



HARDWOOD MARKET REPORT

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HARDWOOD MARKET REPORT



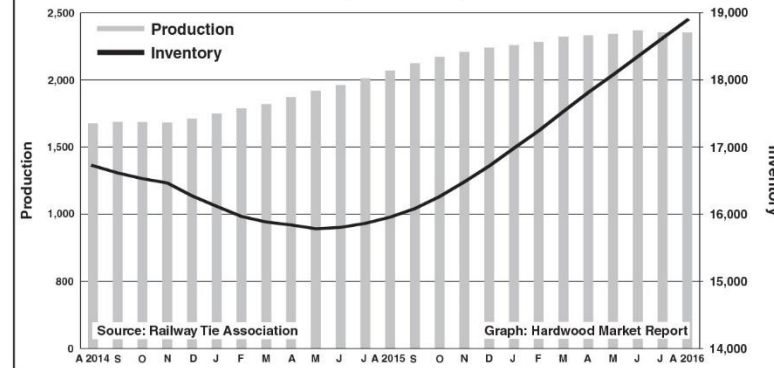
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October 7, 2016

Crosstie Production and Inventory Twelve Month Moving Average (Thousand Ties)



- Sales of new homes dropped 7.6% in August from July to 609,000 units but increased 20.6% above the previous year. The median price for new single family houses was \$284,000, down 3.1% from the previous month and 5.4% from August 2015.
- Inventories of new single family homes rose 1.7% in August over July and were 8.3% higher than prior year. At the August rate of sales, there were 4.6 months of supply.
- Total existing home sales fell 0.9% in August from July to 5,330,000 units but edged up 0.8% from one year earlier. The median price in August was \$240,200, a 5.1% gain over August 2015. Total inventories slipped 3.3% for the month and decreased 10.1% from August 2015. Existing single family home sales declined 2.3% for the month.

July and August 30 year fixed mortgage rates were the lowest since at least 1971 at 3.44%.

Canada's CPI declined 0.2% in August from July but was 1.1% higher than the prior year.

Retails sales in Canada slipped 0.1% in July compared to June.

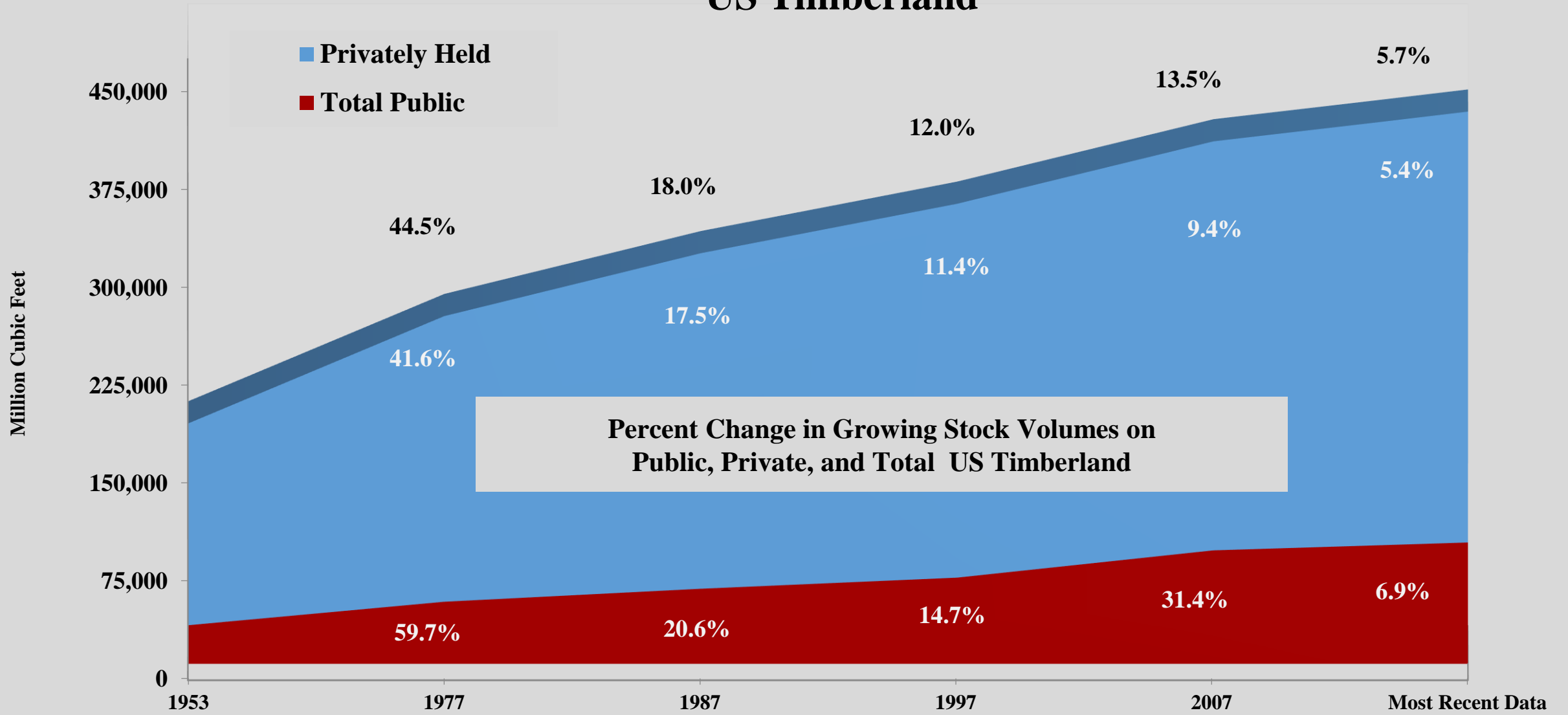
Canada's manufacturing sales climbed 0.1% in July from August but were 2.6% lower than the previous year. Inventories increased 1.0% for the month but declined 2.1% from July 2015.



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94 YEARS AUTHORITY HARDWOOD MARKET REPORTING

Net Volume of Hardwood Growing Stock on US Timberland

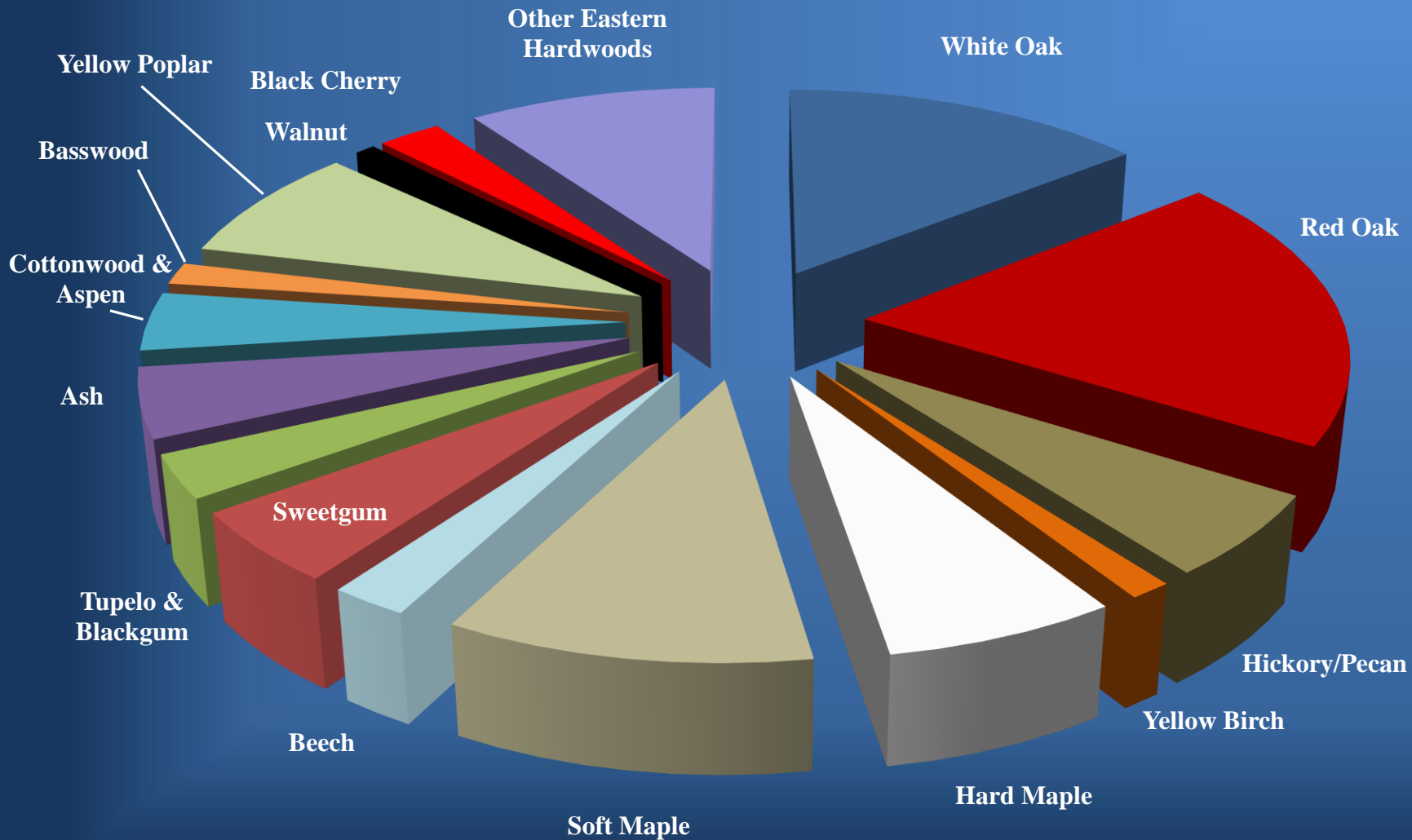


Percent Change in Growing Stock Volumes on Public, Private, and Total US Timberland

Source: USDA Forest Service

Graph: Hardwood Market Report

Eastern US Hardwood Growing Stocks on Timberland by Species



Source: USDA Forest Service

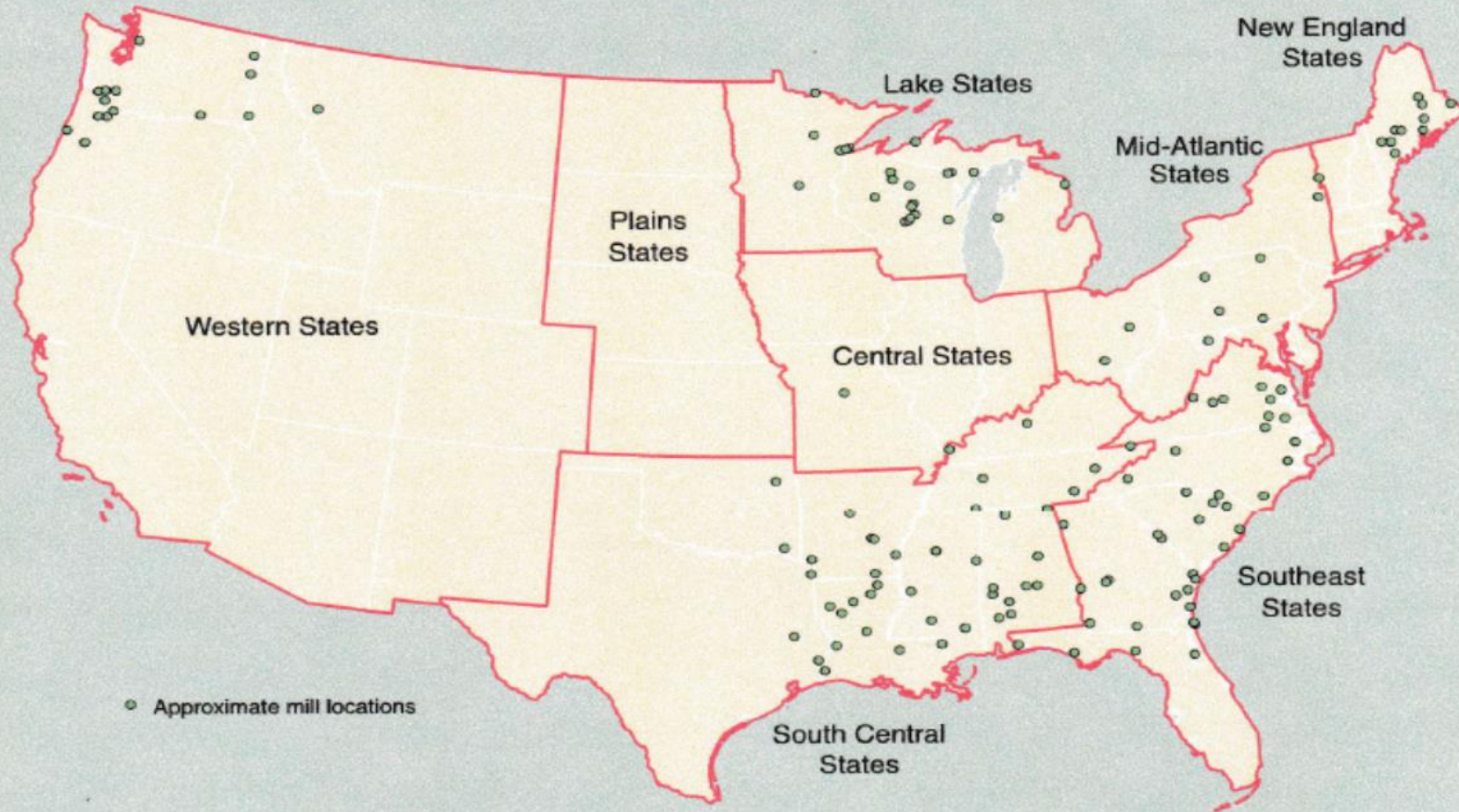
Graph: Hardwood Market Report

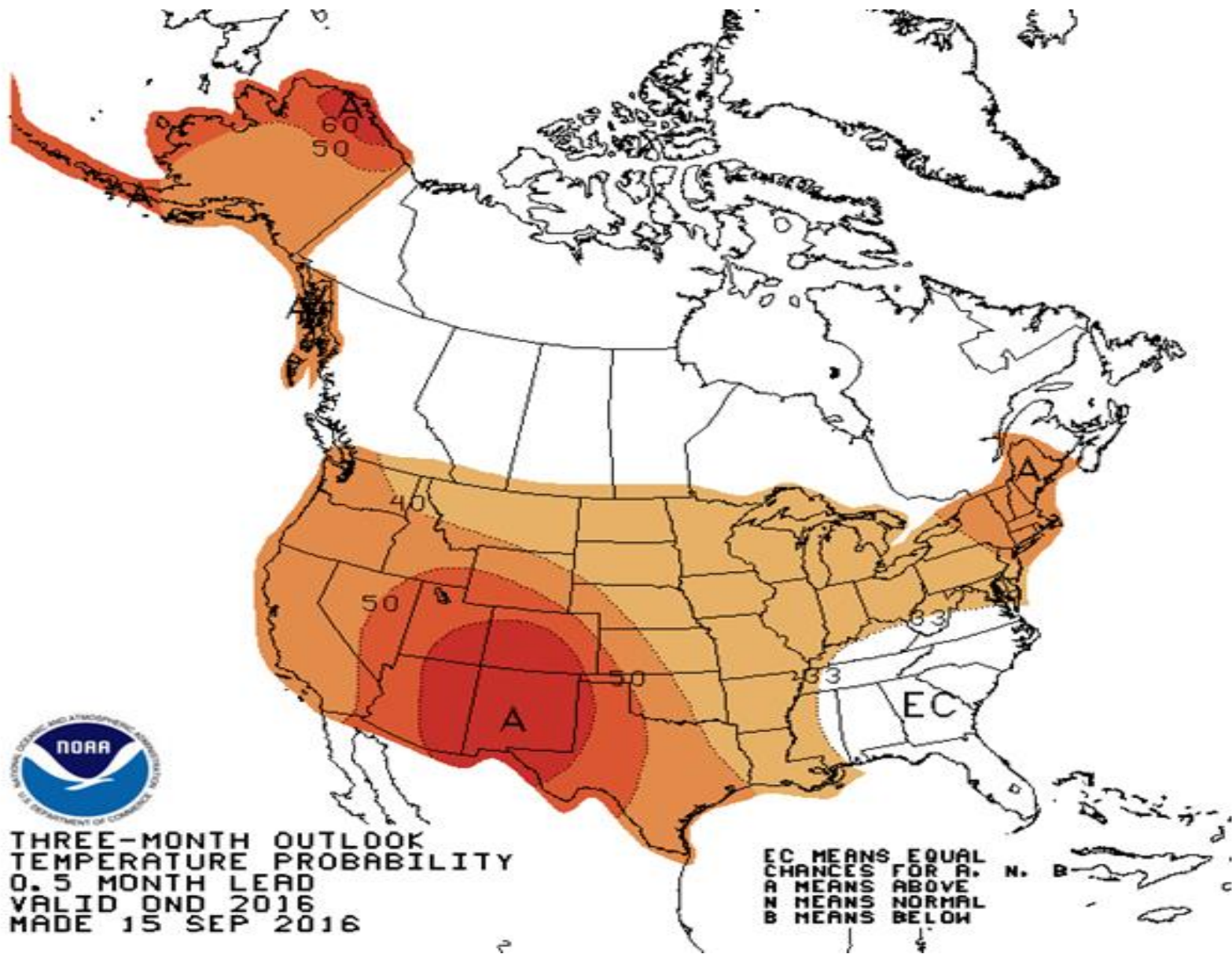
US HARDWOOD LUMBER PRODUCTION GRID

- **Complex**
- **Influenced by anything that can materially**
 - 1. Affect access to timber and logs**
 - 2. Disrupt the manufacturing process**
 - 3. Enhance the manufacturing process**

