2015 HMA National Conference

Economic Outlook for Forest Products Industry

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Agenda for Today

- U.S. Economic outlook: Overall growth vs. housing starts
  - International Issues: Good, Bad and Ugly!
  - Softwood lumber outlook: Painfully slow recovery
  - Energy outlook and Biomass
  - Concluding comments, plus Q & A
“Great” recession: Deep and then sluggish rebound

GDP growth

-4 -2 0 2 4 6 8

Strategic Economic Analysis
Two parts to aggressive Fed Policy: Short Term rates to Zero and QE

Primary Fed Action: Zero rates

Then Quantitative Easing (QE)

Fed Assets have surged

Source: FRB Fed Reserve
Government Has Been Drag on Overall Recovery!

Contribution to Real GDP Growth

- Non Defense Federal
- Defense
- State and Local
Unlike Previous Cycles:
Housing Did Not Respond to Low Interest Rates

- Previous cycles caused by Federal Reserve actions and interest rate movements
- Sustained up cycle after 1991 laid groundwork for the severe down cycle and the extremely slow recovery
- Inventory correction, lack of household formation and tight credit restrain recovery
## U.S. Economy looks Great!
**Hitting on ALL Cylanders Now**

<table>
<thead>
<tr>
<th>Category</th>
<th>For 2014.4 (In 2009$, Billion)</th>
<th>Share of GDP (%)</th>
<th>% YA</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP-- Total</td>
<td>$16312*</td>
<td>--</td>
<td>2.5</td>
</tr>
<tr>
<td>Consumer</td>
<td>11145</td>
<td>68</td>
<td>2.9</td>
</tr>
<tr>
<td>Bus Inv.</td>
<td>2157</td>
<td>13</td>
<td>5.6</td>
</tr>
<tr>
<td>Res Inv.</td>
<td>505</td>
<td>3</td>
<td>2.6</td>
</tr>
<tr>
<td>Federal Gov.</td>
<td>1120</td>
<td>7</td>
<td>.2</td>
</tr>
<tr>
<td>S&amp;L Gov.</td>
<td>1775</td>
<td>11</td>
<td>1.1</td>
</tr>
<tr>
<td>Net Exports</td>
<td>-472</td>
<td>-2</td>
<td>NEG.</td>
</tr>
</tbody>
</table>

*In current $=$17.5 trillion—8% inflation over 5 years*
U.S Economy: Poised to sustain growth

- Factors holding back growth—government spending and housing should improve
- Fed has provided financial system with massive liquidity
- Employment, consumer confidence, drop in energy prices and net worth support even higher growth in consumer spending
The Federal Budget Deficit No Longer An Issue: Now They Can Work Together!?

Government Revenues and Outlays as Percent of GDP

Dotted Lines are 1972-2012 Averages

Source: Congressional Budget Office
“Party Like it is 1999!”

Employment surged 2.4% last year

Employment*

*U.S. Non-farm employment
Big shift in income shares after 2005-
Big issue for type of goods sold!!!

Chart 2
Labor's Share of GDP, Nonfinancial Corporations

As real hourly compensation fell relative to average labor productivity, labor's share of GDP plummeted after remaining roughly constant for 50 years.

Source: Bureau of Economic Analysis; Macroeconomic Advisers, LLC
Furniture production should continue to improve, unless…..

Growth in U.S. Furniture Production
Tremendous wealth gain, especially for top 1%
What is holding housing back?

Million Units

- Multi Family
- Single Family

Jan-05  Jan-07  Jan-09  Jan-11  1/1/2013  2/1/2015
Household formations below trend: Should improve with employment and wages

* ANNUAL AVERAGE—Occupied Housing Stock estimate
Missing in Action: Young Adults

- Primary reason for below trend household growth
- Dramatic population growth for under 35, but NO household formations
- Variety of factors at work
- PENT UP DEMAND?

Population vs. Households 2007-2013

- Population
- Households

Variations by Age Group:
- Under 25
- 25-29
- 30-34
- 35-39

- 2007
- 2013

Variations in Household Growth vs. Population Growth:
- PENT UP DEMAND?
Drives housing starts back to 1.7-1.8 million with lower single family share—if….
Reason SF starts so weak: Decline in ownership rate

Overall Homeownership rate misleading

Below 1995 for younger adults

Ownership Rate for Under age 35 Adults


1995 2000 2005 2010
Bottom Line: Strong U.S. Economic growth, but…

- Stronger growth, particularly consumer spending
- Government no longer a constraint
- Housing should also contribute to growth
- Financial system awash in liquidity
What Will the Federal Reserve Do?

“Historic Guide for FED action

“Take away the punchbowl before the party really gets going!”

