Forest Products Utilization and Marketing: Industry Updates and Sawmill Trends

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WISCONSIN
DEPT. OF NATURAL RESOURCES

For Today:

- Market Overview
  - Drivers
  - Current markets
- Sawmill Trends in Wisconsin
  - Past and present
  - Emerging markets and technologies

FPS Program Overview

- April 2014
  - 3 district staff
  - 1 statewide
- FIA Analyst
- FPS Team Leader

- Increase face-to-face interaction
- Direct assistance

What We Do

- Expert technical assistance, consultation, and technology transfer to support and grow Wisconsin's forest products industry

- Foster job growth, job retention, and industry expansion
  - County Economic Development Coordinators
  - Regional Economic Development groups, WEDC
  - Industry Sector Support (OBSSS)

- Assist forest products companies to improve their competitiveness and market positioning

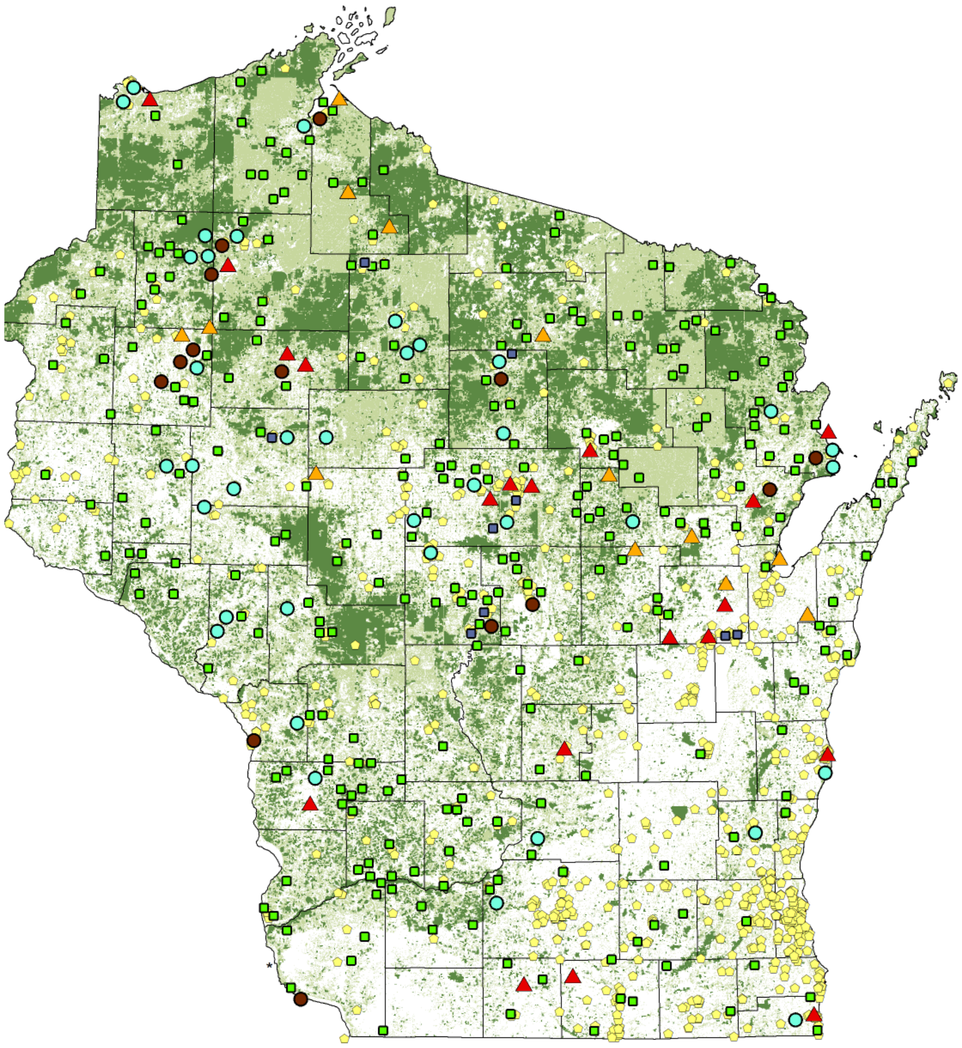
- Identify, develop, and evaluate regional and global marketing strategies

What We Do

- Foster regional supply chain networks
- Provide information about wood products, prices, availability, and product uses to regional partners
- Assist communities and businesses with wood utilization and marketing plans to mitigate the impacts of invasive species
- Inventory and analysis of Wisconsin’s forest resource to support all of the above
- Economic analysis—Julie Ballweg, W*DNR Forest Economist*

Wisconsin’s Forest Economy

Wisconsin's industry



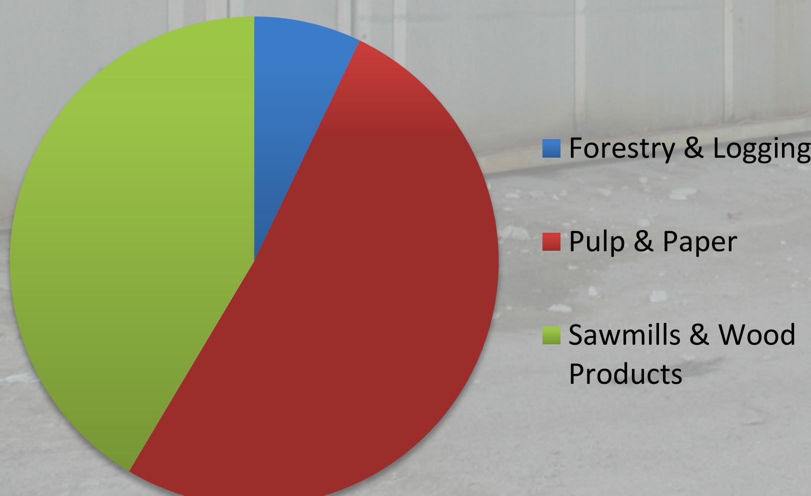
Importance of Forestry Sector

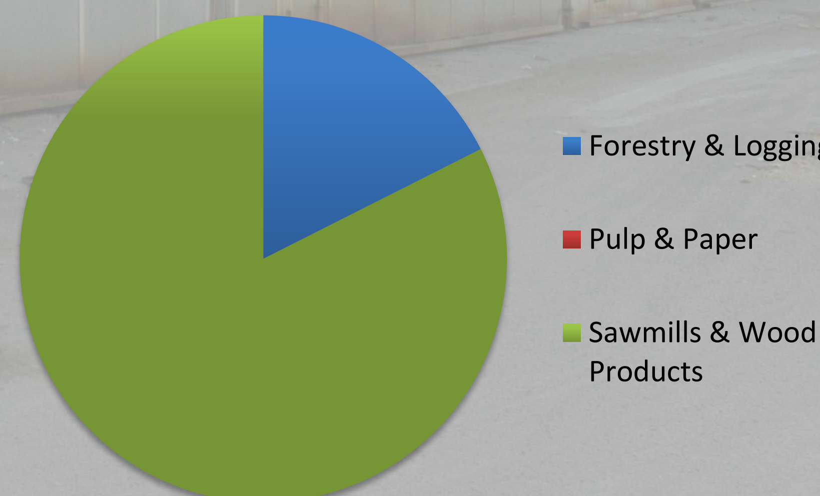
Wisconsin

- 59,597 jobs
- $22.9 billion
- $156.4 million direct taxes
- $6.4 billion value-added

Florence County

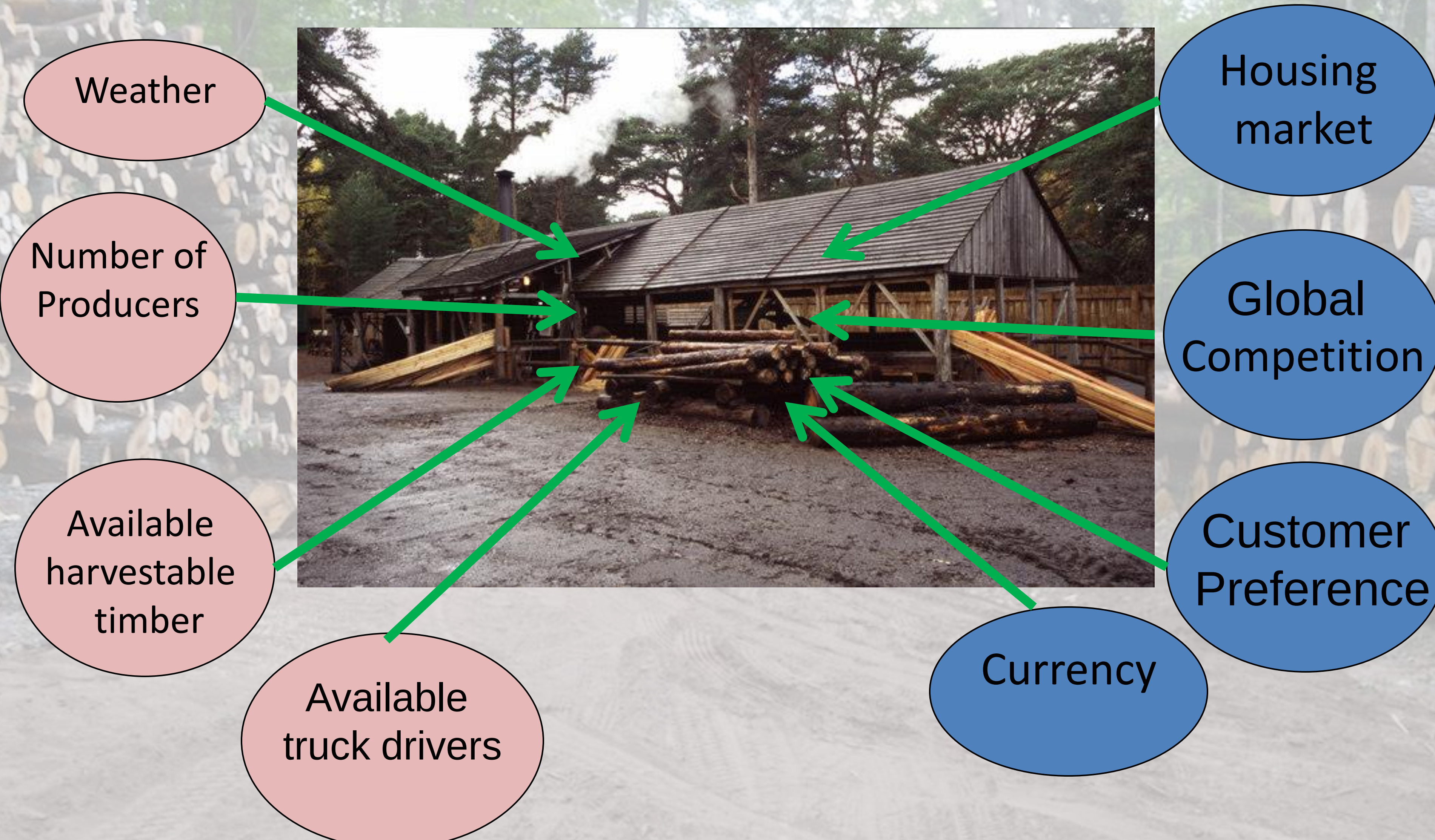
- 131 jobs
- $24.2 million
- $119,000 direct taxes
- $7.1 million value-added