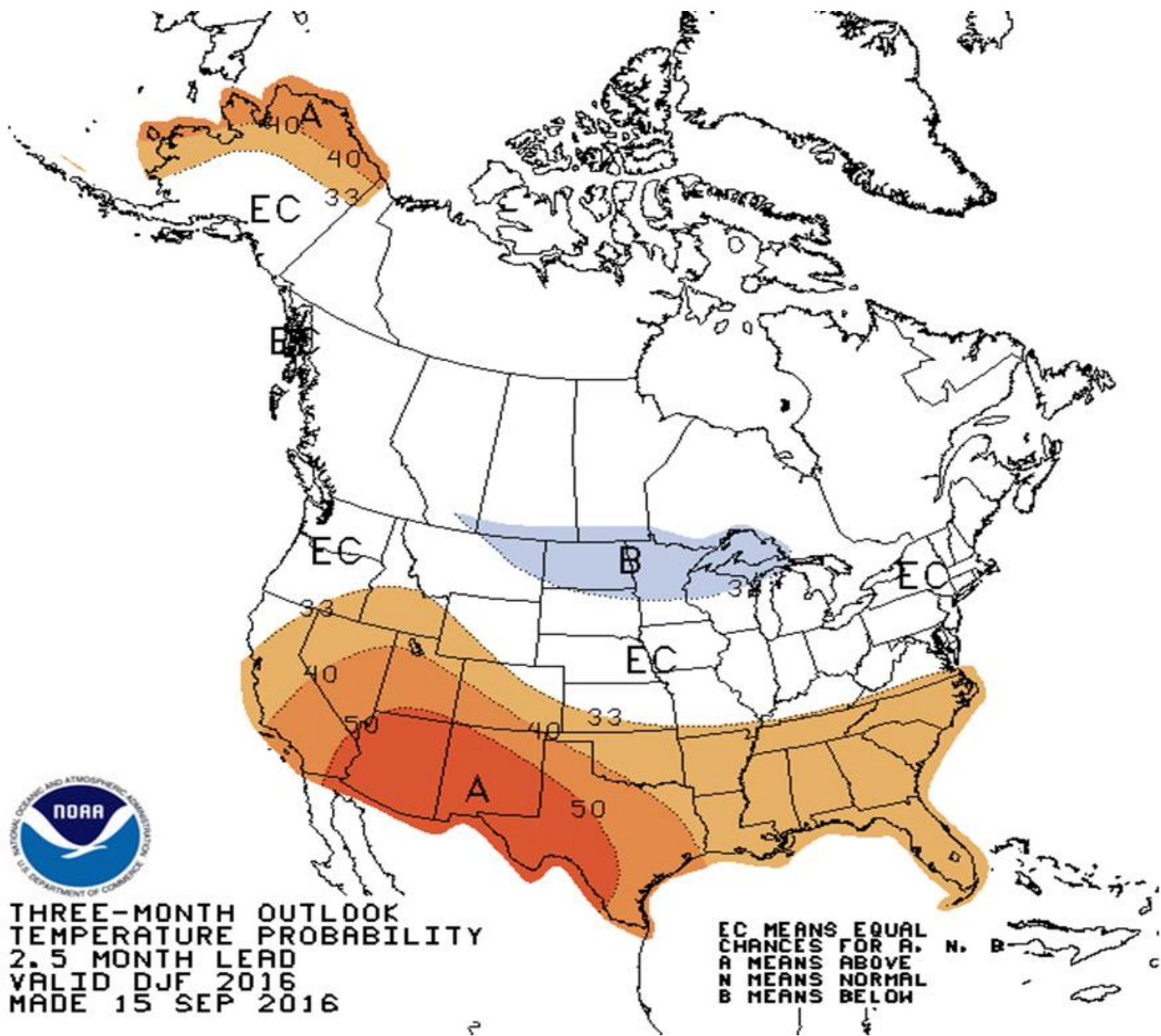
Market Driven Supply

- 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**





THREE-MONTH OUTLOOK
TEMPERATURE PROBABILITY
0.5 MONTH LEAD
VALID OND 2016
MADE 15 SEP 2016



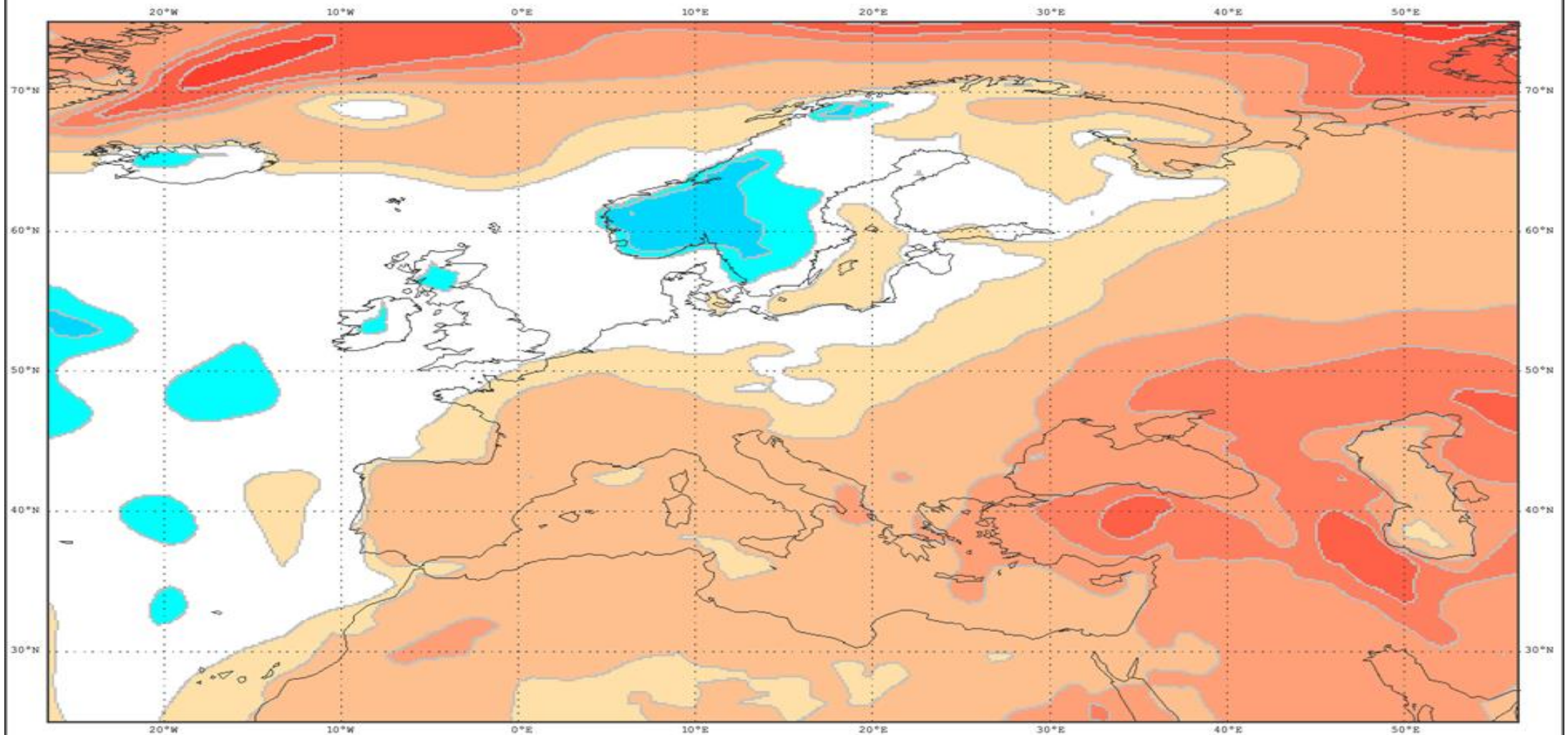
THREE-MONTH OUTLOOK
 TEMPERATURE PROBABILITY
 2.5 MONTH LEAD
 VALID DJF 2016
 MADE 15 SEP 2016

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

-6.00 -5.00 -4.00 -3.00 -2.00 -1.50 -1.00 -0.50 -0.25

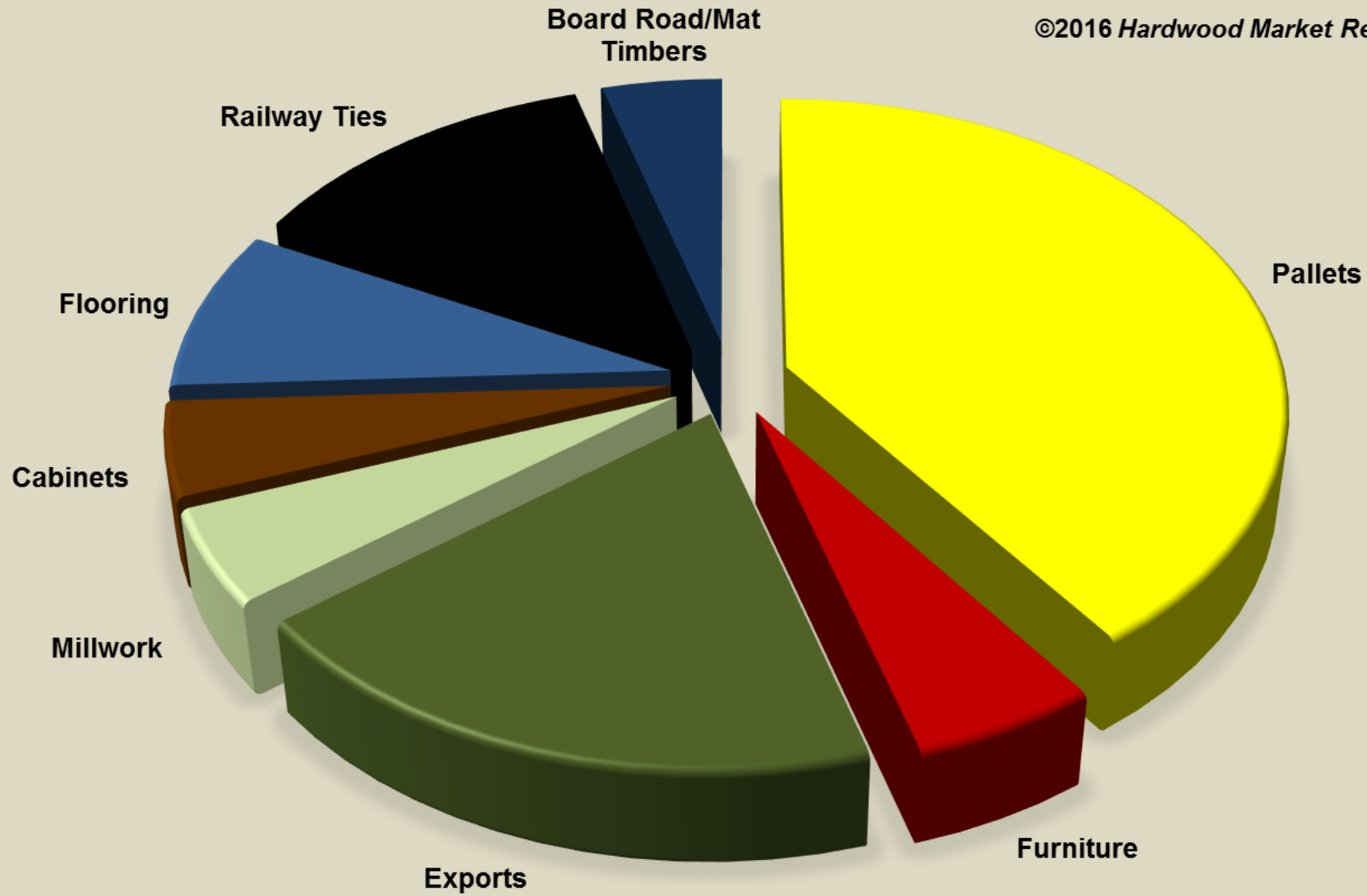


0.25 0.50 1.00 1.50 2.00 3.00 4.00 5.00 6.00

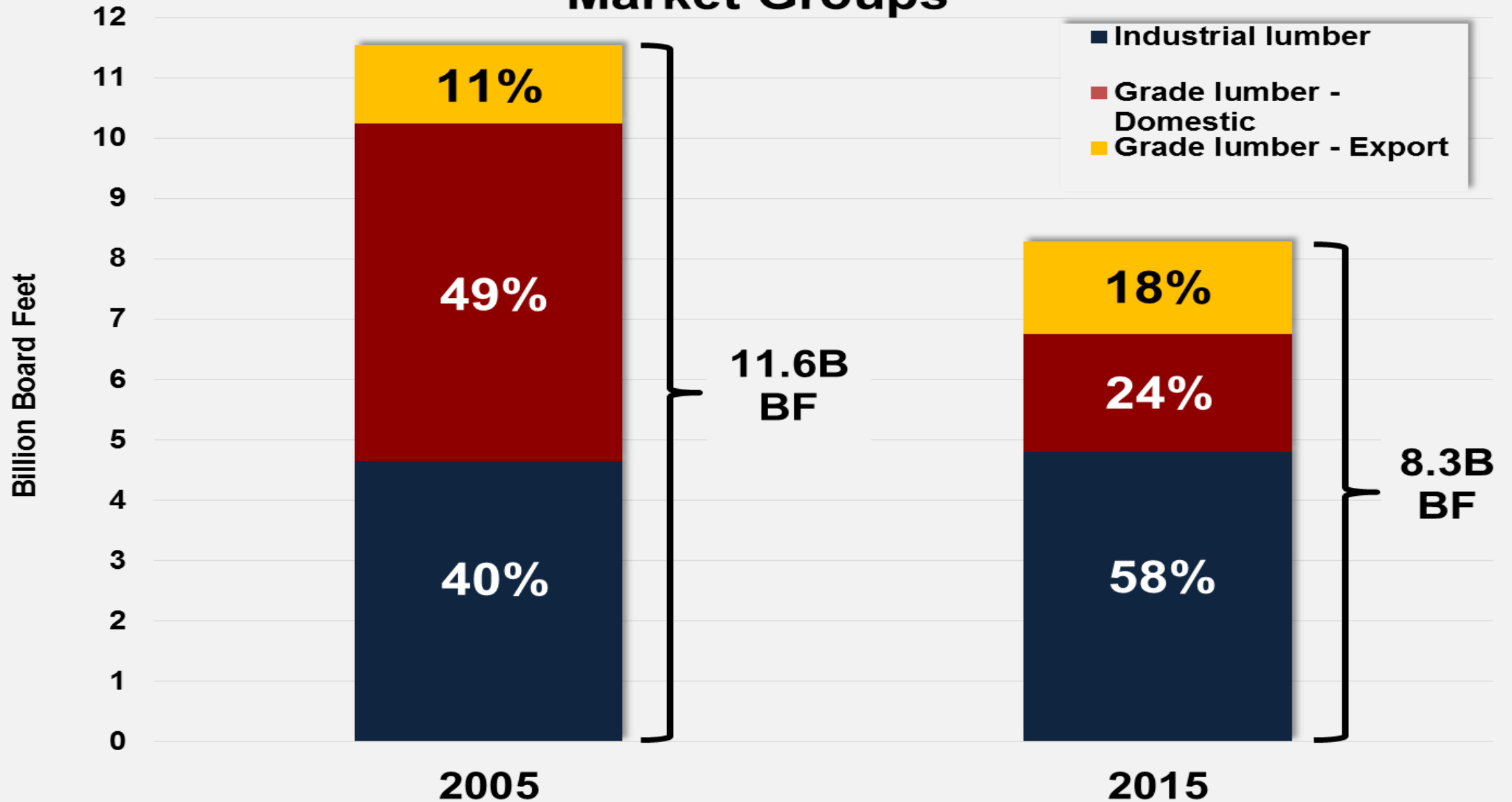


US MAJOR MARKET SECTORS FOR HARDWOOD LUMBER

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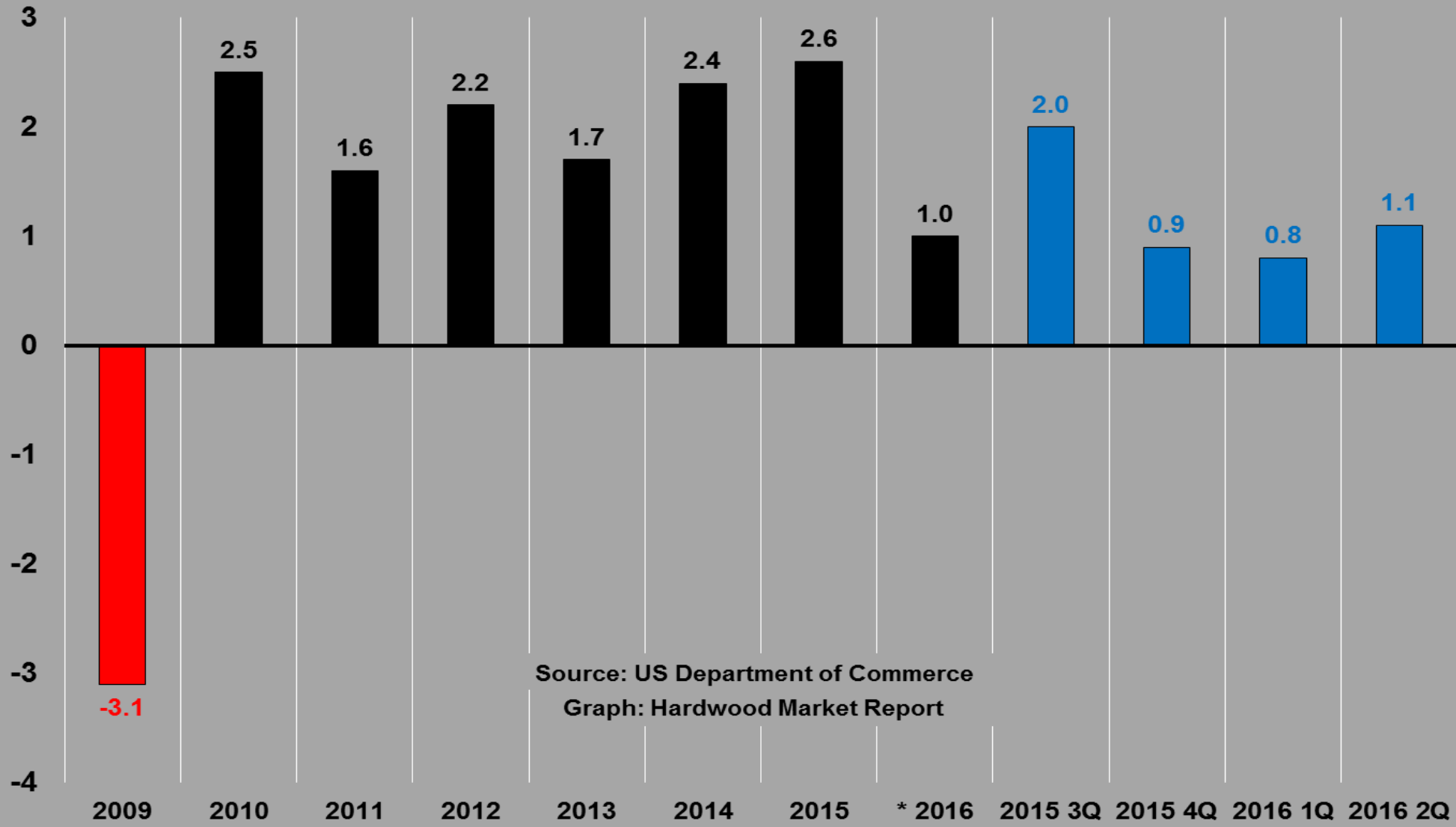


