BANK RATING METHODOLOGY

CREDIT RATING AGENCY OF BANGLADESH LIMITED

Presentation Outline

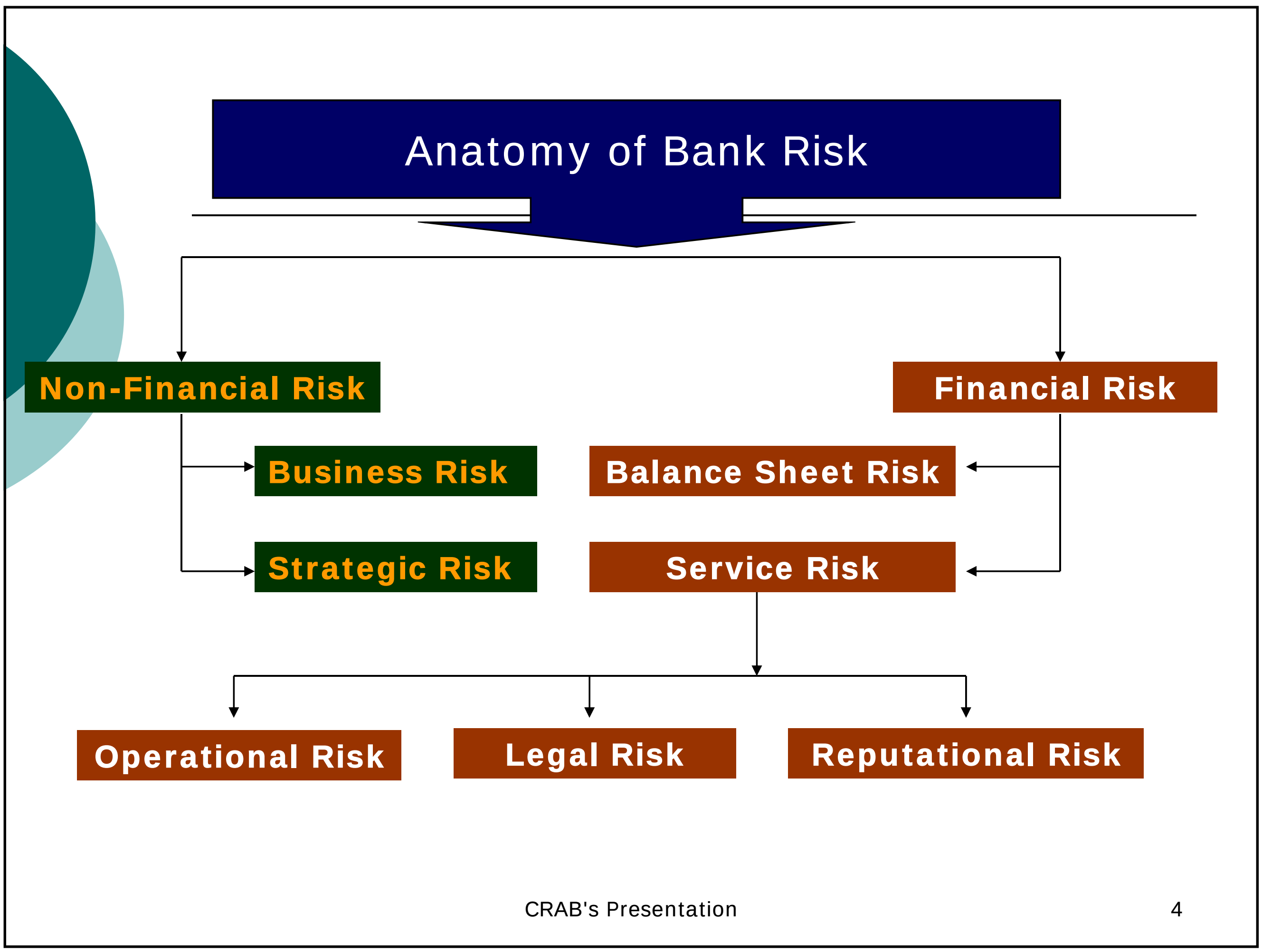
Bank's Risk – A bird's eye-view

Rating Methodology

Presentation Outline

Bank's Risk – A bird's eye-view

Rating Methodology


Anatomy of Bank Risk
Non-Financial Risk
Financial Risk
Business Risk
Strategic Risk
Balance Sheet Risk
Service Risk
Operational Risk
Legal Risk
Reputational Risk
CRAB's Presentation