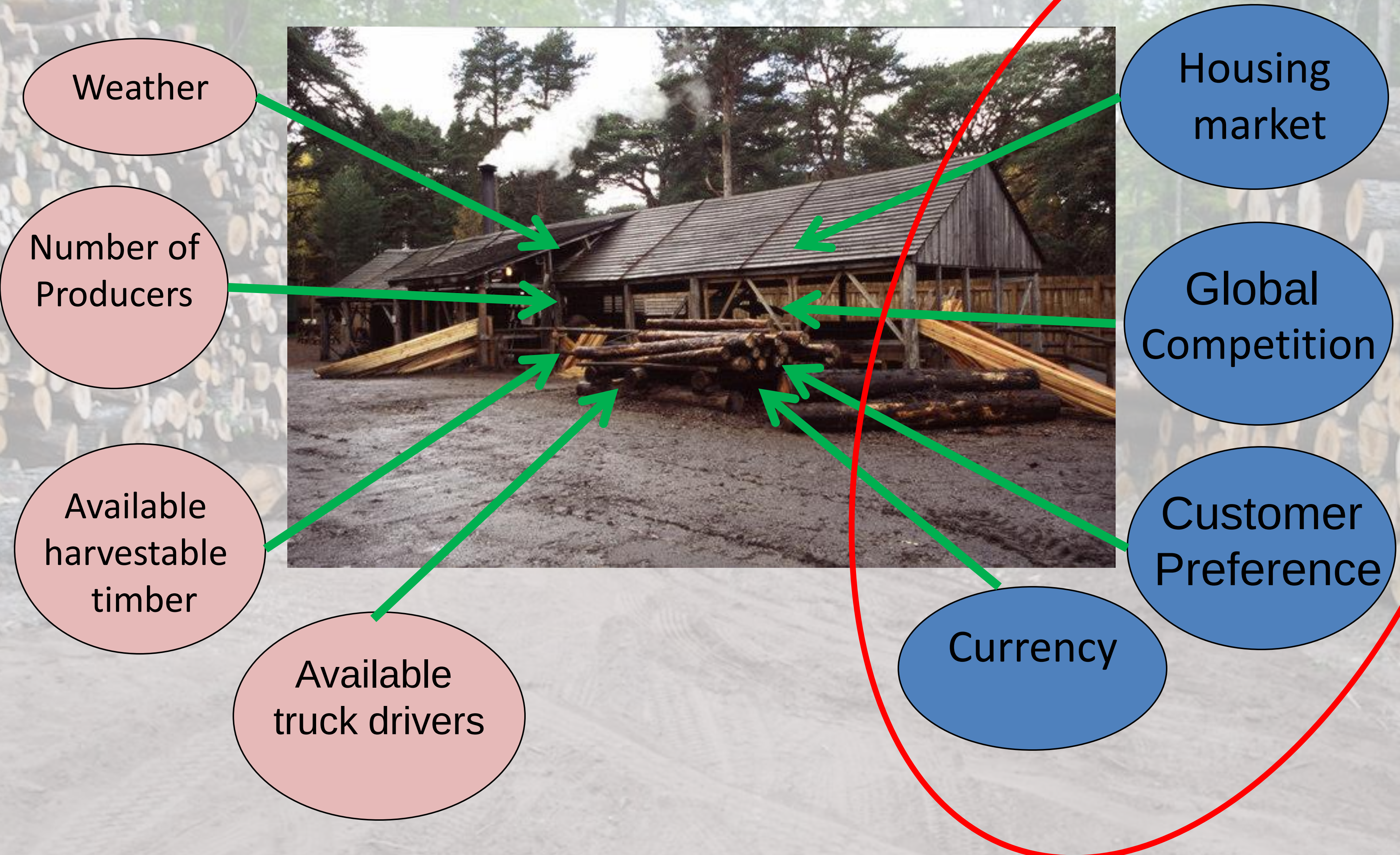


Market Drivers

General Market Drivers

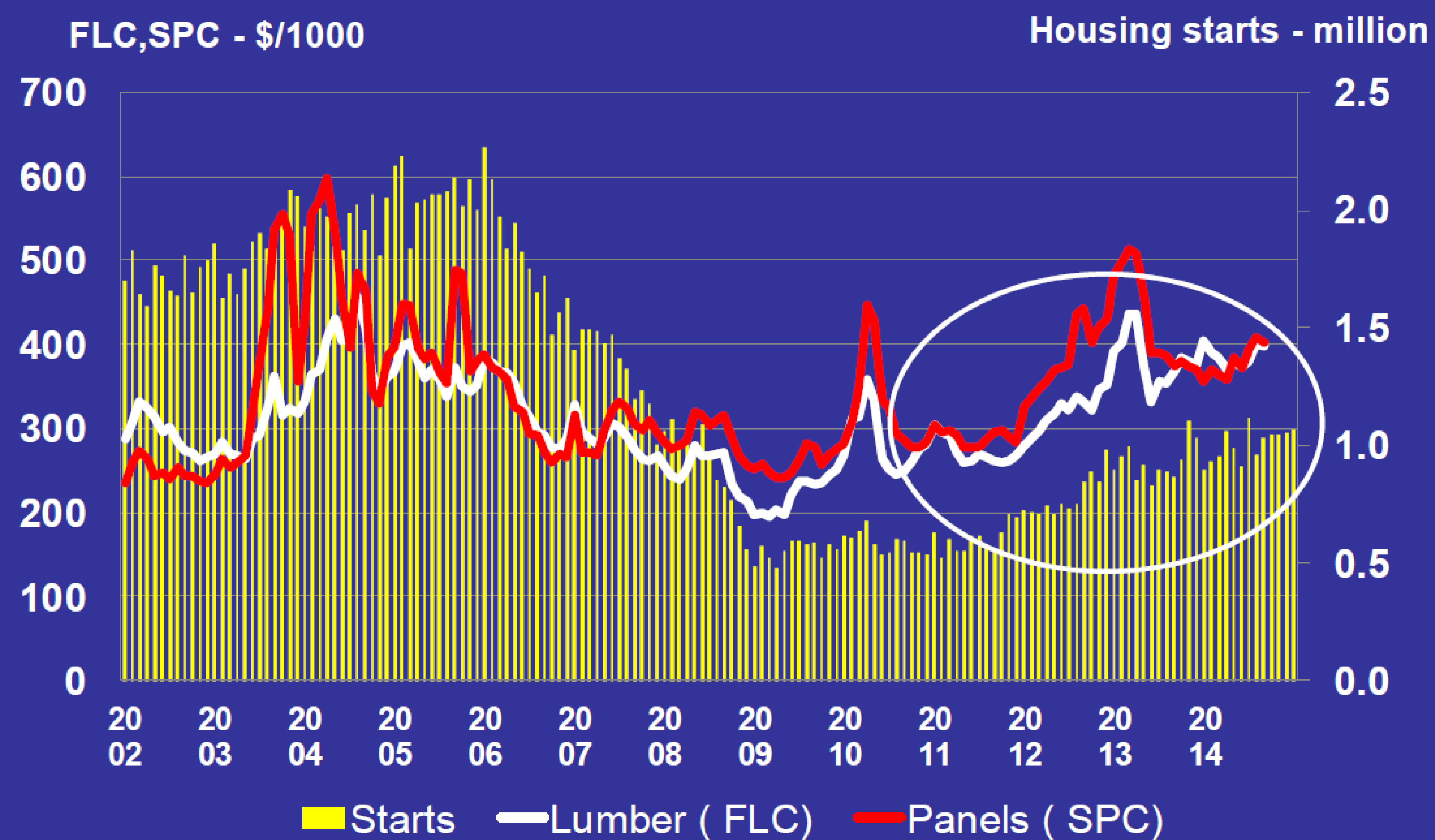


General Market Drivers



Housing starts and wood product prices – Economics 101

75% of structural wood products go to housing (new construction plus remodeling)
50% or more of hardwoods go to housing related activities.



Sources: Prices – Random Lengths (http://www.randomlengths.com/); starts (Bureau of Census (http://www.census.gov/construction/nrc/)

Return TOC

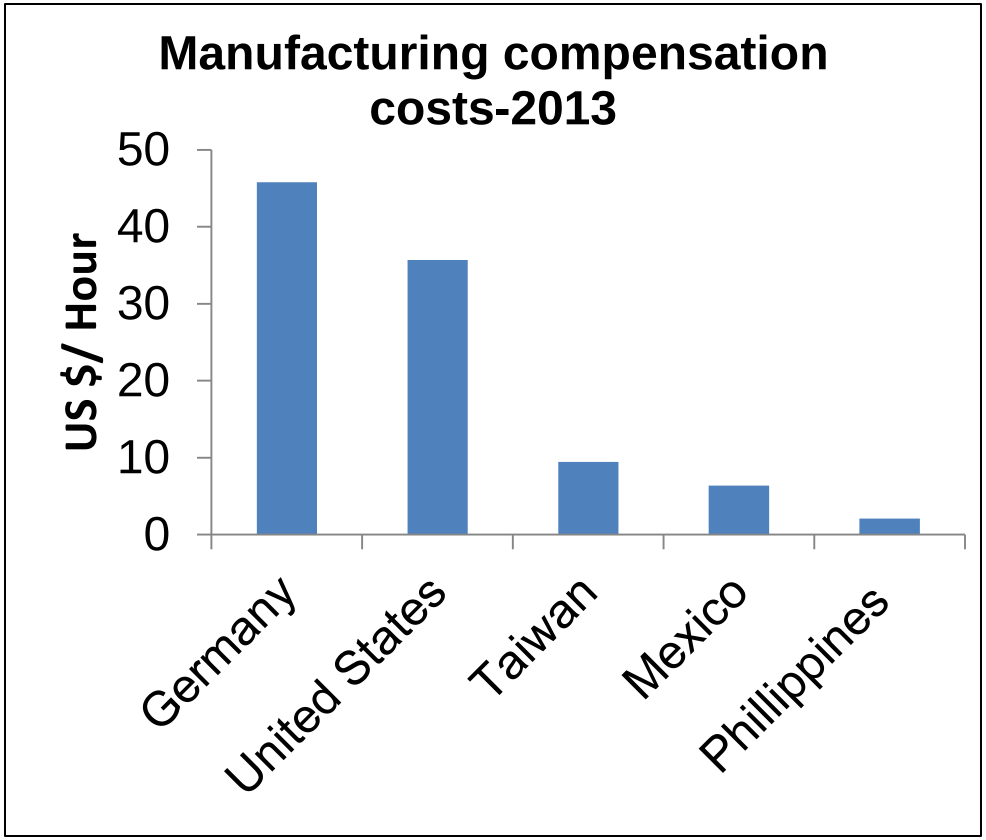
http://woodproducts.sbio.vt.edu/housing-report/casa-2015-01-january.pdf

