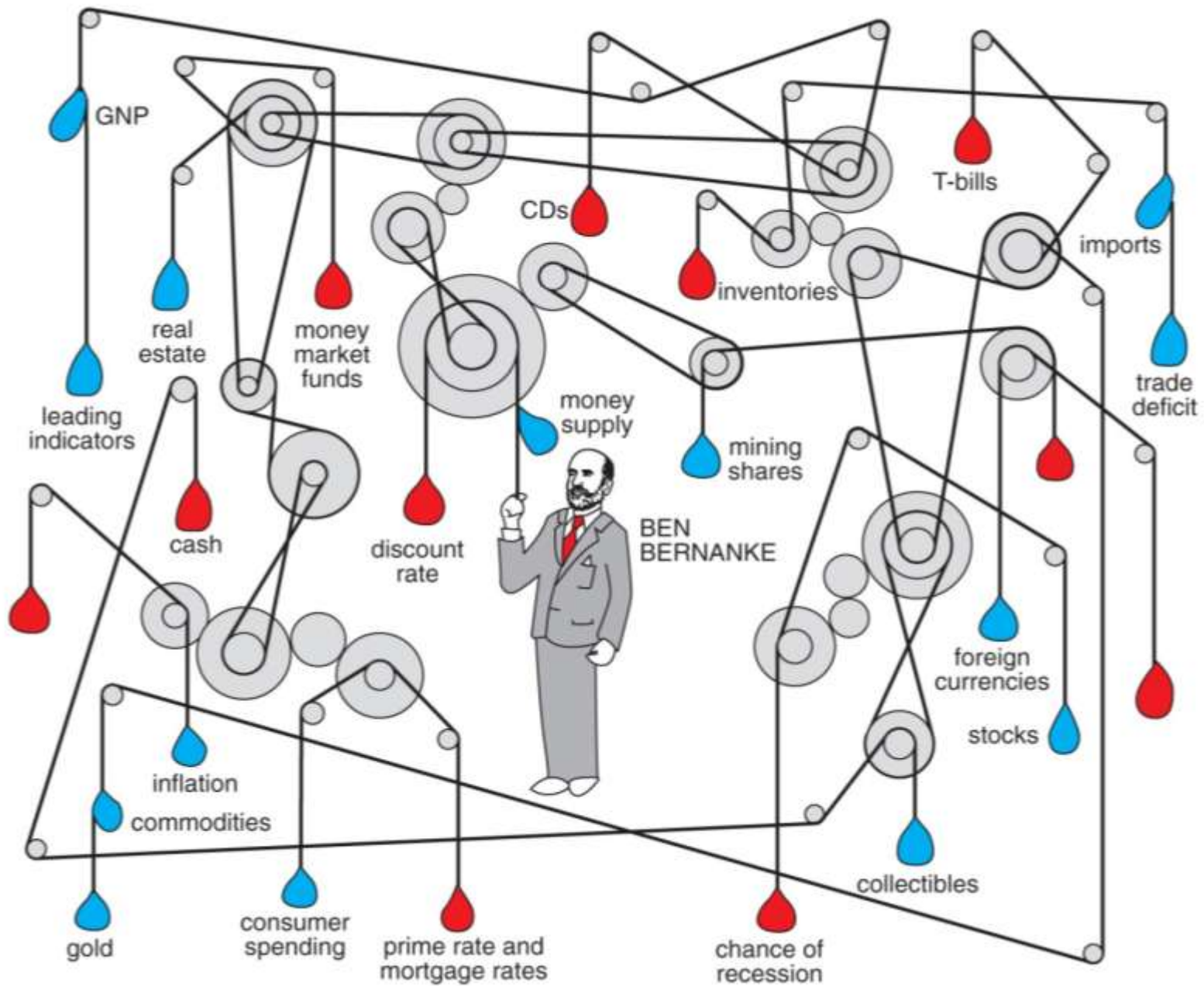


# Softwood Lumber Demand Outlook

Quality Wood  
Preservers Society

February 2010



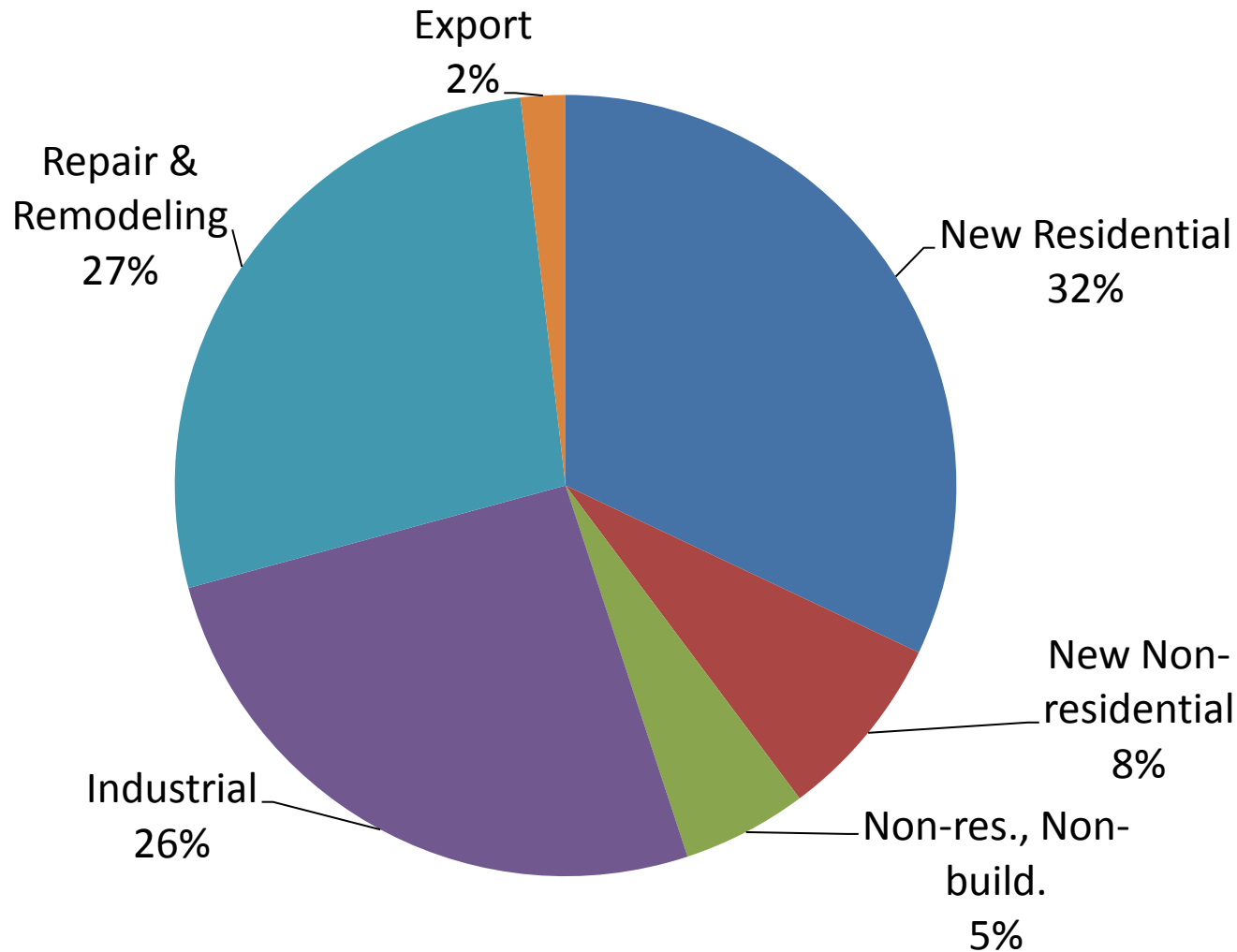
# Economic Terms Defined

- MACRO economist – someone who gets it wrong in general.
- MICRO economist – someone who gets it wrong very specifically.
- Demand – willingness to want and ability to pay or buy a product or service.

# Presentation Agenda

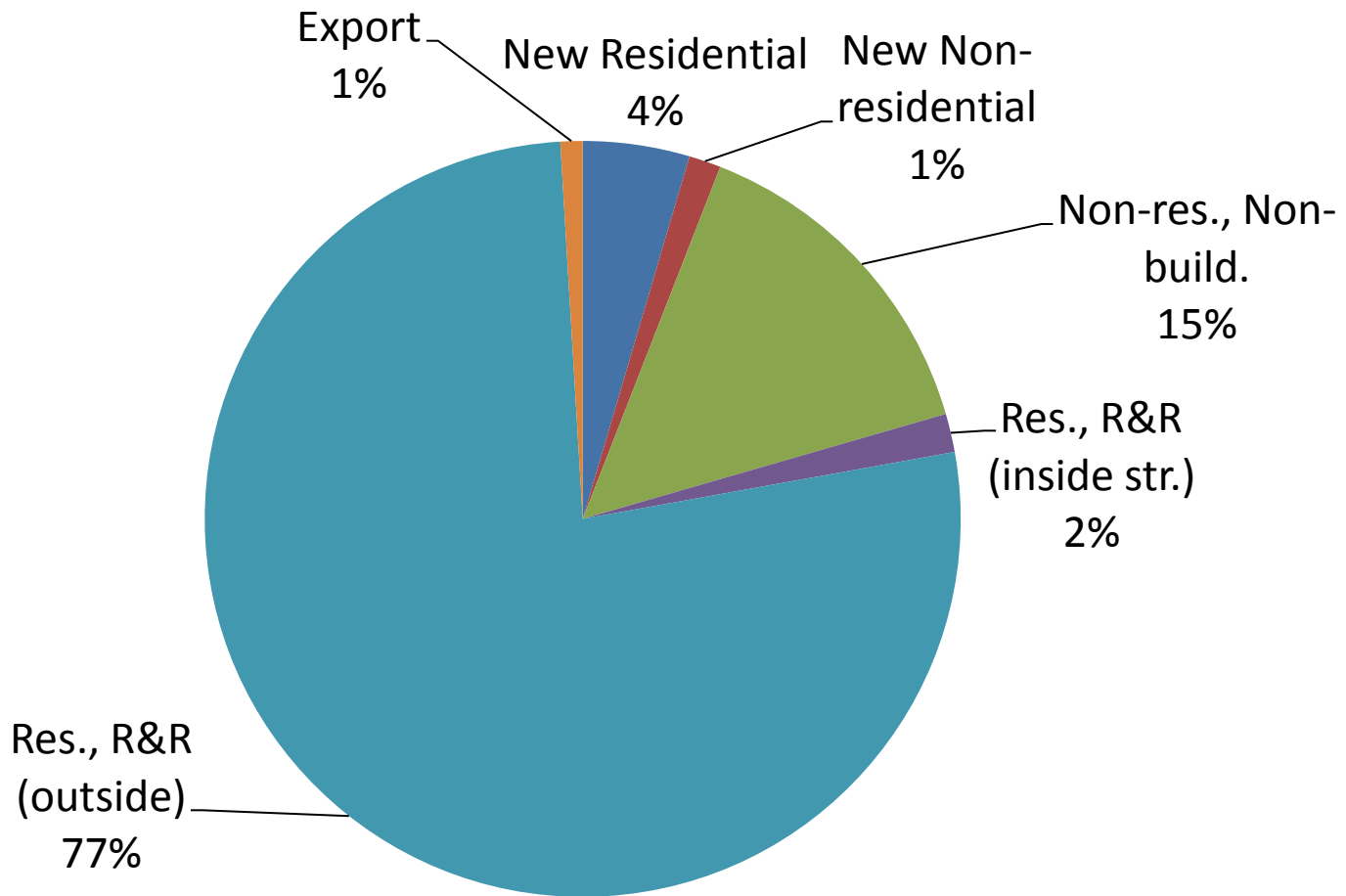
- Non-treated and treated end-use markets.
  - U.S. treated species market share.
  - Changes in treated share in key end-use markets.
- Housing – what went wrong/corrective action.
  - Relationship among starts, softwood shipments and fixed residential investment.
  - Forecast total softwood and treated demand.
- Softwood Prices – analytical framework.
- Key economic drivers going forward.

# Non-treated Softwood End-Use Markets



Source: Adopted from McKeever, David. FPL-GTR-181 Forest Products Laboratory

# Treated Softwood End-Use Markets

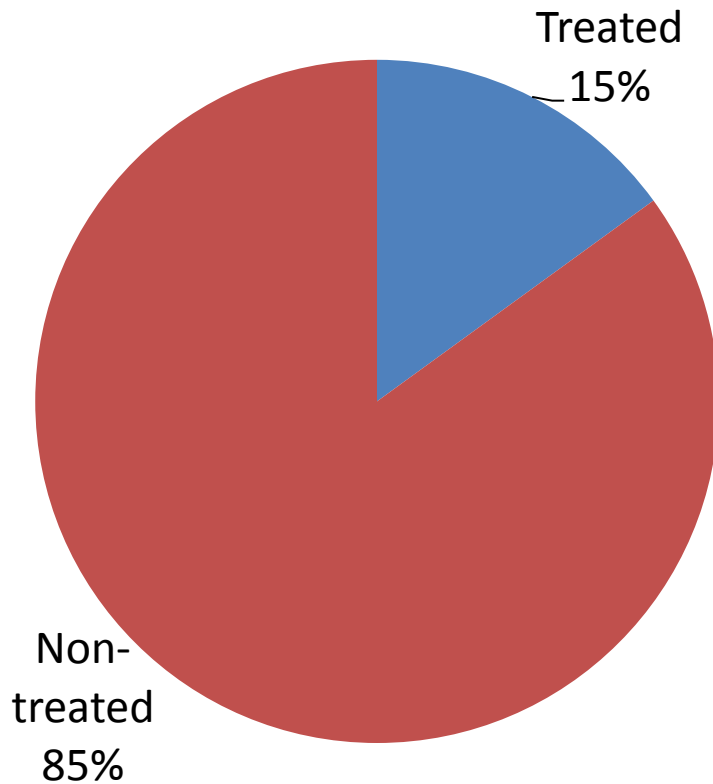


# Treated Markets: What we know

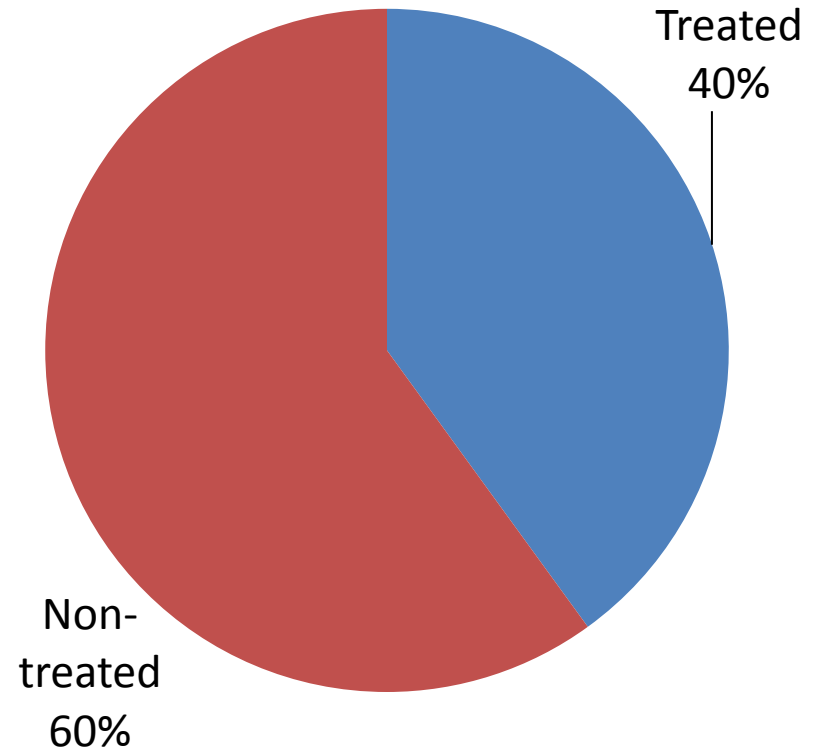
- Twenty-four year history total softwood and treated lumber shipments from 1984 to 2007.
  - Treated volume is 15% of total softwood.
  - Minimum (2005) = 12%.
  - Maximum (1991) = 18%.
- Last eight years, 38% of Southern Pine on average has been treated.
  - Minimum (2004) = 32%.
  - Maximum (2001) = 44%.

# Treated and Non-treated Softwood Percentages

**All U.S. Softwood Species**

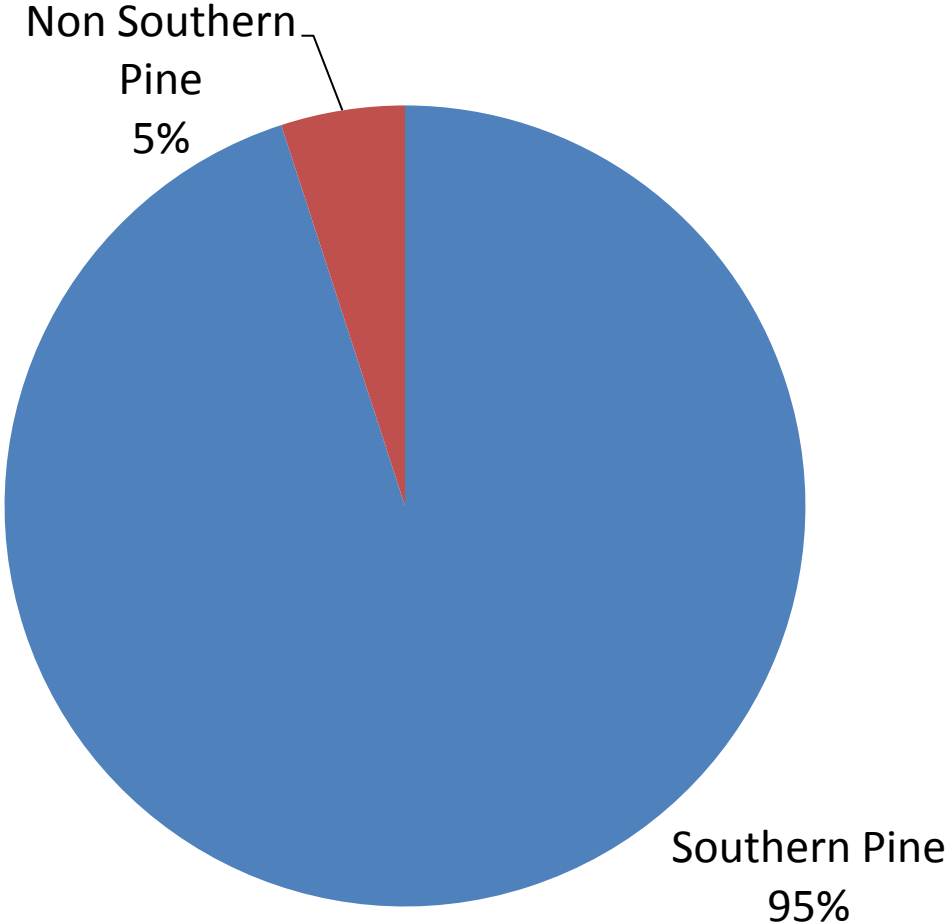


**Southern Pine**



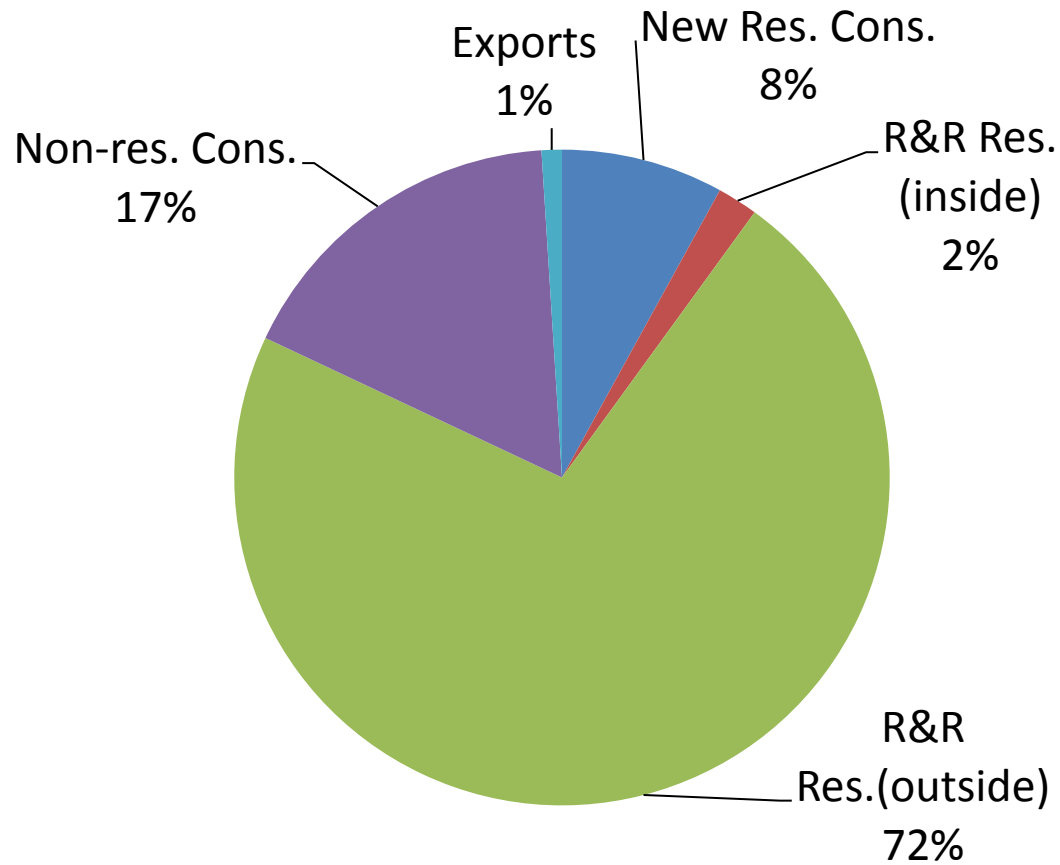
Source: American Lumber Standards Committee and author

