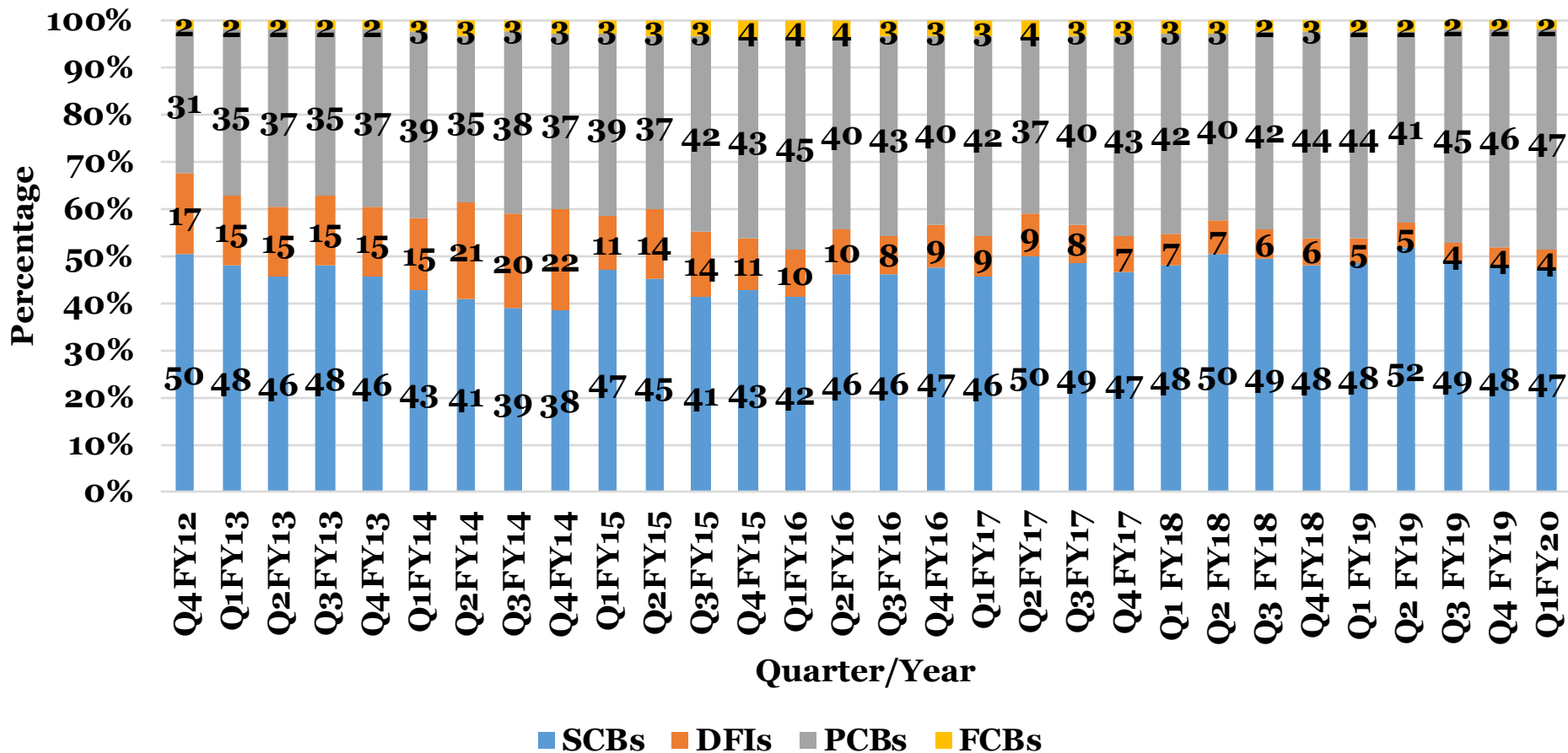
Source: Bangladesh Bank

2.3 Distribution of NPLs (contd)

Figure : Distribution of NPL, 1996-2018 (as % of total NPL of banking sector)

Source: Bangladesh Bank

2.4 Some banks with high NPLs

- **Classified loans as a share of total loans was more than 10% for 9 banks during 2016-2018.**

- **ICB Islamic Bank had more than 60% and BASIC Bank had more than 50% classified loans during 2016-2018.**

- **The actual percentage of classified loans would be higher if loans were not written off.**

Figure: Classified Loans as a Share of Total Loans
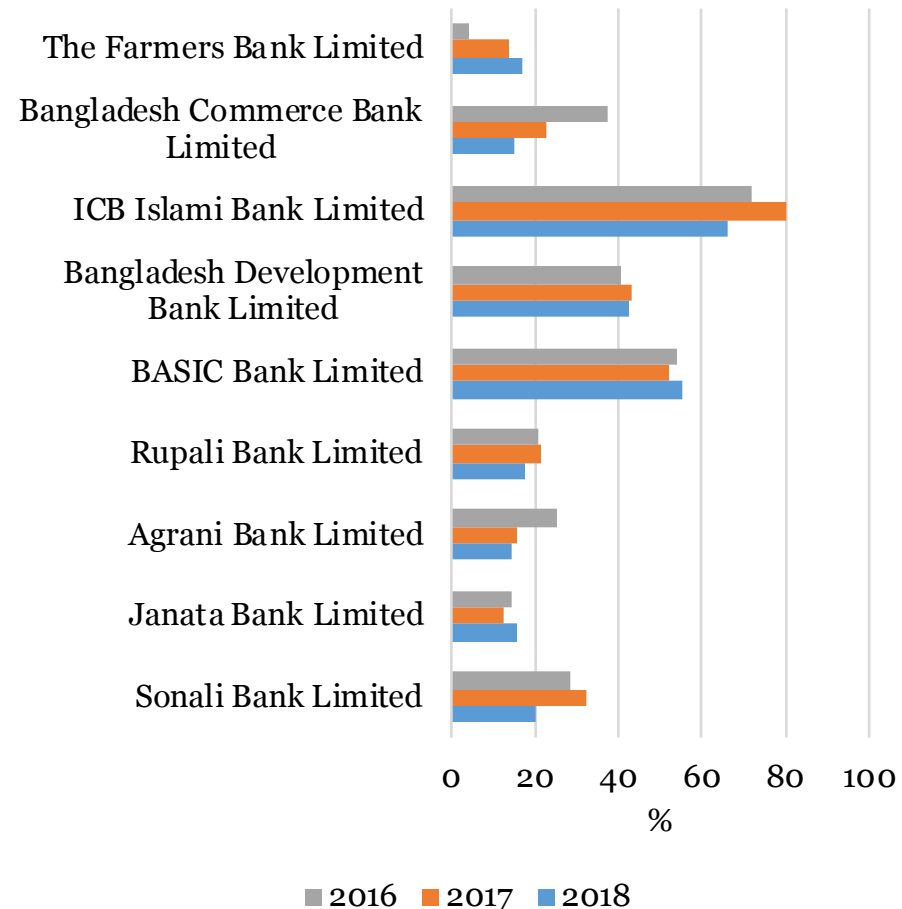
Legend: 2016, 2017, 2018

