American Hardwoods and the Globalization of the Wood Products Industry

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Executive Director
American Hardwood Export Council
November 2016

www.americanhardwood.org
Eastern US hardwood lumber production decreased 54.6% from 1999 to 2009 and 49.3% from 2005 to 2009.

Production annualized through July 2015 is up 47.3% from 2009.

1962: 18,338,000 M^3
1975: 16,893,000 M^3
1999: 29,783,000 M^3
2005: 26,670,000 M^3
*2015: 19,924,000 M^3
2010: 16,335,000 M^3
2009: 13,524,000 M^3

Sources: William G. Luppold, Ph.D. and Hardwood Market Report
Graph: Hardwood Market Report
Consumption of Grade and Industrial Hardwood Lumber by US Major Market Sectors

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- Consumption of Mid and Upper Grade Lumber by Domestic Markets
- Domestic Flooring
- Exports
- Consumption by Industrial Lumber and Timber Markets

Billion Board Feet

<table>
<thead>
<tr>
<th>Year</th>
<th>1999</th>
<th>2005</th>
<th>2013</th>
<th>*2015</th>
</tr>
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</table>

- 1999: [Consumption Details]
- 2005: [Consumption Details]
- 2013: [Consumption Details]
- *2015: [Consumption Details]
Consumption of Hardwood Lumber by US Grade Markets

Source: Private, Government, and HMR
Graph: Hardwood Market Report

- **Furniture**
  - 2007: 1000 MBF
  - 2015: 500 MBF

- **Moulding/Millwork**
  - 2007: 900 MBF
  - 2015: 400 MBF

- **Cabinets**
  - 2007: 1300 MBF
  - 2015: 1100 MBF

- **Flooring**
  - 2007: 1200 MBF
  - 2015: 600 MBF
US Production of **Wood** Residential Furniture

Source: *American Home Furnishings Alliance*
U.S. Imports of Wood Furniture & Parts

Source: U.S. Dept. of Commerce, Census Bureau, reported by GTIS (mirror statistics)
Hardwood Lumber Consumption by US Major Market Groups

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<table>
<thead>
<tr>
<th>Year</th>
<th>Industrial lumber</th>
<th>Grade lumber (Domestic)</th>
<th>Grade lumber (Export)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>40%</td>
<td>49%</td>
<td>11%</td>
</tr>
<tr>
<td>2015</td>
<td>58%</td>
<td>29%</td>
<td>19%</td>
</tr>
</tbody>
</table>

2005: 27.3 Million M³
2015: 19.6 Million M³
% of Grade Lumber Exported

1999
- Export: 14%
- Domestic: 86%

2009
- Export: 26%
- Domestic: 74%

2014
- Export: 41%
- Domestic: 59%

U.S. Grade Lumber Markets

Hardwood Review 2015
Housing Starts and Hardwood Prices

Source: Census Bureau; Hardwood Weekly Review
Shift to Exports as LT Price Driver

- Red Oak Exports
- Red Oak Prices

Jan-00 to Jan-14
The world's 10 largest hardwood lumber importers 2009-2014 ($ million)

Source: Global Trade Atlas & Eurostat
Top 5 Destinations for US Hardwood Lumber by Value 2009-2015

Source: USDA GATS
Percentage of Total US Hardwood Lumber Exports (Volume)

Source: USDA FAS
Graph: Hardwood Market Report
% of Hardwood Exports to China

1999
- China: 8%
- Canada: 34%
- Other: 58%

2009
- China: 26%
- Canada: 25%
- Other: 49%

2014
- China: 46%
- Canada: 16%
- Other: 38%

U.S. Export Lumber Markets

Hardwood Review 2016
US Hardwood Lumber Exports
US Hardwood Lumber Exports
US Hardwood Lumber Exports
Rising Importance of China

China’s Share of U.S. Grade Markets

1 in 5 grade lumber boards cut is for China

Hardwood Review
• Traditionally Red Oak, but one of our most diversified markets

• Flood of Ash in last 5yrs

• Cherry has risen every year since 2009

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2015 Wood Furniture Exporters

$US Billion

- China: 12
- Germany
- Italy
- Vietnam
- Poland
- Malaysia
- Canada
- Indonesia
- Denmark
- United States
- Turkey
- Sweden
- SE Asia

Millions ($USD)

China 2013
Vietnam 2014
Canada 2015
Malaysia
Indonesia
Mexico
Italy
Poland
India
Taiwan
China Furniture Production and Export Value 2005-2014 (US$Billion)

