National and Global Forest Products Market Trends

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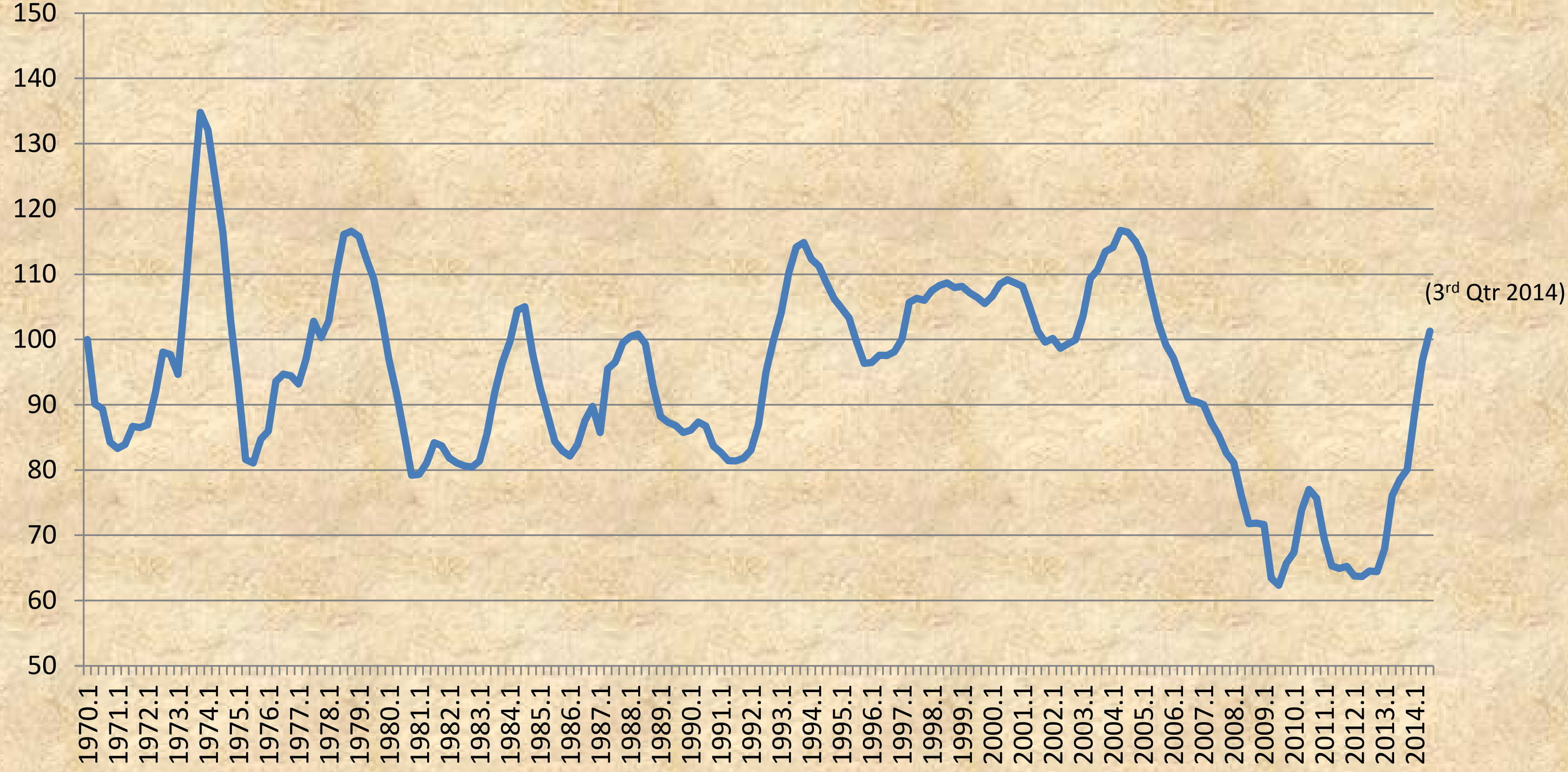
Outline

- Domestic Trends Update
- Export and Import Trend Updates
- Continuing influences of globalization on hardwood markets
- Put it in perspective
  - What is the “big picture”?

Aggregate price index for green No. 1 Common Appalachian hardwood lumber

(inflation-adjusted and indexed, 1970.1 = 100)



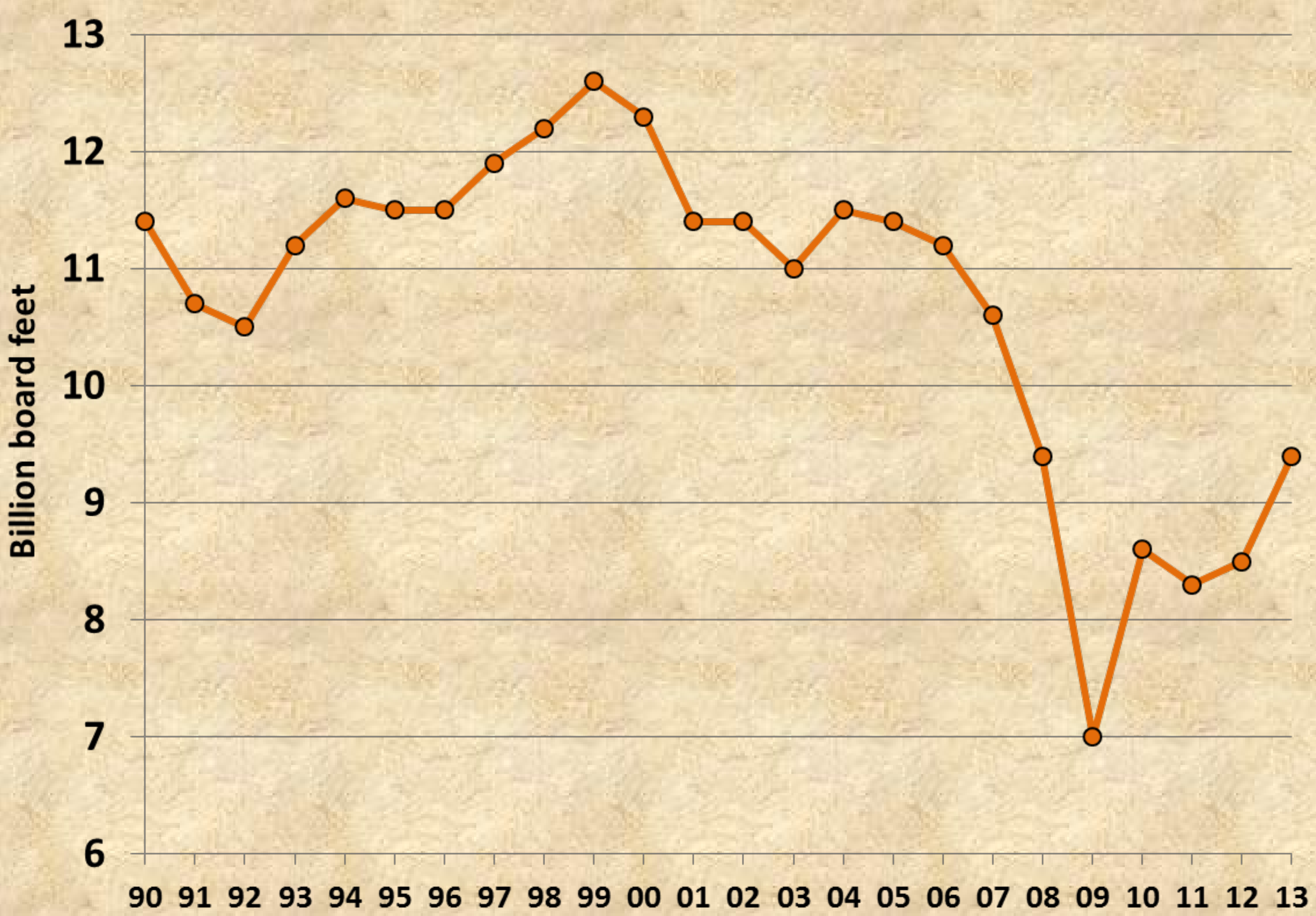
W. Luppold, U.S. Forest Service

Prices changes for green 1C Appalachian hardwood lumber

Species	July 2009	July 2014	%-change
Cherry	625	955	+ 52.8%
Yellow-poplar	340	545	+ 60.3%
Soft maple	525	845	+ 61.0%
Red oak	500	930	+ 86.0%
Hard maple	655	1260	+ 92.4%
Walnut	765	1550	+ 102.6%
White oak	450	960	+ 113.3%

