Methodology

Rating Companies in the Engineering and Construction Industry

SEPTEMBER 2014
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All DBRS ratings and research are available in hard-copy format and electronically on Bloomberg and at DBRS.com, our lead delivery tool for organized, Web-based, up-to-the-minute information. We remain committed to continuously refining our expertise in the analysis of credit quality and are dedicated to maintaining objective and credible opinions within the global financial marketplace.
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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 IRR helps DBRS set the business risk rating (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 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.)

DBRS Rating Analysis Process

* 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.
Engineering and Construction Industry

- The engineering and construction industry includes companies involved with the engineering, construction, refurbishment and maintenance of facilities and/or infrastructure to varying degrees across a variety of end markets. Companies may be involved with all aspects of a construction project (i.e., engineering, procurement, construction and maintenance) or be focused on just one or more aspects.
- Companies in the industry can range from large-scale, global companies with fully integrated capabilities (from design, engineering, procurement or fabrication of construction materials, construction, operations and maintenance) that bid for work in diverse end markets to relatively small, regional companies focusing on a limited range of projects (e.g., road paving) in a single end market (e.g., highway transportation).
- Per the three-tier IRR system described on the previous page, the engineering and construction IRR is BB, which reflects a highly cyclical industry due to the following characteristics:
  - Demand is materially dependent on general economic activities (in the industrial and building sectors), commodity demand and prices (in the hydrocarbon, chemicals and mining sectors) and government spending (in the transportation, social infrastructure and power sectors).
  - Barriers to entry are low, with relatively lower capital intensity (especially for companies relying more on subcontractors than self-performance capabilities). As such, the industry is competitive, with jobs and contracts largely obtained through competitive bidding. Competition is especially intense, with price being a key consideration for relatively simple projects, such as general contracting, building and road construction, which do not require specialized expertise.
  - The bidding process is costly and time-consuming and companies need to invest substantial resources to evaluate project risks and costs, understand critical paths and dependencies in the construction process, and ensure adequate cost estimation to reduce unexpected costs.
  - Projects with normally predictable costs are usually awarded in the form of fixed price contracts, where the E&C companies are paid a lump sum and have to manage its costs to make a profit. Profit margins are generally thin on such fixed price contracts (typically with a single-digit EBIT margin), which leaves little margin for error in cost escalation, delays or input cost volatility.
  - Projects are usually long and possibly complex, exposing companies to counterparty performance risk (subcontractors and suppliers) and external conditions (weather, permitting delays, etc.) that are not within the company’s control. Exposure to these risks can cause delays, cost escalation and margin erosion, particularly under fixed-price contracts.
  - Generally moderate regulation, which is focused on workplace safety, environmental concerns and construction related bylaws, although certain specific sectors (e.g., nuclear power) may be highly regulated. Permitting requirements at regional and national levels add cost and development time, but are generally transparent and manageable in developed markets.
  - The risks of delays and cost overruns are partly mitigated by E&C companies undertaking a greater percentage of their revenue from cost-reimbursable contracts (which are generally less profitable) and service and maintenance-based operations under longer-term contracts.
  - The use of subcontractors can reduce profitability while typically reducing financial risk (i.e., lower construction risk and exposure to fixed costs). However, reliance on subcontractors (as opposed to self-performance) for a large proportion of work can expose a company to subcontractors’ performance risks. Subcontractor default or inability to perform on their contracts can cause project delays and cost overruns, which can erode company profitability. In such cases, project losses may be partly mitigated by the company’s ability to step in in place of the affected subcontractors, protection from contractor or subcontractor default insurance or performance bonds and cost-sharing arrangements with project sponsors on contracts.
  - DBRS examines an E&C’s company’s backlog position to assess visibility, predictability and diversity of its future revenue streams. As a measure of backlog adequacy, DBRS examines the company’s backlog-to-revenue ratio against typical industry norms.
  - The standard use of contractual agreements for the awarding of engineering and construction works can and may lead to disagreements, including contract disputes, lawsuits and contingent liability claims. DBRS assesses the severity of these claims and the likely financial impact of these disputes on the company.
GROUPINGS WITHIN ENGINEERING AND CONSTRUCTION INDUSTRY

In assessing companies within the engineering and construction industry, DBRS has come to conclude that these companies could be categorized into three groups based on their business models and strategies, each of which has moderately different risk characteristics. These groups are described below, with detailed discussion of these characteristics in Appendix 1.