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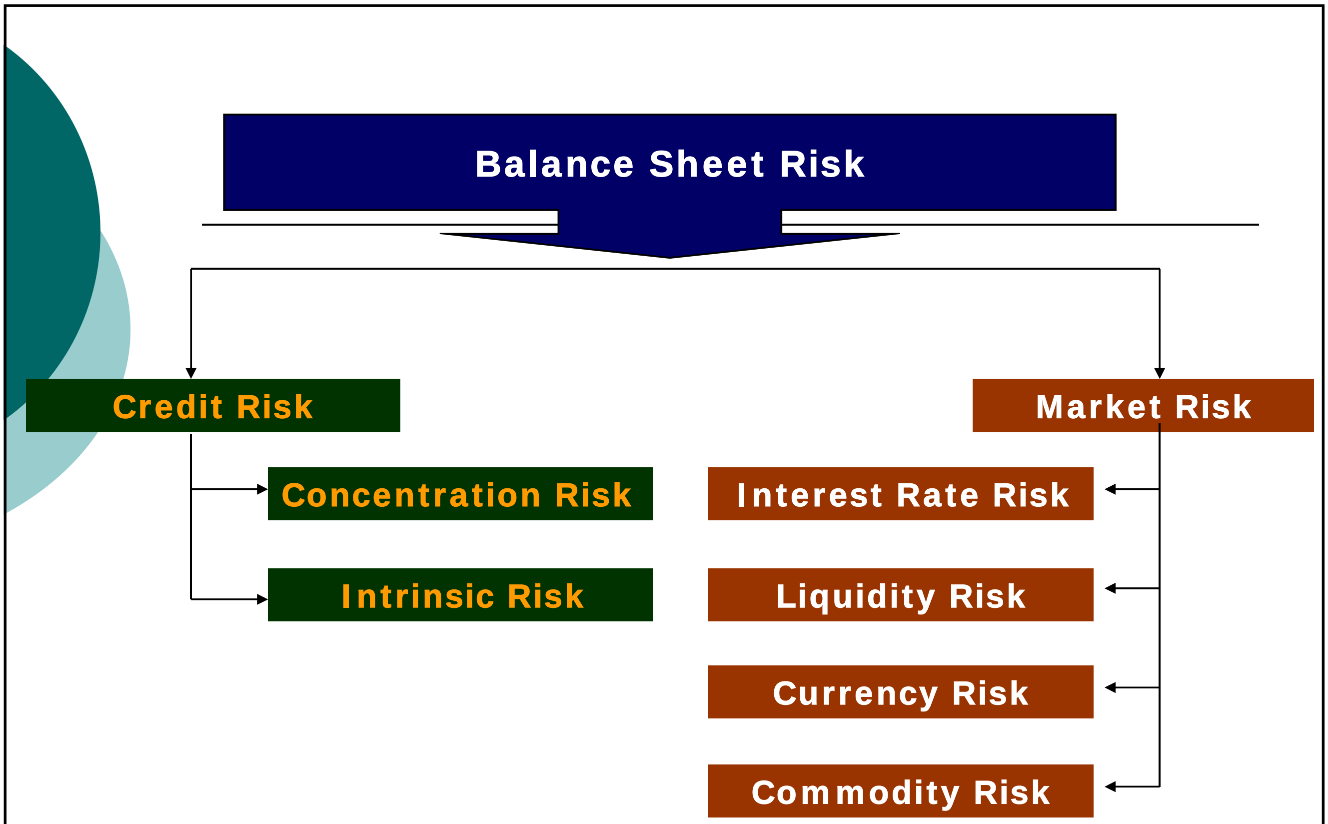
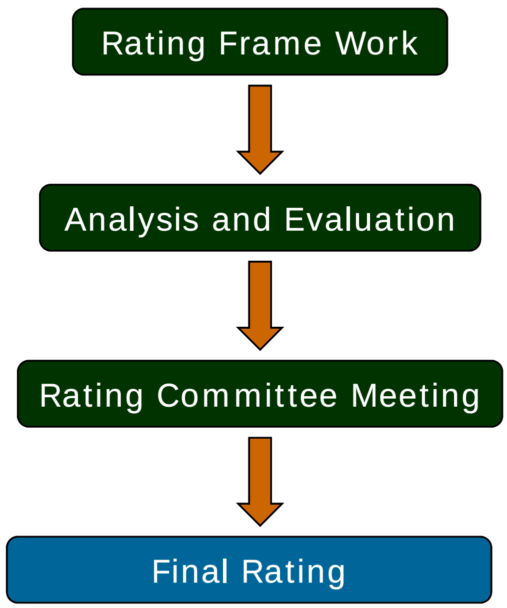

Balance Sheet Risk
Credit Risk
Market Risk
Concentration Risk
Intrinsic Risk
Interest Rate Risk
Liquidity Risk
Currency Risk
Commodity Risk

Presentation Outline

Bank's Risk – A bird's eye-view

Rating Methodology

RATING PROCESS FLOW



Rating Framework

CRAB's "BankDataBase" | CRAB's "BankRatios"