Hardwood Lumber Consumption by US Major Market Groups



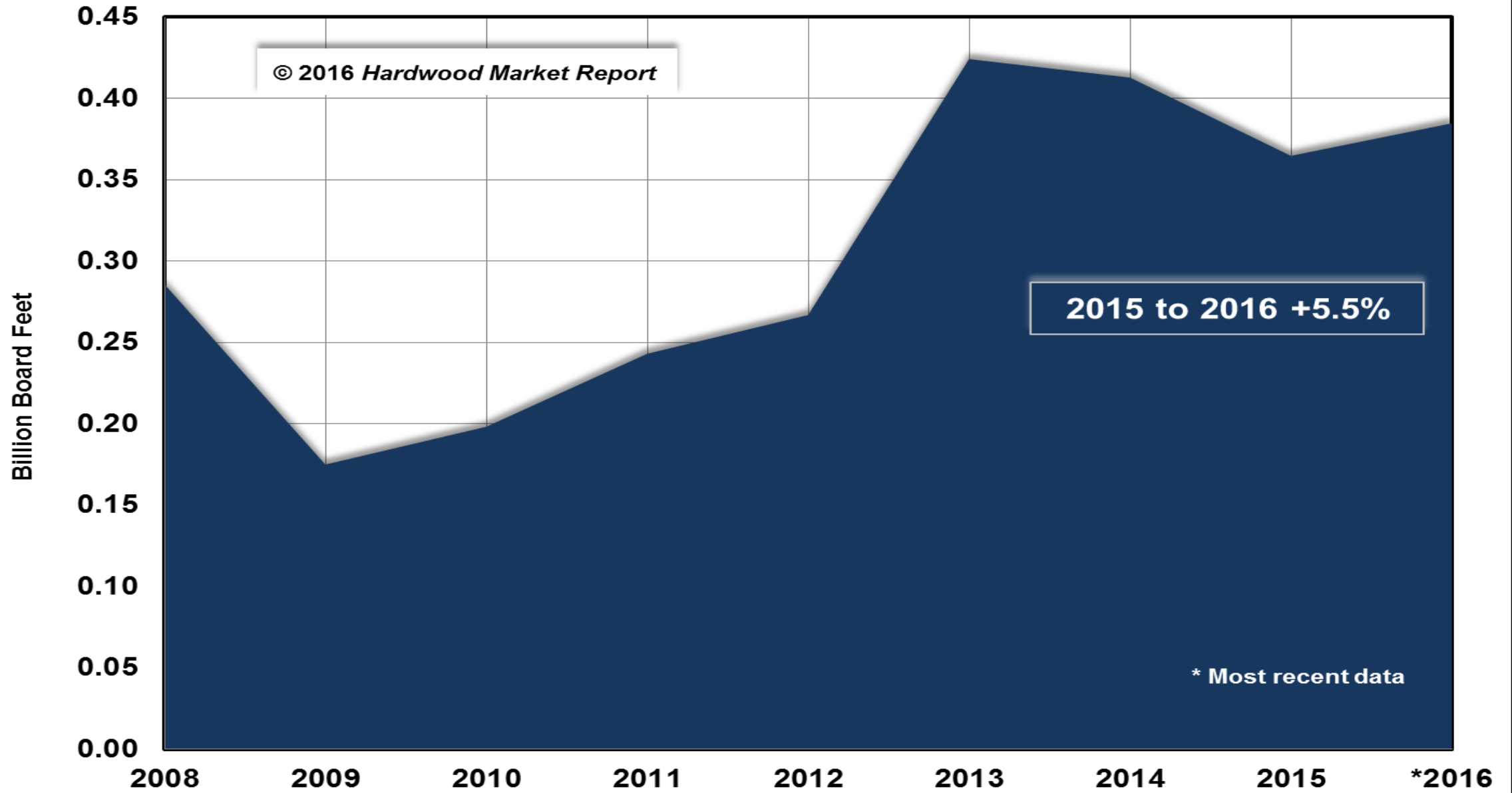
US GDP

Percent Change from the Previous Period

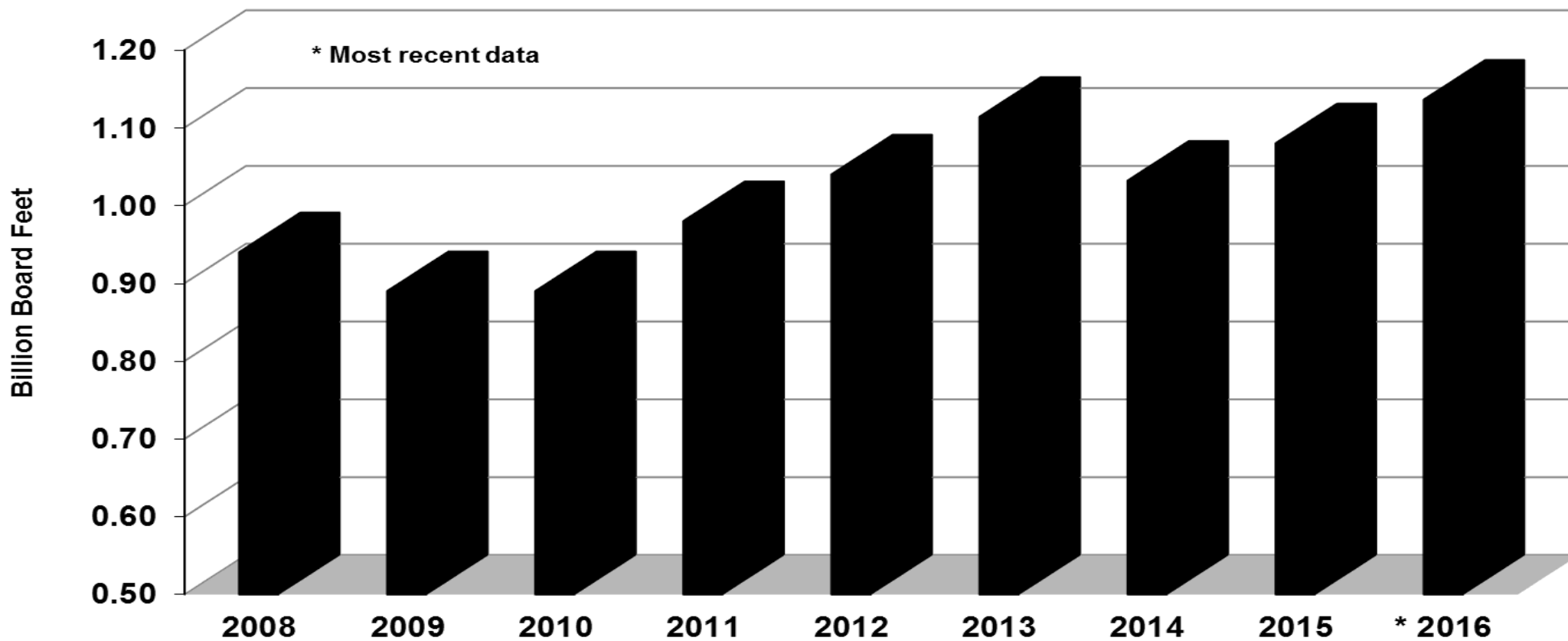


Source: US Department of Commerce
Graph: Hardwood Market Report

Board Road and Mat Timbers



Ties



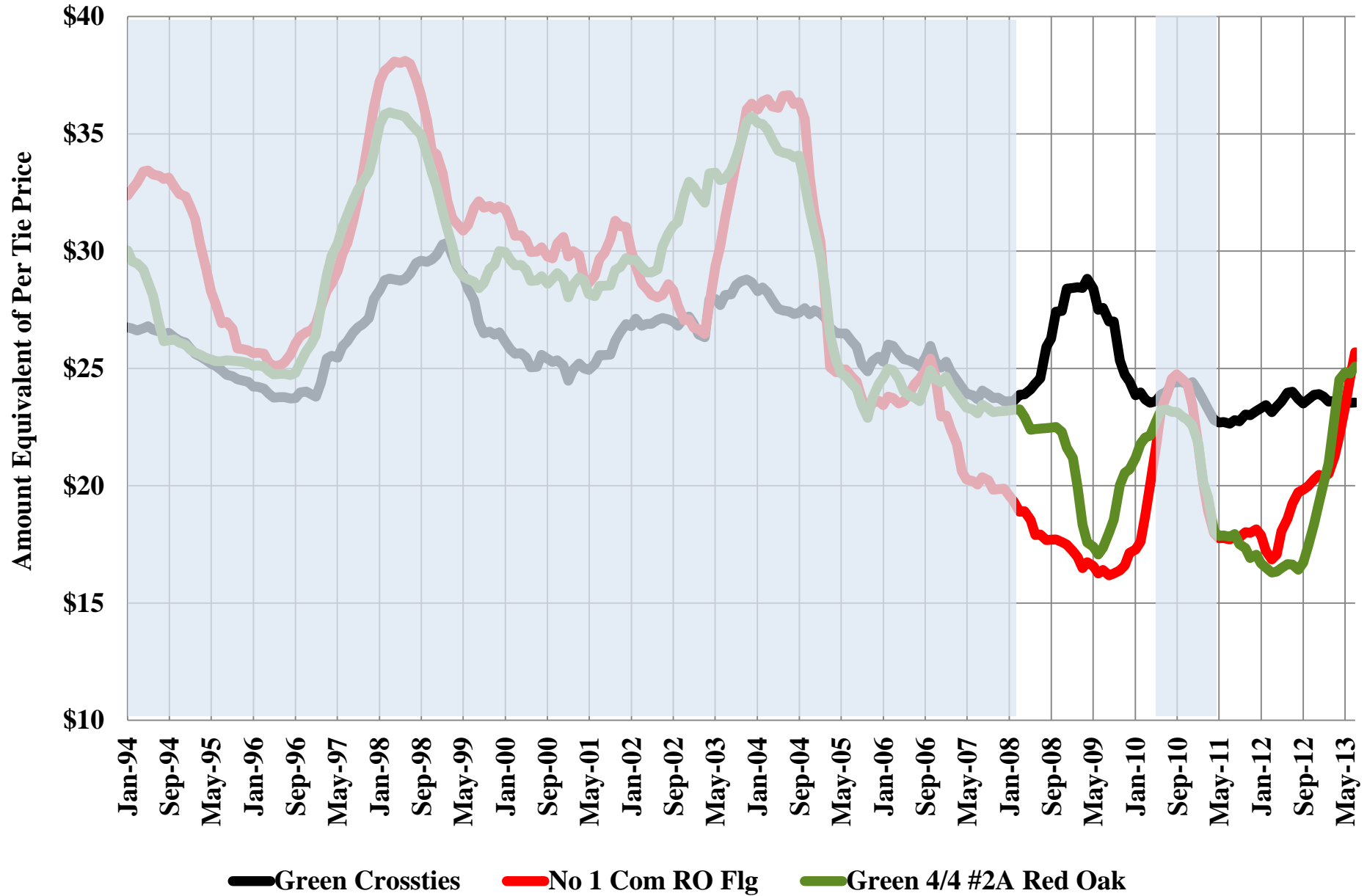
2008 to 2016 +20.5%

2015 to 2016 +5.2%

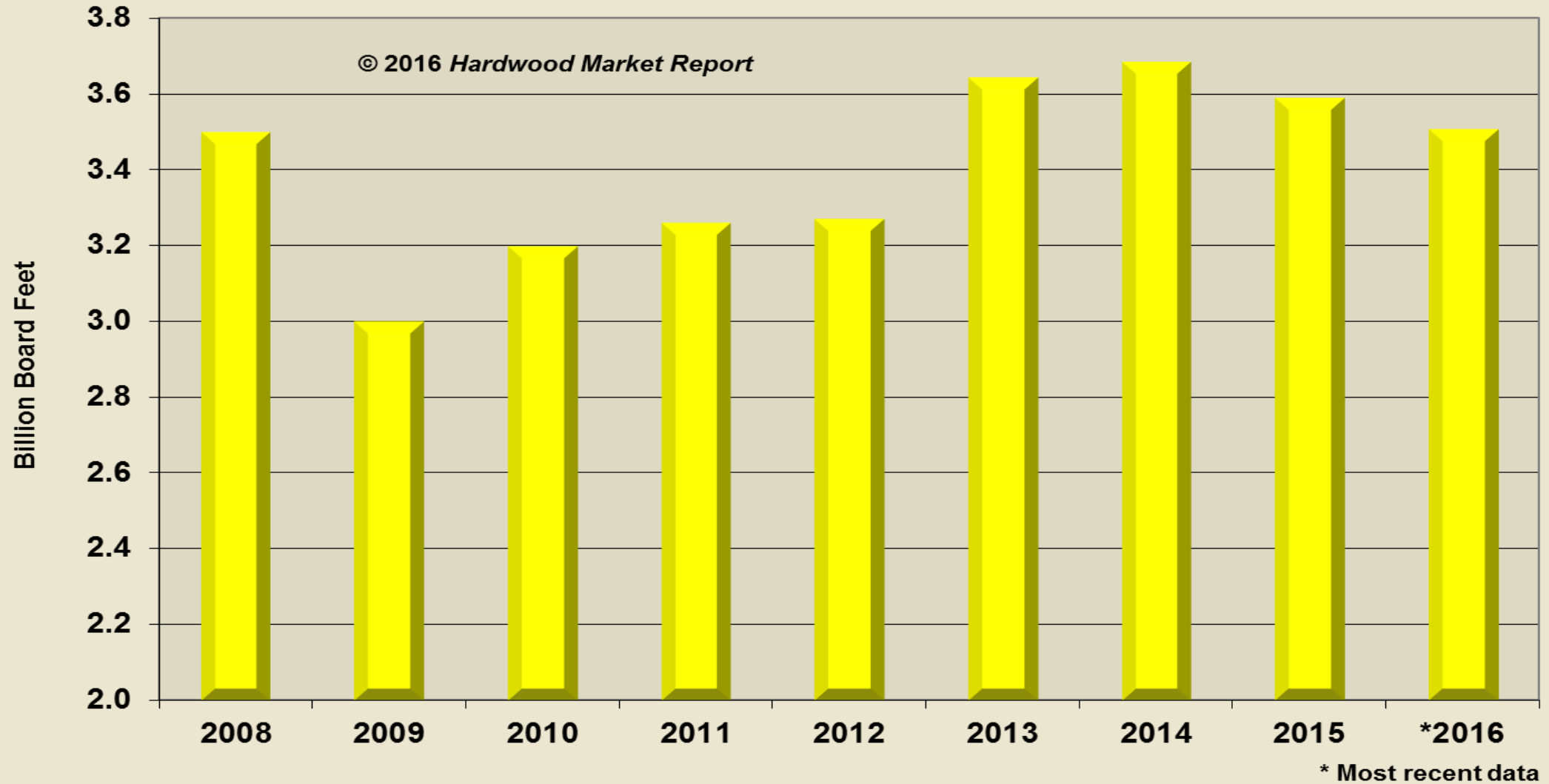
Source: Railway Tie Association