(1) Pure engineering and construction (E&C) companies, with low asset intensity and limited financing requirements;

(2) E&C companies that also materially invest in complementary activities that are related to and support their core E&C businesses. These activities include fabrication and sales of construction materials for both internal use and sales to third parties, equity participations as design and build partners in consortia for large infrastructure or private-public partnership projects, and acquisitions of other E&C companies to grow or expand their core E&C business and capabilities.

(3) E&C companies that also materially engage in businesses not essential or related to their core E&C businesses. Demand and business drivers for some of these businesses, such as real estate development, are highly correlated to those affecting their core E&C business, and therefore magnify business volatility.

It is important to note that during periods of market downturn, the source of external financing from working capital liabilities of the core E&C business may shrink as new orders decrease and existing work progresses towards completion, requiring the company to seek alternative external financing until the market recovers. During this period, DBRS would pay particular attention to the availability of other sources of liquidity and funding in assessing companies in all three groups.

While the grouping helps us focus on the different risk characteristics in our rating assessment of E&C companies, DBRS recognizes that changes in business strategy over time could result in the migration of an E&C company between different groups. DBRS will monitor such changes and migration and reassess the company concerned accordingly.
RATING APPROACH

In arriving at the issuer rating of an E&C company, DBRS takes the following rating approach:

1. Evaluate its business strategy and mix and identify the group where the Company most appropriately belongs.
2. In arriving at the Company’s BRR, DBRS evaluates its core E&C operations and related activities based on the Primary and Additional BRR Factors found below. For an E&C company owning and operating other unrelated businesses, to the extent they are material and sufficient disclosure is available, DBRS also considers their respective business risk profiles (as assessed with other appropriate DBRS methodologies) into arriving at the Company’s overall business risk rating. For companies engaged in activities that magnify the business risks and volatility of its core E&C business (such as real estate development), DBRS will consider the additional risk and impact, as discussed in Additional BRR Factors, below.
3. In arriving at the Company FRR, DBRS evaluates its financial metrics in accordance with the grid of primary FRR metrics below. For Group 1 companies that have limited balance sheet debt, DBRS recognizes that debt-related financial metrics are not as meaningful. Despite their strong financial metrics, many Group 1 companies are small in scale, have thin profitability and carry material non-debt financial obligations (such as trade payables, deferred contract revenue and payables to subcontractors). Therefore, DBRS pays particular attention to profitability and liquidity in assessing the FRR of Group 1 companies.
4. In arriving at the Company’s issuer rating, DBRS typically follows the principle discussed in Blending the BRR and FRR into an Issuer Rating, below. For a Group 1 Company with a FRR significantly higher than its BRR, however, DBRS considers a one-notch uplift from its BRR in determining the final issuer rating when the Company maintains very strong financial metrics, profitability and liquidity. For a company that demonstrates consistently and exceptionally strong financial metrics and profitability, along with a well-managed and conservative liquidity, a two-notch uplift from its BRR in determining the final issuer rating may also be considered.
### 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.