Competition

- Global
  - Wages
  - Working conditions
- Regional
  - Fiber costs
  - Transportation

Competition

- Global
  - Wages & work conditions



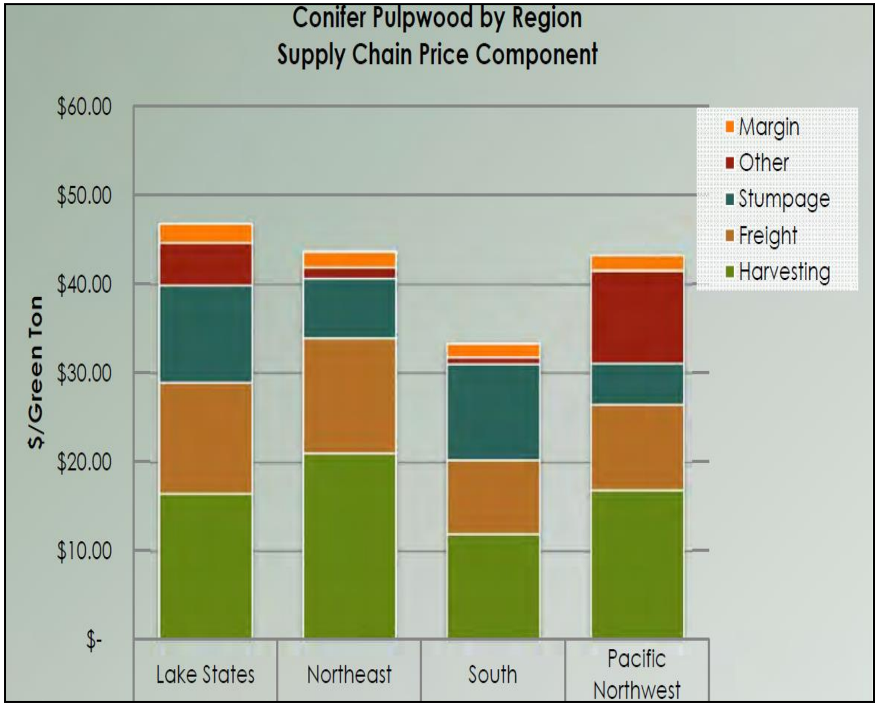
Bureau of Labor Statistics, 2013

Competition

- Regional
  - Fiber costs and transportation

Average Haul Distance			
Region	Conifer	Hardwood	Aspen
Lake States	106	114	72
Northeast	78	84	76
South	54	66	-
Pacific Northwest	48	41	-

Table: F2M & SLS, 2015



Graph: F2M & SLS, 2015

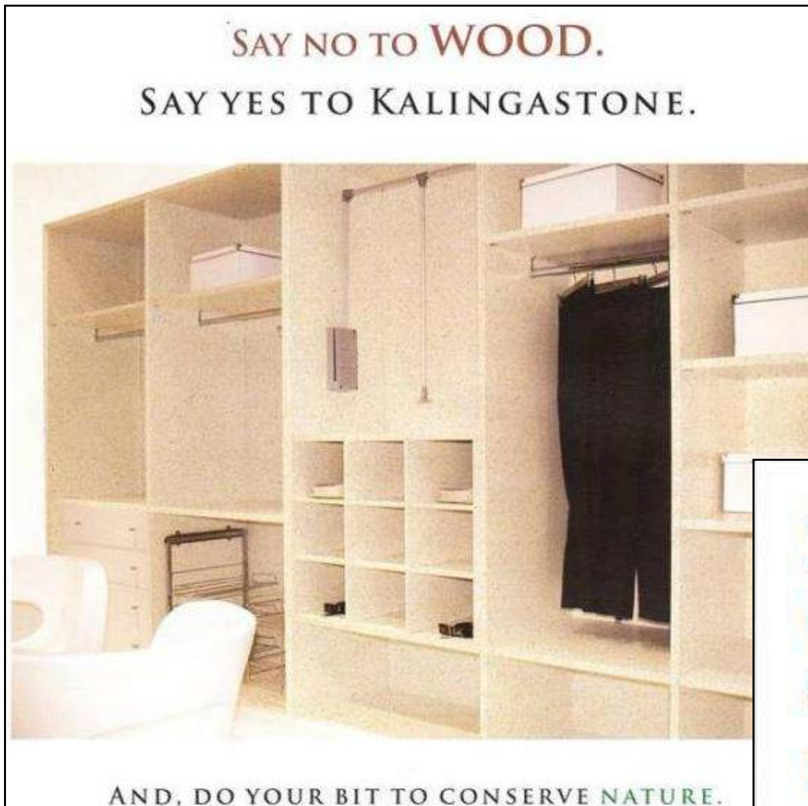
- What puts Wisconsin at a competitive advantage?
  - Secondary manufacturing?

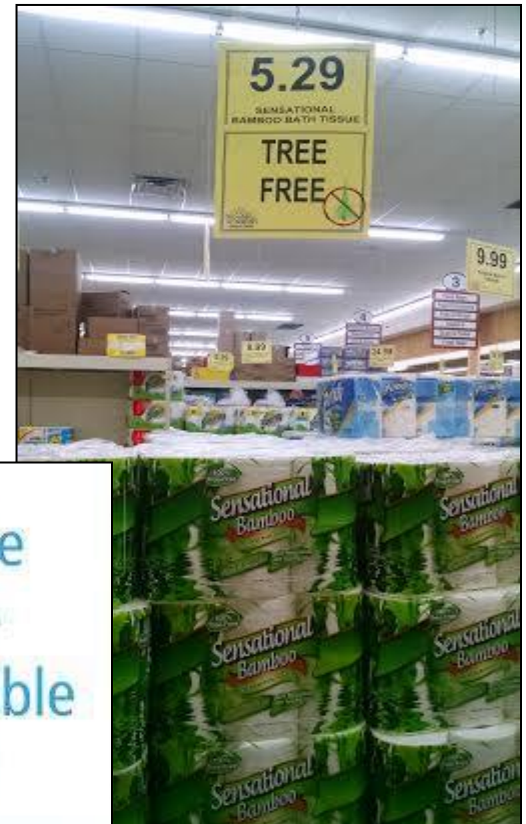
Customer Preference

- Species, color, design, and wood substitutes

Customer Preference

- Perception drives customer taste!!!