# Southern Pine Share of Total Treated



Source: American Lumber Standards Committee and author

# Treated Southern Pine End-Use Markets



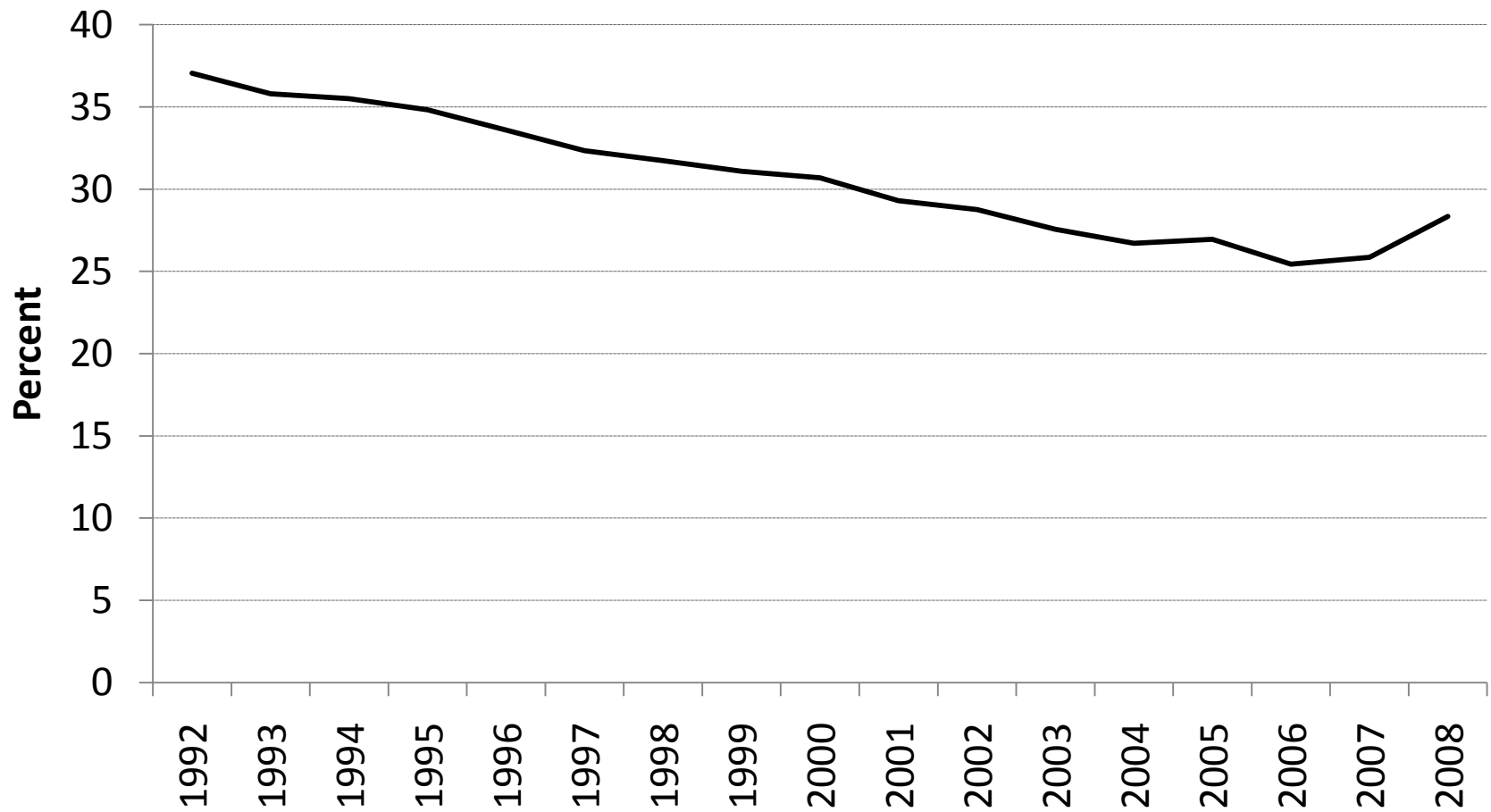
Source: Author

# Changes in Deck Material

Percent of Area	2002	2008
Treated Wood	61%	46%
Cedar	15%	7%
Redwood	5%	2%
Untreated Wood	1%	7%
WPC	16%	37%
Plastic	2%	1%

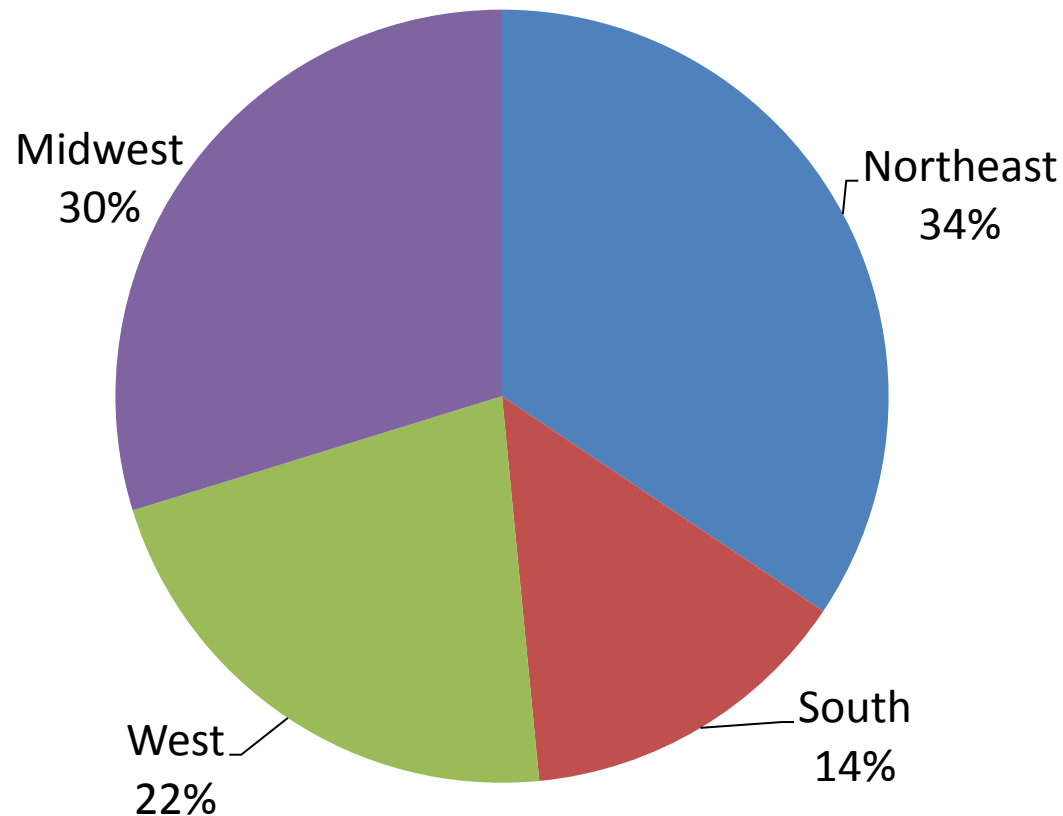
Source: Annual Builder Practices Report, NAHB Research Center, Washington, DC  
Square feet of area

# Percent of New U.S. Single-family Homes with Decks



Source: U.S. Census Bureau, Characteristics of New Housing. Based on new completions. Deck = above ground, typically made of wood.

# Percent of New Single-family Homes with Decks by Region - 2008



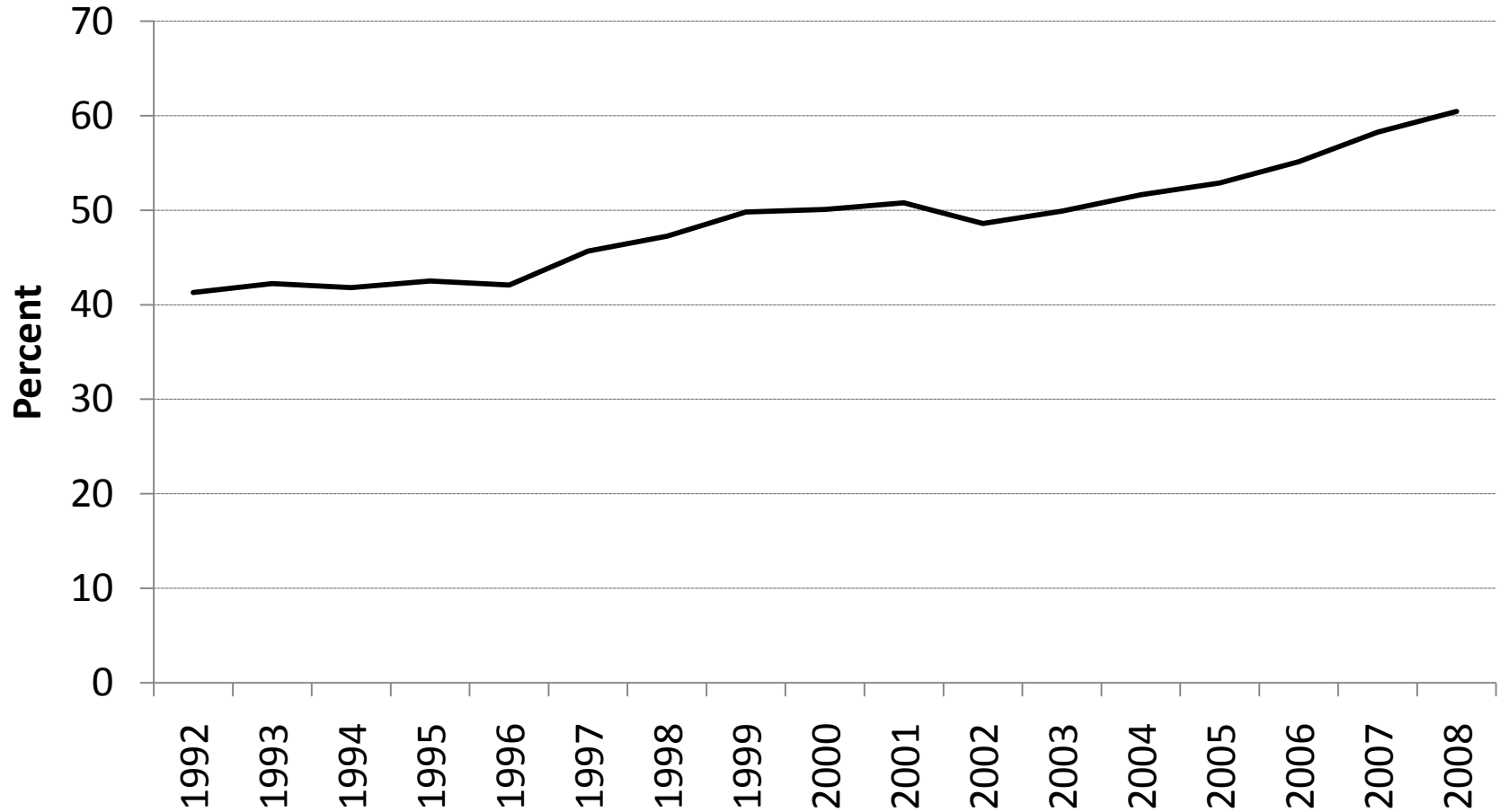
Source: U.S. Census Bureau, Characteristics of New Housing. Based on new completions. Deck = above ground, typically made of wood.

# Changes in Porch Material

Percent of Area	2002	2008
Treated Wood	23%	12%
Cedar	5%	2%
Redwood	2%	1%
Untreated Wood	1%	6%
WPC	7%	11%
Plastic	0%	1%
Brick/Concrete	60%	67%

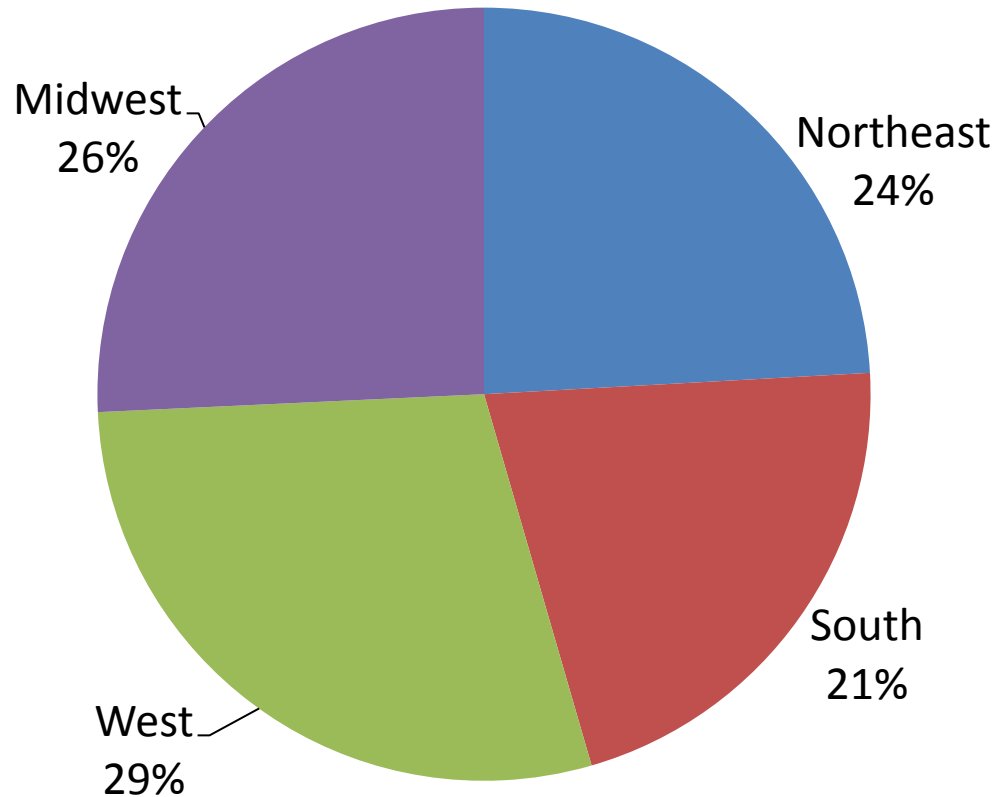
Source: Annual Builder Practices Report, NAHB Research Center, Washington, DC  
Square feet of area.

# Percent of U.S. New Single-family Homes with Porches



Source: U.S. Census Bureau, Characteristics of New Housing. Based on new completions. Porch = floored area with a roof, enclosed or open, not sitting directly on the ground. This does not include small covered entryways.

# Percent of New Single-family Homes with Porches by Region - 2008



Source: U.S. Census Bureau, Characteristics of New Housing. Based on new completions.

# Changes in Fence Material

Percent of Area	2002	2008
Wood	61%	66%
Metal	4%	12%
WPC	0%	1%
Plastic	10%	7%
Concrete/Block	25%	15%

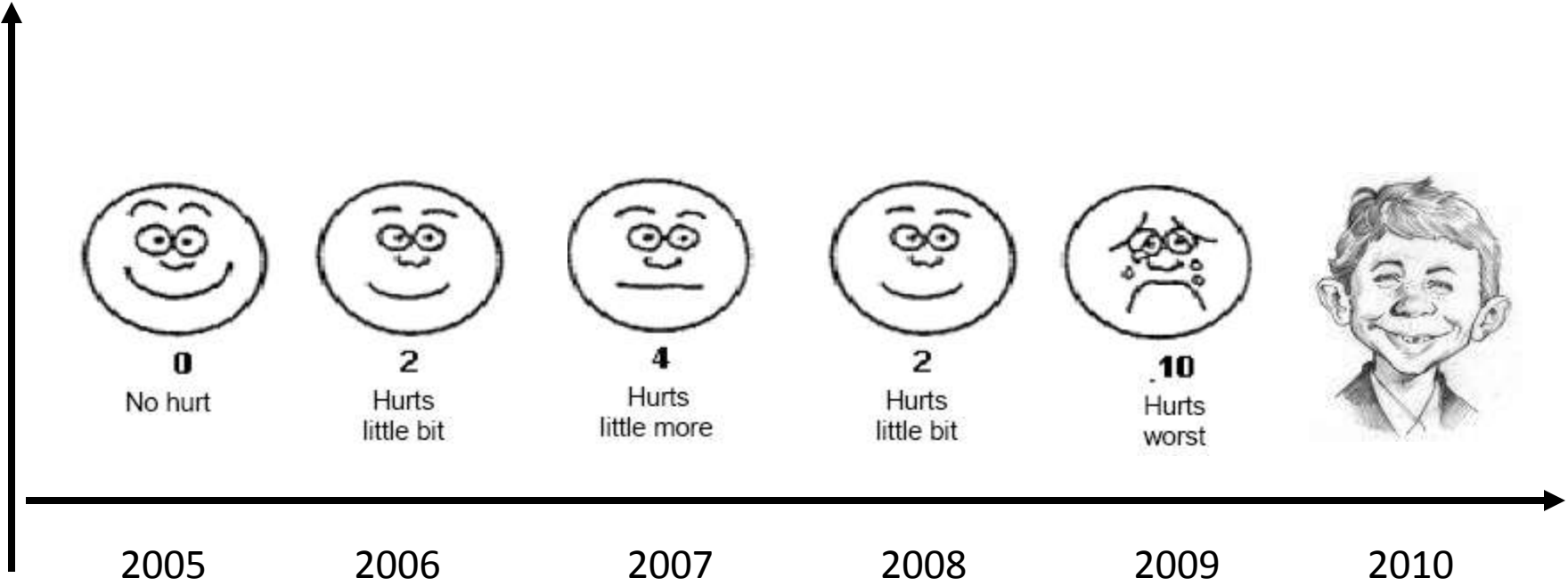
Source: Annual Builder Practices Report, NAHB Research Center, Washington, DC  
Square feet of area

# Changes in Landscape/Retaining Walls

Percent of Area	2002	2008
Treated Wood	8%	8%
Stone/Brick	41%	40%
Concrete	50%	52%
Other	1%	0%

Source: Annual Builder Practices Report, NAHB Research Center, Washington, DC  
Square feet of area

# Softwood Lumber Market Outlook “Pain Chart”



WELL, THERE GOES  
THE NEIGHBORHOOD....

MIKE LUCKOVICH 9/12/07

ATLANTA JOURNAL-CONSTITUTION ©  
AJC.COM

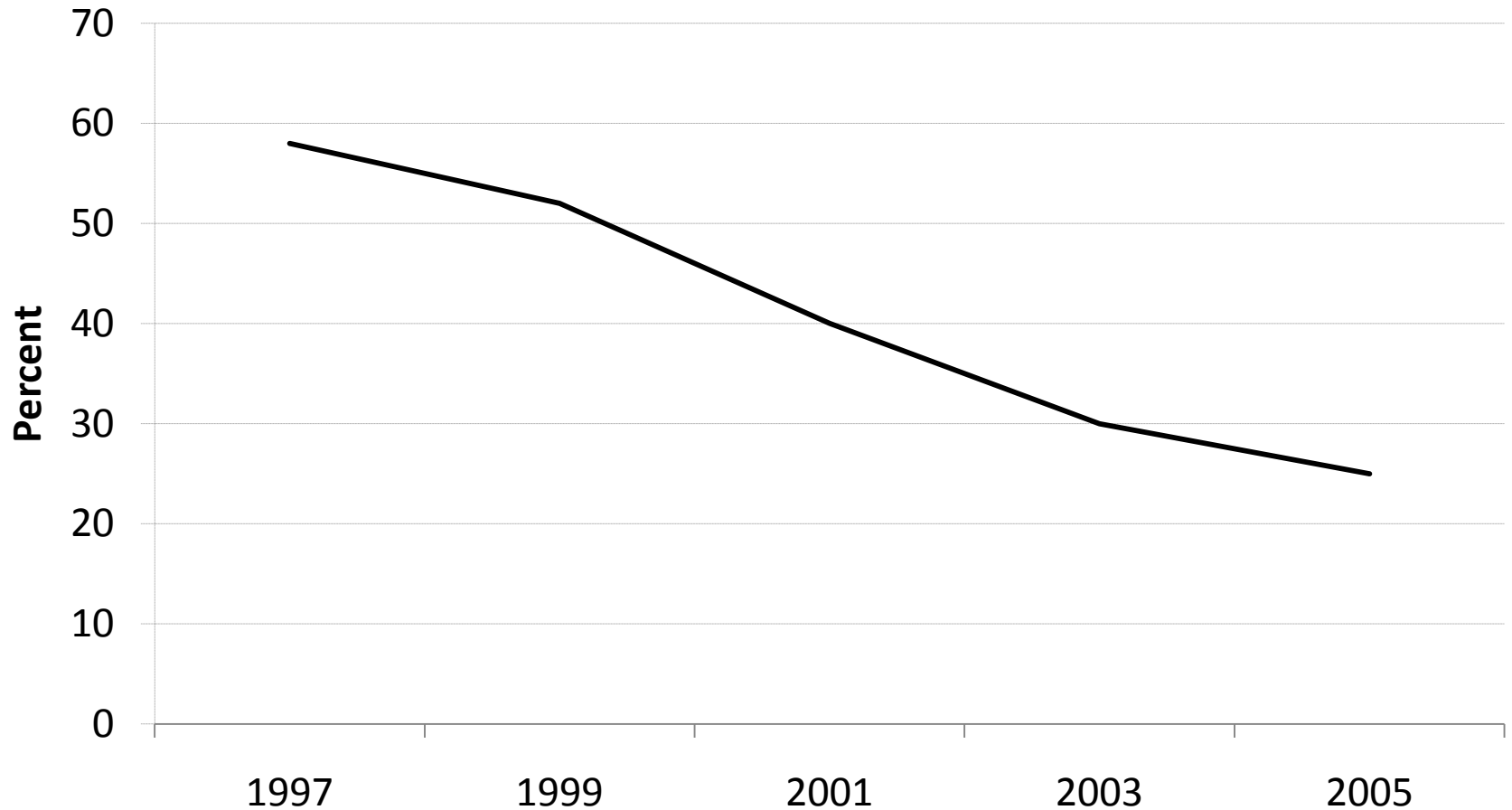


# The Old, New Mortgage Markets

- Government regulations:
  - Twenty percent of total originations were subprime.
  - Abolished usury laws.
  - Forced re-investment into marginal communities.
  - Tax preferences for homeownership.
  - Rise of predatory lending.
- Lack of supervision:
  - Unsupervised securitizing of mortgages.
  - Shortcut in mortgage paperwork.
- Added 12 MM new homeowners 1994 to 2005.
- Homeownership jumped from 65% to 69%.

