Introduction to: International WOOD MARKETS Group

• We are wood products industry consultants and we assist companies around the world to develop operational, marketing & business strategies.

• We are known as global market & industry experts/analysts on timber, lumber, panels & many millwork products sold in the U.S. market & key export markets.

• We produce Multi-Client Reports: Europe & Russia; Clearwood Pine; Global Lumber Benchmarking; The China Book; WOOD Markets 2000, 2002 & 2006; & the WOOD Markets Monthly Report
1. NZ Pruned Pine Plantations–1998 WM

- A summary of WOOD MARKETS perspectives from 1998 to 2004 are summarized here…

- WOOD MARKETS identified that the price paid for pruned radiata pine timber land (CNI area) was not supported by the economics of sawmilling and the long term supply/demand balance for pruned logs.

- Successive sales of the CNI timberlands supports this claim.
For more clear lumber and/or finished products to show up in world pine markets, existing manufacturing capacity will need to be upgraded and new capacity added:

In NZ, sawmills or secondary manufacturing will need to be upgraded to accommodate pruned logs.

Since the strategy of Chile so far has not been to export higher quality logs, it is expected that more processing capacity will be added.

It appears that pruned pine exporters in New Zealand, Chile, South Africa and the U.S. South will need to step up their marketing efforts, as the potential timber supply still dwarfs the current market size, at least in the current products produced and at current price levels.

New Zealand’s expanding pruned pine timber supply (and uncommitted excess supplies) and China’s potential to purchase and process clear-type logs and lumber will likely be two of the key dynamics in how the fortunes develop for clearwood pine producers.
Even under our own more conservative estimates, from the rapid potential increases in the global harvest of pruned timber paired with the more limited market opportunities for pruned log exports, clear lumber and plywood, and clear moulding & millwork products, we expect that supply will generally exceed demand without the establishment of new products and markets.

We are not yet aware of a strategic business or marketing solution by the NZ industry that addresses how to process, sell or market this large increase in pruned timber and/or clearwood.

Chile and its three to four medium to large size companies continue to set the standard in terms of clearwood processing of logs, lumber, plywood and finished products as well as export marketing.

Forest land owners will need to maintain existing log processing customers, as the prospects of putting sawmillers out of business only creates a greater unsold supply of pruned logs without customers (unless log export markets are stable).
In a recent newsletter, the NZ TIF said shortages were developing across a wide range of product lines after plant closures reduced production. In the year to June 2009, sawn timber production was down 19%, reducing mill stocks by about a third. This meant that lumber buyers had to compete to secure supply. Domestic shortage have been compounded by a surge in log exports to China. The Federation warned that the New Zealand industry was now hugely reliant on China after the “fastest restructuring of our forestry trade in its entire statistical history.”

2008: 14% of NZ logs went to China
2010: 60% to China
Lumber exports to China have nearly doubled to 28% (2010 vs 2008), nearly three times the volume sent to NZ’s next biggest market, Australia.

Asia now accounts for 80% of all NZ log exports, compared to just over 50% six years ago. But the average price paid by Asian buyers is about a third of that paid by Australia.
NZ Pine 2010 (NZTIF)

- The last major strategy, the NZ Forest Industries Study, was developed under the umbrella of the then NZ Forest Industries Council 18 years ago to provide a basis for developing the industry's future direction and contribution to NZ's economic growth.
- New Zealand has something like 1.8 million hectares of plantation forest and the sector accounted for NZ$3.7 billion of forest products exports last year.
- The question is: who has the mandate, who has the vision, who has the drive and who should be leading the development of the long overdue Strategy for the NZ Forestry Sector.

