Methodology

Rating Companies in the Forest Products Industry

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Rating Companies in the Forest Products Industry

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Introduction to DBRS Methodologies

• DBRS publishes rating methodologies to give issuers and investors insight into the rationale behind DBRS’s rating opinions.
• In general terms, DBRS ratings are opinions that reflect the creditworthiness of an issuer, a security or an obligation. DBRS ratings assess an issuer’s ability to make timely payments on outstanding obligations (whether principal, interest, preferred share dividends or distributions) with respect to the terms of an obligation. In some cases (e.g., non-investment grade corporate issuers), DBRS ratings may also address recovery prospects for a specific instrument given the assumption of an issuer default.
• DBRS rating methodologies include consideration of historical and expected business and financial risk factors, as well as industry-specific issues, regional nuances and other subjective factors and intangible considerations. Our approach incorporates a combination of both quantitative and qualitative factors.
• The considerations outlined in DBRS methodologies are not exhaustive and the relative importance of any specific consideration can vary by issuer. In certain cases, a major strength can compensate for a weakness and, conversely, a single weakness can override major strengths of the issuer in other areas. DBRS may use, and appropriately weight, several methodologies when rating issuers that are involved in multiple business lines.
• DBRS operates with a stable rating philosophy; in other words, DBRS strives to factor the impact of a cyclical economic environment into its ratings wherever possible, which minimizes rating changes due to economic cycles. Rating revisions do occur, however, when more structural changes, either positive or negative, have occurred, or appear likely to occur in the near future.
• DBRS also publishes criteria which are an important part of the rating process. Criteria typically cover areas that apply to more than one industry. Both methodologies and criteria are publicly available on the DBRS website and many criteria are listed below under “Rating the Specific Instrument and Other Criteria.”
**Overview of the DBRS Rating Process**

- There are generally three components to the DBRS corporate rating process: (1) an industry risk rating (IRR); (2) an issuer rating; and (3) considerations for specific securities. The figure below outlines this process.

- An IRR is a relative ranking of most industries that have a DBRS methodology, typically using just three ranges of the DBRS long-term debt rating scale (i.e., “A,” BBB and BB), without making use of the “high” or “low” descriptors. The IRR is a general indication of credit risk in an industry and considers, among other things, an industry’s: (1) profitability and cash flow; (2) competitive landscape; (3) stability; (4) regulation; and (5) other factors. An “industry,” for the purposes of the IRR, is defined as those firms that are generally the larger, more established firms within the countries where the majority of DBRS's rated issuers are based; this remains true for DBRS methodologies that are more global in nature. The industry risk rating helps DBRS set the BRR grid (see below) in that it positions, in an approximate way, an average firm in the industry onto the BRR grid. For firms in industries with low IRRs, the IRR can, in effect, act as a constraint or “cap” on the issuer’s rating.

- The issuer rating is DBRS's assessment of the probability of default of a specific issuer. It is a function of: (1) the business risk rating (BRR), determined by assessing each of the primary and (where relevant) additional BRR factors in the BRR grid for a specific issuer; and (2) the financial risk rating (FRR), determined by assessing each of the primary and (where relevant) additional FRR metrics. The two components, BRR and FRR, are combined to determine the issuer rating; in most cases, the BRR will have greater weight than the FRR in determining the issuer rating. Throughout the BRR and FRR determination process, DBRS performs a consistency check of the issuer on these factors against the issuer’s peers in the same industry.

- The issuer rating is then used as a basis for specific instrument ratings. DBRS assigns, for example, a recovery rating and notches up or down from the issuer rating to determine a specific instrument rating for instruments of non-investment grade corporate issuers. (See “Rating the Specific Instrument and Other Criteria” below.)

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**DBRS Rating Analysis Process**

- **Industry Risk Rating**
  - **Business Risk Rating**
    - Primary BRR Factors
    - Additional BRR Factors
  - **Financial Risk Rating**
    - Primary FRR Metrics
    - Additional FRR Metrics
- **Issuer Rating**
- **Application of Other Criteria**
- **Instrument Rating**

* Depending on the instrument, “other criteria” may include the recovery methodology for non-investment grade issuers or the preferred share and hybrid criteria, for example. Please refer to the section below entitled “Rating the Specific Instrument and Other Criteria” for a list of these criteria, as well as other criteria that may be applicable at any stage of the rating process.
Forest Products Industry

