
Current State of the Hardwood Industry
Matt Bumgardner
U.S. Forest Service
Northern Research Station
FOREST SERVICE
US
DEPARTMENT OF AGRICULTURE
The Future of the Hardwood Lumber Industry Conference
Nov. 2, 2016

Outline

- Overview of hardwood industry trends

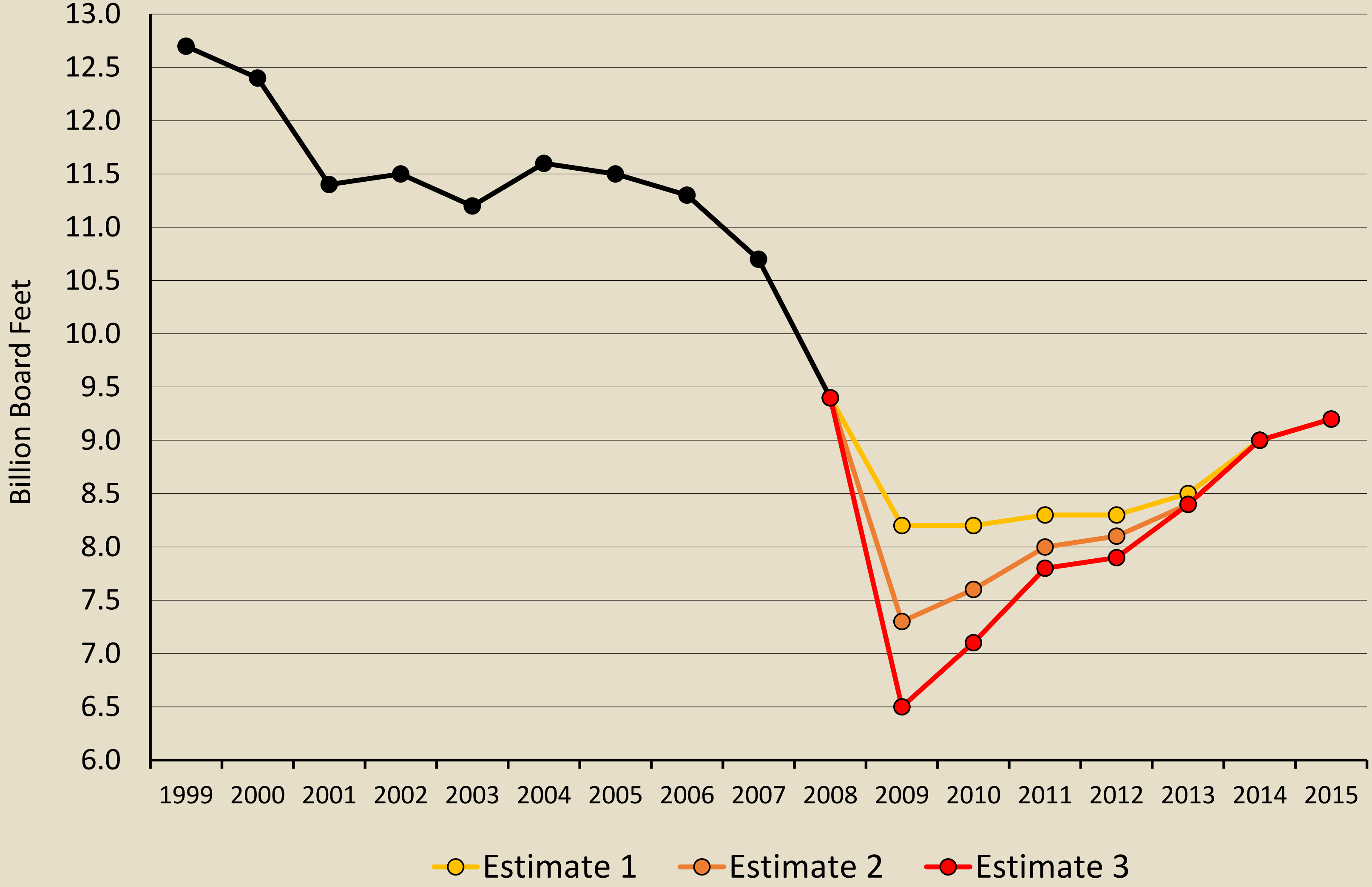
  - production, employment

- Impacts of secondary woodworking on hardwood demand

  - housing

- Export trends for hardwoods
- Questions/comments

Eastern U.S. hardwood lumber production



Source: Luppold and Bumgardner

The major markets for hardwood lumber

- Appearance-based:
  - Furniture
  - Cabinets
  - Flooring
  - Millwork
  - Exports

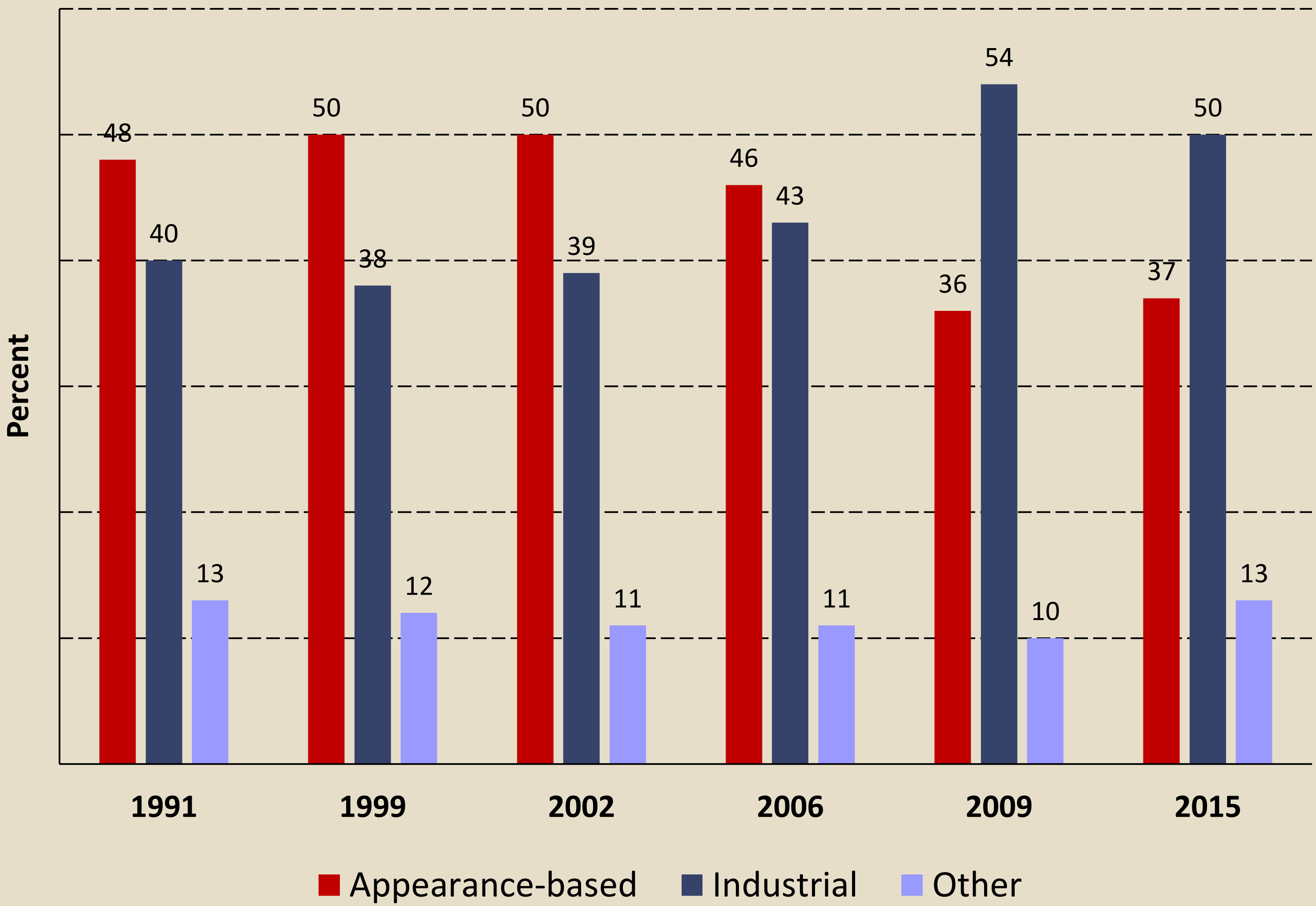
Photo: AHMI

Photo: 2010 Ohio Hardwood Furniture Market

- Industrial:
  - Pallets
  - Railroad ties

Photo: USDA Forest Service Southern Research Station Archive, USDA Forest Service, SRS, Bugwood.org

U.S. hardwood lumber consumption by market segment*



* Exports excluded

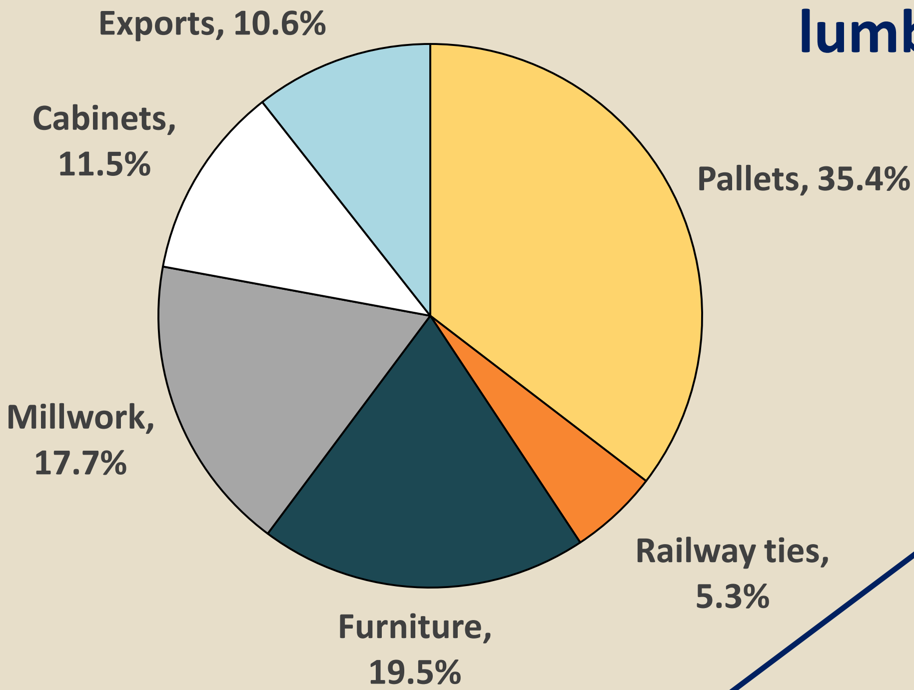
Luppold and Bumgardner. 2016.