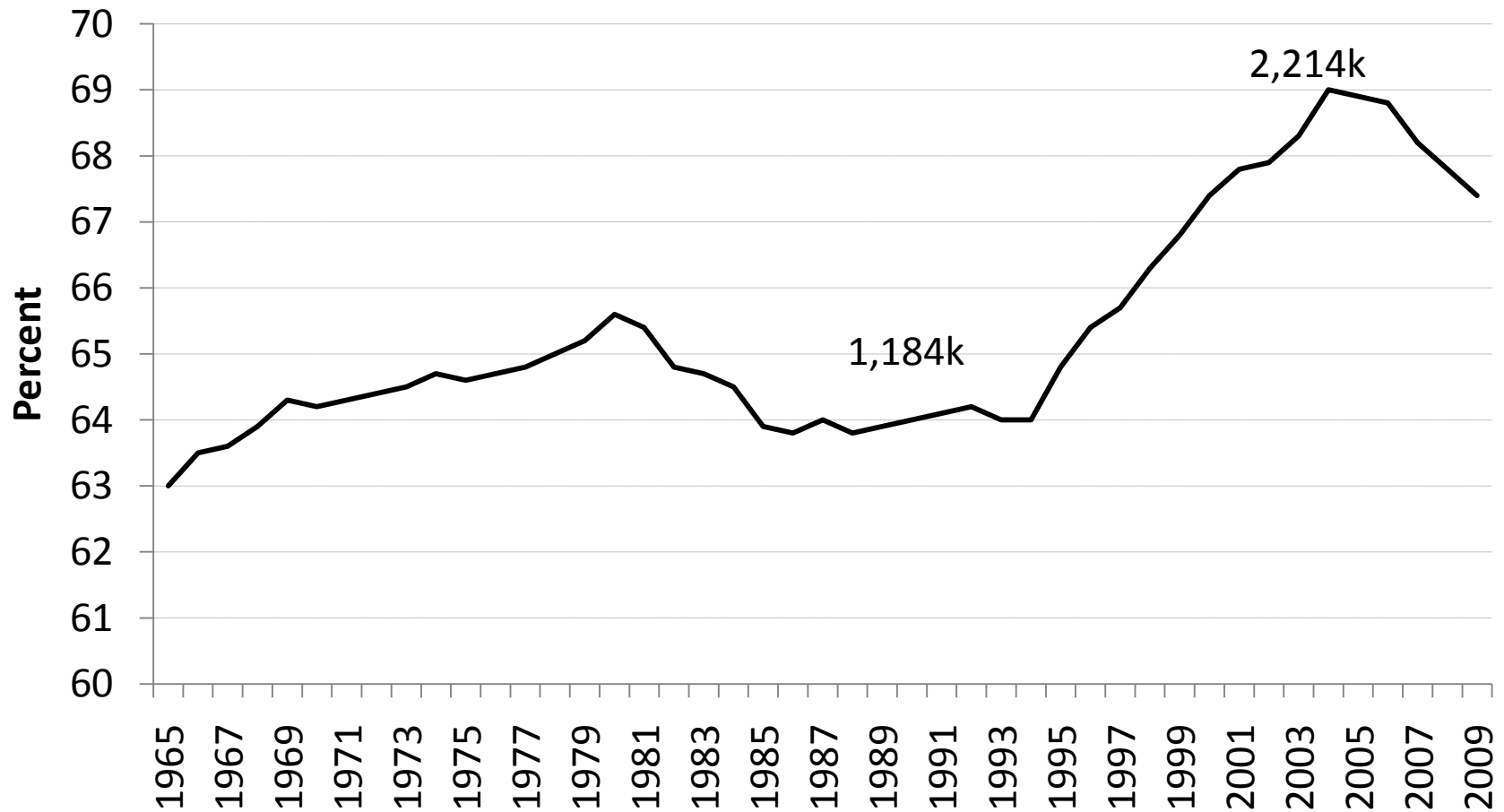
Source: Gramlich, Edward, Subprime Mortgages America's Latest Boom and Bust. The Urban Institute Press Washington D C 2007

# Mortgage Denial Rates



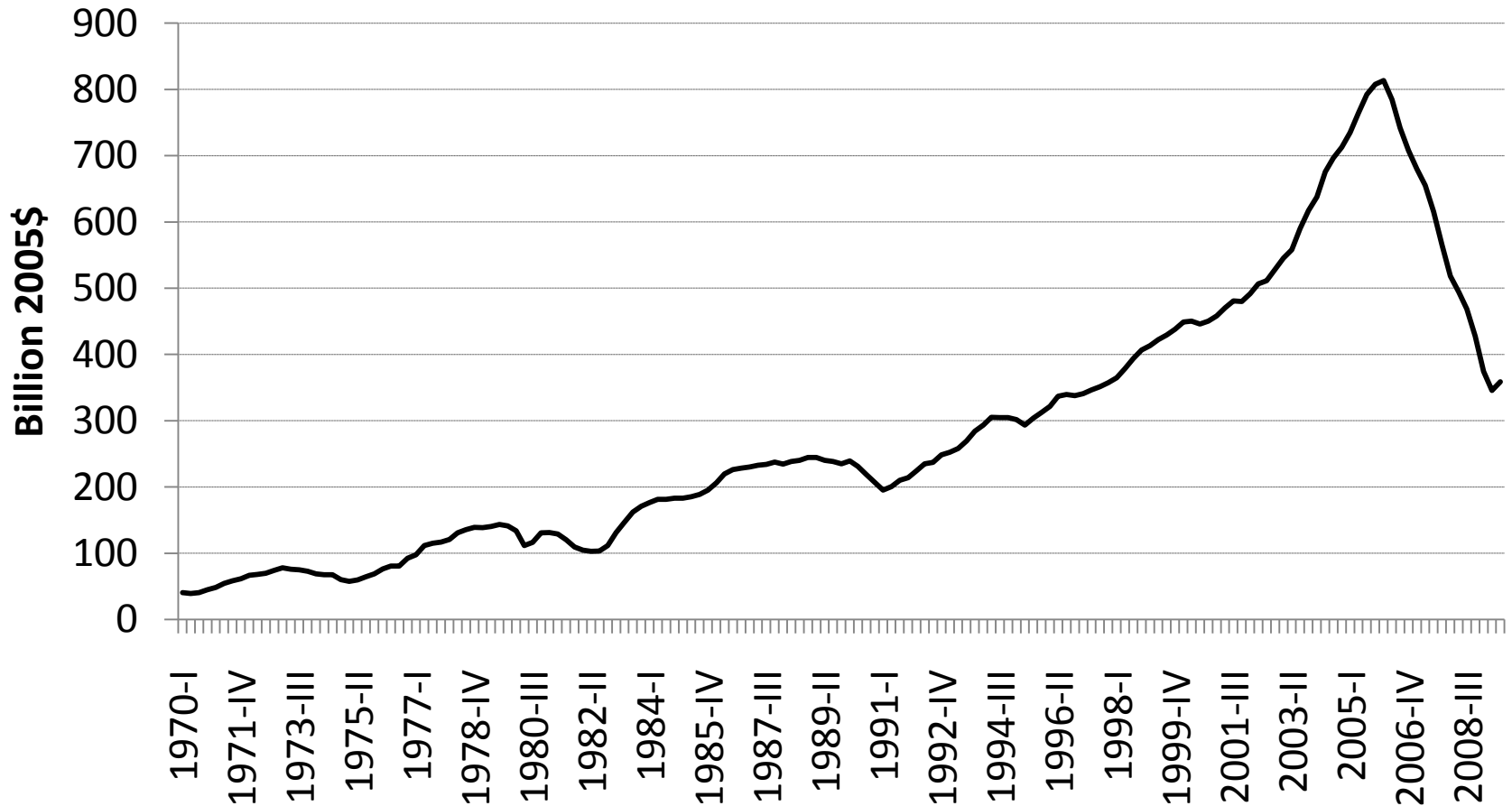
Source: Gramlich, Edward, Subprime Mortgages America's Latest Boom and Bust. The Urban Institute Press Washington D C 2007

# Homeownership (SF, MF and Mobile Starts)



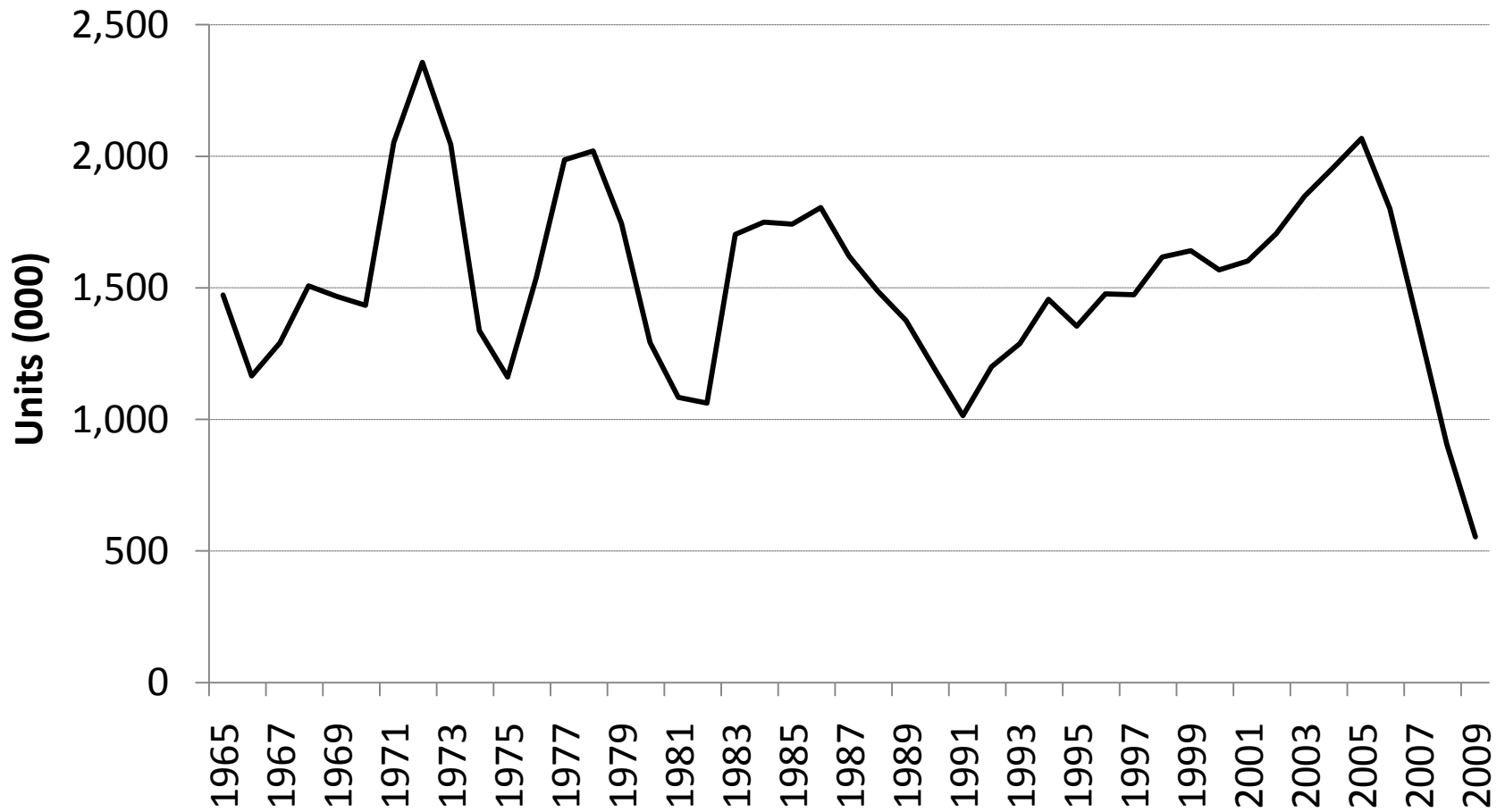
Source: U.S. Census Bureau. Total owner occupied divided by total occupied housing.

# Fixed Residential Investment (FRI)



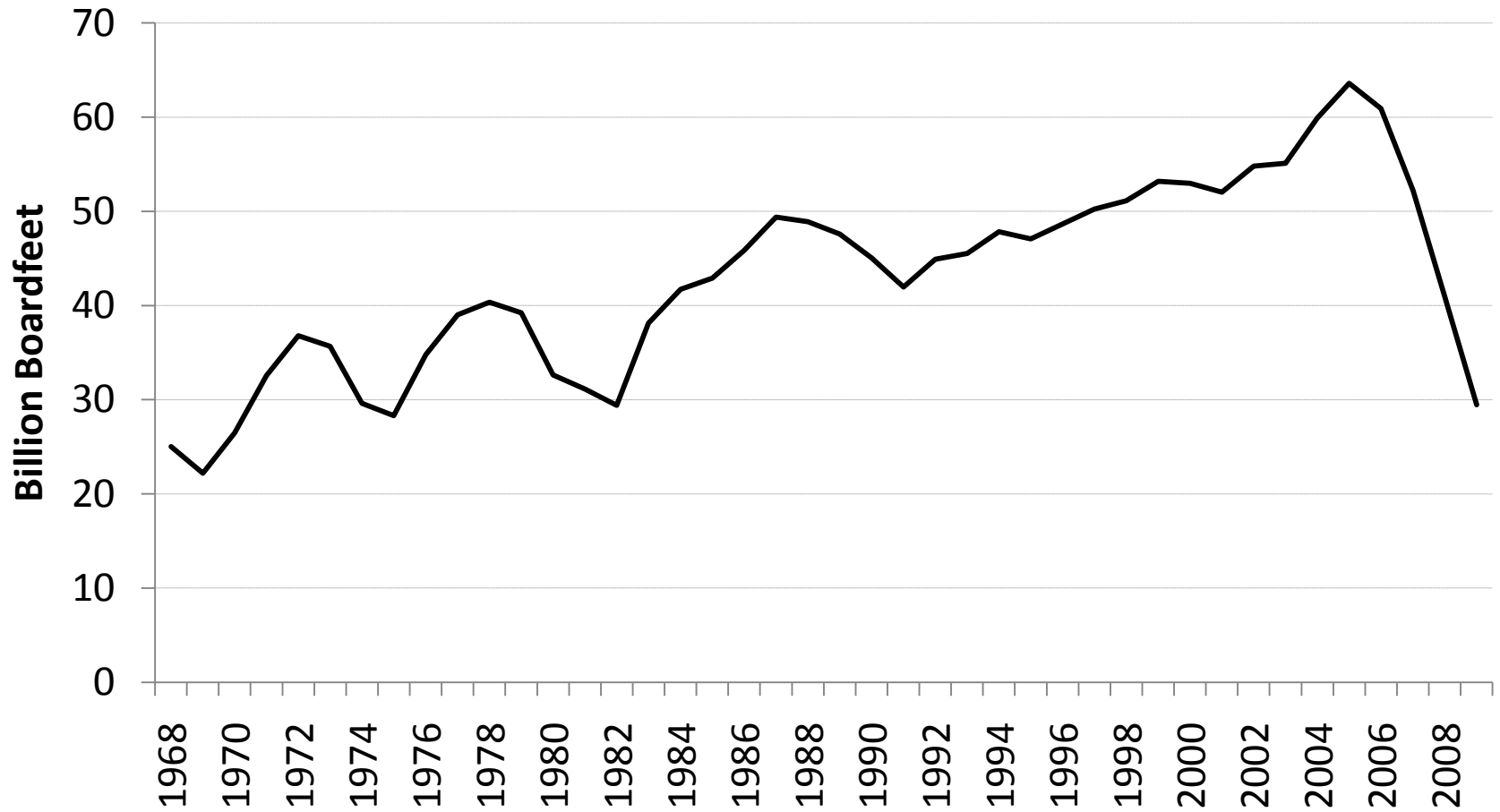
Source: Bureau of Economic Analysis, GDP Table 1.1.5, line 12. FRI includes single, multi-family and mobile home investment plus R&R expenditures.

# Housing Starts<sup>1</sup>



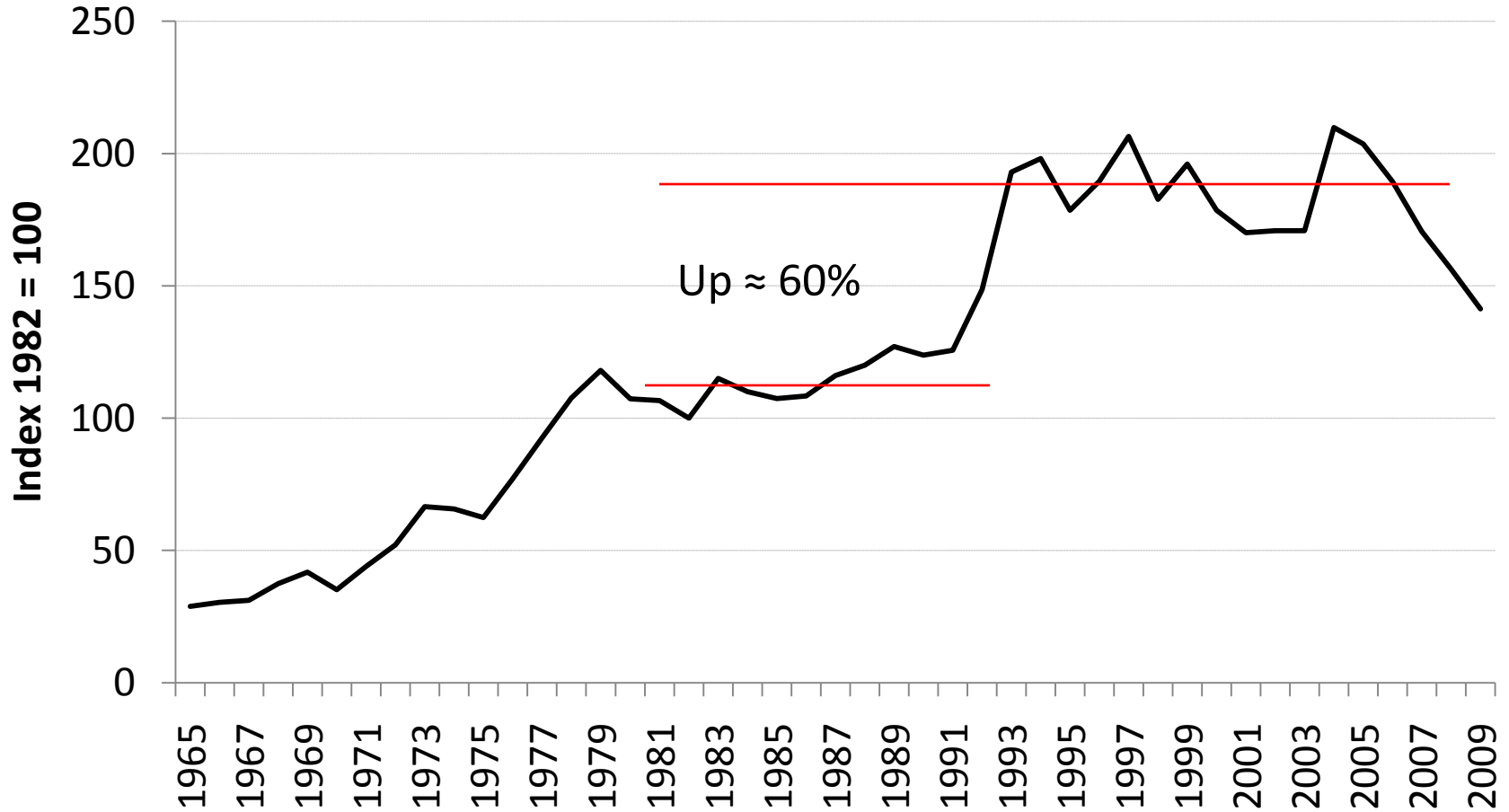
<sup>1</sup> Includes single and multi-family units.

# Softwood Lumber Shipments



Source: American Lumber Standards Committee. U.S. domestic shipments plus imports.

# Softwood Lumber Price Trend



Source: U.S. Bureau Labor Statistics. Prices received by producers in percentage terms relative to a base period. An increase of 50% is shown as 150.

# Fixed Residential Investment (FRI)

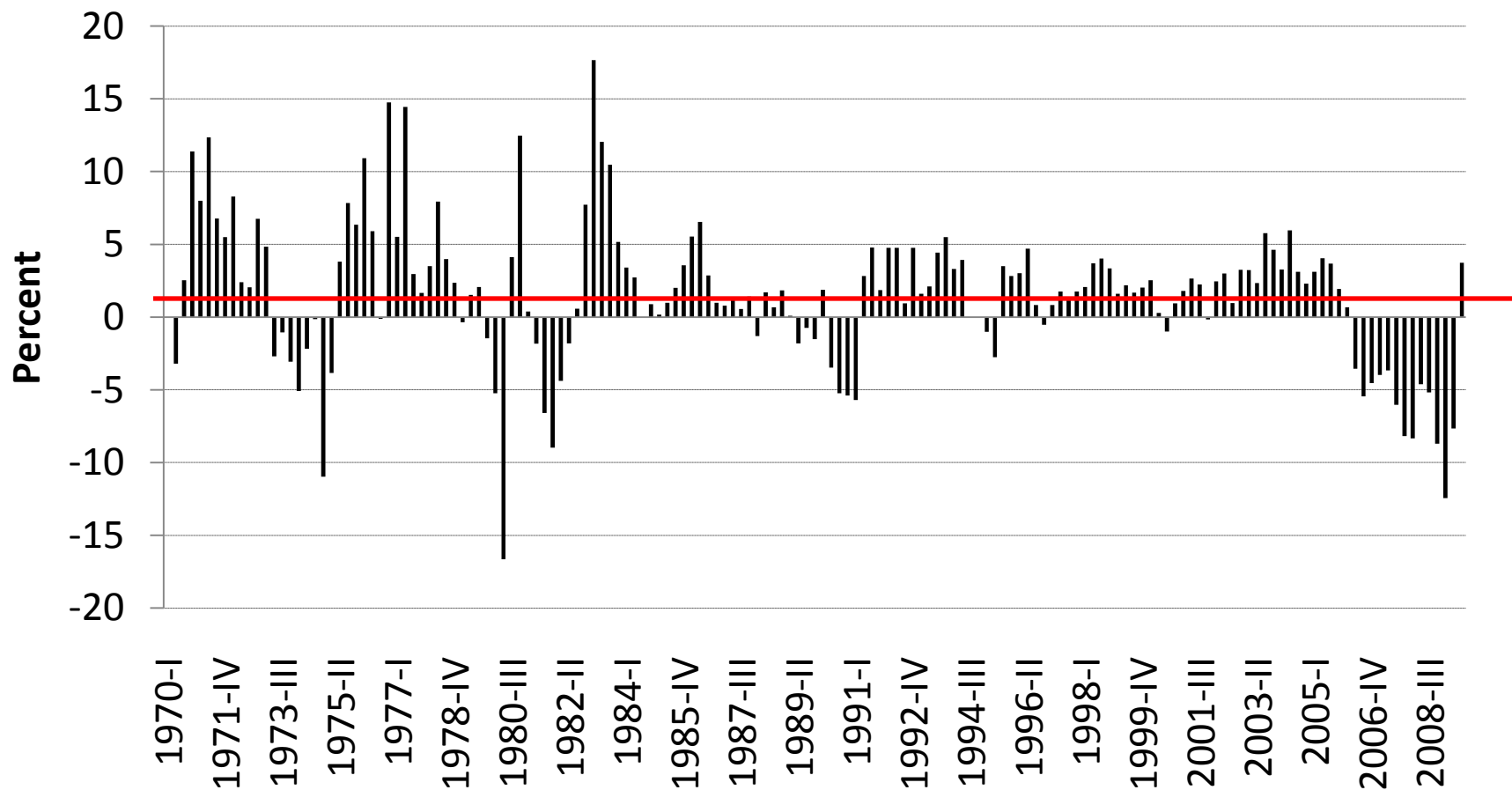
## Housing Activity Indicator

- Published by Bureau of Economic Analysis
- Released quarterly
- Includes all residential expenditures:
  - single, multi-family and mobile home construction
  - R&R spending
- Average growth rate last 159 quarters = 1.5%!