- DBRS defines the forest products industry as those companies principally engaged in the conversion of wood fibre into saleable products, including one or more of the following: pulp, paper, newsprint, paper packaging and building products. (Note: timberland companies are discussed in the Appendix.) Forest product companies can be fully integrated producers, participating in the full-value chain from growing trees to converting wood fibre into final products. Converters, in contrast, buy fibre to make pulp, paper, packaging materials and/or building products.
- Per the three-tier IRR system described on the previous page, the forest products industry IRR is BB.
- The forest products industry is characterized by: (1) a high level of cyclicality and a high substitution risk for certain paper products being displaced by digital media, with frequent oversupply and shortage conditions in the industry further accentuating volatility; (2) commodity pricing subject to global demand and supply conditions and related currency risks; (3) increasing supply of fibre from advances in forest management techniques (higher yield, expanding growing regions, etc.) adding to competitive pressure; (4) high capital costs, sensitivity to capital utilization and limited control over high energy, transportation and labour costs; (5) regulation focused on safety, environmental concerns and preservation of wildlife; and (6) political risks related to protection through tariffs of local suppliers over foreign imports.
- Most forest products are commodity-like with no differentiation by quality or brand and, therefore, little shelter from pricing cycles, although higher value products, like furniture-grade wood, may offer some relief from commodity pricing.
- Many forest products suffer substitution risk in the form of digital media, plastics and recycled wood products. Some sectors are in steep structural decline (e.g., newsprint, fine and specialty papers) although fluff and absorbent material is a growth segment. Diversification across products and raw materials (e.g., virgin fibre versus recycled fibre) is beneficial.
- The industry is sensitive to energy, labour, transportation and raw material costs and has a limited ability to pass on cost increases when they occur.
- Access to fibre supply is important; this is not an issue for vertically integrated firms, but poses additional risks for firms that purchase their supply from third parties. Long-term contracts with supply close to the mill pose lower risks than open market purchase requirements.
- Environmental concerns are driving reductions in the use of packaging materials and increased use of recycled fibre.
Forestry Products Business Risk Rating

PRIMARy BRR FACTORS
- The BRR grid below shows the primary factors used by DBRS in determining the BRR. While these primary factors are shown in general order of importance, depending on a specific issuer’s business activities, this ranking can vary by issuer.

<table>
<thead>
<tr>
<th>Forest Products — Primary BRR Factors</th>
<th>A</th>
<th>BBB</th>
<th>BB</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Product Line</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Not applicable.</td>
<td></td>
<td>Logs, consumer/food packaging, lumber and tissue papers/incontinence products.</td>
<td>Non-consumer packaging, panel products (OSB, MDF and other fibreboards), pulp, newsprint and printing paper (office, advertising and magazine).</td>
<td>Not applicable.</td>
</tr>
<tr>
<td><strong>Fibre Supply and Costs</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• More than self-sufficient in fibre supply</td>
<td>Sufficient fibre supply under long-term contract.</td>
<td>Reasonable access to fibre supply with a large portion of supply under contract. Modest but manageable supply shortage risk.</td>
<td>Limited fibre supply under long-term contract and fibre supply, mostly from open market purchase.</td>
<td></td>
</tr>
<tr>
<td>• No supply shortage risk.</td>
<td>No supply shortage risk.</td>
<td>Reasonable fibre cost and fibre source relatively close to mills.</td>
<td>High supply shortage risk.</td>
<td></td>
</tr>
<tr>
<td>• Low fibre cost and fibre source close to mills.</td>
<td>Reasonable fibre cost but still subject to volatile market prices.</td>
<td>Reasonable access to fibre supply with a large portion of supply under contract.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Access to export market for surplus fibre.</td>
<td>Reasonable fibre cost but still subject to volatile market prices.</td>
<td>Reasonable fibre cost but still subject to volatile market prices.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Mill Integration and Efficiency</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Highly efficient mills with latest technology that is well-maintained.</td>
<td>Efficient and well maintained mills.</td>
<td>Mills in reasonable conditions with acceptable operating efficiency.</td>
<td>Older, inefficient equipment.</td>
<td></td>
</tr>
<tr>
<td>• Long-term low-cost energy supply.</td>
<td>Long-term energy supply at slightly below-market price.</td>
<td>Sufficient energy supply at market price.</td>
<td>Energy costs at volatile market prices.</td>
<td></td>
</tr>
<tr>
<td>• Low labour costs and no major labour disruptions.</td>
<td>Reasonable labour cost and minimal labour disruptions.</td>
<td>Reasonable labour cost and Some labour disruptions.</td>
<td>High labour costs and frequent labour troubles.</td>
<td></td>
</tr>
<tr>
<td>• Lowest transportation costs in industry.</td>
<td>Favourable (below industry average) transportation costs.</td>
<td>Average transportation costs.</td>
<td>High transportation costs.</td>
<td></td>
</tr>
<tr>
<td><strong>Capital Intensity</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• New equipment and only regular maintenance needed.</td>
<td>Mills and equipment in good condition.</td>
<td>Mills in reasonable operating condition.</td>
<td>Mills in poor conditions with outdated equipment.</td>
<td></td>
</tr>
<tr>
<td>• Modest capital demand in the near future.</td>
<td>Some investment may be needed to improve operating efficiency in the near future.</td>
<td>Investment needed to maintain operating efficiency to stay competitive.</td>
<td>Need large capital investment to bring equipment to acceptable operating conditions.</td>
<td></td>
</tr>
<tr>
<td>• Mill and equipment is state-of-the-art and well ahead of current environmental standards.</td>
<td>Mills and equipment meet or exceed current environmental standards and minimal upgrades needed in the near future.</td>
<td>Equipment meets current environmental standards but upgrades needed in the near future.</td>
<td>Equipment barely meets current environmental standards and needs costly upgrades.</td>
<td></td>
</tr>
</tbody>
</table>
### Forest Products — Primary BRR Factors