U.S. hardwood lumber exports

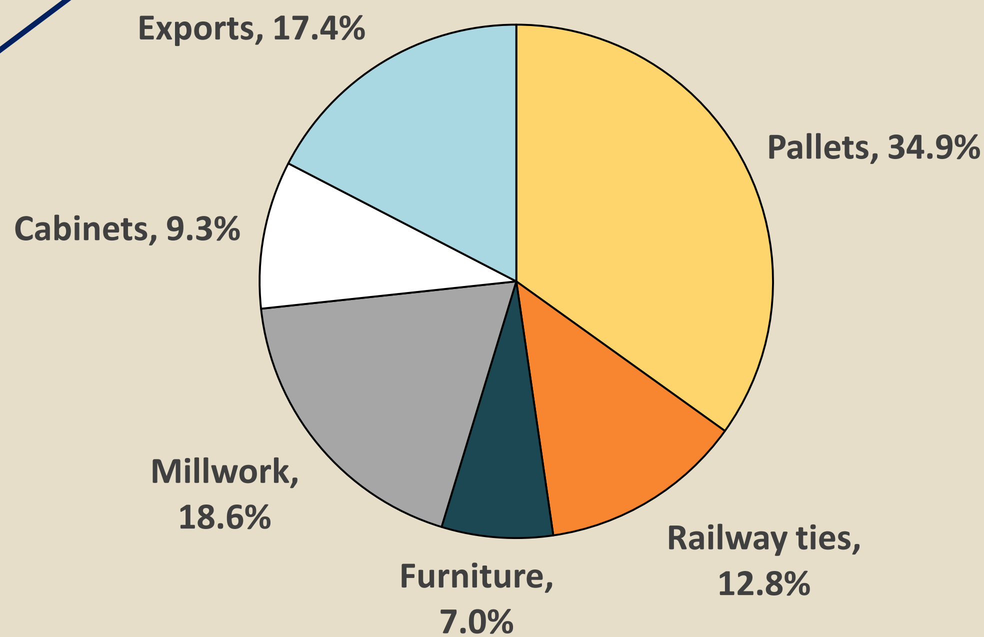
Year	Volume (billion bd. ft.)	Percentage of total consumption plus exports	Percentage of appearance-based consumption plus exports
1991	0.9	8%	16%
1999	1.2	9%	16%
2002	1.2	10%	17%
2006	1.3	11%	21%
2009	0.8	10%	25%
2014	1.7	17%	37%
2015	1.5	16%	34%