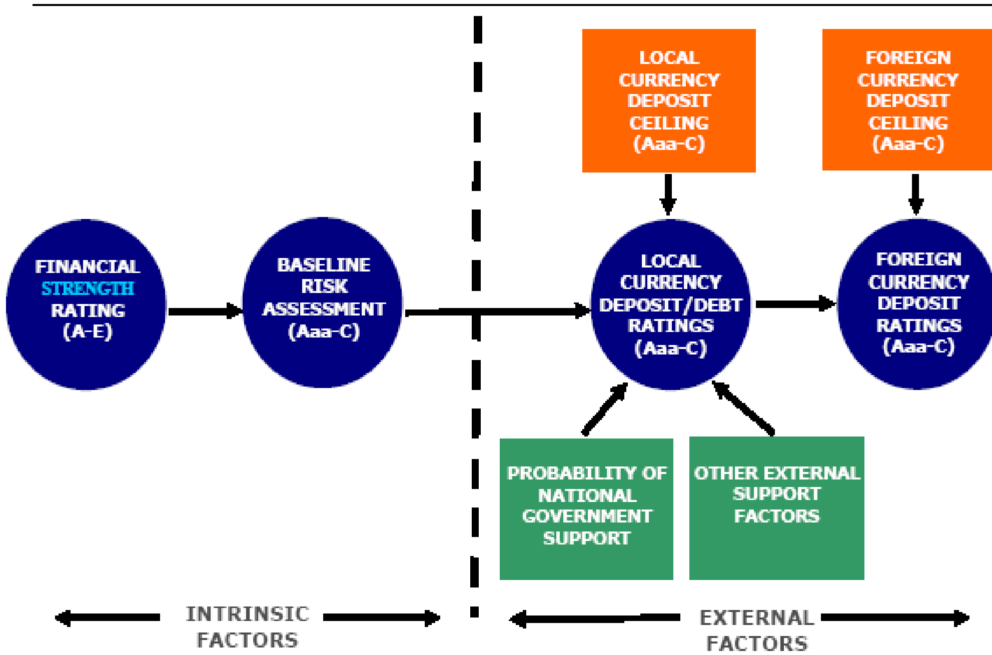
Rating Scale

Rating of Individual Bank

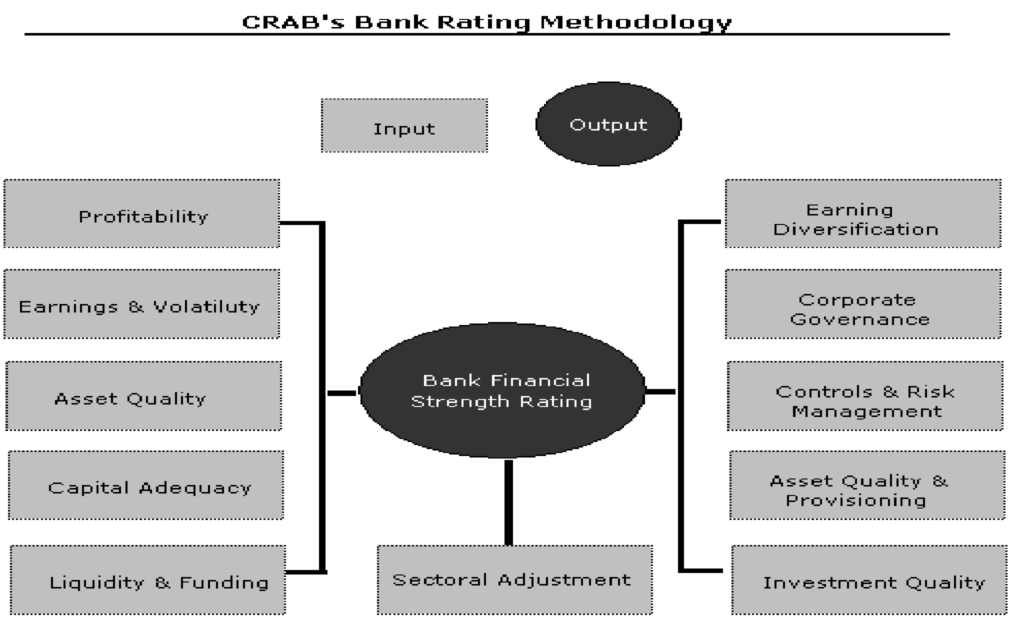
Weight	X	Analysis Output
Weight	X	Quantitative Rating
Weight	X	Qualitative Rating

