

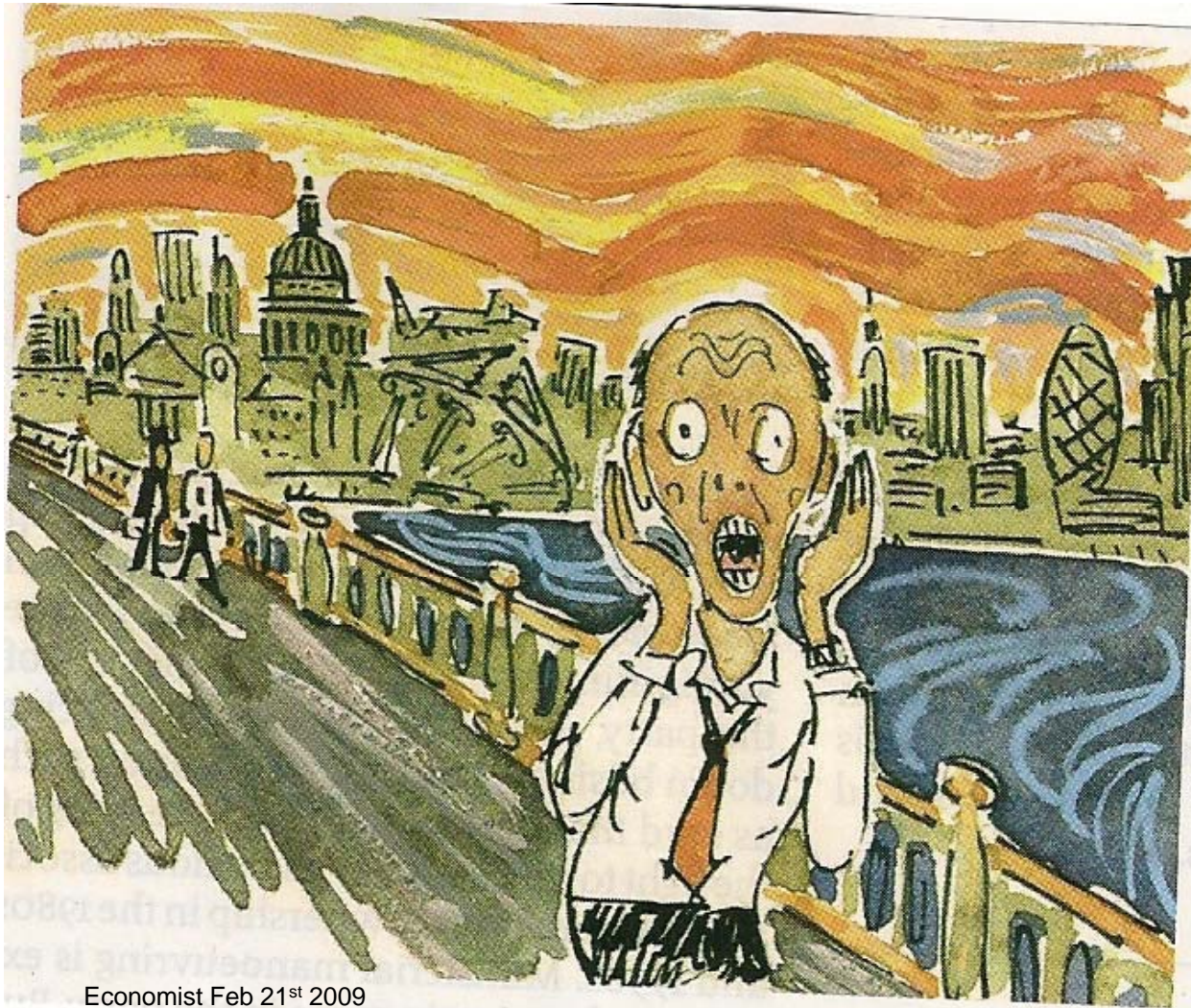
# **Softwood Lumber Outlook**

March 2009

Wade Camp

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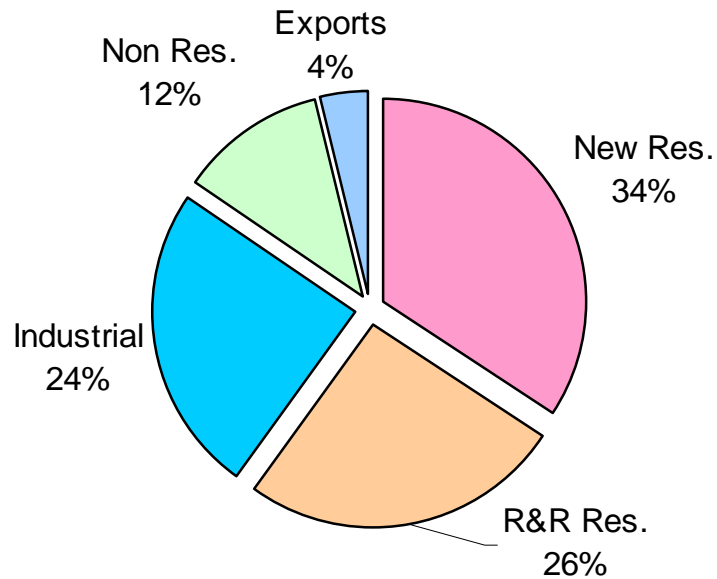
Economist Feb 21<sup>st</sup> 2009

# Today's Objective

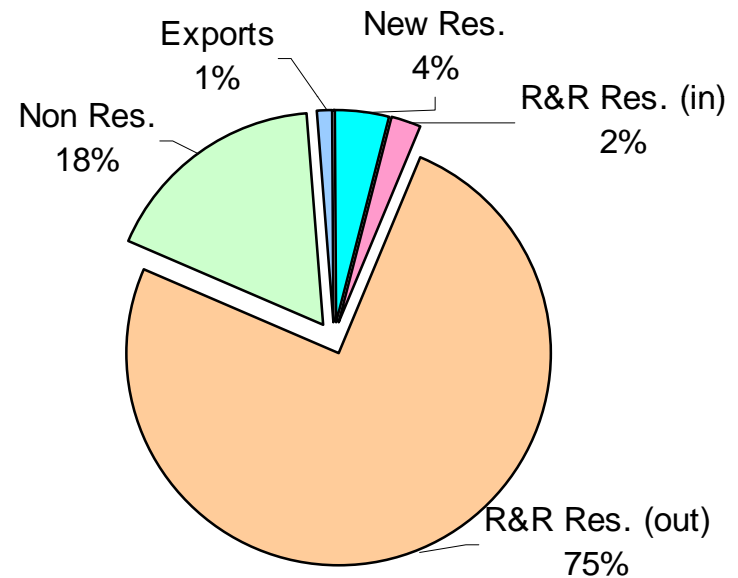
- Examine three demand drivers.
- Forecast U.S. softwood demand.
- Determine regional market share.
- Explore SYP capacity utilization and historical price relationship.
- Match price against industry cost curve. Who survives?