Luppold and Bumgardner. 2016

Where the hardwood lumber volume went, 1999

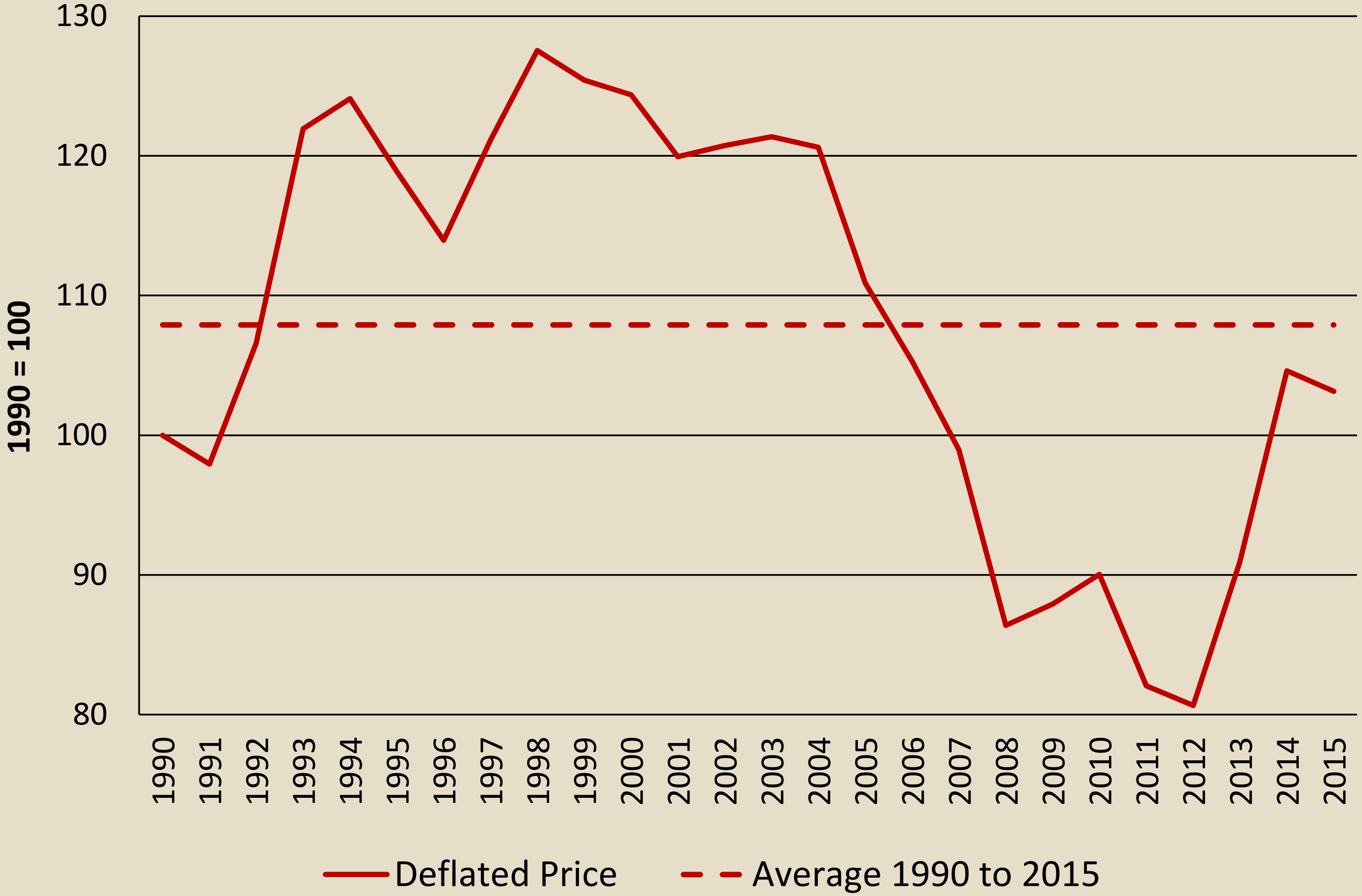


Where the hardwood lumber volume went, 2015



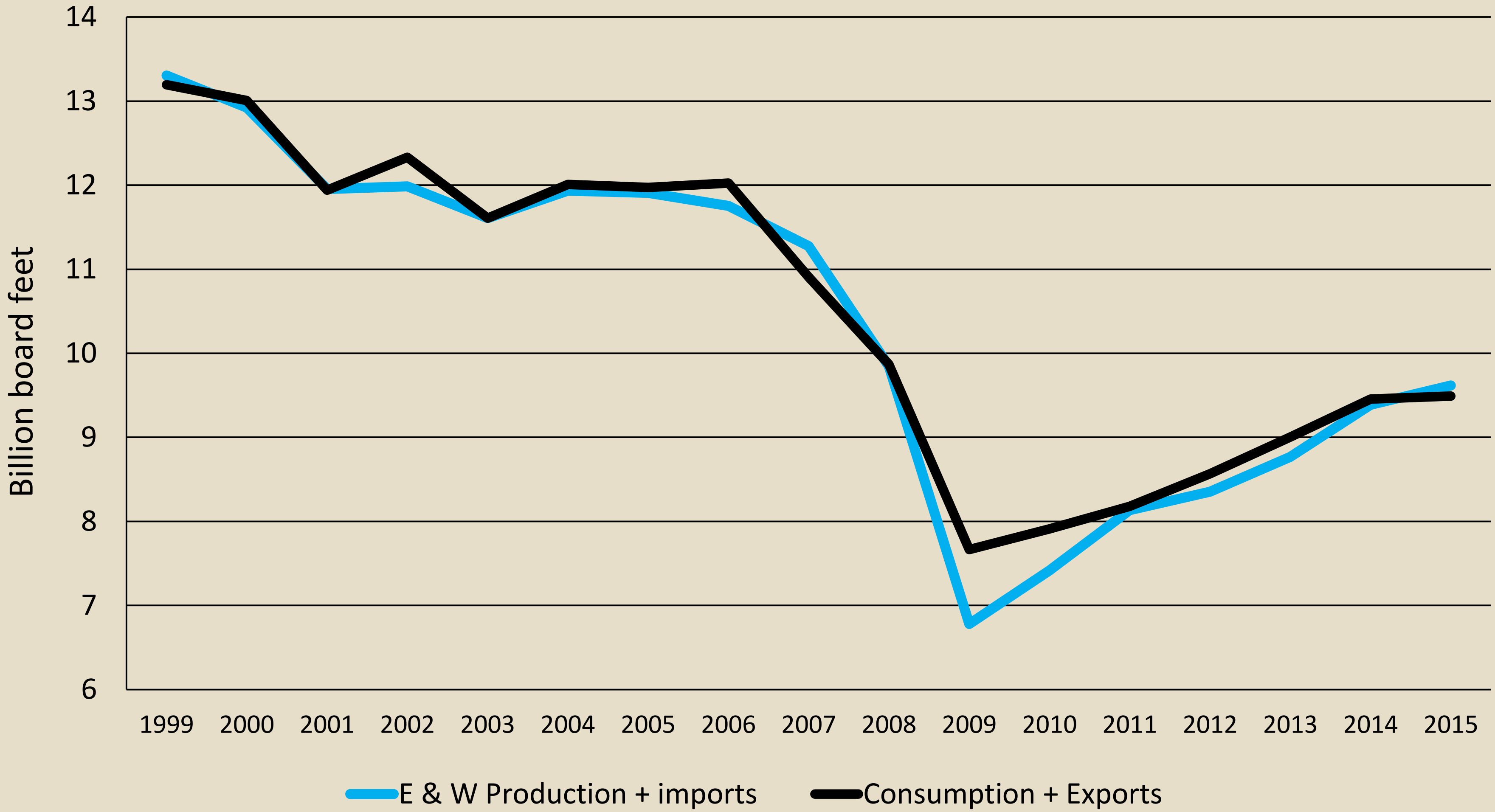
Source: Luppold and Bumgardner

Hardwood lumber price index



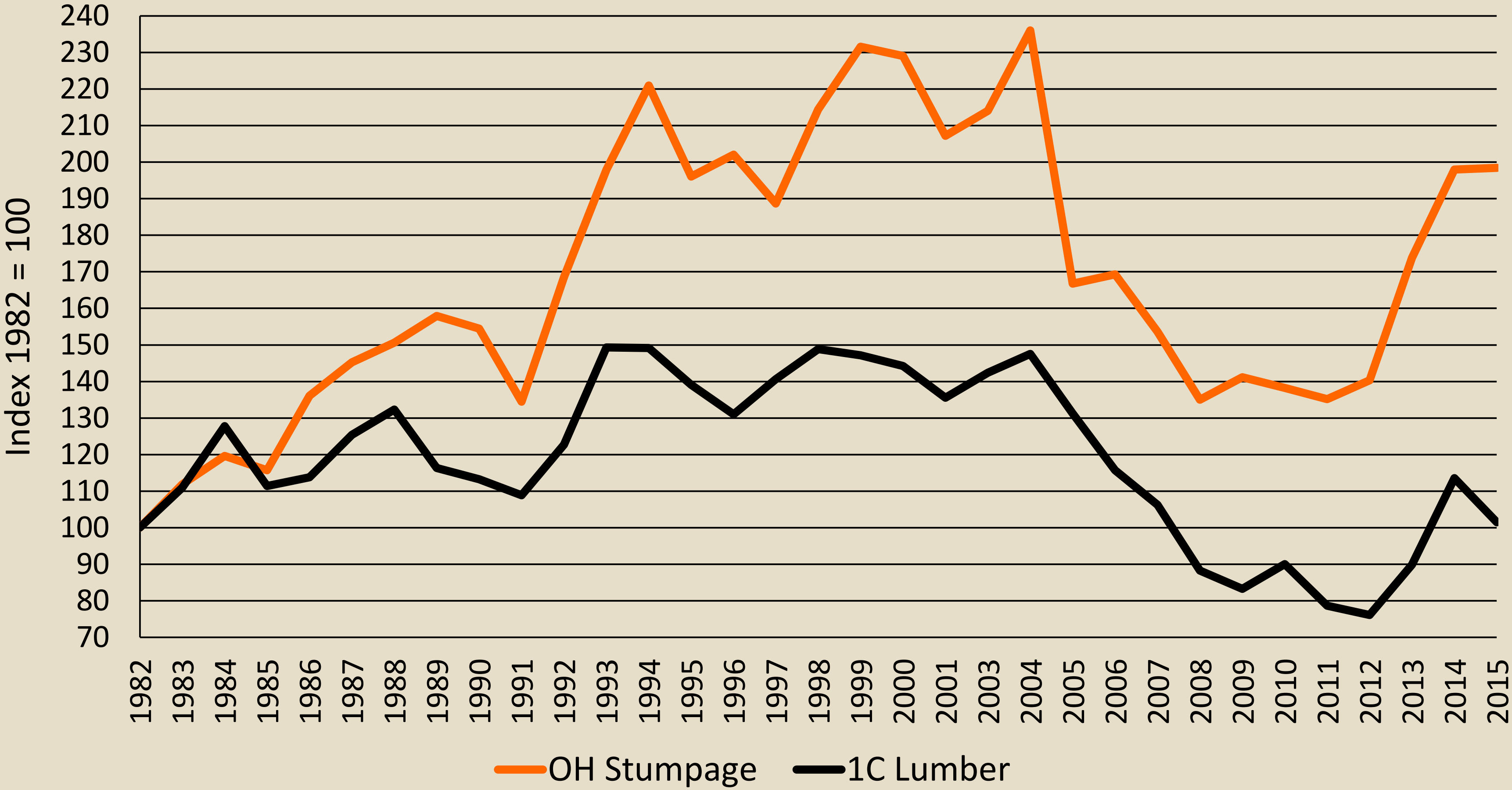
Data source: U.S. Dept. of Labor; Luppold and Bumgardner

Preliminary comparison of production plus imports and consumption plus exports 1999 to 2000



Source: Luppold

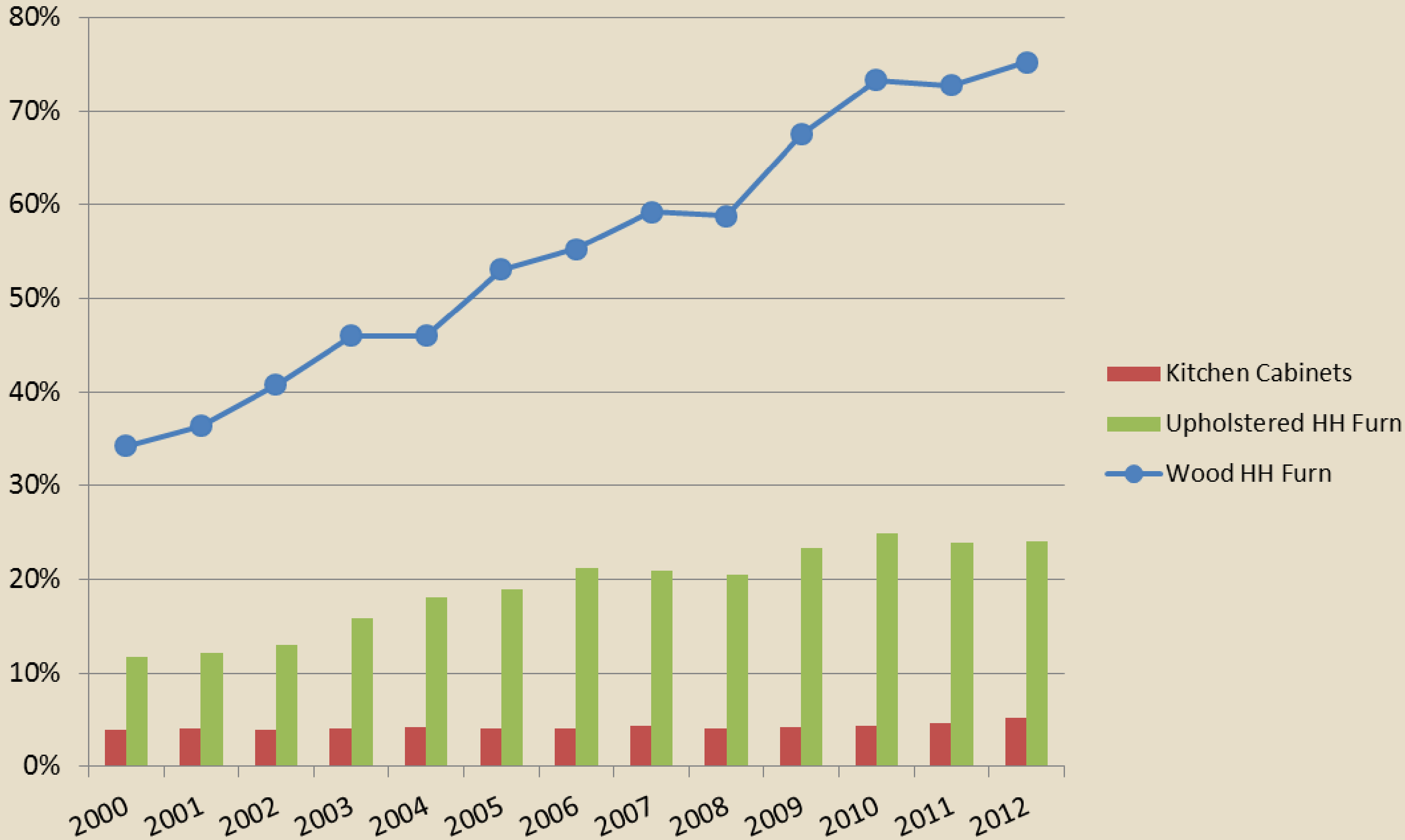
Price of 1C lumber versus the price of stumpage in Ohio



Sources: Luppold; HMR; ODNR/OSU

Impacts of secondary hardwood markets and housing

Market share estimates of imports in the U.S.



Consumption = value of shipments + imports – exports
Import share = imports/consumption

Data sources: U.S. Census Bureau; International Trade Admin.

Why makes the Holmes County furniture cluster a viable model?

Customer driven . . .

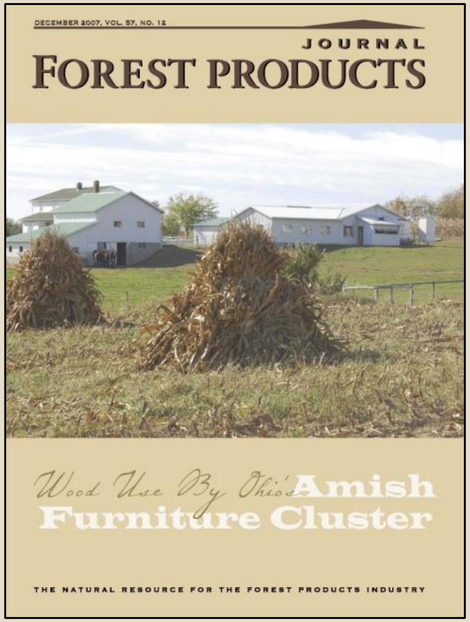
- Customers select style, stain, and species, making each order unique
  - - customization
- Like the U.S. cabinet industry!

Extremely fluid production process . . .

- Production of specific products (e.g., tables, chairs). A dining room group could be constructed by multiple producers
  - - specialization