#### Engineering and Construction - Primary BRR Factors

<table>
<thead>
<tr>
<th>Rating</th>
<th>A</th>
<th>BBB</th>
<th>BB</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Risk Management and Mitigating Measures</strong></td>
<td>• Risk-averse management culture, conservative governance practices and measured growth strategy.</td>
<td>• Conservative governance practices and risk appetite with growth strategy focused within core areas of expertise.</td>
<td>• More aggressive growth targets, with material planned expansion in expertise and/or geographic reach.</td>
<td>• Highly aggressive growth and business expansion plans. Management is incentivized to achieve stretch volume or revenue targets.</td>
</tr>
<tr>
<td></td>
<td>• Counterparties’ (suppliers and subcontractors) non-performance and default risk always and extensively covered by surety bonds or contractor or subcontractor default insurance policies.</td>
<td>• Counterparties’ (suppliers and subcontractors) non-performance and default risks adequately (though not always) covered by surety bonds or contractor or subcontractor default insurance policies.</td>
<td>• Moderate coverage of counterparties’ (suppliers and subcontractors) non-performance and default risks by surety bonds or contractor or subcontractor default insurance policies.</td>
<td>• Limited coverage of counterparties’ (suppliers and subcontractors) non-performance and default risks by surety bonds or contractor or subcontractor default insurance policies.</td>
</tr>
<tr>
<td></td>
<td>• Strong internal capability to step in to complete work when needed.</td>
<td>• Some internal capability to step in when needed for certain types of work.</td>
<td>• Company may have difficulty replacing suppliers or subcontractors without causing material project delays.</td>
<td>• Highly limited internal capability. Company has suffered or will likely suffer material project delays should suppliers or subcontractors fail to perform.</td>
</tr>
<tr>
<td><strong>Project Control</strong></td>
<td>• Highly structured and formalized process, with project risk assessment conducted by Risk Committee independent of business managers.</td>
<td>• Formal process, with project risk assessment conducted by Risk Committee independent of business managers.</td>
<td>• Formal process for most large projects. Project risk assessment conducted by Risk Committee only for projects requiring senior executive approval.</td>
<td>• Mostly informal or no formal process. No independent Risk Committee in place.</td>
</tr>
<tr>
<td></td>
<td>• No history of material project losses.</td>
<td>• No history of significant recurring project losses.</td>
<td>• History of project losses, but nothing catastrophic.</td>
<td>• History of losses on projects.</td>
</tr>
<tr>
<td></td>
<td>• Centralized project approval process across all business units and subsidiaries.</td>
<td>• Level of management bid/project approval correlated with size of project (to board level).</td>
<td>• Decentralized process. Large projects relative to the size of business could be approved by business units or regions.</td>
<td>• Risk management is not standardized and is a highly decentralized process. Most projects could be approved by business unit or regional management.</td>
</tr>
<tr>
<td></td>
<td>• Independent/third-party review of all large projects.</td>
<td>• Independent/third-party review for some large-scale/higher-risk projects.</td>
<td>• Limited independent/third-party review of projects.</td>
<td>• No independent/third-party review of projects.</td>
</tr>
<tr>
<td><strong>Project Complexity and Contractor Expertise</strong></td>
<td>• Focus on low-risk projects (e.g., standard buildings).</td>
<td>• Greater share of projects deemed to be low- versus high-risk.</td>
<td>• Relatively even mix of low- and high-risk projects.</td>
<td>• Greater share of work with high-risk projects and/or projects that are relatively new to a company.</td>
</tr>
<tr>
<td></td>
<td>• Limited or no exposure to high-risk projects outside its core areas of expertise.</td>
<td>• Very few or no bids on projects outside of core areas of expertise.</td>
<td>• Engaged in projects in certain higher-risk markets and/or projects outside of core areas of expertise.</td>
<td>• Expertise in only a few end markets.</td>
</tr>
<tr>
<td></td>
<td>• High degree of internal expertise and self-performance capability for complex projects, which support superior profit margins.</td>
<td>• Internal expertise supplemented with subcontractors.</td>
<td>• Projects outside of core areas of expertise are considered and largely rely on subcontractors for these tasks.</td>
<td>• Limited internal expertise with material reliance on subcontractors for most contracted works.</td>
</tr>
</tbody>
</table>
### Engineering and Construction - Primary BRR Factors