Currency

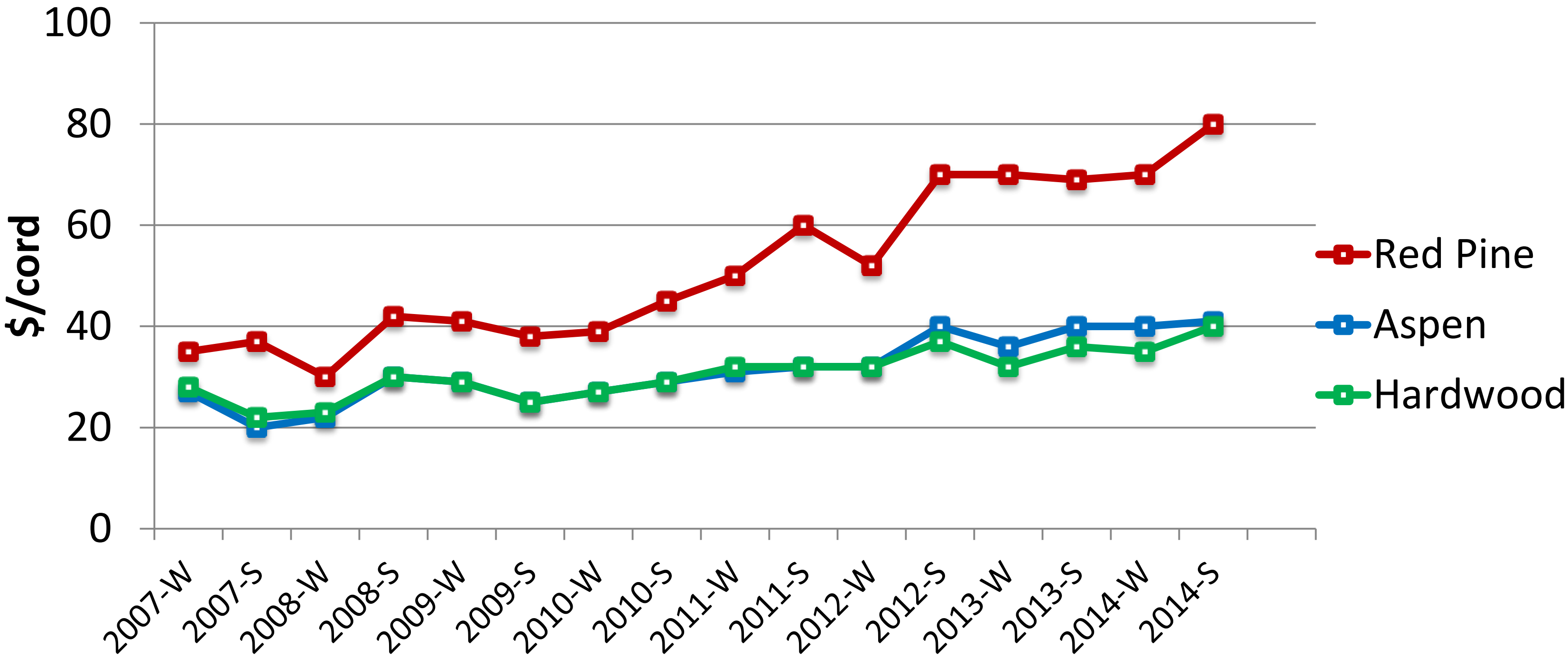
Euro vs US $

CA $ vs US $

http://www.oanda.com/currency/converter/

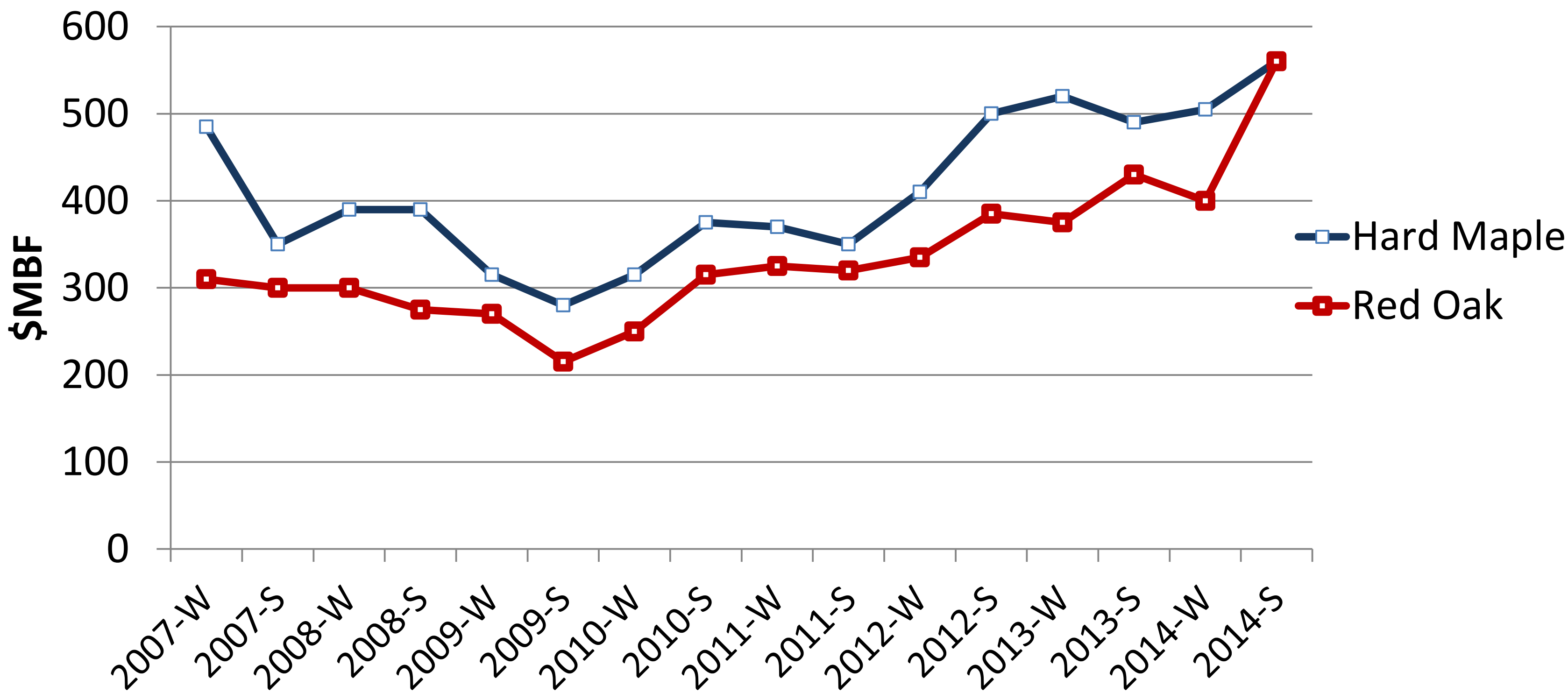
Market Trends

Stumpage prices are influenced by many different factors. Prices have risen recently due to competition for raw material