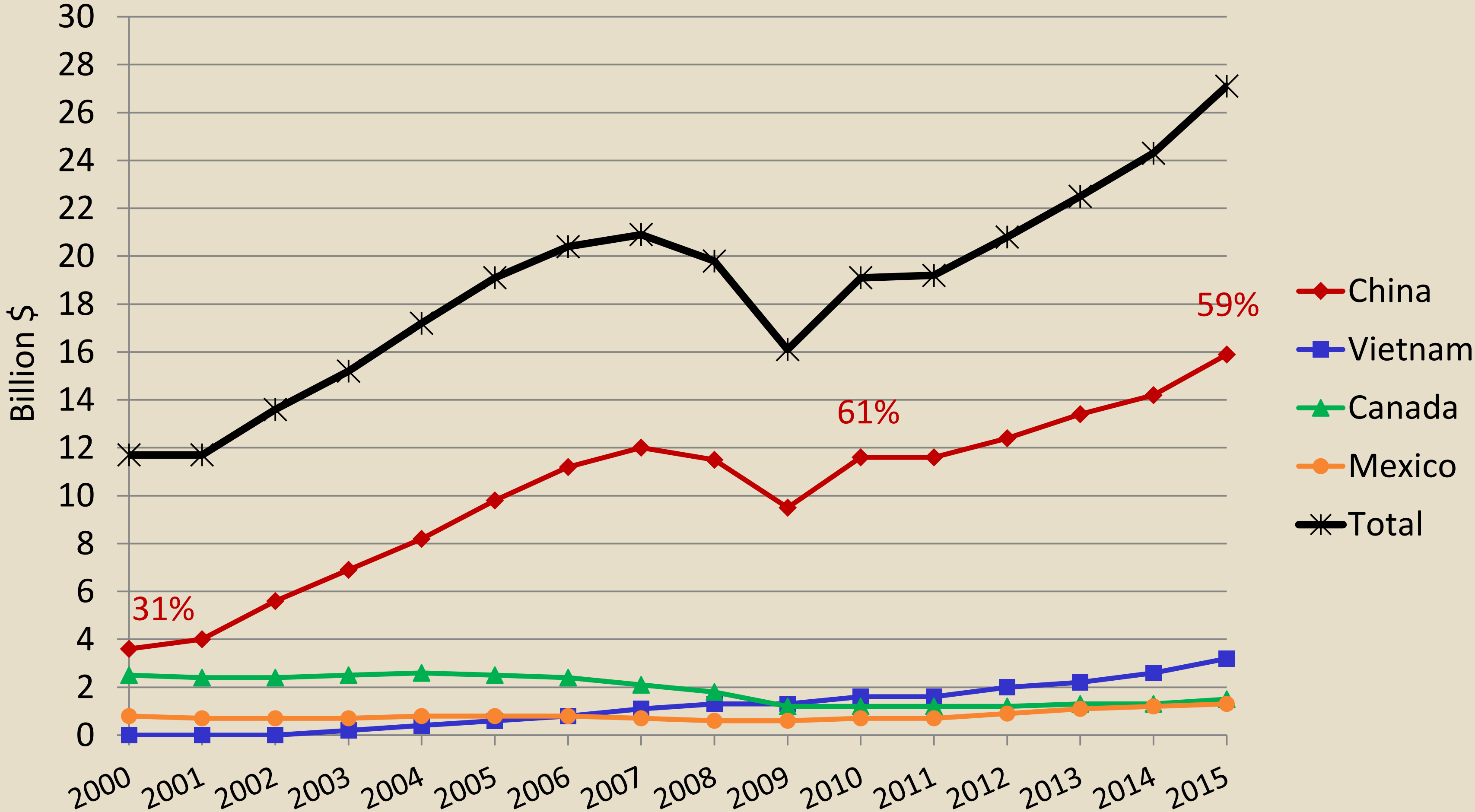
Supply chains . . .

- Finishers receive pieces from multiple shops
- Many operations use the same set of 15+ stains
- **Outsourcing** components locally = aggregate productivity



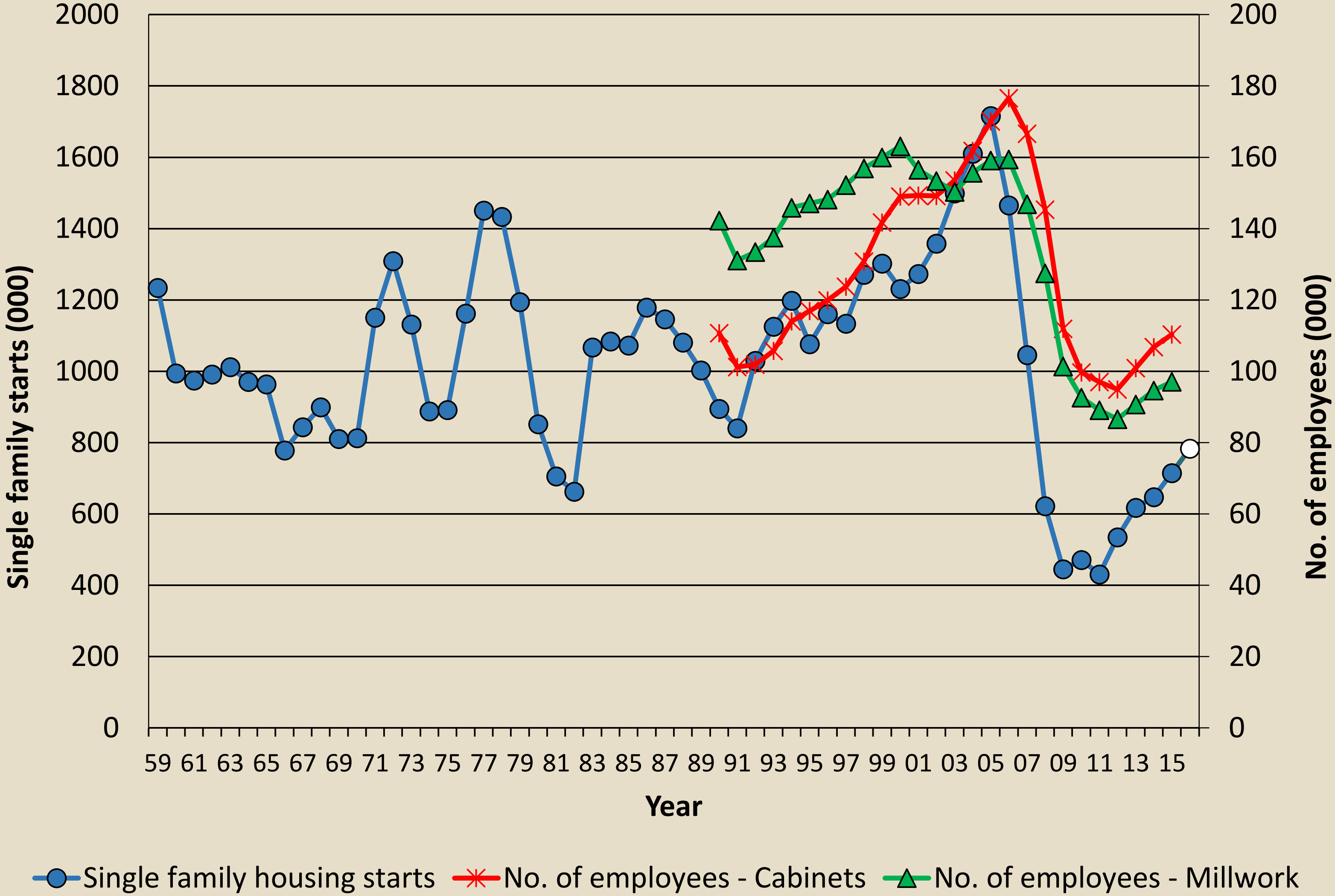
Major U.S. import sources

Household & Institutional Furniture & Cabinets (NAICS 3371)



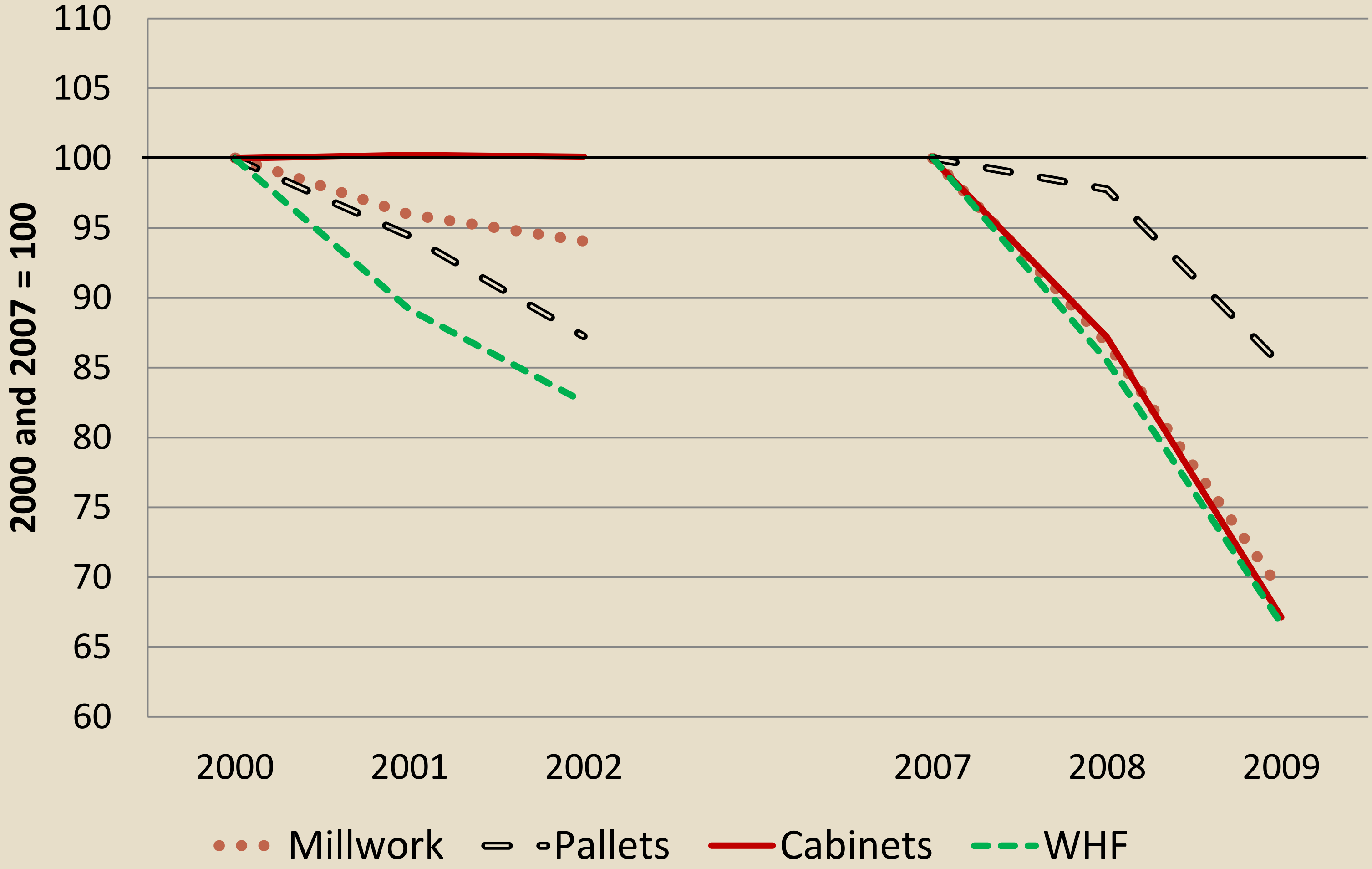
Data source: International Trade Administration

