Net Volume of Hardwood Growing Stock on US Timberland

Source: USDA Forest Service
Graph: Hardwood Market Report
US HARDWOOD LUMBER PRODUCTION GRID

• Complex

• Influenced by anything that can materially
  1. Affect access to timber and logs
  2. Disrupt the manufacturing process
  3. Enhance the manufacturing process
Market Driven Supply

1. Hardwood lumber supplies are determined by business health for sawmills.

2. Business health for sawmills is determined by performance of all major market sectors for sawn hardwood products.

3. Performance by the major market sectors for sawn hardwood products is influenced by
   a. Economy
   b. US housing
   c. Exports
Seasonal Temperature (T2m) Anomalies valid for month: January 2017
based on ECMWF Seasonal Forecast System (S4) initiated on 01 October 2016
Estimated deviation (anomaly) of the mean from model climate in Celsius degrees
Hardwood Lumber Consumption by US Major Market Groups

- **2005**
  - Industrial Lumber: 40%
  - Grade Lumber - Domestic: 11%
  - Grade Lumber - Export: 11%
  - Total: 11.6B BF

- **2015**
  - Industrial Lumber: 58%
  - Grade Lumber - Domestic: 24%
  - Grade Lumber - Export: 18%
  - Total: 8.3B BF
US GDP
Percent Change from the Previous Period

Source: US Department of Commerce
Graph: Hardwood Market Report
Wooden Pallets and Containers

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2008 to *2016 +0.2%  
2015 to *2016 -2.3%

* Most recent data
HMR estimated consumption is 25.5% below projected consumption based on current dollar GDP.

883,000,000 BF more than HMR est.

25.5% variance
New Home Construction
Starts, Completed Units, and Building Permits

Total housing starts for the first eight months of 2016 (unadjusted) were up 6.1% over 2015.

Source: US Census Bureau
Graph: HMR
US New Home Supply Pipeline

Total Supply August 1996: 1,199.0M Units
Supply Peaked May 2006 at 1,981.1M Units
Total Supply August 2016: 1,294.1M Units

Multi-Family Units Under Construction

Single-Family Units Under Construction

Inventory of Single-Family Houses

Source: US Census Bureau
Graph: Hardwood Market Report
The average homeownership rate in the US from 1965 through Q2 2016 is 65.3%.

Homeownership peaked in 2004 at 69.0%.

*2016 average of 63.2% is the lowest since 1965.
Single Family Housing Starts
(Thousand Units)

Sources: US Census Bureau and Wells Fargo Securities
Graph: HMR Executive®

Average Units Starts

1959-2017: 1,019,354
1959-2002: 1,065,885
2003-2006: 1,572,675
2009-2015: 551,743
2009-2016: 614,689
Single Family Housing Starts
Post Housing Market Crash

*Forecast by Wells Fargo Securities

Sources: US Census Bureau and Wells Fargo Securities
Graph: HMR Executive®
Permitted and In-process Construction of New Single Family Housing
(Thousand Units - Unadjusted)

Source: US Census Bureau

Graph: HMR Executive®
Sales Prices of New Single-Family Houses

% Sale $300K and More

% Sale $200K-$300K

% Sale Under $200K
Moulding and Millwork

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Billion Board Feet

<table>
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*Most recent data

2008 to 2016  -38.9%
2015 to 2016  +5.4%
Cabinets
(Billion Board Feet)

* Most recent data

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© 2016 Hardwood Market Report
Flooring

© 2016 Hardwood Market Report

Billion Board Feet

2008 to 2016  -12.9%
2015 to 2016  +5.0%

* Most recent data
2016 (annualized) Compared to 2011

US single-family housing starts increased 81%

US single-family housing completions increased 66%

US manufacturers’ shipments of solid wood flooring increased 29%
Year to Date 2016 Vs. 2015

US single-family housing starts increased 9.1%

US single-family housing completions increased 14.3%

US manufacturers’ shipments of solid wood flooring increased 14.4%
Year to Date 2016 Vs. 2015

US single-family housing starts increased 9.1%

US single-family housing completions increased 14.3%

The volume of grade hardwood lumber consumed by the US domestic marketplace increased 5.5%
Grade Hardwood Lumber Consumed by US Domestic Markets Compared to Single-family Housing Starts:

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<tbody>
<tr>
<td>Furniture</td>
<td>-12%</td>
<td>+1%</td>
</tr>
<tr>
<td>Moulding &amp; Millwork</td>
<td>-3%</td>
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<tr>
<td>Cabinet</td>
<td>-31%</td>
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<td>Flooring</td>
<td>-22%</td>
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<tr>
<td>Combined</td>
<td>-19%</td>
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</table>
Hardwood Lumber Consumption by US Major Market Groups

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US Exports of Hardwood Lumber to China

- **2009 to Current**: China's Growing Middle and Upper Classes Consuming US Hardwoods

1999-2006 Export volumes increased 760%

2009-2016 Export volumes increased 321%

Source: USDA FAS

Graph: HMR Executive©
Eastern US Hardwood Production

Production Peaked in 1999 at an est. 12,619,000,000 board feet

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1975 est. 7,157,500,000 board feet

*Production through September: 2015 was 8,454,311,000 BF 2016 was 8,361,086,700 BF

1960 est. 7,672,500,000 BF

Estimated 56 year average was 9,406,024,000 BF

2015 production was 8,275,975,600 BF

Graph: Hardwood Market Report

Sources: US Census Bureau, US Forest Service, and Hardwood Market Report
“Neither a wise man nor a brave man lies down on the tracks of history to wait for the train of the future to run over him.”

~ Dwight David Eisenhower