NZ Pine Sawmill Closures (DANA)

- A new DANA Review identifies 32 NZ sawmills have closed since 2003, reducing log demand by 2.4 million m³ (almost 15% of recent sawlog harvest) and lumber output by 1.2 million m³ = ~30% of the total number of sawmills operating in 2003.
- A number of large structural lumber mills, cutting for the NZ and Australian house-building markets; and mills focussed on cutting Mldg & Btr. lumber for the US moulding markets were particularly hard hit.
- In contrast to the 32 mill closures, there have been two new mills open since 2003; one a tiny mill and one large mill based on imported second hand equipment.
NZ: Timber Harvest Flat

New Zealand Estimated Timber Remova

NZ: Log Exports Growing

New Zealand: Log Exports

NZ Timber Harvest = no growth (less sawmills)!

NZ log exports now focused on China & Korea
NZ: Sawnwood Exports Flat

NZ exports = declining in traditional markets & growing in Asia

NZ Strategy Tied to Exports & Especially Log Exports

- NZ is net exporter of its wood products, but there has been a lack of overall competitiveness in a number of wood products.
- With a mix of some efficient world-class processing and smaller scale mills (many of 32 mills that have closed are here), wood product exports have slowed.
- Without sustainable domestic processing and with low cost timber, log exports have become a key strategy of New Zealand.
3. So. Hemisphere (New Zealand) Log & Sawmill Competitiveness

- Understanding global competitiveness is key to understanding global market fits in major wood products (and log) exports.
- Summaries from our Global Sawmill & Sawnwood Cost Benchmarking Report are provided from the 2006 Report – the 2008 Report is our latest version (and we are now working on the 2010 Report).

---

Global Lumber/Sawn Wood Cost Benchmarking Report

- A profile of the major sawmill-producing regions in North America, Europe and the Southern Hemisphere
- Benchmarking of log costs, sawmill processing costs, labor costs, revenue trends and key performance indicators
- Detailed information on the manufacturing cost breakdown of primary and secondary processes
- Future market trends and regions

Global Sawnwood/Lumber Benchmarking Report: By Major Country

Available June 30, 2007

2006 & 2007/Q2
3A. Global Sawmill Benchmarking: NZ

- NZ’s Global Position - “Average” Mills - 2006:
  - Delivered Wood Cost = Below Average
  - Sawmill Costs = Very High = Poor!
  - Margins = Normally very good due to high prices, but average in 2006 due to tough markets

NEW ZEALAND: COSTS vs. GLOBAL & SO. HEMISPHERE COSTS (US$/m3)

<table>
<thead>
<tr>
<th></th>
<th>New Zealand</th>
<th>Global Average</th>
<th>Southern Hemisph.</th>
<th>Global Position</th>
<th>South Hemisph. Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delivered Wood Costs</td>
<td>$56</td>
<td>$63</td>
<td>$52</td>
<td>BELOW AVERAGE</td>
<td>AVERAGE</td>
</tr>
<tr>
<td>Net Wood Costs</td>
<td>$109</td>
<td>$118</td>
<td>$102</td>
<td>BELOW AVERAGE</td>
<td>AVERAGE</td>
</tr>
<tr>
<td>Sawmill Costs - excl. V-A</td>
<td>$89</td>
<td>$64</td>
<td>$75</td>
<td>V. HIGH</td>
<td>HIGH</td>
</tr>
<tr>
<td>Total Costs</td>
<td>$198</td>
<td>$182</td>
<td>$177</td>
<td>HIGH</td>
<td>HIGH</td>
</tr>
<tr>
<td>Revenue</td>
<td>$210</td>
<td>$190</td>
<td>$191</td>
<td>HIGH</td>
<td>HIGH</td>
</tr>
<tr>
<td>EBITDA Margin</td>
<td>$12</td>
<td>$8</td>
<td>$14</td>
<td>AVERAGE</td>
<td>AVG</td>
</tr>
</tbody>
</table>

Average Mill Size (x000 m3) 160 145 52 AVERAGE ABOVE

Global Delivered Log Costs – Average Mill 2006: Summary

NZ/Australia = below global average of US$64/m3
3B. Benchmarking: Sawmilling Costs for “Average” Mills