Housing market's importance to woodworking employment



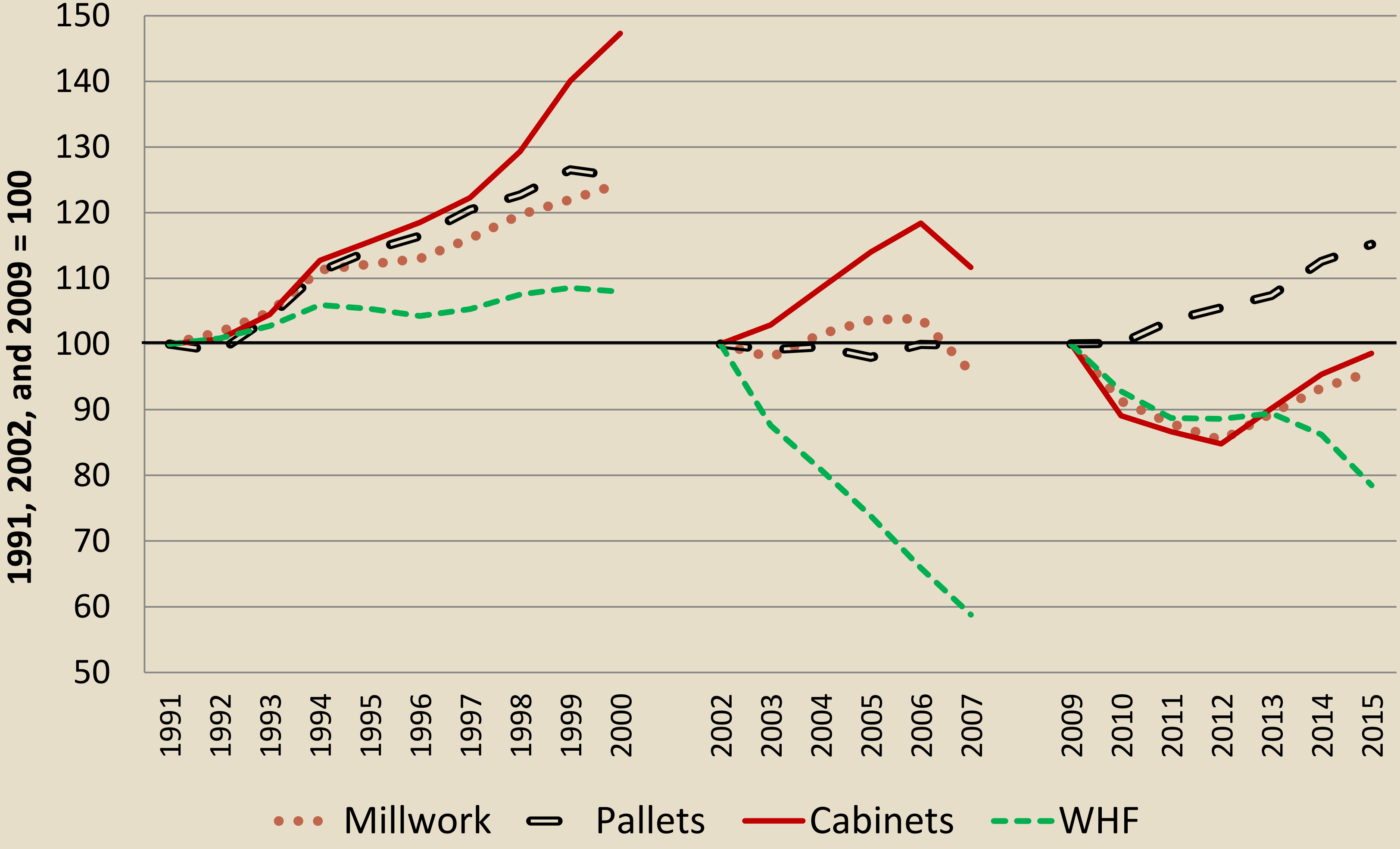
Data sources: US Census Bureau; Bureau of Labor Statistics

Employment indexes for last two economic recession periods



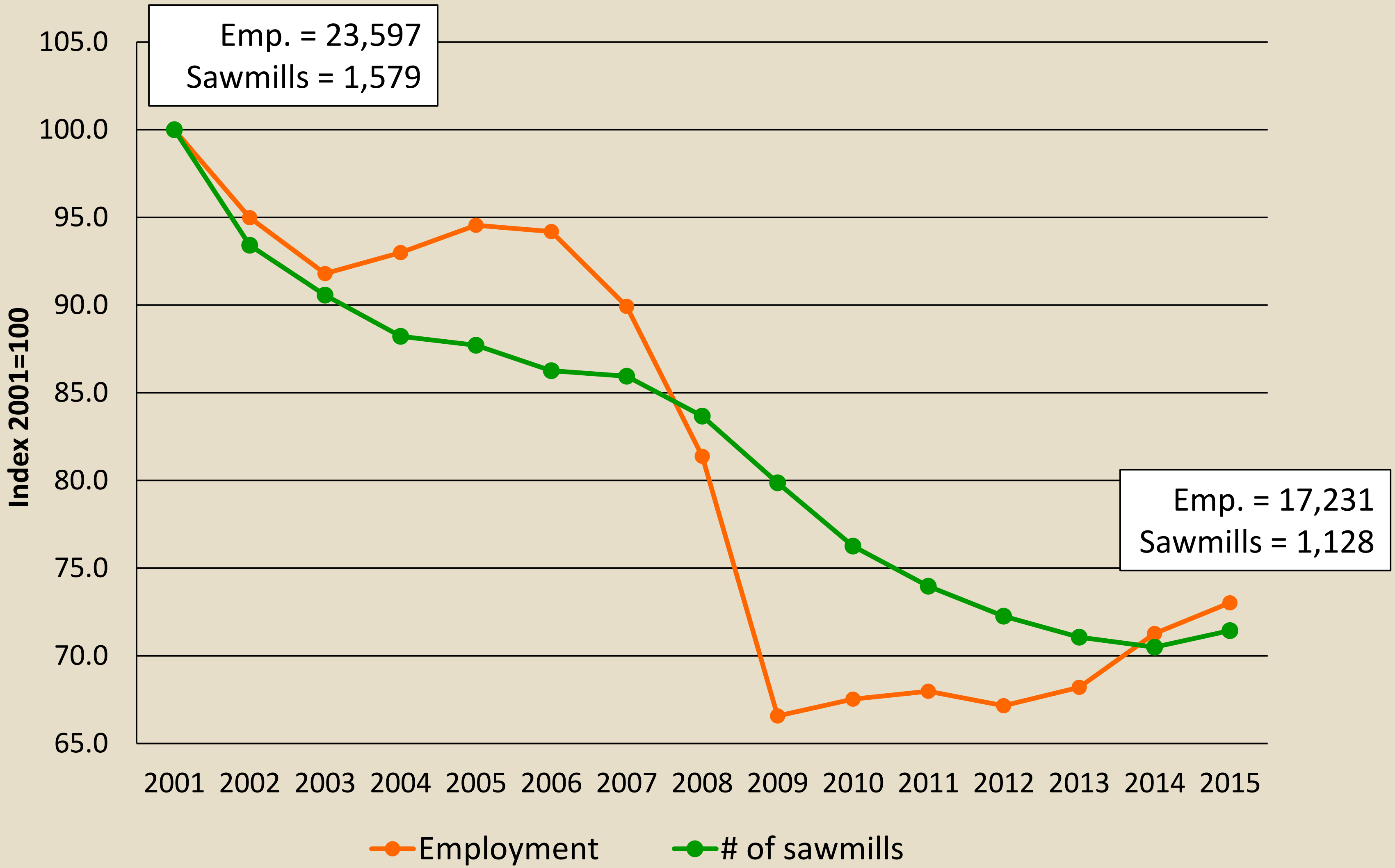
Luppold and Bumgardner. 2016. *BioResources*.

Employment indexes for last three economic expansion periods



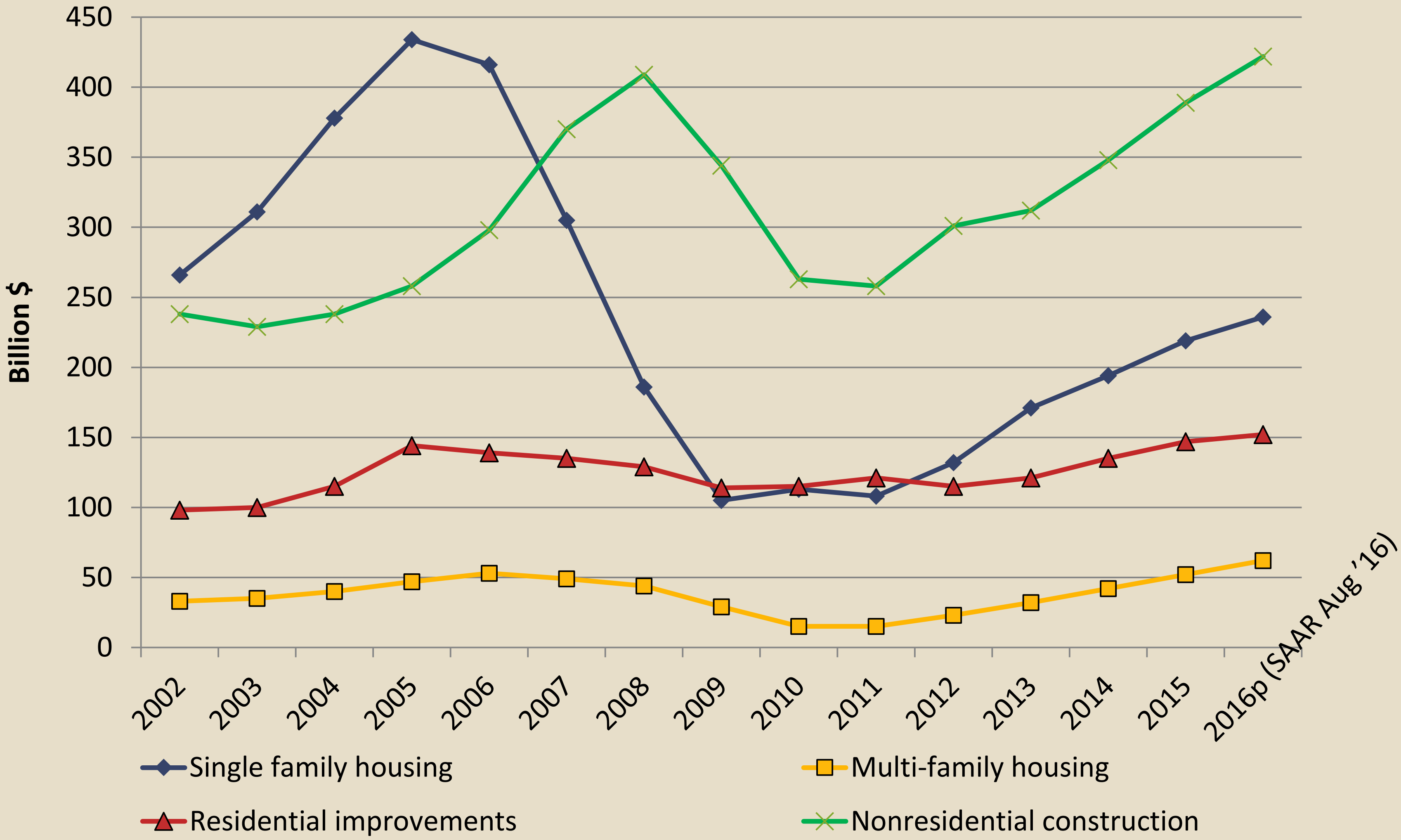
Luppold and Bumgardner. 2016. *BioResources*.