# SYP End-Use Markets

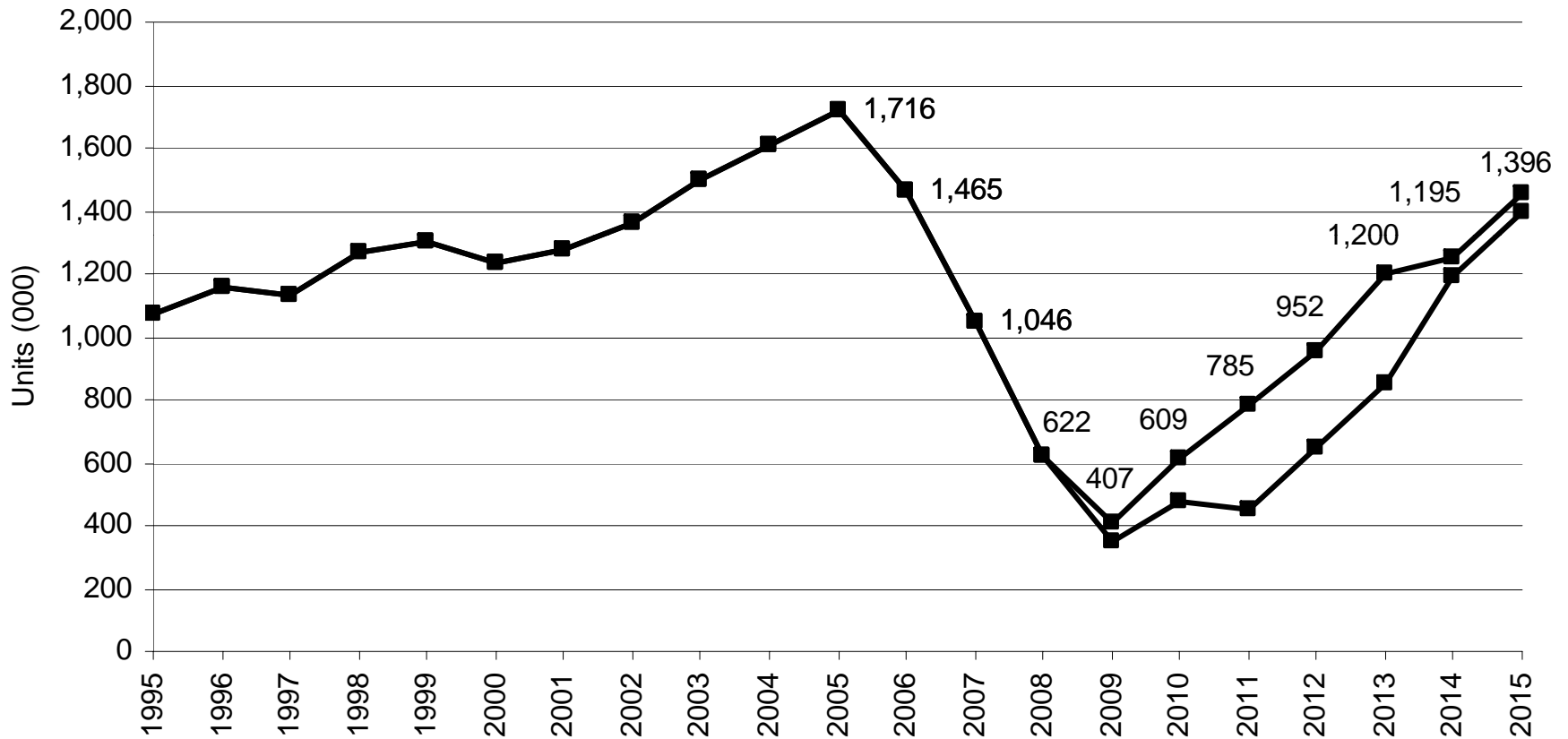
## Bright (~ 60%)



## Treated (~ 40%)



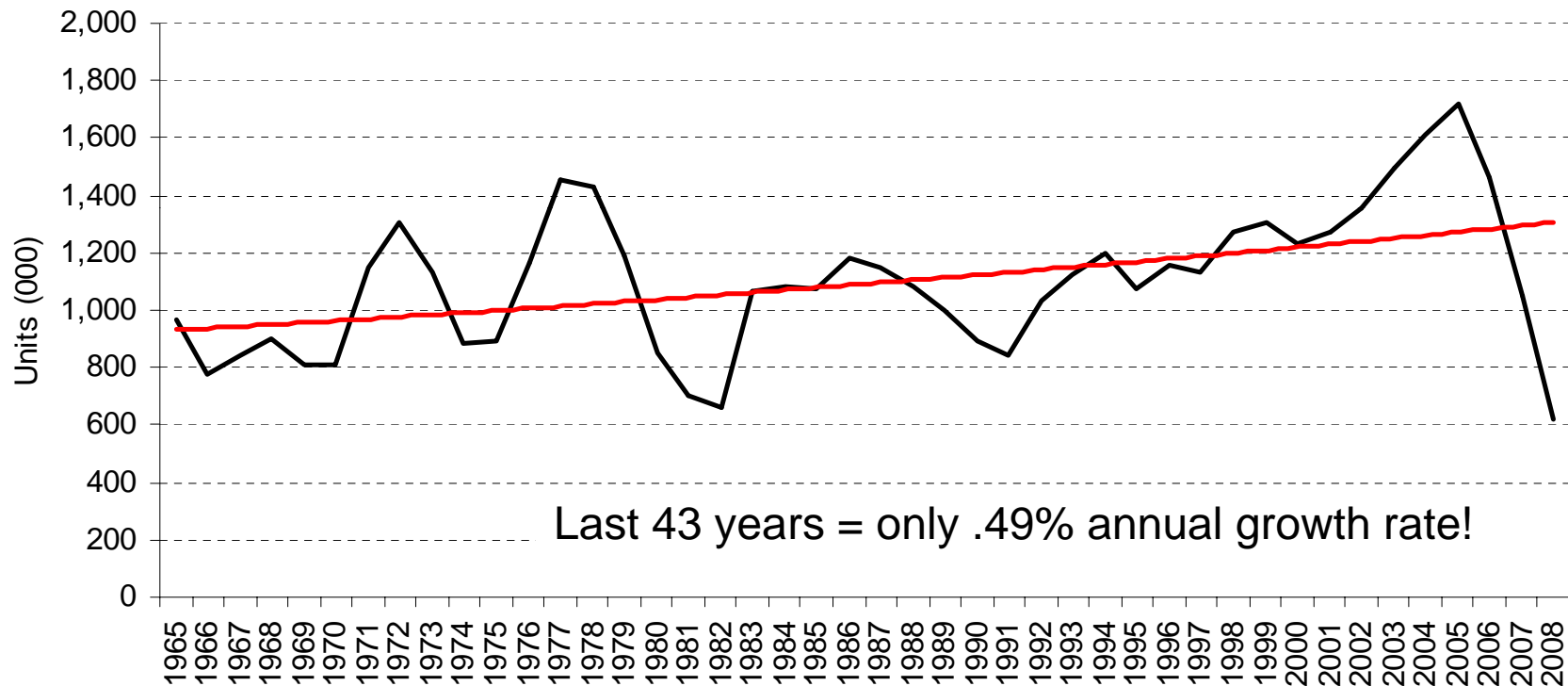
# Single-family Starts Forecast (expected and downside scenarios)



Source: U.S. Census Bureau at [www.census.gov/const](http://www.census.gov/const), 347 is SAAR for Jan