Source: Financial Institutions Division, Ministry of Finance
Note: Data for 2018 are as of June

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2.5 Huge scale of NPLs

Table: NPL compared to GDP and budget allocations for education and health sectors

FY	Amount of NPLs[i] (in billion BDT)	Gross NPL as % of total loans	NPL as % of GDP	Education budget as % of GDP	Health budget as % of GDP
2010	227	7.3	2.85	1.95	0.79
2011	226	6.1	2.47	2.01	0.80
2012	427	10.0	4.05	1.78	0.73
2013	406	8.9	3.39	1.73	0.71
2014	502	9.69	3.74	1.87	0.70
2015	594	8.79	3.92	1.85	0.69
2016	622	9.23	3.59	2.18	0.73
2017	742	9.31	3.76	2.19	0.34
2018	893	10.41	3.73	2.09	0.89
2019	1124	11.70	4.43	2.10	0.90

Source: CPD compilation from Bangladesh Bureau of Statistics (BBS), Bangladesh Bank Annual Report (various years), Budget documents (various years), Ministry of Finance (various years).

Note: i) NPL data is for calendar years; all other data are for fiscal years.

2.6 NPL and lending rate

- **Credit provided for consumer finance had a weighted average lending rate of 11% even though its NPL rate was only 4%, while credit provided for trade and commerce had a weighted average lending rate of 10% despite its NPL rate being as high as 11%**

- **Good borrowers were being punished with high interest rates while bad borrowers were being rewarded with low interest rates**

Figure: Overall NPL rate and weighted average lending rate in 2017
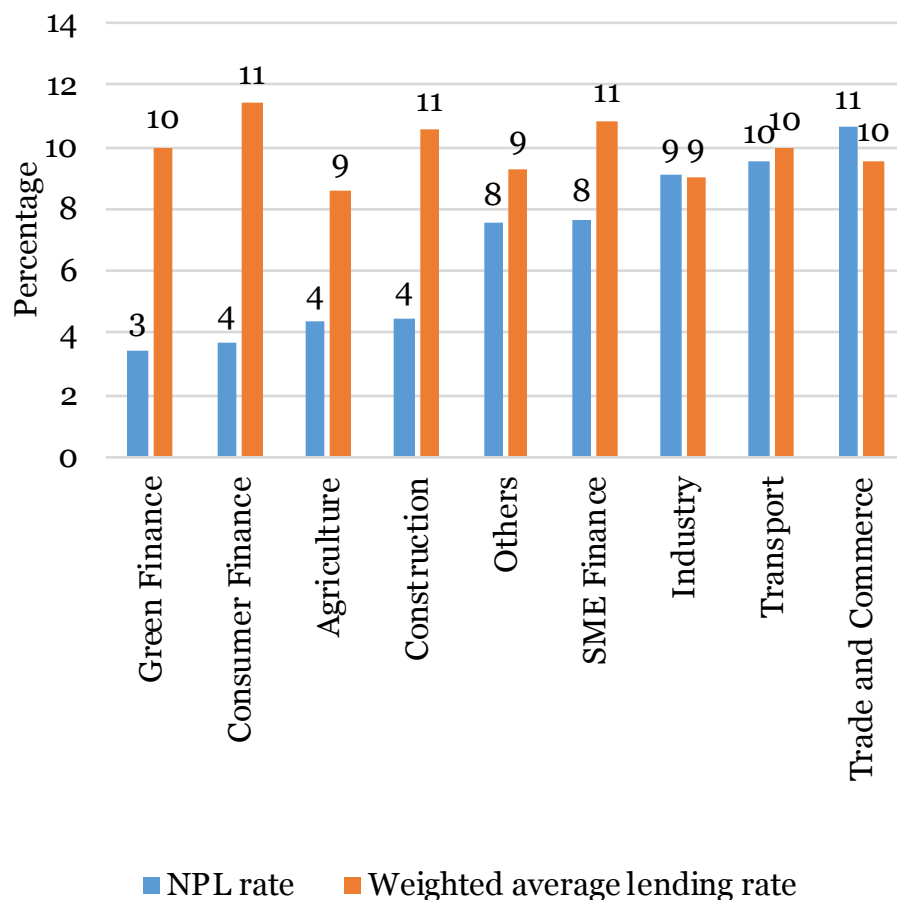
Source: Financial Institutions Division, Ministry of Finance
Note: Data for 2018 are as of June

# 3. State Intervention in Bangladesh's Banking Sector

3.1 Macroprudential regulations

- **Bangladesh Bank, the central bank of Bangladesh, has a wide gamut of macroprudential regulations designed to limit systemic risk and reduce the incidence of disruptions in the financial system that may jeopardise the real economy:**

  - countercyclical capital buffer, capital conservation buffer, limit on leverage ratio, cap on credit growth, cap on loan-to-value ratio, cap on debt service-to-income ratio, limit on amortization periods, restrictions on unsecured loans , exposure caps on household credit, liquidity coverage ratio, net stable funding ratio, loan to deposit ratio , cash reserve ratio, statutory liquidity ratio , Interbank Transaction Matrix, Bank Health Index

- **Despite being armed with such a potent regulatory arsenal, Bangladesh Bank has been unable to rein in the rise in the volume of NPLs in the banking sector of Bangladesh. This is because the poor state of governance in the country has pushed the banking sector towards crisis.**