Index of sawmill employment and number of sawmills in the Appalachian Region



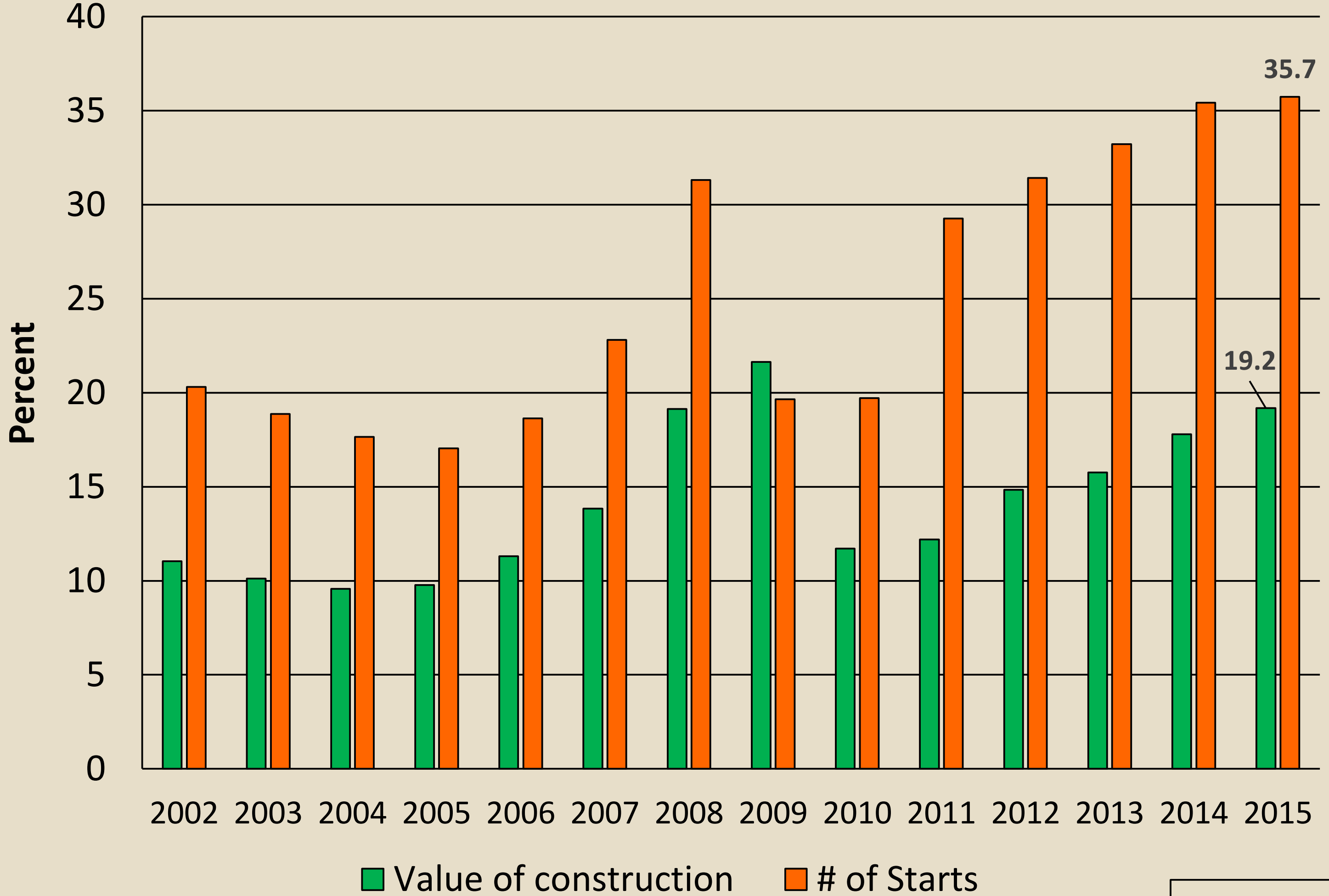
Data source: Bureau of Labor Statistics

Value of private U.S. construction, 2002-2015



Data source: U.S. Census Bureau

Multi-family percentage of total housing market (single family + multi-family)



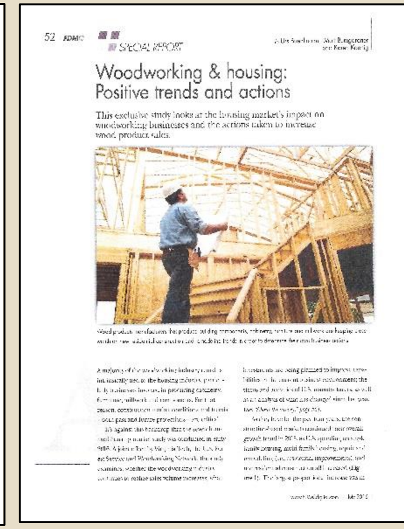
Value per start in 2015:
SF = $306,508
MF = $130,883

Data source: U.S. Census Bureau

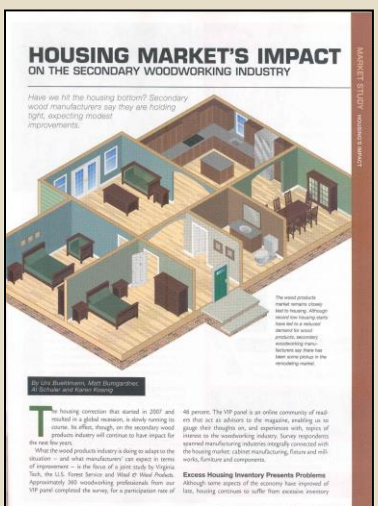
Seven years of studies in collaboration with Virginia Tech, the U.S. Forest Service, and *Woodworking Network/FDMC*