- A Summary of Sawmilling Costs;
  for “Average” Sawmills by Country or Region

Global Sawmilling Costs – Average Mill 2006: Summary

- NZ & Australia sawmilling costs = very high!
Australia & NZ Sawmill Margin Global Ranking: 2002-2008

<table>
<thead>
<tr>
<th>Year</th>
<th>Australia &quot;Top Quartile&quot;</th>
<th>Australia &quot;Average Mill&quot;</th>
<th>NZ &quot;Top Quartile&quot;</th>
<th>NZ &quot;Average Mill&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>1</td>
<td>1</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2004</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>2006</td>
<td>10</td>
<td>22</td>
<td>11</td>
<td>14</td>
</tr>
<tr>
<td>2008</td>
<td>2</td>
<td>2</td>
<td>5</td>
<td>3</td>
</tr>
</tbody>
</table>

Out of 25-32 Global Regions

Source: WOOD MARKETS

Excellent Earnings in Australia from Domestic Market Imports; NZ Earnings still above average as more exports are required in global markets

Conclusion: Global Benchmarking & NZ’s Fit

• Favourable Costs/Metrics:
  • Delivered log costs & net wood costs.
  • Sawnwood selling price.
  • EBITDA Margin = Normally very high (globally).

• Unfavourable Costs:
  • Sawmill labour & direct unit costs are close to being the highest in world = “average” sawmills
  • Sawnwood exports = required for excess output
  • Log exports appear to be a default strategy.
Fit in Global Log/Lumber Markets

- NZ and Australia = large distances and high transport costs to major export markets.
- NZ Domestic Market = Small
- Australia Domestic Market = Large
- NZ and Australia sawmilling costs = above average = Disadvantage
- NZ and Australia log costs = below average = Advantage
- To compete in global markets, competitive costs are key = Some Disadvantages to NZ and Australia sawmills but an Advantage for log exports!

4. Global Markets

Major traditional global markets continue to be:
- Australia
- USA
- Europe
- Japan
- NE Asia (Taiwan, Korea)

Emerging markets:
- China
- SE Asia (Vietnam)
- India
- North Africa
- Middle East
**Australia: Highest Prices in World**

**Structural Lumber Delivered Lumber Prices**

- **Australian Prices**
- Japan - 2x4 J-Grade S4S
- UK - 47 mm Swedish Carcassing
- US Chicago - 2x4 2&btr S4S

*Source: WOOD MARKETS*

**Australia’s structural sawnwood prices = tied to imports**

**Australia: Sawnwood Imports Flat**

- **Australia: Sawnwood Imports**

  - Other
  - Indonesia
  - USA
  - Malaysia
  - Austria
  - Czech
  - Canada
  - NZ

*Source: ABARE*  
*Prior to 2006 Czech Rep & Austria in Other*

**Australia imports declining; domestic supply increasing**
4A. Japan

- A key market for high prices, but demand and imports continues to fall.
- Housing starts fall to a 45 year low in 2009 to 788,000 units.
- With higher priced Russian log imports, Japan is now harvesting more domestic species.
- Limited to no growth, but still a key market.

Japanese Housing Trends

Long Term = Declining Trend, but they still need imports
Japan Log Imports Peaked Long Ago

Russia became the biggest supplier until 2008 – the proposed 80% tax caused structural changes in Japan.

Japan Lumber Demand Declining Too

Declining domestic & imported lumber.
Japan Lumber Imports Declining Too

Canada, Europe and Russia are the main suppliers

Europeans Have Gained in Japan

North America has Lost Market Share
BC Mountain Pine Beetle

- The mountain pine beetle damage:
  - ~ 650 million m³ dead in 2008 = 14x B.C. Interior’s annual harvest;
  - 70% of B.C.’s pine will be killed by the end of 2009;
  - Likely will peak by killing 900 million m³ by 2015 = 80+% of B.C.’s total pine and lowering the Interior harvest by one-third.
  - Is now in ALBERTA and is moving east…
- The MPB = no impact on structural lumber properties, but visually looks different (blue stain and checking = problem for Japan sales).