Graph: Hardwood Market Report

Real (2013) Prices of Wood Products



Wooden Pallets and Containers

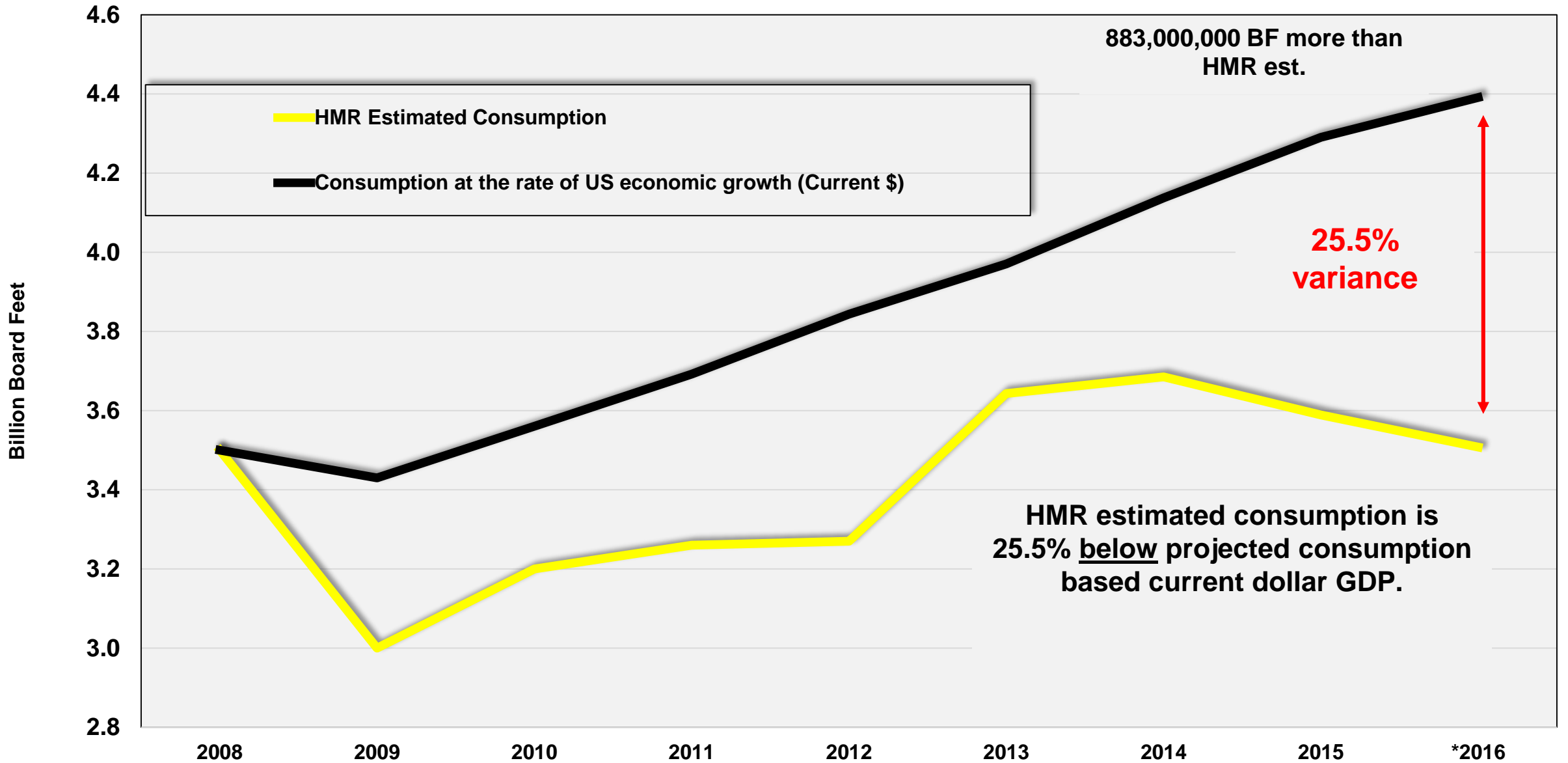


2008 to *2016 +0.2%

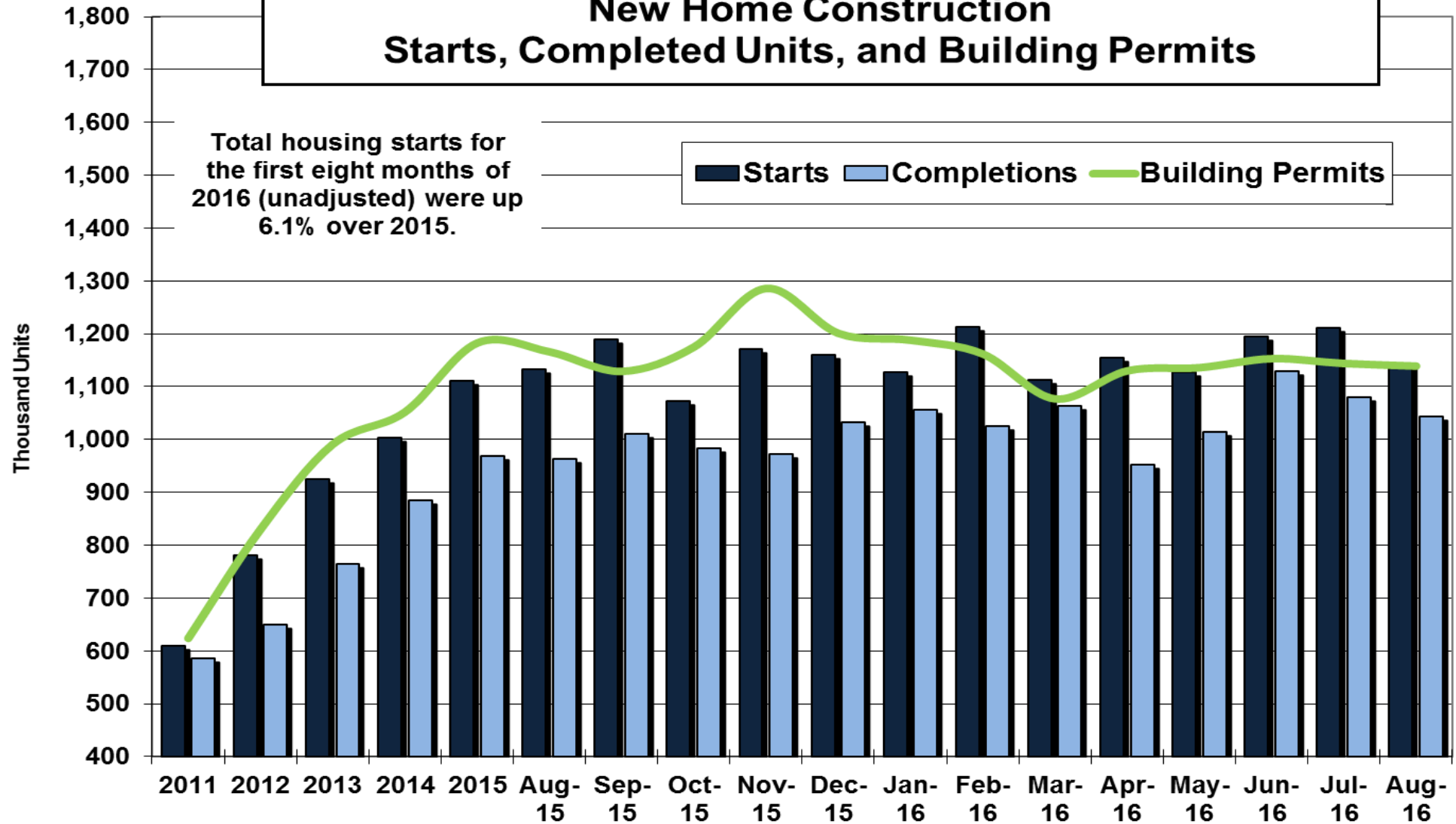
2015 to *2016 -2.3%

US Wooden Packaging and Container Industry

Estimated Annual Consumption of Sawn Hardwoods



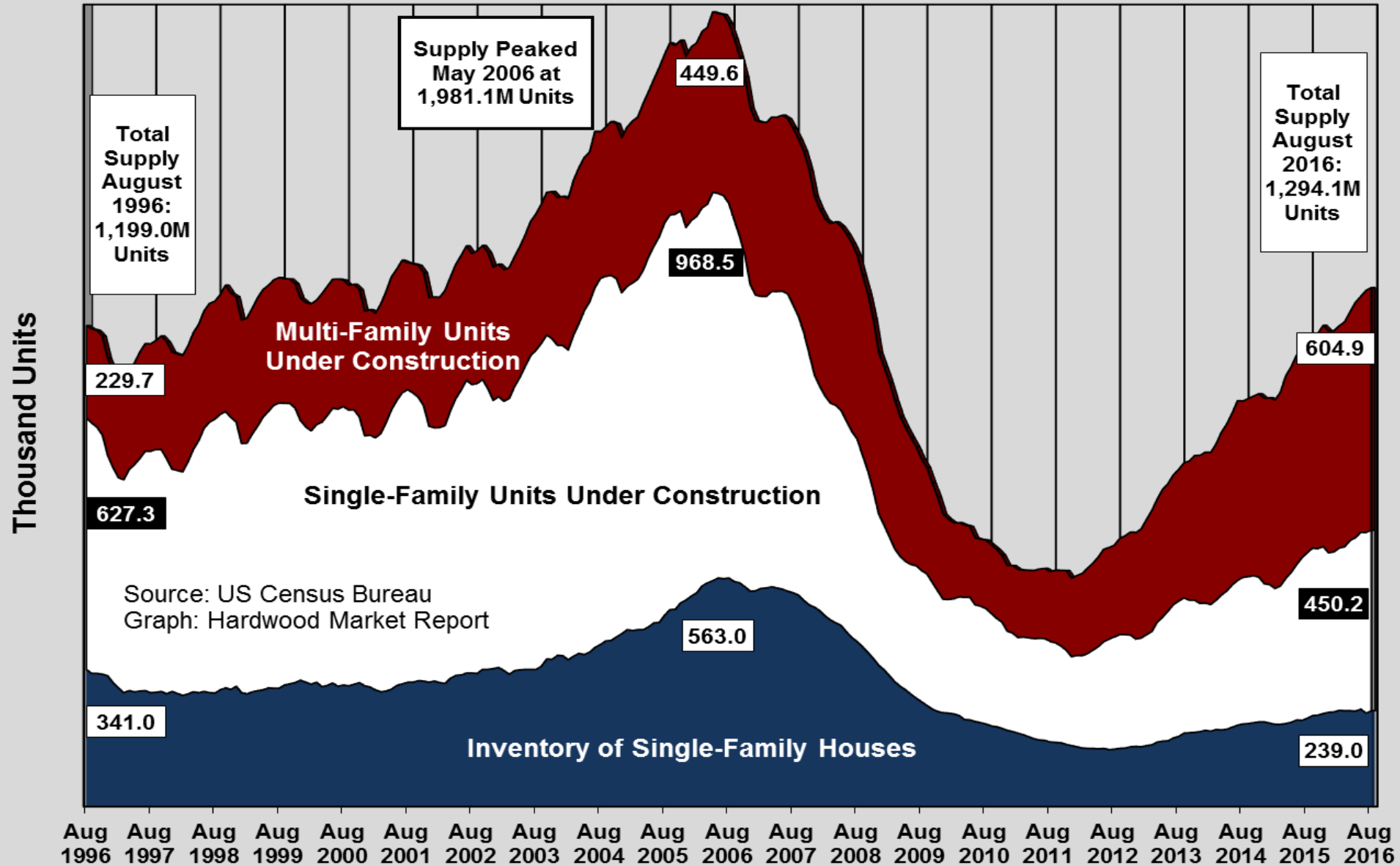
New Home Construction Starts, Completed Units, and Building Permits