Forecast: 2009 and 2010 NAR, 2011-2015 W Camp

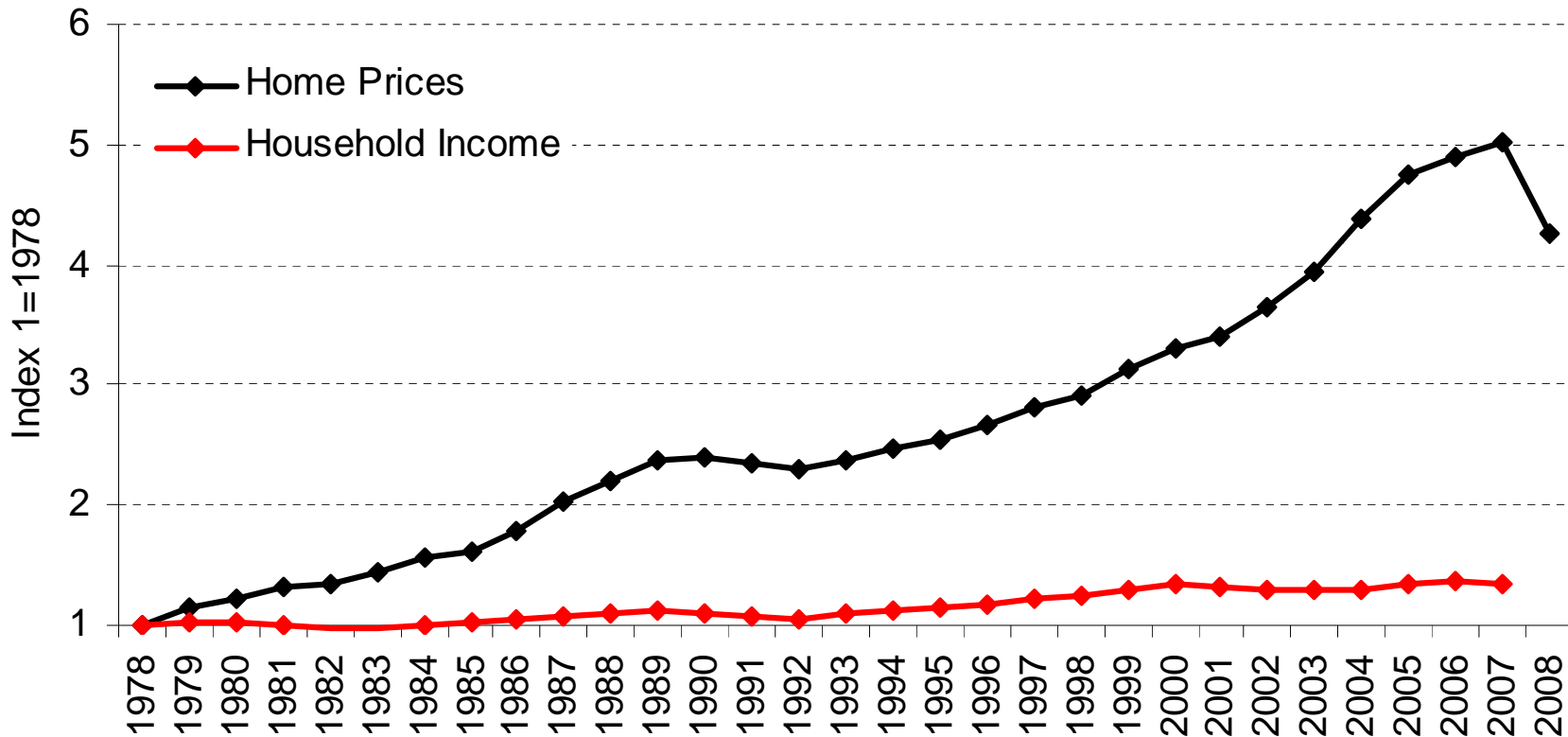
# Single-family Construction Historical Growth Rate



Source: U.S. Census Bureau at [www.census.gov/const](http://www.census.gov/const)

See appendix for annual rate calculation

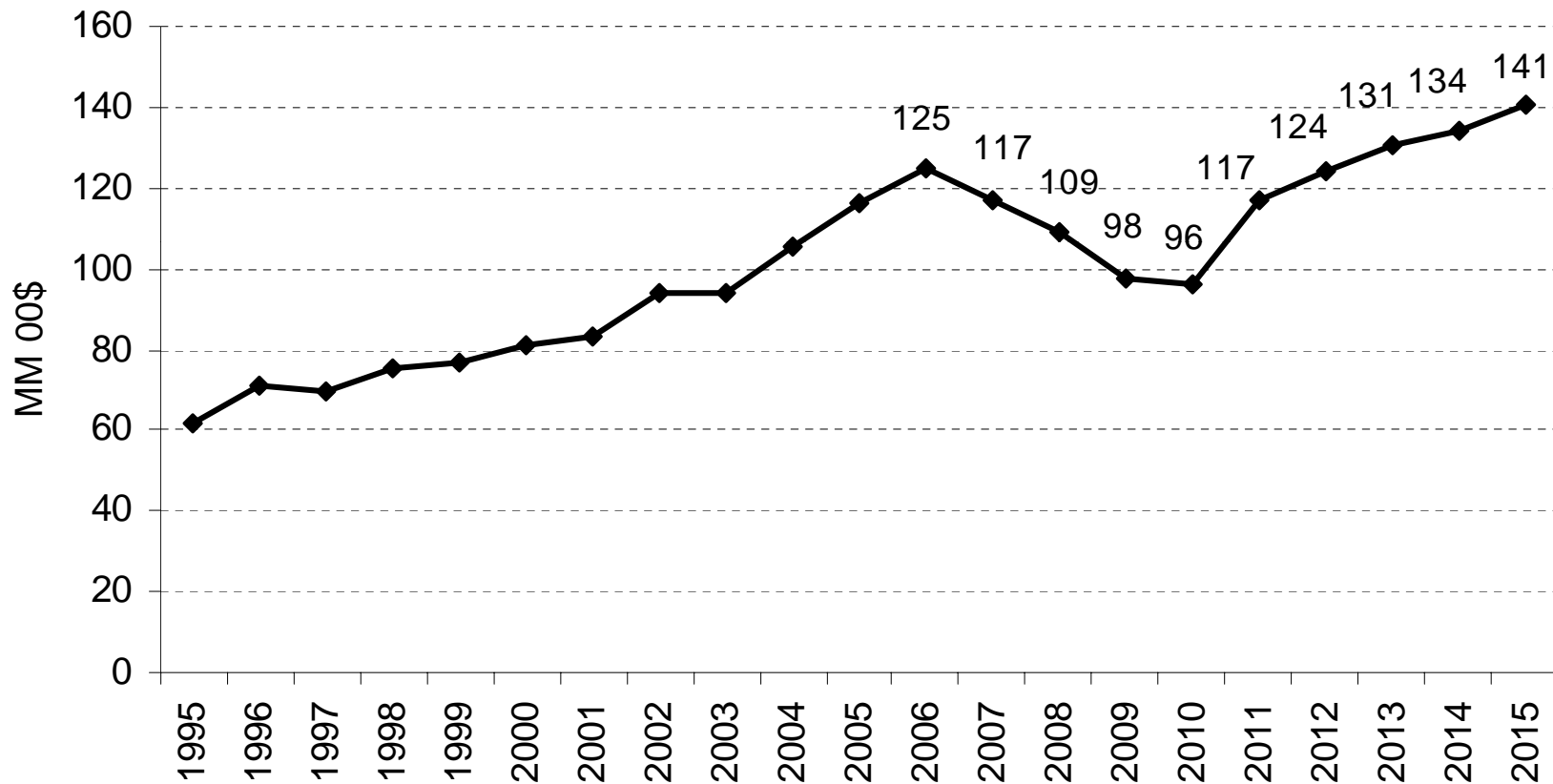
# Housing Affordability



Home Price Source: U.S Census Bureau at [www.census.gov/const/www/newresconst](http://www.census.gov/const/www/newresconst) and Case Schiller Index for 2008.