BC Interior Timber Harvest Outlook

Steady harvest probable through 2011-13, then a decline;
BC Interior: Mountain Pine Beetle Attack Report
Forecast: to 2028

The future of BC’s harvest and wood products production produced by:
- Jim Girvan
- Murray Hall
- Russ Taylor
- Gerry Van Leeuwen

AVAILABLE: March 15 2010

4B.CHINA: Growing Role in Global Trade

China’s rank in wood products global trade:

- Production:
  - Plywood: #1
  - MDF: #1
  - Blockboard: #1
  - Furniture: #1
  - Hardwood lumber: #2
  - Particleboard: #3
  - Softwood lumber: #3 (after US & Canada)
  - Finished Products: Soaring

- Imports: #2 (after the USA)
- Exports: #1

China needs IMPORTED RAW MATERIALS to run its processing plants!
China’s Log Imports

NZ is now the second largest supplier to China

China Log Prices: Correcting!

Demand, Currency & Transportation Cost = Drivers
China’s Lumber Demand = Soaring

China’s lumber used in furniture, concrete forming, factories

China Lumber Supply & Demand

- Production
- Imports
- Exports
- Consumption

Source: SFA & CTI

China Lumber Imports Still Growing

Russia, Canada and US are the largest lumber suppliers
Low US Lumber Prices Mean that
Chinese Prices Look Good – For Now

Low grade lumber prices to China offer a good return for now – but may not be the best long term market!

4C. European Timber Production & Lumber = Self-Sufficient Except Niches

Germany, Sweden & Finland are the largest
4D. US Wood Products Markets

- US Housing market collapse – 80% decline...
- Production cut backs and consumption declines in nearly every segment of the U.S. wood products industry have been significant:
  - Softwood lumber demand down 50% since 2005;
  - Shop & Better volumes also plunged.
  - Hardwood lumber down 35+%;
  - Structural panels down 47% since 2005; and
  - Engineered wood products (EWP) down 69%.
- No real recovery until 2012....

Declining MF: Rising SF Housing Starts

Since 1959, SF Housing = Rising; MF Housing = Declining
US & Canada Sawnwood Consumption

Demand collapses by 50% in U.S.; Canada eroding now

5. New Markets

- Middle East = a major wood products importing region.
- North Africa = surging import volumes from Europe and Russia.
- India = still limited to logs but eventually more wood products,
- Niche markets = a number of small volume ones.

Note: 2009/10 = forecast by WOOD Markets
Lumber Exports Growing to M.E.

Top Country Softwood Lumber Exporters to Qatar, Saudi Arabia & UAE

- Russia
- Austria
- Germany
- Slovenia
- Finland
- Sweden
- Canada
- Chile

Russia is another big player in other ME/N.Af. markets

Better Returns May Not be In China

Sawnwood Prices: Delivered to China & Middle East

- Middle East: European Whitewood 22 & 50/100mm, Sixths, KD
- China: Canadian Whitewood 2x4 (1-7/8x4 & wdr) Green, #3 & Better, CIF

Based on freight - better lumber returns may be in Middle East
5. Southern Hemisphere Fit
Plantation pine forests (and eucalyptus)
Main fit in export markets:
= Shop & Better clear lumber for processing in US & now China
= Structural & packaging lumber in Australasia.
= Value-added products (moulding, millwork, boards, edge-glued panels)
= Clear boards (solid and finger-jointed)
= Clear-faced plywood
= OSB & MDF
= Wood chips
= Pulp
= Logs
• Pruned plantation pine and eucalyptus products showing up more in world markets!

Thank You!

Russell Taylor RPF, MBA
President
International WOOD MARKETS Group Inc.
Vancouver, B.C., Canada

Suite 501 - 543 Granville Street
Vancouver, BC V6C 1X8
Tel: (604) 801-5996 or -5998 / Fax: (604) 801-5997
Email: retaylor@woodmarkets.com
www.woodmarkets.com