<table>
<thead>
<tr>
<th>Year</th>
<th>Production Value</th>
<th>Export Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>54.8</td>
<td>13.767</td>
</tr>
<tr>
<td>2006</td>
<td>$69.40</td>
<td>17.465</td>
</tr>
<tr>
<td>2007</td>
<td>$87.10</td>
<td>22.617</td>
</tr>
<tr>
<td>2008</td>
<td>$100</td>
<td>27.583</td>
</tr>
<tr>
<td>2009</td>
<td>$117</td>
<td>25.958</td>
</tr>
<tr>
<td>2010</td>
<td>$137</td>
<td>33.723</td>
</tr>
<tr>
<td>2011</td>
<td>$162</td>
<td>38.882</td>
</tr>
<tr>
<td>2012</td>
<td>$171.40</td>
<td>49.96</td>
</tr>
<tr>
<td>2013</td>
<td>$177.40</td>
<td>53.1</td>
</tr>
<tr>
<td>2014</td>
<td>$193.50</td>
<td>53.416</td>
</tr>
</tbody>
</table>

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Per Capita Wood Consumption

In cubic meters per capita
Source: China Timber Import Export Co/Hardwoodmarkets.com 2008
Map of China

Locations of provinces, autonomous regions and municipalities.
Source: USDA GATS
"The Next 10" - Top US Hardwood Lumber Export Destinations outside China, North America, and Vietnam

Source: USDA GATS
The Importance of Europe...
US$ exchange rates to Sep 2016
Jan 2012 = 100%

- PLN
- EUR
- GBP
- SEK
- RUB
- UAH
Exports of US sawn hardwood to large European markets, Years 2014-15, Jan-Jun 2015-16

- UK
- Italy
- Germany
- Spain
- Portugal
- Ireland
- Other

1000 cubic meters

Legend:
- Year 2014
- Year 2015
- Jan-Jun 2015
- Jan-Jun 2016
Value of EU wood windows supply by source
2010 to 2015

Source: FII analysis of Eurostat
Wood flooring production in Europe
Years 2014-15

Source: FII analysis of FEP

Million square meters

- Poland
- Sweden
- Austria
- Germany
- France
- Spain
- DK/Fin/Nor
- Romania
- Italy
- Netherlands
- Hungary
- Switzerland
- Czech R.
- Belgium
- Other (non FEP)

2014 2015
Exports of US sawn hardwood to Europe by timber type, Years 2014-15, Jan-Jun 2015-16

- White oak: 180,000 cubic meters (Year 2014), 180,000 cubic meters (Year 2015)
- Tulipwood: 90,000 cubic meters (Year 2014), 90,000 cubic meters (Year 2015)
- Ash: 40,000 cubic meters (Year 2014), 40,000 cubic meters (Year 2015)
- Walnut: 20,000 cubic meters (Year 2014), 20,000 cubic meters (Year 2015)
- Red oak: 10,000 cubic meters (Year 2014), 10,000 cubic meters (Year 2015)
- Other: 5,000 cubic meters (Year 2014), 5,000 cubic meters (Year 2015)

Legend:
- Year 2014
- Year 2015
- Jan-Jun 2015
- Jan-Jun 2016
US exports of ash sawnwood to EU Member States: monthly Mar 2012 to Apr 2016 (m³)

New EU phyto controls from 1st October

Derogation period 16th Dec 2014 to 31st Dec 2015

Source: USDA GATS - data is 3 month rolling average to smooth short-term variations
U.S. exports of ash sawnwood by destination - monthly Mar 2012 to Apr 2016 (1000 m³)

Source: USDA GATS - data is 3 month rolling average to smooth short-term variations

Legend:
- EU28
- China
- Canada
- Rest of world
EU imports of ash sawnwood by country of origin - monthly Mar 2012 to Mar 2016 (m3)

Source: Eurostat - data is 3 month rolling average to smooth short-term variations
Production of sawn hardwood in European countries, Years 2011-15

Source: FII analysis of UNECE
EU imports of sawn hardwood from the U.S. and other supply regions, Years 2014-15, Jan-Jun 2015-16

- **2014**
  - USA: 0.2 million cubic meters
  - Other temperate: 0.8 million cubic meters
  - Tropical: 1.0 million cubic meters

- **2015**
  - USA: 0.3 million cubic meters
  - Other temperate: 1.0 million cubic meters
  - Tropical: 1.2 million cubic meters

- **2015 Jan-Jun**
  - USA: 0.2 million cubic meters
  - Other temperate: 0.8 million cubic meters
  - Tropical: 1.0 million cubic meters

- **2016**
  - USA: 0.3 million cubic meters
  - Other temperate: 0.8 million cubic meters
  - Tropical: 1.0 million cubic meters
Questions?