Benchmarking to improve sawmill profitability

FIEA Conference

19-20 July 2006

Outline

- Explanation of benchmarking
- Issues in benchmarking sawmills
- Some key benchmarks for NZ mills
- Implications for NZ sawmilling
What is benchmarking?

- **Benchmarking** is the *sharing of performance and operational information* to continuously compare activities among organizations to *identify ‘Best Practices’ and improve performance.*
- **Benchmarking** has proven to be the most valuable process for identifying performance improvement areas.
- **Benchmarking** is a *systematic method* by which organisations can compare their performance in a particular process to that of a “best in class” organisation, finding out how that organisation achieves those performance levels and apply them to their own organisation.

Types of benchmarking

- Performance benchmarking or competitive benchmarking
- Process benchmarking
- Functional benchmarking or generic benchmarking
- Internal benchmarking
- External benchmarking
- International benchmarking
- Strategic benchmarking
Outline

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  - Some key benchmarks for NZ mills
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Issues in benchmarking sawmills

- Units of measurement
  - Logs
  - Lumber
  - Residues

- Attribution of costs
  - Allocation of resources (e.g. sawshop)
  - Mill processes start/finish (e.g. log procurement, sales, timber treatment)
  - Labour costs (i.e. direct and indirect)
    - contractors
Major components of sawmilling process

- Wood fibre cost
  - Log cost
  - Conversion
  - Residue income
- Processing costs
  - Labour, energy, other supplies, overheads
  - Log yard, greenmill, kilns, planermill, dispatch
- Value extraction/recovery
  - Log quality
  - Product prices
  - Grade recovery

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  - Implications for NZ sawmilling
Industry consolidation a key difference

Some key NZ benchmarks

- Wood cost
- Processing costs
- Value extraction
Considerable volatility in NZ log price

Source: NZMAF and APLPI (March, 2006)

Nominal $ - not inflation adjusted

Log costs – where does NZ sit?

Source: NZMAF and APLPI

AUD/NZD: 2004=0.9145, 2005=0.9258
Points = AU – Weighted average, NZ – MAF mid point

Structural Lumber 2006
Structural Lumber 2006

International delivered log cost


Greenmill conversion

Source: URS Forestry (2005)
### Structural Lumber 2006

#### Greenmill conversion

![Greenmill conversion graph]

#### Conversion

<table>
<thead>
<tr>
<th></th>
<th>Green sawn target size</th>
<th>Nominal size</th>
<th>Finished size</th>
<th>% Overcut</th>
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<td>Width (mm)</td>
<td>Thickness (mm)</td>
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<td>Mill A</td>
<td>99</td>
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<td>Mill B</td>
<td>103</td>
<td>53</td>
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Some key NZ benchmarks

- Wood cost
- Processing costs
- Value extraction

Labour rates

<table>
<thead>
<tr>
<th>Year</th>
<th>NZ$/man hour</th>
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<td>2006</td>
<td>New Zealand</td>
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<td>2007</td>
<td>Australia</td>
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Assumes exchange rate AUD:NZD of 0.86
Structural Lumber 2006

**Labour productivity**

- Total annual mill output (m3) per operational employee
- Australia: Green bars
- New Zealand: Black bars

**Productivity related to capital investment**

- Lab productivity (m3/ann/employee)
- Lab capitalisation ($000/employee)
- Scatter plot showing linear relationship
Variable processing costs

Some key NZ benchmarks

- Wood cost
- Processing costs
- Value extraction
Structural Lumber 2006

**Average sales price**

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<tr>
<th>0</th>
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NZ mills | Au mills

**Grade recoveries & impact on value recovery**

<table>
<thead>
<tr>
<th></th>
<th>Australian delivered price (A$/m³)</th>
<th>East coast Australia Mill</th>
<th>New Zealand structural mill*</th>
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<tbody>
<tr>
<td>Grade outturn</td>
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<tr>
<td>Structural (MGP10+)</td>
<td>438</td>
<td>57.5%</td>
<td>44.0%</td>
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<td>Appearance</td>
<td>529</td>
<td>7.0%</td>
<td>7.0%</td>
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<td>Boxing/case/merch</td>
<td>212</td>
<td>29.0%</td>
<td>44.0%</td>
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<td>Other</td>
<td>492</td>
<td>6.5%</td>
<td>5.0%</td>
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<td>Weighted average price (A$/m³)</td>
<td>$382</td>
<td>$348</td>
<td>$348</td>
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* Ex mill for Australian mills or CIF in Australia for NZ product. Prices in A$ were converted to NZS at 1.084
Implications for NZ

- Price differential between NZ and Australian logs moving in NZ’s favour but may not continue
- NZ reliant on having lower labour costs and favourable exchange rate
- Scale is important in minimising costs – Australia moving to larger mills
- Volatility is a major challenge
- Profitability – good mills in both countries doing well
- Value of benchmarking