Average growth rate calculated by  $(X_t / X_{(t-1)}) - 1$

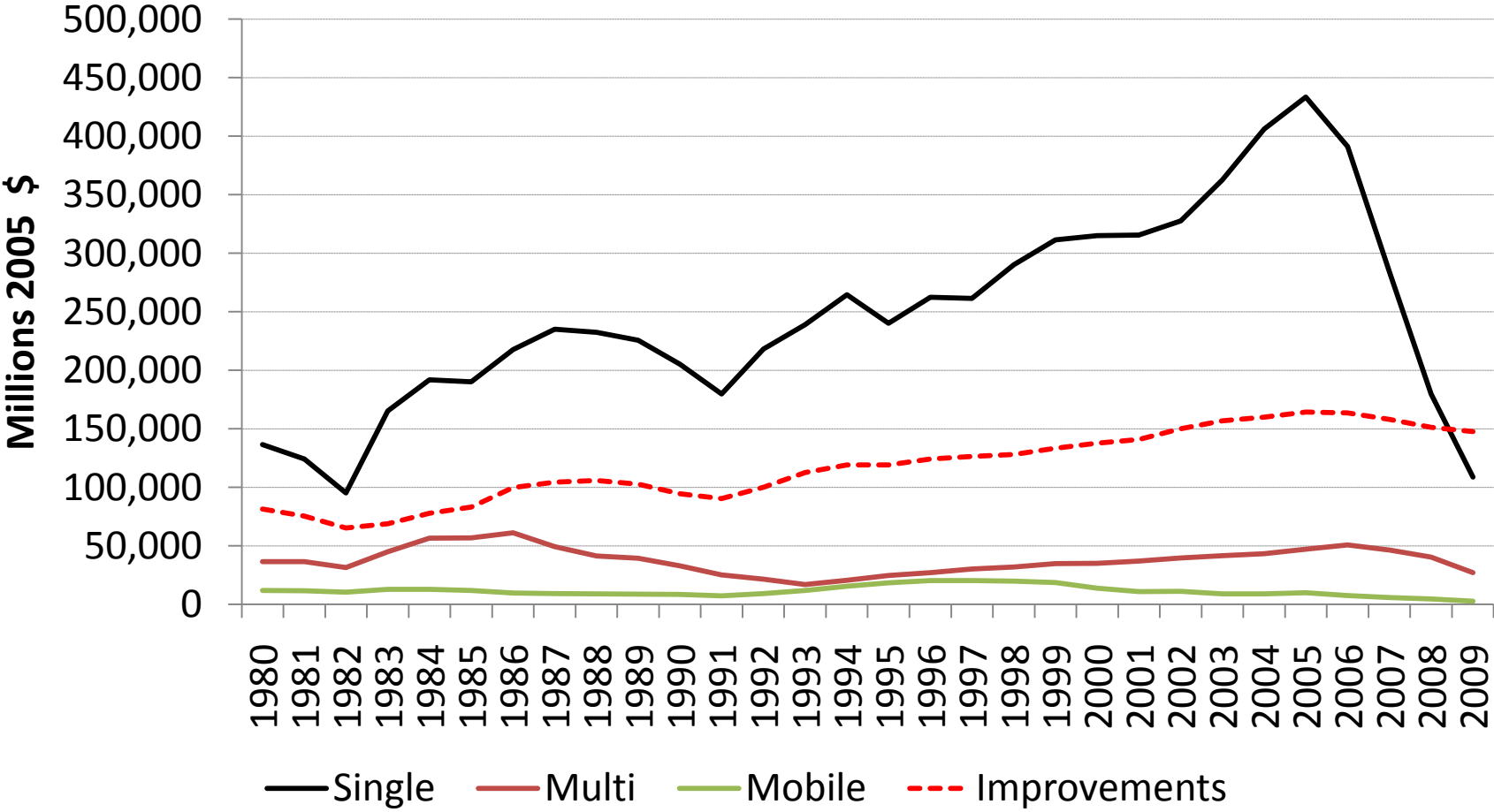
# Fixed Residential Investment (FRI)

## Quarter-over-Quarter Percent Change



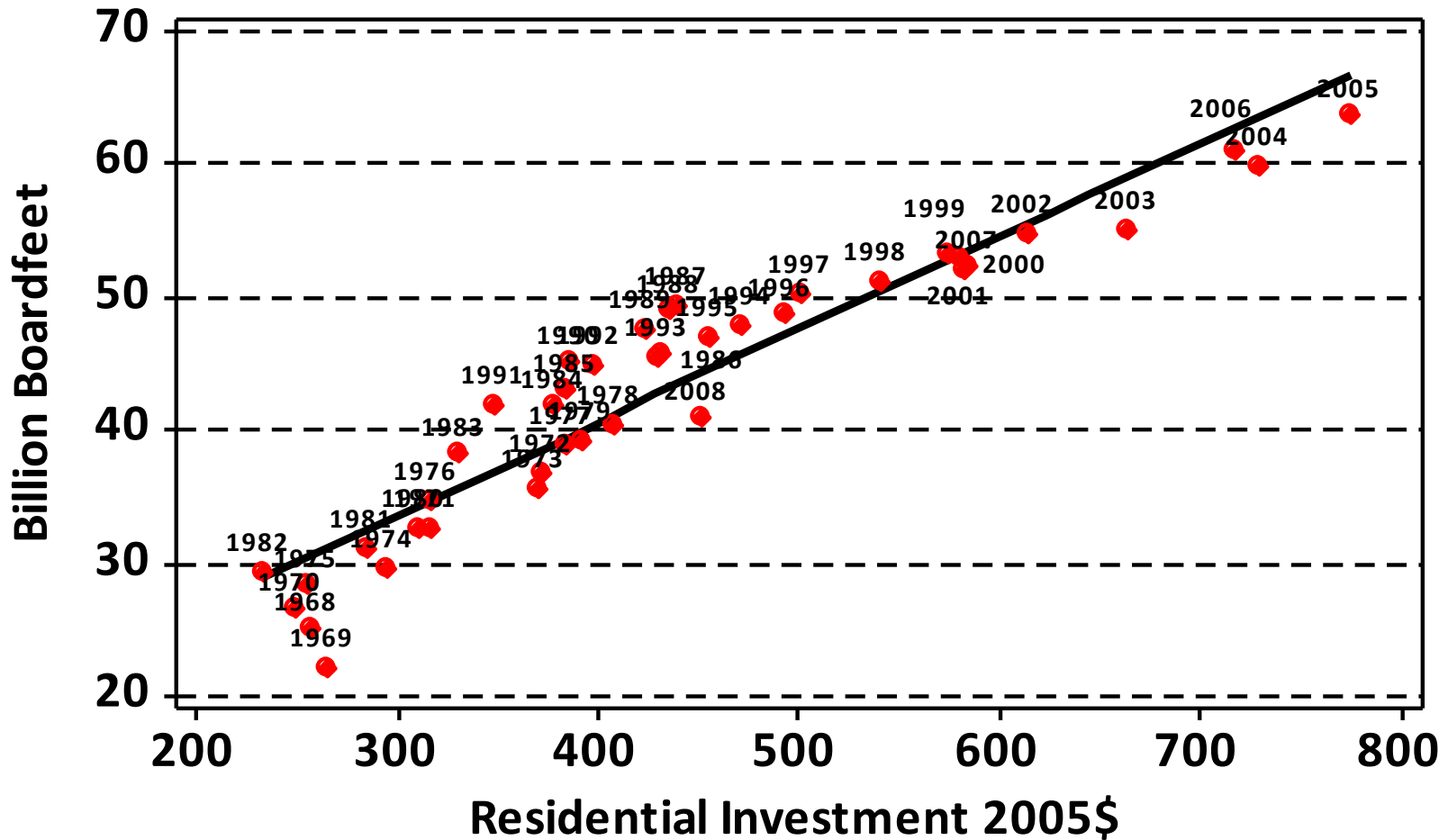
Source: Bureau of Economic Analysis, GDP Table 1.1.5, line 12. 2005\$  
Average growth rate calculated by  $(X_t / X_{(t-1)}) - 1$

# Fixed Residential Investment (FRI) Components



Source: Bureau of Economic Analysis, Table 5.4.6U, Underlying Detail Tables

# Fitted Relationship: Softwood Shipments vs. FRI



Source: BBF from American Lumber Standards Committee. Residential Investment from Bureau of Economic Analysis.

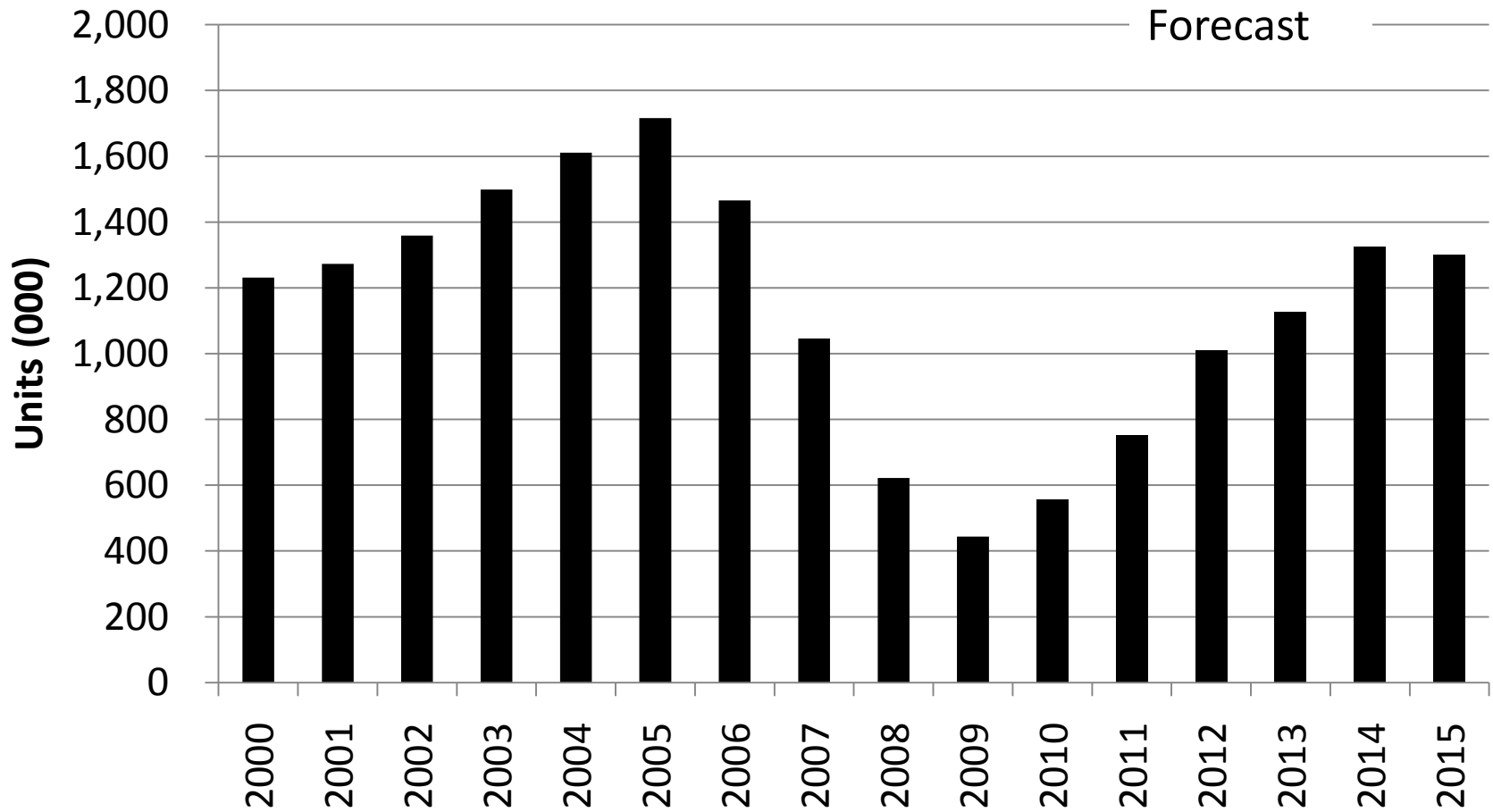
# The New, New Mortgage Market

- Stricter lending standards.
  - Increasing government compliance and regulation.
  - Forced escrow accounts.
  - Full documentation and strict lending FHA.
  - Predatory lending laws.
  - Suitability doctrine .
- Higher interest rates mid-year.
- Subprime here to stay, but 5% of total originations.
- Homeownership, starts and softwood demand moderate.

Source: Gramlich, Edward, Subprime Mortgages America's Latest Boom and Bust. The Urban Institute Press Washington D C 2007

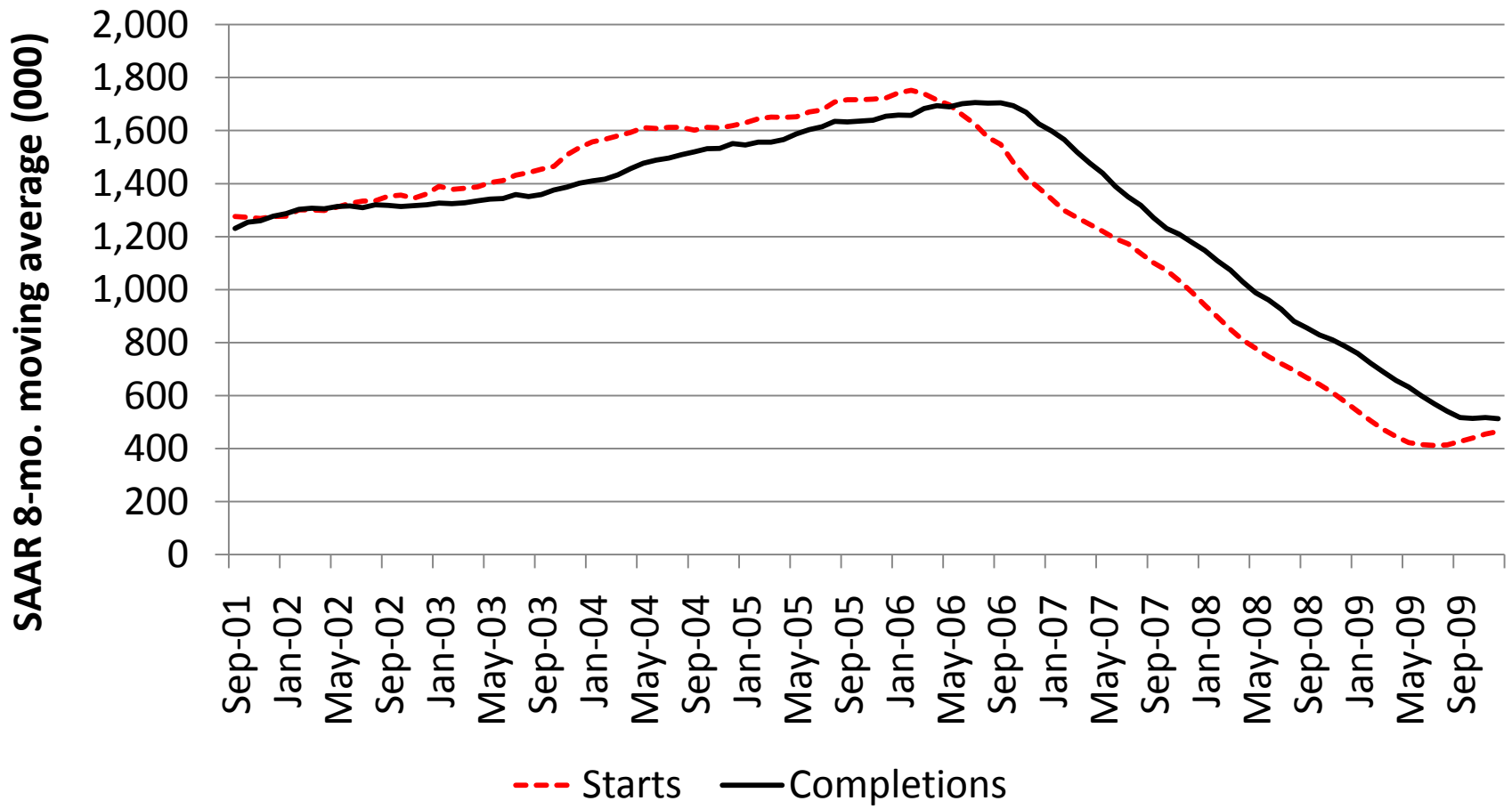
# Single-family Starts

(change from previous year)



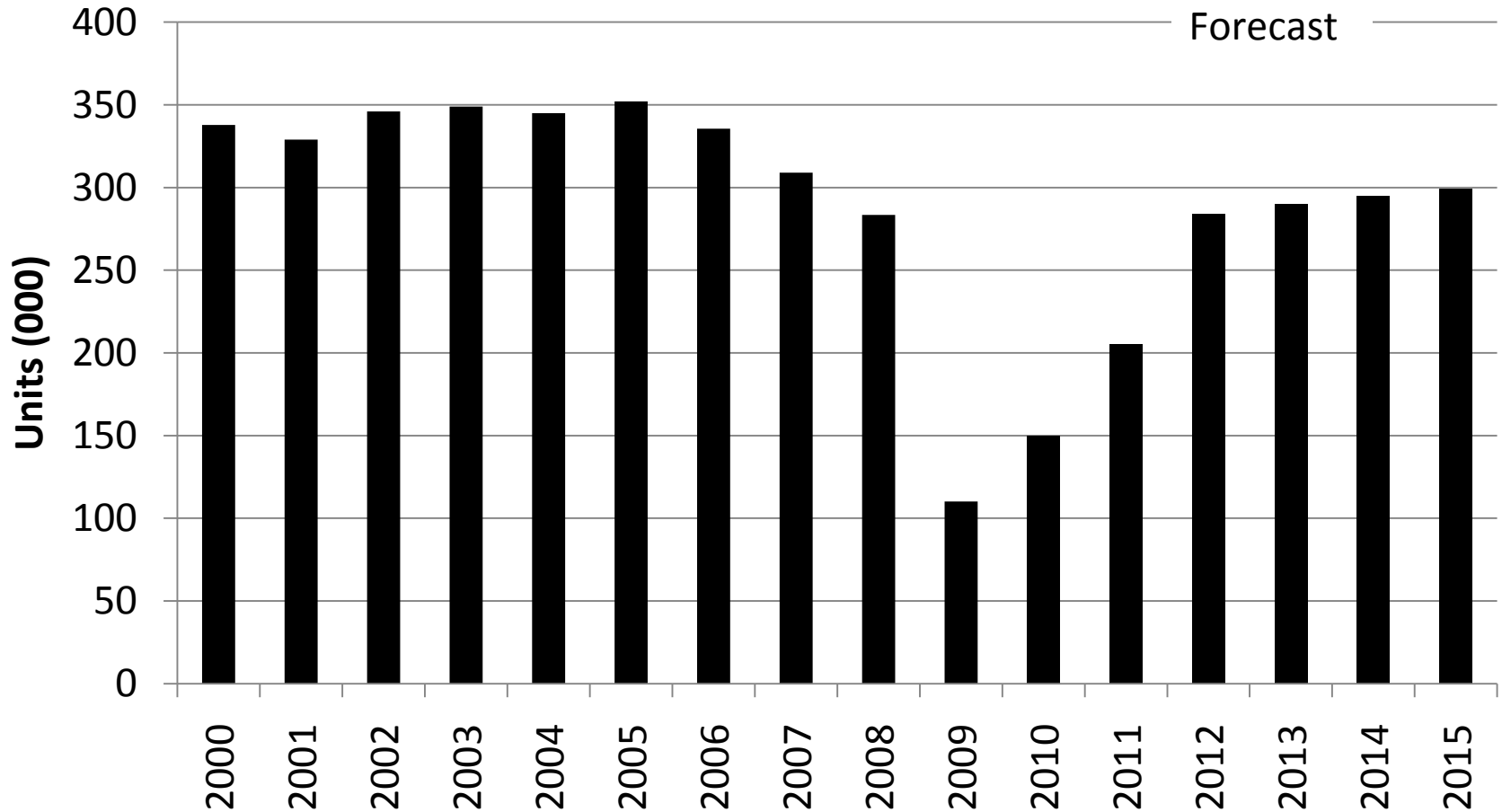
History: U.S. Census Bureau. Forecast: author

# Single-family: Starts and Completions



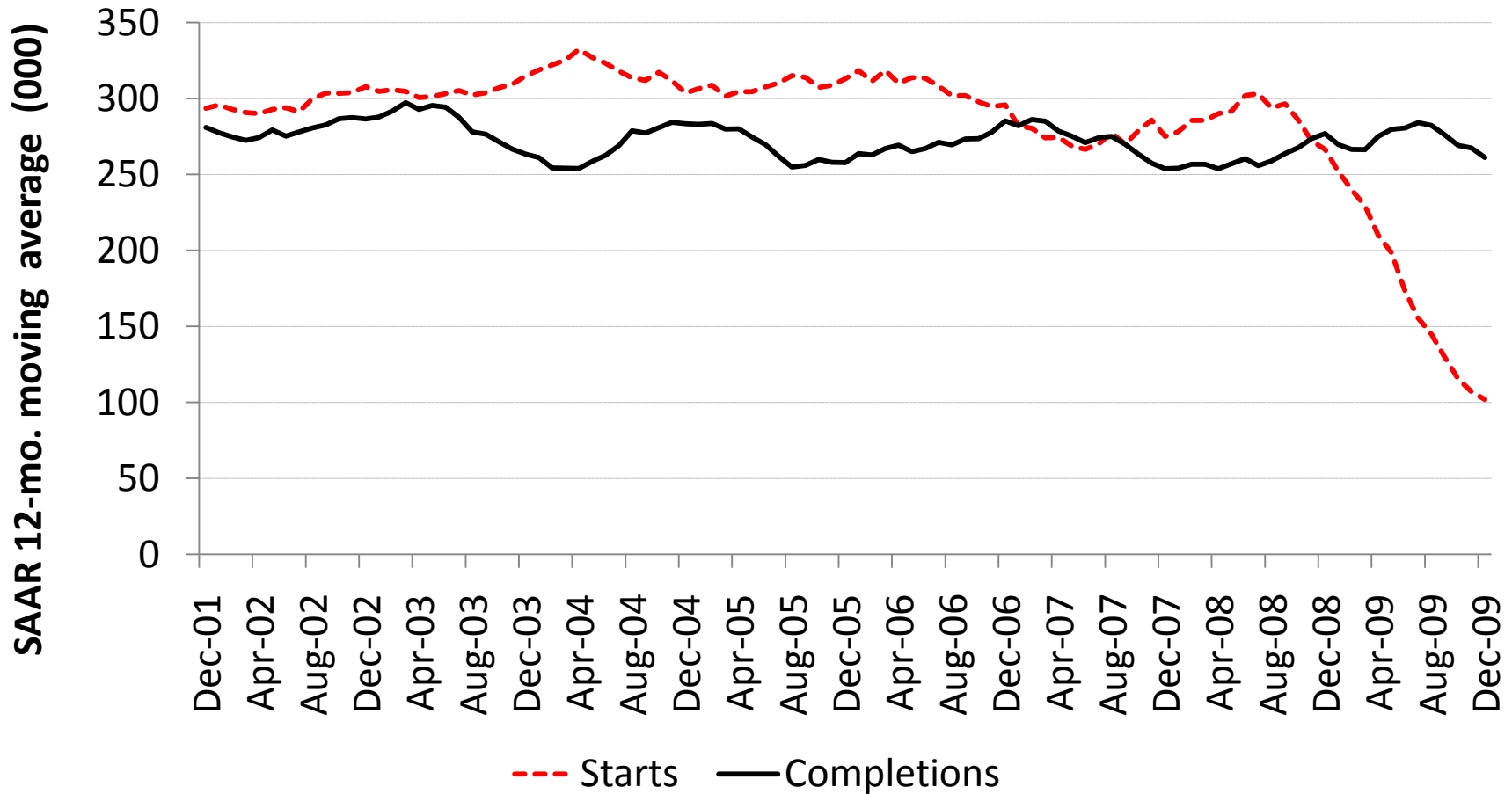
Source: U.S. Census Bureau. Through Dec 2009.  
Takes 7.7 months from start to completion.