Household Income Source: U.S. Census at [www.census.gov/hhes/www/income](http://www.census.gov/hhes/www/income)

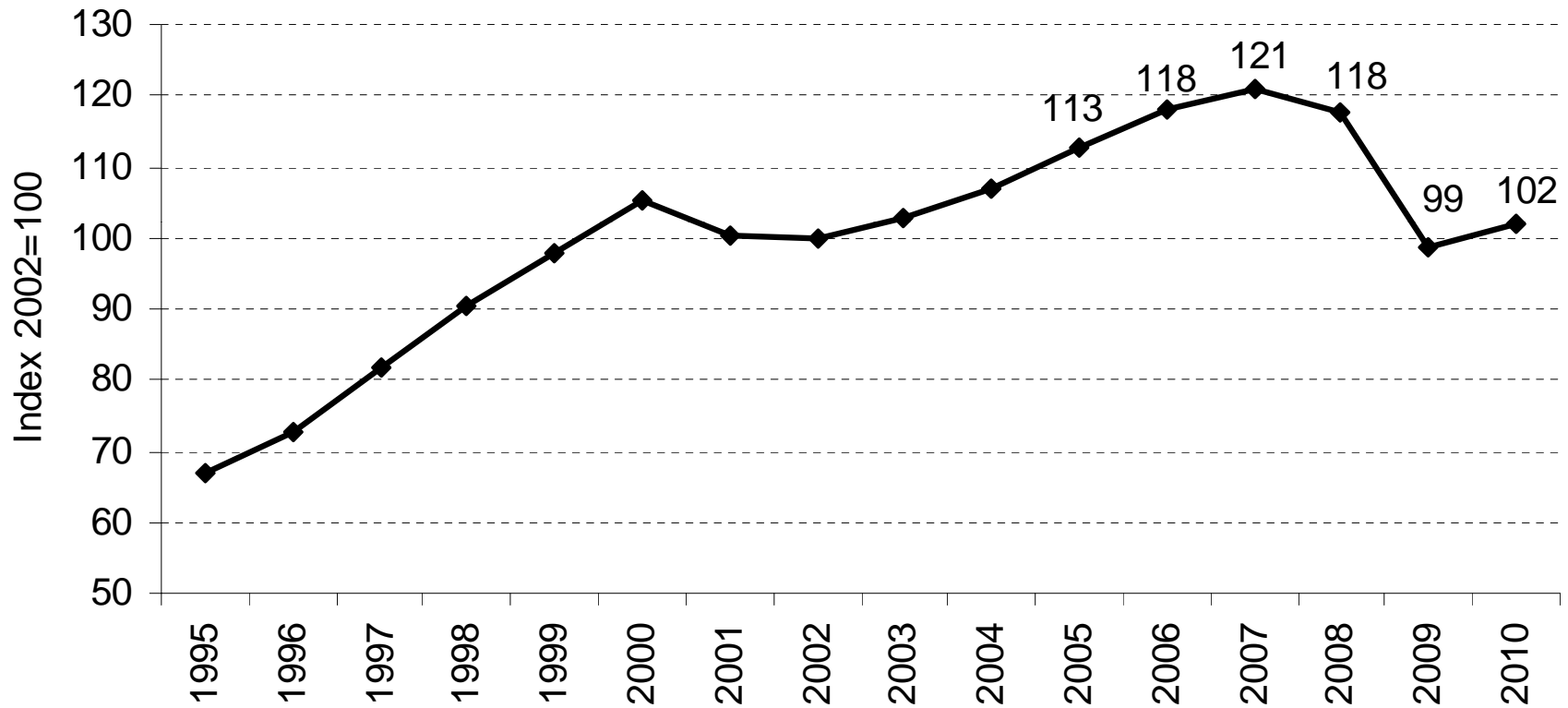
# Residential Improvement Spending (repair & remodeling)



Source: U.S. Census Bureau at [www.census.gov/const](http://www.census.gov/const) C-30 series.

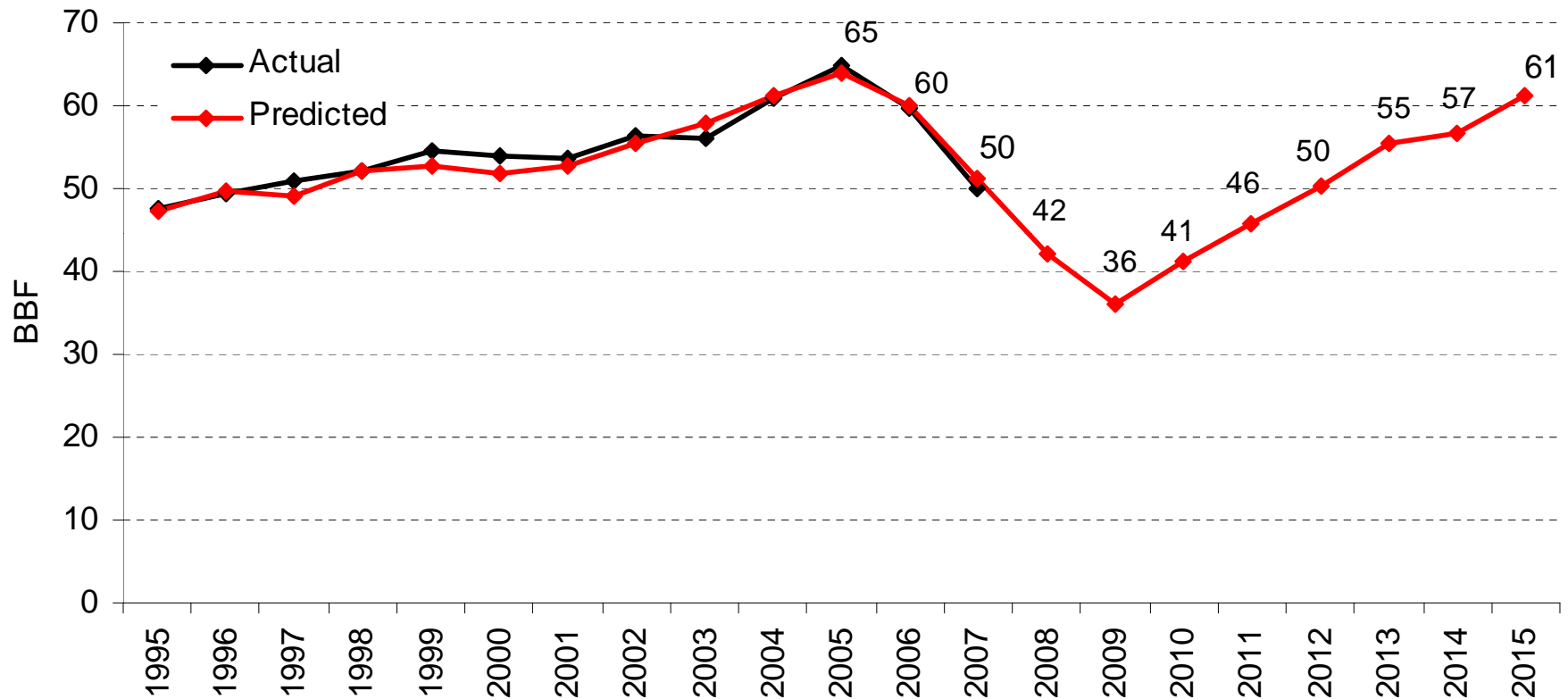
Forecast: implied from Harvard Joint Center for Housing

# Industrial Output (Durable goods)



Source: Industrial Production Index G.17 series FRB. 99 is Jan 2009.