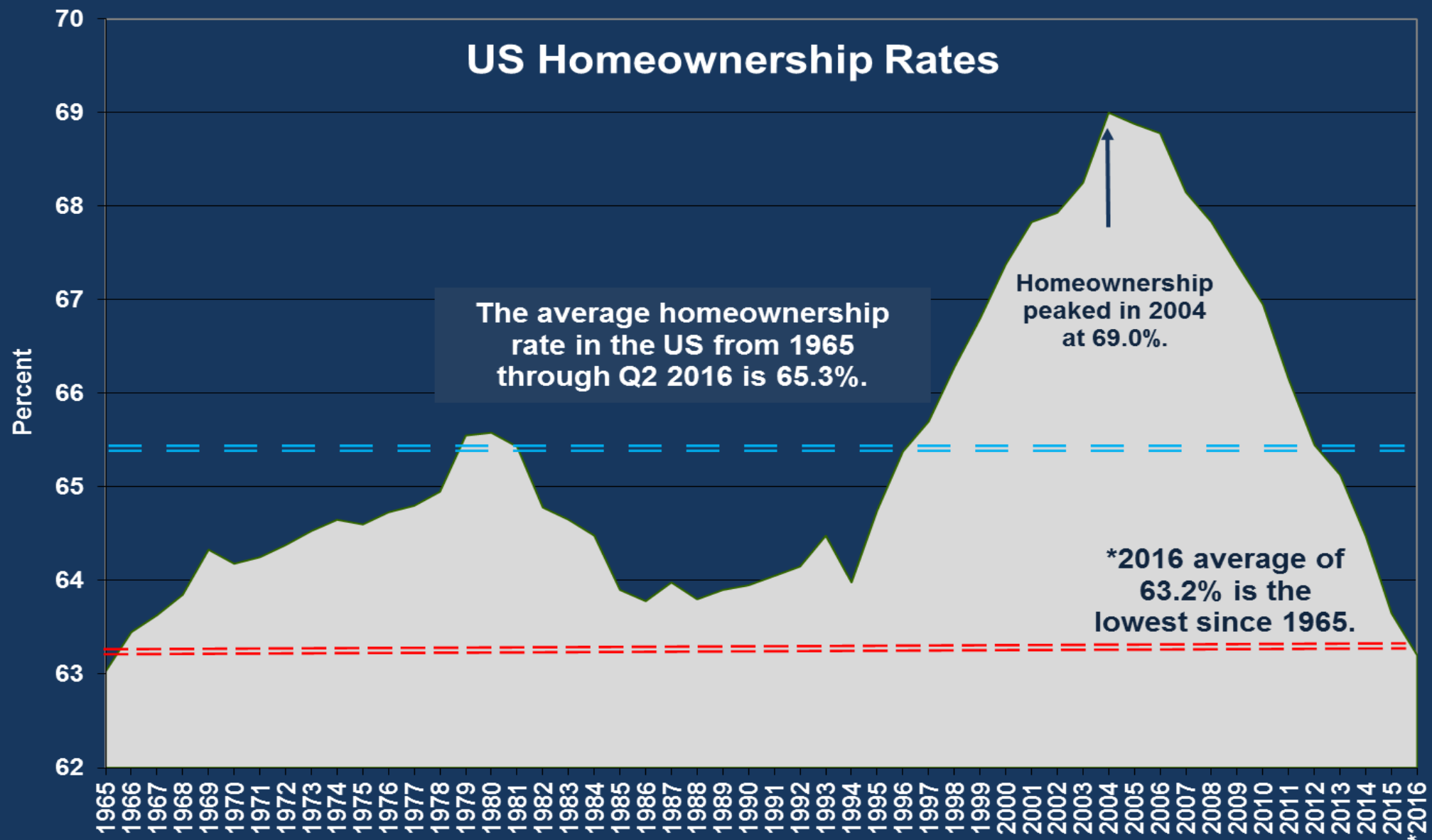
Source: US Census Bureau

Graph: HMR

US New Home Supply Pipeline



US Homeownership Rates

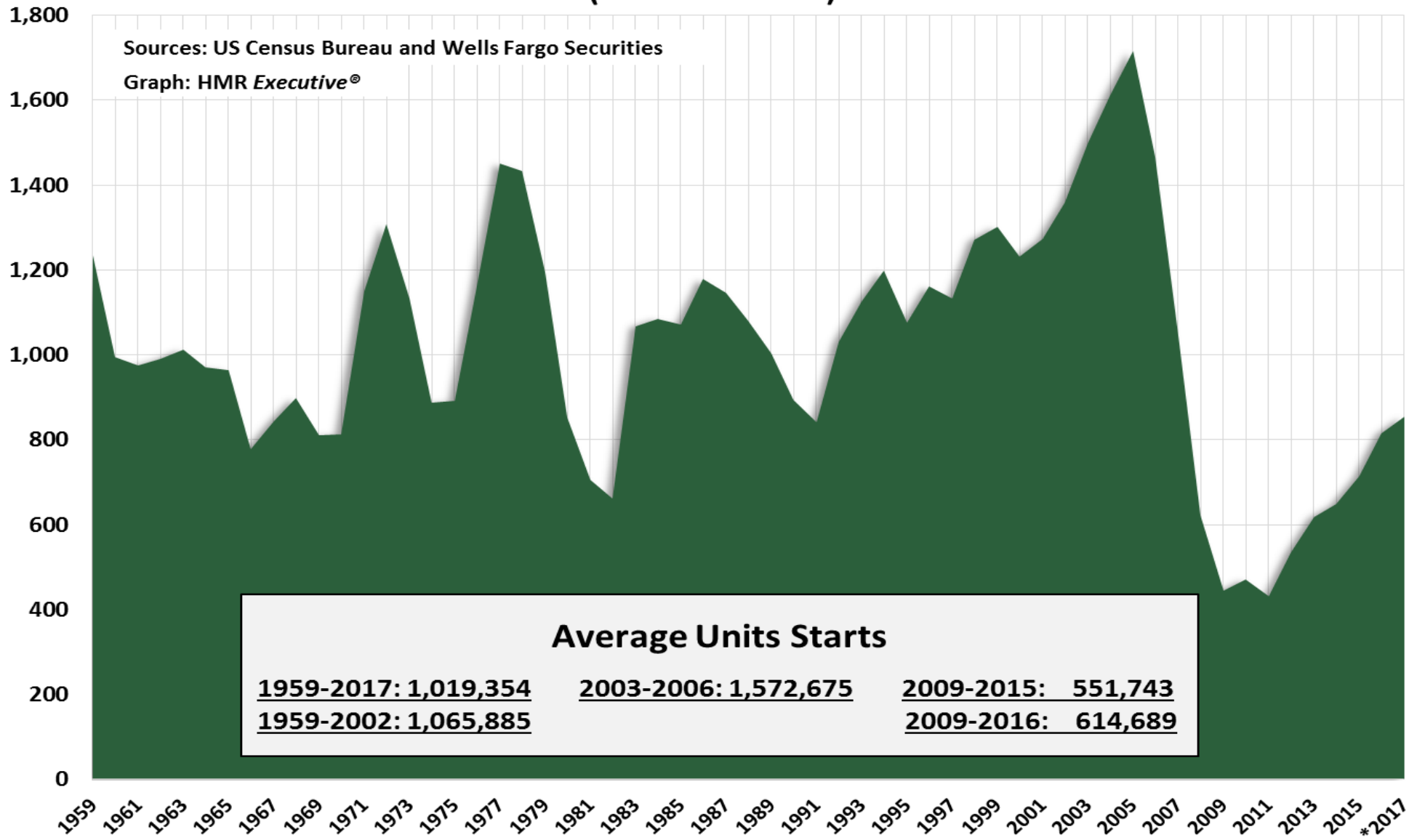


Source: US Census Bureau

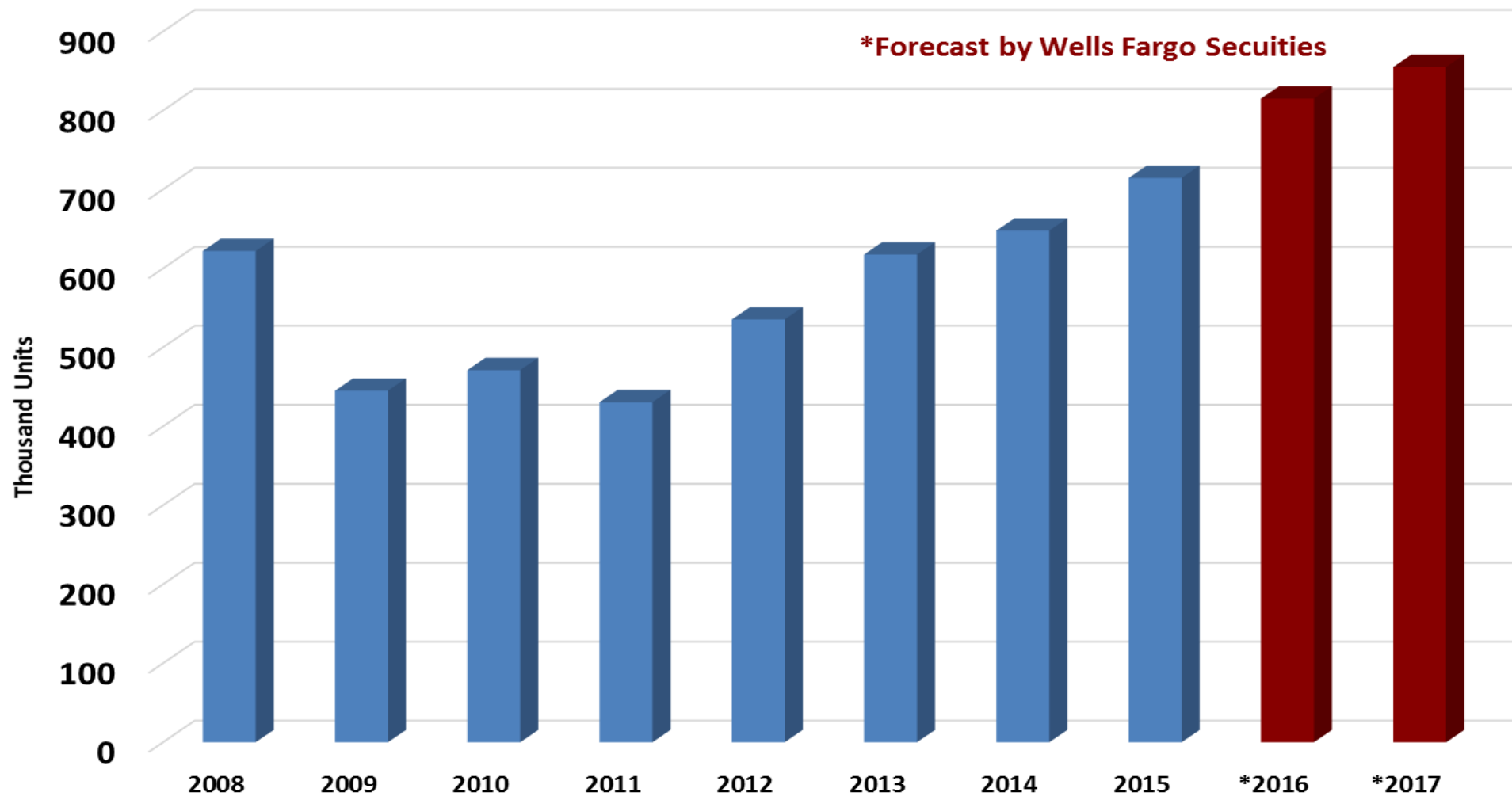
Graph: HMR Executive®

Single Family Housing Starts

(Thousand Units)



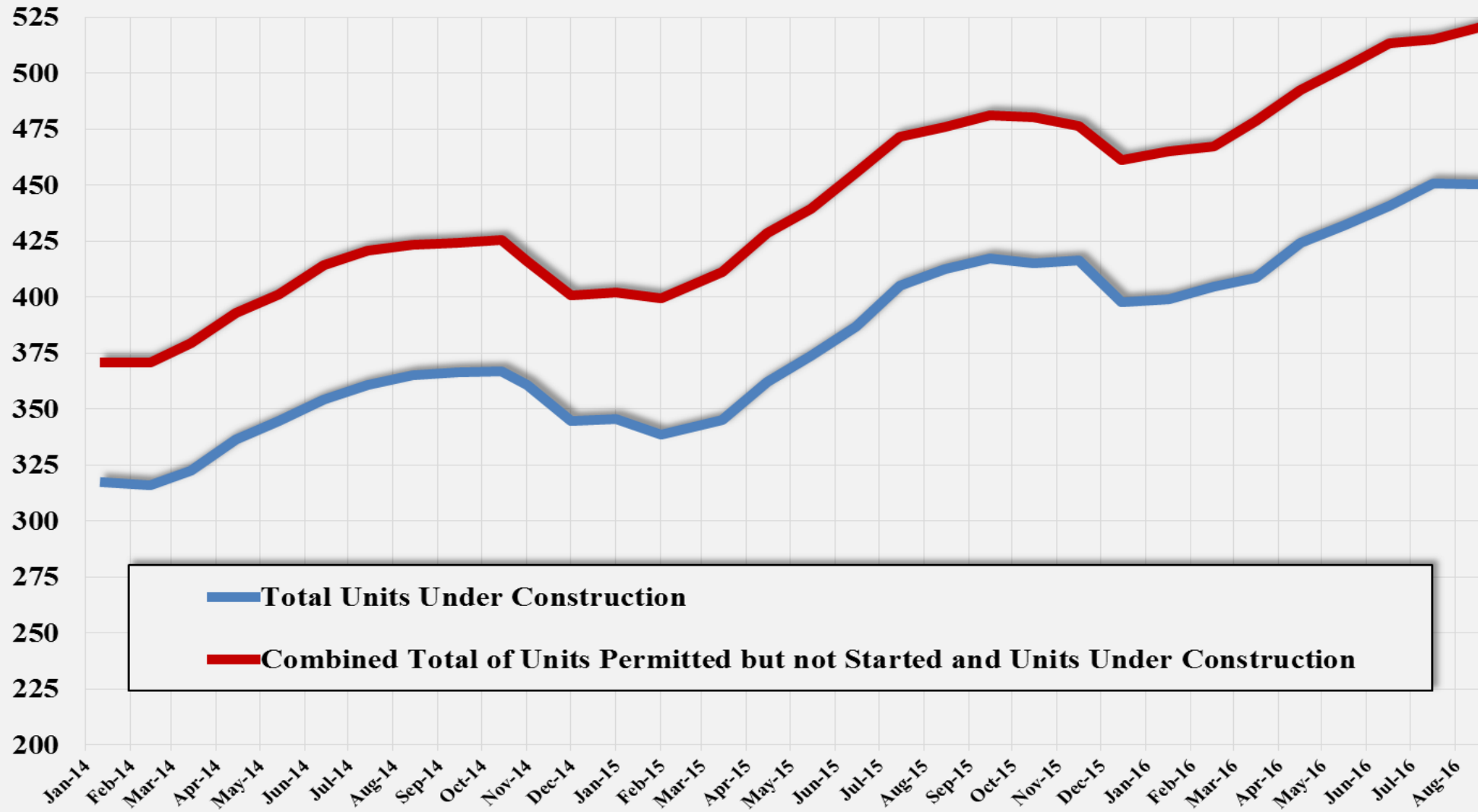
Single Family Housing Starts Post Housing Market Crash



Sources: US Census Bureau and Wells Fargo Securities

Graph: HMR Executive®

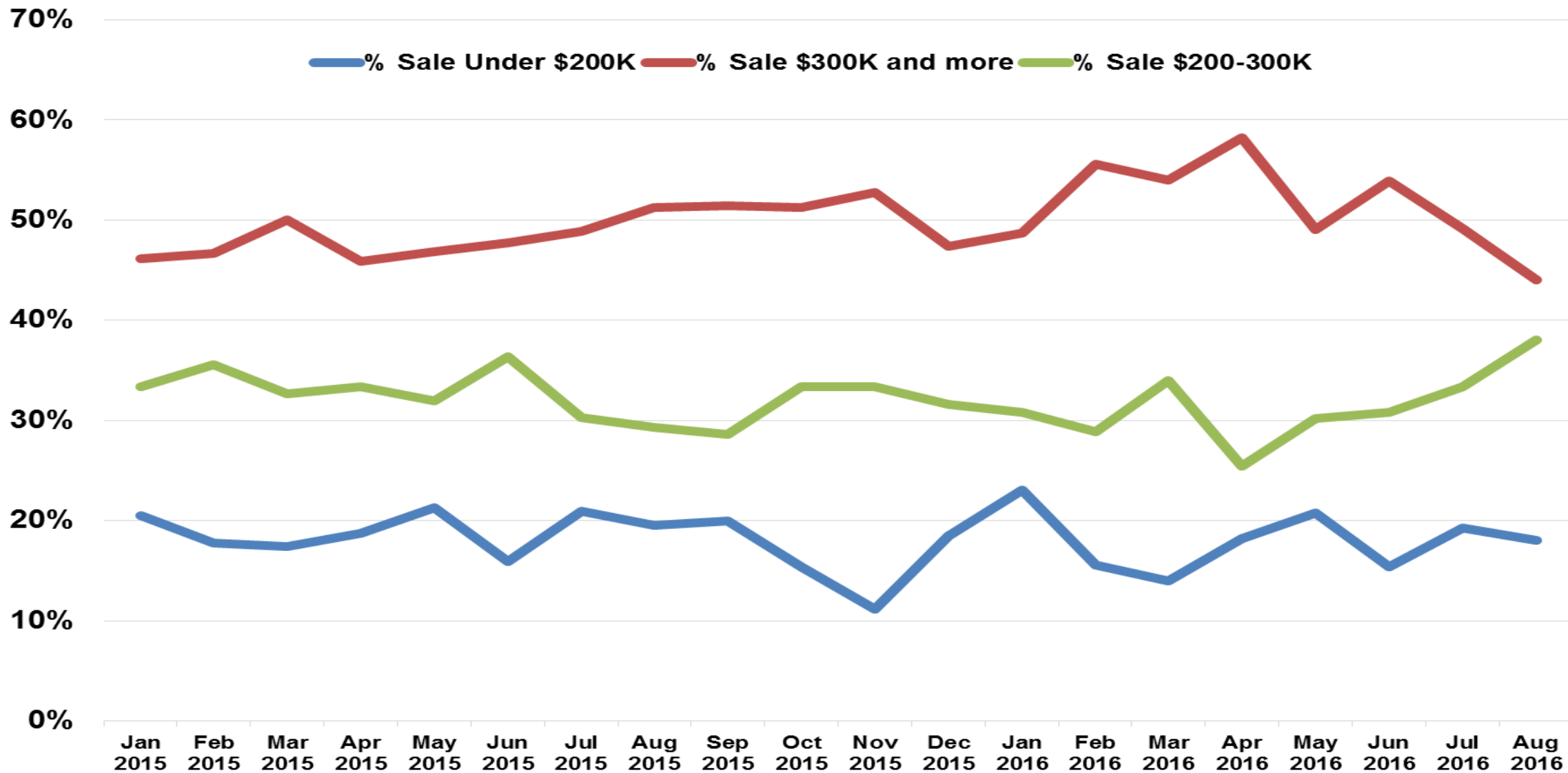
Permitted and In-process Construction of New Single Family Housing (Thousand Units - Unadjusted)