FINAL RATING

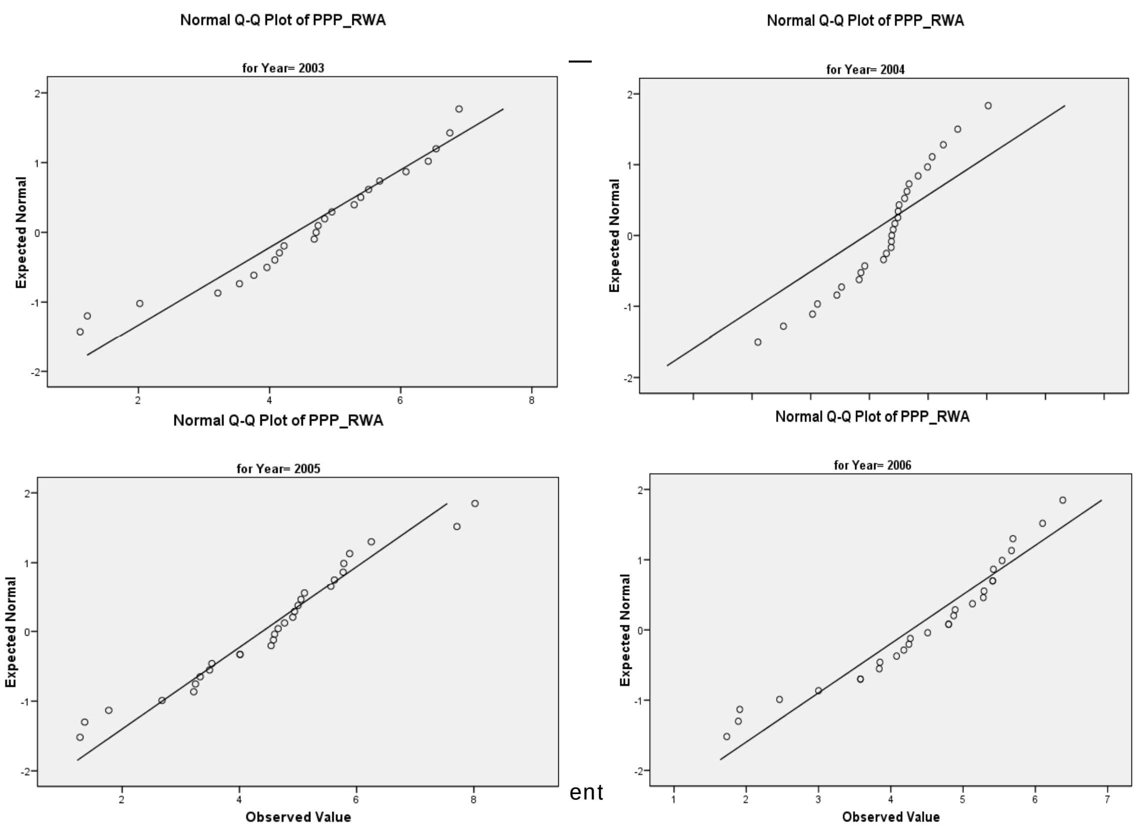
CRAB's Rating Methodology



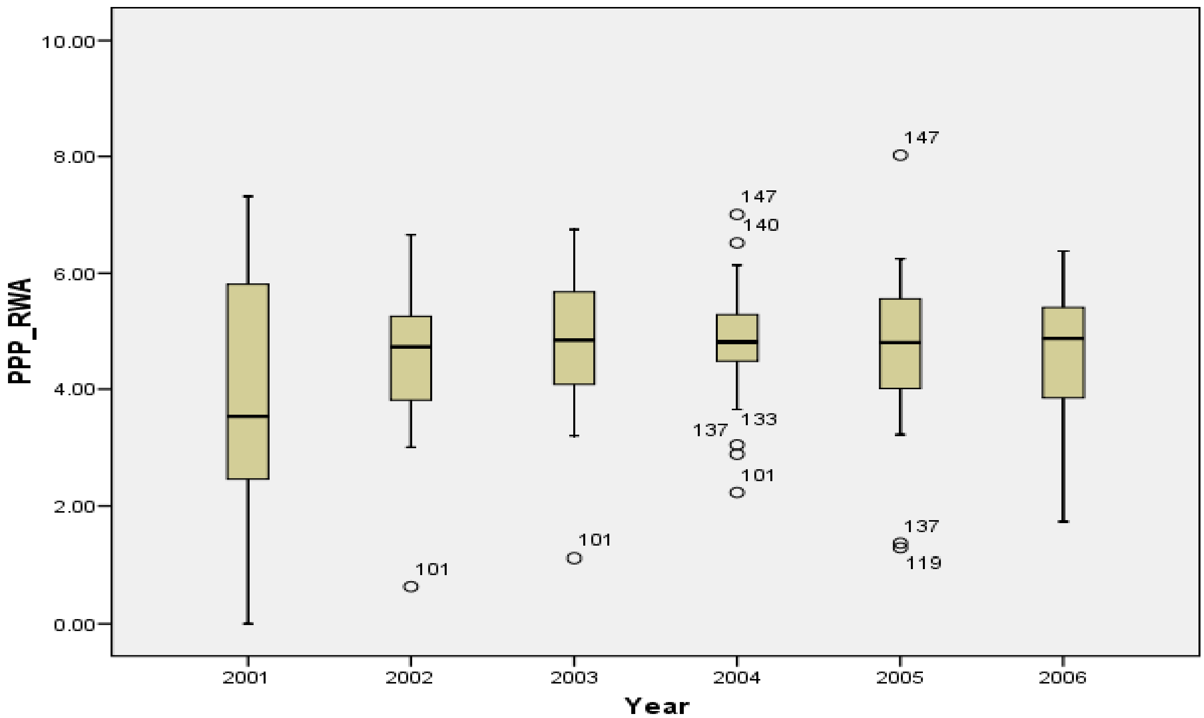
CRAB's Rating Methodology



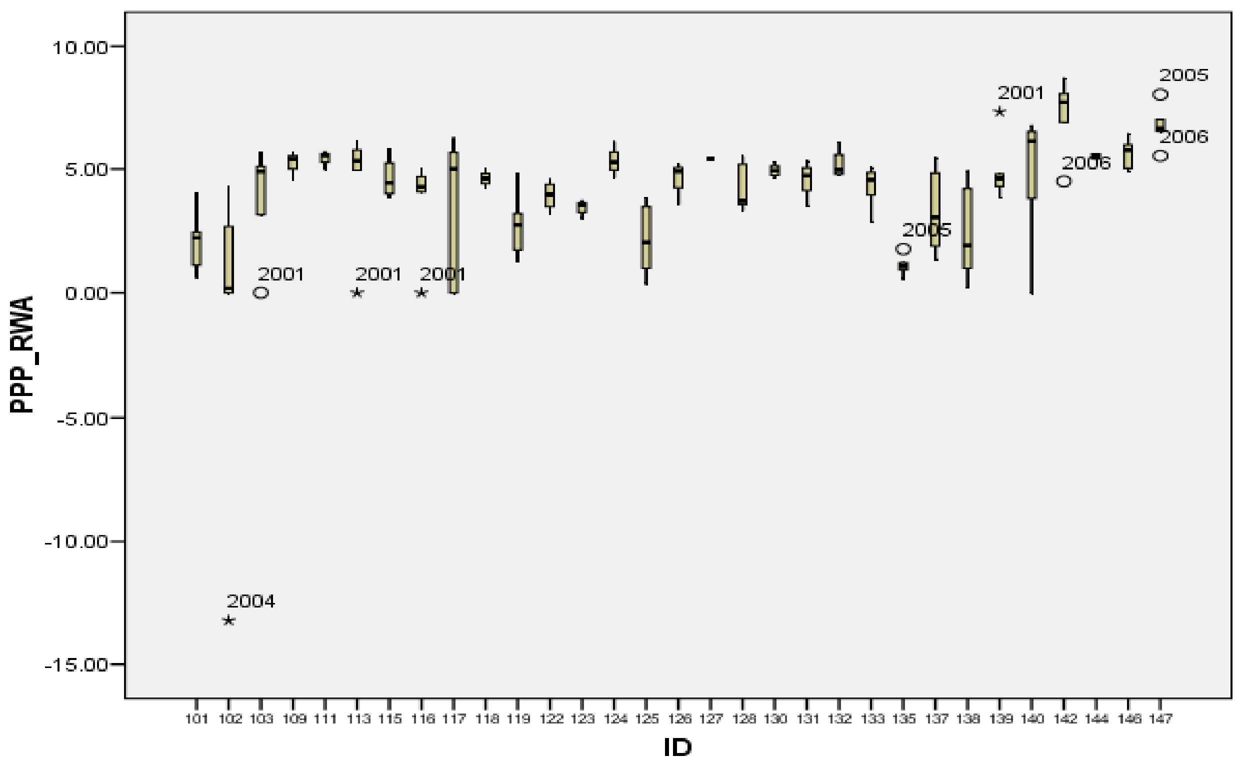
Analysis Process of Profitability



Analysis Process of Profitability



Analysis Process of Profitability



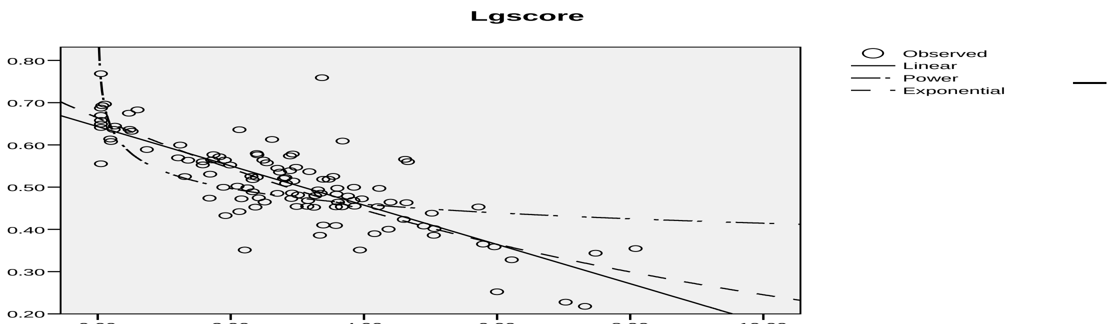
FACTOR : PROFITABILITY

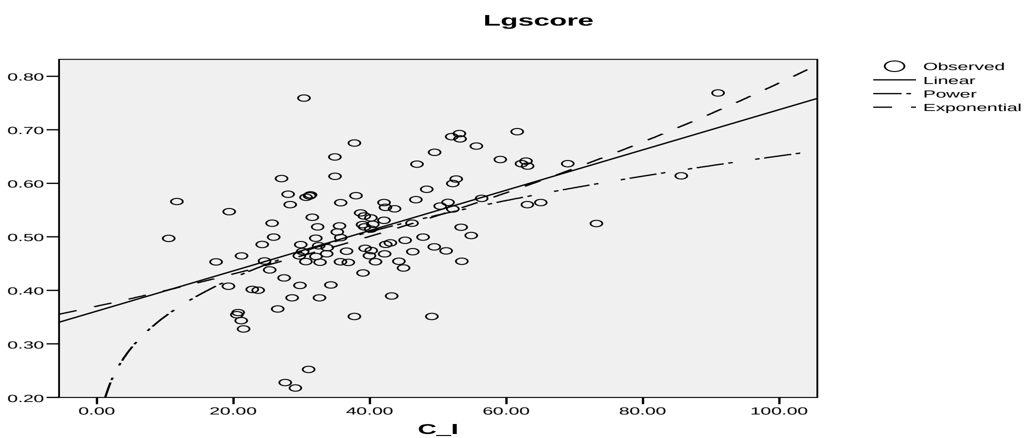
Correlations

		Lgscore	NIM	ROAA	ROAE	C_I
Lgscore	Pearson Correlation	1	-.732(**)	-.798(**)	-.664(**)	.526(**)
	Sig. (2-tailed)		.000	.000	.000	.000
	N	114	114	114	114	114
NIM	Pearson Correlation	-.732(**)	1	.789(**)	.557(**)	-.466(**)
	Sig. (2-tailed)	.000		.000	.000	.000
	N	114	114	114	114	114
ROAA	Pearson Correlation	-.798(**)	.789(**)	1	.675(**)	-.733(**)
	Sig. (2-tailed)	.000	.000		.000	.000
	N	114	114	114	114	114
ROAE	Pearson Correlation	-.664(**)	.557(**)	.675(**)	1	-.491(**)