3.2 High Concentration of Banks and Bank Branches in Bangladesh

- **Mexico has only 47 commercial banks even though the GDP of Mexico in 2016 was about 7.4 times larger than that of Bangladesh in 2016 and the total surface area of Mexico is about 13.2 times larger than that of Bangladesh (CPD, 2018).**

- **Globally, if microstates that have a land area less than 1000 square kilometres are disregarded, Bangladesh has the 8th highest geographic concentration of commercial bank branches (CPD, 2018).**

- **In 2016, Bangladesh had 75 branches of commercial banks per 1000 square kilometres of land, which was the highest in the South Asia region (CPD, 2018).**

Figure: Branches of commercial banks per 1,000 square kilometres in South Asia (2016)
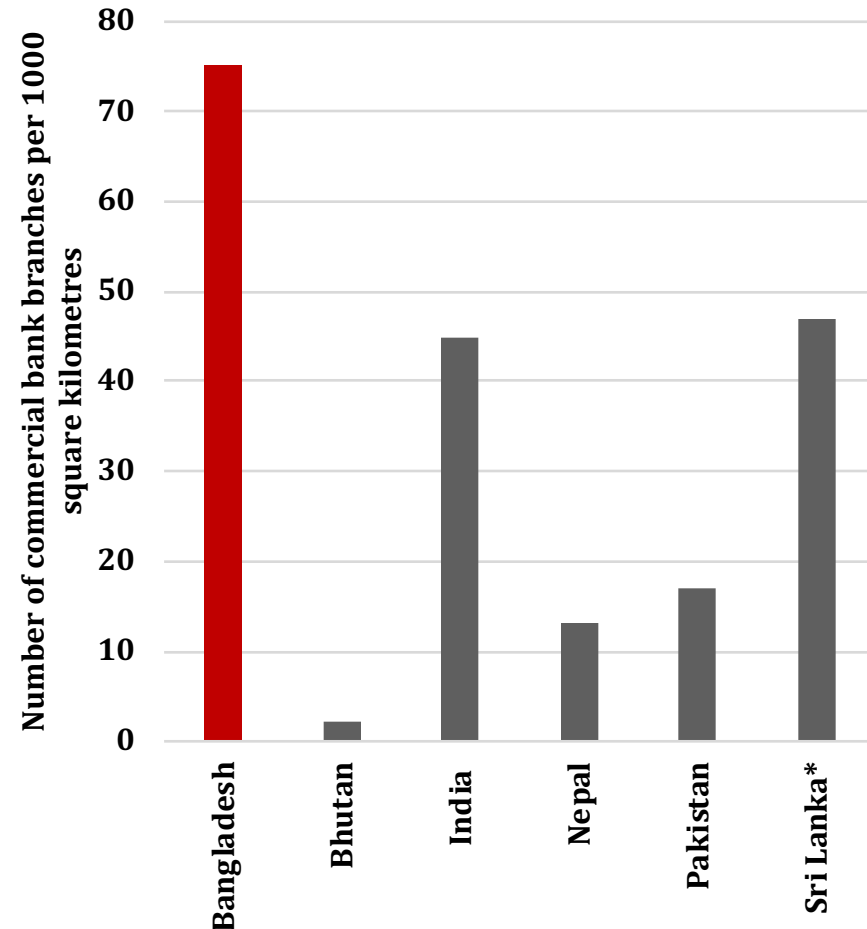
Source: IMF Financial Access Survey Data
*Note: * indicates data for 2015*

3.3 Bank Licenses as Gifts

- In 2013, the government approved licenses of 9 new private commercial banks: Meghna Bank Limited, Midland Bank Limited, Modhumoti Bank Limited, NRB Bank Limited, NRB Commercial Bank Limited, NRB Global Bank Limited, South Bangla Agriculture and Commerce Bank Limited, The Farmers Bank Limited, and Union Bank Limited.

- All of these banks were backed by politically powerful owners.

- License for opening a new commercial bank has, in fact, become a tool for misappropriation of public money.

- The fourth generation banks (9 newly approved commercial banks) are beset with large amounts of NPLs and are making losses.

3.4 Excessive number of banks, yet attempts to permit more

- On 17 February 2019, Bangladesh Bank approved three new private commercial banks: Bengal Commercial Bank, People's Bank and Citizen Bank.

- According to the Bank Company (Amendment) Act 2013, the central bank will decide to grant licenses to new commercial banks after considering the need for such banks and the overall state of the economy.

- Ironically, this principle is not followed in Bangladesh in case of issuing bank license.

- 95% of the bank officials believed that the fourth generation banks in Bangladesh were redundant.

- Political pressure works for the issuance of bank licenses more than economic justification.

- It appears that over time, license for opening a new commercial bank has, in fact, become a tool for misappropriation of public money.

3.5 Problems of Monopolisation

- When banks transform from being financial intermediaries to becoming monopolies, they become a growing cause for concern.

- The monopolisation of banking is usually accompanied with a deterioration in governance.

- When financial capital becomes concentrated into the hands of few, monopolies extract supernormal profits at the cost of the welfare of the ordinary population.

- Crony capitalists use banks as vehicles for reaching their goal of financial oligarchy

3.6 Detrimental Amendments of Banking Company Act

- **Two detrimental amendments of dubious nature have been made to the Banking Company Act in 2018, which undermined the cause of good governance.**

- **The tenure of board of directors was increased from 6 years to 9 years, and up to 4 family members would be allowed to be on the Board, instead of the earlier 2 per family.**

- **These changes are apprehended to reinforce crony capitalism in a sector of the economy already impaired by poor governance.**

3.7 Banking Oligarchies

- In 2017, a single corporation gained control over 7 private commercial banks in Bangladesh

- Following this development, there were major changes in the top management of these banks

- However, monopolization of banking was not only limited to corporations, but also spread to business families

- Despite being cautioned by the central bank in 2014, two private commercial banks still had 4 or more members from the same family in their Board of Directors, as of 12th January 2018

3.8 Honest borrowers?

- **In the early months of 2019, the government of Bangladesh announced that a special audit will be undertaken in all banks to identify honest and dishonest borrowers and on the basis of this audit, honest borrowers who are unable to repay loans for legitimate reasons will be allowed to pay off loans with a 2% down payment on the loan amount and 7% interest over 12 years.**