Source: US Census Bureau

Graph: HMR Executive®

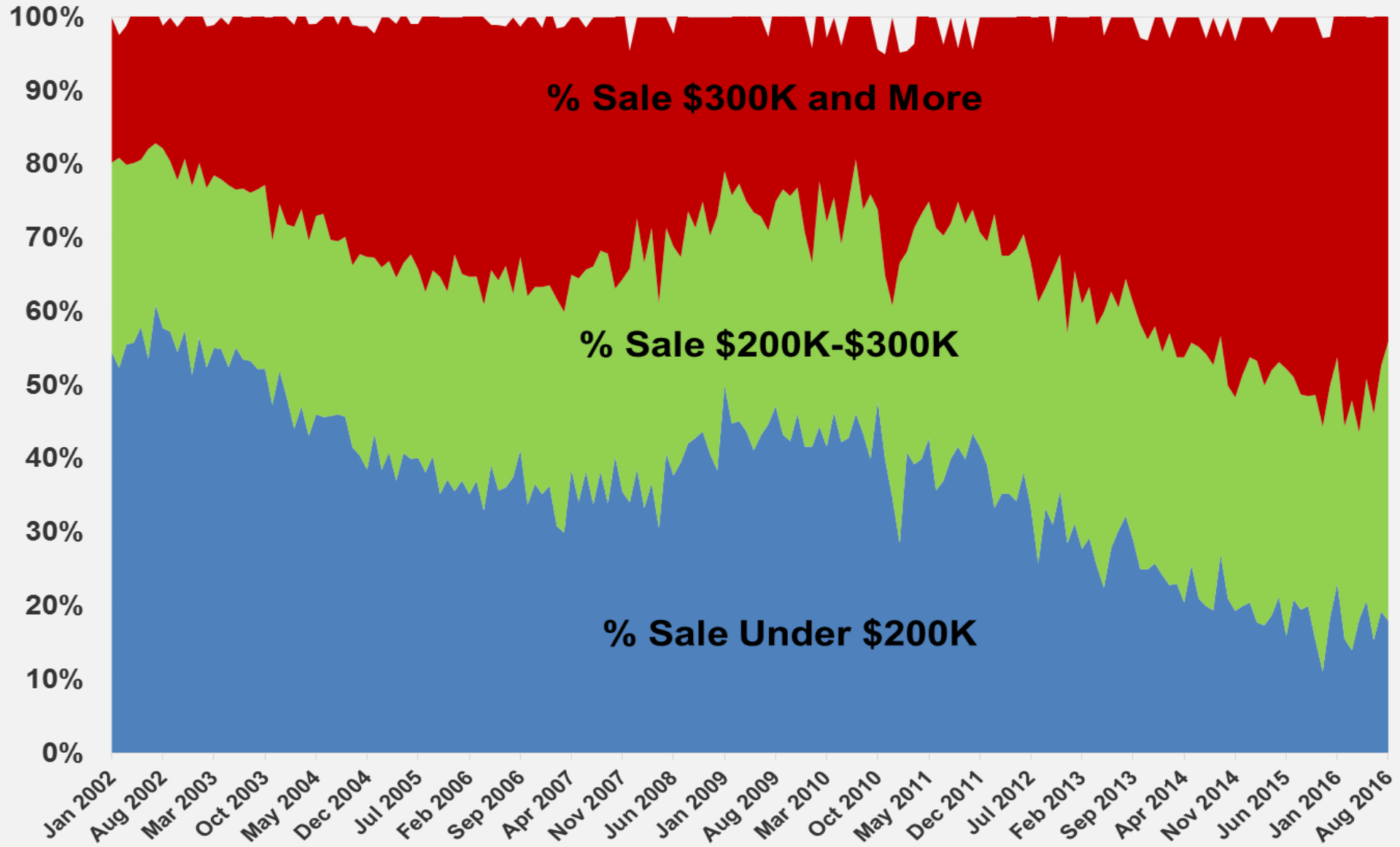
Sales of New Single Family Houses



Source: US Census Bureau

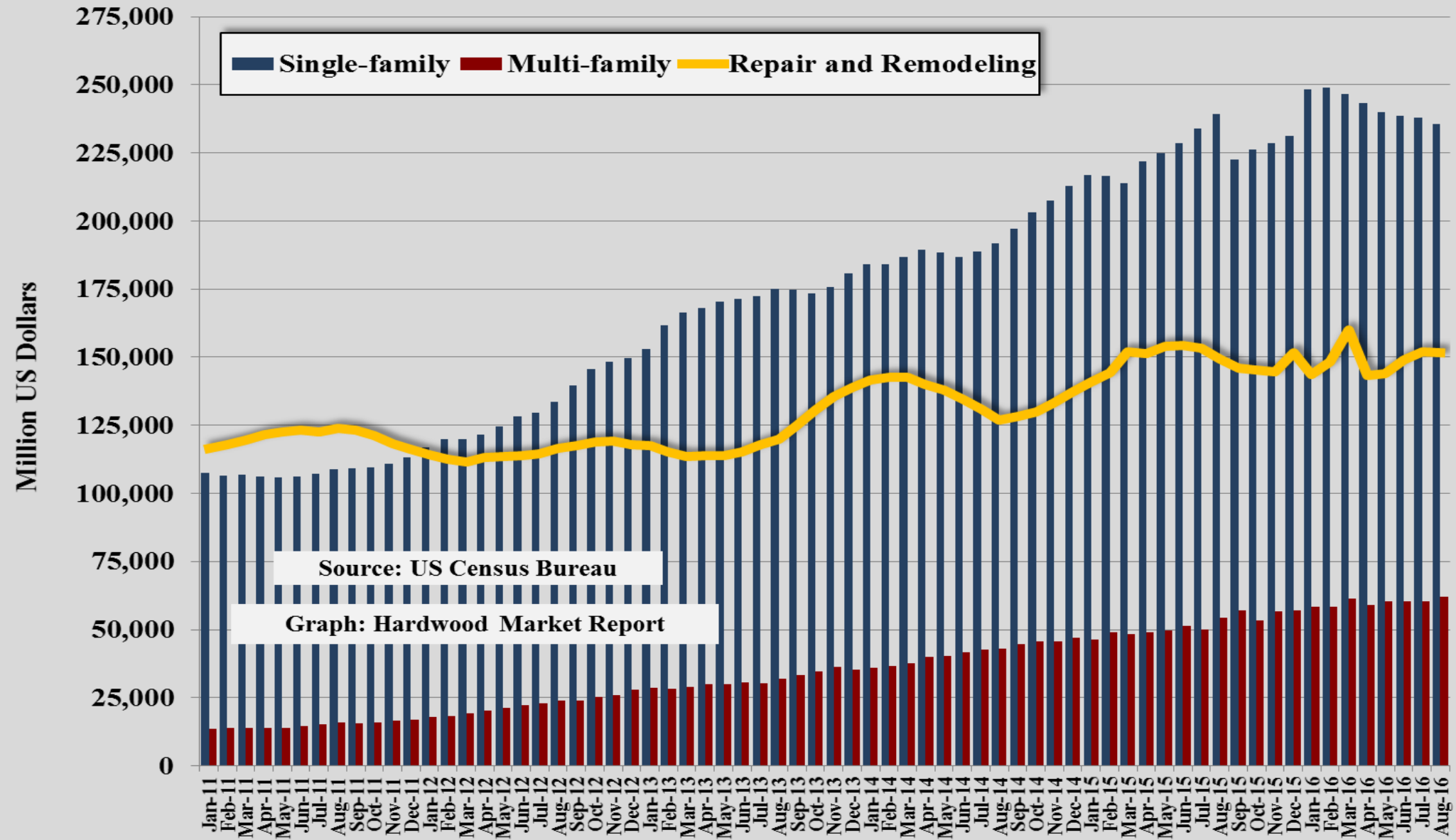
Graph: Hardwood Market Report

Sales Prices of New Single-Family Houses

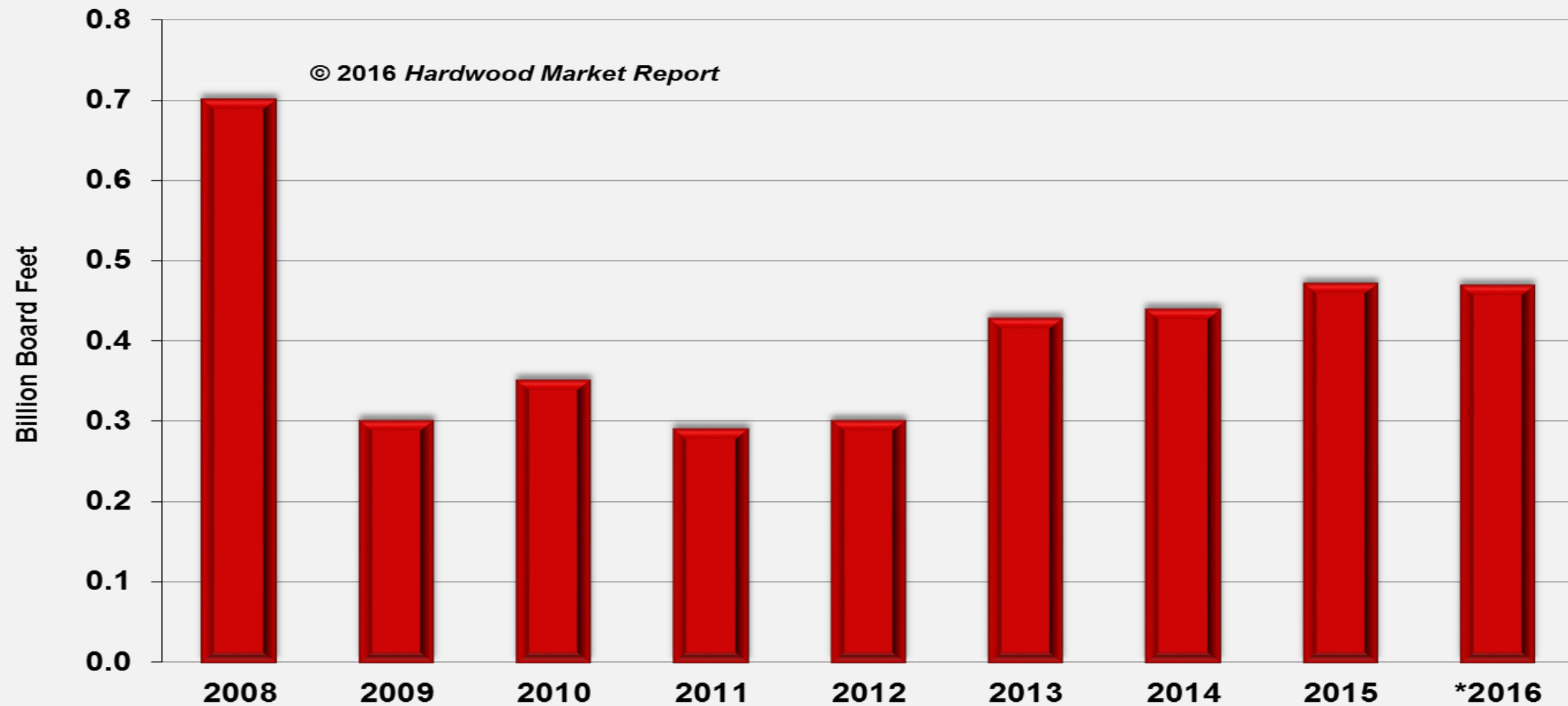


Private Expenditures on US Residential Construction

Seasonally Adjusted Annual Rates



Furniture



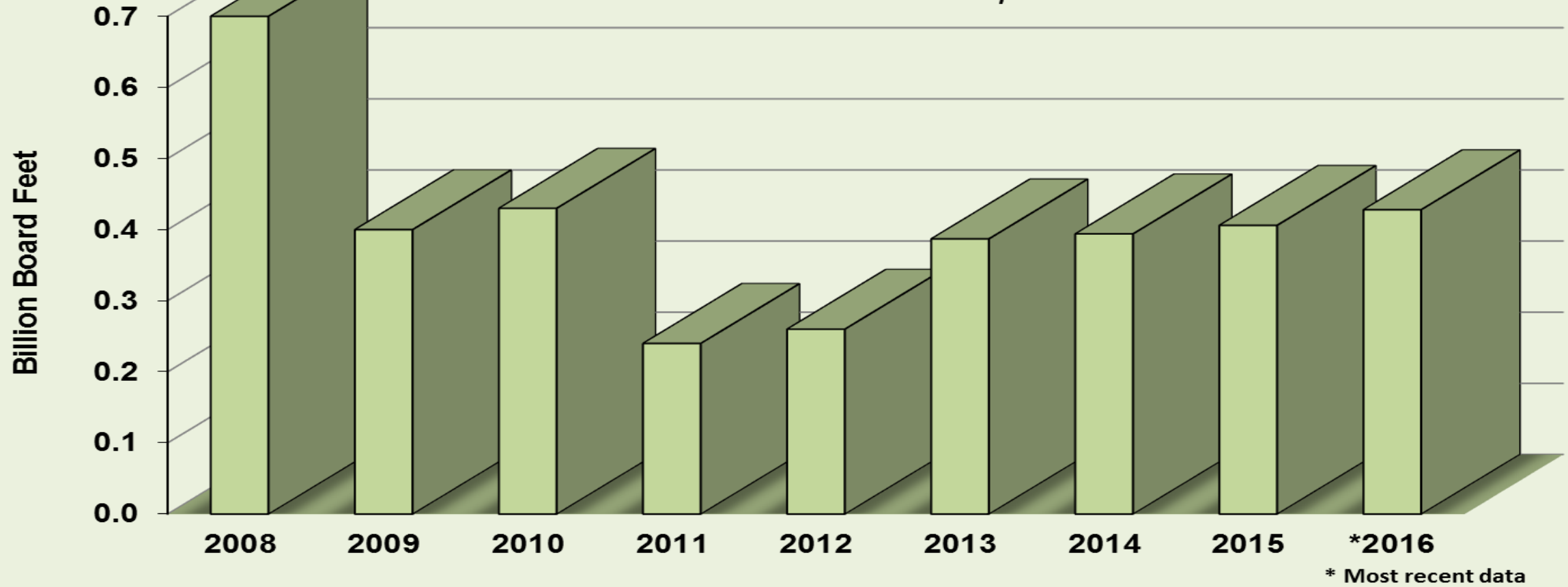
* Most recent data

2008 to 2016 -33.1%

2015 to 2016 -0.6%

Moulding and Millwork

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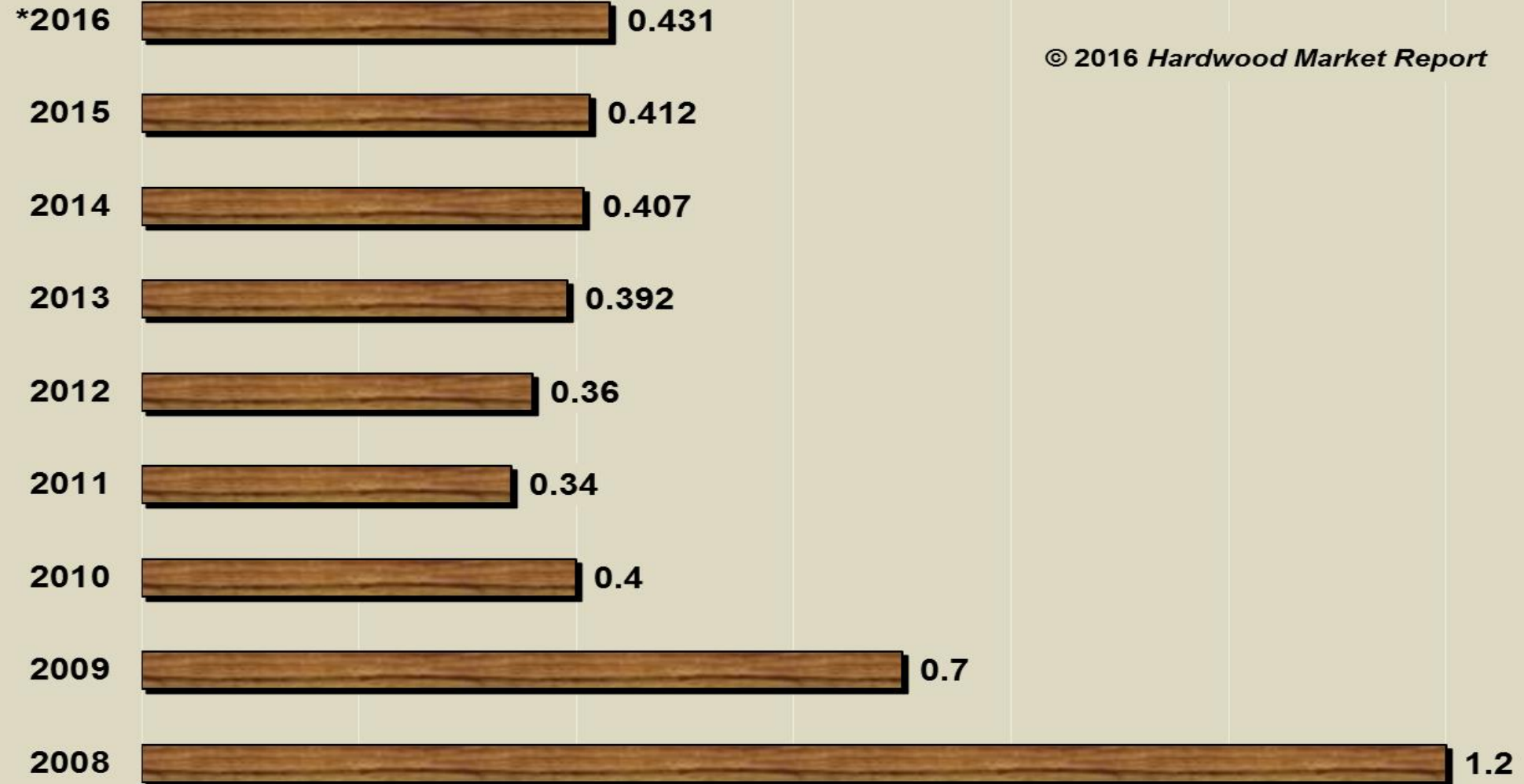
2008 to 2016 -38.9%

2015 to 2016 +5.4%

Cabinets

(Billion Board Feet)

* Most recent data



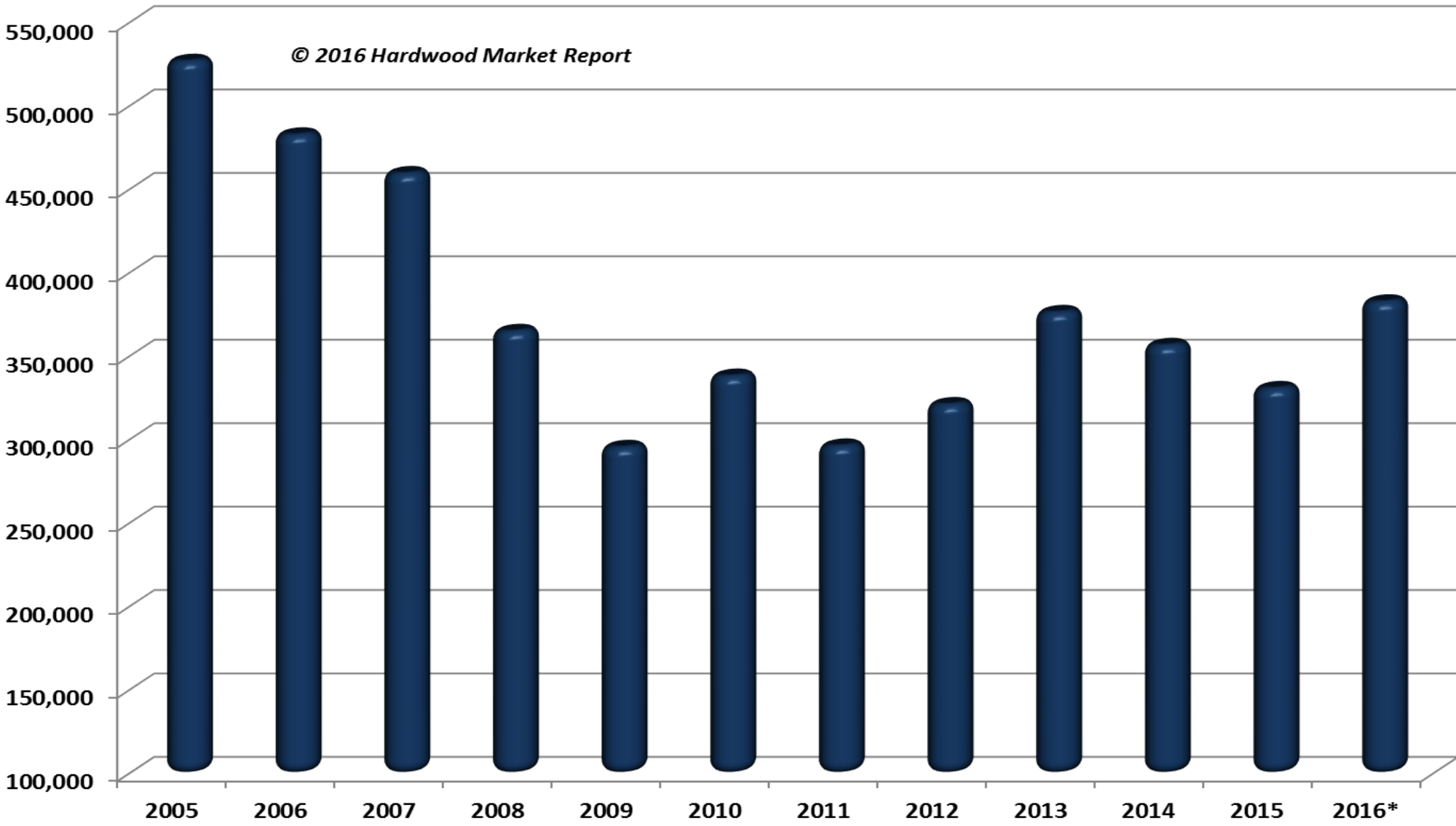
Flooring



2008 to 2016 -12.9%

2015 to 2016 +5.0%

US Manufacturers' Shipments of Solid Wood Flooring (Thousand Square Feet)