# Multi-family Starts (change from previous year)



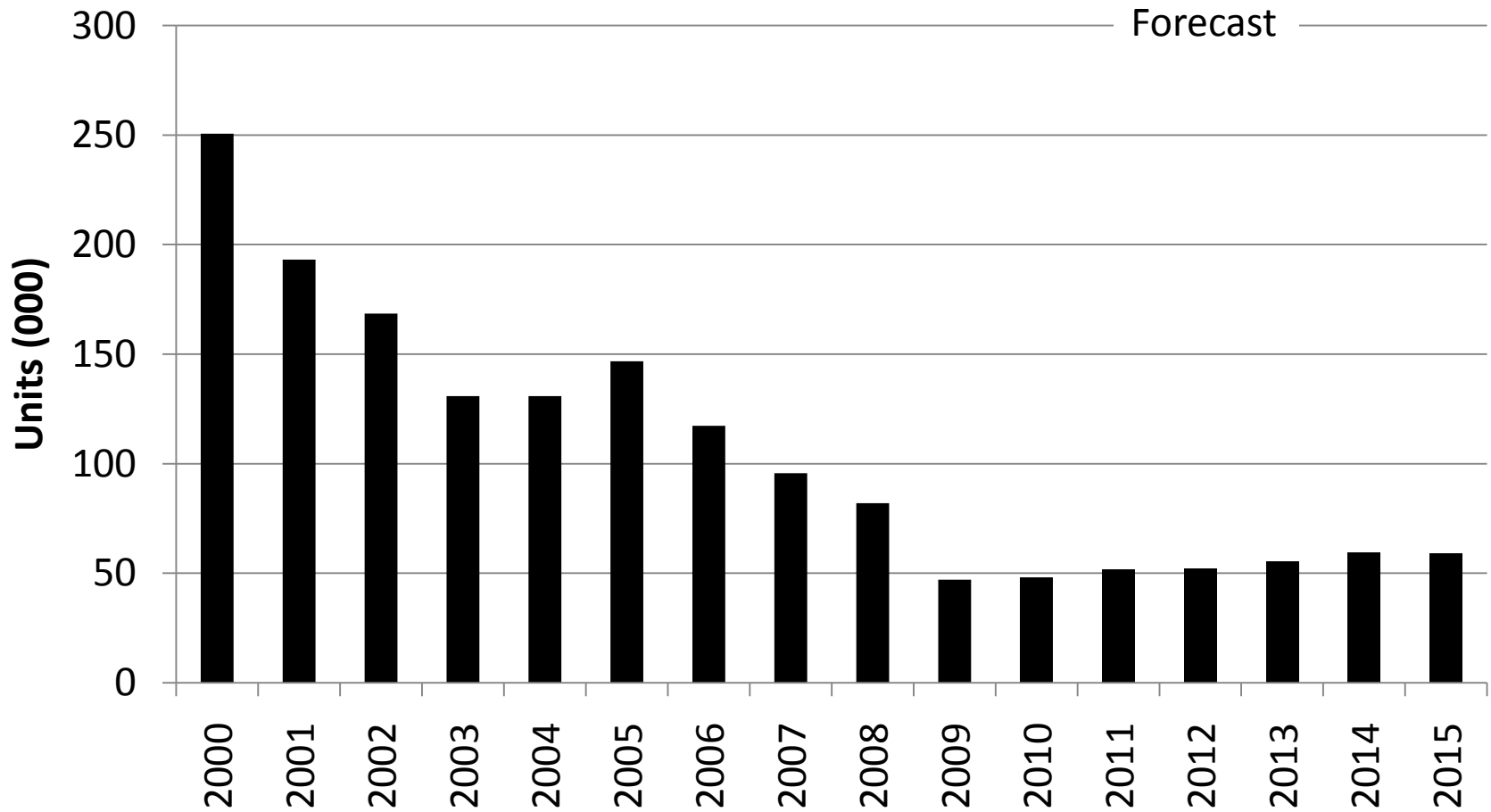
History: U.S. Census Bureau. Forecast: author

# Multi-family: Starts and Completions



Source: U.S. Census Bureau. 5 to 9 units is  $\approx$  90% of all Multi-family.  
Takes 12.3 months from start to completion.

# Mobile Home Shipments (change from previous year)



History: U.S. Census Bureau. Forecast: author

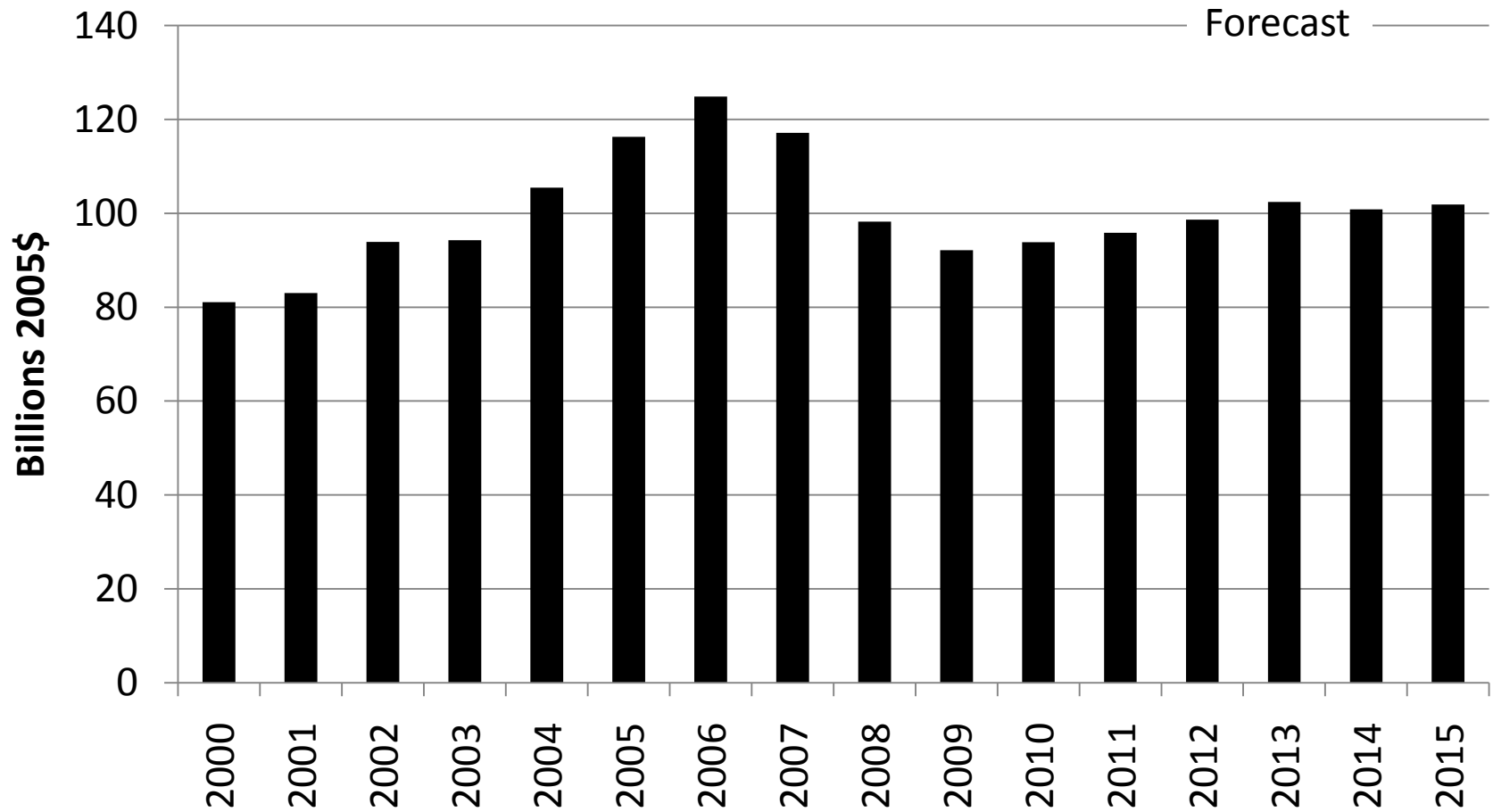
# Housing Activity

## Starts and Completions

Unit Type	2009 Completions (000)	Months to Complete	2009 Starts (000)	Estimated 2010 Completions (000)
1 – Unit	521	8	444	500
2 to 4 Units	15	13	11	10
5 + Units	261	13	99	90
Mobile Placements	60	--	60	60
Subtotal	856	--	614	660
Less Demolitions	200	--	--	200
Net added	656	--	--	460

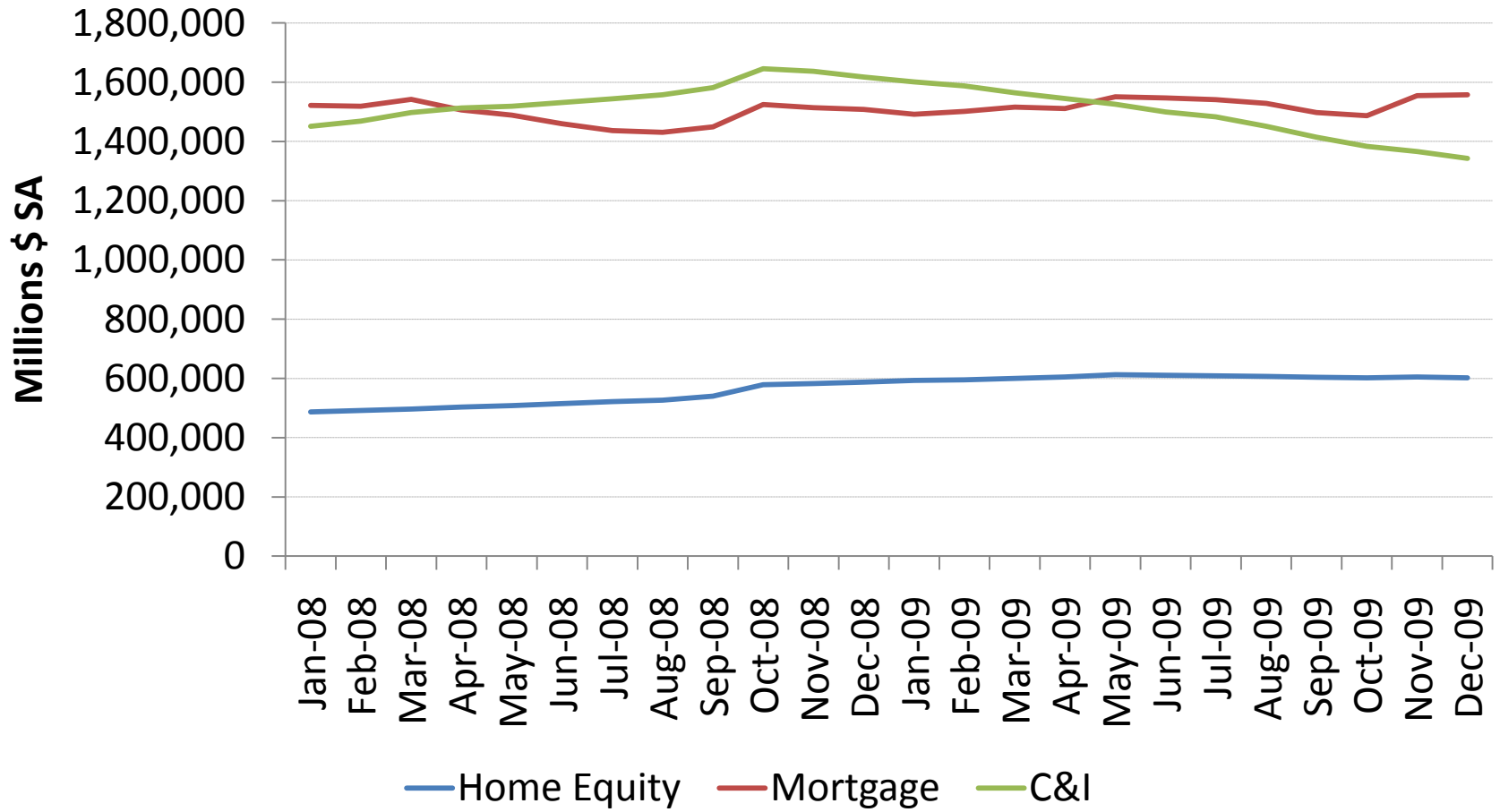
Source: U.S. Census. Adopted from Calculated Risk Economics

# Residential R&R Spending (change from previous year)



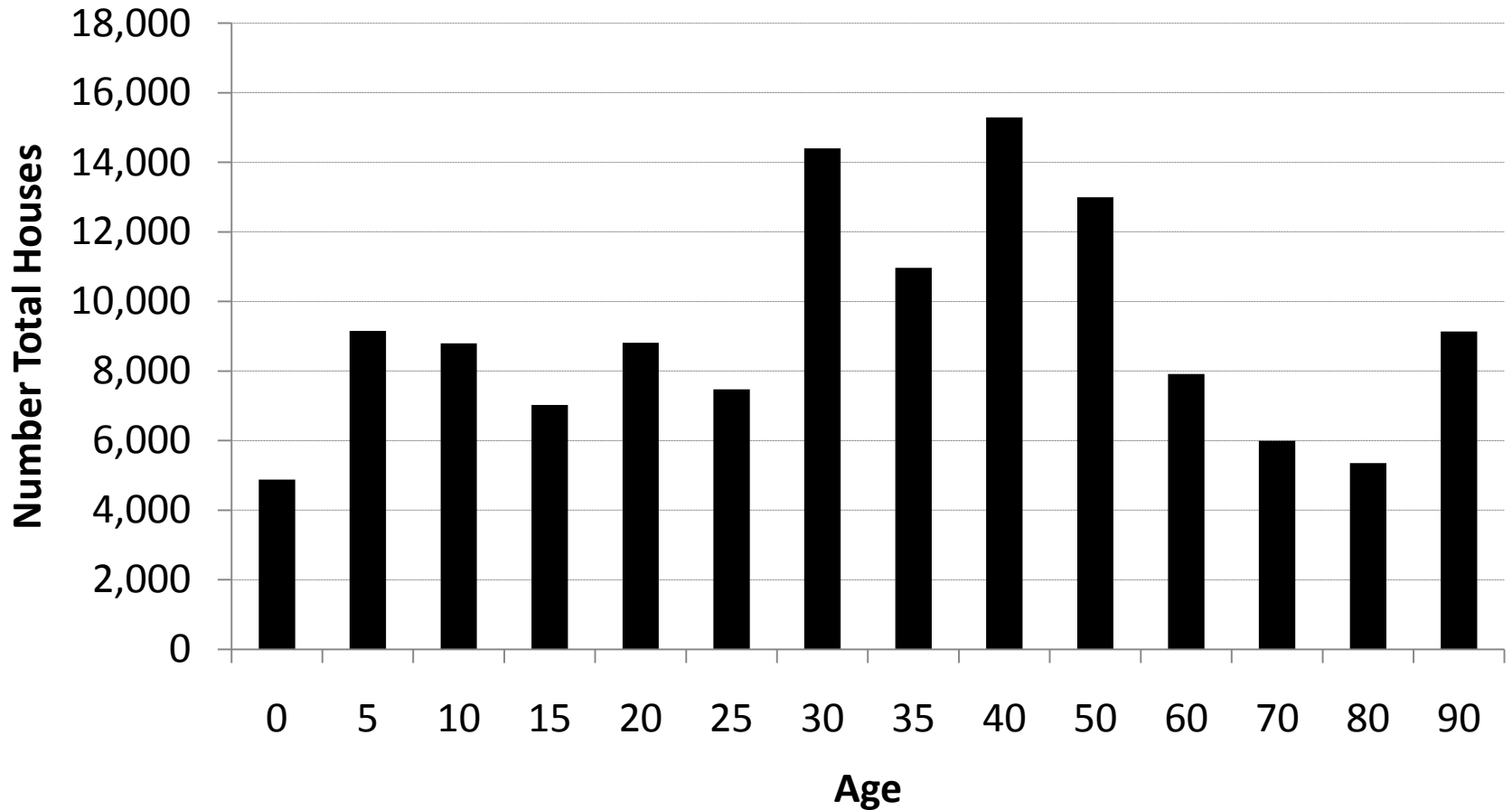
History: U.S. Census Bureau. Forecast: author

# Loans by Commercial Banks



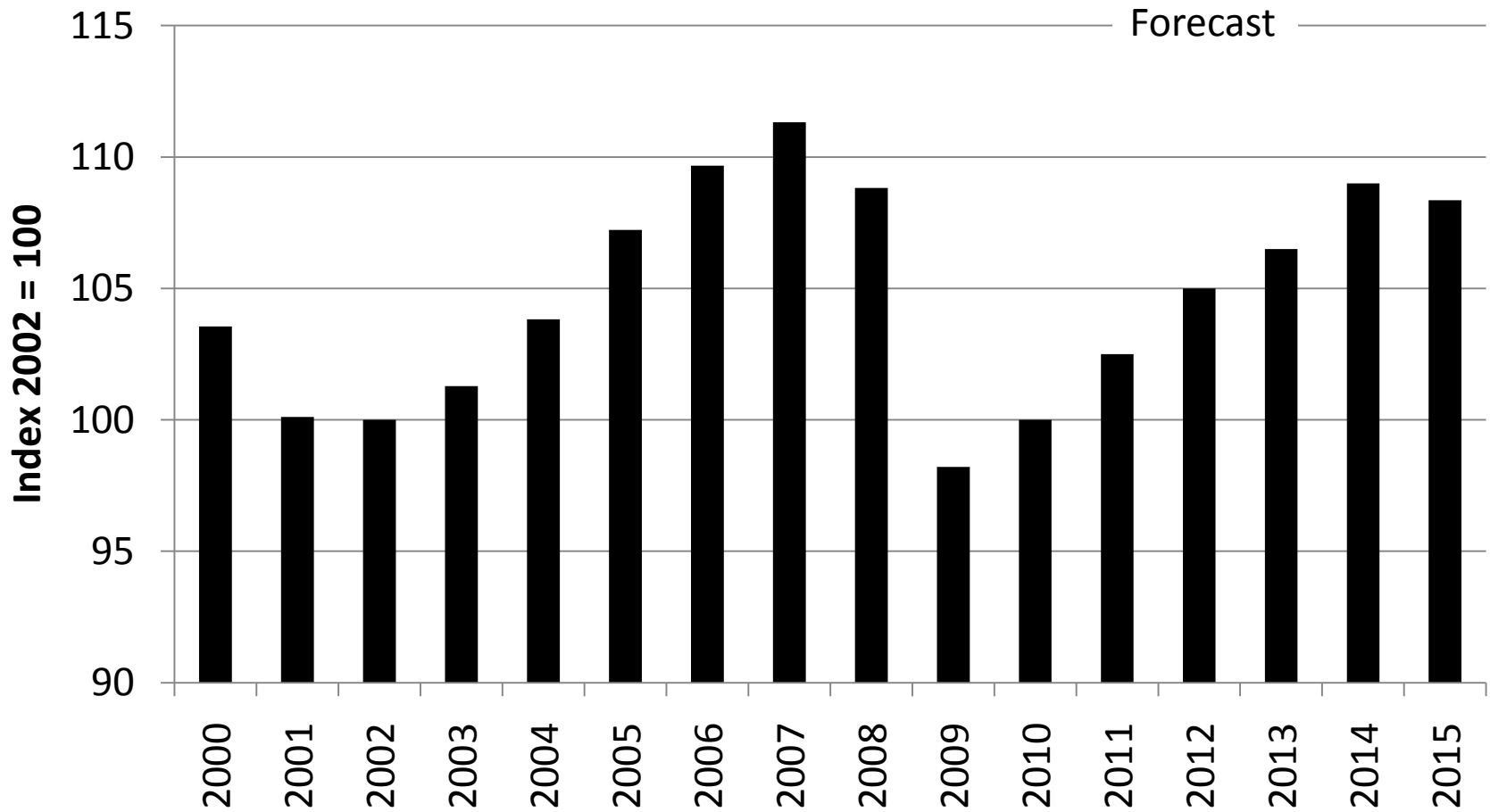
Source: Federal Reserve Board at [www.federalreserve.gov/releases/h8/](http://www.federalreserve.gov/releases/h8/)

# Age of Housing Stock



Source: U.S. Census Bureau, American Housing Survey. 2009 basis.

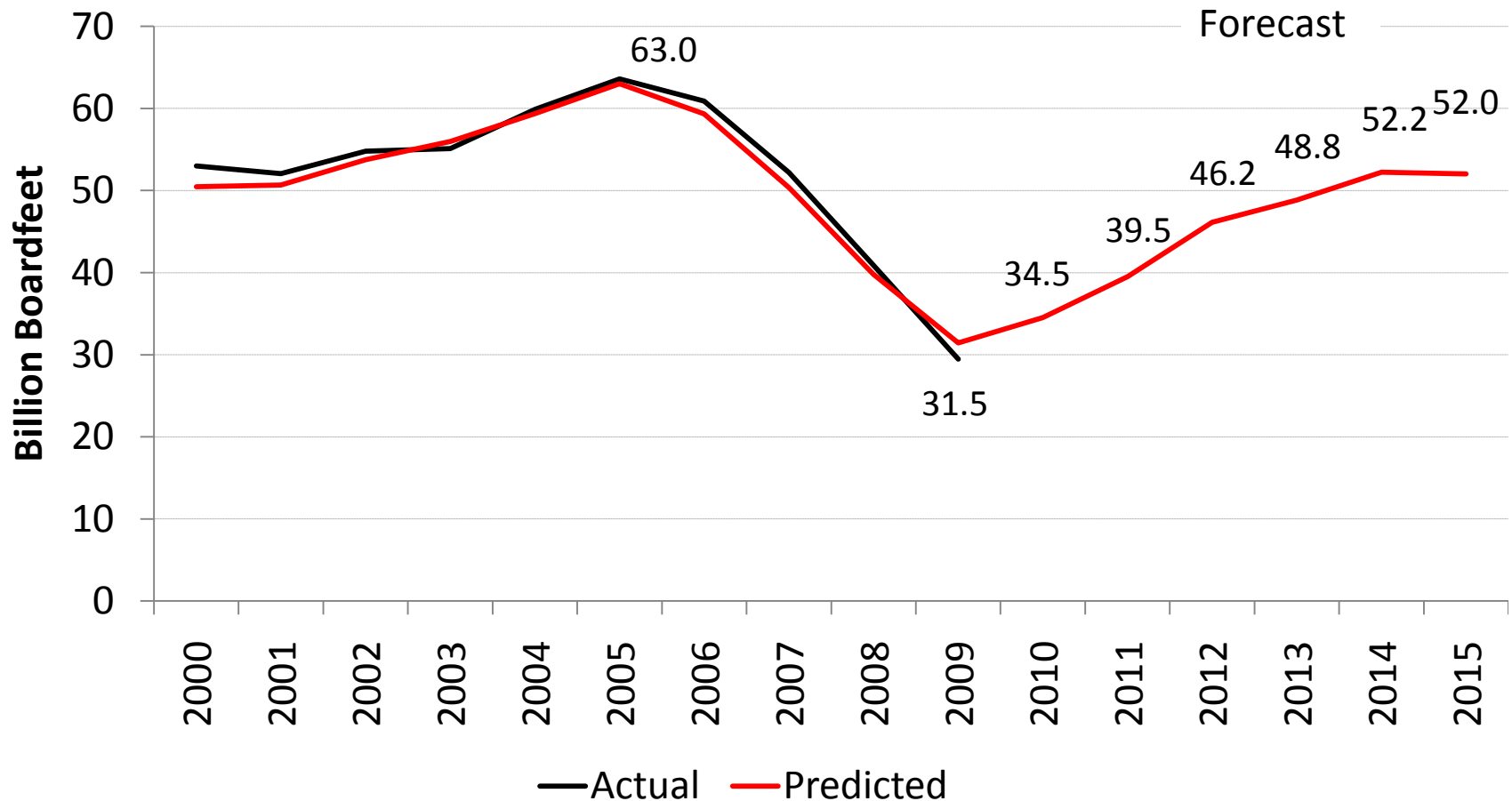
# Industrial Production (change from previous year)



Source: Federal Reserve Board at [www.federalreserve.gov/releases/g17/](http://www.federalreserve.gov/releases/g17/)

# U.S. Softwood Consumption

## actual, predicted and forecast



U.S. domestic shipments plus imports less exports.

