The Swedish Model for Managing Contingent Liabilities

Presentation by the Swedish National Debt Office

February 24, 2016
Agenda

- The Swedish model for government guarantees and loans
  - Background
  - Institutional set-up
  - Guiding rules and principles

- Characteristics of the portfolio

- Methods for measuring and managing credit risk

- Key lessons learned
The Swedish Model For Guarantees and Loans

• Central government guarantees first regulated in Budget Act of 1996.

• Budget Act revision in 2011. On-lending regulated in the same way as credit guarantees.

• Guiding principles
  ❖ Transparency
  ❖ Cost coverage
  ❖ Risk management

"The proof of the pudding is in the eating"
Swedish Regulatory and Institutional Framework

- Guarantees and loans approved by Parliament and commissioned by the government.
- Parliament decides on amount, purpose and instrument.
- Annual limit approved for programs, eg. student loans and export credit guarantees.
- A fee must cover at least total expected cost (expected loss and administration).
- An amount corresponding to expected loss is transferred to notional reserve account.
- Losses on guarantees and loans covered by reserves. Any shortfall is financed via an unlimited credit facility.
- When EU state aid rules apply a market based fee must be charged.
- Fee exceeding expected loss (market risk premium related to unexpected losses, liquidity premium etc.) is transferred back to the central government budget.
Composition of Portfolio

- Student loans (36.4%)
- Export credit guarantees (31.4%)
- Guarantees to Multilateral Development Banks (22%)
- Infrastructure loans and guarantees (4.6%)
- Pension guarantees (1.5%)
- Credit guarantees - international undertakings (1.2%)
- Loans to sovereigns (1.0%)
- Development aid (0.5%)
- Housing credit (0.4%)
- Other

Share of GDP (ex deposit guarantee) = 14%
Ensuring Adequate Credit Risk Profile

• To estimate a correct fee the credit risk must be identifiable, manageable and measurable.

• Ensure that the beneficiary is not in financial distress.

• Guarantees should have finite amount and maturity.

• Risk sharing aligns the incentives of the lender and the guarantor.

• Risk mitigation via legal covenants.

• Collateral may be used to reduce the credit risk, especially if the credit profile of the beneficiary is weak.
Overview of Credit Risk Assessment and Pricing

• The Guarantee and Loan department at the SNDO is responsible for managing a portfolio of non-standardized guarantees and on-lending.

• Mainly corporate credit risk (single beneficiary), but some guarantees where the credit risk is on a portfolio of beneficiaries, requiring a more structured finance type approach.

• The SNDO strives for best practice in methods used.

• A rating based approach is preferred method for credit risk assessment.

• When a ratings based approach is not appropriate then simulation models, such as Monte-Carlo, are used for calculating expected loss.
Credit Rating Analysis by the SNDO

• A rating is a relative measure of credit risk, comparable across industries and regions.

• A rating analysis involves determining an *issuer rating* and as an *issue specific rating*.

• *The issuer rating* measures probability of default of the beneficiary, factoring in willingness and ability to meet obligations.

• The *issuer rating* takes into account business risk, financial risk, and potential external support, as well as any effect that the country ceiling may have on the rating.

• In order to arrive at the *issue rating* for the specific transaction, the expected loss given default must be factored. The priority of claim is analyzed, notching up for security or down for subordination.

• For a senior unsecured transaction, the issue rating is the same as the issuer rating, factoring average recovery prospects.
## Example of Rating Grid Factors

### Government Owned Toll Roads

<table>
<thead>
<tr>
<th>Broad Rating Factors</th>
<th>Factor Weighting</th>
<th>Rating Sub-Factors</th>
<th>Sub-Factor Weighting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market Position</td>
<td>40%</td>
<td>Asset Type</td>
<td>10%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Operating History</td>
<td>10%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Competition</td>
<td>10%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Service Area Characteristics</td>
<td>10%</td>
</tr>
<tr>
<td>Performance Trends</td>
<td>30%</td>
<td>Annual Traffic</td>
<td>5%</td>
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<tr>
<td></td>
<td></td>
<td>Traffic Profile</td>
<td>5%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5-Year Traffic CAGR</td>
<td>5%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ability and Willingness to Raise Rates</td>
<td>15%</td>
</tr>
<tr>
<td>Financial Metrics</td>
<td>20%</td>
<td>Debt Service Coverage Ratio</td>
<td>10%</td>
</tr>
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<td></td>
<td></td>
<td>Debt to Operating Revenue</td>
<td>10%</td>
</tr>
<tr>
<td>Capacity, Capital Plan and</td>
<td>10%</td>
<td>Capital Needs</td>
<td>5%</td>
</tr>
<tr>
<td>Leverage</td>
<td></td>
<td>Limitations to Growth/Operational</td>
<td>5%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Restrictions</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td>Total</td>
<td>100%</td>
</tr>
</tbody>
</table>

Pricing of Guarantees and Loans (continued)

• Expected loss
  - Rating - Default and recovery databases from credit rating agencies.
  - Simulation model – expected loss calculated output of the model

• Market price
  - CDS quotes or bond yields for same credit rating (ensuring comparable characteristics).
  - If a bond yield is used, then a reference rate must be chosen and deducted from the bond yield to arrive at a credit spread.
Key Lessons Learned

• Guarantees and on-lending give rise to the same credit risk

• Documentation is part of risk assessment and risk management

• Pay attention to priority of claim