Data: Hardwood Market Report

U.S. hardwood lumber production



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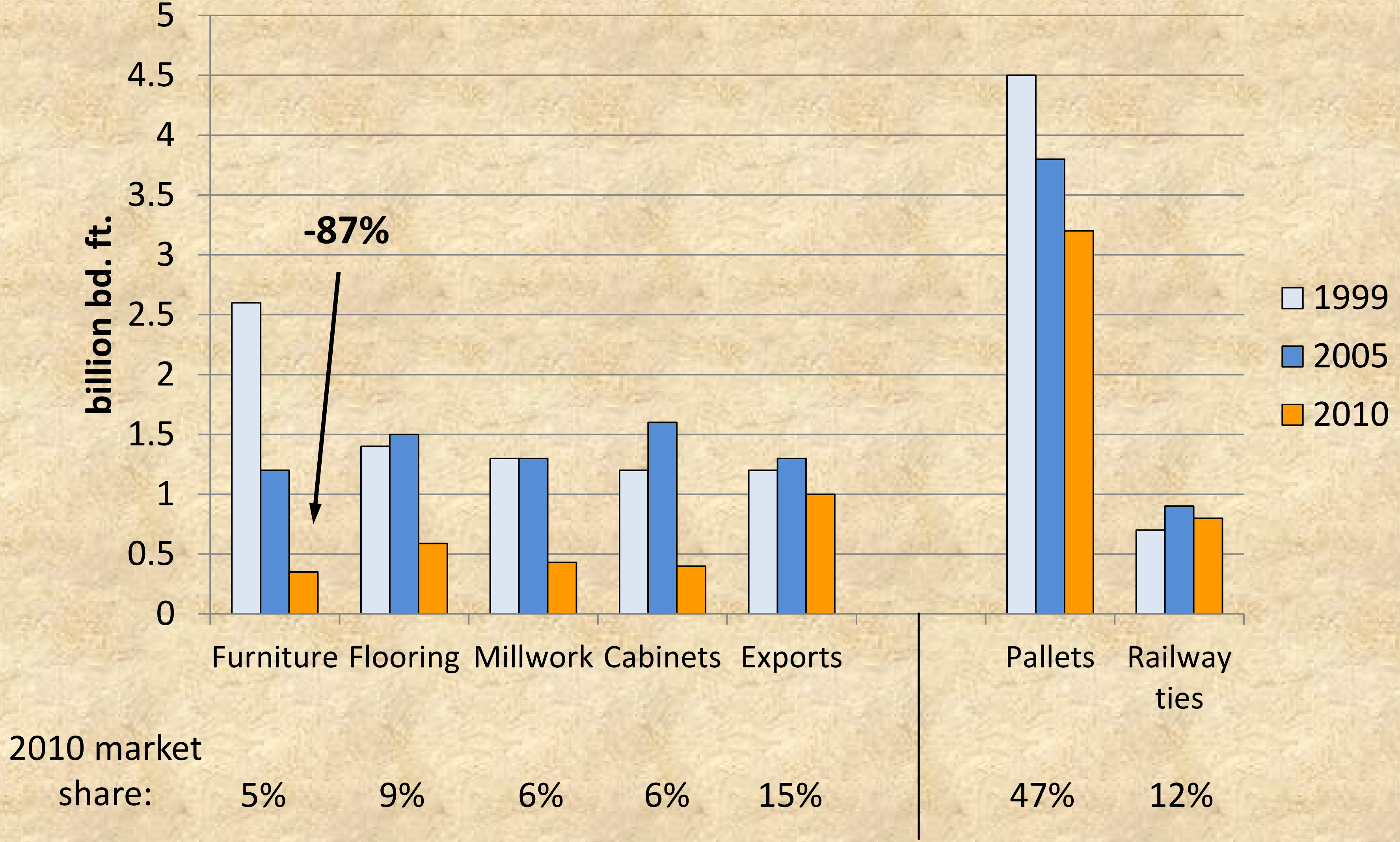
Hardwood lumber markets – Volume estimates by sector

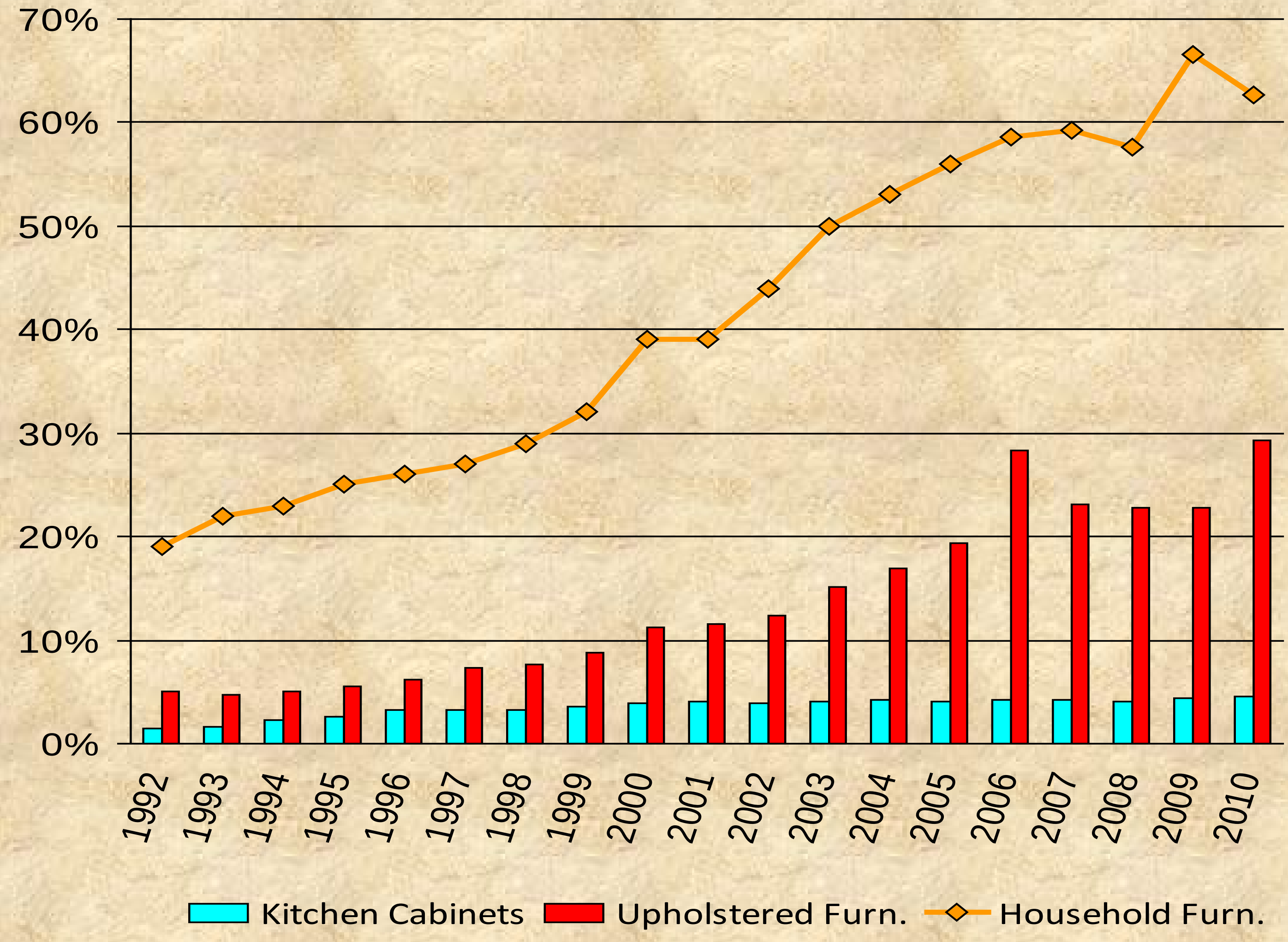


Data source: Hardwood Market Report 2009, 2011

Recent market shifts: higher-grade vs. lower grade

User Group	1972	1992	2006	2007	2008	2009	2010
Industrial	32%	34%	42%	44%	52%	60%	59%
Appearance -based	68%	66%	58%	56%	48%	40%	41%

Market share of imports in the U.S.



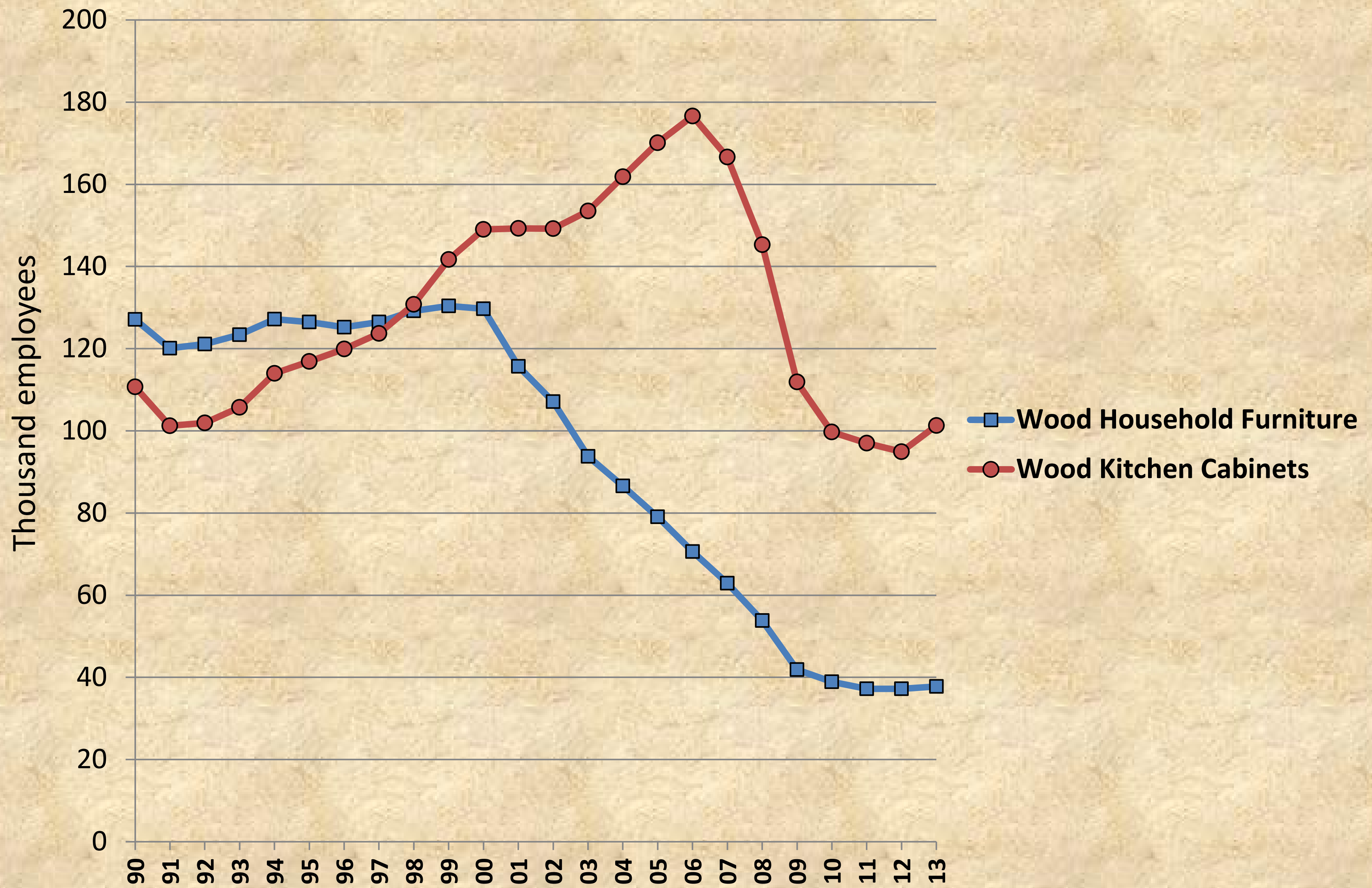
*** These market shares are conservative because some imported components and finished furniture is included in the domestic shipments**