SO WHY IS THE FED BEING SO PATIENT? SLOW TO ACT??
Inflation not Issue Yet, but…

**Consumer Price Index**

<table>
<thead>
<tr>
<th>Year</th>
<th>Annual %</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>-1.0%</td>
</tr>
<tr>
<td>2002</td>
<td>0.0%</td>
</tr>
<tr>
<td>2004</td>
<td>1.0%</td>
</tr>
<tr>
<td>2006</td>
<td>2.0%</td>
</tr>
<tr>
<td>2008</td>
<td>3.0%</td>
</tr>
<tr>
<td>2010</td>
<td>4.0%</td>
</tr>
<tr>
<td>2012</td>
<td>5.0%</td>
</tr>
<tr>
<td>2014</td>
<td>Forecast</td>
</tr>
<tr>
<td>2016</td>
<td>2.0%</td>
</tr>
</tbody>
</table>

S T R A T E G I C  E C O N O M I C  A N A L Y S I S
One reason Fed is “patient”: Wages not following unemployment

US: Wages should rise as unemployment gap closes

- Long run NAIRU minus unemployment rate (LHS)
- Private industry wage growth (RHS)

Source: Oxford Economics/Haver Analytics
One Rate Forecast of FOMC:
Implications for Economy and YOU!!!

10-Year Government Bond Yield

3-Month T-Bill Rate

Strategic Economic Analysis
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International situation Not Pretty and
Big Implications for Forest Products

• Europe is struggling with deflation and Greece default: Future of Euro?
• ISIS and Middle East: need for more defense spending in U.S.? Oil prices?
• Russia and Ukraine: Collapse in Ruble and trade with China?
• China slowdown: Growth fell below 4% last year—so what? Housing starts and demand for lumber and logs?
One Shocker:
Serious drop in value of Euro

<table>
<thead>
<tr>
<th>Year</th>
<th>$US/ Euro</th>
</tr>
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<tbody>
<tr>
<td>2009</td>
<td>$1.40</td>
</tr>
<tr>
<td>2010</td>
<td>$1.50</td>
</tr>
<tr>
<td>2011</td>
<td>$1.35</td>
</tr>
<tr>
<td>2012</td>
<td>$1.20</td>
</tr>
<tr>
<td>2013</td>
<td>$1.15</td>
</tr>
<tr>
<td>2014</td>
<td>$1.10</td>
</tr>
<tr>
<td>2015</td>
<td>$1.05</td>
</tr>
</tbody>
</table>
Europe Continues to Struggle

Outlook: IMF
Decline in Ruble:
Clear drop in delivered cost of logs/lumber to China

Rubles/US $
China Growth Slowdown: Big issue for range of commodities, plus…..

Commodity Housing Starts*

- Started
- Completed

*Source: Straszheim Economics
2014 based on Financial Times Estimate
Trivia Factoid:
China Used More Cement in Last Three Years Than US Did in 20th Century


4.5  6.6

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New Residential Construction Drives Cycle in U.S. and NA Lumber Demand

U.S. Lumber Demand

N.A. Lumber Demand
Recent Prices Rebounded to Cash Cost, except U.S. South

Prices fell below cash break even in 2008-09

Most of price rebound reflects underlying cost of producing lumber

Low operating rate has kept margins for the average mill near break even

Only region where mills are very profitable: U.S. South
Remodeling expenditures: modest growth expected

Historically lags existing home sales and in trend grows with consumer disposable income

Rebound in home equity should also help

Some make-up seems likely given deferred repair and aging housing stock
Even so
House prices have rebounded and boosted net worth

Home prices collapse, then...

Helps Consumer Balance Sheet

*SOURCE: FRB flow of funds
Primary driver of overall demand recovery will be U.S. Housing starts and remodeling expenditures.

Net export outlook has two components:

- Demand for lumber in China—primarily from Canada
- Imports for Europe, when operating rates and prices get high
Chinese Lumber Imports down 8% in 2014
Demand for West Coast Log Exports:
Japan stable, China drops

BBF, Scribner

Other
S. Korea
China
Japan

00Q1 01Q1 02Q1 03Q1 04Q1 05Q1 06Q1 07Q1 08Q1 09Q1 10Q1 11Q1 12Q1 13Q1 14Q1
Trees are commercial for 8 years, then have limited use in sawmill, but could still meet some export needs.

Harvests were boosted to remove dead stands, but harvest will continue to decline after 2015.

Like Spotted Owl in early 1990’s won’t see problem until demand recovers.

Source: FEA estimates
High mill margins and timber supply, will push South to new peak production levels.
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Oil and gas prices plunge

Natural Gas multiplied by 10.

Nominal price, $, weekly

Oil Price

Natural Gas Price *

$47.08

$3.06
U.S. Oil Rigs Down 18% Since October: Demand for Hardwood mats
Oil Price decline and the Canadian Dollar: Big issue for Forest products Industry

Until recently, assumed it would remain near parity along with $100/barrel oil price—but things changed.

C$ is crucial to the U.S. product outlook: now near Purchasing Power Parity.
Growth in Pellet Exports
Major part of Bio-energy demand growth

- US South Softwood Pulpwood Demand by End-Use
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Bottom Line: Strong U.S. Economic growth, but...

- Stronger growth, particularly consumer spending
- Interest begin to be “normalized”
- Significant push in wage rates
- International situation becomes even more challenging and risky
- Very challenging period for personal and business finance decisions