FINANCIAL INSTITUTION RATING METHODOLOGY

CREDIT RATING AGENCY OF BANGLADESH LIMITED
Presentation Outline

- FI’s Risk – A bird’s eye-view
- Rating Methodology
Presentation Outline

FI’s Risk – A bird’s eye-view

Rating Methodology
Anatomy of FI Risk

Non-Financial Risk
- Business Risk
- Strategic Risk

Financial Risk
- Balance Sheet Risk
- Service Risk

Operational Risk
Legal Risk
Reputational Risk
Presentation Outline

- FI’s Risk – A bird’s eye-view
- Rating Methodology
RATING PROCESS FLOW

Rating Frame Work

Analysis and Evaluation

Rating Committee Meeting

Final Rating
Rating Framework

CRAB’s “FIDdataBase”    CRAB’s “FIRatios”

Rating Scale

Rating of Individual FI

Weight    X    Analysis Output

Weight    X    Quantitative Rating

Weight    X    Qualitative Rating

FINAL RATING
CRAB’s Rating Methodology

CRAB’s Financial Institutions Rating Methodology

- Input
- Output

- Earnings Strength & Stability
- Funding & Liquidity
- Capitalisation
- Asset Quality

- Operating & Regulatory Environment
- Generic Rating Factors

- Financial Institution (FI) Rating

- Management Evaluation
- Corporate Governance
- Risk Management
- Franchise Strength & Diversification

CRAB’s Presentation
FACTOR: EARNINGS STRENGTH AND STABILITY

Pre-Tax Earnings (BDT Million)

- The strength and persistency of FIs pre-tax earnings is a direct function of its franchise strength and competitive position within its various lines of business.
- Weighted average pre-tax earnings of last three years, with the most recent year receiving 60% of the overall weight, and the remaining two years receiving 20% each.

Pre-Tax Margin

Pre-Tax Earning Volatility

- For bondholders, a company’s earnings stability is arguably more important than growth.
- One simple ratio that CRAB believes provides a measure of a firm’s earnings volatility relative to its level of earnings is the coefficient of variation, which compares the standard deviation of a firm’s pre-tax earnings in the trailing 12 quarters to the mean of population.
- CRAB examines the coefficient of variation for pre-tax margins from various perspectives, including over many different time periods and/or by excluding extraordinary events.
- Review of recurring “cash-based” earnings, principally net interest, lease and fee income, as opposed to non-recurring gains/losses, non-cash gains or mark-to-market gains on derivatives or investments.
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 FI’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
FACTOR: Asset Quality

- Main Driver of Future Earnings
- Delinquent Loan position
- 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
- Reserve Position
- Provision Status
## Asset Quality – Key Indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delinquent Loans / Period End Loans or Leases</td>
<td>Loans or leases classified as past due at least 90 days relative to period end gross loans/leases.</td>
</tr>
<tr>
<td>Non-performing Loans / Period-end Loans or Leases</td>
<td>Loans or leases where income has either stopped accruing or collectability is impaired to period end loans/leases.</td>
</tr>
<tr>
<td>Gross Charge-offs / Avg. Loans</td>
<td>Gross loan principal losses versus average loans during the period</td>
</tr>
<tr>
<td>Net Charge-offs / Avg. Loans</td>
<td>Gross principal losses less recoveries versus average loans during the period</td>
</tr>
<tr>
<td>Reserves / Non-performing Assets</td>
<td>Loan loss reserves to non performing assets.</td>
</tr>
<tr>
<td>Provisions / Net Charge-offs</td>
<td>Provision expense to net credit losses.</td>
</tr>
</tbody>
</table>
## Asset Quality