- **However, a clear, concrete and quantifiable definition of an honest borrower and a legitimate reason for non-payment should be declared before extending such privileges to any borrower.**

3.9 Relaxed loan classification

- **Bangladesh Bank issued a circular on 21 April 2019, stating that if any instalment of a fixed term loan is not repaid within the fixed expiry date, then the amount of unpaid instalment shall be categorised as overdue only after six months of the expiry date.**

- **Such benefits offered by the central bank will simply encourage more people to become defaulters.**

3.10 Incentives to good borrowers

- **On 16 May 2019, Bangladesh Bank's BRPD Circular No. 04, titled "Incentives to Good Borrowers", announced that borrowers with no record of bad loan default in the last one year will be offered a 10% rebate.**

- **Such incentive for good borrowers seems trivial compared to the incentives provided to bad borrowers.**

3.11 Special privileges to loan defaulters

- On 16 May 2019, Bangladesh Bank's BRPD Circular No. 05, titled "Special Policy on Loan Rescheduling and One Time Exit", announced that:

- i) defaulters will be allowed to pay only a 2% down payment;

- ii) 10-year loan repayment period, with a one-year grace period;

- iii) rescheduled loans would have to be repaid at only 9% interest rate;

- iv) banks may waive all interest for defaulters, depending on the bank-client relationship;

- v) a "One Time Exit" will allow defaulters to pay the bare minimum, which includes bank's cost of funds and principal loan amount, with a condition of having to pay the outstanding amount within a year.

3.12 Implications of special privileges

- These measures will provide more incentive for defaulters to normalise bad debts.

- Moreover, bad borrowers getting longer time to repay loans than good borrowers is rather surprising.

- It should be noted that the 9% interest that was offered for rescheduled loans, falls within the lowest range of interest rates.

- This also means that those who had initially taken loans at a higher interest rates could now repay at a much lower rate.

- Hence, this may encourage borrowers to default on their loans to avail a lower interest rate.

- Providing waivers based on relationships can be dangerous and may tend to legitimise corruption in banks by providing regulatory support.

3.13 Implications of special privileges

- The so-called 'One Time Exit' policy is quintessentially a general amnesty to loan defaulters, which cannot be justified on moral grounds.

- Ironically, large defaulters of SCBs did not avail this policy.

- On the other hand, PCBs, which account for almost half of all NPLs, were reluctant to offer such facilities.

- Initially, defaulters were asked to apply within 90 days starting from 16 May 2019, but the central bank extended the time period two more times, which allowed even more loan defaulters to avail the facilities.

3.14 Recapitalisation

- **Recurrent recapitalization of SCBs by the government has emerged as an issue of grave concern, and the government has taken recourse to this measure on a regular basis.**

- **It has been estimated that the GoB has spent BDT 15,705 crore in recapitalizing the banks during the period FY2009-FY2017 (Monthly Fiscal Frameworks, Budget Briefs, Finance Division).**

Figure: Amount of Recapitalisation (in crore BDT)
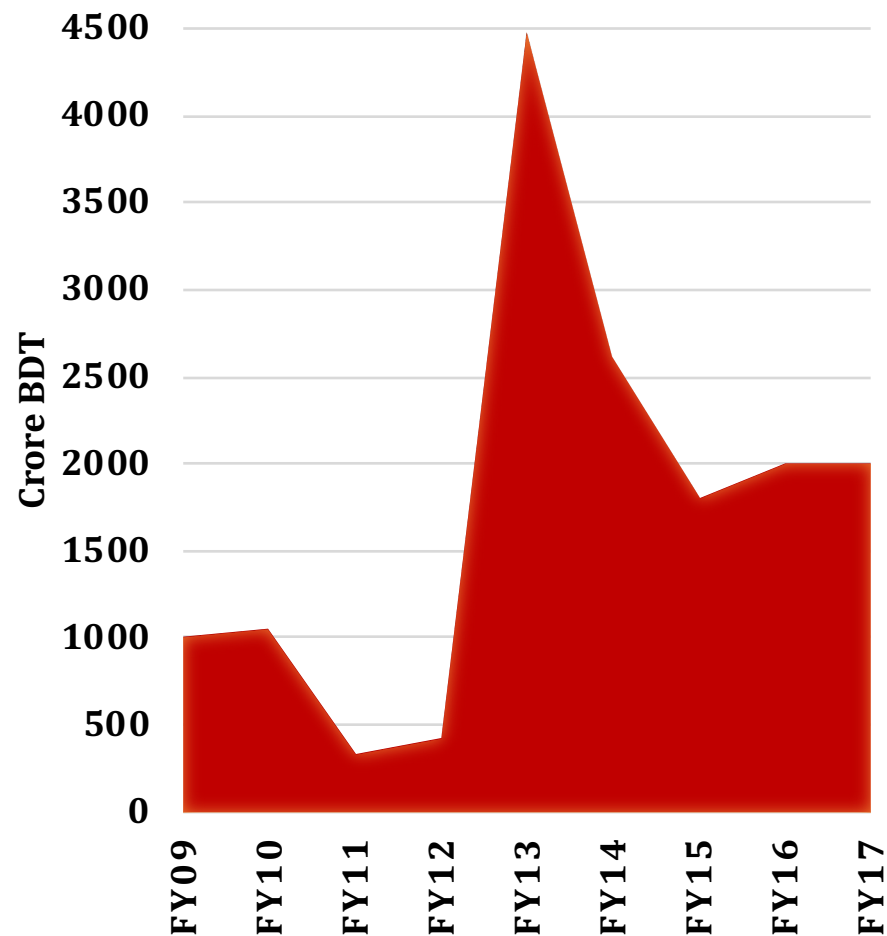
Source: Monthly Fiscal Frameworks, Budget Briefs, Finance Division.