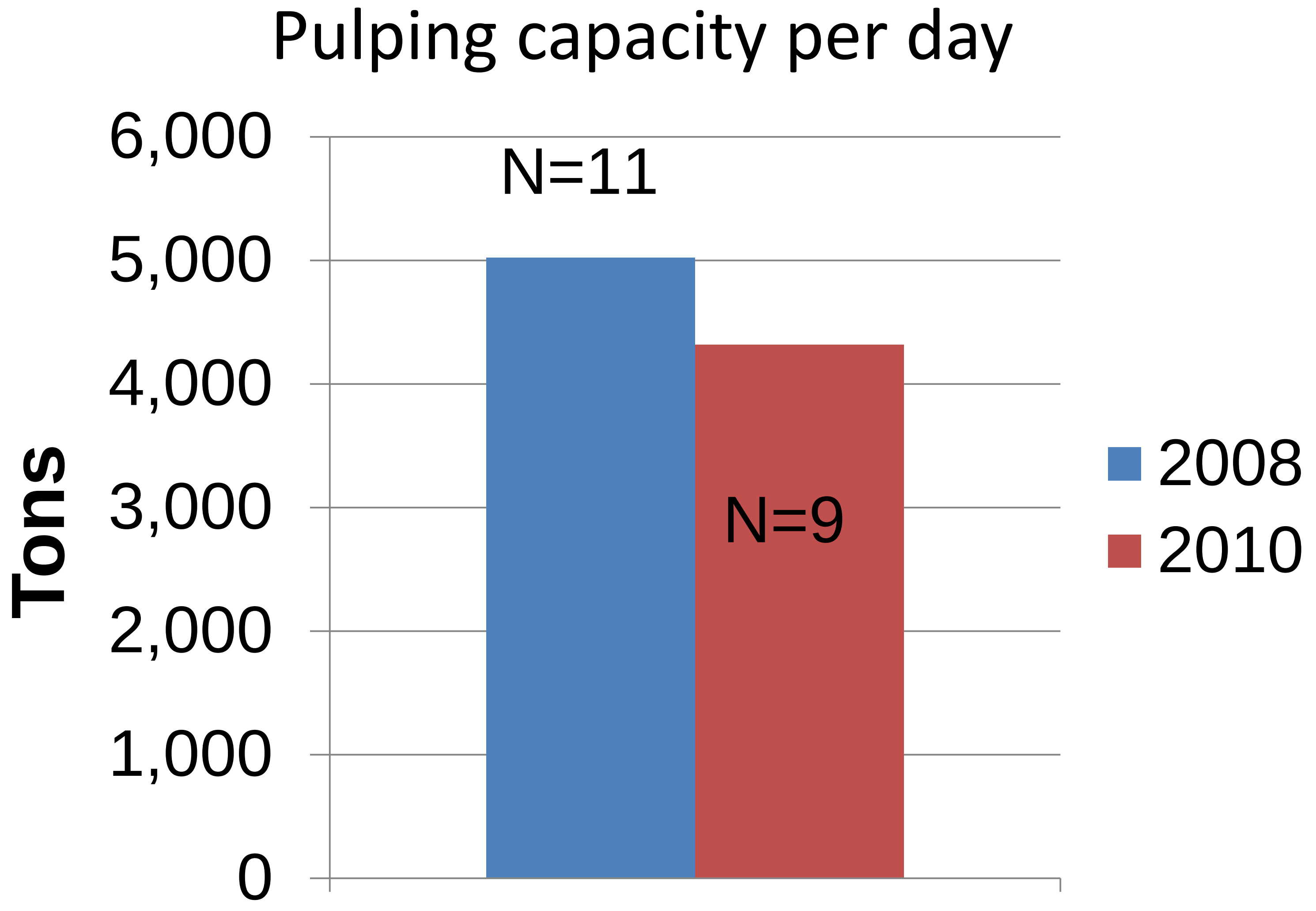
P&C TimberMart North Vol. 20 No. 2

Sawlog stumpage prices have followed suit for many species



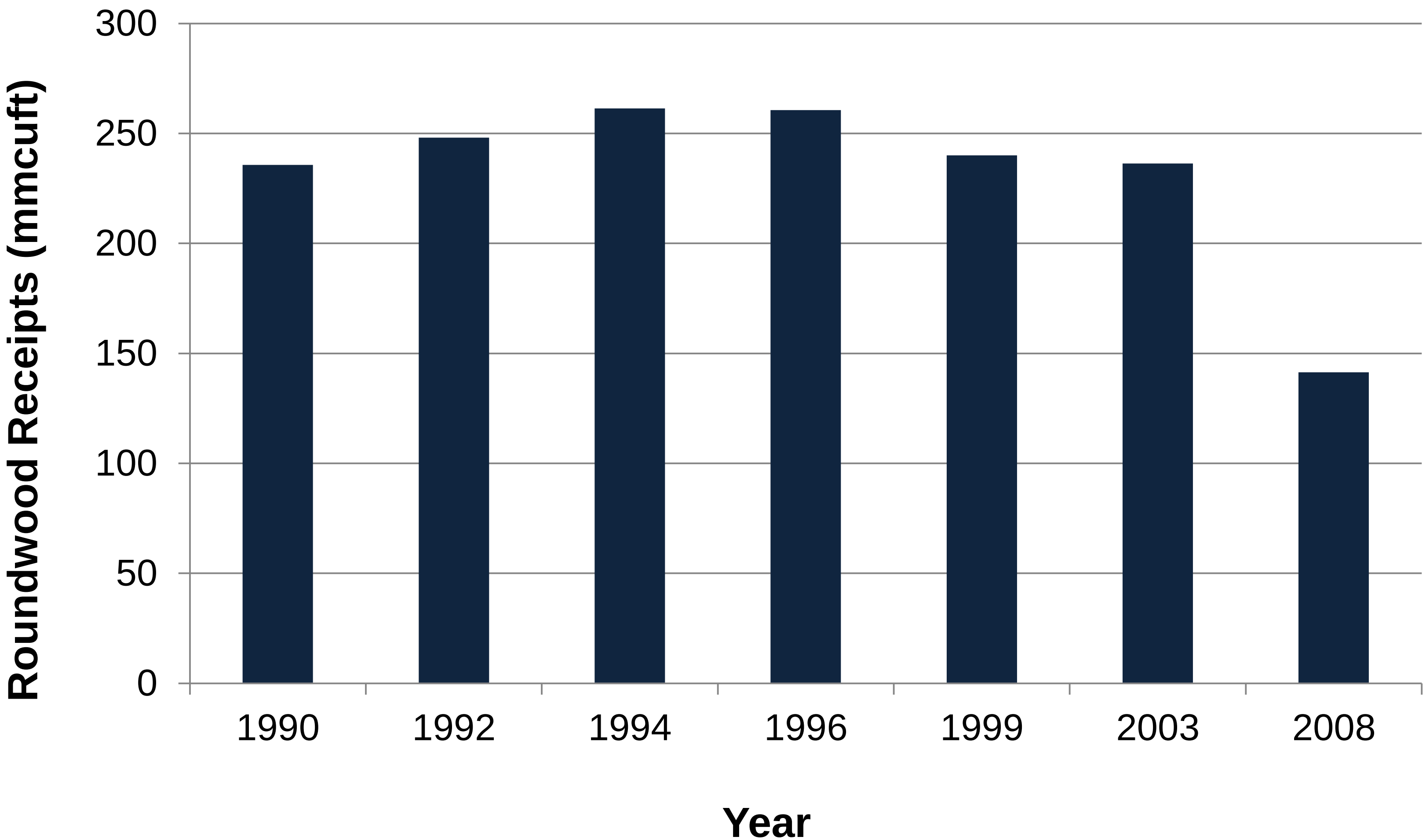
P&C TimberMart North Vol. 20 No. 2

Pulp and Paper Industry



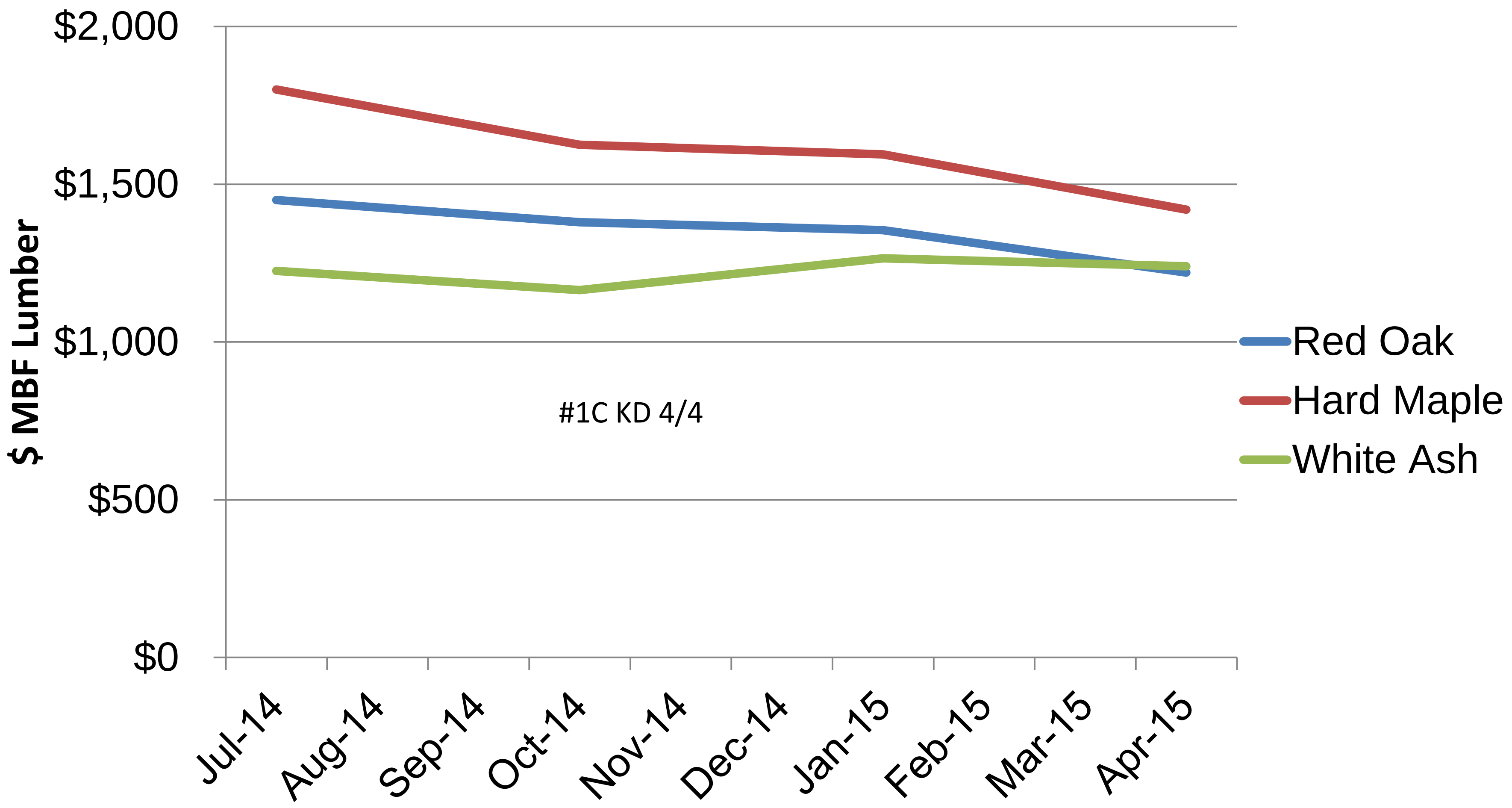
USDA *National Pulpwood Production, 2014*

Pulp and Paper Industry



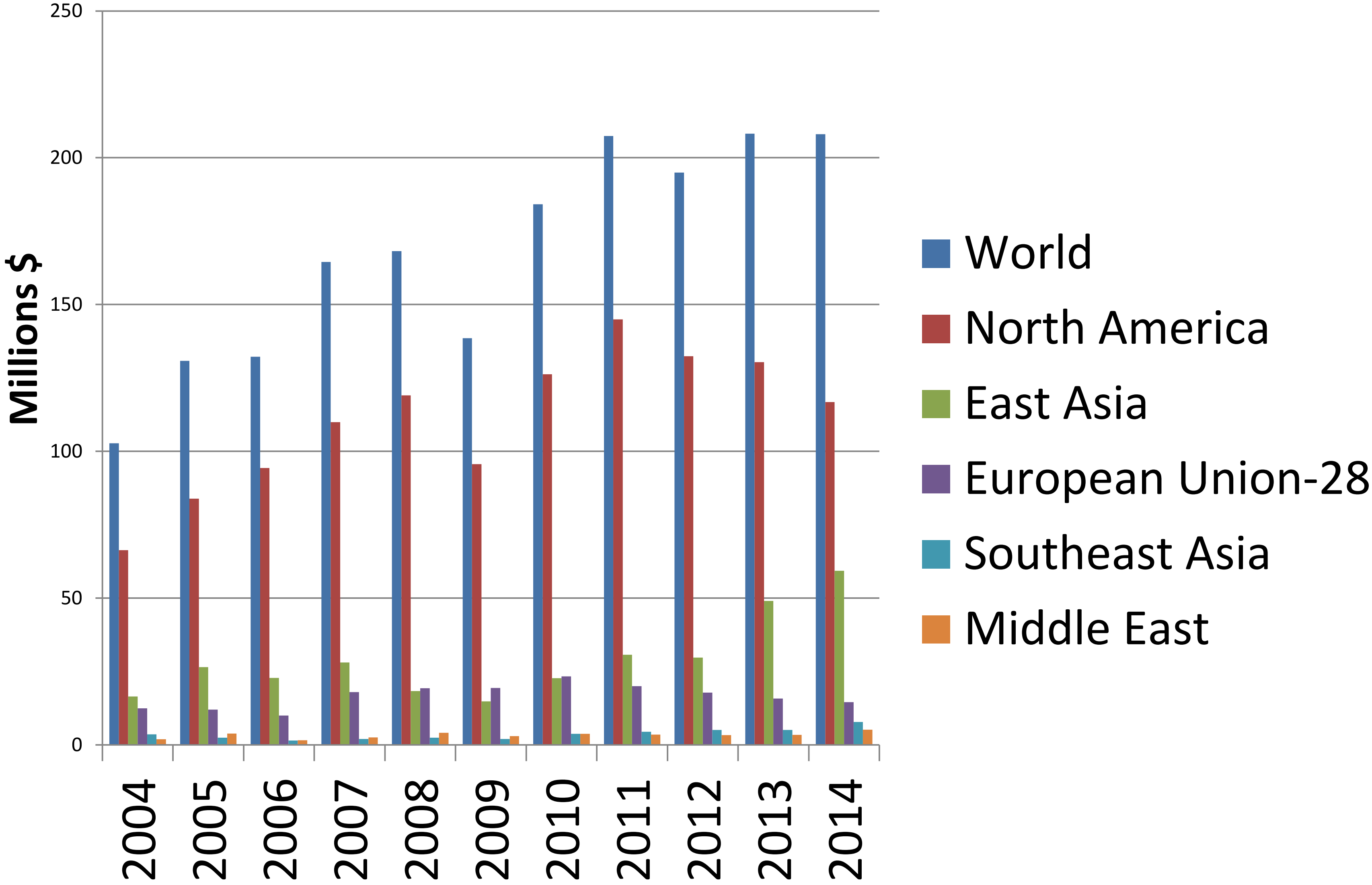
USDA *National Pulpwood Production, 2014*

