Outlook for the North American Lumber Industry

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Agenda

• The year in review: Why are market conditions so weak?
• Softwood lumber demand outlook through 2021
• Supply developments over the horizon and the role of southern yellow pine
• Outlook for operating rates and industry profitability
• Take home points and conclusions
Current market conditions

Softness persists despite wave of closures in British Columbia
Over 2 BBF of permanent or indefinite curtailments in BC in 2019

- Approximately 500 MMBF cut from Oregon permanently
- Announced temporary curtailments total about 800 MMBF in NA for 2019
- Over 1,800 direct jobs lost at BC and PNW sawmills, probably 5,000-6,000 jobs lost total
- And the situation still looks grim…
Permanent and indefinite closures taking a big chunk out of the regional capacity base

Permanent/indefinite capacity curtailments to date in 2019 (MMBF)

British Columbia: -15.5% YOY
Pacific Northwest: -4.1% YOY
Combined BC and PNW: -10.3% YOY

© 2019, RISI, Inc. Data sourced from company earnings reports, press releases and Fastmarkets RISI internal estimates, and mill capacities are based on Fastmarket RISI’s Mill Asset Database.
Prices reached record highs in the summer 2018, but have come crashing back earth

Random Lengths Weekly Report, monthly average, US dollars per MBF
Why are lumber prices still so suppressed?

Other factors keeping market oversupplied...

• Lumber demand fundamentally weak these last two-three years
  – Residential construction has disappointed
  – Industrial markets in disarray in 2019, nonresidential construction flagging
  – Offshore markets, especially China, very weak

• Continued expansion of capacity in US South

• Mill stocks on the high side since 2018, and dealer/distributor inventory strategies adjusting
US softwood lumber demand has been soft since 2017

US softwood lumber apparent consumption, BBF, quarterly

2010-2016 Avg: 5.9%  
2017-2Q 2019 Avg: 1.0%
January–August 2019 set a national record for cumulative precipitation (2018 ranks 35th)

NOAA National Temperature and Precipitation Maps
US total exports down 24% YTD through July 2019

Total US softwood lumber exports (MBF), SYP & treated share of exports (right axis)
Fast facts on US South sawmill projects

- **Approximately 3.9-4.2 BBF** of new capacity announced to start up in 2018 and 2021
- **11 new sawmills** planned, many more incremental expansions
- Average capital outlay of **$117 million per greenfield** sawmill investment
- Average capital cost of **$431 per MBF** invested
- Contractor and equipment supplier lead times and labor delaying some projects into 2020 or even 2021; market conditions a factor as well
- We assume about 3 BBF of net capacity added to US South by 2021, excluding creep capacity
North American announced capacity additions/reductions in 2019

MMBF of annualized nameplate capacity¹

Effective 2019 volume changes from sawmill expansions and closures

- US South: 0.9 BBF
- British Columbia: -1.0
- US Pacific Northwest: -0.3
- Other North America: 0.0
- North American total: -0.4 BBF

Other sources of supply

- Temp curtailments: -0.8 BBF
- Strike reductions: -0.3
- Annual creep: 0.7
- Net 2019 volume change: -0.8 BBF

NA demand on mills likely down 0.7 BBF in 2019...

¹ Only permanent and indefinite capacity additions or removals are included in this tally. Figure excludes capacity creep and do not factor in startup curves on capacity additions.
Mill stocks have climbed and appear to be more problematic

North American softwood lumber mill inventories, BBF

Source: WWPA, Statscan, Fastmarkets RISI.
Updates on the trade front
North American lumber demand

Growth stumbles as the US housing market faces headwinds
US softwood lumber consumption: R&R remains the largest end-use market for lumber

Volume and market share, BBF

- **Residential**: 15.2 BBF (31%)
- **Industrial**: 10.8 BBF (22%)
- **R&R**: 21.1 BBF (43%)
- **Nonresidential**: 1.8 BBF (4%)

2018

48.9 BBF
R&R share has seen substantial gains since the 90s, single-family share likely to edge higher over time

US lumber consumption by end use, BBF
Flat demand profile in North America coupled with sinking net exports pulling demand on mills down through 2020

Demand on North American mills, BBF
North American supply

A wave of southern sawmill investments drives the North American capacity outlook
BC runs up against fiber constraints, while Eastern Canada seems to have room to expand