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%

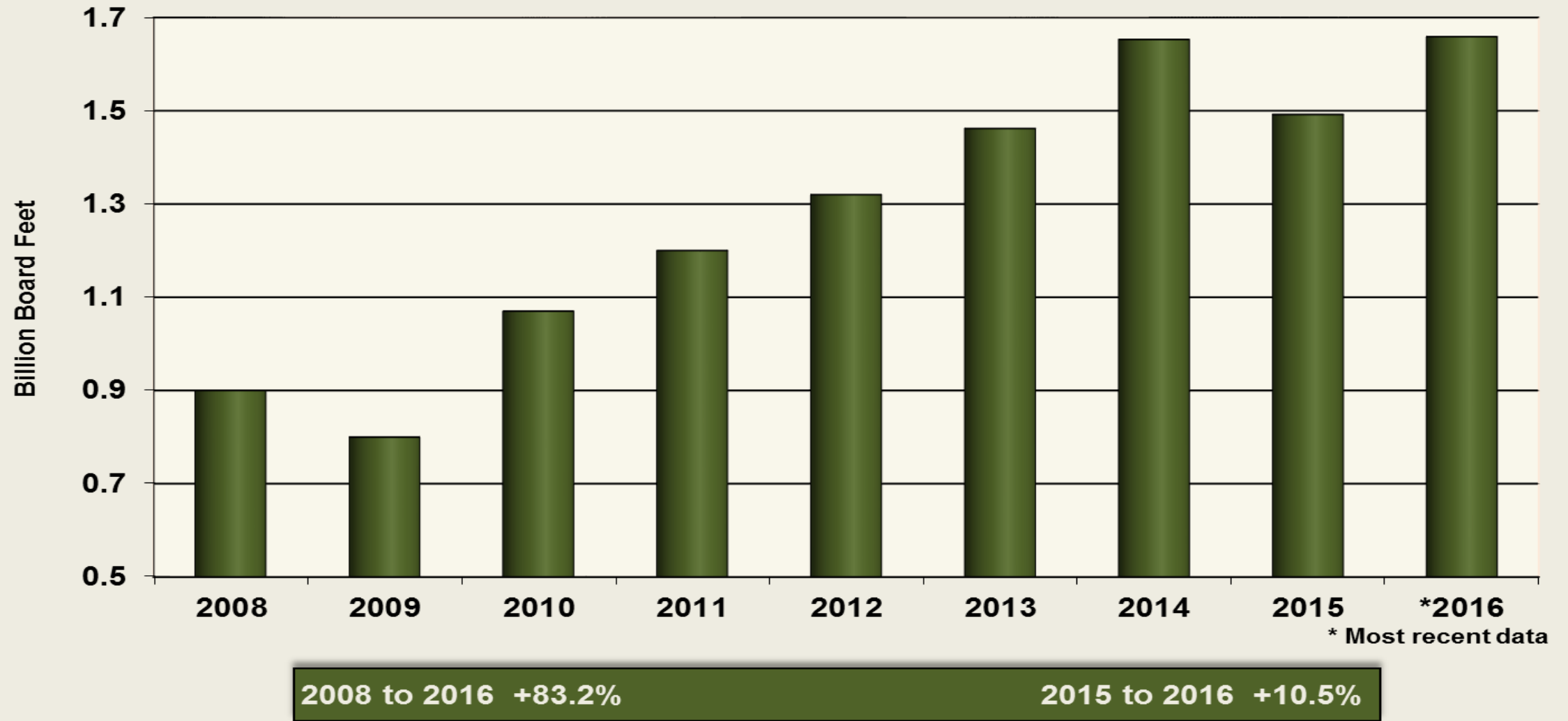
US single-family housing completions increased 14.3%

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:

<u>Market Sector</u>	<u>Percent Chg. 2016 Vs. 2011</u>	<u>Percent Chg. 2016 Vs. 2015</u>
Furniture	-12%	+1%
Moulding & Millwork	-3%	-5%
Cabinet	-31%	-6%
Flooring	-22%	-1%
Combined	-19%	-5%

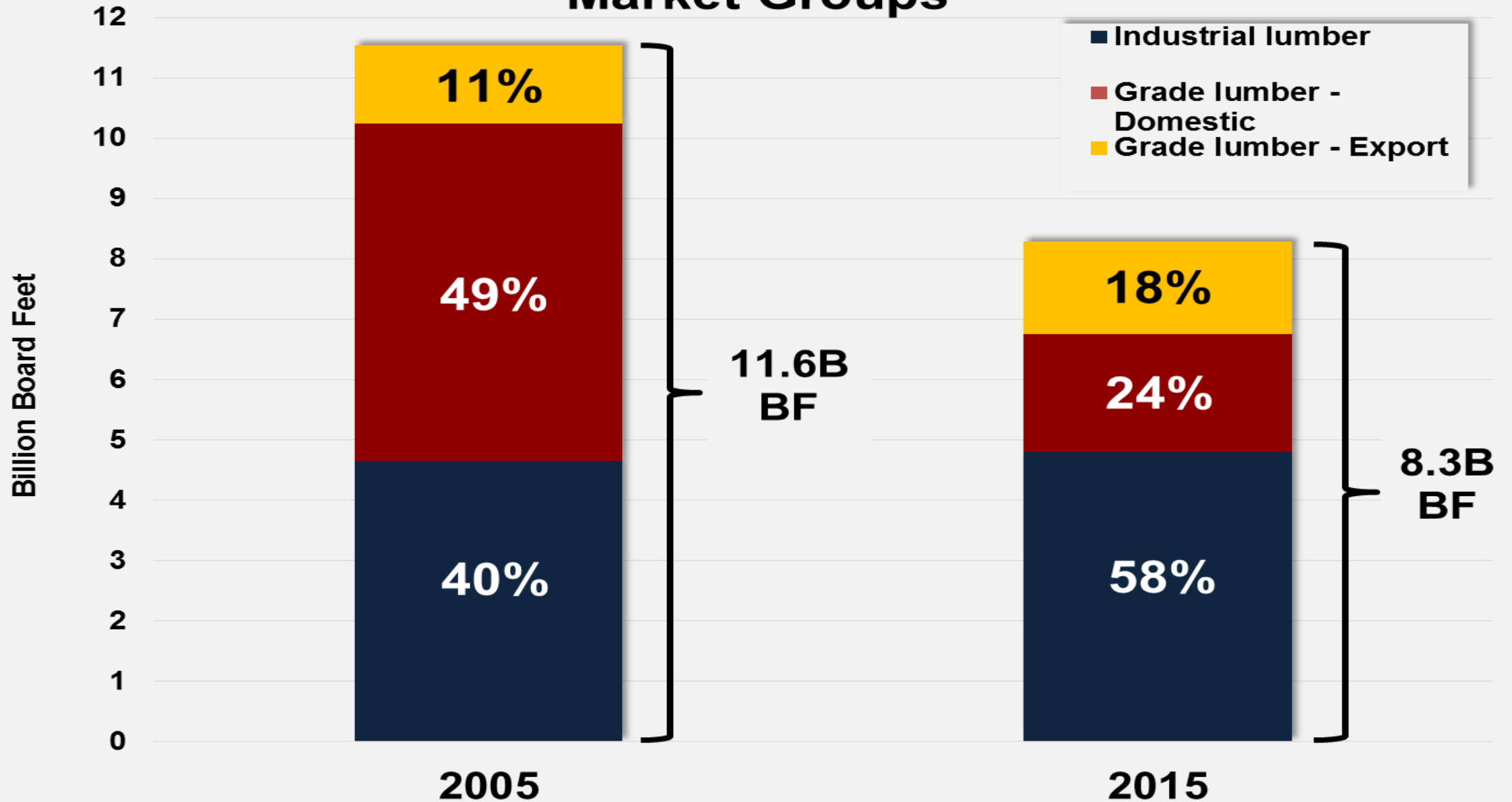
Exports



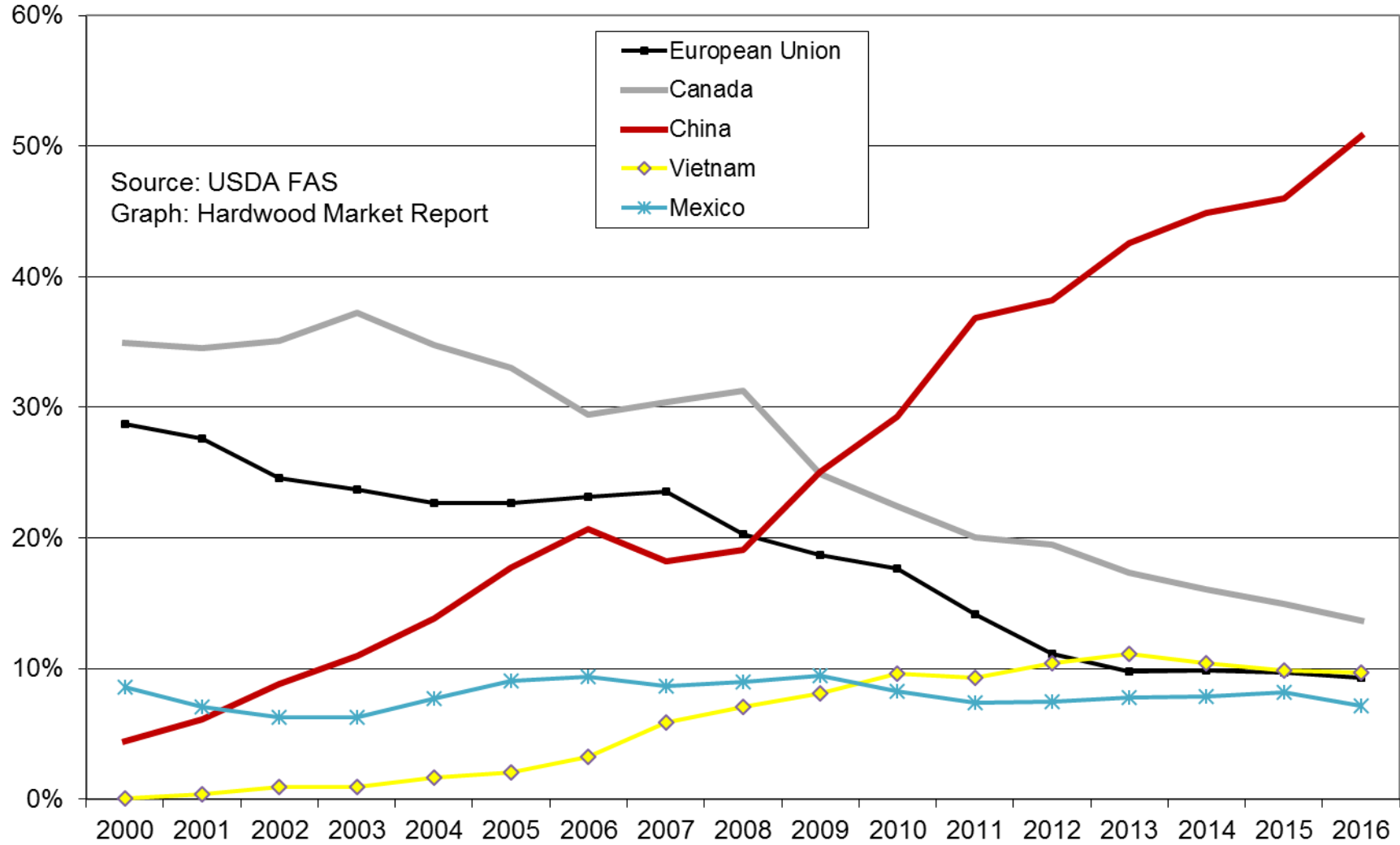
Source: USDA FAS

Graph: Hardwood Market Report

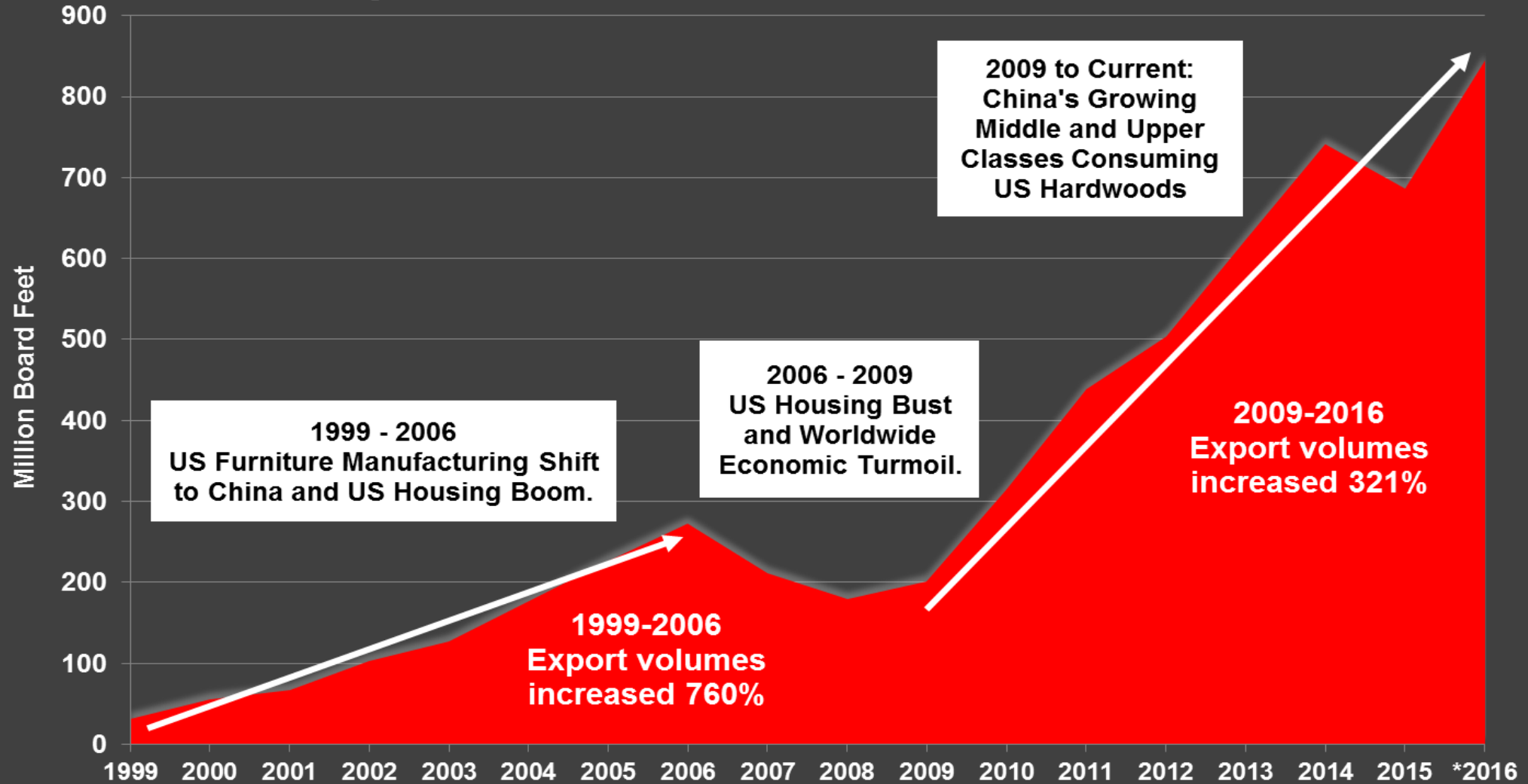
Hardwood Lumber Consumption by US Major Market Groups



Percentage of Total US Hardwood Lumber Exports (Volume)



US Exports of Hardwood Lumber to China



Source: USDA FAS

Graph: HMR Executive®

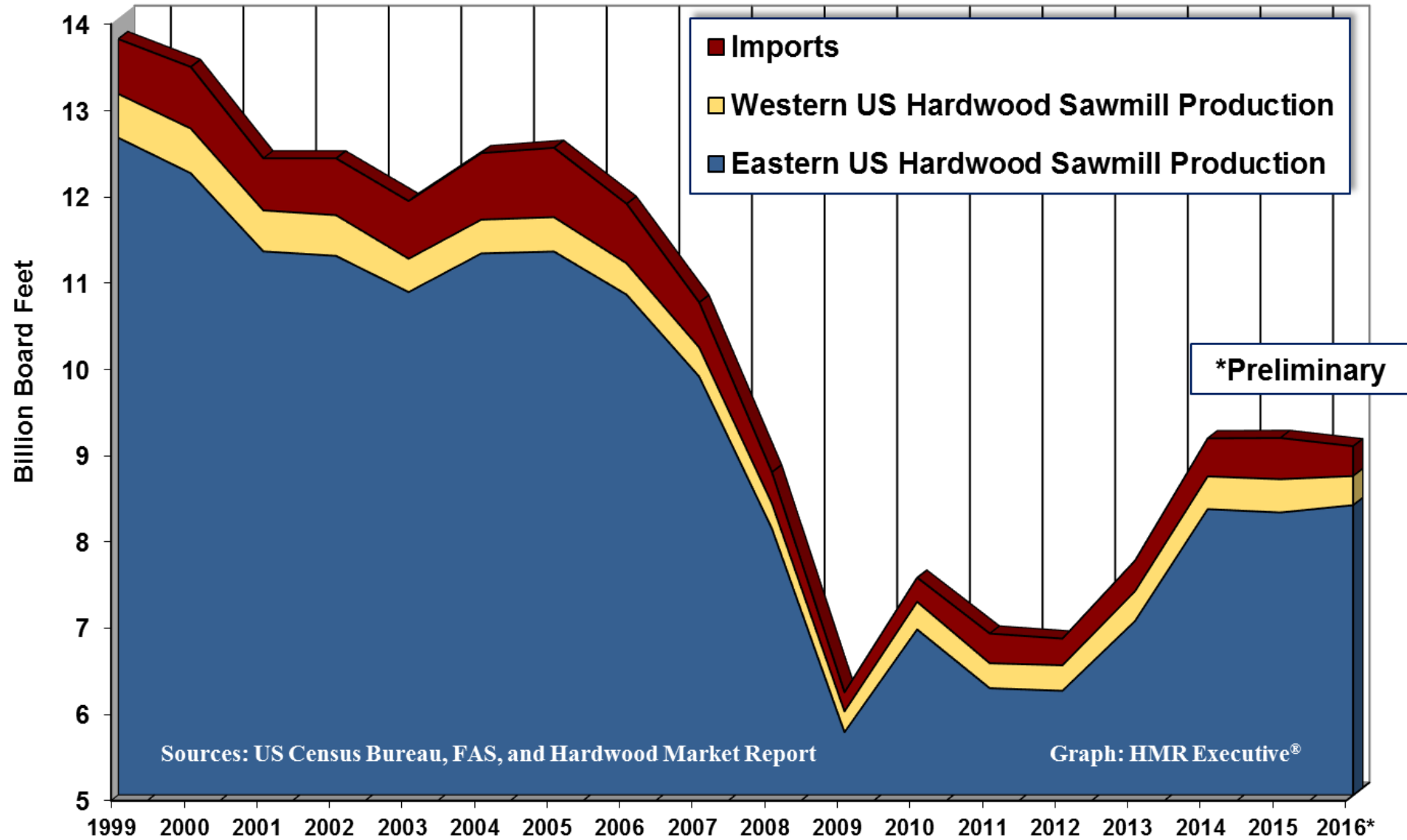
Consumption of Hardwood Lumber by Major US Markets and Total Supply of Hardwood Lumber