Hardwood Lumber



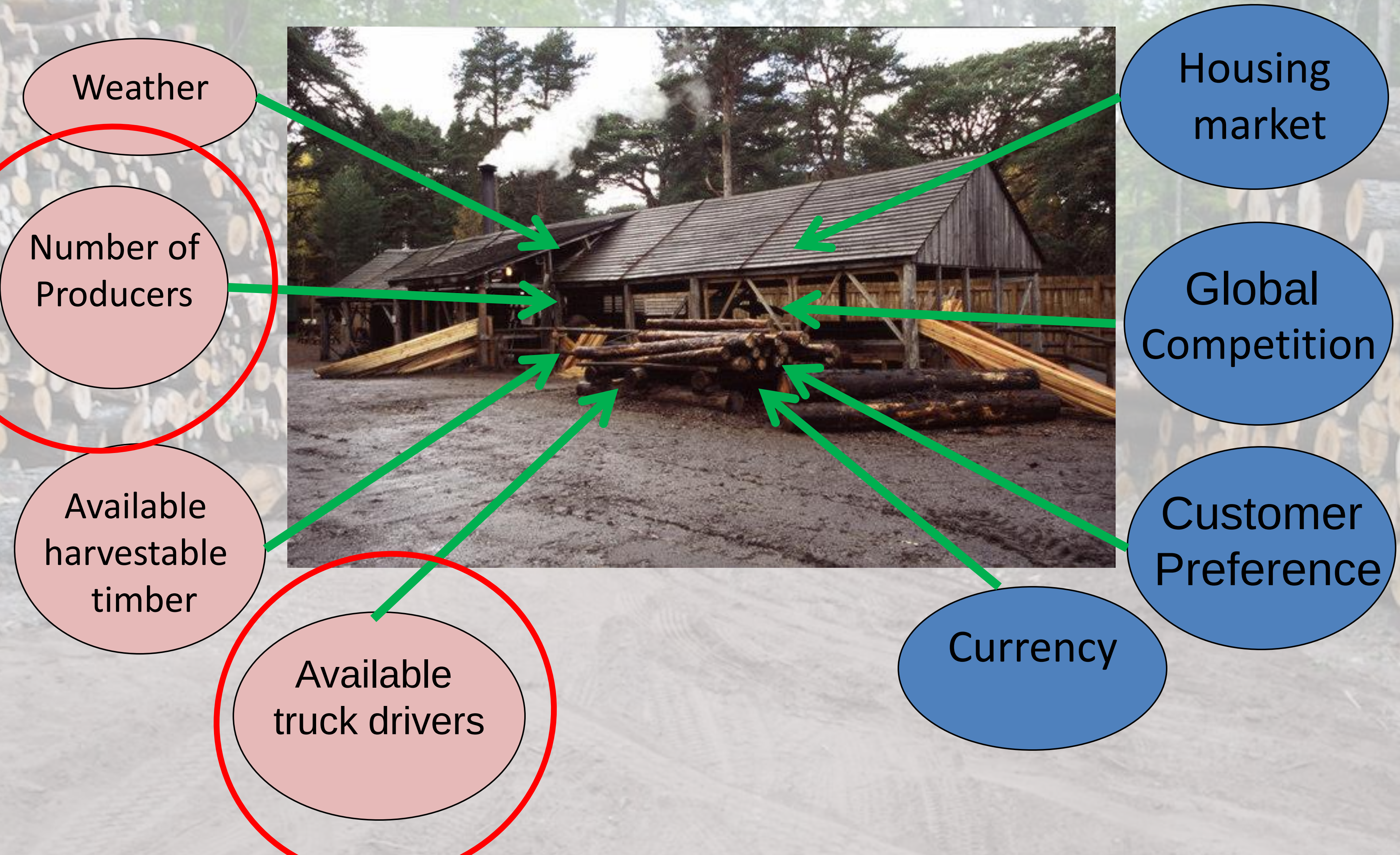
Hardwood Review- Barrett, 2015

Wisconsin's Exports

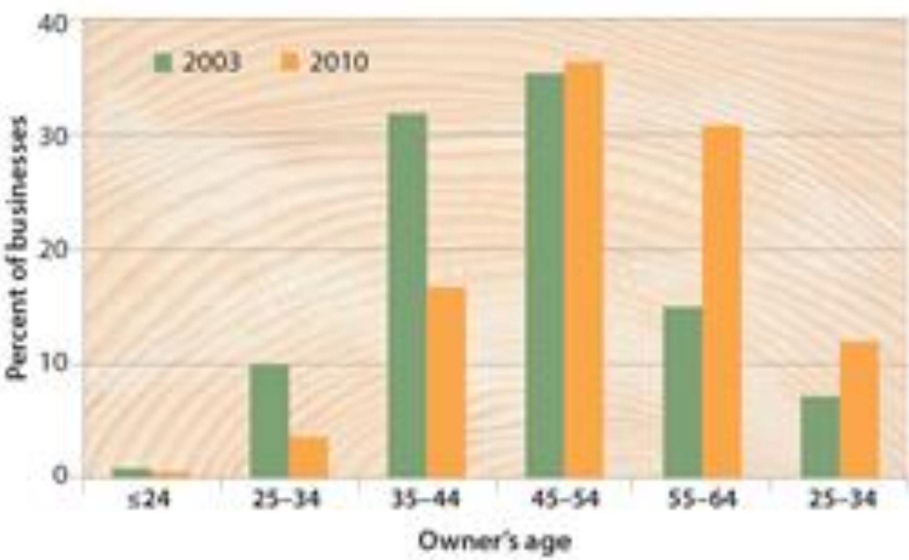


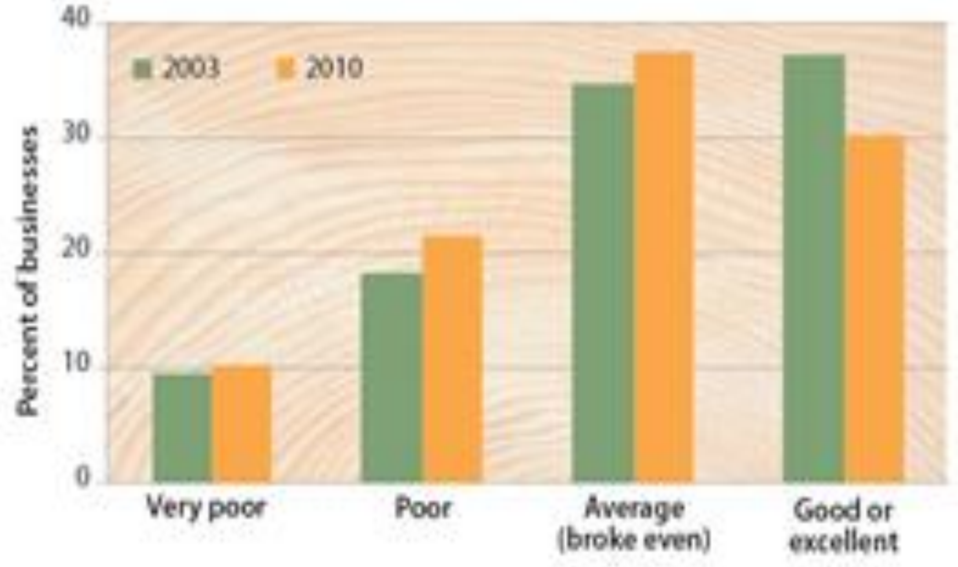
USDA, FAS 2015

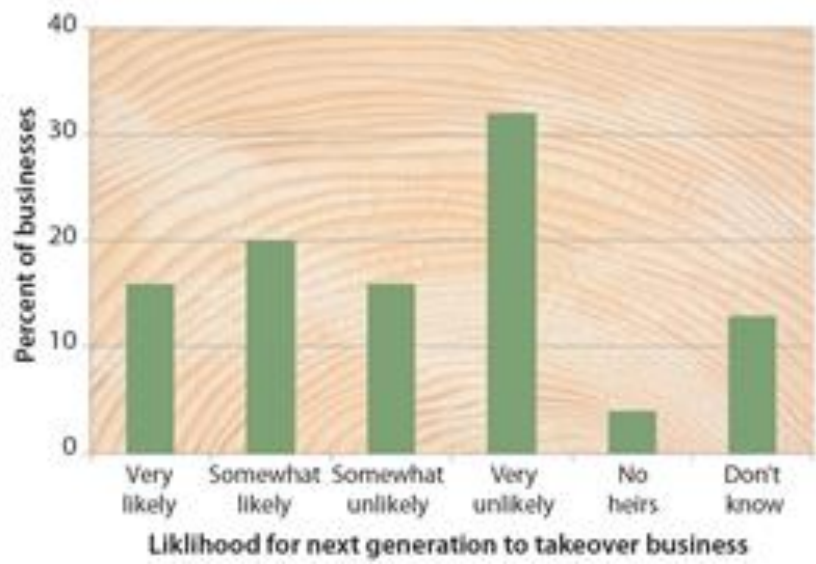
General Market Drivers



Wisconsin's Logging Workforce







WI Logging Sector: Status and Future Direction

Rickenbach, Vokoun, Saunders, 2015

Sawmill Trends

A lot has changed over the years but misperception is still present…

Wisconsin's Sawmill Industry

Diversity of markets

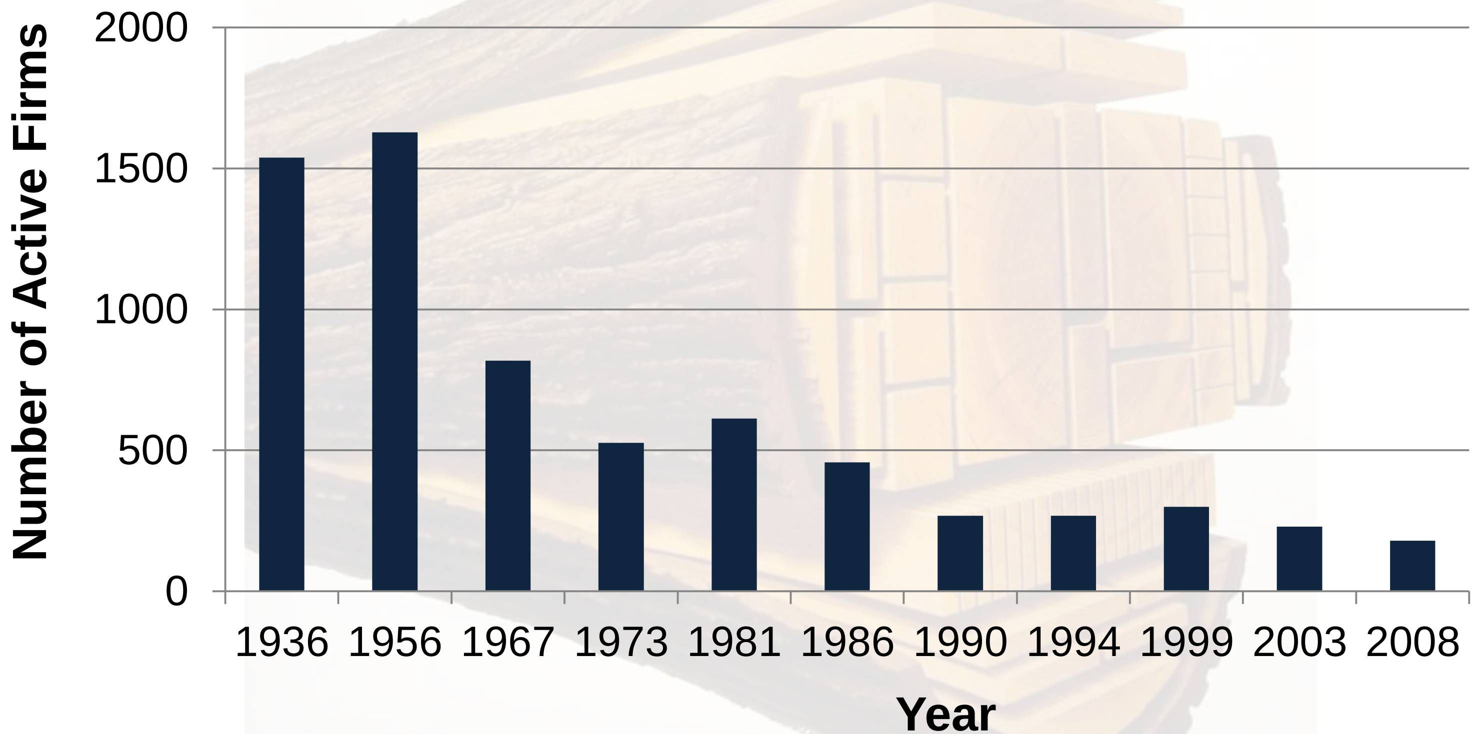
- Hardwood lumber
- Dimension lumber
- Cut stock/pallets
- Crane mats
- Log home components

- Railroad ties & cants
- Residues (bark/chips/ sawdust)
- Veneer sorts
- Exports