3.15 A regulator for regulators?

- **Bangladesh Bank's sovereignty is disrupted by the Financial Institutions Division (FID) of the Ministry of Finance (MoF) is observed in the mandate of the FID, which clearly states the primary function of FID is the "administration and interpretation of the Bangladesh Bank Order, 1972 (P.O. No. 127 1972) and orders relating to the specialized banks and other matters relating to state-owned banks, insurance and financial institutions".**

- **By asserting this function in their mandate, the MoF has established their authority to oversee the governance of Bangladesh Bank.**

3.16 A regulator for regulators?

- **What aggravates the concern of Bangladesh Bank's lack of independence is that, the board of directors, managing directors and deputy managing directors for the SCBs is controlled by the MoF, as opposed to being administered by the Bangladesh Bank.**

- **In SCBs, specifically Agrani Bank, the managing director was appointed by the MoF, despite Bangladesh Bank's opposition to his appointment.**

- **In September 2009, another controversial incident influenced by the MoF was the appointment of the chairman of BASIC Bank, under whose leadership, BDT 4,500 crore were embezzled, impeding the financial health of the once robust bank.**

3.17 Money Lost through Major Scams, Irregularities, & Heists

Sonali, Janata, NCC, Mercantile & Dhaka Bank	**BDT 5.89 crore**
BASIC Bank	**BDT 4,500 crore**
Sonali Bank	**BDT 3,547 crore**
Janata Bank	**BDT 10,000 crore**
Janata Bank, Prime Bank, Jamuna Bank, Shahjalal Islami Bank & Premier Bank	**BDT 1,174 crore**
AB Bank	**BDT 165 crore**
NRB Commercial Bank	**BDT 701 crore**
Janata Bank	**BDT 1,230 crore**
The Farmers Bank	**BDT 500 crore**
Bangladesh Bank	**BDT 679 crore**
TOTAL	**BDT 22,502 crore**

3.18 Opportunity Cost of Major Scams, Irregularities, & Heists

- **34% of total allocation for education in national budget of FY2017-18**
- **39% of income tax revenue of GoB in FY2017-18 as of May 2018**
- 78.2% of Padma Multipurpose Bridge (PMB)
- 64.3% of Padma Bridge Rail Link
- 62.5% of Matarbari 2x600 MW Ultra-Super Critical Coal-Fired Power Project (MUSCCFPP)
- 40.9% of Deep Sea Port in Sonadia
- 19.9% of 2x1200 MW Ruppur Nuclear Power Plant (RNPP) Main Project

Source: Monthly Fiscal Report, Ministry of Finance and CPD (2018): State of the Bangladesh Economy in FY2018 (Third Reading)

3.19 BDT 22,502 crore would be enough for

- **Total allocation for health in national budget of FY2017-18 (BDT 20,651 crore)**
- Dhaka Mass Rapid Transit Development Project (DMRTDP) (Cost: BDT 21,985 crore)
- Construction of Single Line Dual Gauge Track from Dohazari-Ramu-Cox's Bazar and Ramu to Ghundum near Myanmar Border (Cost: BDT 18034 crore)
- 2×660 MW Moitree Super Thermal Power Project (MSTPP) in Rampal (Cost: BDT 16000 crore)
- Construction of Bangabandhu Railway Bridge (Cost: BDT 9,734 crore)
- Construction of Multilane Road Tunnel under River Karnaphuli (Cost: BDT 8,447 crore)
- Deep Sea Port at Paira (Cost: BDT 3351 crore)

Source: CPD (2018): State of the Bangladesh Economy in FY2018 (Third Reading)

4. Factors that influence NPLs

4.1 Data and variables

Variable	Definition	Source of data
Voice and accountability index	Reflects perceptions of the extent to which a country's citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association, and a free media. Ranges from approximately -2.5 (weak governance) to 2.5 (strong governance).	
Political stability index	Political Stability and Absence of Violence/Terrorism measures perceptions of the likelihood of political instability and/or politically-motivated violence, including terrorism. Ranges from approximately -2.5 (weak governance) to 2.5 (strong governance).	
Government effectiveness index	Reflects perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such. Ranges from approximately -2.5 (weak governance) to 2.5 (strong governance).	Worldwide Governance Indicators, World Bank
Regulatory quality index	Reflects perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development. Ranges from approximately -2.5 (weak governance) to 2.5 (strong governance).	
Rule of law index	Reflects perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence. Ranges from approximately -2.5 (weak governance) to 2.5 (strong governance).	
Control over corruption index	Reflects perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests. Ranges from approximately -2.5 (weak governance) to 2.5 (strong governance).	
Governance	Composite index of governance calculated through a principal component analysis of six indicators of governance, namely voice and accountability index, political stability index, government effectiveness index, regulatory quality index, rule of law index, and control over corruption index, defined as the predicted score of the first principal component	Authors' calculations based on Worldwide Governance Indicators, World Bank
NPL in SCBs	Non-performing loans in state-owned commercial banks	
NPL in DFIs	Non-performing loans in development finance institutions	Department of Off-site Supervision (DOS), Bangladesh Bank
NPL in PCBs	Non-performing loans in private commercial banks	
NPL in FCBs	Non-performing loans in foreign commercial banks	
NPL in all banks	Non-performing loans in all commercial banks	
Credit growth	Growth rate of total bank credit (sum of advances, bills and investment, excluding inter-bank)	Statistics Department, Bangladesh Bank
Interest rate	Rate of interest on advances in scheduled banks (weighted average as at end month)	

4.2 Statistical tests

- **In order to check for unit roots in the variables, augmented Dickey-Fuller unit root tests of the variables at level and first difference were conducted.**

- **To check if there is any long-run association between the variables used in this study, autoregressive distributed lag (ARDL) bounds test was conducted.**

- **Causality analysis is conducted using a vector error-correction model (VECM) approach for short run causality and a Granger causality approach for long run causality**