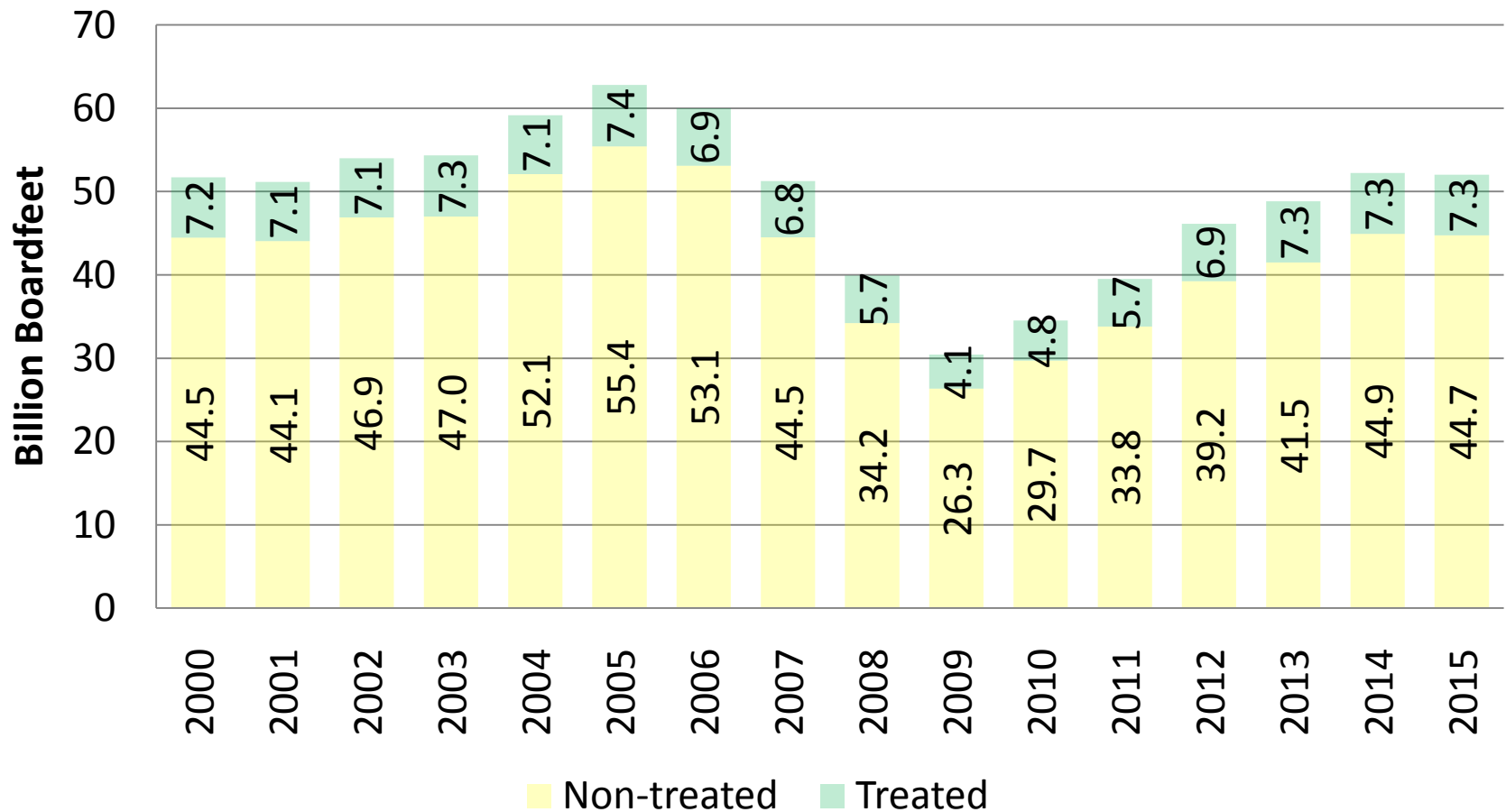
Source: domestic shipments from ALSC.

# Production by Region

## (Billion boardfeet)

Year	U.S. South	U.S. West	Canadian Imports	Off-shore Imports	U.S. North/ Lake States
2009	11.32	9.91	8.49	0.632	0.98
2010	12.44	11.05	8.98	1.036	1.04
2011	14.22	12.64	10.27	1.185	1.19
2012	16.61	14.77	12.00	1.385	1.38
2013	18.06	15.62	12.69	0.976	1.46
2014	19.33	16.72	13.58	1.045	1.57
2015	19.25	16.65	13.53	1.040	1.56

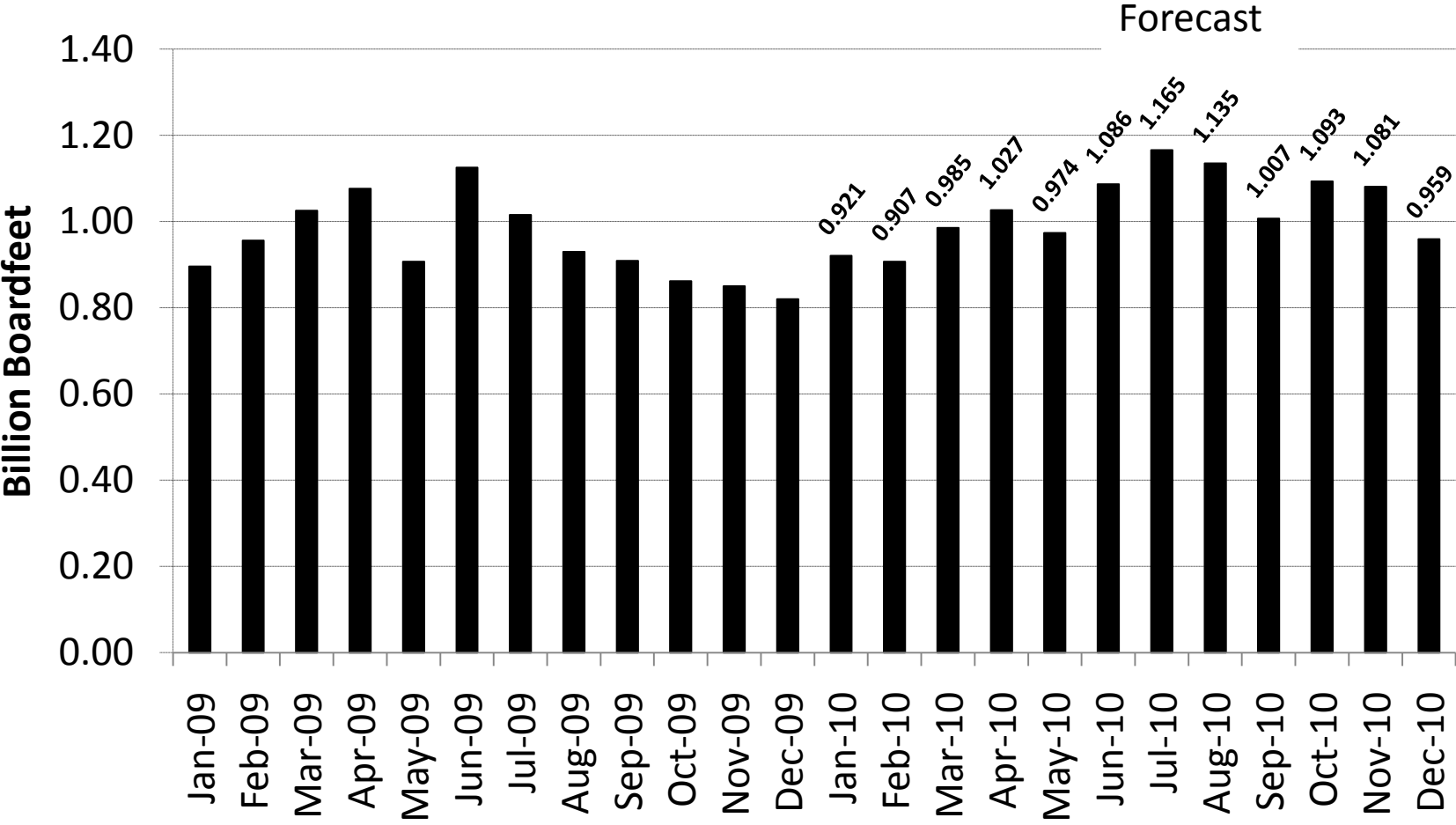
# Non-treated and Treated Softwood Forecast



U.S. domestic shipments plus imports less exports.

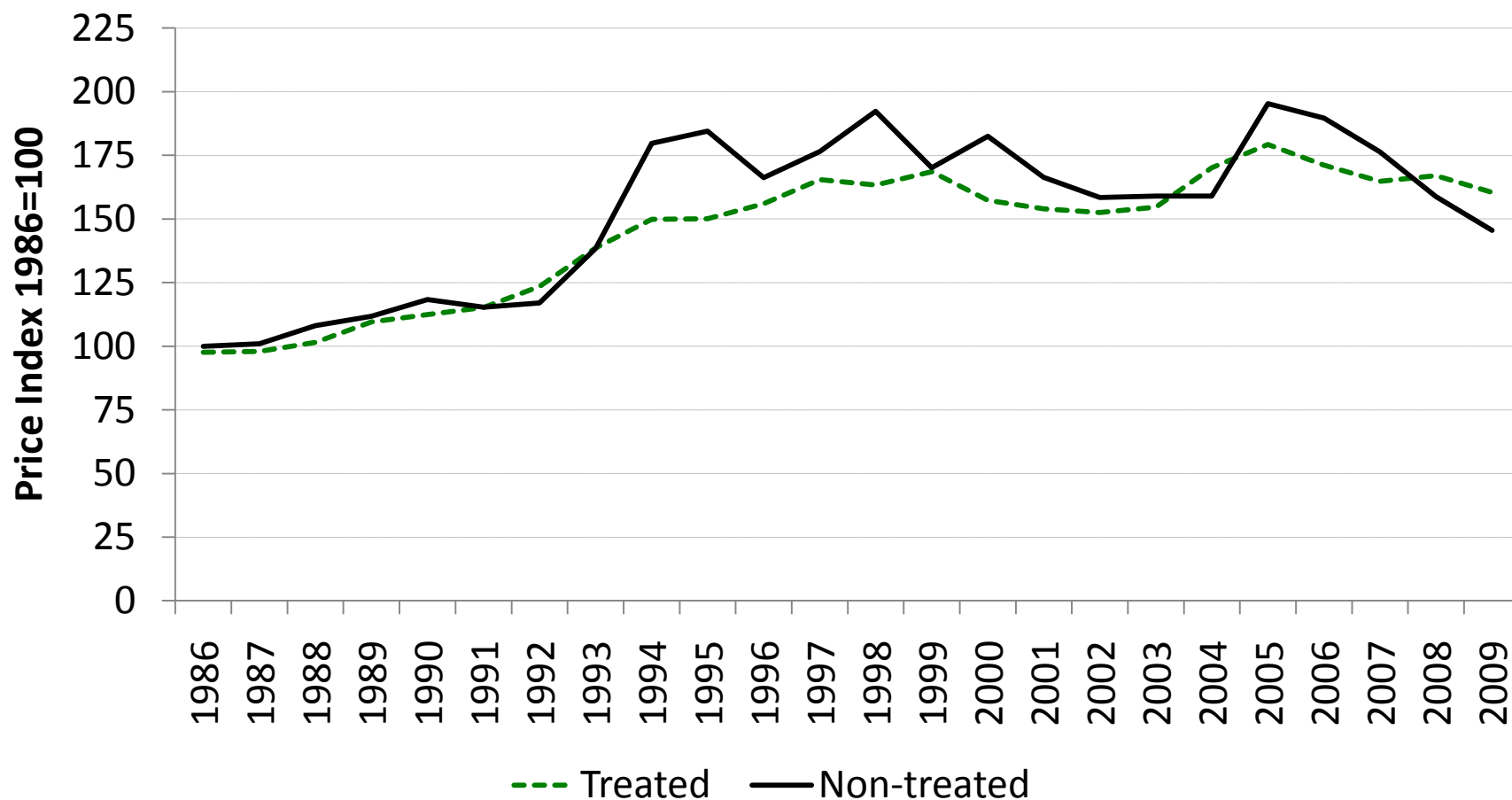
Sources: History from ALSC, Forecast: Author

# Southern Pine Monthly Shipments



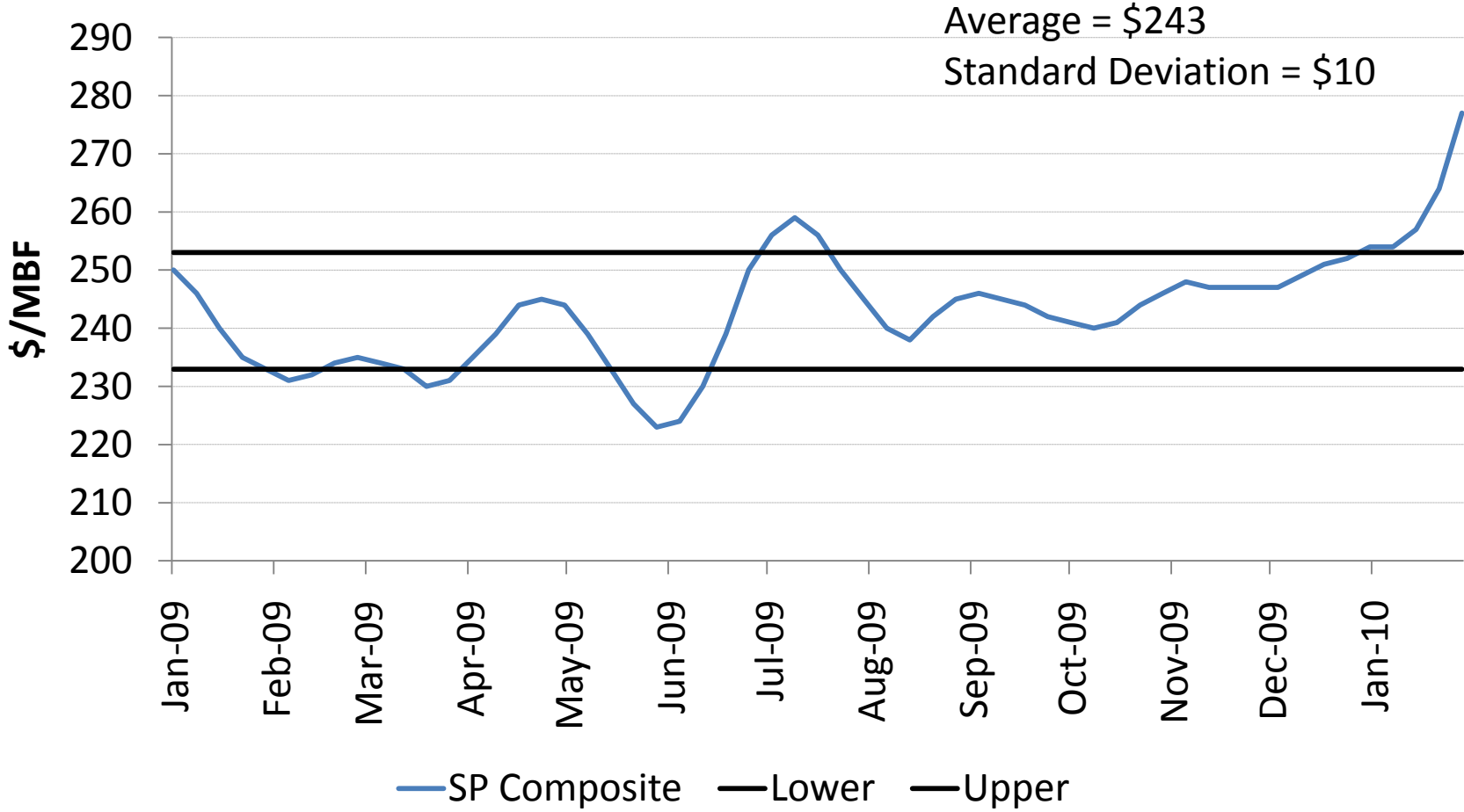
Sources: 2009 shipments from SFPA. Forecast: Author

# Historical Treated and Non-treated Price Trends



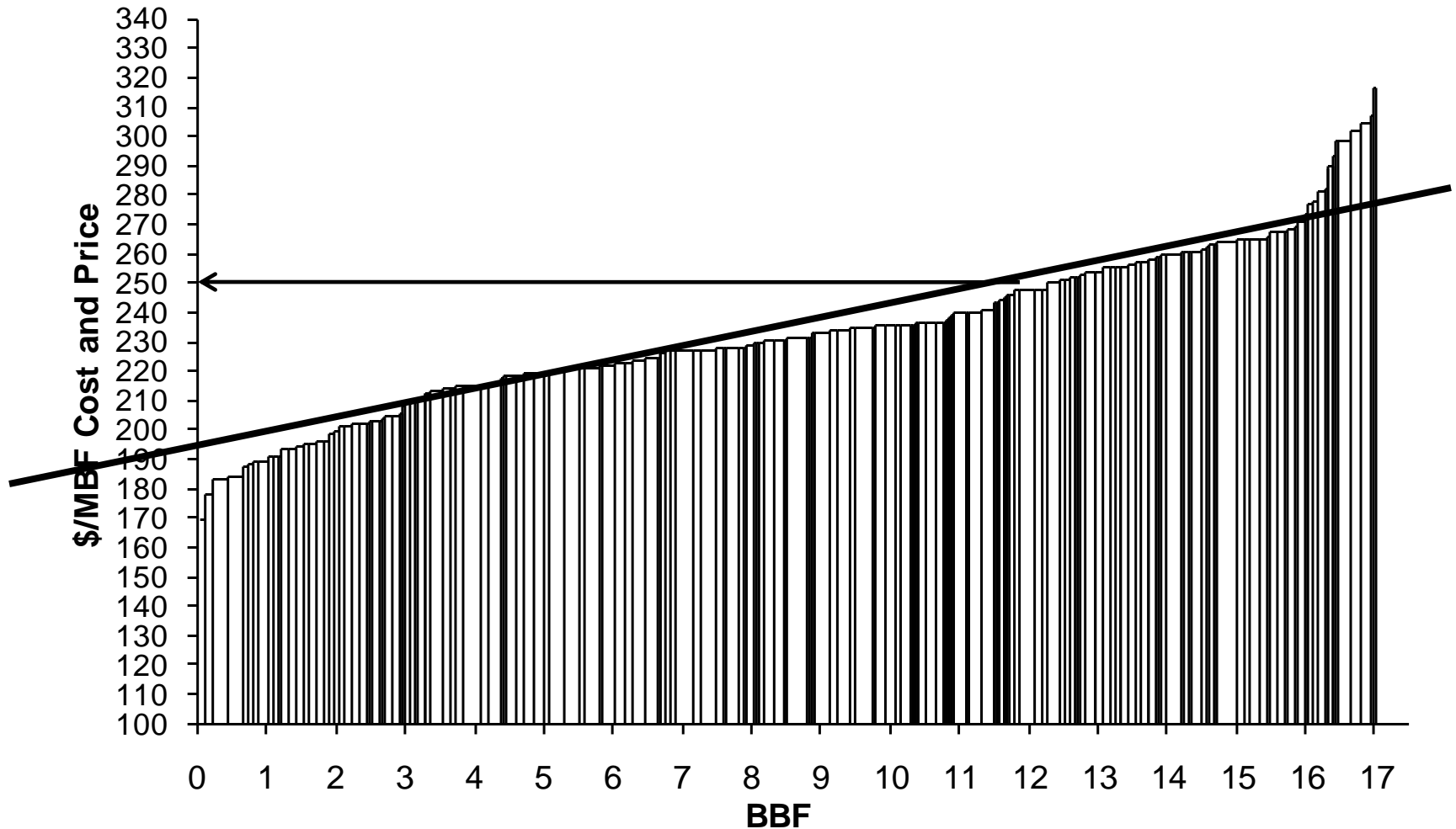
Source: U.S. Bureau Labor Statistics. Prices received by producers in percentage terms relative to a base period. An increase of 50% is shown as 150.

# Southern Pine Composite Price Trend



Source: Random Lengths Yearbook

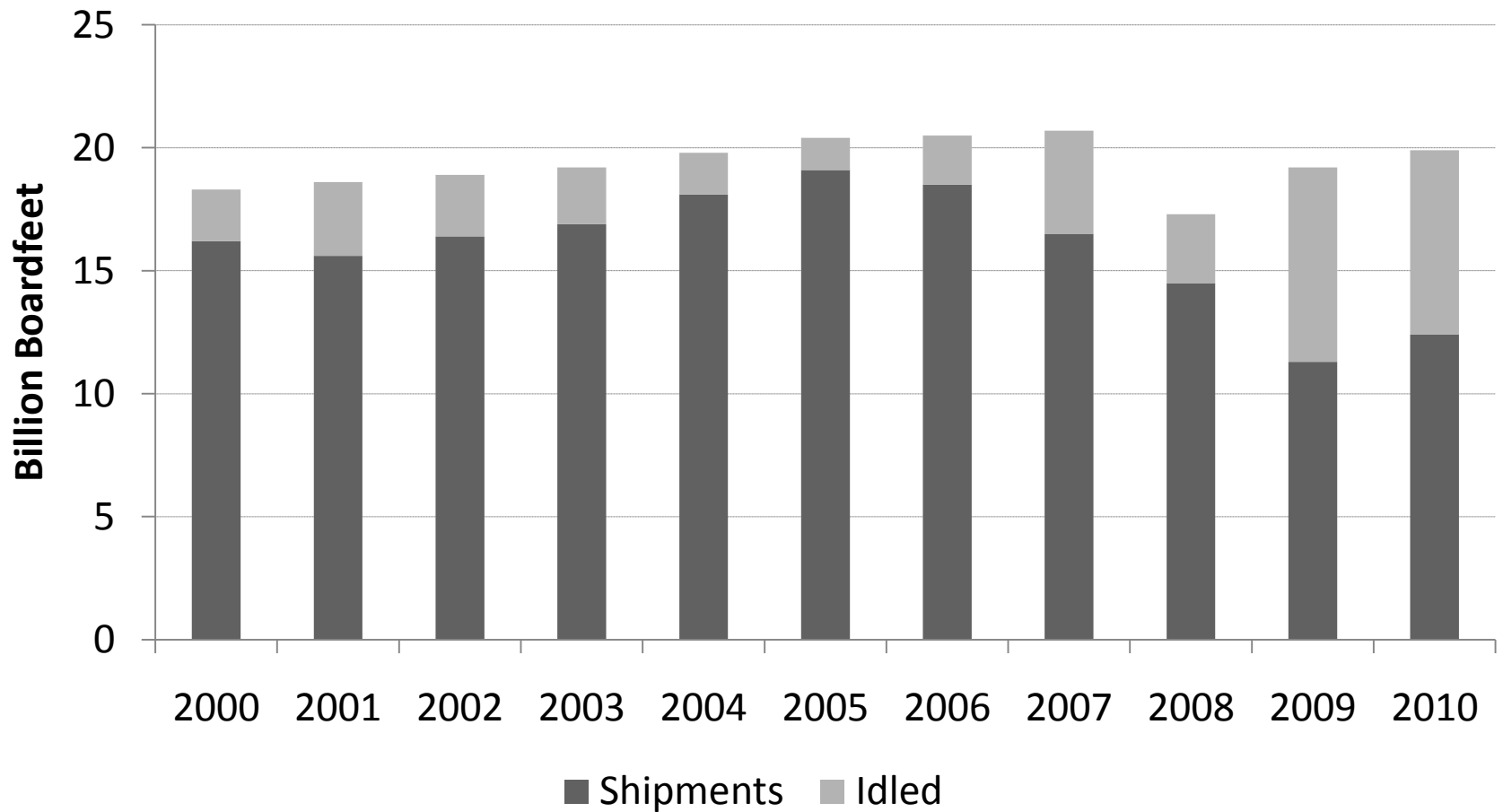
# Southern Pine Sawmill Supply Curve 2009



Source: Author.