Roundwood harvest demand, million cubic meters, all species

Note: Includes provincial reported Crown annual allowable cut (AAC) and harvest potential from private lands. Provincial AAC forecasts and operable AAC history and forecast are estimated by Fastmarkets RISI. Roundwood production includes all logs consumed for fuelwood and industrial end-use markets.
Duties move Canadian producers further up the softwood lumber cost curve

North American softwood lumber average variable cost delivered to Chicago*

* Adjusted for product mix and underweights.
PNW log cost premium drives investment to the US South

US delivered log prices, MBF, Scribner

AND THE DOUGLAS-FIR PREMIUM TO SYP REMAINS ELEVATED

- Douglas-fir sawlog premium to SYP held at ~40% pre-recession
- Relative pricing has decoupled since 2009 as timber fundamentals have grown out of whack between the regions
- PNW high log costs driven by substantial log exports, consolidated timber ownership, declining private forest inventories and drastically reduced logging on federal lands
- SYP sawlog prices remain remarkably flat as forest inventories swelled following the housing collapse
US South will continue to be the low-cost region over the forecast horizon

Average variable production costs, US dollars per MBF
Modest top-line supply growth masks divergent regional trends

### CAPACITY OUTLOOK SUMMARY, 2018-2021

<table>
<thead>
<tr>
<th>REGION</th>
<th>2005 (BBF)</th>
<th>2018 (BBF)</th>
<th>2021 (BBF)</th>
<th>CHANGE (BBF)</th>
<th>CAGR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>38.7</td>
<td>31.3</td>
<td>29.7</td>
<td>-1.6</td>
<td>-1.7%</td>
</tr>
<tr>
<td>British Columbia</td>
<td>18.6</td>
<td>14.4</td>
<td>12.6</td>
<td>-1.9</td>
<td>-4.6%</td>
</tr>
<tr>
<td>Eastern Canada</td>
<td>20.1</td>
<td>16.9</td>
<td>17.2</td>
<td>0.3</td>
<td>0.5%</td>
</tr>
<tr>
<td>United States</td>
<td>43.3</td>
<td>41.3</td>
<td>44.1</td>
<td>2.8</td>
<td>2.2%</td>
</tr>
<tr>
<td>US South</td>
<td>19.4</td>
<td>21.9</td>
<td>25.0</td>
<td>3.1</td>
<td>4.4%</td>
</tr>
<tr>
<td>Other USA</td>
<td>23.9</td>
<td>19.2</td>
<td>19.1</td>
<td>-0.3</td>
<td>-0.5%</td>
</tr>
<tr>
<td>Total North America</td>
<td>82.0</td>
<td>72.7</td>
<td>73.9</td>
<td>1.2</td>
<td>0.5%</td>
</tr>
</tbody>
</table>
SYP lumber production will reach a record high next year

US South lumber production (BBF, quarterly); US South share of US consumption (right axis)
Profitability outlook

Looser market conditions over the horizon will continue to pressure sawmill margins
North American softwood lumber market expected to further soften through 2021

Demand/capacity ratio for North American softwood lumber
Lumber prices more volatile and trend higher as demand/capacity reaches mid-80s

Scatter plot of WF2x4 price/AVC and demand/capacity ratio
Cash margins will remain elevated for SYP even as operating rates fall, keeping investment in SYP capacity attractive

SYP and Hem-Fir (Inland) 2&B 2x4 price divided by average variable costs
Take home points

• **Housing and other end-use markets** will face headwinds through the end of 2020 before market conditions improve.

• **US and Canadian domestic consumption** are expected to decline in 2019 and 2020 before returning to a path of recovery.

• **Net exports** will fall further due weak demand offshore, Chinese tariffs and declining export potential in Canada.

• **Capacity** will expand rapidly in the US South, but additions will be offset by current and future curtailments in BC and the Pacific Northwest.

• **Operating rates** will continue to edge downward as rising supply and falling demand through 2020 keep markets out of balance and profitability suppressed.

• **Risks** include recession timing and uncertainties on the capacity side of the market, particularly in BC.
Thank you for your attention!

For more information:

Lumber Commentary
www.risi.com/lumbercommentary

North American Lumber Forecast, 5- and 15-year
www.risi.com/lumber5year
www.risi.com/lumber15year

BC and PNW Curtailment Infographic

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