<table>
<thead>
<tr>
<th>Rating</th>
<th>A</th>
<th>BBB</th>
<th>BB</th>
</tr>
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</table>
| **Scale of Operations** | • Industry-leading scale by a wide margin, with strong brand reputation and recognition.  
• Material presence in most major developed end markets globally.  
• Future growth largely supported by reputation and delivery capabilities in major developed end markets. | • Annual sales are significant and close to industry leaders, with a strong reputation.  
• Presence in most major developed end markets globally with strong position in some key markets.  
• Future growth focused in key markets and supplemented, by very selective entry into new and emerging markets. | • Medium scale of operations but solid reputation.  
• Presence in only a few other end markets other than its domestic market.  
• Future growth strategy includes entering and growth in new and emerging markets.  
• Modest-scale, small industry player with limited market influence/reputation.  
• No presence outside domestic market.  
• Future growth strategy depends significantly upon success in entering and growth in new and emerging markets. |
| **Nature of Contracts** | • Almost exclusively cost-plus contracts or contracts with no risk of losses (only risk to margins).  
• High proportion of long-term contracts (i.e., high maintenance component). | • Larger share of cost-plus contracts versus fixed-price contracts. Fixed-price contracts almost entirely on low-risk projects.  
• Average contracts are relatively long (i.e., high maintenance component). | • Generally even mix of fixed-price- and cost-plus-like contracts. Fixed-price contracts mainly on but not limited to low-risk projects.  
• Reasonable amount of long-term contracts (i.e., high maintenance component).  
• Mostly fixed-price contracts. Fixed-price contracts on essentially all types of projects.  
• Limited or no share of maintenance business (sales are mostly construction-related and shorter-term in nature). |
| **Diversification** | • Sales evenly distributed by activity, region, end market and customer, with no material weakness in any segment.  
• No concentration on individual customers for a significant proportion of revenue.  
• Efforts to expand or diversify focused on lower risk activities in developed and familiar geographic regions. | • Material presence in two to three business segments/sectors, on average, with a global presence.  
• No material concentration on individual customers for a significant proportion of revenue.  
• Efforts to expand or diversify largely focused on similar risk activities and largely in developed or familiar geographic regions. Very selective expansion into higher risk areas, limited to a modest proportion of total business. | • Sales outside of core domestic market, with a focus on one or two end markets and types of work (e.g., construction and maintenance of commercial buildings).  
• Moderate concentration on individual customers for a meaningful proportion of revenue.  
• Company may consider expanding into higher risk activities and geographic regions as part of its expansion efforts. Such activities could become a material contributor to the company’s business over time.  
• Only one market and one core business.  
• Material concentration on individual customers for a significant proportion of revenue.  
• Company is willing or is pursuing expansion into high-risk activities and geographic regions.  
• Such activities are contributing to a material and increasing proportion of the Company’s business. |

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

**Sovereign Risk**  
Please refer to Country and Political Risk below for further information on how DBRS evaluates sovereign risk.

**Corporate Governance**  
Please refer to DBRS Criteria: Evaluating Corporate Governance for further information on how DBRS evaluates corporate governance and management.

* To the extent information is disclosed or made available, DBRS will also examine the Company’s use of insurance coverage against construction risks and protective features of contracts (such as liquidated damages, professional liability coverage, accidents and adverse weather conditions) and the use of risk mitigating measures in contracts (e.g., limitation of liquidated damages, reimbursement of unexpected costs, rescheduling flexibility, risk protection, etc.).
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. Some of these factors could have such a material impact on the operations and/or financial health of the E&C company concerned, such that its BRR and ratings may be changed to reflect the materiality of such impact.