# U.S Softwood Consumption (based on expected single-family units)



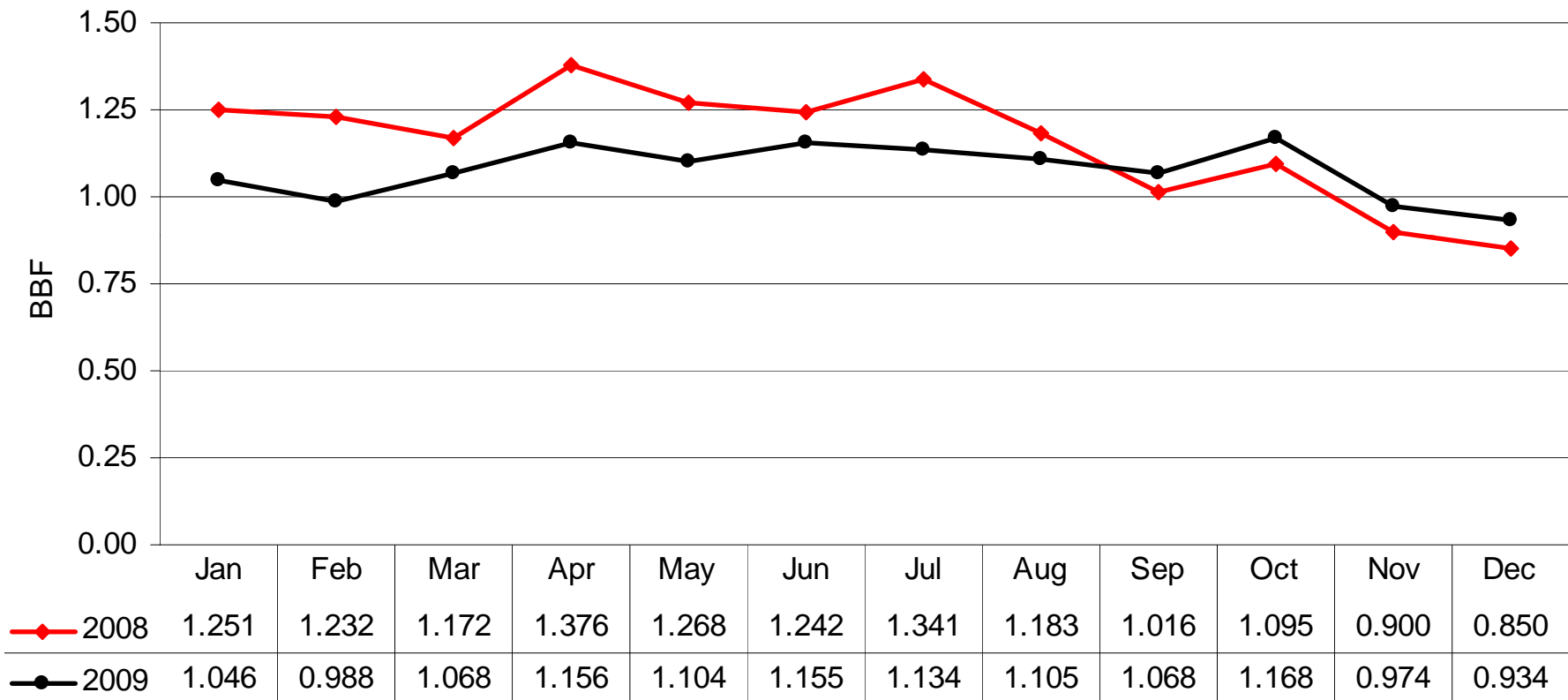
Source: See appendix for structural model. This model uses owner-occupied improvement spending and single-family unit construction as predictors.

# Market Share by Region

<b>BBF</b>	<b>2008</b>	<b>2009</b>	<b>2009 Share</b>
SYP	14.5	12.9	36%
DF/HF	13.1	12.0	33%
Imports	13.5	10.4	28%
North	1.1	1.0	3%
<b>Total</b>	<b>42.2</b>	<b>36.3</b>	<b>100%</b>

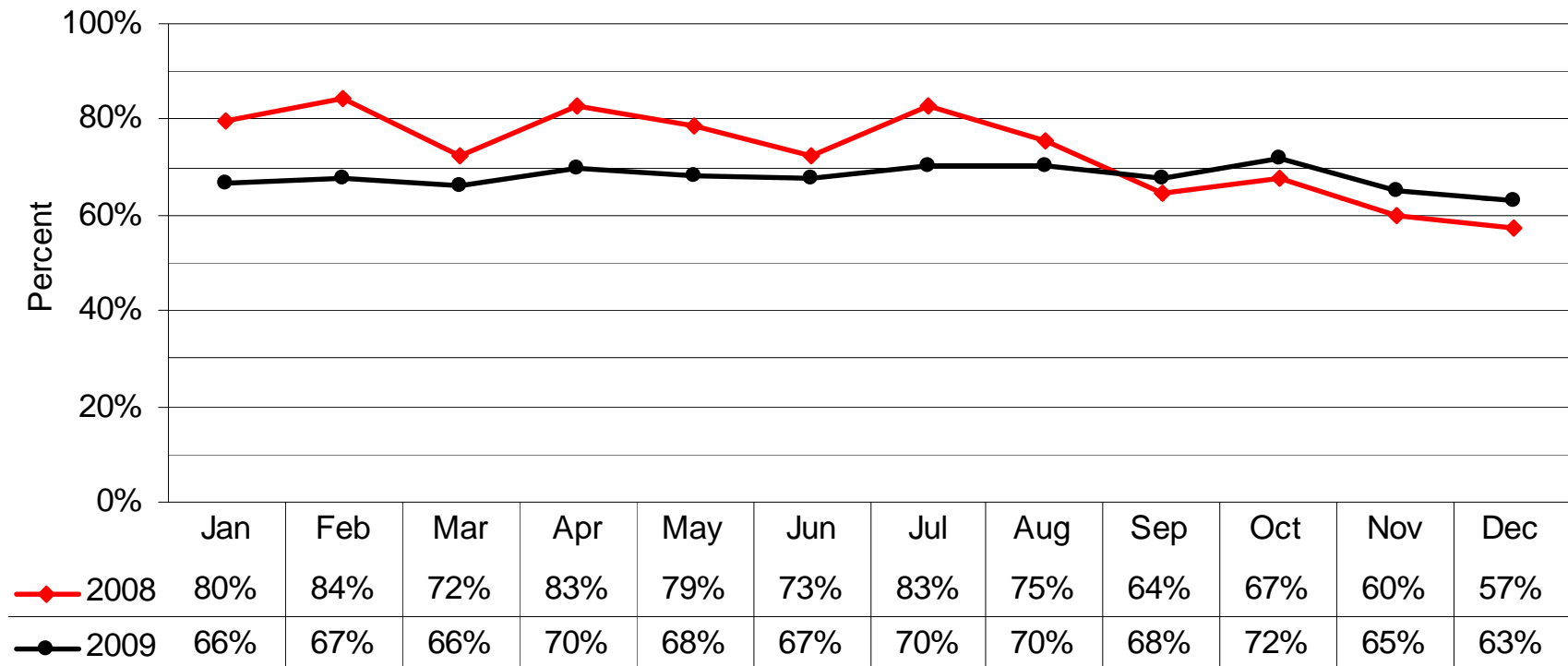
Sources: SYP from SFPFA. HF/DF from Random Lengths Yardstick®. Imports (Oct SAAR) from FAS.

# 2008 and 2009 SYP Monthly Shipments



Source: Through Oct 2008 actual from SFPA. 2009 forecast from consumption model with SYP holding 36% market share.