**** Household furniture data series changed in 2010**

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

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

Employment trends – furniture vs. cabinets

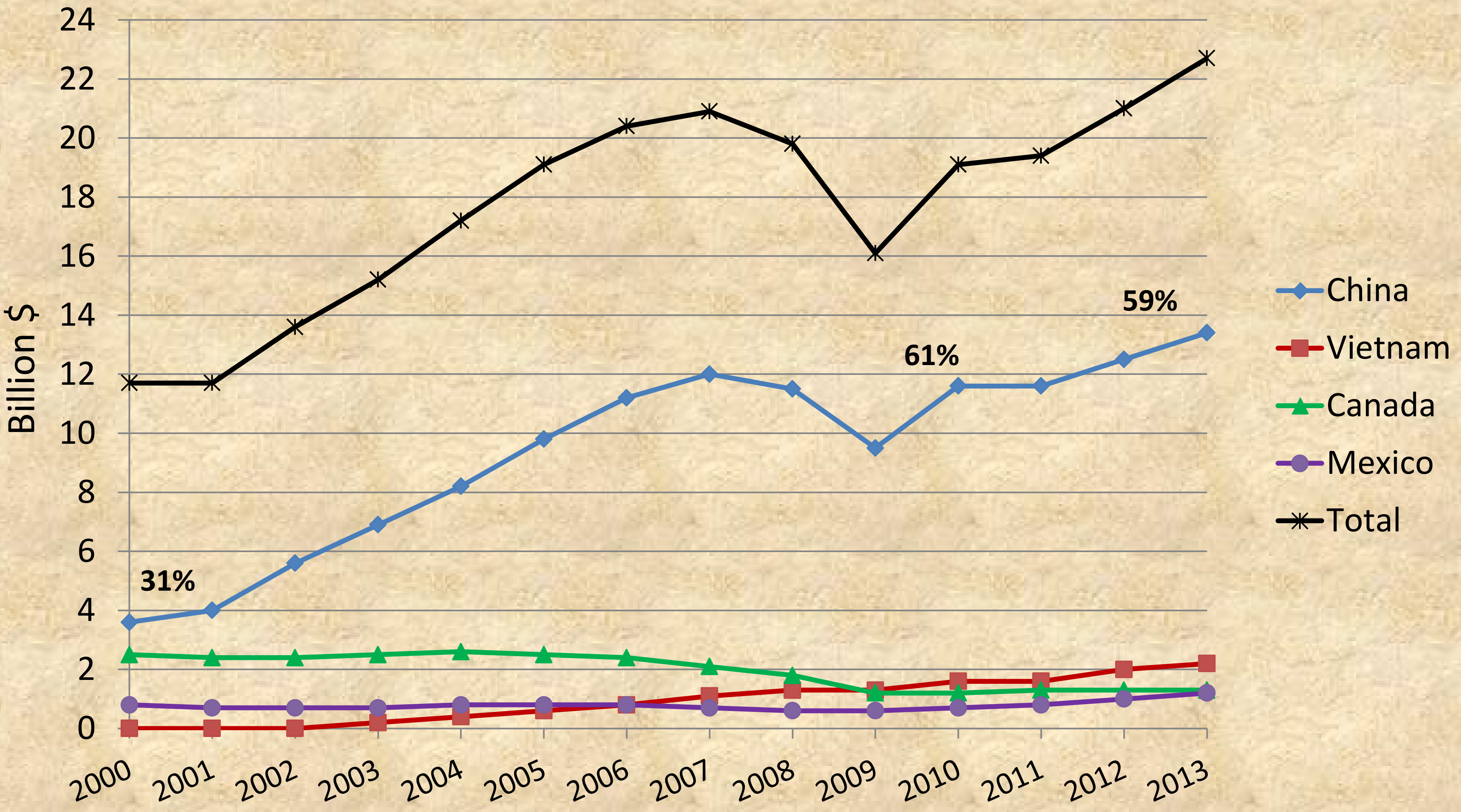


Data source: Bureau of Labor Statistics

Some headwinds for China?

- Labor costs increasing
  - ~$0.50/hour in the early 2000s (vs. $13 in U.S.) [Raymond 2014]
  - ~$6.00/hour today [Scotti 2013]
- Currency appreciation
  - ~30% increase against the U.S. dollar since 2005 [Rabinovitch 2014]
  - Currently trading at ~6.2 against the U.S. dollar [Harding and Noble 2014]
- Transportation
  - Cost uncertainties
  - Length of order deliveries (often 120-150 days) [Raymond 2014]
- Still . . .

Major U.S. Import Sources
household & institutional furniture & cabinets (NAICS 3371)



Data source: International Trade Administration

Household & Institutional Furniture & Cabinets (NAICS 3371): U.S. import sources*, 5-year changes

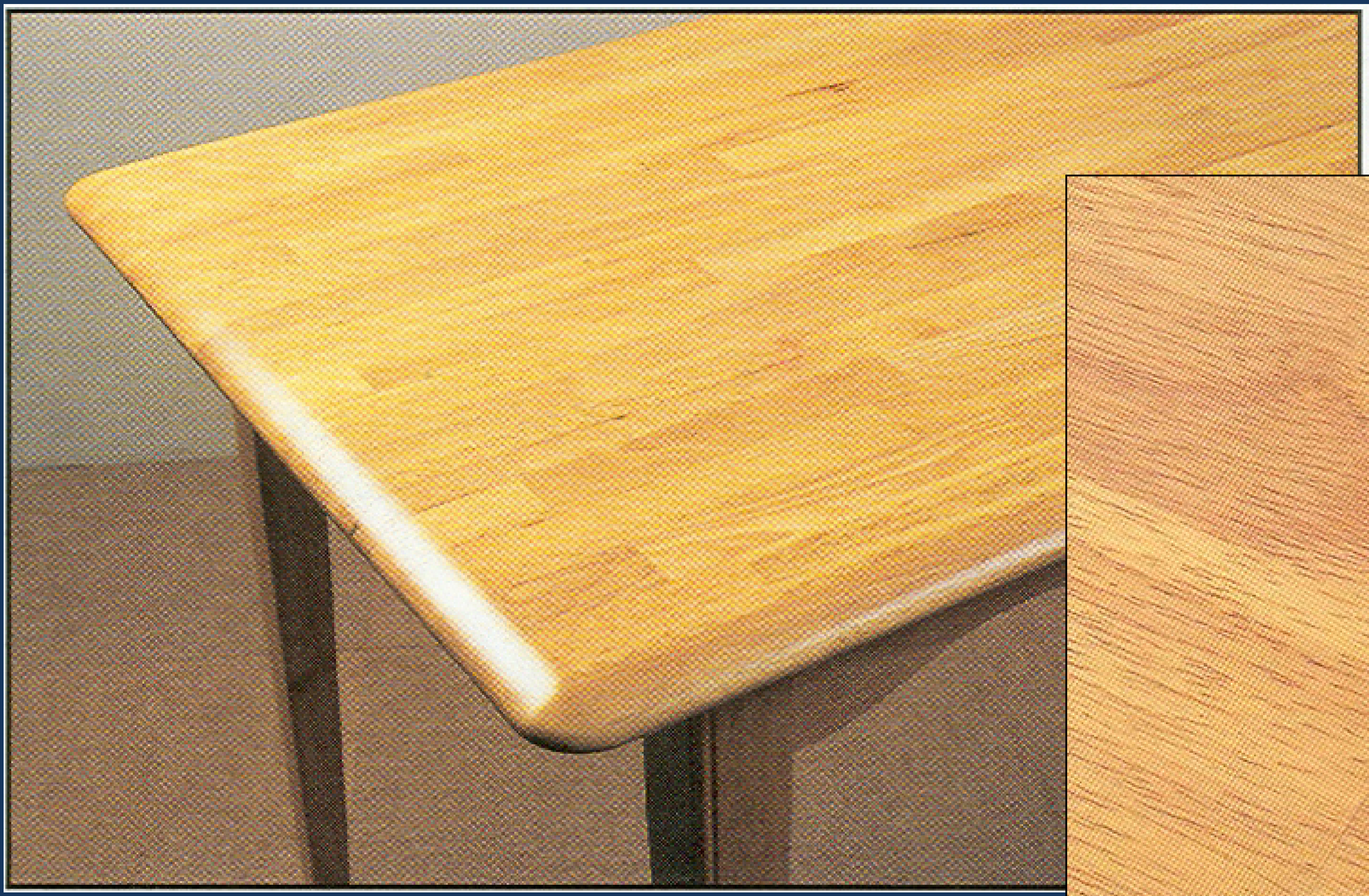
Country*	2009	2013	%-change
	- - - million $ - - -		
China	9,494	13,415	41.3%
Vietnam	1,270	2,235	75.9%
Canada	1,173	1,343	14.5%
Mexico	576	1,226	113.0%
Indonesia	448	635	41.6%
Malaysia	575	602	4.7%
Italy	420	586	39.6%
Taiwan	419	535	27.8%
India	86	263	205.6%
Poland	176	238	34.9%