Country and Political Risk
- The issuer rating may be constrained by the credit risk and rating of the country in which the issuer operates, in that it may set a maximum rating for the issuer. Many E&C firms operate in multiple countries, and if a material amount of its business is conducted in lower-rated or developing countries, DBRS may reflect this risk by adjusting the issuer rating downwardly.
- While companies in many industries have operations in developing economies (which typically have developing and less predictable political, legal and regulatory frameworks), E&C firms are arguably more exposed to certain country and political risks.
- As these firms often compete for project work (often awarded by government bodies) in developing countries, they may be exposed to potential political and reputational risks through association with these governments and with the lax safety standards that may exist in these countries.
- By assessing companies suffering project-related losses in developing countries, DBRS observes that these losses are caused by one or more of the following: (1) underestimation of project costs and risks (possibly due to a longer permitting process, labour unavailability, higher labour and material costs; (2) malpractice or non-performance of local agents, partners or subcontractors; or (3) lapses in risk management practices allowing regional managers to bid for and execute sub-optimal projects. Furthermore, their investments in physical assets and infrastructure are generally less liquid than in developed economies.

Lawsuits or Other Contingent Liabilities
- As engineering and construction works are often complex and awarded through contractual agreements, companies may from time to time have disagreements with project sponsors, suppliers or subcontractors on contract scope or schedule, performance standards and/or payment terms.
- When analyzing a company with material outstanding contract disputes, lawsuits or contingent liability claims, it is often difficult to estimate, with any degree of accuracy, the likely financial impact on the company, as the outcome of such disputes often depend upon future court judgments, arbitration or bilateral negotiations.
- DBRS will evaluate the circumstances leading to the dispute and make its best effort to estimate the likelihood and severity of these claims to the company concerned and to assess the possible financial impact on the company in our rating assessment.

Real Estate Developments
- Real estate development and construction activities (particularly in building construction) are both highly cyclical and correlated with demand. They are similarly affected by the affordability of residential or commercial property and the availability of mortgage or property financing for buyers.
- This correlation was illustrated in certain European countries, where the prolonged economic downturn and tightening of the retail credit markets over the past two to three years caused a marked drop-off in demand and prices for properties. This slump in real estate markets, together with weak economics, caused governments to tighten spending on infrastructure, which also resulted in a slowdown in construction activities.
- DBRS has witnessed E&C companies involved in real estate development in depressed markets suffering from a combination of (1) lower revenue and tighter profit margins in their construction business; (2) lower property sales and profits; and (3) impairment charges to their land bank, due to a decline in both land and property prices. This combination has effectively magnified the impact of the market downturn, resulting in these companies typically showing much weaker financial metrics than those not involved in real estate developments.
• DBRS views involvement in real estate development as detrimental to the business risk profile of an E&C company, due to the increased exposure to risk, and factors such risk into rating considerations. This view is held even for companies that have yet to experience a market downturn.

**Project Ownership**
- Project equity investments can offer greater reward, but can also potentially increase risk.
- When a project is under construction and does not generate cash flow, it can tie up a substantial amount of the investing company’s capital, require additional debt financing and reduce liquidity. Since the investing company is often involved in the engineering and construction of the project, it may be obliged to remain an equity investor during the construction phase. Even if it is allowed to dispose of its investments, there may not be an interested buyer at this stage, due to the risk of construction delays or cost overruns.
- However, once the invested project starts to generate cash flow and dividends, it may be more supportive to the parent’s rating, particularly for projects that generate steady and predictable revenue such as pipelines, power transmission grids, toll roads in areas with steady traffic volume and contracted power generation facilities.
- E&C companies that hold a portfolio of equity investments in completed and operating concessions with limited additional capex requirements could have an added level of financial flexibility. They could choose to maintain these investments that generate predictable streams of cash flow to supplement the relatively more lumpy and cyclical earnings from their core E&C business. Alternatively, the company could possibly dispose of part of these investments to raise funds to support growth in their core business.