<table>
<thead>
<tr>
<th>Rating</th>
<th>A</th>
<th>BBB</th>
<th>BB</th>
<th>B</th>
</tr>
</thead>
</table>
| Product and Geographical Diversification | • Participation in all or most of the sectors with large exposure to the growth segments.  
• Wide product offering in each segment.  
• Leading market position in most businesses.  
• Lower volatility than most forest product companies due to products with offsetting economic cycles.  
• Well-balanced exposure to domestic and international markets. | • Participation in most sectors of the forest product industry with meaningful exposure to the growth segments but some exposure to segments in structural decline.  
• Wide product offering in some businesses only.  
• Strong market position in most of the businesses.  
• Below-average volatility due to some products with offsetting economic cycles.  
• Higher domestic sales with exports to a few key international markets. | • Participation in a few of the forest product sectors but a meaningful exposure to segments in structural decline.  
• Reasonable product offering in some sectors but limited in others.  
• Strong/average market position in most of the businesses.  
• Average volatility compared with other forest product companies.  
• Large domestic sales with limited exports. | • Narrow focus in terms of both sector and product offering.  
• Weak market position in most businesses.  
• More volatile than average forest products companies.  
• Exposure to local market only. |

The following BRR risk factors are relevant to issuers in all industries (although the relevance of sovereign risk can vary considerably):

**Sovereign Risk**

The issuer rating may, in some cases, be constrained by the credit risk of the sovereign; in other words, the rating of the country in which the issuer operates generally sets a maximum rating for the issuer. If the issuer operates in multiple countries and a material amount of its business is conducted in a lower-rated country, DBRS may reflect this risk by downwardly adjusting its issuer rating.

**Corporate Governance**

Please refer to DBRS Criteria: Evaluating Corporate Governance for further information on how DBRS evaluates corporate governance and management.
ADDITIONAL BRR FACTORS
• The additional BRR factors discussed below may be very important for certain issuers, depending upon their activities, but they do not necessarily apply to all issuers in the industry.

Regulation
• Cross-border trade issues, such as the lumber duty levied by the United States, add more risks and costs to foreign competitors.
• Production in areas where environmental concerns are high could be subject to regulations affecting supply and costs.
• Regulations related to labour practices in some regions add to production costs.
• Governments actively use tax policies to protect local suppliers from imports and to discourage the export of raw logs.

Currency Exchange Rates
• Most forest products companies export a high percentage of their products, and the relative strength between the local currency (which affects production costs) and the U.S. dollar (which affects sales revenues) can have a major impact on profitability.
• Currency fluctuation adds to earnings volatility if not adequately hedged.

Distribution Channels
• The extensive fine papers distribution network increases the marketability of fine paper products.
• Strategically located distribution centres permit cost-effective deliveries, which is a competitive advantage.