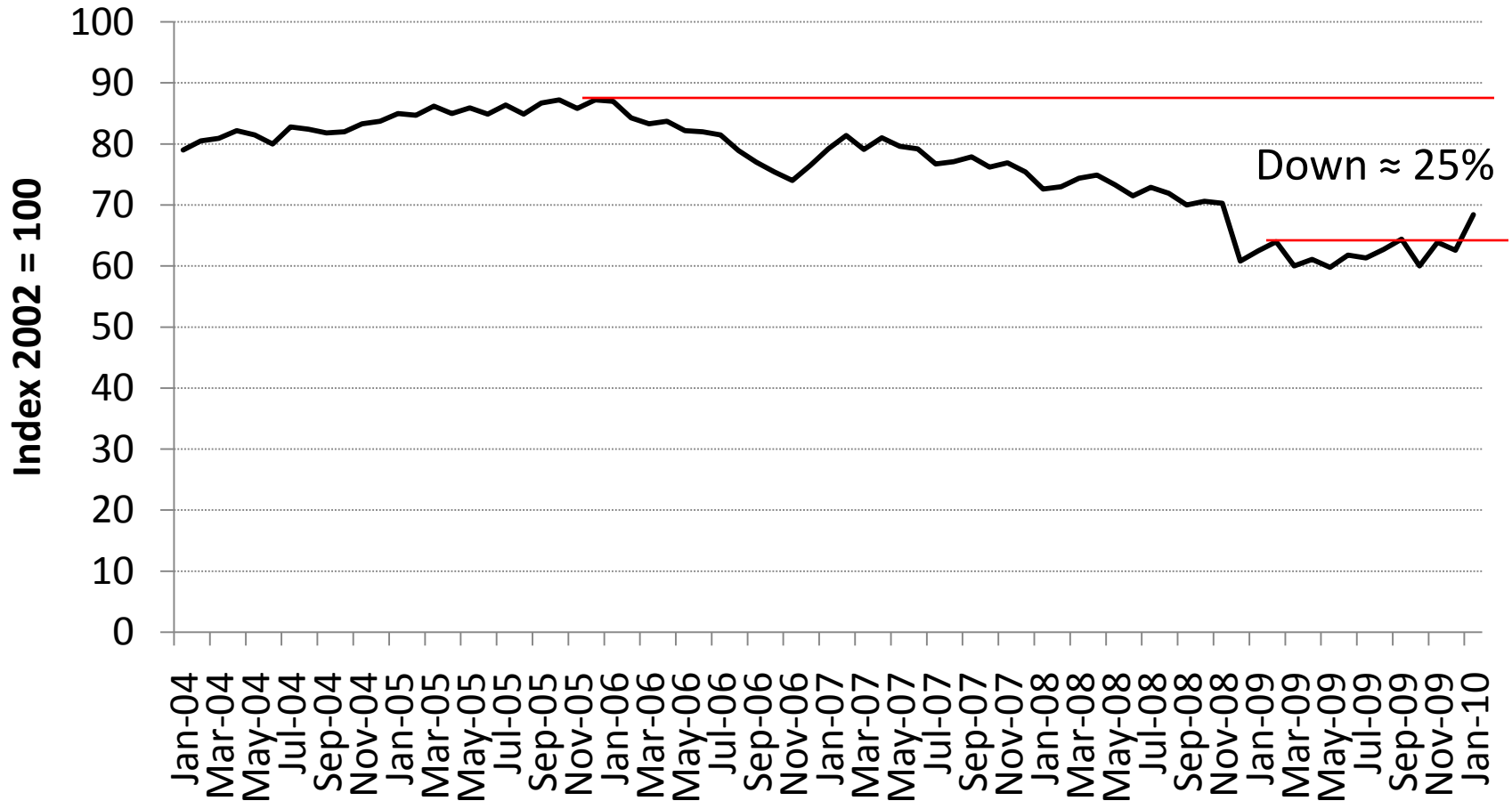
# Southern Pine

## Shipments-to-Idled Capacity Ratio



Sources: Shipments from SFPA, Capacity from Henry, Spelter, Forest Products Laboratory.

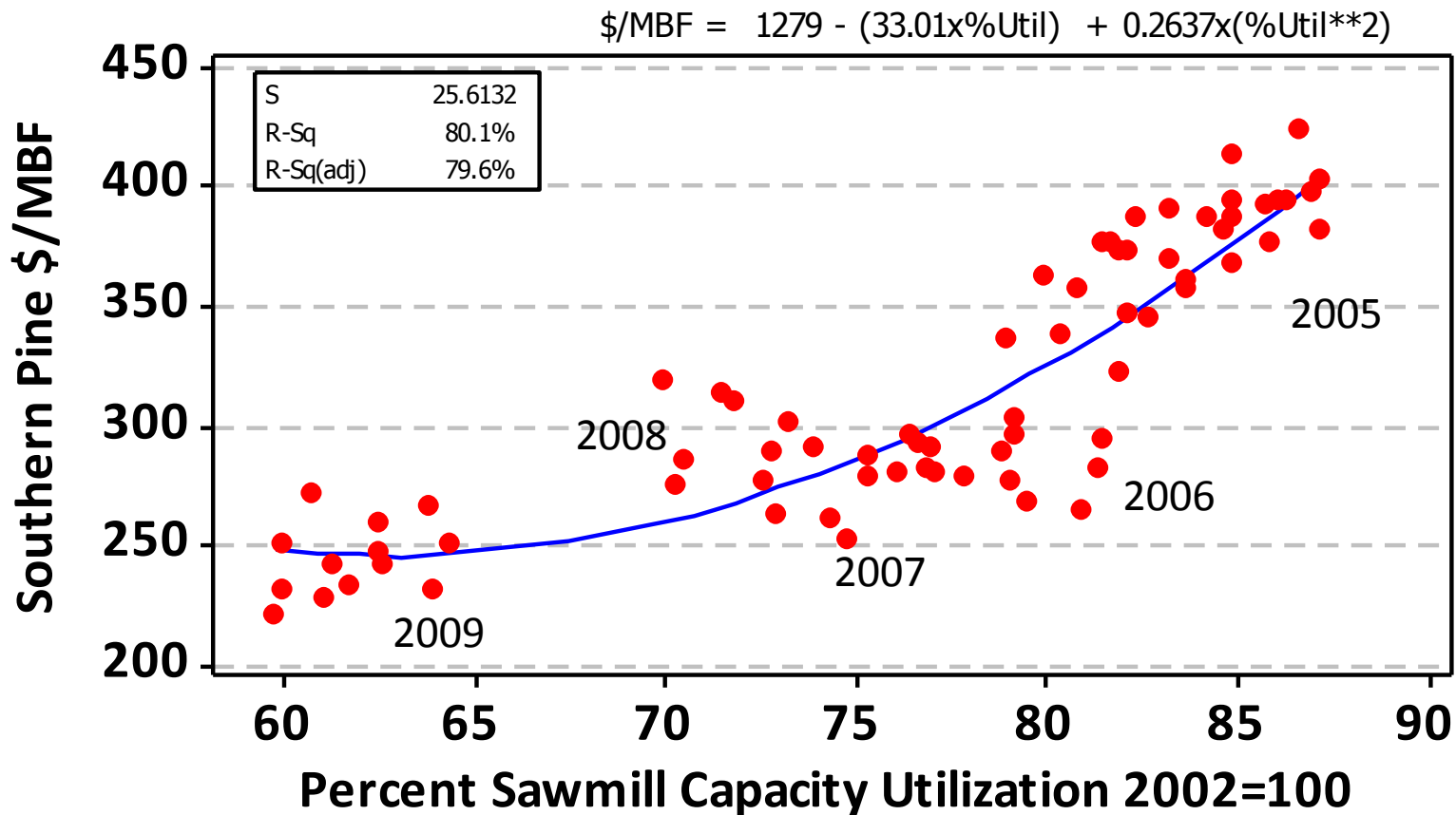
# U.S. Sawmill Utilization Rate



Sources: Federal Reserve Board, Washington, D C (includes hardwood and softwood)

<http://www.federalreserve.gov/releases/g17/>

# Fitted Relationship: Composite Price vs. Percent Utilization

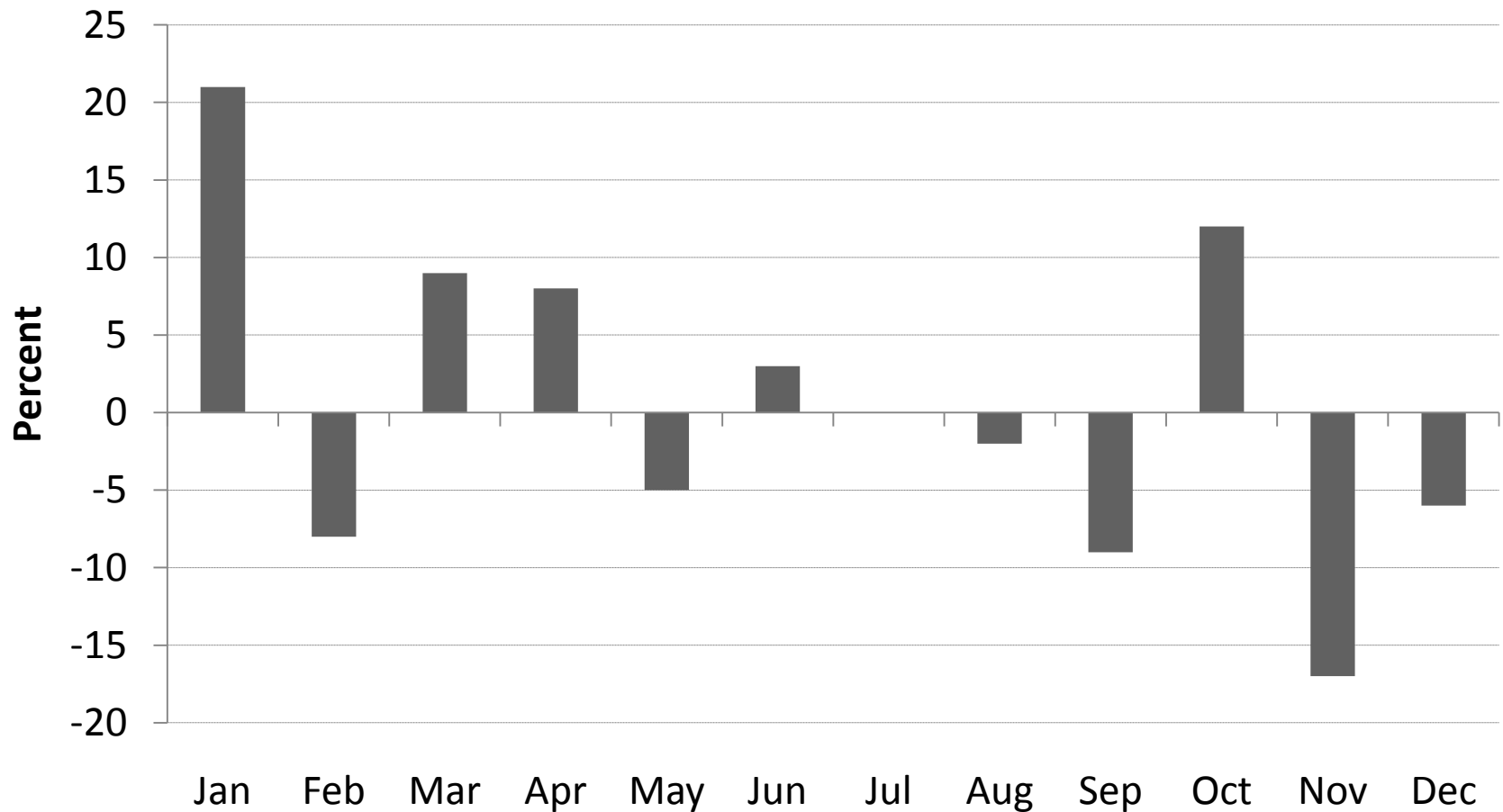


Prices from Random Lengths. Capacity utilization from Federal Reserve Board.

Capacity utilization is calculated as the actual output produced with installed equipment divided by the potential output that could be produced with it if used to its full capacity.

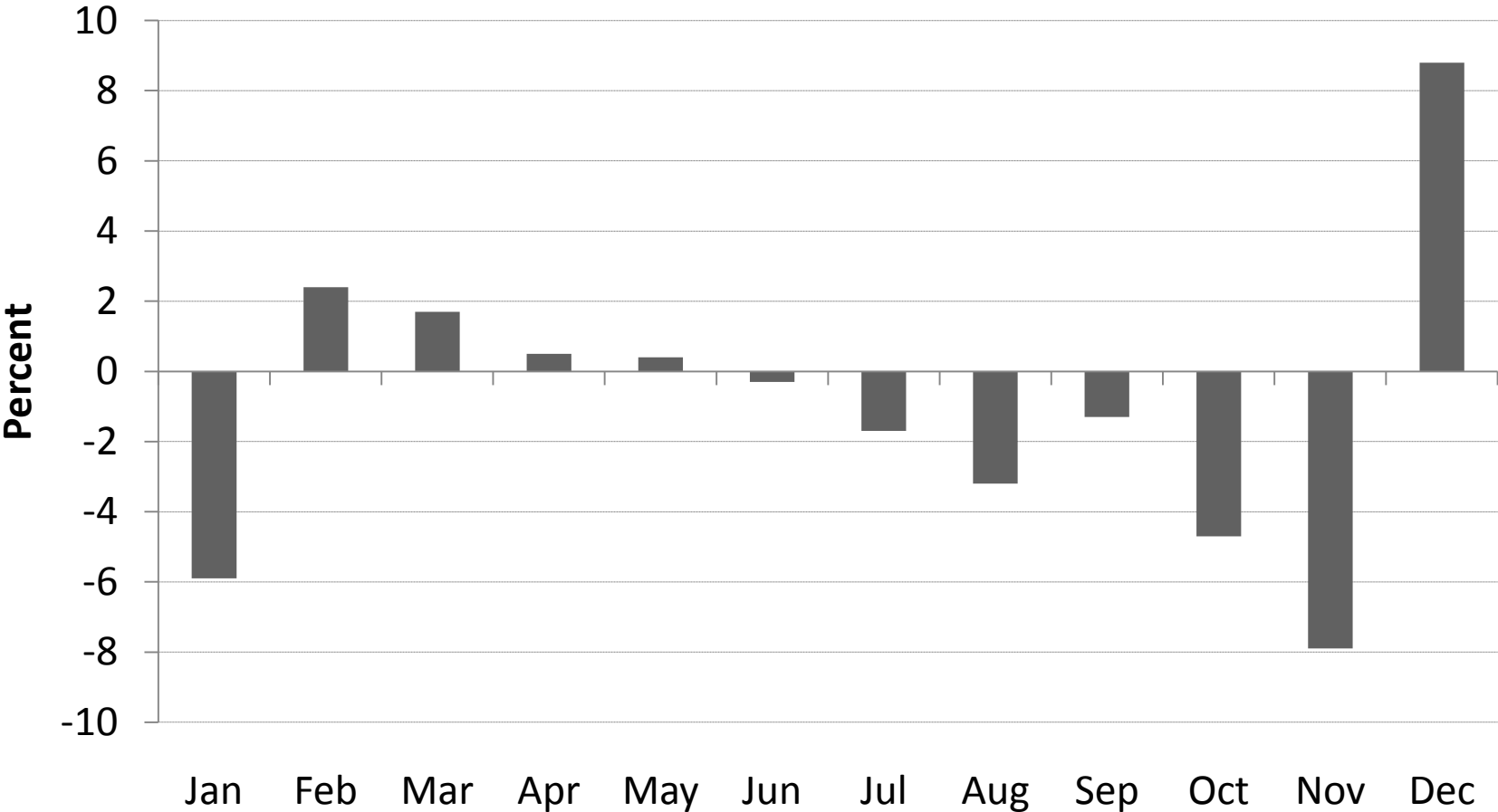
# Southern Pine Shipments

(percent change from previous month)



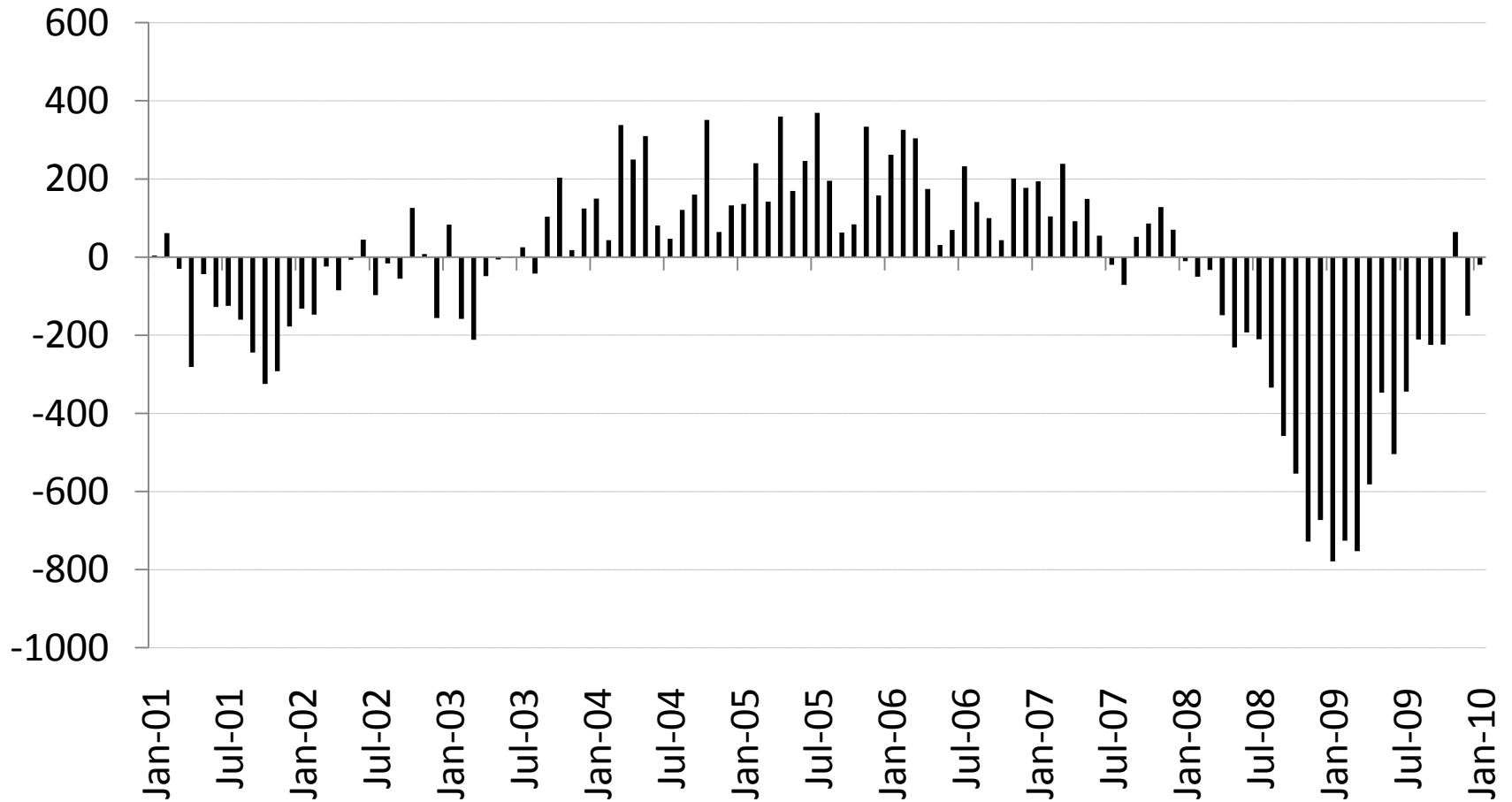
Sources: Monthly shipments from SFPA, Kenner, LA. Based on the last eight years.