### Trends in Asset Quality (Template)

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Gross NPLs</td>
<td>594.3</td>
<td>494.8</td>
<td>391.5</td>
<td>142.9</td>
<td>81.6</td>
<td>0.4</td>
</tr>
<tr>
<td>As % of Gross Loans</td>
<td>2.27%</td>
<td>2.77%</td>
<td>3.30%</td>
<td>1.75%</td>
<td>1.50%</td>
<td>0.01%</td>
</tr>
<tr>
<td>Fresh NPL</td>
<td>108.1</td>
<td>166.6</td>
<td>209.2</td>
<td>61.4</td>
<td>81.2</td>
<td>0.4</td>
</tr>
<tr>
<td>Fresh NPL as % of Gross NPL</td>
<td>21%</td>
<td>34%</td>
<td>43%</td>
<td>33%</td>
<td>49%</td>
<td>49%</td>
</tr>
<tr>
<td>Loan Loss Reserves (LLR)</td>
<td>545.2</td>
<td>351.0</td>
<td>231.1</td>
<td>139.0</td>
<td>62.8</td>
<td>21.6</td>
</tr>
<tr>
<td>LLR to GNPLs</td>
<td>100.1%</td>
<td>71.1%</td>
<td>59.0%</td>
<td>97.2%</td>
<td>77.0%</td>
<td>5030.5%</td>
</tr>
<tr>
<td>Net NPL</td>
<td>127.6</td>
<td>149.2</td>
<td>190.0</td>
<td>127.9</td>
<td>75.4</td>
<td>0.3</td>
</tr>
<tr>
<td>Net NPL to Equity (%)</td>
<td>6.5%</td>
<td>6.9%</td>
<td>16.1%</td>
<td>14.4%</td>
<td>20.1%</td>
<td>0.1%</td>
</tr>
<tr>
<td>Net NPL to Net Loans (%)</td>
<td>0.6%</td>
<td>0.8%</td>
<td>1.6%</td>
<td>1.6%</td>
<td>1.4%</td>
<td>0.0%</td>
</tr>
</tbody>
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### Grading of Gross NPLs (%):

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</thead>
<tbody>
<tr>
<td>Substandard</td>
<td>10%</td>
<td>13%</td>
<td>41%</td>
<td>1%</td>
<td>1%</td>
<td>50%</td>
</tr>
<tr>
<td>Doubtful</td>
<td>0%</td>
<td>13%</td>
<td>3%</td>
<td>42%</td>
<td>0%</td>
<td>50%</td>
</tr>
<tr>
<td>Bad</td>
<td>90%</td>
<td>74%</td>
<td>57%</td>
<td>58%</td>
<td>99%</td>
<td>0%</td>
</tr>
</tbody>
</table>

### Number of NPL accounts

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Recovery</td>
<td>83</td>
<td>81</td>
<td>68</td>
<td>31</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Recovery Pattern:

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</tr>
</thead>
<tbody>
<tr>
<td>Recovery</td>
<td>98.60</td>
<td>63.3</td>
<td>75.1</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Recovery as % of Gross NPL</td>
<td>20%</td>
<td>13%</td>
<td>20%</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

### Write-off:

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</thead>
<tbody>
<tr>
<td>Write-off</td>
<td>-</td>
<td>-</td>
<td>1.49</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Write-off as % of Gross Loans</td>
<td>-</td>
<td>-</td>
<td>0.01%</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

### Reschedule:

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</tr>
</thead>
<tbody>
<tr>
<td>Reschedule of Loans</td>
<td>234.00</td>
<td>217.5</td>
<td>365.5</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Reschedule as % of Gross Loans</td>
<td>1.05%</td>
<td>1.22%</td>
<td>3.08%</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
FACTOR : CAPITALIZATION

- CRAB’s assessment of capital encompasses many views, not just point in time measures, but also management’s leverage targets encapsulated in capital management plans.
- In evaluating capital, CRAB at first look into the regulatory requirement.
- Core capital in the context of asset risk.
- Considers dividend policies, internal capital generation rate, and asset growth rates.
- While CRAB calculates traditional leverage measures such as debt/tangible equity, CRAB prefers risk-adjusted measures of capital since these better align capital with risk.

CRAB often compares internal capital generation rates to asset growth. If the internal capital generation rate is well below asset growth, a FI will become more leveraged and could result in negative rating actions unless new equity is raised.