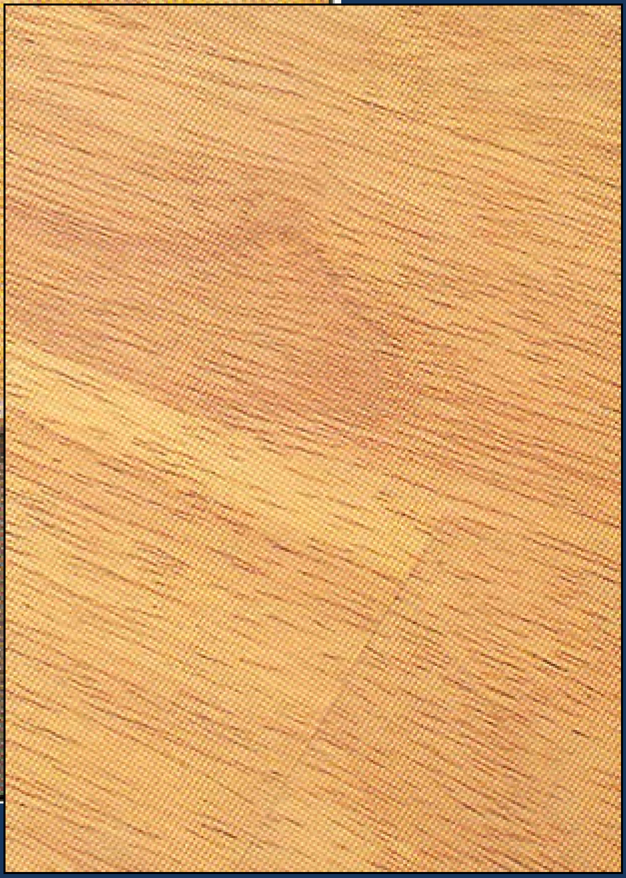
* Top 10 countries shown represent nearly 93% of total imports

Data source: International Trade Administration

Rubberwood

(*Hevea brasiliensis*)





Species used in Dining Room showings at the Spring 2014 High Point Furniture Market

Species	% of pieces shown	Comments
1. Rubberwood	15%	Higher than 2012
2. Walnut	10%	Third place in 2012
3. Cherry	9%	First place in 2012
T4. Mahogany	6%	
T4. Hickory/pecan	6%	
T6. Maple	5%	
T6. Alder	5%	
8. Painted wood	(less than 5%)	
9. Red oak	(less than 5%)	
10. Pine	(less than 5%)	

Source: Appalachian Hardwood Manufacturers Inc. 2014

Species used in Bedroom showings at the Spring 2014 High Point Furniture Market

Species	% of pieces shown	Comments
1. Walnut	15%	Sixth place in 2012
2. Cherry	14%	First place in 2012
3. Maple	11%	Same as 2102
4. Painted wood	11%	
5. Mahogany	7%	
6. Rubberwood	7%	Higher in 2012
7. Pine	(less than 7%)	
8. White Oak	(less than 7%)	
9. Birch	(less than 7%)	
10. Poplar	(less than 7%)	

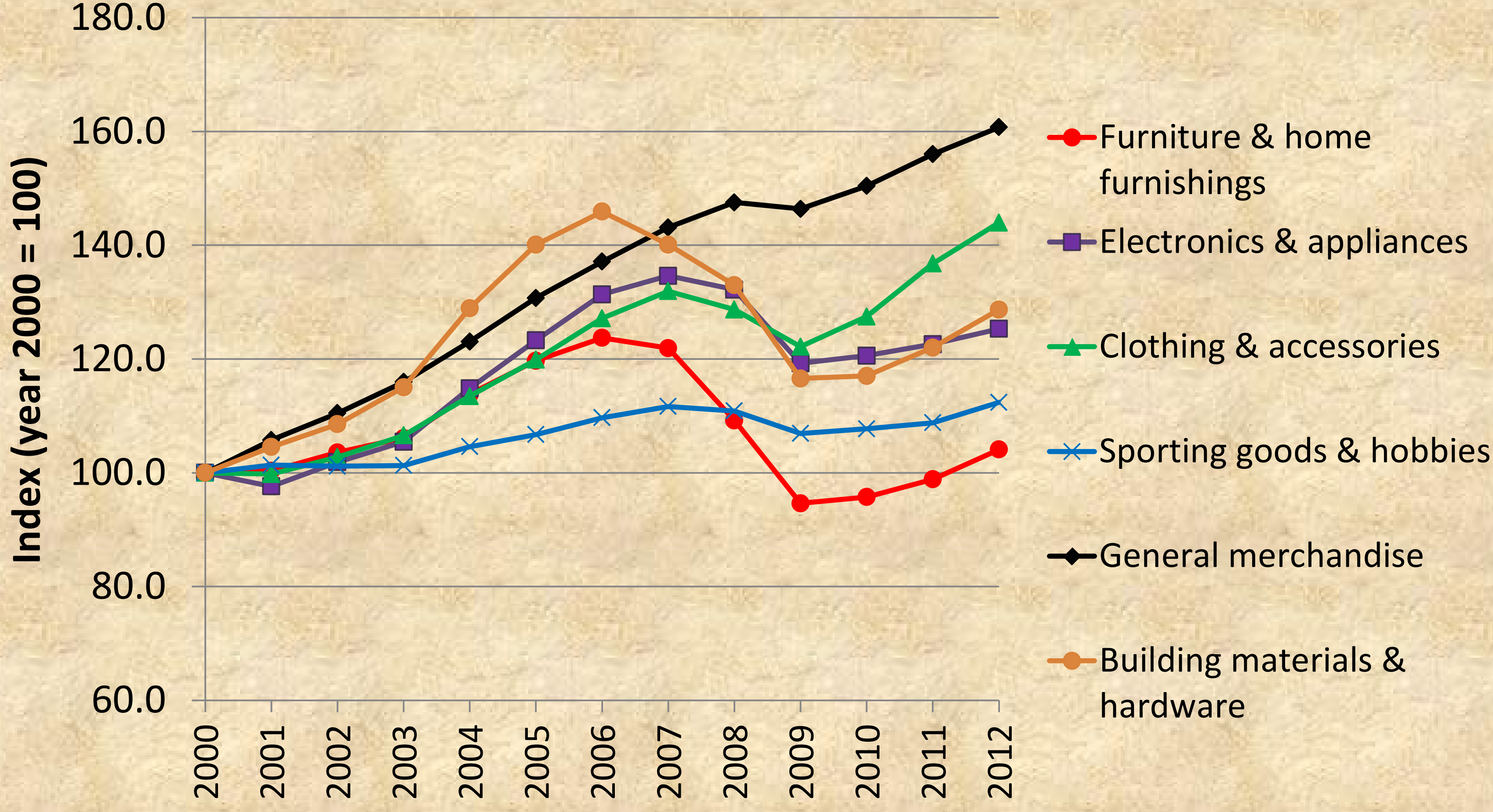
Source: Appalachian Hardwood Manufacturers Inc. 2014

Species used in Home Office showings at the Spring 2014 High Point Furniture Market

Species	% of pieces shown	Comments
1. Walnut	17%	Fifth place in 2012
T2. Cherry	16%	
T2. Red oak	16%	First place in 2012
4. Maple	10%	
5. Mahogany	8%	
6. Birch	(less than 5%)	
7. Pine	(less than 5%)	
8. White oak	(less than 5%)	
9. Alder	(less than 5%)	
10. Elm	(less than 5%)	