**Backlog**
- Backlog is an important measure of future revenue for an E&C company, and DBRS will assess a company’s backlog position through its backlog-to-revenue ratio, which typically will fall between 1.5 times (x) and 2.0x.
- In assessing a company’s backlog position, it is important to look beyond the ratio to understand the definition, composition and nature of its backlog, as well as any reasons behind material changes in the company’s coverage ratio, particularly when the ratio falls below the average or indicates a declining trend.
- DBRS also assesses backlog concentration for risk of dependency on certain customers for business and exposure to their credit risk.

**Market Position**
- Companies with a long-established market presence and reputation are in a stronger position to bid on projects.
- Larger companies are often better positioned to invest in projects, which can benefit them in the bidding process.
- Successful bids are typically determined by price and bidders’ performance capability, but the reputation that comes with a strong market position in a particular region or end market can sometimes be more important than pricing.

**Barriers to Entry**
- Barriers to entry are generally low in the engineering and construction industry and lowest in the construction sector, with its competitive-bid process and narrow margins, although companies with integrated engineering, construction management and maintenance businesses benefit from higher barriers to entry as a broader, more vertically integrated menu of services are expensive and time-consuming to build and fewer contractors have these capabilities.
**Exposure to Unionized Labour Market**

- E&C companies that have a unionized workforce could be exposed to unexpected project delays and increased costs resulting from hostile labour relations and strike actions.
- Those who rely on subcontractors or suppliers operating with unionized workforces could likewise be exposed to heightened performance risk because of similar labour actions.
- DBRS will examine the companies’ labour relations, terms of their union contracts and the expiry dates of key collective bargaining contracts, contingency planning against such labour actions and the adequacy of risk mitigating measures against non-performance of subcontractors or suppliers in our rating assessment.
Engineering and Construction 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.
- 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.
- 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.

### Engineering and Construction – Primary FRR Metrics

<table>
<thead>
<tr>
<th>Key Ratio</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;50%</td>
<td>25% to 50%</td>
<td>15% to 25%</td>
<td>&lt; 15%</td>
</tr>
<tr>
<td>Debt-to-EBITDA</td>
<td>&lt; 1.5x</td>
<td>1.5x to 3.0x</td>
<td>3.0x to 4.5x</td>
<td>&gt; 4.5x</td>
</tr>
<tr>
<td>EBITDA interest coverage</td>
<td>&gt; 7.5x</td>
<td>4.5x to 7.5x</td>
<td>2.5x to 4.5x</td>
<td>&lt;2.5x</td>
</tr>
<tr>
<td>EBITDA margin</td>
<td>&gt; 8.5%</td>
<td>5.5% to 8.5%</td>
<td>3.5% to 5.5%</td>
<td>&lt;3.5%</td>
</tr>
<tr>
<td>Debt-to-capital</td>
<td>&lt; 20%</td>
<td>20% to 35%</td>
<td>35% to 55%</td>
<td>&gt; 55%</td>
</tr>
</tbody>
</table>

- The grid of FRR metrics above for the engineering and construction industry is somewhat different from DBRS’s metrics for a typical industrial firm, as they take into consideration the self-financing nature of the industry’s business, because payments made in advance by customers from awarded contracts (which are reported as current liabilities) are generally sufficient to cover working capital needs. Group 2 and 3 E&C companies typically use debt financing and leverage to finance acquisitions, capex on construction equipment or manufacturing facilities, equity investments in concessions or other investments.
- For E&C companies that also make equity investments in concessions or project joint-ventures, project-level debts that are non-recourse to the company could possibly be included in their consolidated balance sheet. DBRS excludes these non-recourse debts from adjusted debt. In addition, because project earnings and cash flows are usually generated and retained in project-specific vehicles with distribution restrictions to ensure adequate project funding, DBRS also excludes such project EBITDA and will only include distributed cash dividends in the company’s cash flow when computing our financial metrics.
• For Group 1 companies with asset-light operations and limited borrowing, DBRS will pay particular attention to profitability as indicated by its EBITDA margin and our assessment of the Company liquidity in formulating their FRR, in addition to their typically very strong financial metrics due to their low (or zero) debt level.