Wisconsin's Sawmill Industry

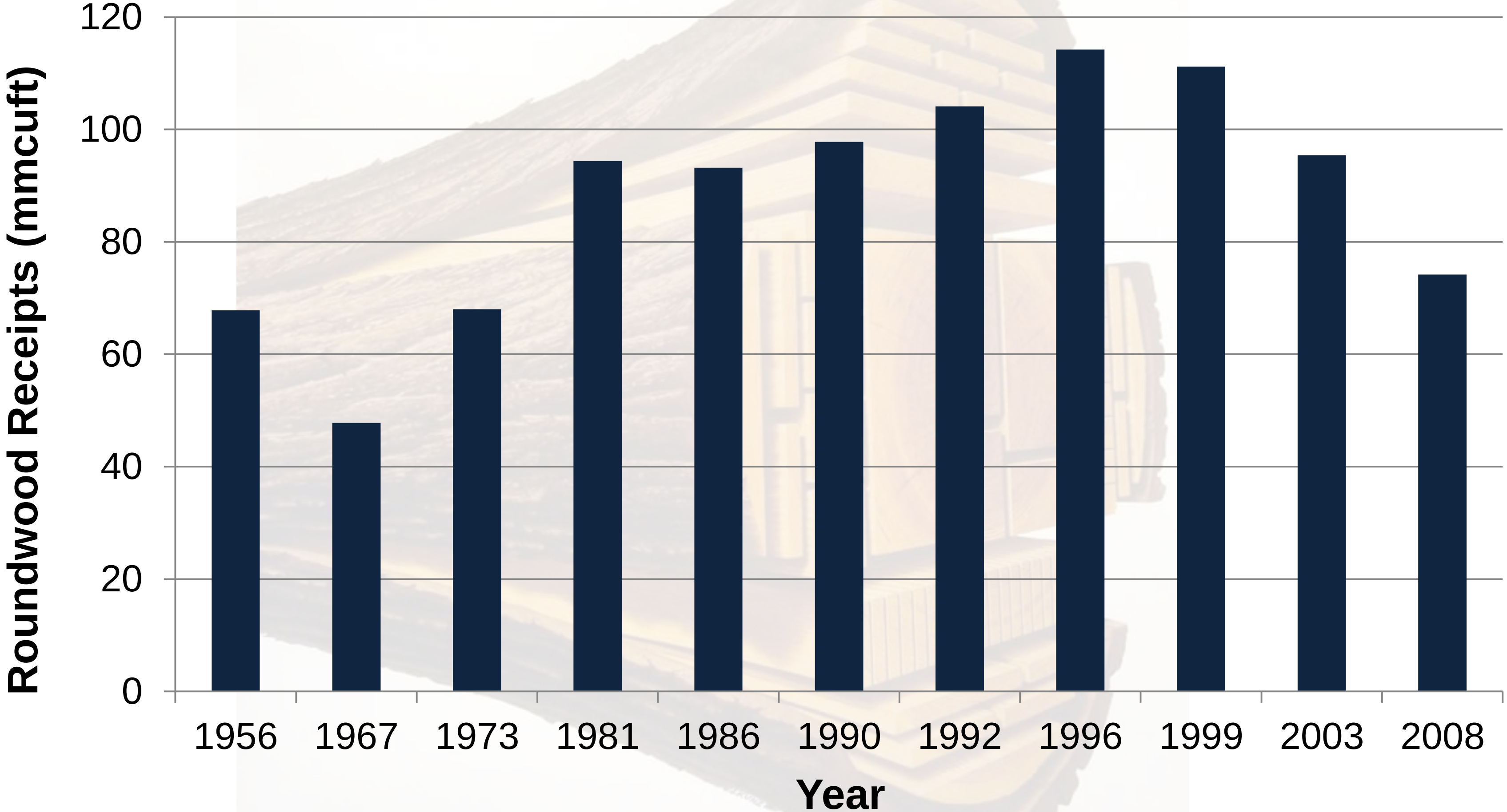
- Vertical Integration
  - Expanding into different areas of the production chain to capture additional value
- A handful of recent examples in WI:
  - Sawmill installs pellet line to utilize residue
  - Sawmill adds cabinet production line to enter value-added markets
  - Sawmill installs new equipment to handle bolts

The number of sawmills has declined due to the recession, consolidation, and global competition



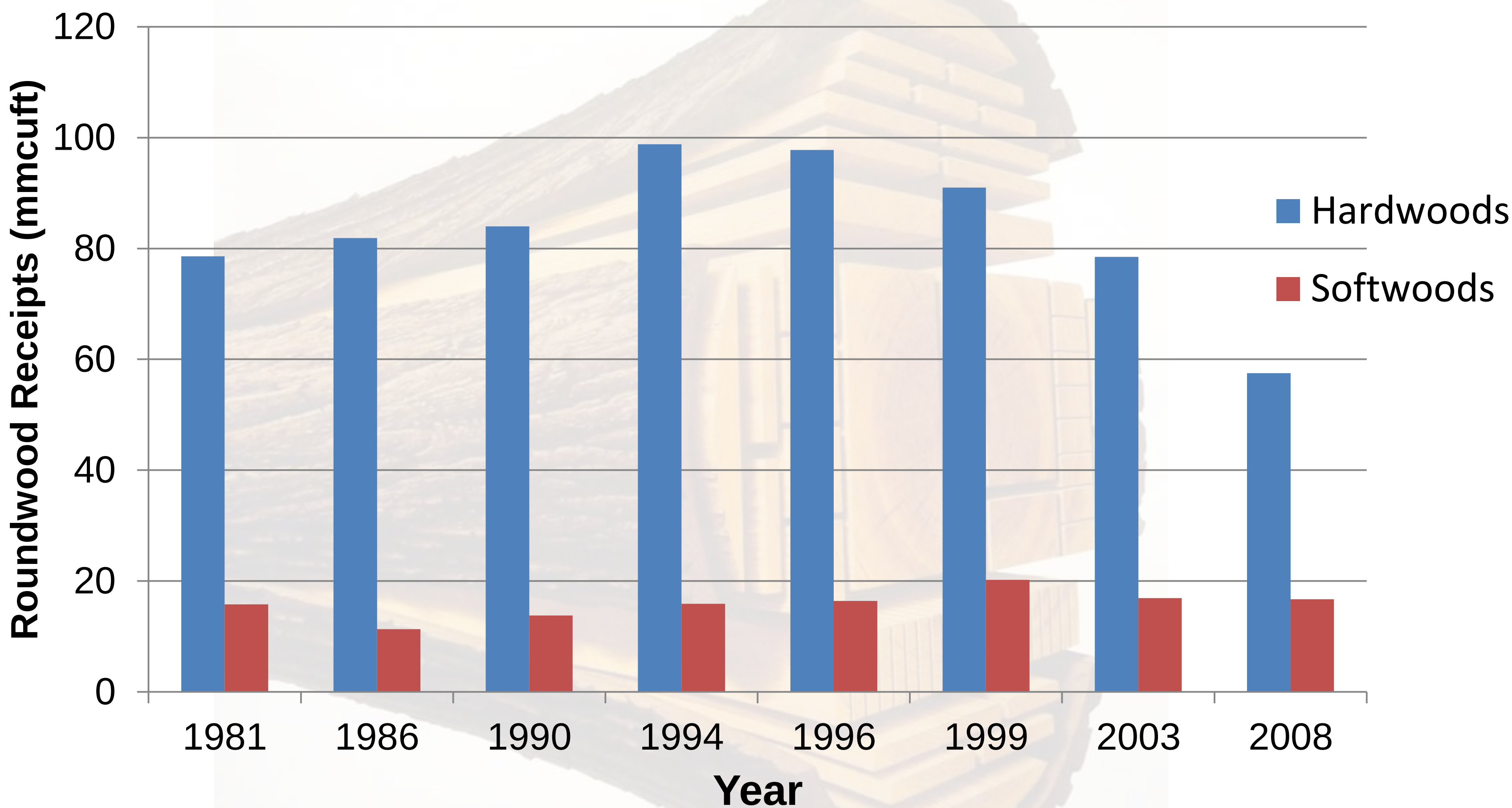
Wisconsin Timber Product Output and Use, 2013

Production peaked between 1996-1999 and has since decreased



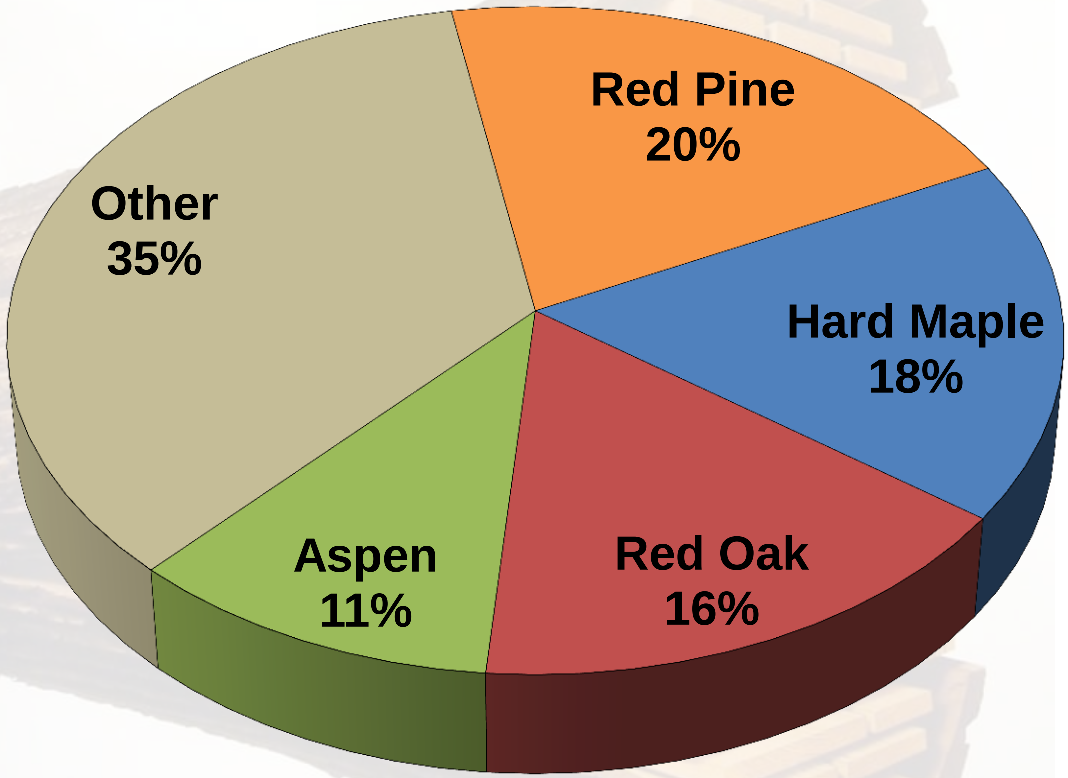
Wisconsin Timber Product Output and Use, 2013

Overall, a greater volume of hardwood saw log material is processed than softwoods



Wisconsin Timber Product Output and Use, 2013

Although red pine makes up the greatest percentage by species



Wisconsin Timber Product Output and Use, 2013

Observations

- Firms cautiously making new equipment purchases
- Vertical integration
  - Consolidation
  - Crossing market sectors (residue, bolts)
- Reports of comfortable saw log inventories heading into breakup
- Ash remains in demand
- Markets for common grades have slowed
    - Flooring plants filled up and possibly some overproduction