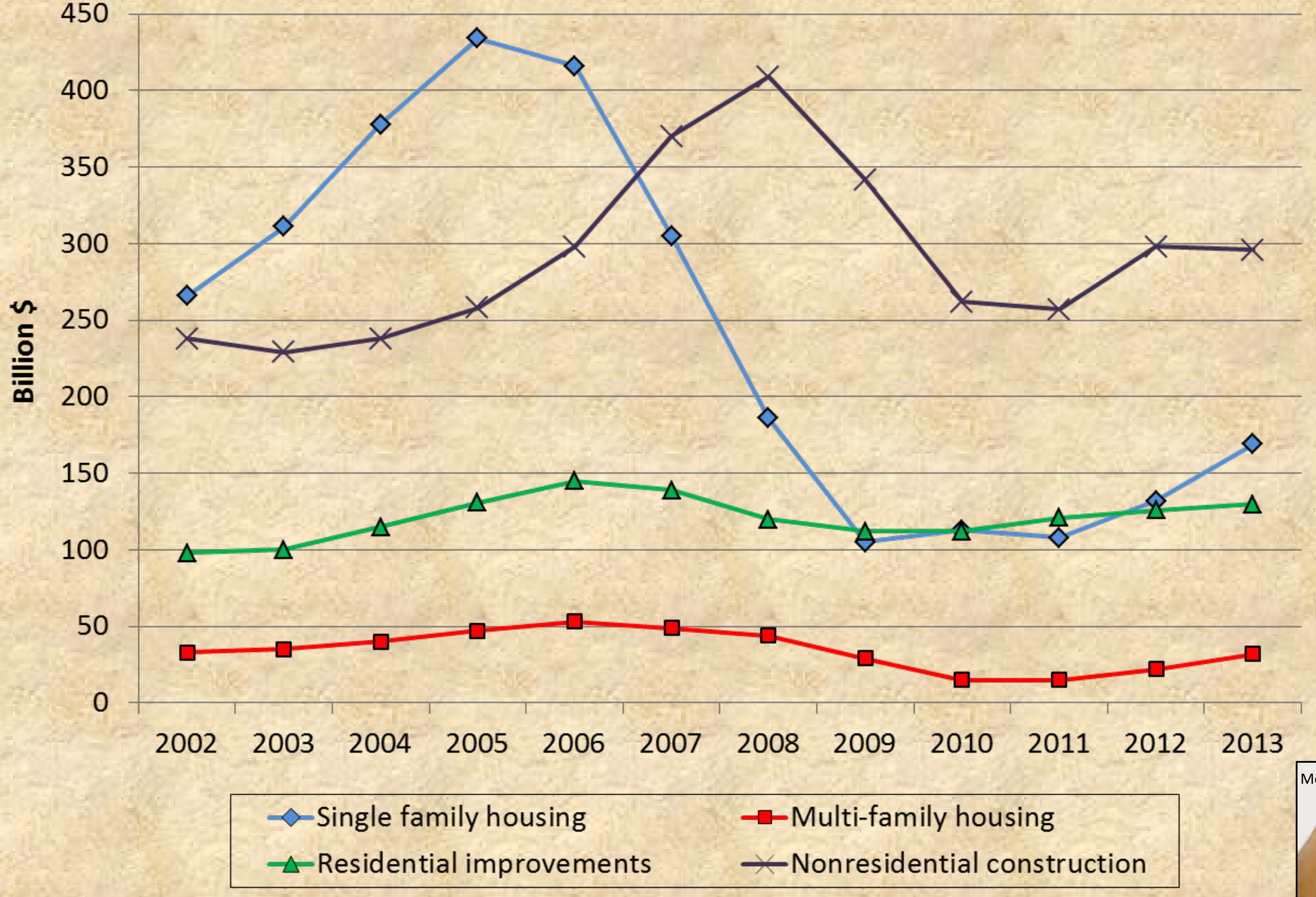
Source: Appalachian Hardwood Manufacturers Inc. 2014

Annual sales of selected U.S retail store categories



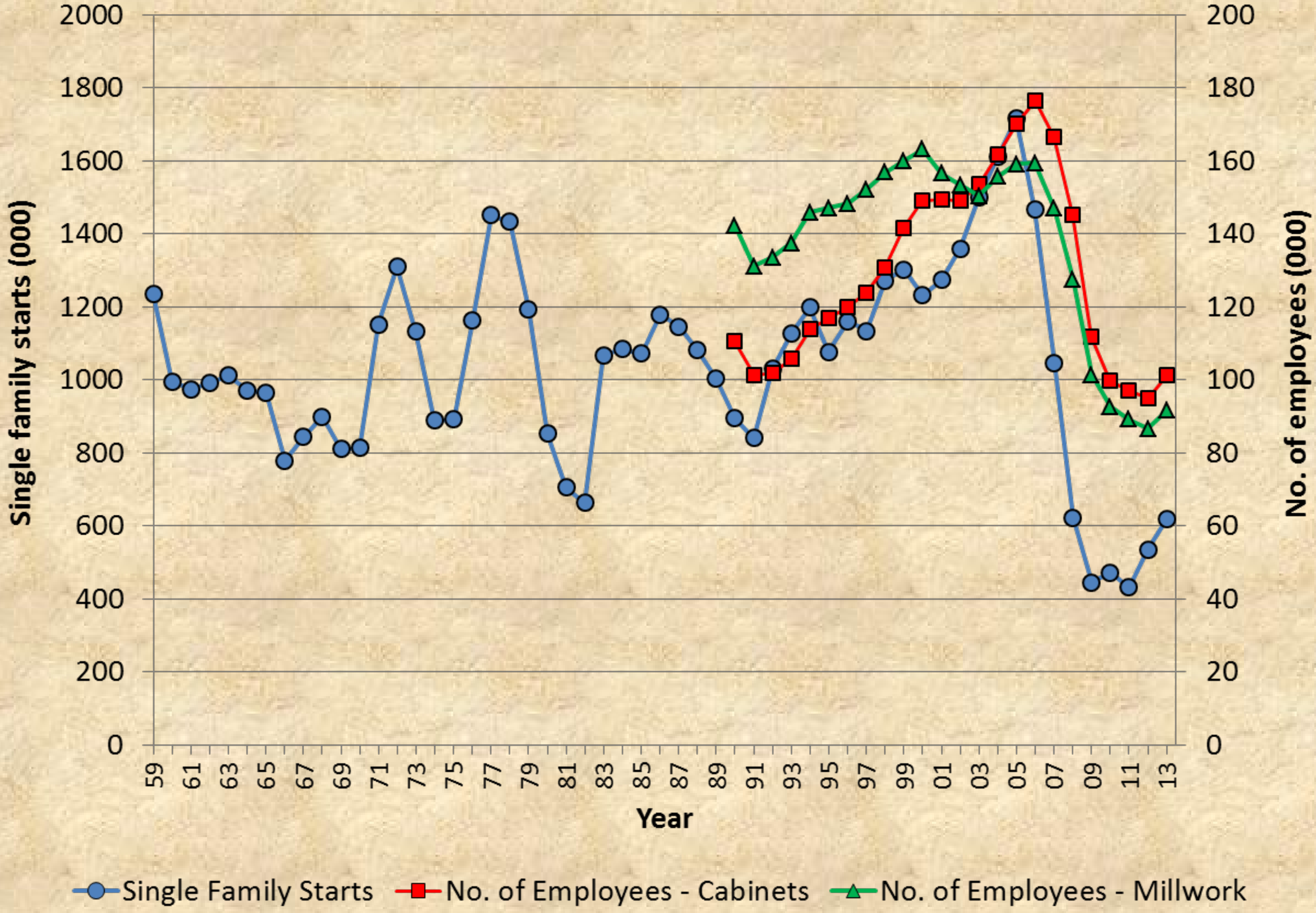
Data source: U.S. Census Bureau

Value of private U.S. construction, 2002-2013



Data source: U.S. Census Bureau

Housing starts & secondary wood product employment



Data sources: U.S. Census Bureau & U.S. Bureau of Labor Statistics

Five years of studies in collaboration with *Wood Products* magazine


MARKET STUDY

HOUSING AND THE WOOD INDUSTRY

TRENDS & MARKET CONDITIONS

How did the woodworking industry fare in 2010 when dealing with unstable housing markets and what actions are being taken to remain profitable? Read this exclusive survey.

– Online survey of subscribers (~10,000 invitations)

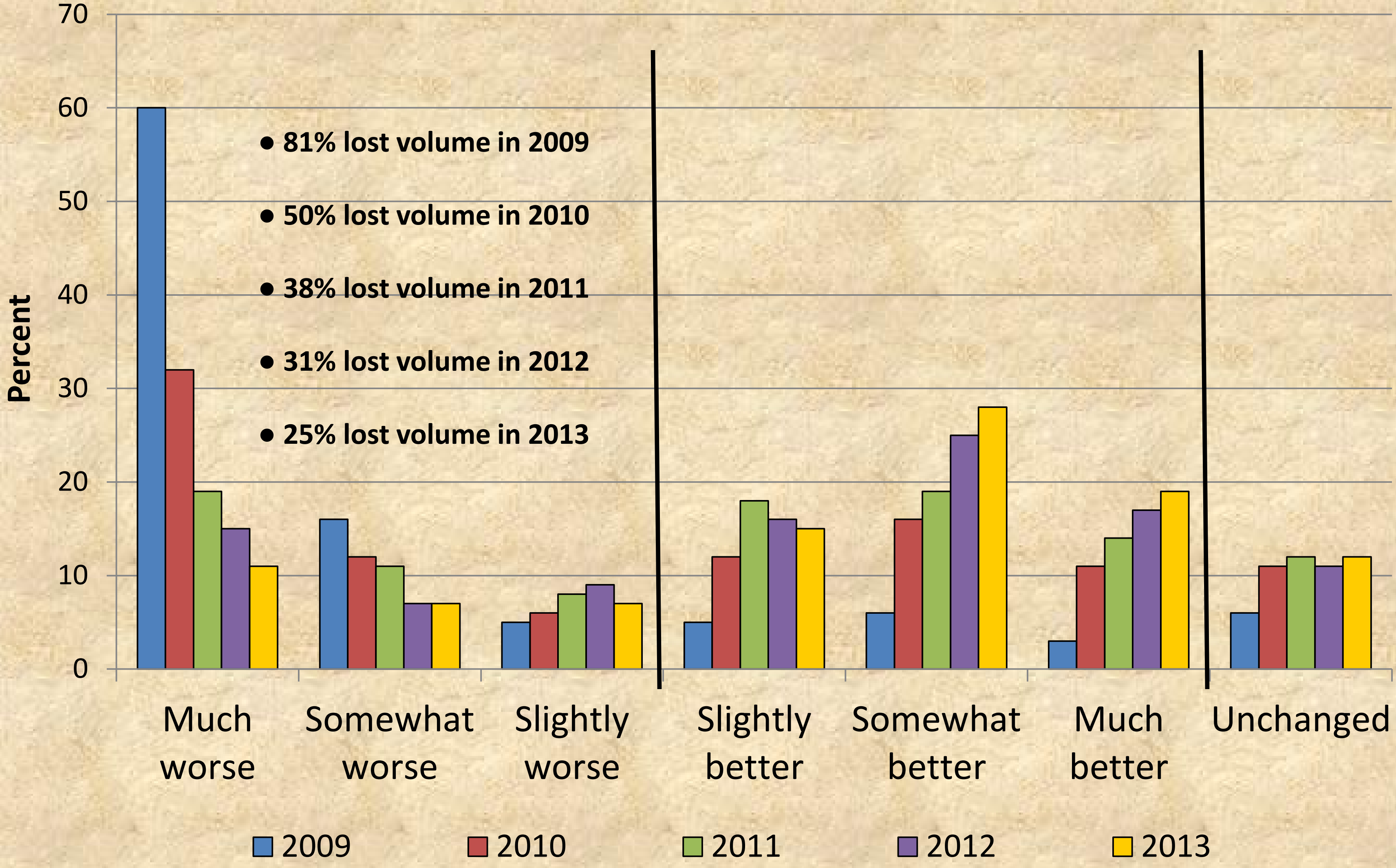
– Conducted in February/March each year

– Each year, most respondents were either company owners or in positions of corporate/operating management (ranging from 67 to 72 percent)

– Each year, respondents represented firms in at least 41 states

– Around 50% had sales of less than $1 million; ~ 80% had $1-$10 million in sales

Compared to the previous year, last year's sales volume was . . .