4.3 Unit root test

Table: Results of Augmented Dickey-Fuller unit root tests

Variable	T Statistic					
	At level			At first difference		
	Intercept	Intercept and trend	No intercept or trend	Intercept	Intercept and trend	No intercept or trend
Voice and accountability index	-0.897906 (0.7614)	-0.837303 (0.9389)	0.527991 (0.8188)	-3.114584 (0.0471)	-4.391147 (0.0269)	-3.188544 (0.0036)
Political stability index	-2.757987 (0.0864)	-5.175136 (0.0056)	-1.098517 (0.2319)	-4.611330 (0.0039)	-4.410283 (0.0206)	-5.533017 (0.0000)
Government effectiveness index	-4.105617 (0.0076)	-3.216281 (0.1243)	-0.481216 (0.4887)	-5.004988 (0.0017)	-4.729578 (0.0112)	-5.185077 (0.0001)
Regulatory quality index	-1.702205 (0.4114)	-2.704152 (0.2475)	-0.629277 (0.4288)	-4.599599 (0.0031)	-4.512680 (0.0144)	-4.733206 (0.0001)
Rule of law index	-0.956933 (0.7417)	-2.983917 (0.1754)	-0.920855 (0.3024)	-4.874709 (0.0019)	-4.607253 (0.0123)	-4.490589 (0.0002)
Control over corruption index	-5.059496 (0.0023)	-0.058812 (0.9875)	-3.456144 (0.0025)	-0.072030 (0.9302)	-8.779537 (0.0001)	-1.575394 (0.1049)
Governance	-1.062132 (0.7034)	-2.475694 (0.3333)	-2.025599 (0.0444)	-2.555961 (0.1231)	-2.402727 (0.3634)	-2.598098 (0.0133)
NPL in SCBs	-1.574272 (0.4776)	-1.395424 (0.8320)	-0.809357 (0.3533)	-4.623998 (0.0017)	-3.752972 (0.0465)	-4.675880 (0.0001)
NPL in DFIs	-1.389013 (0.5678)	-0.907961 (0.9360)	-2.935927 (0.0054)	-1.938621 (0.3090)	-5.050370 (0.0034)	-1.377954 (0.1507)
NPL in PCBs	-2.766546 (0.0839)	-2.728352 (0.2386)	-4.630139 (0.0001)	-1.547936 (0.4861)	-6.124598 (0.0004)	-2.774923 (0.0086)
NPL in FCBs	-2.594853 (0.1112)	-1.449975 (0.8142)	0.237716 (0.7454)	-3.732051 (0.0118)	-3.871263 (0.0336)	-3.792810 (0.0007)
NPL in all banks	-1.784239 (0.3774)	-0.188180 (0.9886)	-3.007579 (0.0045)	-2.974260 (0.0547)	-4.331017 (0.0139)	-2.425805 (0.0182)
Credit growth	-2.546938 (0.1187)	-2.433483 (0.3540)	-0.181175 (0.6089)	-6.885693 (0.0000)	-6.934177 (0.0001)	-7.053035 (0.0000)
Interest rate	-2.712246 (0.0886)	-3.734282 (0.0423)	-1.010336 (0.2697)	-3.690837 (0.0128)	-3.539563 (0.0621)	-3.602389 (0.0011)

4.4 Cointegration test

Table: Results of ARDL bounds test

Dependent variable	F Statistic	Significance level	Bound critical values	
			I (0)	I (1)
NPL in all banks	13.03560***			
		10%	2.72	3.77
		5%	3.23	4.35
		2.5%	3.69	4.89
		1%	4.29	5.61
NPL in SCBs	4.276930*			
		10%	2.72	3.77
		5%	3.23	4.35
		2.5%	3.69	4.89
		1%	4.29	5.61
NPL in DFIs	5.965909***			
		10%	2.72	3.77
		5%	3.23	4.35
		2.5%	3.69	4.89
		1%	4.29	5.61
NPL in PCBs	6.374980***			
		10%	2.72	3.77
		5%	3.23	4.35
		2.5%	3.69	4.89
		1%	4.29	5.61
NPL in FCBs	12.88568***			
		10%	2.72	3.77
		5%	3.23	4.35
		2.5%	3.69	4.89
		1%	4.29	5.61

4.5 Short run causality test

Table: Results from VECM causality test

Null Hypothesis	Chi Square Statistic	Probability
NPL in all banks does not Granger cause rate of interest on advances	3.357840	0.0669
Governance does not Granger cause rate of interest on advances	6.665754	0.0098
Growth rate of total bank credit does not Granger cause rate of interest on advances	11.29822	0.0008
Rate of interest on advances does not Granger cause governance	8.374310	0.0038
NPL in DFIs does not Granger cause governance	4.406313	0.0358
Rate of interest on advances does not Granger cause NPL in PCBs	13.60816	0.0002
Governance does not Granger cause NPL in PCBs	7.189977	0.0073
Growth rate of total bank credit does not Granger cause NPL in PCBs	20.08244	0.0000
Growth rate of total bank credit does not Granger cause governance	8.221994	0.0041

Source: Authors' calculations

Note: (i) Only statistically significant results are displayed; (ii) Standardised values of all variables are used; (iii) Probability values shown up to fourth decimal place

The results of the VECM causality test show that, inter alia, governance Granger causes NPL in PCBs in the short run.

4.6 Long run causality test

Table: Results from Granger causality test

Null Hypothesis	F Statistic	Probability
NPL in DFIs does not Granger cause governance	8.78985	0.0063
NPL in all banks does not Granger cause governance	7.11039	0.0120
NPL in PCBs does not Granger cause governance	7.10772	0.0120
Growth rate of total bank credit does not Granger cause NPL in FCBs	8.50278	0.0034
NPL in all banks does not Granger cause NPL in DFIs	3.44666	0.0587
NPL in PCBs does not Granger cause NPL in DFIs	5.42920	0.0168
NPL in PCBs does not Granger cause NPL in all banks	4.28419	0.0337
SCB does not Granger cause NPL in all banks	4.29141	0.0336
NPL in all banks does not Granger cause NPL in SCBs	2.86633	0.0883
NPL in PCBs does not Granger cause NPL in SCBs	3.58888	0.0532

Source: Author's calculations
Note: (i) Only statistically significant results are displayed; (ii) Standardised values of all variables are used; (iii) Probability values shown up to fourth decimal place

- **The results of the Granger causality test show that, inter alia, NPL in one type of bank Granger causes NPL in other types of banks in the long run.**
- **This means that NPL has the potential to create financial contagion in the banking sector of Bangladesh.**

4.7 Index of governance

- **A composite index of governance was created using principal components analysis of six indicators of governance namely, voice and accountability index, political stability index, government effectiveness index, regulatory quality index, rule of law index and control over corruption index**