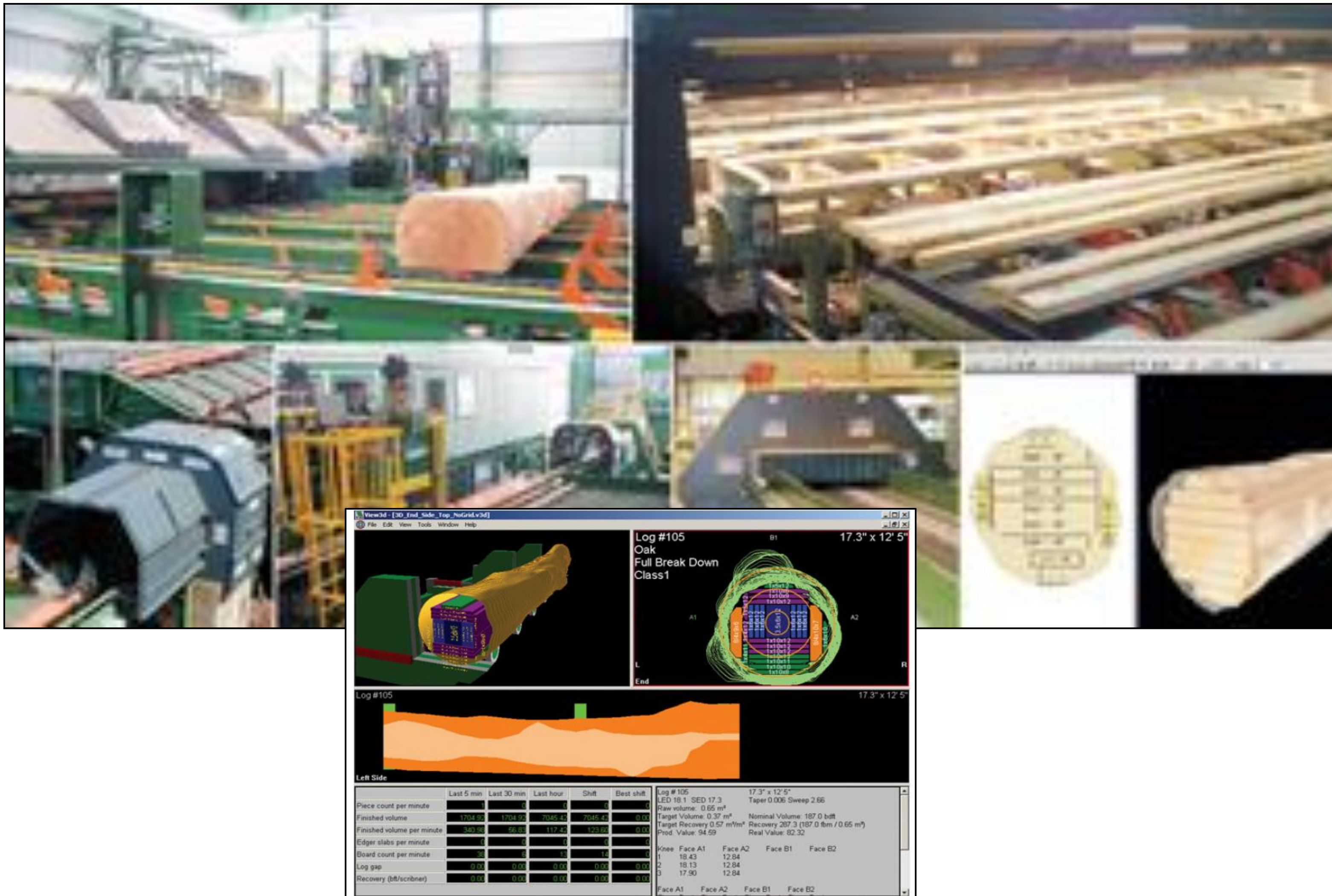
Sawmill Technologies

- Reduce/eliminate “waste”
  - Physical waste, defects, time, excess handling

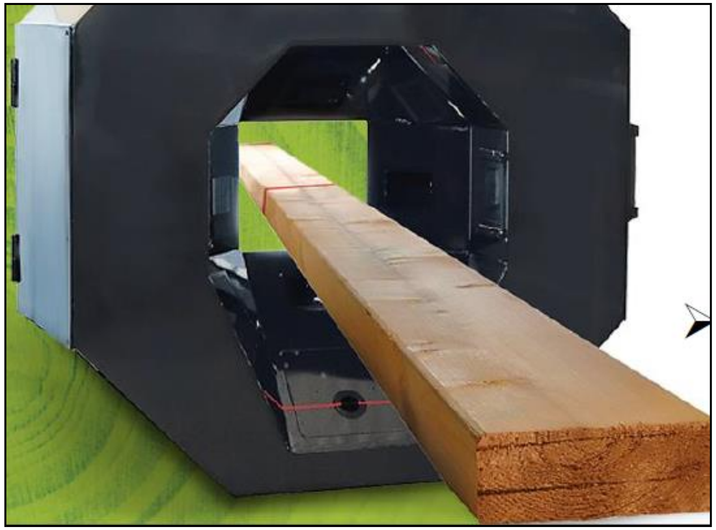
Examples:

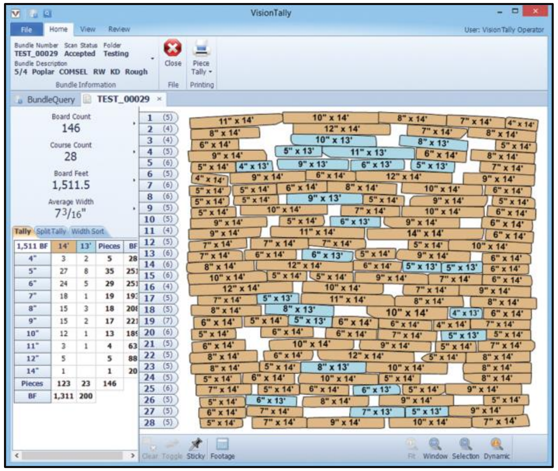
- Log and lumber optimization
- Grading and tally
- Heat treatment methods

Log and Lumber Optimization



Grading and Tally





Emerging Markets for Sawmills and Secondary Manufacturers

Thermally Modification

- Chemical-free process that modifies wood cell walls
  - Heat wood ~225-425F
  - Removed O_2
- Works with hardwoods and softwood

- Applications
  - ➢ Siding
  - ➢ Decking
  - ➢ Wine making

fdmcdigital.com

Aro and Donahue 2014 NRRI

Cross-laminated Timber (CLT)

- Prefabricated, solid engineered wood panel

- Benefits
  - Strong, lightweight, superior acoustic, easy to install, minimal waste on job site,

Hybrid-build.com

Biochar

- Heat biomass with the absence of oxygen
- Adds nutrients to soils

Biochar.info

Novotera.ca

Biofuels

- Currently not cost effective than other fuels
- Only produced small scale

http://genomics.energy.gov

Cellulose Nanomaterials

- What are they?
  - Cellulose nanocrystals and nanofibrils (wood pulp)
- Current State
  - US invested to develop applications and tech
  - Pilot-scale
- Potential Products (lightweight, strong, stiff)




Restore Lost Manufacturing?

Why is this an opportunity?

– Rising transportation costs
– Growing middle class in developing countries
– Perceived lack of quality

Lincoln Logs Seeks US Wood Products Supplier – woodworkingnetwork.com
by ADMIN *on* MARCH 12, 2013

HATFIELD, PA – Lincoln Logs'

Wood Manufacturing Returning to U.S.: Boston Consulting Group
By Bill Esler | Posted: 10/07/2011 8:39AM

Wood Industry Sees Return of 'Made in America' – woodworkingnetwork.com
by ADMIN *on* JUNE 7, 2012

Outlook

- Demand for wood & many paper products continues in grow
- Overall WI is doing better than many other states in retaining forest industries
- Export markets will continue to grow, which will help offset some uncertainties with the housing market
- Transportation costs will likely increase over the next year due to high demand for trucking & rail

Outlook

- Skilled labor is a perceived problem across the entire production chain
- Pulp/paper industries will continue to find new markets and also capitalize on chemicals once considered waste
- Wood heating continues to grow in popularity as consumers realize cost savings & payback
- With the trend in reshoring, there is hope for restoring outsourced manufacturing to Wisconsin


Questions?
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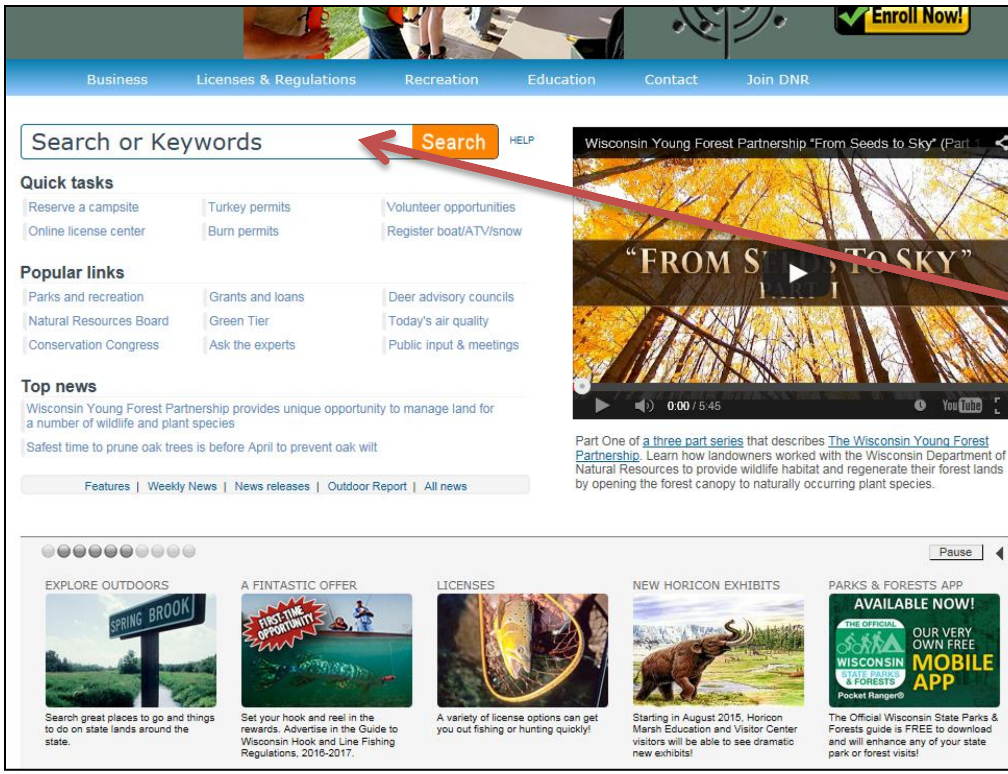
How can I find county economic data?



www.dnr.wi.gov

Keyword: “economic factsheet”

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