	Sig. (2-tailed)	.000	.000	.000		.000
	N	114	114	114	114	114
C_I	Pearson Correlation	.526(**)	-.466(**)	-.733(**)	-.491(**)	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	114	114	114	114	114

** Correlation is significant at the 0.01 level (2-tailed).

FACTOR : PROFITABILITY





Efficiency

• Look into the current year efficiency level

• Last Five Years Trend

• Trend Analysis Relative to Industry and Peer

Key Indicator

• Cost to Income Ratio : Non Interest Expenses relative to Revenue [Net Interest Income + Non Interest Income + Net Gain or Losses on Securities Sales]

•Cost Per Branch

•Cost Per Employee

This is a measure of bank's efficiency and its ability to generate incremental profits with added revenue

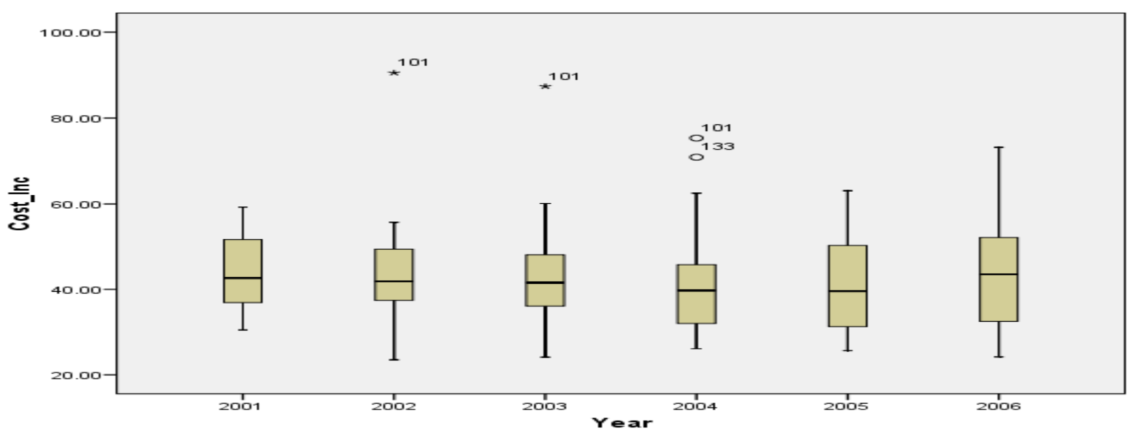
Ratio is judged in terms of business growth, management quality and operating performance