Saleable Assets
• Ownership of timberland and hydroelectric power generating facilities strengthens a company’s cost position by providing low-cost fibre and electrical energy, respectively. Additionally, these assets can be easily monetized to provide liquidity. See the Appendix for further details on how DBRS evaluates timberland assets.
Forestry Products Financial Risk Rating

PRIMARY FRR METRICS

• The FRR grid below shows the primary FRR metrics used by DBRS to determine the FRR. While these primary FRR metrics are shown in general order of importance, depending upon an issuer’s activities, the ranking can vary by issuer.
• DBRS ratings are primarily based on future performance expectations, so while past metrics are important, any final rating will incorporate DBRS’s opinion on future metrics, a subjective but critical consideration.
• It is not unusual for a company’s metrics to move in and out of the ranges noted in the grid below, particularly for cyclical industries. In the application of this matrix, DBRS looks beyond the point-in-time ratio.
• Financial metrics depend on accounting data whose governing principles vary by jurisdiction and, in some cases, industry. DBRS may adjust financial statements to permit comparisons with issuers using different accounting principles.
• Please refer to DBRS Criteria: Financial Ratios and Accounting Treatments – Non Financial Companies for definitions of, and common adjustments to, these ratios in the FRR grid below.
• Liquidity can be a material risk factor, especially for lower-rated non-investment grade issuers. DBRS will consider available sources of liquidity including cash on hand, cash flow, access to bank lines, etc., as well as uses of liquidity such as operations, capital expenditures, share buybacks and dividends for every issuer.
• DBRS considers an issuer’s financial policy including factors such as its targeted financial leverage, its dividend policy and the likelihood of share buybacks or other management actions that may favour equityholders over bondholders.
• While market pricing information (such as market capitalization or credit spreads) may on occasion be of interest to DBRS, particularly where it suggests that an issuer may have difficulty in raising capital, this information does not usually play a material role in DBRS’s more fundamental approach to assessing credit risk.

Forestry Products — Primary FRR Metrics

<table>
<thead>
<tr>
<th>Primary Metric</th>
<th>A</th>
<th>BBB</th>
<th>BB</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash flow-to-debt</td>
<td>&gt; 30%</td>
<td>20% to 30%</td>
<td>10% to 20%</td>
<td>&lt; 10%</td>
</tr>
<tr>
<td>Debt-to-EBITDA</td>
<td>&lt; 2.0x</td>
<td>2.0x to 3.5x</td>
<td>3.5x to 5.0x</td>
<td>&gt; 5.0x</td>
</tr>
<tr>
<td>EBITDA-to-interest</td>
<td>&gt; 7.0x</td>
<td>4.0x to 7.0x</td>
<td>2.0x to 4.0x</td>
<td>&lt; 2.0x</td>
</tr>
<tr>
<td>Debt-to-capital</td>
<td>&lt; 30%</td>
<td>30% to 45%</td>
<td>45% to 60%</td>
<td>&gt; 60%</td>
</tr>
</tbody>
</table>

ADDITIONAL FRR METRICS

• While the primary FRR metrics above will be the most important metrics that DBRS will use in determining the FRR of an issuer, other metrics may be used, depending upon an issuer’s activities, capital structure, pension liabilities and off-balance sheet obligations.
• Profitability, particularly in the medium term, can be an important differentiator of credit risk. DBRS may assess profitability through a variety of metrics, including return on capital.
• While free cash flow (i.e., net of changes in working capital, dividends and capital expenditures, etc.) can be volatile and, on occasion, negative, DBRS may use this and/or other cash flow metrics to assess a company’s ability to generate cash to repay debt.
Blending the BRR and FRR into an Issuer Rating

- The final issuer rating is a blend of the BRR and FRR. In most cases, the BRR will have greater weight than the FRR in determining the issuer rating.
- At the low end of the rating scale, however, particularly in the B range and below, the FRR and liquidity factors play a much larger role and the BRR would, therefore, typically receive a lower weighting than it would at higher rating levels.
- In addition, DBRS also takes into consideration the volatility of a company’s FRR in arriving at the final rating. A company with more volatile credit metrics than its industry peers may be rated lower than it would otherwise be based on a blend of the BRR and FRR. The lower rating reflects the higher risk, especially in a downturn, associated with the increased volatility.