- **The composite index of governance constituted of a number of highly correlated variables, each of which represented a specific dimension of governance.**

4.8 Non-parametric regression

- **Five models were estimated using non-parametric local-linear kernel regression**

- **Non-parametric regression models are well suited for exploratory analysis since they do not make any assumptions regarding the functional form of the specification**

- **This means that parameter estimates, along with bootstrap standard errors, can be obtained from a model without having knowledge of the underlying functional form of the equation.**

4.9 Correlation

Annex Table 1: Pairwise correlation matrix of governance indicators

Variable	Voice and accountability	Political stability	Government effectiveness	Regulatory quality	Rule of law	Control over corruption
Voice and accountability	1.0000					
Political stability	0.4904*	1.0000				
Government effectiveness	0.5175*	0.7978*	1.0000			
Regulatory quality	0.2922	0.3597	0.5791*	1.0000		
Rule of law	-0.2105	-0.0563	0.0909	0.6793*	1.0000	
Control over corruption	0.2481	0.3377	0.4363	0.6838*	0.6307*	1.0000

Source: Authors' calculations
Note: (i) Stars indicate statistical significance at 5 per cent level; (v) Standardised values of all variables are used

4.10 Principal components analysis

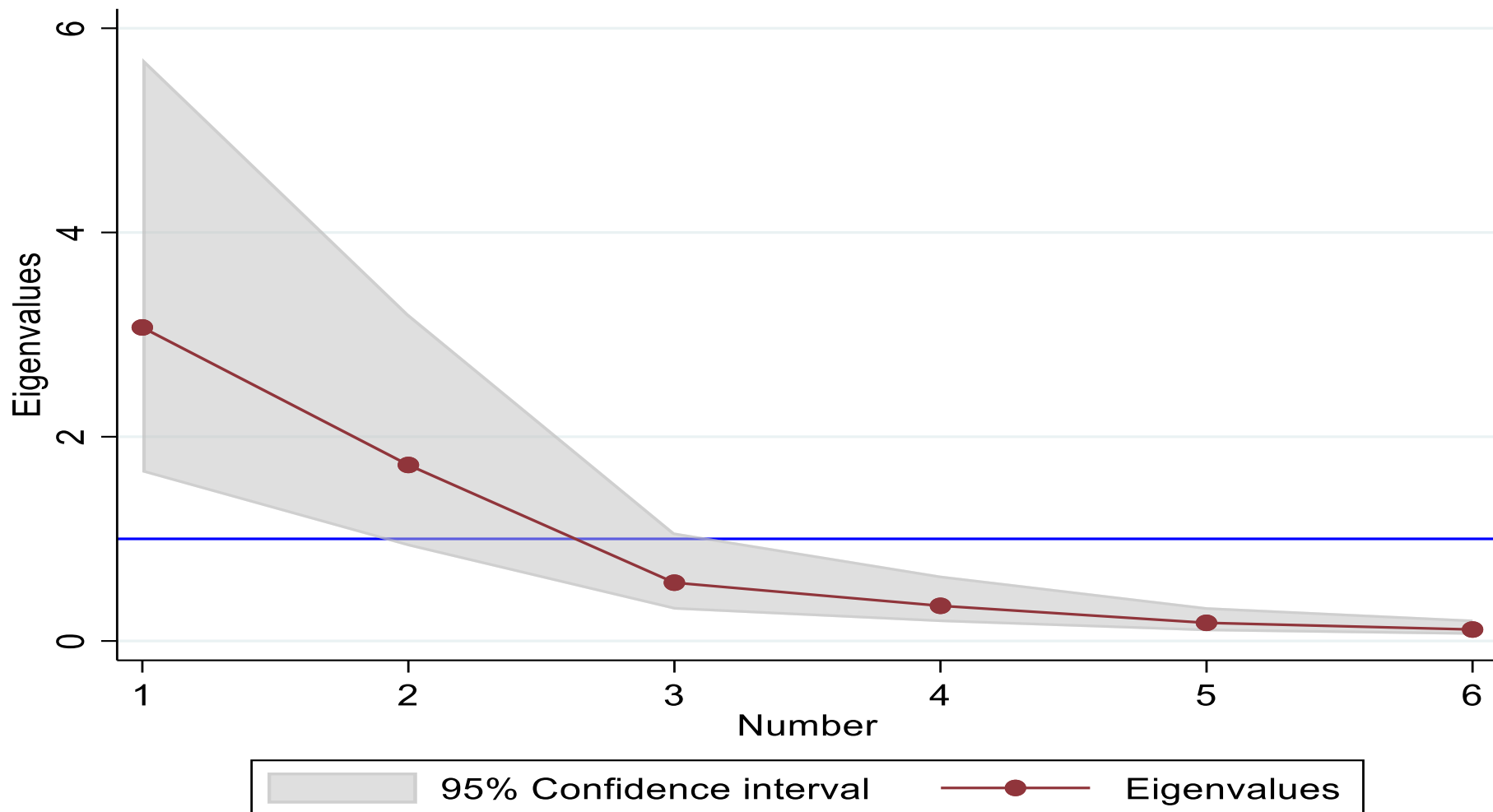## Table 3: Summary results of principal components analysis

| | Eigenvalue | Explained variance by components | | |
		Proportion	Cumulative	Bias
Component 1	3.070345** (0.928454)	0.5117 (0.0936)	0.5117 (0.0936)	0.266251
Component 2	1.723643*** (0.4637197)	0.2873 (0.0804)	0.7990 (0.0475)	-0.116314
Component 3	0.571192*** (0.1493983)	0.0952 (0.0325)	0.8942 (0.0275)	-0.014503
Component 4	0.3444236*** (0.0748655)	0.0574 (0.0202)	0.9516 (0.0140)	-0.057551
Component 5	0.1778479*** (0.0361762)	0.0296 (0.0296)	0.9812 (0.0068)	-0.035327
Component 6	0.1125486*** (0.0204495)	0.0188 (0.0068)	1.0000 (0.0000)	-0.042556

Source: Authors' calculations
Note: (i) Approximate standard errors, assuming multivariate normality, in parentheses; (ii) *** p<0.01, ** p<0.05, * p<0.1; (iii) Standardised values of all variables are used