Analysis Process of Efficiency

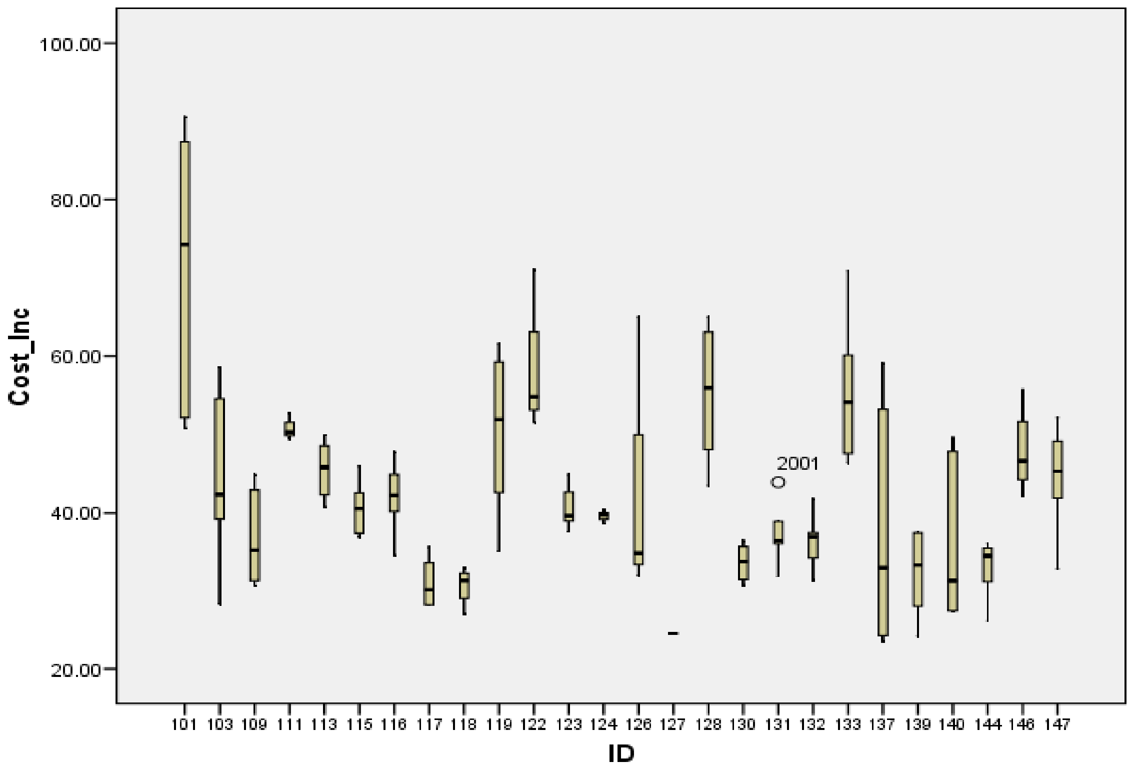
Cost to Income Ratio

Figures in %

Statistics		**2001**	**2002**	**2003**	**2004**	**2005**	**2006**
Mean		44.19	44.77	42.83	42.08	41.28	43.63
95% Confidence Interval for Mean	Lower Bound	29.96	37.65	36.64	36.87	36.62	38.22
	Upper Bound	58.43	51.90	49.02	47.29	45.95	49.04
5% Trimmed Mean		44.12	43.41	41.46	41.16	40.92	43.16
Median		42.66	41.89	41.56	39.74	39.58	43.54
Variance		131.37	205.15	184.83	159.37	133.27	171.94
Std. Deviation		11.46	14.32	13.60	12.62	11.54	13.11
Minimum		30.49	23.52	24.14	26.10	25.67	24.21
Maximum		59.26	90.52	87.37	75.34	63.09	73.18
Range		28.77	67.00	63.23	49.24	37.42	48.97
Interquartile Range		21.75	12.84	13.54	15.24	19.50	20.39
Skewness		0.24	1.84	1.74	1.29	0.66	0.48
Kurtosis		-1.29	5.76	4.97	1.42	-0.58	-0.40



Analysis Process of Efficiency



FACTOR : EARNINGS AND VOLATILITY

The strength and persistency of a bank's Pre-tax earnings is a direct function of its franchise strength and competitive position within its various line of business. Irrespective of a bank's specific business model, pre-tax earnings are a direct contributor to capital formation and debt service capacity of the bank.

In view of the above it is proposed to incorporate two additional indicators into the **Revised Quantitative Bank Model i.e.**

- **Pre Provision pre Tax Earning in BDT Million:**

In order to reduce the effect of both cyclical fluctuations as well as any one time gain or losses, our standard approach for computing pre-tax earnings in the context of this methodology is to use a weighted average of pre-tax earnings from the last three years, with the most recent year receiving 60% of the overall weight, and the remaining two years receiving 20% each.

Calculation of Earnings for Model

	Current Year Earning [Y_n]	Previous Year Earning [Y_{n-1}]	One Year Before Previous Year [Y_{n-2}]	Input of Model
Weight	60%	20%	20%	**470.00**
Amount in Million BDT	600.00	300.00	250.00	

FACTOR : EARNINGS AND VOLATILITY

- **Earnings Volatility**

For bondholders or other creditors, bank's earnings stability is arguably more important than growth. One simple ratio i.e earning volatility relative to its level of earnings is the coefficient of variation, which compares the standard deviation of particular bank's pre-tax earnings in the trailing three years (if available quarterly) to the mean of population.

In the following table and graphs the mean, median, maximum and minimum values, standard deviation and percentile values of the industry for FY07, FY06 and FY05 along with distribution pattern of the indicators is presented.

Earnings and Earnings Volatility: Industry Statistics

		Earnings (BDT Million)	Earning Volatility (%)
N	Valid	114	114
Mean		1490.9697	33.3508
Median		1149.6120	26.0700
Std. Deviation		1260.4377	26.4141
Minimum		-1134.50	1.82
Maximum		6680.56	100.46
Percentiles	12.5	353.1128	6.9050
	25	694.6700	11.1900
	37.5	902.8064	17.2700
	50	**1149.6120**	**26.0700**
	62.5	1384.4450	39.0000
	75	1917.5225	48.6800
	87.5	2981.8726	71.4238

FACTOR: Asset Quality

- Main Driver of Future Earnings
- Non Performing Loan Status and Trend
- Causes behind non performing loan
- Grading of NPL i.e. Special Mention Account, Substandard, Doubtful and Bad Loss
- Reschedule Status
- Write off Status
- Fresh NPL Generation

Key Indicators

- Gross NPL Ratio
- Net NPL Ratio
- NPL as % of Shareholders Equity plus Loan Loss Reserve