Rating the Specific Instrument and Other Criteria

- For non-investment grade corporate issuers, DBRS assigns a recovery rating and reflects the seniority and the expected recovery of a specific instrument, under an assumed event of default scenario, by notching up or down from the issuer rating in accordance with the principles outlined in the criteria DBRS Recovery Ratings for Non-Investment Grade Corporate Issuers.
- Preferred share and hybrid considerations are discussed under Preferred Share and Hybrid Criteria for Corporate Issuers.
- The issuer rating (which is an indicator of the probability of default of an issuer’s debt) is the basis for rating specific instruments of an issuer, where applicable. DBRS uses a hierarchy in rating long-term debt that affects issuers that have classes of debt that do not rank equally. In most cases, lower-ranking classes would receive a lower DBRS rating. For more detail on this subject, please refer to the general rating information contained in the DBRS rating policy Underlying Principles.
- For a discussion on the relationship between short- and long-term ratings and more detail on liquidity factors, please refer to the DBRS policy Short-Term and Long-Term Rating Relationships and the criteria Commercial Paper Liquidity Support Criteria for Corporate Non-Bank Issuers.
- The existence of holding companies can have a meaningful impact on individual security ratings. For more detail on this subject, please refer to the criteria Rating Holding Companies and Their Subsidiaries.
- Guarantees and other types of support are discussed in Guarantees and Other Forms of Explicit Support.
- For further information on how DBRS evaluates corporate governance, please refer to DBRS Criteria: Evaluating Corporate Governance.
- Please refer to DBRS Criteria: Financial Ratios and Accounting Treatments – Non Financial Companies for definitions of, and common adjustments to, these ratios.
Appendix: Timberland Operators

- DBRS also rates issuers that own and manage timberland. These companies grow and harvest trees for sale as logs and may also sell surplus lands for real estate development.
- The IRR for timberland companies is BBB.
- Timberlands are valuable assets that can be monetized even during weak industry conditions. Capital investments tend to be modest and the timing of any investment is usually flexible. Operating and maintenance costs can be kept at minimal levels during weak market conditions to minimize cash needs. Historically, timberland owners have exercised discipline and managed their holding judiciously to maximize their returns through a cycle.
- The appraised value-to-debt ratio is a primary factor in assigning a rating to a timberland operator. DBRS uses the ratio as a starting point, placing the rating of a timberland operator in an appropriate rating range. To determine the appraised value of timberland resources, DBRS will review timberland appraisals, including an assessment of grade, location and environmental factors. The chart below shows how the ratio of appraised value-to-debt ratio lines up with the rating range.
- DBRS also focuses on the timberland operator’s profitability and the related interest coverage ratio. However, profitability and the related interest coverage can be less meaningful in differentiating credit risk for a timberland operator in the short term, especially in a down market. Timberland operations typically have modest ongoing operating expenses, which can be easily covered by selling some highest and best use lands. This flexibility allows timberland operators the discretion to curtail harvesting and avoid selling the logs at low prices in a down market in order to optimize the return from holding the timberlands. Nevertheless, for the BBB-range issuers, DBRS would expect to see an EBITDA-to-interest ratio of 1.5 times (x) to 3.5x through a cycle and, at least, above parity during a down cycle.

<table>
<thead>
<tr>
<th>Timberland Operators — Primary FRR Metrics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary Metric</td>
</tr>
<tr>
<td>Appraised value-to-debt ratio</td>
</tr>
<tr>
<td>EBITDA-to-interest coverage ratio</td>
</tr>
</tbody>
</table>

- DBRS places strong emphasis on the stability of earnings and views negatively companies whose profitability varies widely through a cycle. High earnings volatility increases the risk of the company facing financial stress in a downturn.
- Furthermore, prudent financial management is also an important consideration. A timberland operator has to exercise discipline in managing discretionary spending (investments, distributions, etc.) to minimize free cash flow deficits and the resultant need to fund the deficit with debt and/or asset sales. In the BBB range, for example, DBRS will expect to see consistently positive free cash flow (i.e., net income plus depletion and other non-cash charges less capital expenditures and dividends) through the cycle, although there may be some tolerance for modest free cash flow deficits during weaker phases of the cycle, given the ready access to liquidity that saleable timber assets provide.
- Finally, timberland management (including disease prevention, fire prevention, etc.) is an important factor in rating these firms. DBRS would expect to see sufficient resources allocated to these functions, as well as a clean track record.