• Recognizing that no one specific metric can fully reflect adequacy of a Company’s liquidity position, DBRS may evaluate a number of factors in drawing a conclusion on the Company’s liquidity. These factors include: (1) consistency and level of cash balance maintained on balance sheet in relation to its business size; (2) availability of committed credit facilities; (3) quality of current assets; and (4) size of short-term committed payments.

• In assessing an E&C company’s profitability, DBRS may review the average EBITDA margin for the latest 12-month period and the past three fiscal years. Given the typically low profit margin in the industry, this approach will help reduce the impact and volatility created by year-to-year swings in the metric caused by project-related losses.

**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, particularly in the B range and below, the FRR and liquidity factors play a much larger role and the BRR would therefore receive a lower weighting than it would at higher rating levels.

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 in the criteria Preferred Share and Hybrid Criteria for Corporate Issuers (Excluding Financial Institutions).
- 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 DBRS Criteria: 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 1: Detailed Characteristics of the Different Groups of E&C Companies

GROUP 1: PURE E&C COMPANIES
These companies are typically asset-light, as they can choose to rent construction equipment for the duration of each material project and hire temporary construction workers or self-perform work while employing subcontractors for the remaining tasks. In addition, once contracted, they are able to receive mobilization costs, progress payments and other payables, which effectively serve as interest-free financing for their working capital requirements. As a result, companies engaging solely in their core E&C operations have limited external financing requirements that can generally be met with revolving short-term borrowing and carry limited balance sheet debt, during normal business cycles when volume of work is steady or increasing. These companies typically have very strong debt coverage and leverage ratios, even though they may have limited profitability or earning power.

GROUP 2: E&C COMPANIES ALSO ENGAGED IN RELATED AND SUPPORTING ACTIVITIES
These companies invest in certain assets that could enhance operating flexibility or reduce revenue cyclicalty from their core E&C businesses. These investments may include (1) manufacturing facilities for building materials (steel plates, building modules, pipes and tubes, granite, asphalt, cement, etc.) to reduce input cost volatility, (2) construction equipment to ensure availability and to facilitate work scheduling, (3) acquisitions of other E&C companies in search of additional performance capability, geographic expansion and/or an enlarged customer base, and (4) concessions or assets (such as toll roads, transmission lines, airports, power generation) that generate steady dividend flows upon completion. These investments, if appropriately selected and well integrated, can enhance the companies’ business risk profile through increased scale, diversity, operating flexibility and performance capability. However, they also increase the companies’ capital intensity and require financing from a combination of sources (including borrowing, equity issuance or use of internally generated cash flow from operations). Compared to the Group 1 companies, they usually carry higher debt levels and as a result have weaker financial metrics. In assessing these companies’ ratings, DBRS considers the benefits these investments bring to the company’s business risk profile against their related debt servicing requirements and weaker financial metrics.

GROUP 3: E&C COMPANIES ALSO ENGAGED IN UNRELATED OR NON-ESSENTIAL ACTIVITIES
Some E&C companies seek to supplement their core businesses with investments in unrelated businesses that are capital-intensive, require continued cash investments for a period of time and often utilize external borrowing to finance them. Companies make such investments either to improve their profit margins (from the thin-margin E&C business) and/or to generate internal construction contracts. DBRS views investments in the real estate development business negatively because demand and revenue in the real estate business are highly correlated with those in its construction activities; therefore, such investments could magnify volatility in the companies’ revenue and cash flow, especially during periods of market contraction. Investment in other businesses or assets could require continued or committed capital injection from the company, thus diverting valuable resources away from its core business and from its debt servicing requirements. In assessing their ratings, DBRS considers both the additional risks these investments pose to the company’s business risk profile and the weaker financial metrics resulting from the use of debt to finance them.