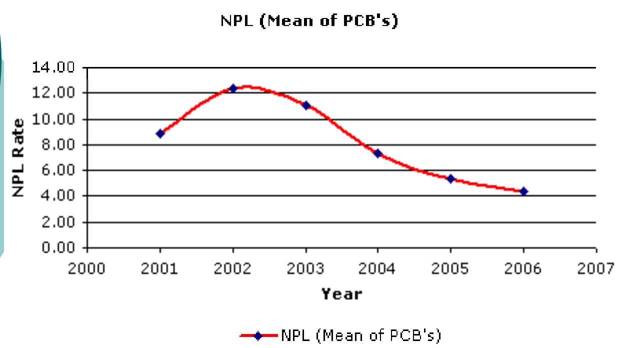
NPL Trend of PCB's

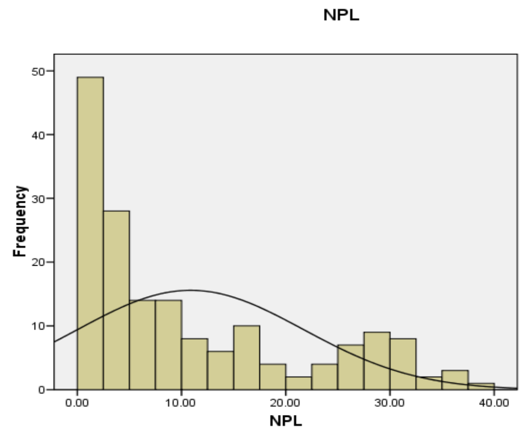
NPL Ratio

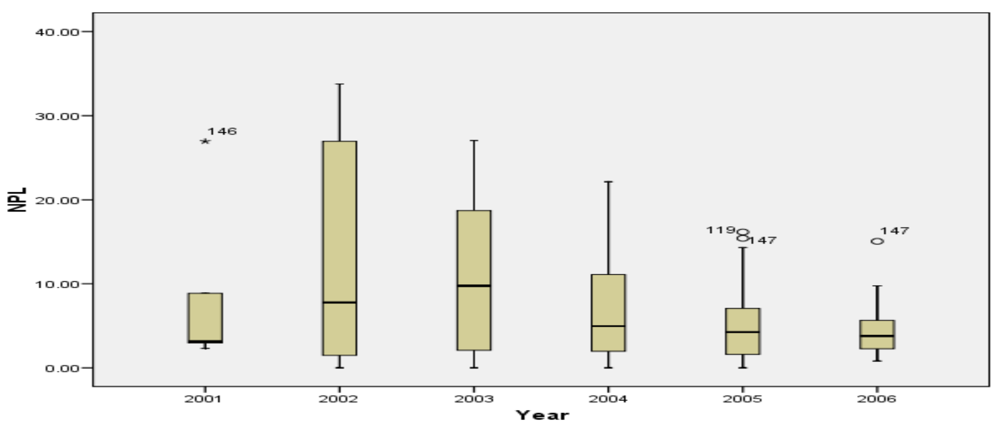
Figures in %

Statistics		2001	2002	2003	2004	2005	2006
Mean		8.85	12.41	11.06	7.30	5.32	4.42
95% Confidence Interval for Mean	Lower Bound	-4.14	5.99	6.74	4.56	3.48	3.12
	Upper Bound	21.84	18.83	15.39	10.04	7.17	5.73
5% Trimmed Mean		8.21	11.91	10.79	6.93	5.02	4.09
Median		3.15	7.78	9.75	4.96	4.26	3.79
Variance		109.45	166.74	90.23	44.12	20.85	9.96
Std. Deviation		10.46	12.91	9.50	6.64	4.57	3.16
Minimum		2.32	0.00	0.00	0.00	0.00	0.82
Maximum		26.96	33.77	27.06	22.15	16.15	15.04
Range		24.64	33.77	27.06	22.15	16.15	14.22
Interquartile Range		15.28	26.17	16.94	9.43	5.76	3.74
Skewness		1.92	0.66	0.46	0.80	1.17	1.75
Kurtosis		3.65	-1.41	-1.16	-0.50	0.66	4.33

NPL Trend of PCB's







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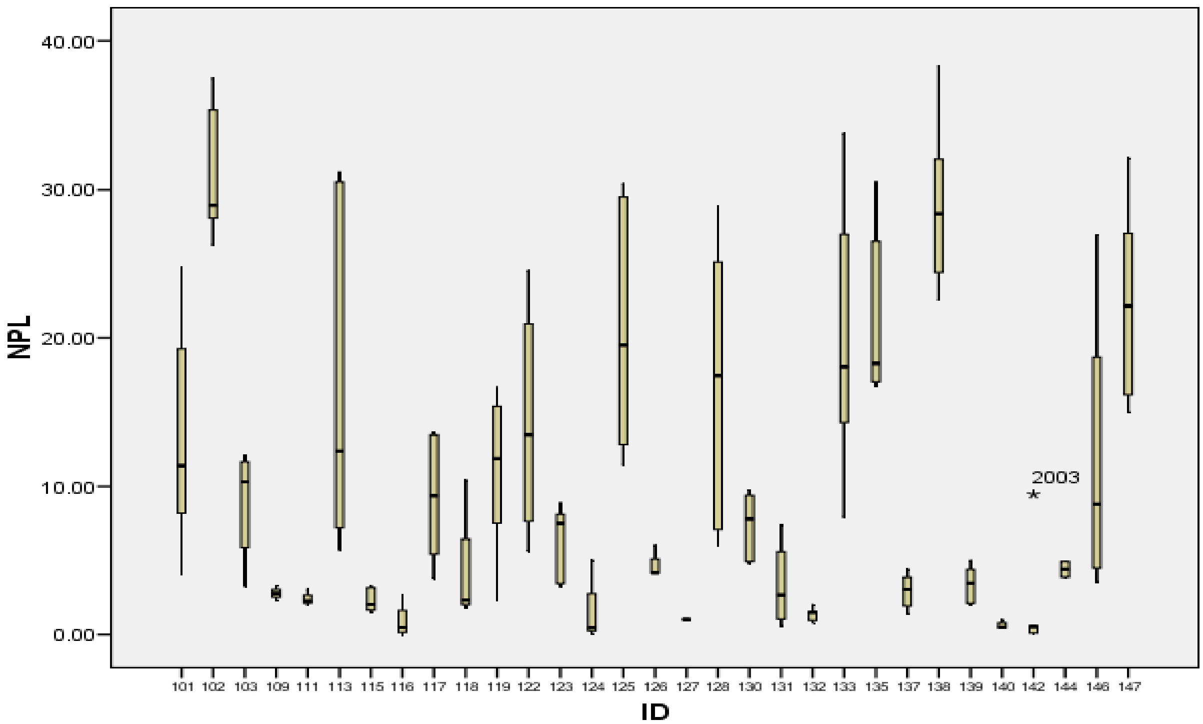
Asset Quality

Trends in Asset Quality (Templete) Amount in Million BDT

	2007	2006	2005	2004	2003	2002
Gross NPLs	504.3	494.8	391.5	142.9	81.6	0.4
As % of Gross Loans	2.27%	2.77%	3.30%	1.75%	1.50%	0.01%
Fresh NPL	108.1	166.6	328.2	61.4	81.2	0.4
Fresh NPL as % of Gross NPL	21%	34%	84%	43%	99%	98%
Loan Loss Reserves (LLR)	545.2	351.8	231.1	139.0	62.8	21.6
LLR to GNPLs	108.1%	71.1%	59.0%	97.2%	77.0%	5030.5%
Net NPL	127.6	140.2	190.0	127.9	75.4	0.3
Net NPLs to Equity (%)	6.5%	8.9%	16.1%	14.4%	20.1%	0.1%
Net NPL to Net Loans (%)	0.6%	0.8%	1.6%	1.6%	1.4%	0.0%
Grading of Gross NPLs (%):						
Substandard	10%	13%	41%	1%	1%	50%
Doubtful	0%	13%	3%	42%	0%	50%
Bad	90%	74%	57%	58%	99%	0%
Number of NPL accounts	83	81	68	31		
Recovery Pattern:						
Recovery	98.60	63.3	78.1	-	-	-
Recovery as % of Gross NPL	20%	13%	20%	-	-	-
Write-off:						
Write-off	-	-	1.49	-	-	-
Write-off as % of Gross Loans	-	-	0.01%			
Reschedule:						
Reschedule of Loans	234.00	217.5	365.5	-	-	-
Reschedule as % of Gross Loans	1.05%	1.22%	3.08%	-	-	-