# Southern Pine Composite Price (percent change from previous month)



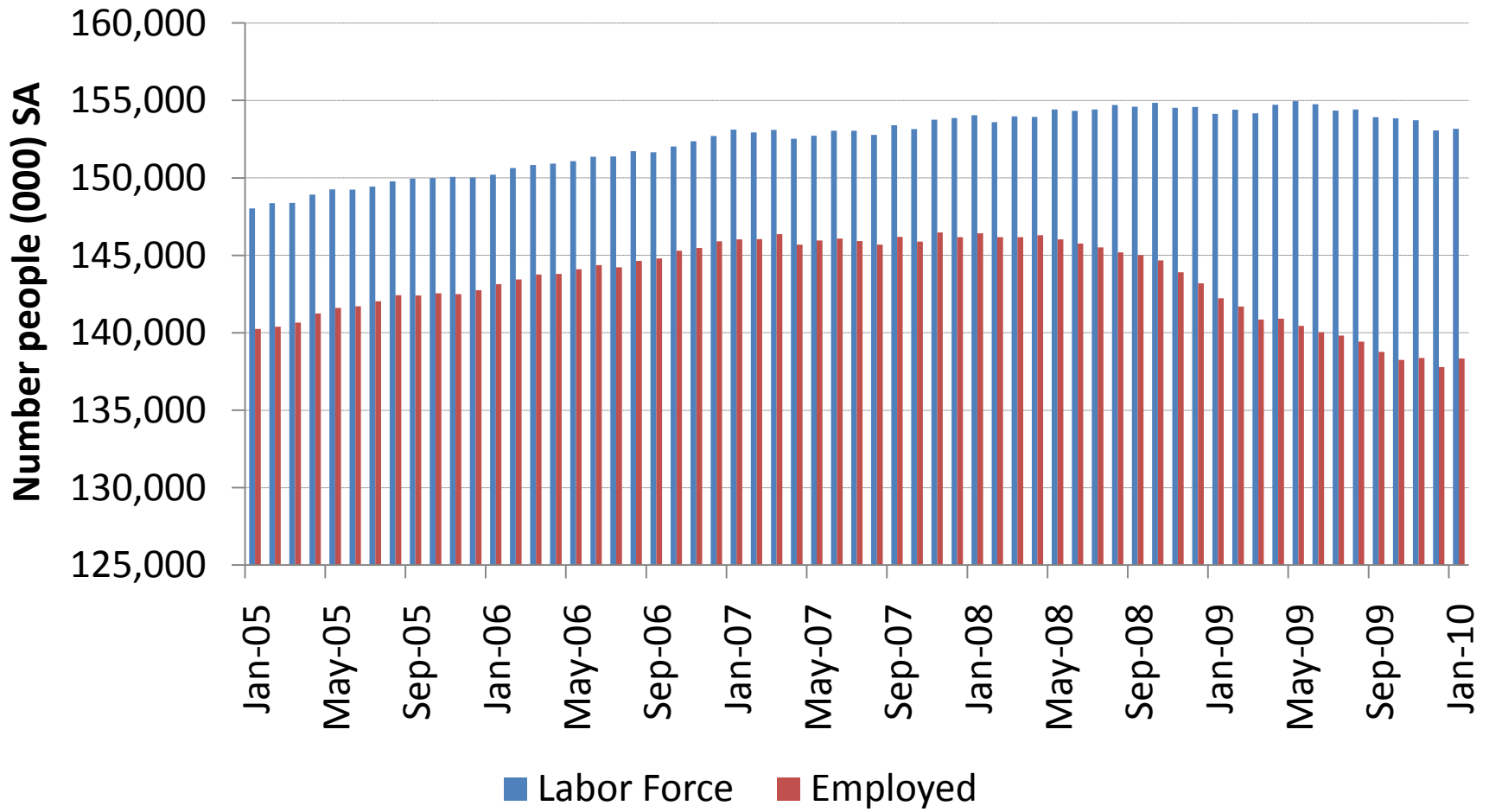
Source: Random Lengths Yearbook. SP Composite Price based on the last ten years.

# Employment Situation: Job Loses



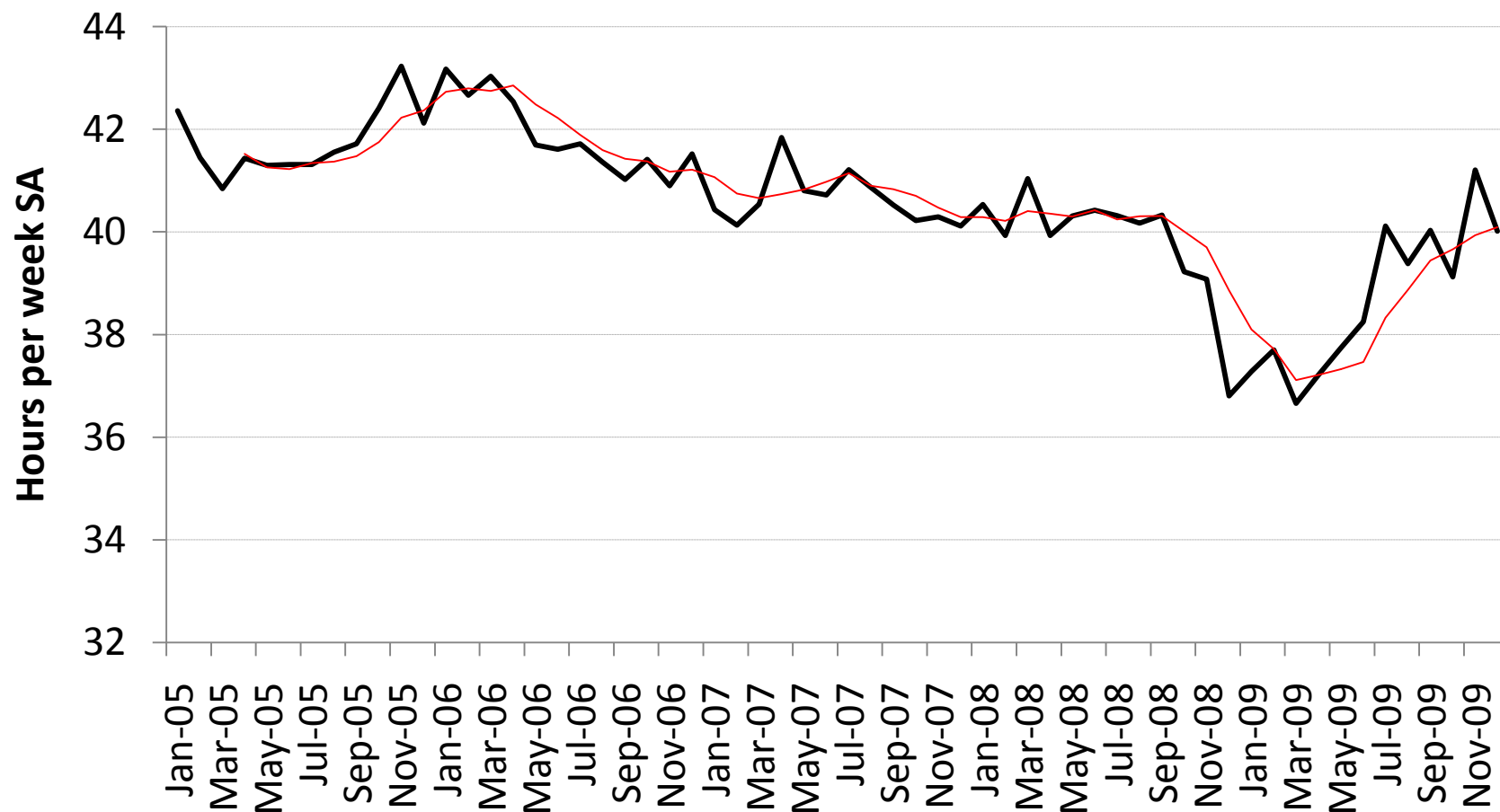
Source: Bureau of Labor Statistics.

# Employment Situation: Labor Force and Employed



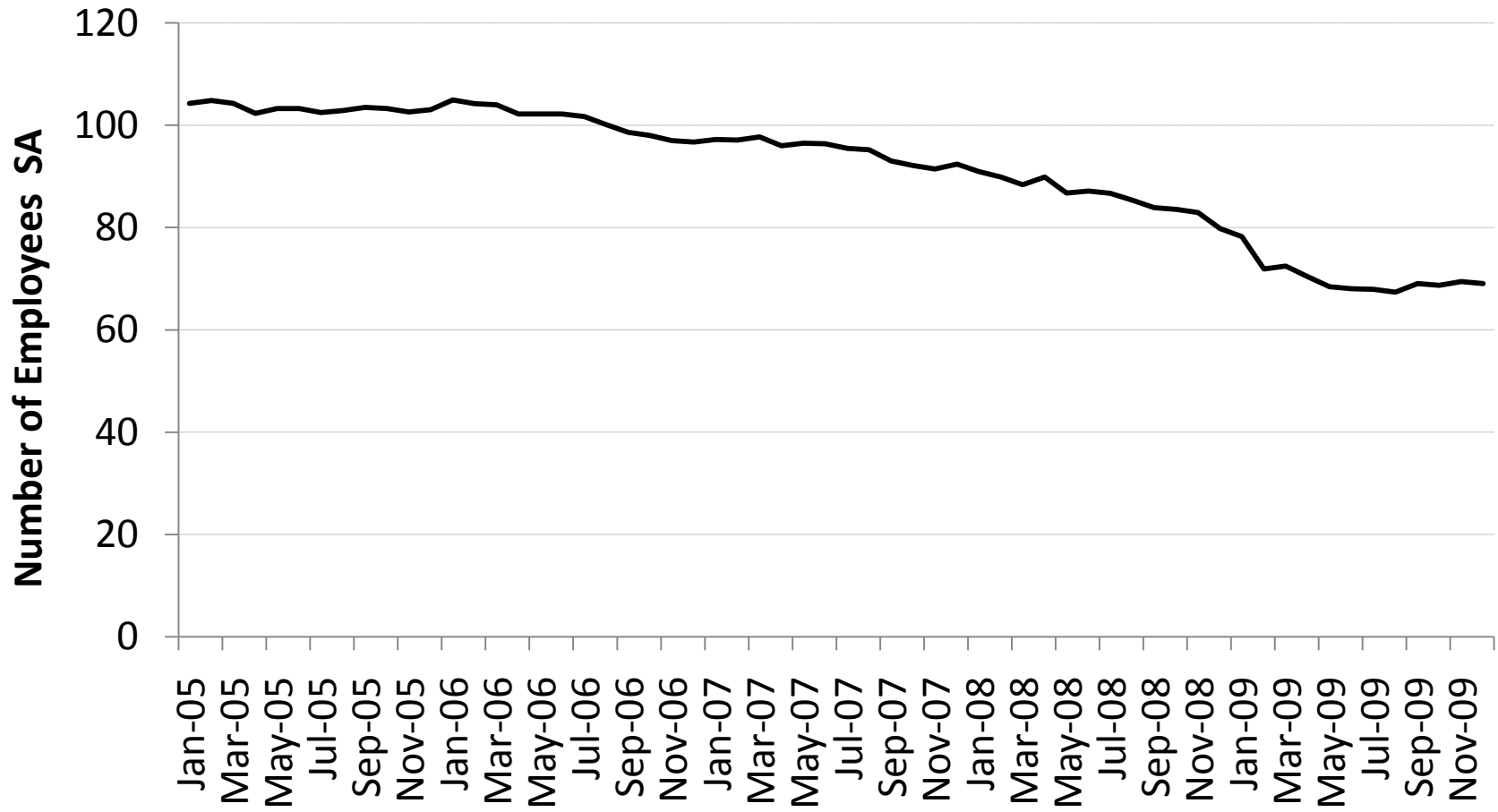
Source: Bureau of Labor Statistics (household survey).

# Employment Situation: Hours Worked Sawmills and Wood Preservation



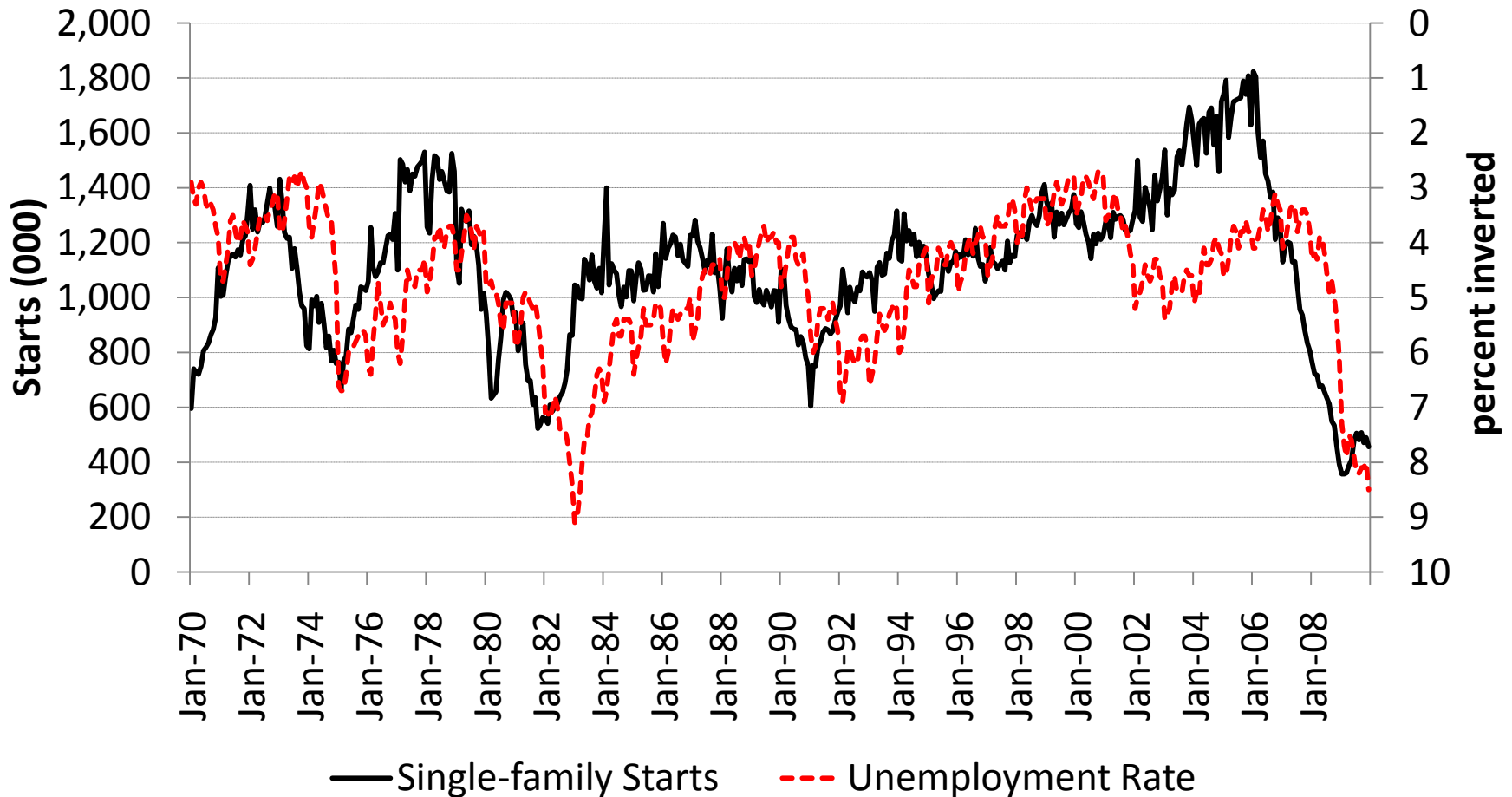
Source: Bureau of Labor Statistics at [www.bls.gov](http://www.bls.gov). Average weekly hours of production and nonsupervisory employees. Trend (red) is 4-week moving average.

# Employment Situation: Employees Sawmills and Wood Preservation



Source: Bureau of Labor Statistics. Number of production workers.

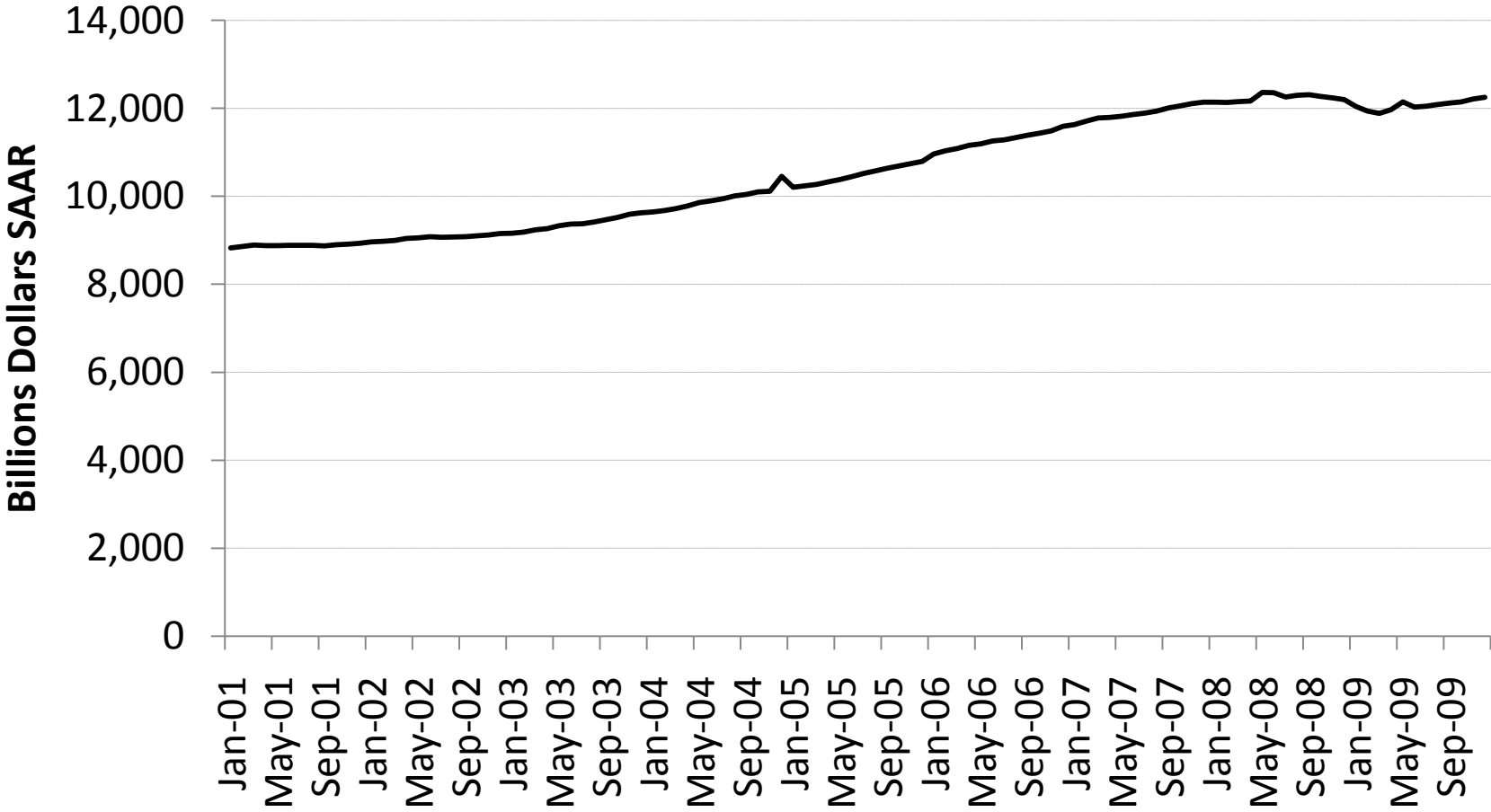
# Single-family Starts and Unemployment Rate



Source: Bureau of Labor Statistics and U.S. Census Bureau.

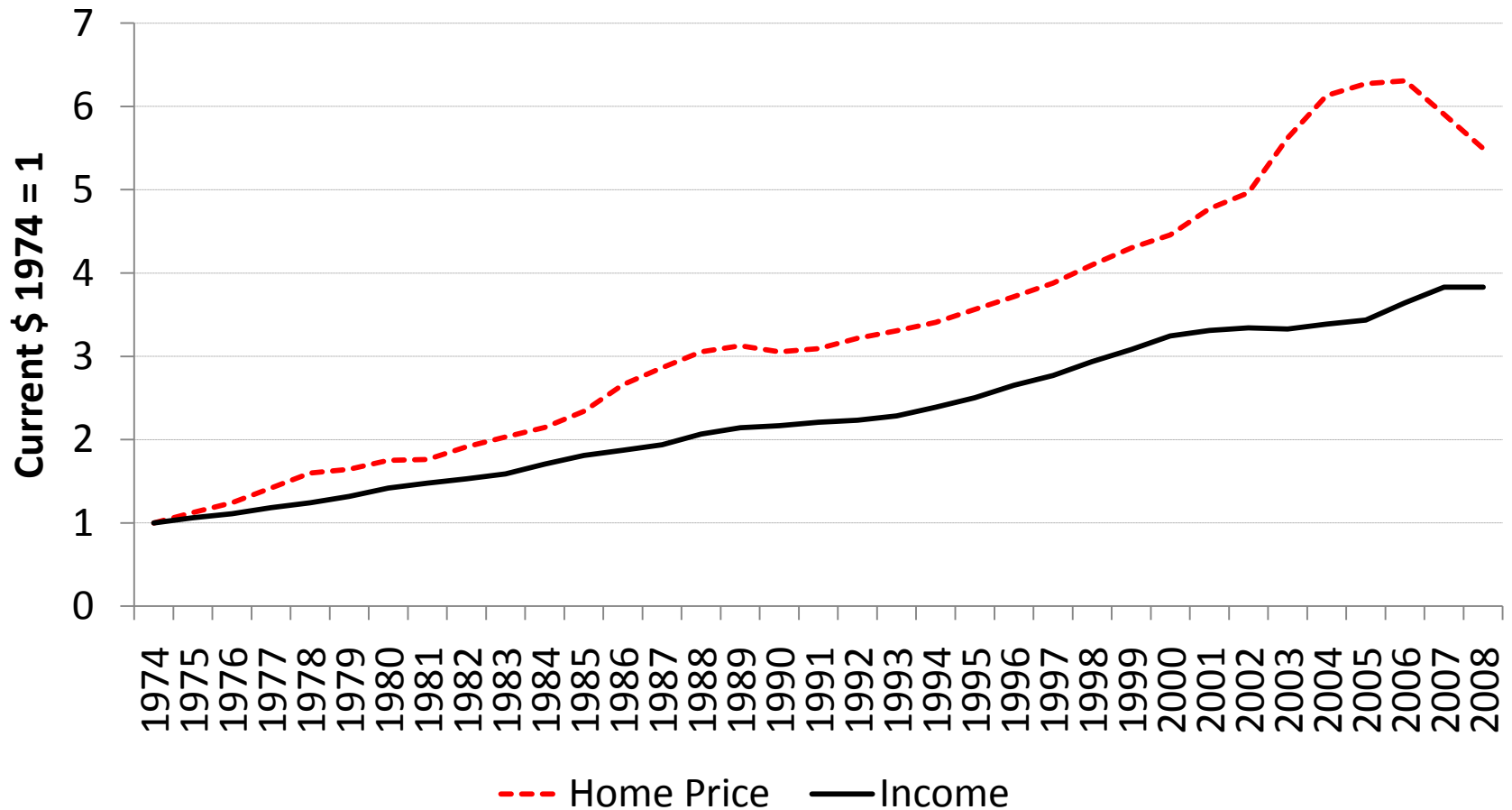
Unemployment Rate for 25 years and older. Adopted from Calculated Risk Economics

# Personal Income Growth



Source: Bureau of Economic Analysis.

# Home Price and Personal Income



Source: U.S. Census Bureau from Current Population Survey.  
Income for 25 to 34 year old cohort

# Summary

- Expect a mixed and moderate recovery.
  - Weak residential construction until 2011.
  - R&R focused on non-wood-using projects.
- Lumber demand weak until 2011.
- Mills with limited long-term pricing power.
- Price volatility because of market uncertainty.
- Low sawmill utilization through 2010.

# Questions

Wade Camp

mobile phone: 678/427-6213

office phone: 770/631-6702

email: [wade@SLMA.org](mailto:wade@SLMA.org)

# Softwood Market Drivers

Year	BBF <sup>1</sup>	Repair & Remodel 05\$	Single-Family (000)	Multi-Family (000)	Mobile Home (000)	Industrial Production Index 2002 = 100
2009	31.46	92.1	443.5	110	47.0	98.2
2010	34.54	93.8	555	150	48.0	100.0
2011	39.51	95.8	752	205	51.5	102.5
2012	46.15	98.6	1,010	284	52.3	105.0
2013	48.82	102.4	1,125	290	55.3	106.5
2014	52.25	100.9	1,325	295	59.5	109.0
2015	52.02	101.8	1,300	299	59.0	108.4

See slides 33 through 43.

1 U.S. consumption domestic shipments plus imports less exports.