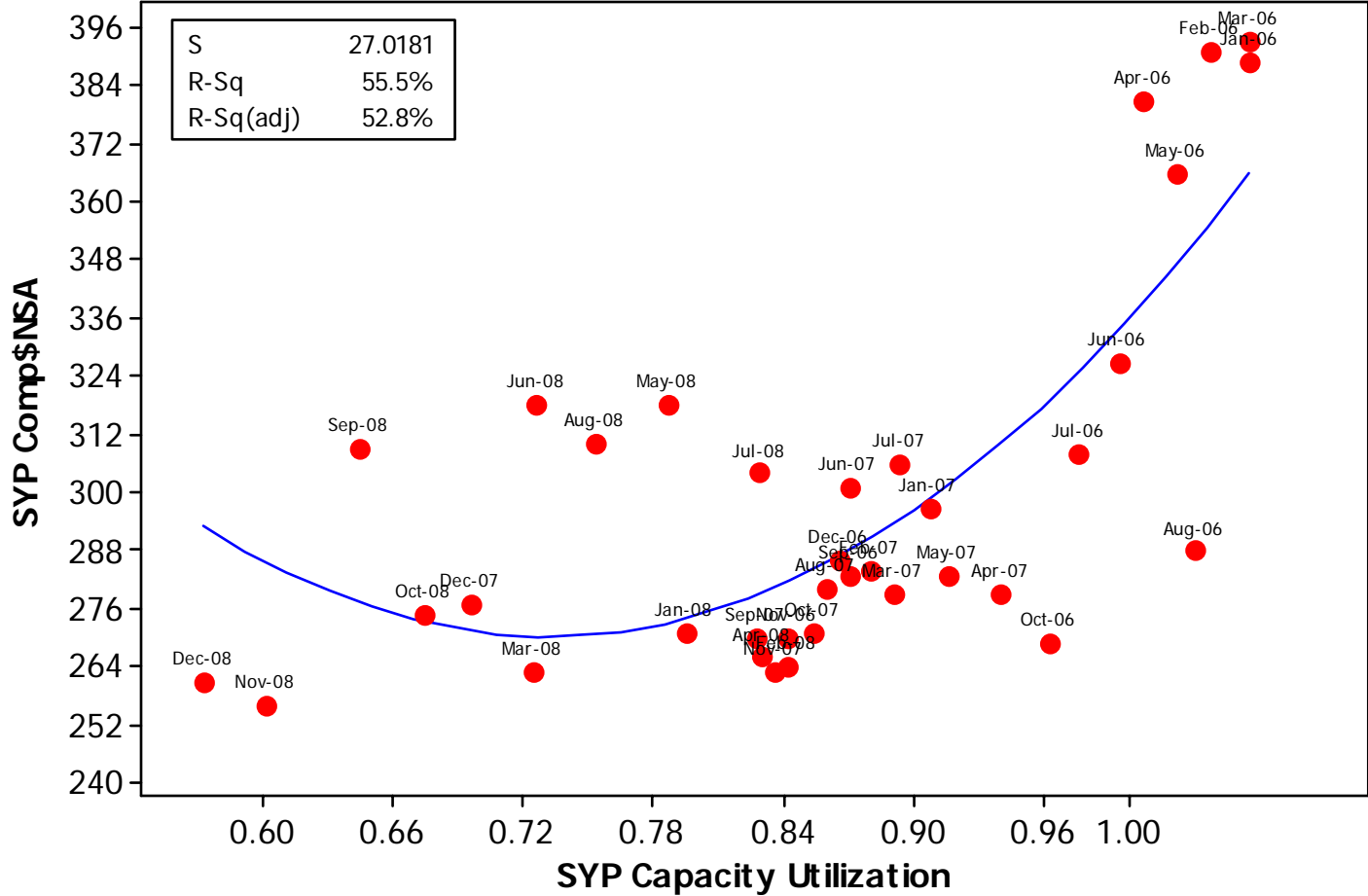
# 2008 and 2009 SYP Monthly Capacity Utilization



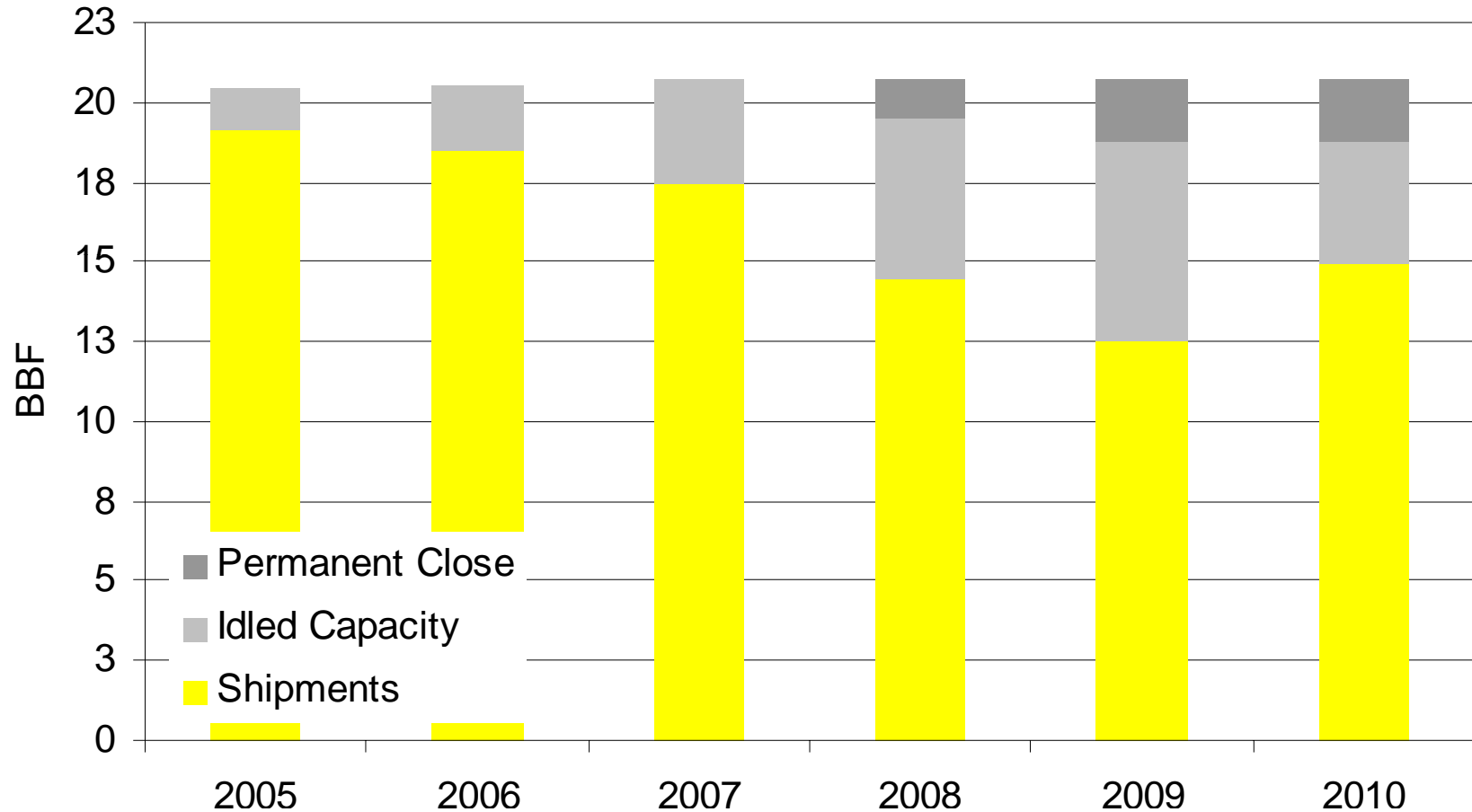
Source: SYP Capacity Utilization is calculated by dividing estimated or actual monthly shipments by the same month in 2005. 2005 represents maximum capacity year.