NPL Trend of PCB's for FY 01-06



FACTOR : CAPITAL ADEQUACY

- ***Capital Adequacy in terms of regulatory requirements***
- ***Exceeding regulatory capital and extent***
- ***Tier I Capital position***

Key Indicators

- ***RWCAR***
- ***Tier 1 Capital as % of RWA***
- ***Shareholder’s Equity as % of Deposit and Borrowing***

FACTOR : LIQUIDITY & FUNDING

- ***Liquidity Management***
  - Liquidity risks as a function of the unique structure of a bank's asset and liabilities
  - Degree to which illiquid assets (primarily loans) are funded by core liabilities that are stable (primarily customer deposits, long term debts and equity)
  - Asset Liability matching in light of interest rate dynamics
  - Liquidity monitoring and control system
  - Diversification of its funding
  - Contingent planning and liquidity stress testing
- ***Market Risk Appetite***
  - Sensitivity of both trading and non trading books to major changes in interest rates, equity prices, foreign exchange rates and credit spreads.

Funding Structure

- Deposit Growth in terms of peer and industry
- Funding Mix i.e. Current Deposit, Savings Deposit, Term Deposit, Interbank borrowing, Short Term Lending
- Deposit Renew Rate
- Movement of Cost of Fund
- Maturity profile of Deposit
- Deposit Lent Out Rate

RATIOS

- **Current + Savings Deposit as % of Total Deposit**

  Current and Savings Deposit is low cost funding sources compare to its fixed term deposit. Fixed term deposit is highly interest rate sensitive. Current and Savings Deposit is less interest rate sensitive. These sources also indicate the franchise value, customer confidence, networking efficiency of the bank.

  In the following table the mean, median, standard deviation, minimum and maximum value as well as percentiles of the industry are given:

Customer Deposit and Savings Deposit to Total Deposit: Industry Statistics

N	Valid	114
Mean		32.8651
Median		27.0700
Std. Deviation		18.41595
Minimum		4.58
Maximum		83.03
Percentiles	12.5	14.8400
	25	17.8275
	37.5	22.0463
	50	**27.0700**
	62.5	35.4563
	75	46.4900
	87.5	59.9950

- **Advance to Deposit Ratio**

FACTOR : FRANCHISE VALUE

Why It Matters

- *Solidity of a bank's market standing*
- *Indicates the ability to generate and sustain earnings*

Key Analytical Area

- ***Market Share and Sustainability***
  - **Portfolio and Deposit base**
  - **Trend over the Period**
  - **Business Tenure**
- ***Earnings Stability***
  - **Degree of predictability of main business lines**
  - **Focus area: Retail / Corporate**
- ***Earnings Diversification***

FACTOR : CORPORATE GOVERNANCE

Key Analytical Area

- ***Corporate Governance***
  - Relationship between the BoD, Management and Shareholders
  - Degree of relationship to balance effectively shareholders and creditors interest
  - Board Effectiveness
  - Board Independence
  - Ownership and Organizational Complexity
  - Management Compensation
  - Key Personnel Risk
  - Insider and Related Party Risk
  - Integrity of Accounting and Audit

FACTOR : CONTROLS AND RISK MANAGEMENT

- ***Controls and Risk Management***
  - Internal Checks and Balance System
  - Functionality of System in light of business mix
  - Technological advancement
  - Past Control issues and qualified Audit Reports
  - **Risk Management**
    - Risk Governance
    - Risk Management
    - Risk Measurement
    - Risk Infrastructure and Intelligence

Checks and balances between senior executives and Board,

Between risks and business line units,

Limit system, Regular use of stress tests, and Independence of CFO,CRO

Risk Management

- ***Risk Governance:***
  - Involvement of directors in reviewing risk appetites and control effectiveness, director's awareness of risks, relevance of their backgrounds to assess risks
  - Collective and individual responsibilities of and awareness by executive management on risk matters, integration of risk considerations in budgeting, capital allocation, and determination of capital adequacy
  - Organization, staffing, resources, enterprise –wide role of risk function(s)

- ***Risk Management:***
  - Risk control process- mandates of units controlling credit and operational risk, practices to ensure limit disciplines
  - Relationship of risk to earnings, capital, limit setting, portfolio mix and diversification
  - Risk mitigations

- ***Risk Analysis and Quantification:***
  - Quantification, measures used for setting of limits and running the business, stress testing, capital determination
  - Monitoring and Reporting- rigor, appropriateness and usefulness of reports and alert systems

- ***Risk Infrastructure and Intelligence:***
  - Risk infrastructure – information and knowledge systems
  - Risk intelligence – validity of scorecard/CRG and data used

RISK POSITIONING

- ***Financial Reporting Transparency***
  - Global Comparability of Reported Financial Information
  - Frequency and Timeliness of Reporting
  - Quality of Financial Information reported by banks
- ***Credit Risk Concentration***
  - Large exposures to single obligor, industry or region
  - Good diversification across economic sectors enables the bank to ride through business cycles without undue harm to asset quality
  - Borrower Concentration: Large exposures relative to Tier 1 Capital and Pre-tax pre Provision Income
  - Industry Concentration: Aggregate exposures to a particular sector or industry relative to Tier 1 Capital
  - Regulatory Limit: Individual borrower limit as well as aggregate large loan exposure limit corresponding to its level of NPL relative to its paid up capital

RISK POSITIONING

- ***Liquidity Management***
  - Liquidity risks as a function of the unique structure of a bank's asset and liabilities
  - Degree to which illiquid assets (primarily loans) are funded by core liabilities that are stable (primarily customer deposits, long term debts and equity)
  - Asset Liability matching in light of interest rate dynamics
  - Liquidity monitoring and control system
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  - Contingent planning and liquidity stress testing

- ***Market Risk Appetite***
  - Sensitivity of both trading and non trading books to major changes in interest rates, equity prices, foreign exchange rates and credit spreads.

FACTOR : ASSET QUALITY & PROVISIONING

Asset Quality & Provisioning

Provision Maintenance Ratio (PMR)
(Actual Provision as % of Required Provision)

Reschedule Amount as % of Loans and Advances

SMA as % of Loans and Advances

Recovery Efficiency
(Cash Recovery as % of Opening Gross NPL)

Quality of Twenty Largest Loans