What is being done?

Summary of qualitative responses from 2009-2012 studies with *Wood Products* magazine

- Expanding or switching market segments
- Spending more time with existing customers
- Aggressively seeking new customers
- Improving customer service
- Smaller orders, and farther away
- Offering more customized products

Housing Study / By Matt Bumgardner, Urs Buehlmann, Al Schuler and Karen Koenig

HOUSING TRENDS & IMPACT ON WOOD MANUFACTURING

An exclusive survey on the construction industry's impact on actions in woodworking.

Demand from housing and other construction-related sectors continues to be an important issue for the secondary wood products industry.

Conducted in early 2013, this fourth annual survey provides updated information on the status and actions of U.S. manufacturers affected by these industries. The study is a joint effort by Virginia Tech, the USDA Forest Service, and *Wood Products*. *(See about the survey, page 28)*

Housing Market Synopsis

Though construction-based markets in many areas remain challenging, market data shows some improvement for 2013. According to the U.S. Census Bureau, inventories of new houses continue to trend downward and were just over

July 2013 • Wood Products 21

What about exports?

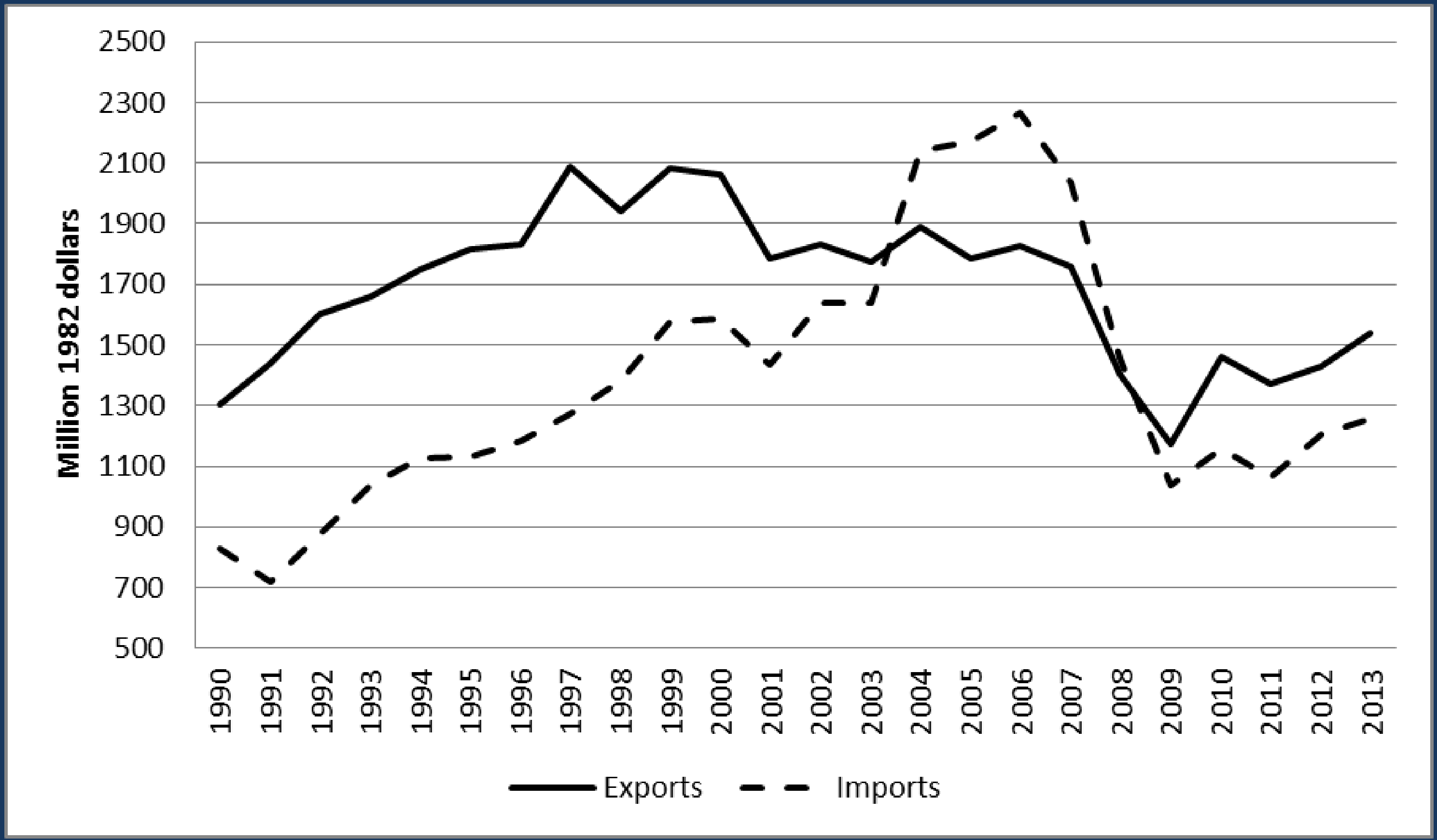
Across the 35 states comprising the eastern hardwood forest region:

(www.na.fs.fed.us/werc/)

Sector	Value of Shipments, 2011 (million $)	Exports, 2011 (million $)	Exports as % of Shipments
NAICS 321 (Wood Products)	54,604	3,700	6.8%
NAICS 337 (Furniture & Fixtures)	52,776	3,625	6.9%

Data sources: Bureau of Economic Analysis; Intl. Trade Administration

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



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

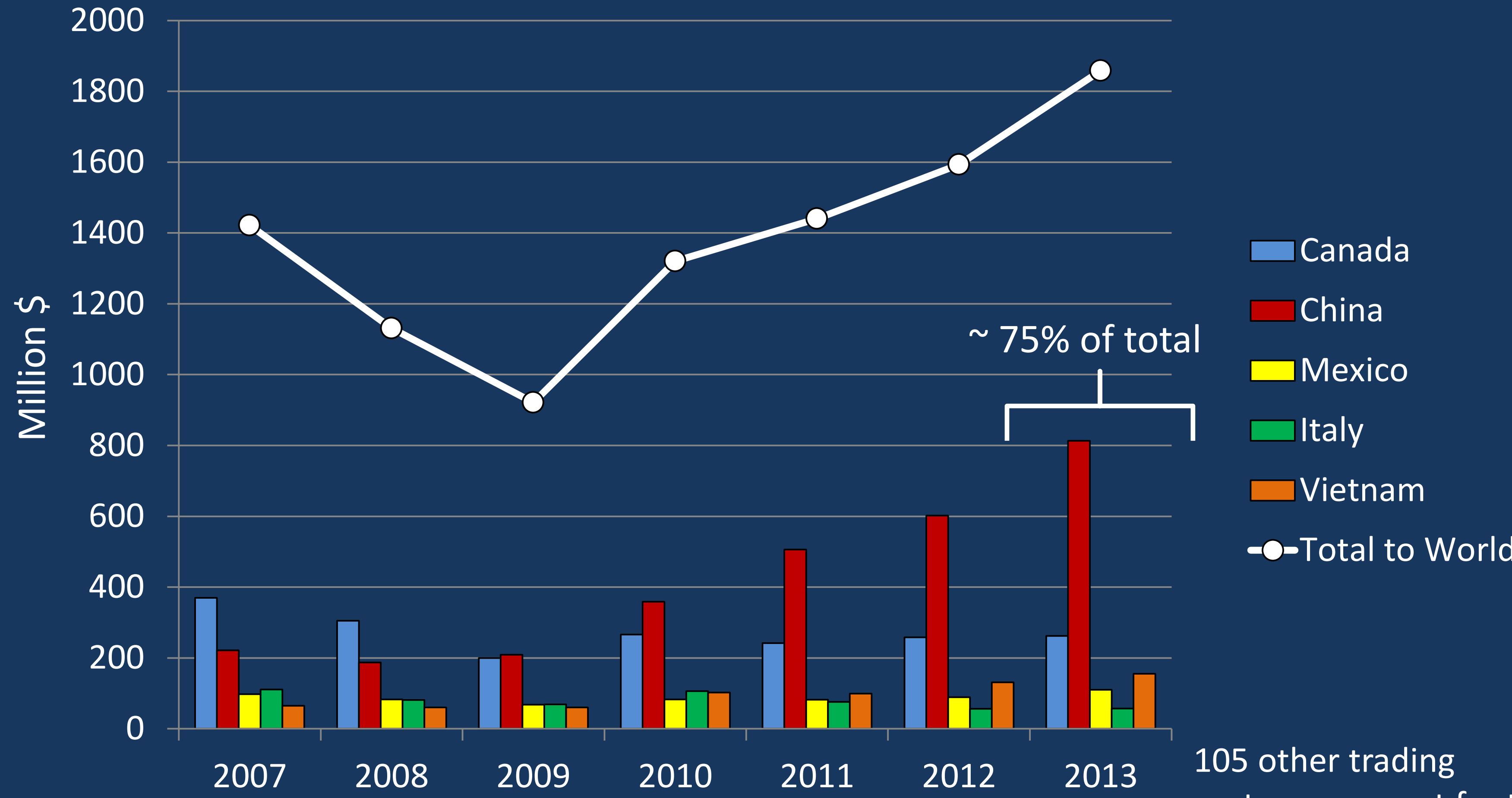
Luppold & Bumgardner

Market share (by value) of specific hardwood products exported by the United States