2015

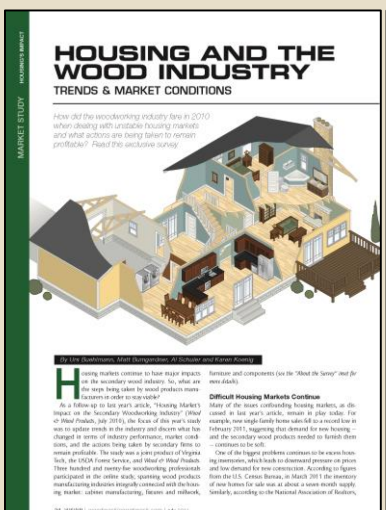
2016



2010

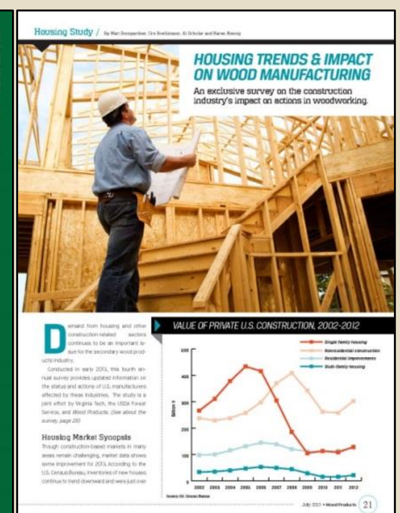


2011



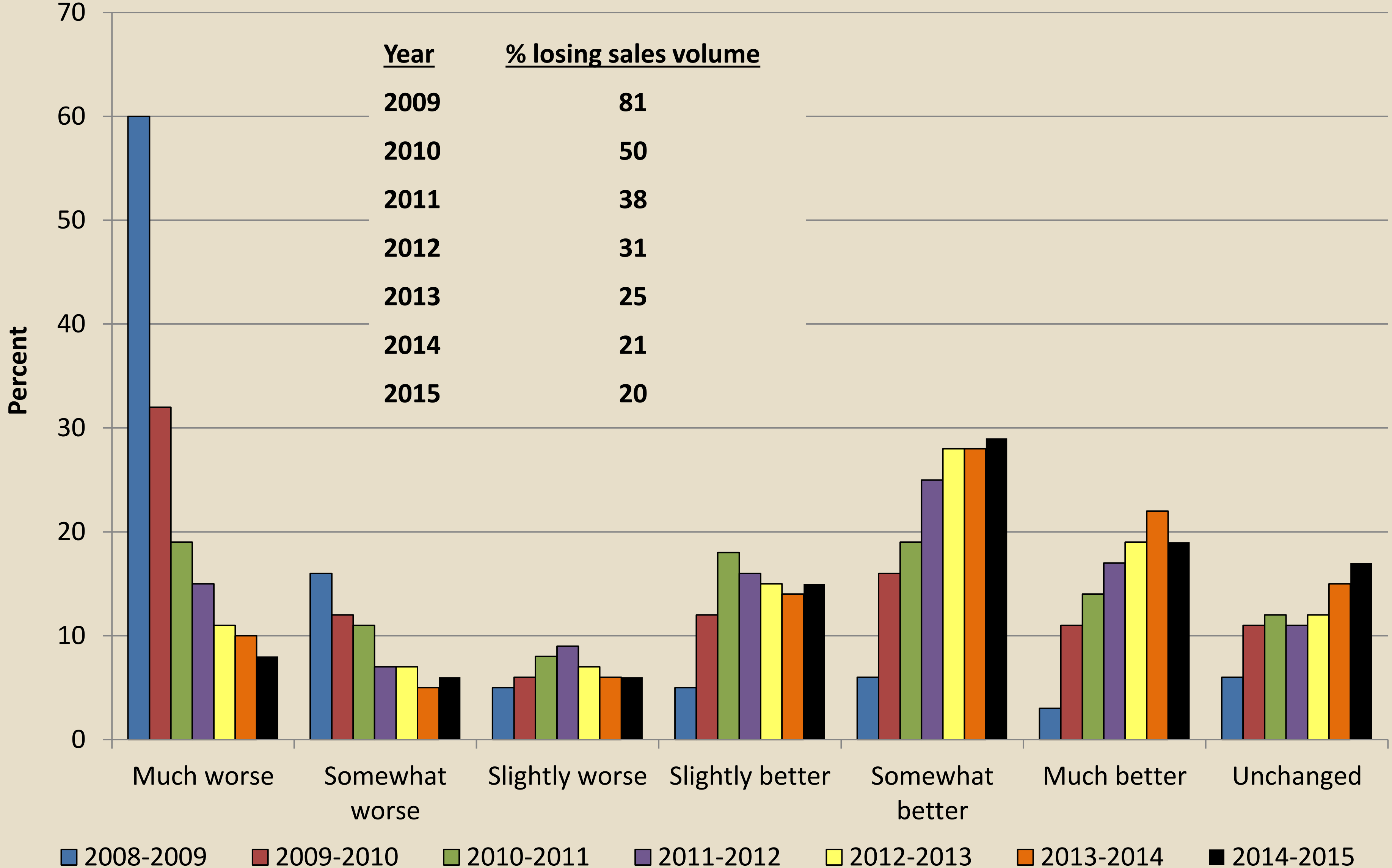
2012

2013



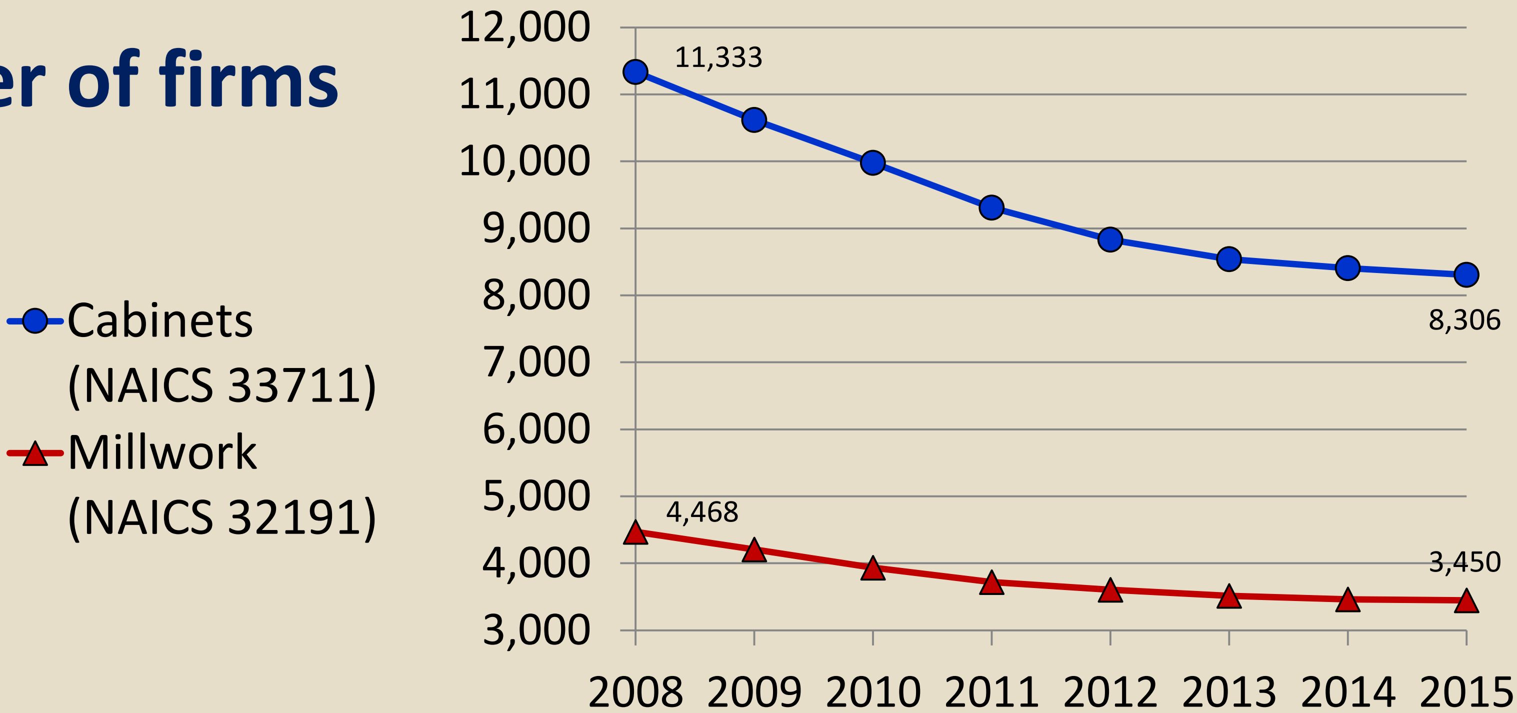
2014

Year-over-year changes in sales volume



Year	% losing sales volume
2009	81
2010	50
2011	38
2012	31
2013	25
2014	21
2015	20

Number of firms

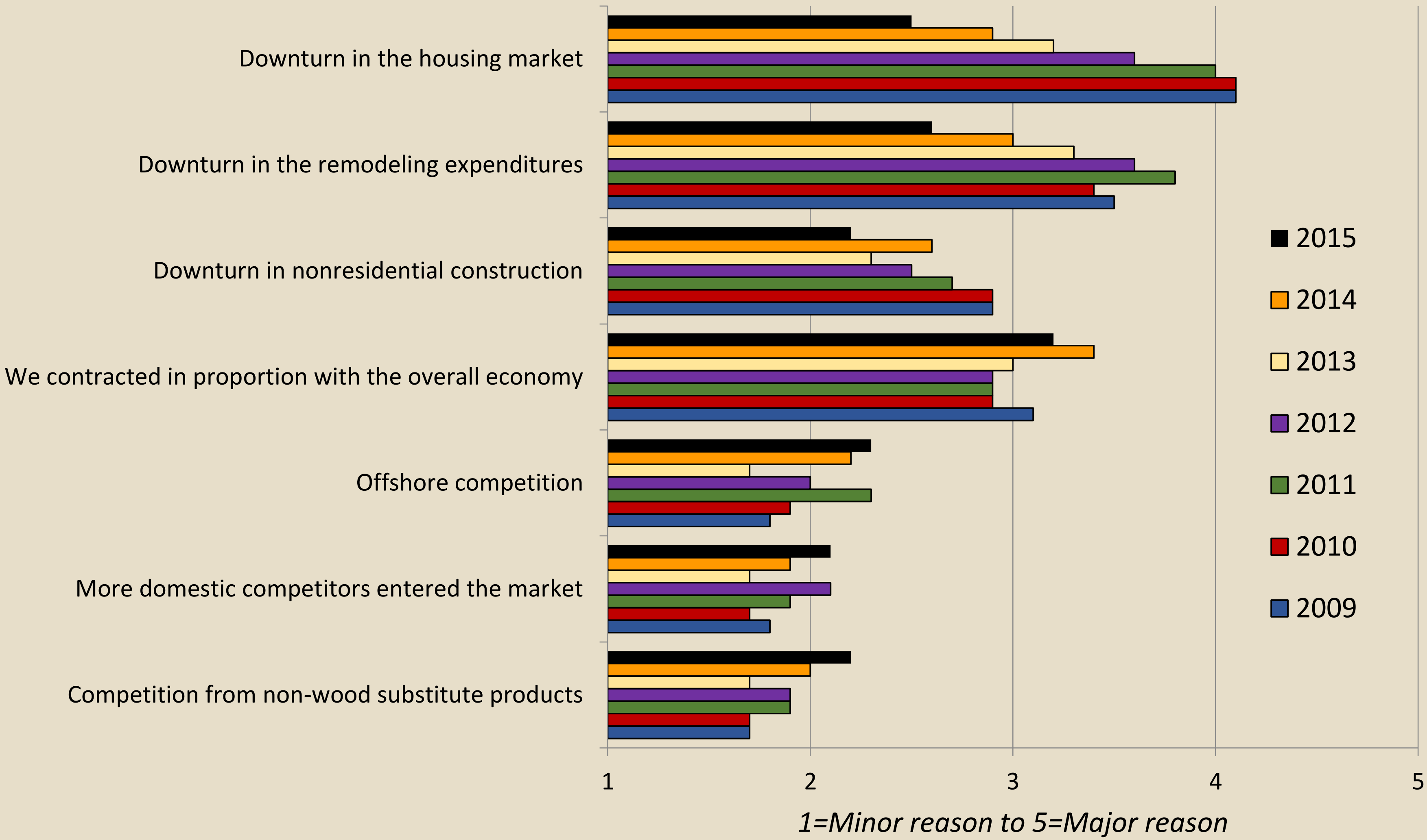


Year-over-Year	Cabinets	Millwork
08-09	-6.3%	-5.8%
09-10	-6.0%	-6.4%
10-11	-6.7%	-5.5%
11-12	-5.1%	-3.1%
12-13	-3.3%	-2.4%
13-14	-1.6%	-1.5%
14-15	-1.2%	-0.3%

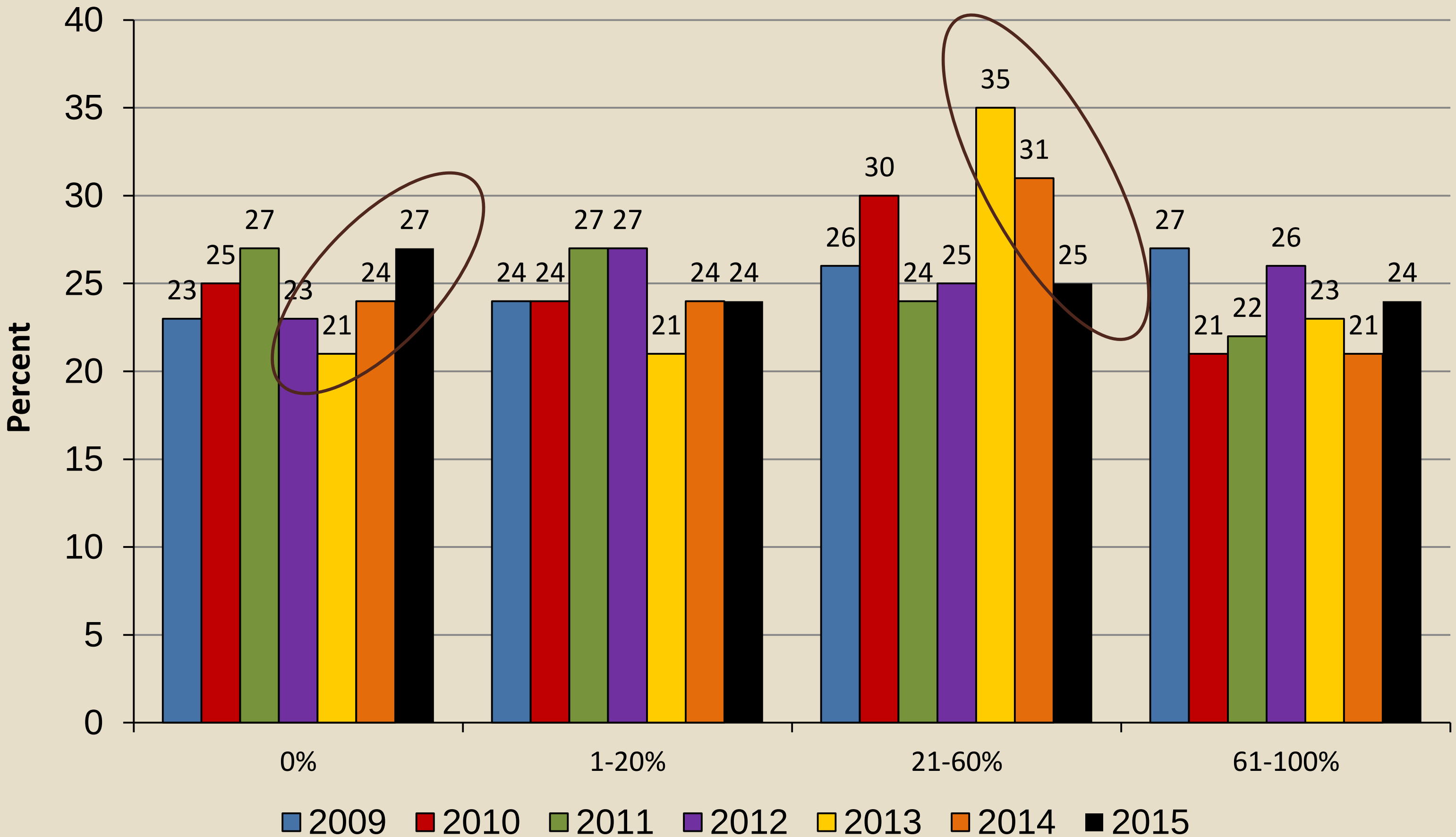
Preliminary data (1st qtr.) positive for 2016