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KEY INDICATORS

**Capitalization**

- Tangible Equity / Managed Assets
- Core Capital / Managed Assets
- Core Capital + Reserves / Assets
- Managed Debt / Core Capital

**Dividend Payout Ratio**

**Internal Capital Generation**

**Adjusted EBITDA / Debt (x)**

- Total Shareholder’s equity less goodwill & intangibles to managed assets.
- Core capital to period end managed assets.
- Core capital plus bad loss reserves to period end managed assets.
- Reported interest bearing liabilities plus off-balance sheet funding to core capital.
- Dividends as a percentage of reported net income.
- Net income less dividends and net share repurchases to prior period equity.
- Earnings before interest taxes depreciation and amortization less capital expenditures to interest bearing liabilities.
FACTOR: LIQUIDITY & FUNDING

• **Liquidity Management**
  - Liquidity risks as a function of the unique structure of a FI’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.
## Key Indicators

### Liquidity and Funding

<table>
<thead>
<tr>
<th>Indicator</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Net Cash Capital (KCC) / Liquid Net Assets (LNA)</td>
<td>Surplus of Common Equity plus long-term debt over illiquid assets plus haircuts on security inventories as percentages of net assets less illiquid assets.</td>
</tr>
<tr>
<td>Short-term Debt / Total Interest Bearing Liab.</td>
<td>Debt with an original maturity of less than one year to total interest bearing liabilities.</td>
</tr>
<tr>
<td>Short-term Debt + CPLTD / Total Interest Bearing Liab.</td>
<td>Short-term debt plus current portion of long-term debt to total interest bearing liabilities.</td>
</tr>
<tr>
<td>Secured Debt / Total Interest Bearing Liab.</td>
<td>Debt secured by corporate assets to total interest bearing liabilities.</td>
</tr>
<tr>
<td>Committed Funding Facilities / Total Funding</td>
<td>Committed and undrawn funding facilities to total interest bearing liabilities.</td>
</tr>
<tr>
<td>Unencumbered Assets / Unsecured Debt</td>
<td>Amount of assets free and clear of any encumbrance relative to unsecured debt.</td>
</tr>
</tbody>
</table>
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

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Valid</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>114</td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>32.8651</td>
<td></td>
</tr>
<tr>
<td>Median</td>
<td>27.0700</td>
<td></td>
</tr>
<tr>
<td>Std. Deviation</td>
<td>16.41595</td>
<td></td>
</tr>
<tr>
<td>Minimum</td>
<td>4.58</td>
<td></td>
</tr>
<tr>
<td>Maximum</td>
<td>63.03</td>
<td></td>
</tr>
<tr>
<td>Percentiles</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12.5</td>
<td>14.8400</td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>17.8275</td>
<td></td>
</tr>
<tr>
<td>37.5</td>
<td>22.0463</td>
<td></td>
</tr>
<tr>
<td>50</td>
<td>27.0700</td>
<td></td>
</tr>
<tr>
<td>62.5</td>
<td>35.4563</td>
<td></td>
</tr>
<tr>
<td>75</td>
<td>46.4900</td>
<td></td>
</tr>
<tr>
<td>87.5</td>
<td>55.9550</td>
<td></td>
</tr>
</tbody>
</table>

- Advance to Deposit Ratio
FACTOR: FRANCHISE STRENGTH & DIVERSIFICATION

Why It Matters

- Solidity of a FI’s market standing
- Indicates the ability to generate and sustain earnings

Key Analytical Area

- Market Share and Sustainability
  - Portfolio base
  - Trend over the Period
  - Business Tenure

- Earnings Stability
  - Degree of predictability of main business lines
  - Focus area: Fund/ Fee/Stock Market

- Earnings Diversification
FACTOR: MANAGEMENT EVALUATION

- Depth and breadth of experience
- Succession plans
- Turnover
- Quality of second tier of management
- How the management team fits into the organizational structure; and
- Quality of management information systems (MIS).
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 FIs

- **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 Core Capital and Pre-tax pre Provision Income
  - **Industry Concentration**: Aggregate exposures to a particular sector or industry relative to Core 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
FACTOR: OPERATING AND REGULATORY ENVIRONMENT

- Competitive Dynamics
- Regulatory Environment