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*Preliminary

Hardwood Lumber Supply Available to the US Market from All Sources

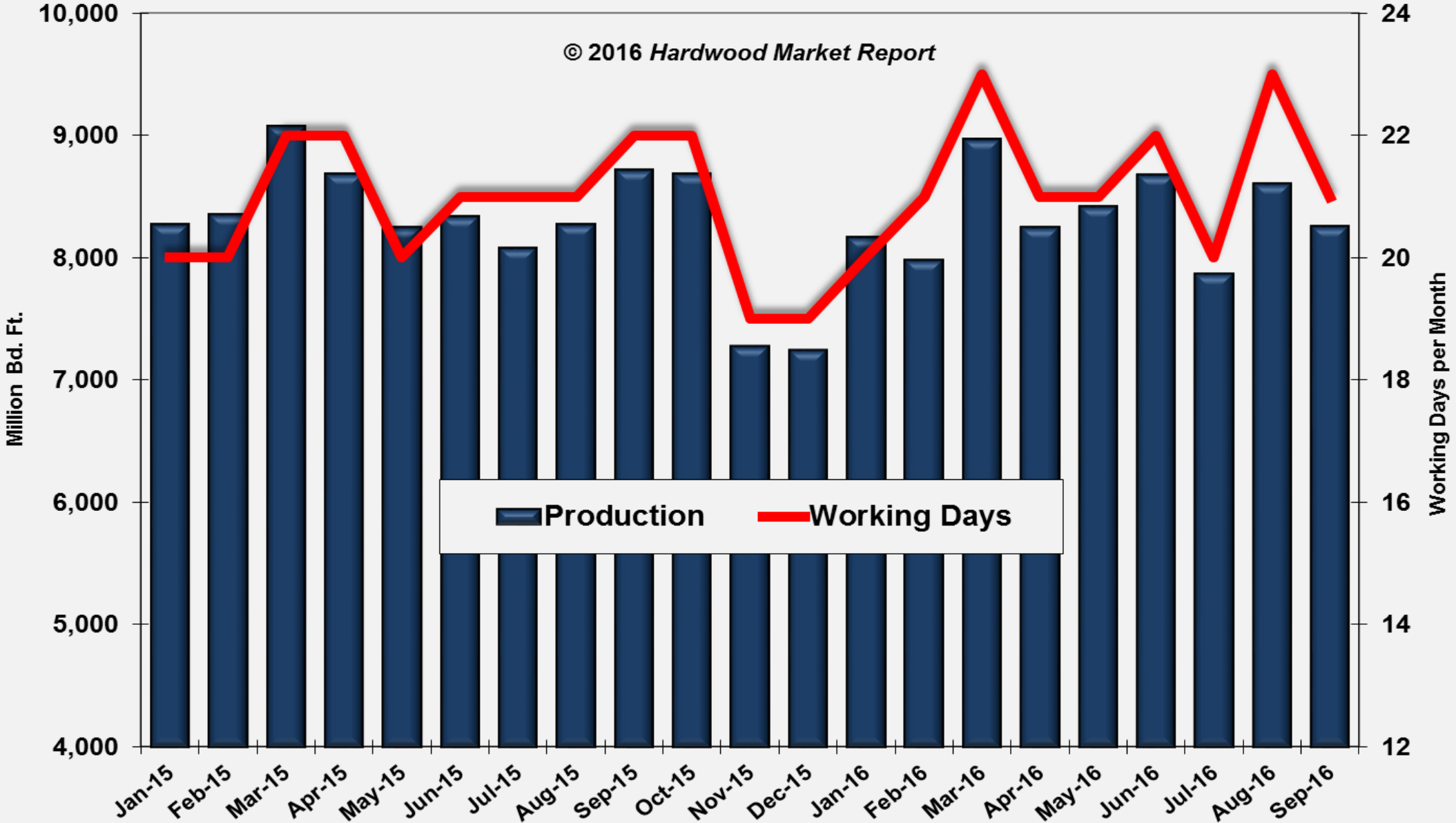


Sources: US Census Bureau, FAS, and Hardwood Market Report

Graph: HMR Executive®

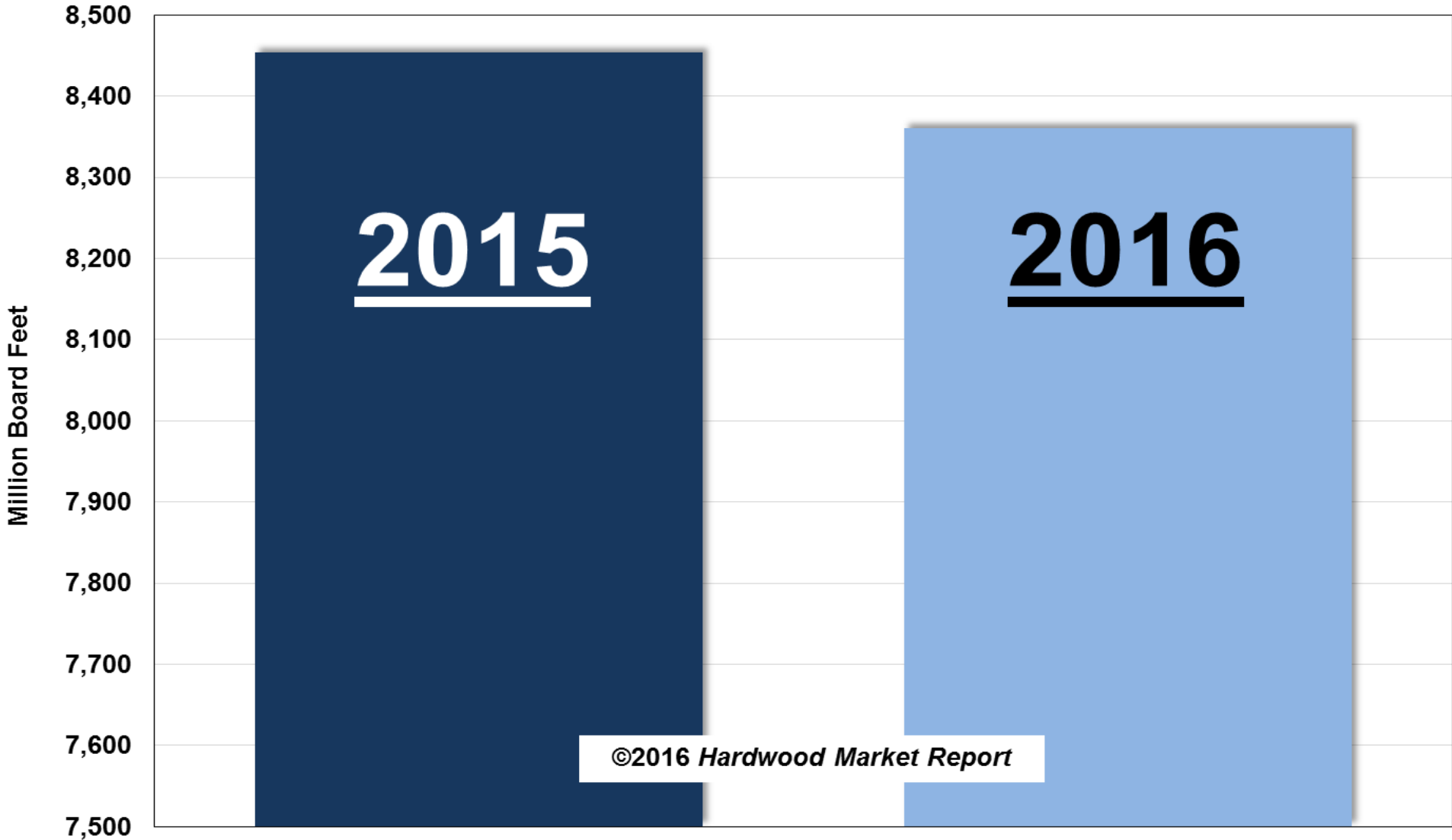
Estimated Annual Rates of Eastern US Hardwood Sawmill Production

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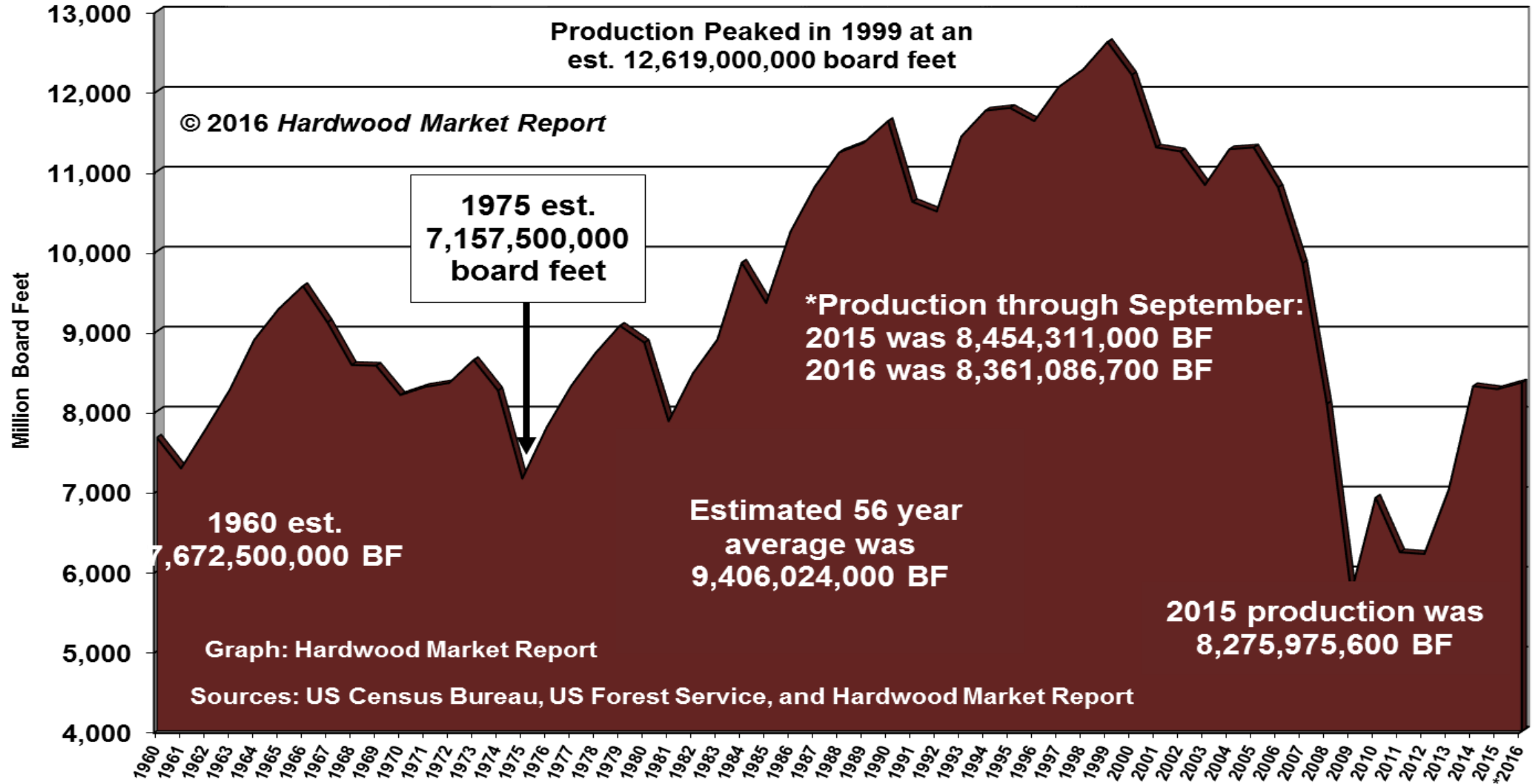
Eastern US Hardwood Sawmill Production

Most Recent Data Annualized



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Eastern US Hardwood Production

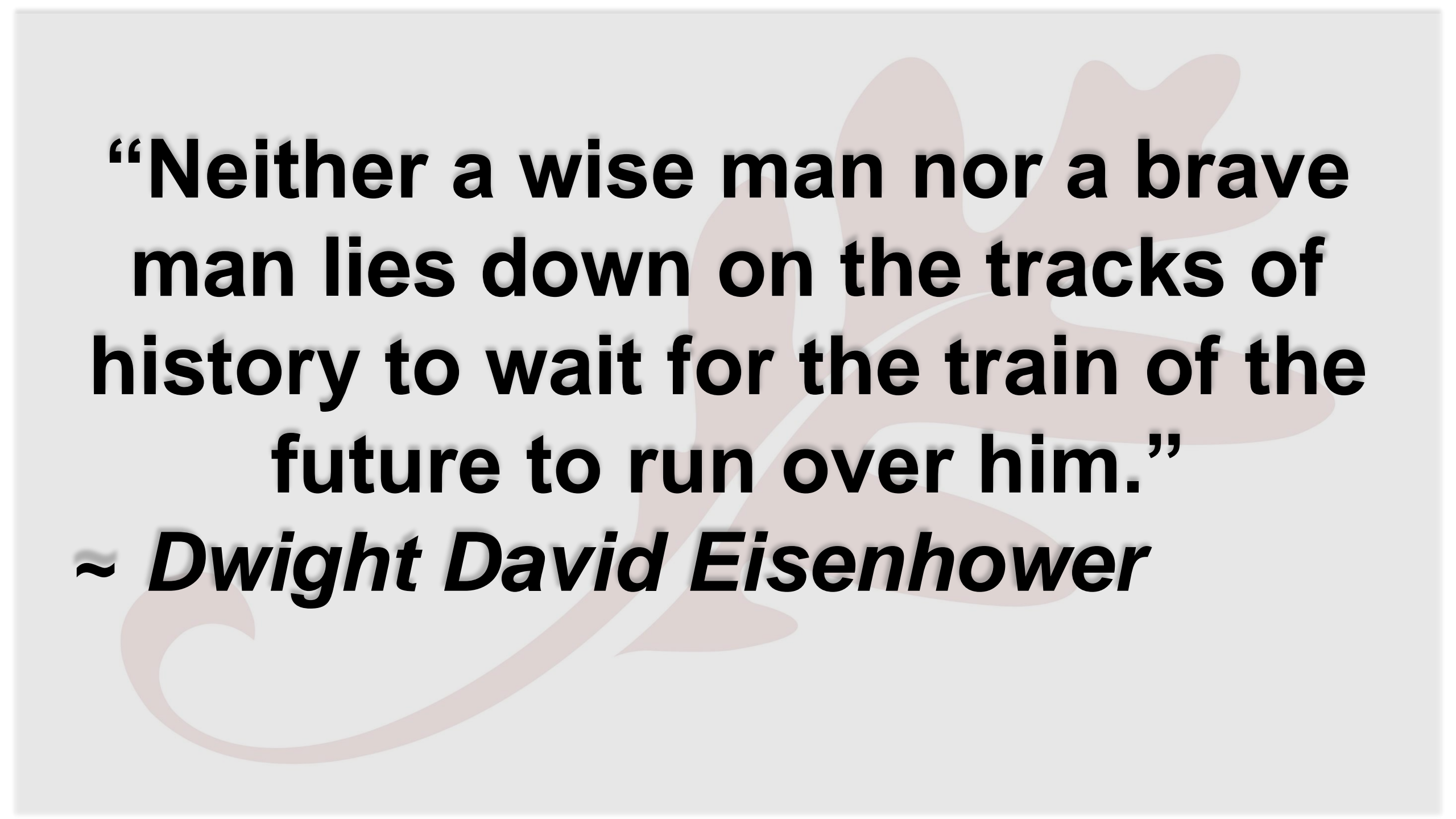


Consumption of Hardwood Lumber by Major US Markets and Total Supply of Hardwood Lumber



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*Preliminary



“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

Thank You

Hardwood Market

Report



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