Product	1990	1995	2000	2006	2009	2013
	--- Percent ---					
Lumber	52.9	53.0	52.0	53.8	45.4	59.4
Logs	16.6	12.5	14.3	20.6	25.6	18.3
Veneer	12.9	13.7	14.6	14.2	12.2	8.9
Cooperage	2.2	1.1	3.8	2.7	6.5	4.5
Flooring	2.4	1.3	2.8	3.3	3.1	3.2
Plywood	2.2	2.9	2.2	2.6	3.7	3.0
Chips	9.9	14.8	9.3	1.8	2.0	1.0
Other	0.9	0.7	1.0	1.0	1.4	1.8

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

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

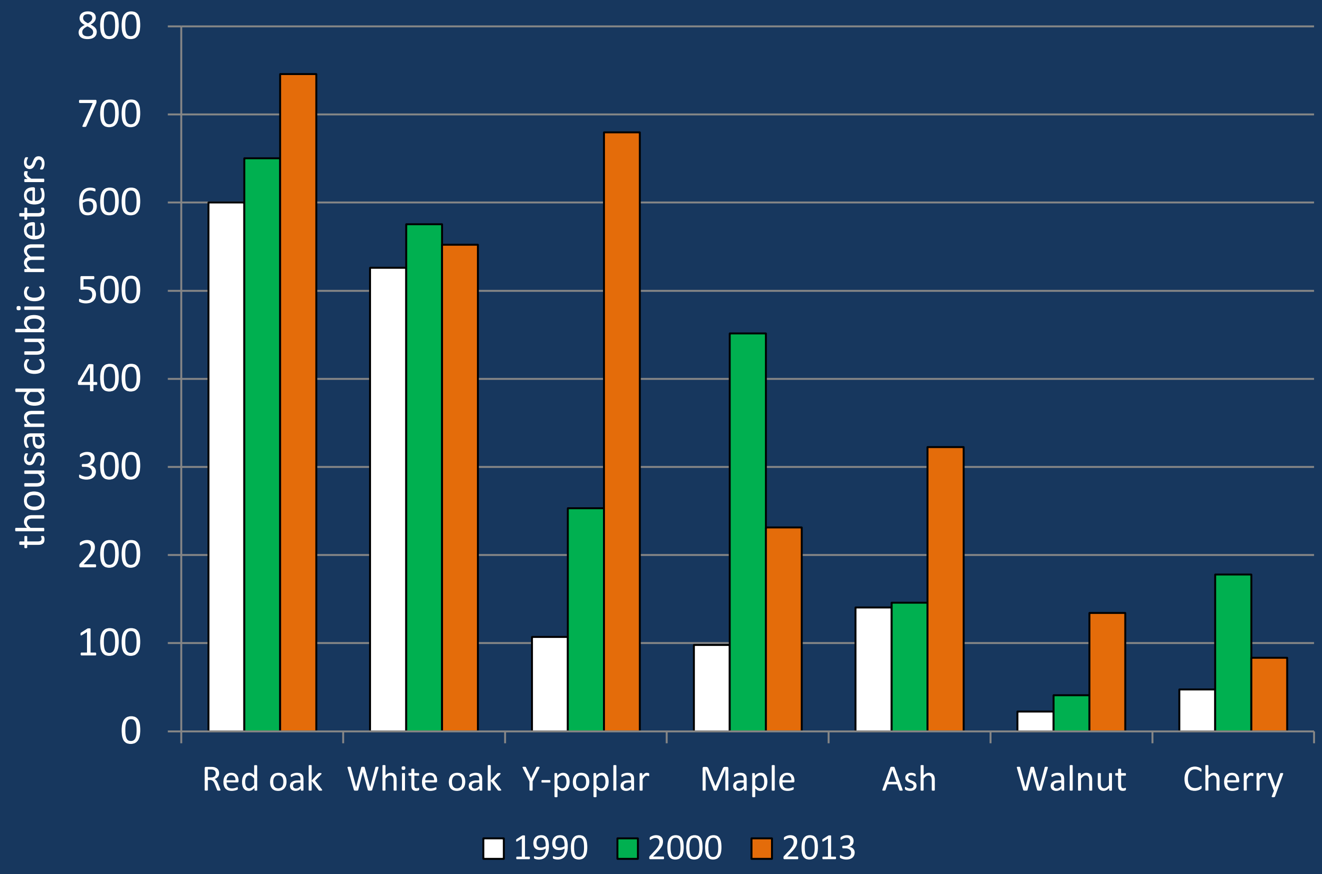


105 other trading partners account for the remaining 25%

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

Data: USDA Foreign Agricultural Service

U.S. hardwood lumber exports by species



- Yellow-poplar increased by 535% from 1990 to 2013, rivaling the oaks
- Walnut increased by 500%
- Ash increased by 130%

Data: USDA Foreign Agricultural Service

Top 10 destinations for U.S. red oak lumber exports

Jan – May 2014

Destination	Value (mil. $)	% of Total
China	183.4	73.0%
Canada	32.5	12.9%
Mexico	10.6	4.2%
Vietnam	3.9	1.6%
Japan	2.5	1.0%
		92.7% of total
WORLD	251.2	

Source: Foreign Agricultural Service

Top 10 destinations for U.S. yellow-poplar lumber exports

Jan – May 2014

Destination	Value (mil. $)	% of Total
China	56.7	41.6%
Vietnam	31.9	23.4%
Italy	11.2	8.2%
Mexico	8.6	6.3%
United Kingdom	6.1	4.5%
		84.0% of total
WORLD	136.2	

Source: Foreign Agricultural Service

Top 10 destinations for U.S. walnut lumber exports

Jan – May 2014

Destination	Value (mil. $)	% of Total
China	18.8	24.0
Canada	13.4	17.1
Japan	12.5	15.9
Germany	4.0	5.1
United Kingdom	3.7	4.7
		66.8% of total
WORLD	78.4	

Source: Foreign Agricultural Service

Exports as a percentage of hardwood lumber production by temperate region

Region	1990	2000	2005	2011
	- - - - % - - - -			
East Asia	2.4	5.8	7.2	2.0
East Europe	5.8	41.4	37.6	43.9
West Europe	17.4	29.6	37.4	59.4
North America	9.6	14.2	14.7	15.9
Other[1]	3.4	3.4	4.6	2.5
All temperate	7.9	21.2	18.2	15.8

[1] (Primarily India, Turkey, and Australia)

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

Top five hardwood (temperate) 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

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

Top five hardwood (temperate) lumber- producing countries

1990	%	2000	%	2011	%
United States	33.2	United States	50.8	China	41.5
USSR	17.1	China	5.4	United States	24.9
China	11.2	France	5.0	Russia	4.0
France	5.1	Russia	4.3	Turkey	3.5
Japan	4.4	Turkey	4.1	Romania	2.4
Top 5	71.1	Top 5	69.6	Top 5	76.3

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

World Pallet Demand

World region	2007	2012	2017	2007-2012	2012-2017
	- - - million units - - -			- - - % annual growth - - -	
N. America	1,356	1,290	1,540	-1.0	3.6
W. Europe	1,100	1,000	1,150	-1.9	2.8
Asia/Pacific	724	1,125	1,660	9.2	8.1
C. & S. America	134	149	192	2.1	5.2
E. Europe	248	261	326	1.0	4.5
Africa/Mideast	128	155	202	3.9	5.4
World Total*	3,690	3,980	5,070	1.5	5.0