# SYP Capacity Utilization vs. Price

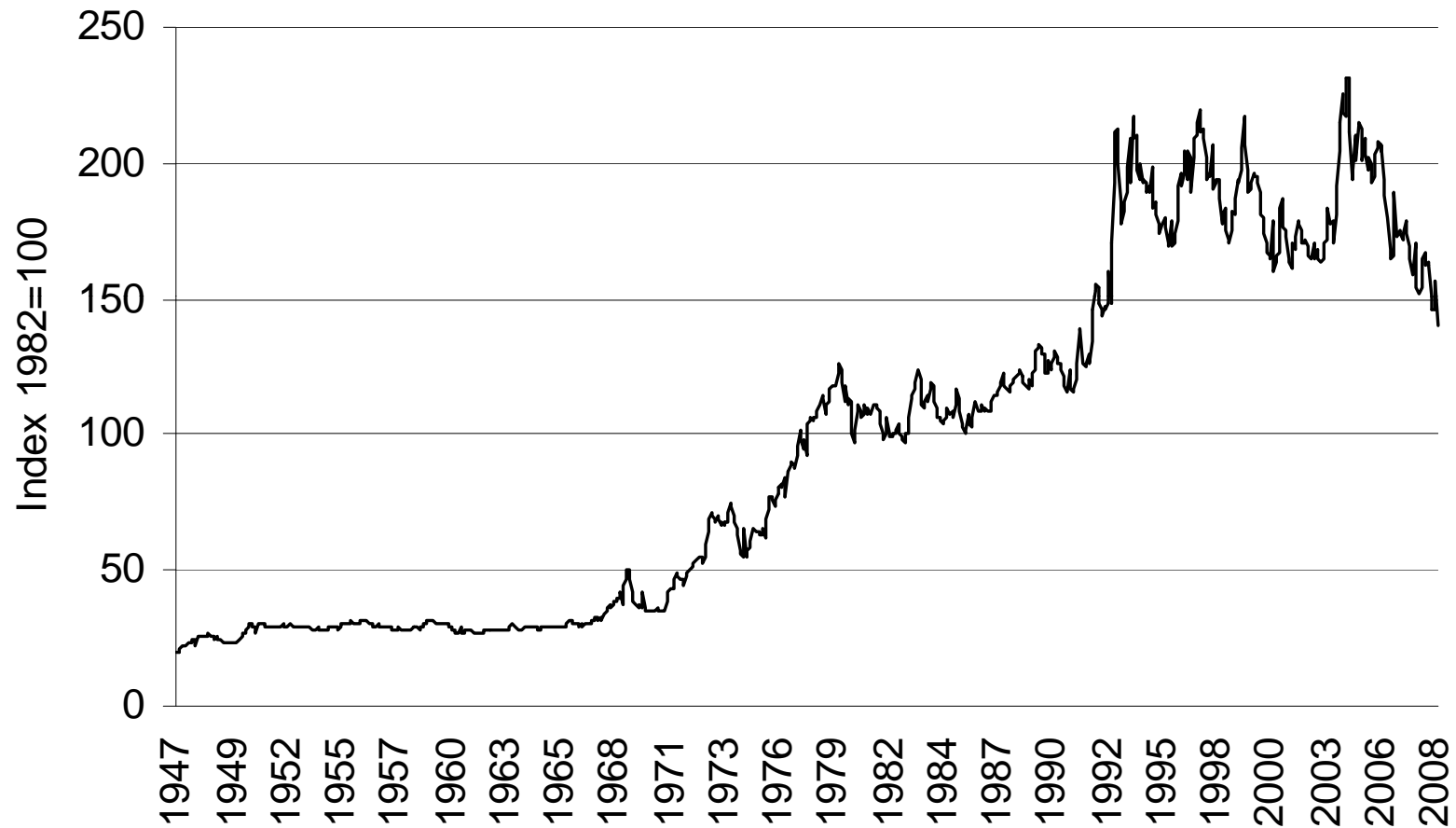
(Relationship 2006 through 2008)