Data source: Bureau of Labor Statistics

Perceived reasons for sales volume declines (for those firms indicating a decline)

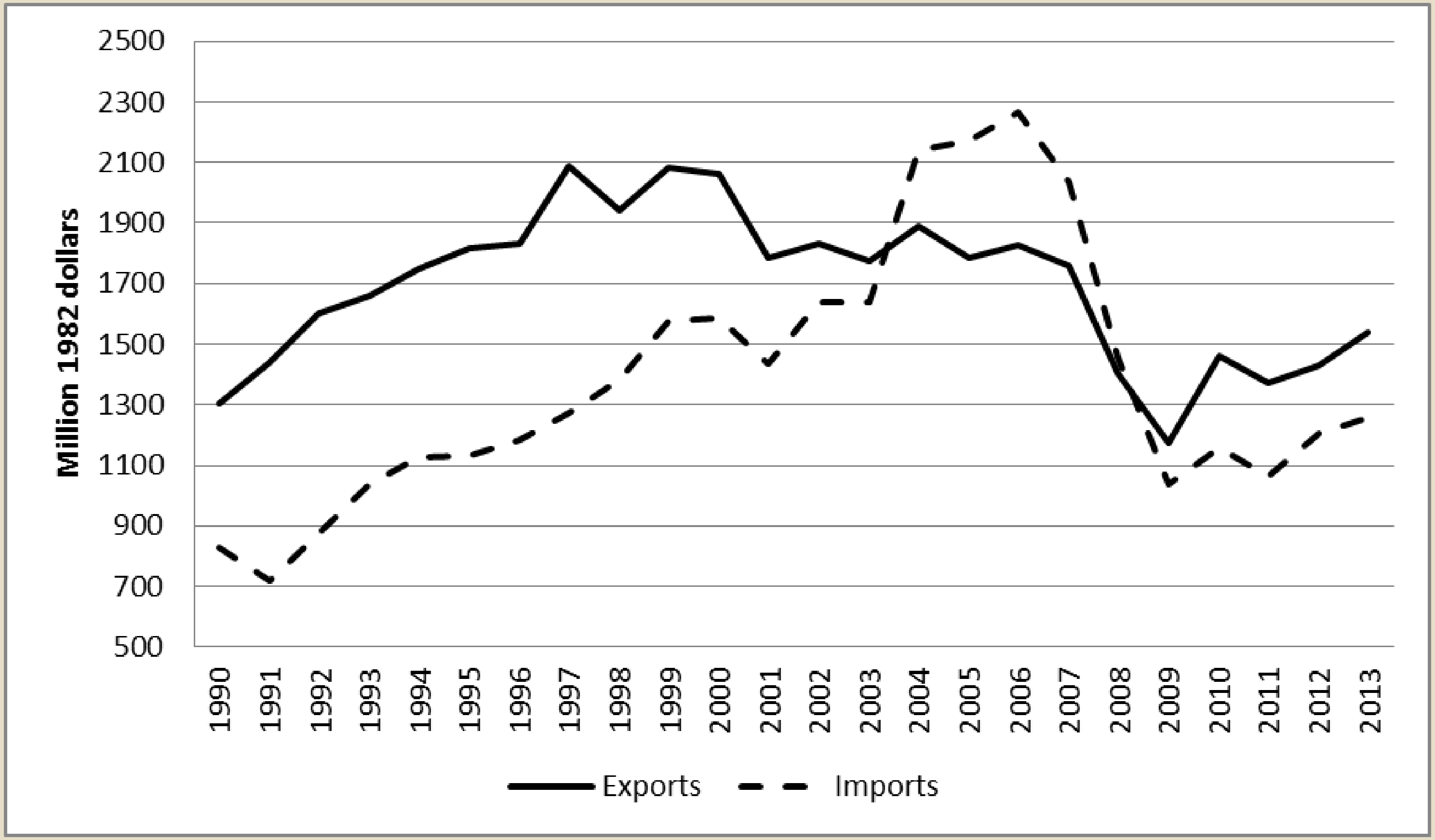


Proportion of production volume associated with the single family housing construction market



Hardwood Export Trends

U.S. hardwood product* exports and imports, 1990-2013



* Includes hardwood logs, lumber, veneer, cooperage, molding, siding, plywood, and flooring

Source: Luppold and Bumgardner. 2014. *BioResources*.

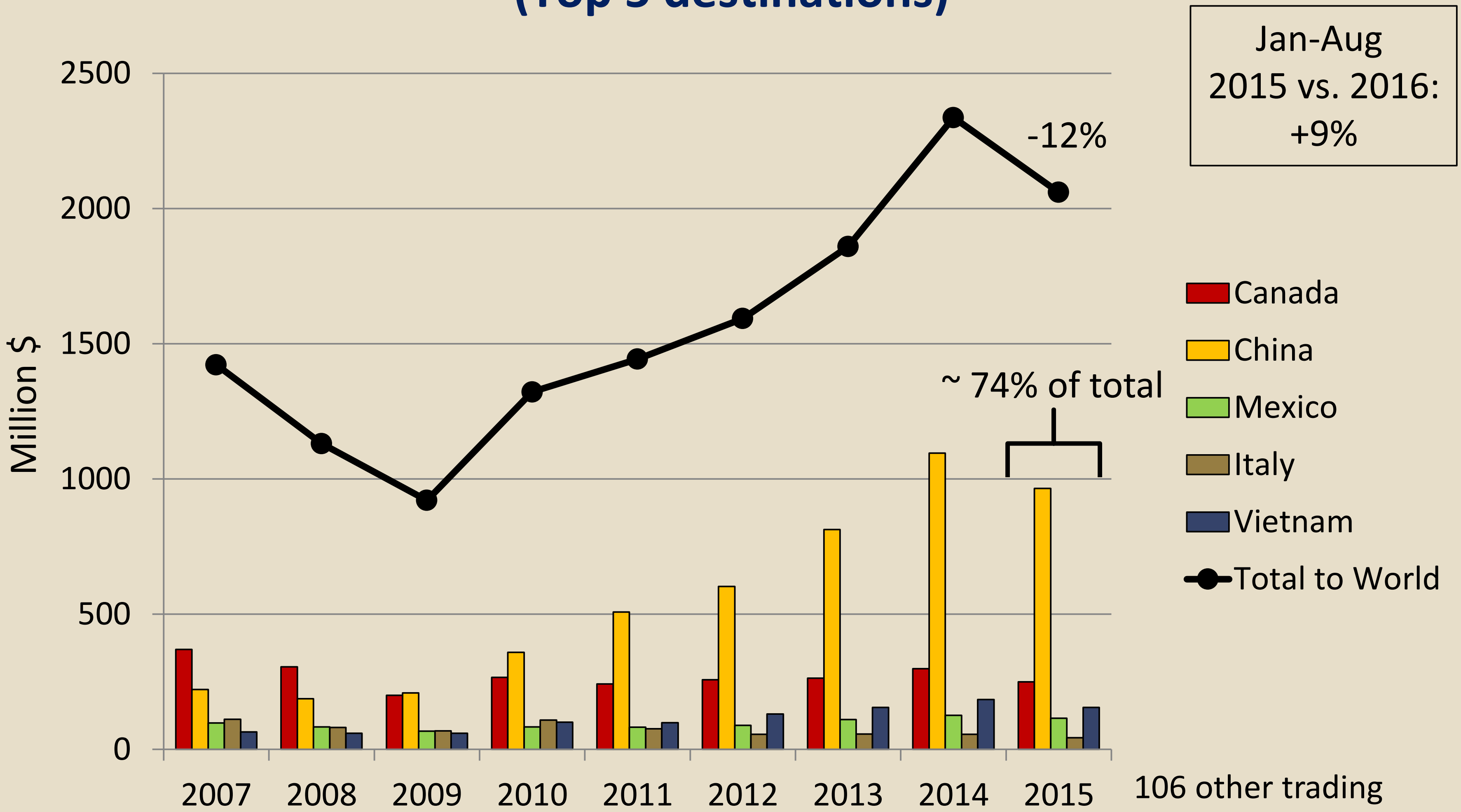
Top five hardwood lumber-exporting countries*

1990	%	2000	%	2011	%
United States	34.3	United States	23.6	United States	22.8
France	12.1	China	13.0	Belgium	8.9
Yugoslavia	11.8	Canada	11.5	Russia	7.2
Canada	7.8	France	5.3	Romania	7.1
Germany	5.8	Romania	5.2	Germany	5.9
Top 5	71.8	Top 5	58.5	Top 5	51.9

* Temperate Region

Bumgardner, Johnson, Luppold, Maplesden, and Pepke. 2014. Markets and Market Forces for Lumber (Ch. 3).

U.S. hardwood lumber exports
(Top 5 destinations)



106 other trading partners account for the remaining 26%

- Japan and the UK were slightly higher than Italy starting in 2012, dropping Italy to 7th

Data: USDA Foreign Agricultural Service

Importance of coastal locations to hardwood lumber exporting

Port Regions (incl. all port types – water, land, air)	% of U.S. Hardwood Lumber Exports
East Coast*	63
West Coast	20
Great Lakes	12
Gulf of Mexico	5

* 70% of hardwood lumber leaving East Coast ports was destined for East Asia and Southeast Asia

USDA Foreign Agricultural Service 2015

Summary

- Industrial markets fared better than appearance-based markets through the recession/housing downturn
- About half of domestic consumption currently in industrial markets
- Importance of exports
- 6 years of increases in hardwood lumber production since 2009 (+41%)
  - But still 27% below peak year of 1999

Summary

- Secondary employment has improved, but the overall number of firms lagging
  - Similar trend for sawmills
- Surviving companies have seen steady improvements in sales volume since 2009
- Log and stumpage markets returning to a more “normal” pattern; stumpage was affected by housing downturn

Thank you.

Questions?