* 90% of unit demand projected to be wooden pallets

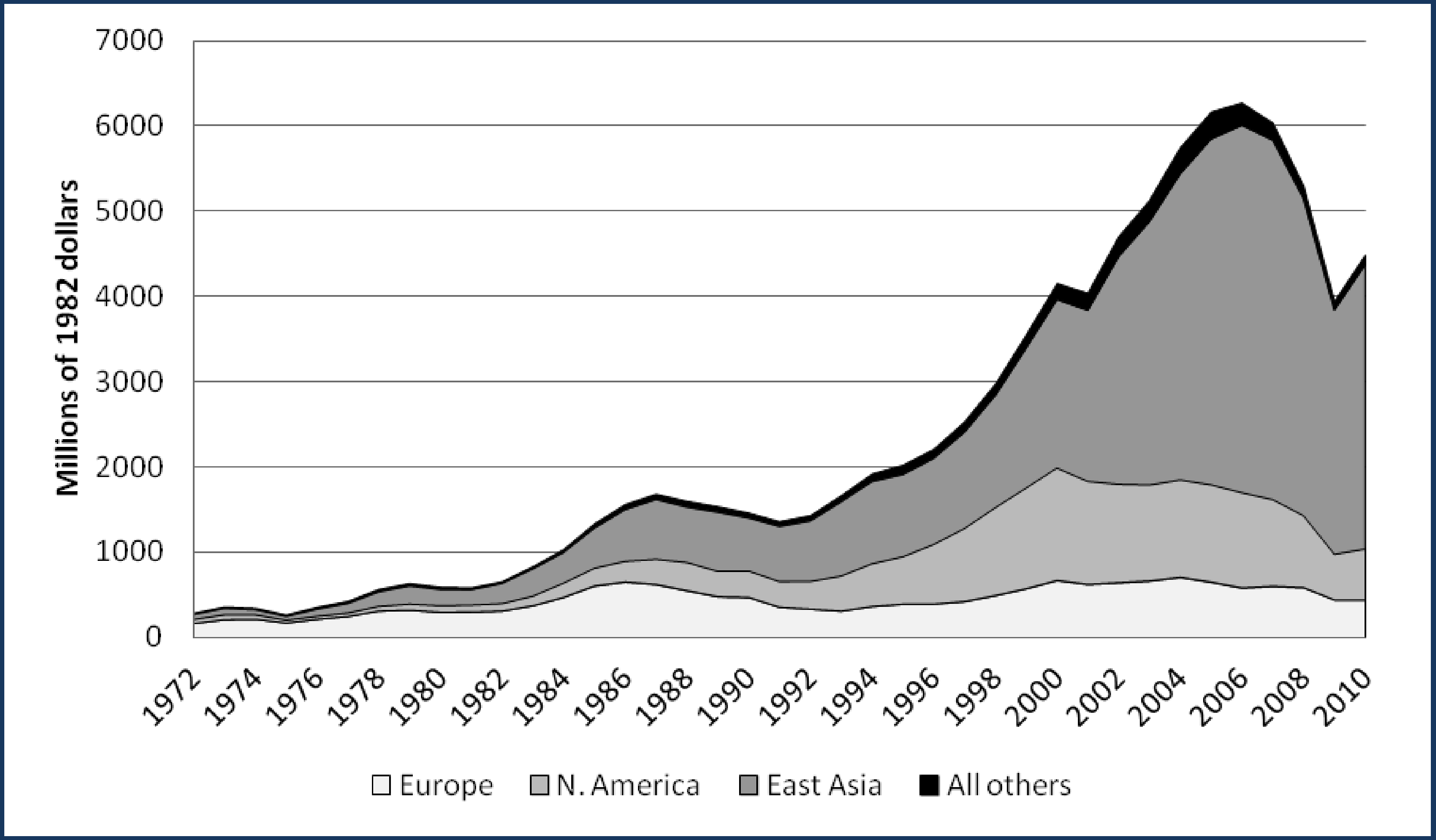
Source: The Freedonia Group 2014; and Woodworkingnetwork.com

Market share (by value) of specific hardwood products imported by the United States

Product	1990	1995	2000	2006	2009	2013
	--- Percent ---					
Plywood	54.5	47.7	37.9	46.1	53.6	56.6
Lumber	14.6	20.5	23.4	19.0	15.2	17.5
Cooperage	3.2	4.0	5.6	5.0	9.2	9.0
Veneer	16.9	17.8	16.4	8.7	9.9	7.3
Molding	5.1	4.4	6.7	10.6	9.9	7.2
Flooring	4.6	4.1	7.7	8.9	1.3	1.3
Logs	1.1	1.4	2.1	0.9	0.8	0.9
Other	0.0	0.2	0.2	0.7	0.1	0.2

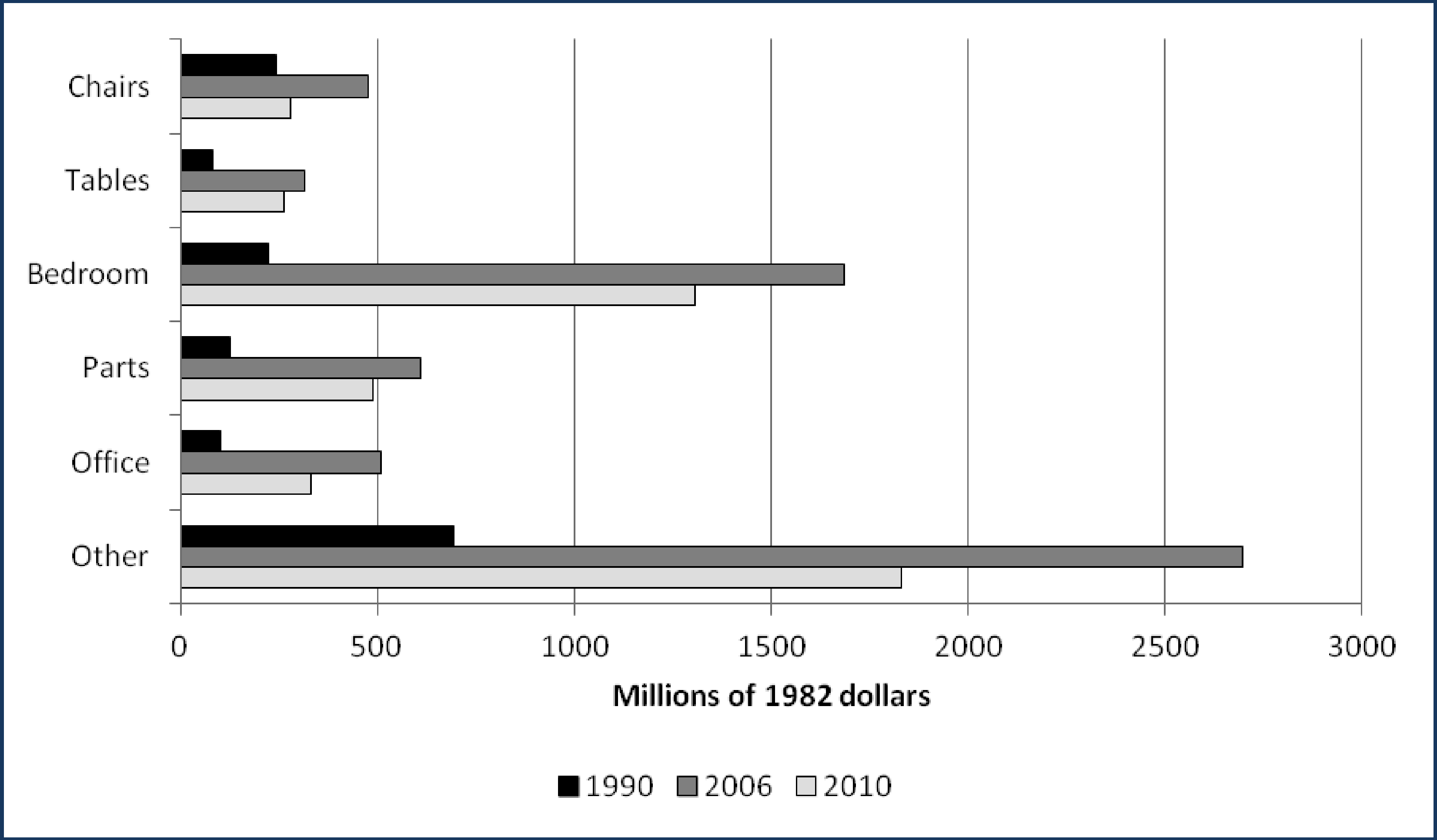
Luppold & Bumgardner

Value of U.S. imports of wood furniture by world region, 1972-2010



Luppold and Bumgardner. 2011. BioResources.

Value of imports of wood furniture by product category



Luppold and Bumgardner. 2011. BioResources.

Top three sources (by value) of wood furniture imported by the U.S.

Product Categories	Year	Rank 1		Rank 2		Rank 3	
			Percent		Percent		Percent
Chairs	1990	Taiwan	27.8	Yugoslavia	23.0	Italy	11.2
	1995	Malaysia	22.5	Taiwan	15.7	China	13.7
	2000	China	22.7	Malaysia	17.6	Canada	10.2
	2005	China	36.8	Malaysia	13.1	Indonesia	11.3
	2010	China	35.0	Vietnam	16.6	Malaysia	13.5
Tables	1990	Taiwan	46.3	Thailand	9.0	Italy	7.8
	1995	Malaysia	30.9	Taiwan	18.4	China	13.5
	2000	China	28.1	Malaysia	23.3	Taiwan	10.1
	2005	China	45.3	Malaysia	15.3	Vietnam	8.6
	2010	China	38.3	Vietnam	24.2	Malaysia	14.8
Bedroom	1990	Canada	19.4	Italy	19.3	Taiwan	16.6
	1995	Canada	33.0	Italy	15.5	Mexico	11.9
	2000	Canada	27.0	China	23.8	Italy	11.1
	2005	China	44.1	Vietnam	11.6	Canada	10.2
	2010	Vietnam	33.7	China	25.1	Malaysia	10.7
Office	1990	Canada	57.8	Denmark	9.6	Taiwan	7.6
	1995	Canada	59.6	Mexico	8.9	China	7.6
	2000	Canada	65.4	China	10.4	Mexico	4.1
	2005	Canada	49.3	China	28.6	Mexico	3.0
	2010	Canada	46.3	China	36.8	Mexico	4.1
Total	1990	Taiwan	29.1	Canada	14.3	Italy	9.2
	1995	Canada	21.4	Taiwan	14.7	China	11.0
	2000	Canada	25.9	China	24.5	Italy	6.6
	2005	China	43.9	Canada	19.1	Malaysia	5.6
	2010	China	41.6	Vietnam	16.7	Canada	9.8

Summary

- U.S. cabinet manufacturing remains globally competitive but closely tied to housing markets
- U.S. hardwood lumber exports remain strong (especially to Asia)
- U.S. maintaining a positive hardwood trade balance (excluding furniture)
- U.S. furniture imports continue to increase (especially from China) relative to production
- Hardwood lumber production increasing rapidly in China

Questions?