# SYP Shipments vs. Capacity

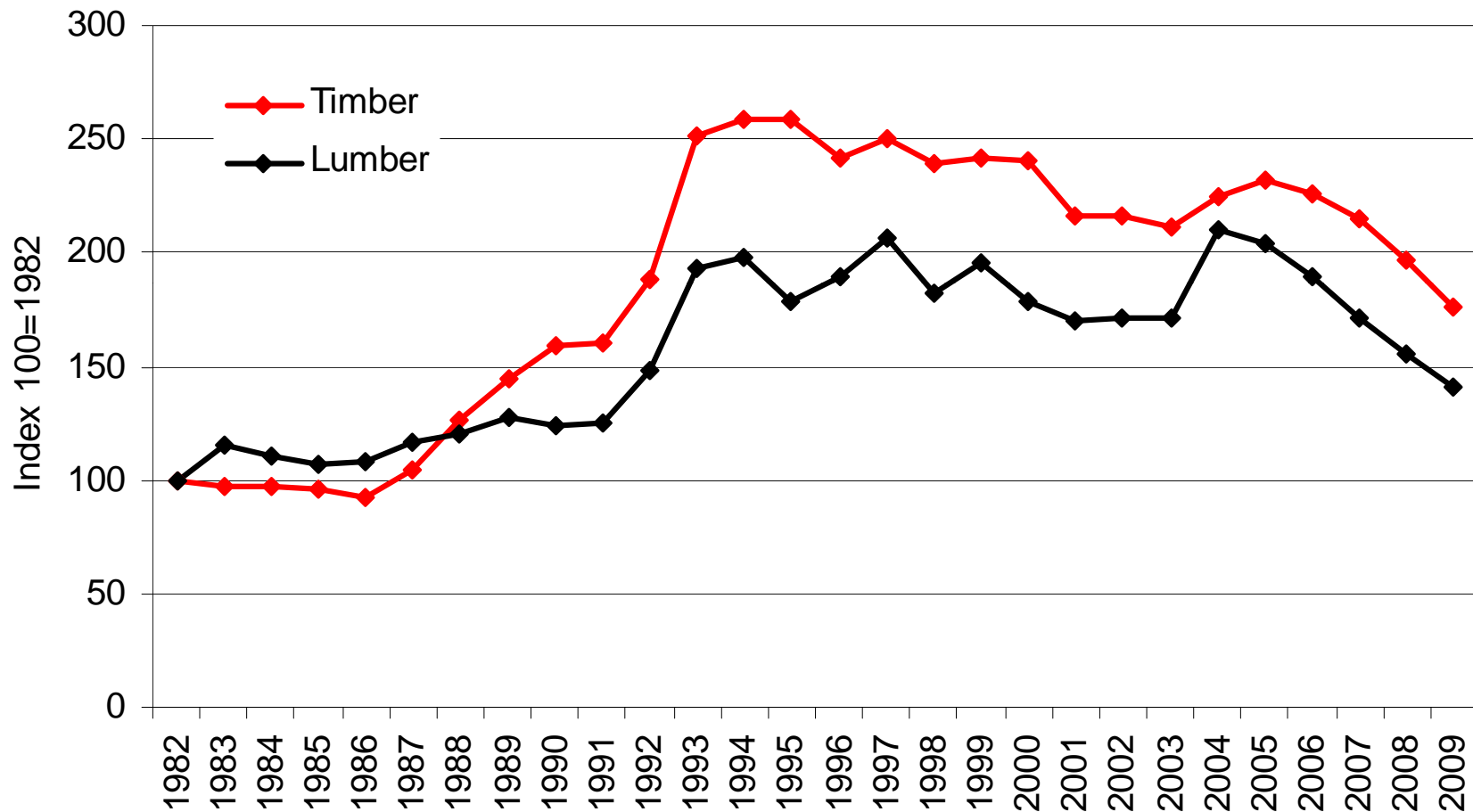


# Historical Softwood Lumber PPI



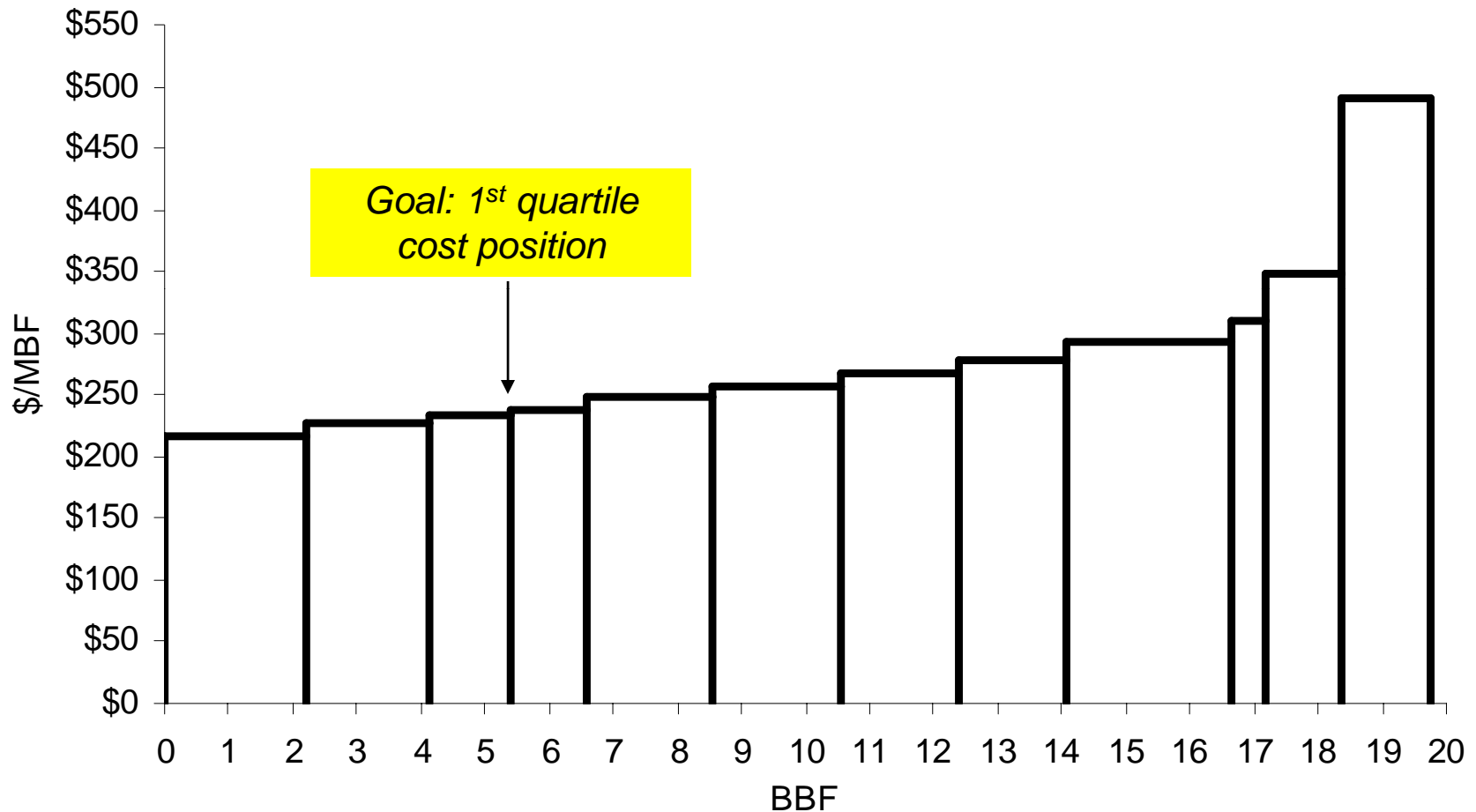
Source: Bureau Labor Statistics. Producer Price Index for Softwood Lumber, Logs and Bolts at [www.bls.gov/ppi](http://www.bls.gov/ppi)

# Timber vs. Lumber Price Trends



Source: Bureau Labor Statistics. Producer Price Index for Softwood Lumber, Logs and Bolts at [www.bls.gov/ppi](http://www.bls.gov/ppi)

# SYP Industry Cost Curve



Each bar is a percentile. Stack height is non-wood plus net wood costs (includes plant and corp. overhead).

Net wood calculated from IV'08 TMS® delivered log costs using TMS® state-level sawmill chip price.

Non-wood costs based on 2006 SFPA cost and SLMA salary surveys. See appendix for data.

# SYP Manufacturing Cost Competitiveness

<b>Statistic</b>	<b>Net wood</b>	<b>Non wood</b>	<b>Total Cost</b>
Minimum	\$100/M	\$82/M	\$193/M
1 <sup>st</sup> Quartile	118	100	234
Medium	139	111	256
3 <sup>rd</sup> Quartile	170	125	292
Maximum	363	170	491

Net wood and Non wood not additive across.

# Summary

- SYP will gain share at the expense of imports and U.S. West.
- For housing, there is no “upside”.
- R&R will out pace new residential consumption (treated could benefit).
- SYP utilization rates range 63% to 70% - prices remain under pressure.
- 1<sup>st</sup> Quartile operators survive.

# **Softwood Lumber Outlook**

## **QUESTIONS**

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# Appendix

# Softwood Market Sources for Analysis

Key Driver	Indicator	Source	Forecast
Residential Single-family	Units	U.S. Census Bureau <a href="http://www.census.gov/const">www.census.gov/const</a>	NAHB, NAR or FRB
R&R C-30 Put-in-Place (Improvements)	Spending	U.S. Census Bureau <a href="http://www.census.gov/const">www.census.gov/const</a>	Harvard Center Joint Housing Studies
Industrial Production Activity	Index	Federal Reserve Board	Philadelphia FRB Economic surveys
Non-Residential Construction	Spending	U.S. Census Bureau <a href="http://www.census.gov/const">www.census.gov/const</a>	ClearVision, McGraw-Hill or Moody's
Sawmill and logging Capacity Utilization	Index	Washington DC - FRB Email: Deepti Iyer m1dxi00@frb.gov	Forecasted consumption, allocated share and seasonal indexes
Prices Lumber and timber	PPI	Bureau Labor Statistics	N/A

# Single-family Growth Rate Calculation

$$\frac{(AvgNew - AvgOld)}{AvgOld} \times 100$$

Where:

AvgNew = Average of units in 2006, 2007 and 2008

AvgOld = Average of units in 1965, 1966 and 1967

The annual percentage growth rate is the percent growth divided by the numbers of years, in this case is 43 (2008 to 1965).

$$\frac{(1,045 - 862)}{862} \times 100 = 21\% \quad \frac{21\%}{43 \text{ yrs}} = 0.49\% \text{ annual growth}$$

# Softwood Lumber Consumption Multi Regression Model

Year	sf units	improve\$	BBF
1993	1125.7	64.8	45.7
1994	1198.4	71.6	48.2
1995	1076.2	61.6	47.6
1996	1160.9	70.7	49.5
1997	1133.7	69.8	51.0
1998	1271.4	75.0	52.2
1999	1302.4	76.7	54.4
2000	1230.9	81.1	54.0
2001	1273.3	83.0	53.7
2002	1358.6	93.9	56.4
2003	1499.0	94.3	56.1
2004	1610.5	105.5	60.9
2005	1715.8	116.3	64.7
2006	1465.4	124.8	59.6
2007	1046.0	117.1	51.1

X = independent variables = improvement spending and single-family starts (000).

Y = dependent variable (response) = BBF softwood lumber consumed.

Observations from 1993 to 2007 or 14 total for degrees of freedom of 12

t test value = 2.179 at 95% confidence interval

EQUATION:

$$\text{BBF Cons.} = 21.6 + (.019 * \text{sf units}) + (.086 * \text{spending})$$

Results			
Predictor	Coef.	T ratio	Significance
Constant	21.6	7.68	High
Independent X <sub>1</sub>	.019	6.93	High
Independent X <sub>2</sub>	.086	3.24	Low
R-squared	92%		
F statistic	71.1		High
Moderate multicollinearity			

# SYP Industry Cost Curve Data

<b>Percentiles</b>	<b>Full Cost</b>	<b>BBF</b>	<b>Accumulated BBF</b>
10%	\$217	2.204	2.204
20%	227	1.946	4.150
25%	234	1.251	5.401
30%	239	1.178	6.579
40%	248	1.983	8.562
50%	256	1.990	10.552
60%	267	1.821	12.374
70%	278	1.693	14.067
75%	292	2.585	16.652
80%	310	0.533	17.185
90%	349	1.174	18.359
100%	491	1.398	19.758