4.11 Scree plot

Figure: Scree plot of eigenvalues after principal components analysis

Source: Authors' illustration based on principal components analysis
Note: (i) Horizontal line at eigenvalue equal to 1 shown as reference for Kaiser Criterion

4.12 Sampling adequacy

Table 3: Results of Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy of principal components analysis

Variable	Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy
Voice and accountability	0.6033
Political stability	0.6860
Government effectiveness	0.6597
Regulatory quality	0.6486
Rule of law	0.4788
Control over corruption	0.7871
Overall	**0.6416**

Source: Authors' calculations
Note: (i) KMO value labels: 0.00 to 0.49 – unacceptable, 0.50 to 0.59 – miserable, 0.60 to 0.69 – mediocre, 0.70 to 0.79 – middling, 0.80 to 0.89 – meritorious, 0.90 to 1.00 – marvellous (43); (iii) Standardised values of all variables are used

4.13 Non-parametric regression

Table 5: Results of multivariate non-parametric local-linear kernel regression

Variable	NPL in all banks	NPL in SCBs	NPL in DFIs	NPL in PCBs	NPL in FCBs
Mean	15.92828 *** (4.029236)	26.05905*** (3.287732)	35.87323*** (6.720995)	8.968535*** (2.306857)	3.908262*** (0.7875127)
Effect					
Credit growth	-1.067478 (0.7021575)	-0.4513013 (0.5298507)	-1.784843 (2.212965)	-0.8198008 (0.6422579)	-0.1368727 (0.0994548)
Interest rate	8.317259 (8.710629)	4.035604 (11.29945)	14.26132** (14.26132)	6.044057 (5.090387)	1.950012** (0.8809313)
Governance	-7.199228*** (0.2514579)	-5.837159* (3.149409)	-9.235542*** (0.1931995)	-4.515104*** (0.4487051)	0.6903413 (0.8618473)
R-squared	0.9553	0.9303	0.9658	0.9687	0.8838

Source: Authors' calculations

Note: (i) Bootstrap standard errors in parentheses; (ii) *** $p<0.01$, ** $p<0.05$, * $p<0.1$; (iii) Automatic bandwidth selection based on cross validation; (iv) Epanechnikov kernel function assumed; (v) Effect estimates are averages of derivatives; (vi) Standardised values of all variables are used

5. Conclusions and Recommendations

5.1 Conclusions

- The main reason behind the failure of state intervention in the banking sector of Bangladesh is the lack of good governance that has grappled the financial system.

- Therefore, the crisis of governance must be addressed first and foremost, otherwise the crisis of the banking sector will only get worse.

- There are apprehensions that the culture of deception, dishonesty and distrust that is being fostered in the banking sector will cancerously spread to other sectors of the economy and will further degrade the state of good governance in the country.

- Unless urgent steps are taken to address the emerging issues, the long-run development of the country will be constrained by the banking sector, which has repeatedly proved itself as the weakest link in the economy.

5.2 Recommendations

- The **number of judges** dealing with Money Loan Court Act 2003 and Bankruptcy Act 1997 should be increased to ensure speedy disposal of loan default cases and to reduce backlog.

- Immediate actions must be taken against banks that are performing poorly and are ill-prepared for **BASEL III**.

- A **new exit policy** for troubled banks needs to be formulated, particularly taking into cognisance the ineffectiveness of the Oriental Bank model.

- **Recapitalisation** of SCBs year after year has to be stopped. Such practice of bailing out the losing banks with public money is economically unjustified and morally incorrect.

5.2 Recommendations (contd...)

- The decision to keep **50% government funds** with private banks goes against the spirit of central bank's monetary policy. Only banks with less than 5% NPLs should be eligible for the additional available funds from government entities.

- Bangladesh Bank should appoint a **strong administrator** immediately to oversee the operation of troubled banks. A proper audit of the bank should be performed to understand the real health of the bank.

- The culture of giving **licenses to new banks** on political grounds should be stopped. Given the size of the economy there is no need for new banks.

- The **internal control department** of SCBs is in need of a serious overhaul. During financial scams of the past, it was discovered that the internal control departments either willingly or unwillingly had failed to inform the Board of Directors regarding large losses.

5.2 Recommendations (contd...)

- In order to truly bring about a profound change in the banking sector, the most important emergent task is to **combat cronyism**. The current practice of recruiting Board of Directors on political grounds has to be discontinued. Only unbiased, competent, and honest individuals should be appointed as Member of the Board of SCBs.

- The **independence of the central bank** should be upheld. Interference in Bangladesh Bank's activities goes against the spirit of Bangladesh Bank Amendment Bill 2003 which was geared to guarantee the central bank with autonomy.

- Lack of **capacity building** is a perennial problem that besets the SCBs in Bangladesh. Without human resource development through enhanced skills, SCBs will not be able to handle the emerging challenges facing the sector.

5.3 A Commission for the Banking Sector

- CPD has earlier argued for setting up an **independent commission** for the banking sector in view of addressing emerging challenges.

- The broad **terms of reference (ToR)** of the commission will be to critically assess the problems and weaknesses of the banking industry.

- Such a commission **will suggest concrete recommendations** for prudential banking, and prepare guidelines regarding management, automation, risk management, and internal control.

- The budget should allocate **adequate funds** for setting up this commission.

5.4 Required Political Commitments

I. **Recognise the Problem: First and foremost, the challenges of the banking sector should be recognized. A thorough review of the state of the banking sector has to be carried out and establish more transparency on the state of affairs.**

II. **Autonomy of the Central Bank: Supervisory and monitoring role of Bangladesh Bank should to be significantly strengthened for smooth functioning of the sector**

III. **Blue Ribbon Committee for Appointing Board Members: The process of appointing board members should be de-politicised. A highly qualified and experienced committee should be formed to select board members. The culture of selecting board members based on the political loyalty and affiliation must change.**

IV. **No New Banks: Do not give licenses for new commercial banks.**

V. **Reform of Judicial Process: Trial of scams and irregularities cases should expedited and exemplary measures should be taken against the involved people. Speedy recovery of default loans should be implemented through special tribunal should be set up for bank defaulters.**

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