Trends in North American Forest Products Markets:
A TIMO Perspective

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Campbell Global LLC Overview

- Founded in 1981 & headquartered in Portland, Oregon, USA
- Business focus: Timber & timberland resources
- US$6.4 billion in timberland assets under management*
- 3.1 million acres (1.3 million hectares) under management
- Employ more than 300 staff members in 14 states & two countries
- Timber Industry Management Organization (TIMO):
  - Source & structure timberland investments for clients
  - Manage client-owned timberland
  - Market & sell clients’ timberland investments

* Current asset value based on the most recent independent appraisal or internal valuation data.
Australia Green Triangle
3.7 million m³ softwood sawlog
25% of Australia total production
Total Campbell Holdings:
~232,000 acres (~94,000 hectares)

U.S. Pacific Northwest
47.36 million m³ softwood sawlog
34% of U.S. production
Total Campbell Holdings:
~660,000 acres (~270,000 hectares)

U.S. South
71.92 million m³ softwood sawlog
51% of U.S. production
Total Campbell Holdings:
~2.2 million acres (~900,000 hectares)

CAMPBELL GLOBAL
MANAGED TIMBERLANDS
Approximate Total Acres: 3,103,800
Approximate Total Hectares: 1,256,000

Source: RISI, CG
Key US Macroeconomic Considerations

- Most factors needed for wood products demand recovery are in place:
  - Improved household balance sheets
  - Lenders are taking on increased risk
  - Accelerating employment growth
  - Consumers loosening purse strings … cautiously
Household Balance Sheets are in Great Shape

US Household Debt Payments as a Proportion of Disposable Personal Income

Source: FRB
Lenders Becoming Increasingly Expansive; Mortgage Lending Still Lags

Annual change in household liabilities by selected loan type

- Home mortgages (household sector only)
- Consumer credit: Credit card loans
- Consumer credit: Auto loans
- Consumer credit: Student loans

Source: FRB
Residential Construction Employment Especially Buoyant

US Employment Growth

Year-over-year employment growth rate

US Employment Growth

Source: BLS

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Awaiting Return of the US Consumer …

- Paying down debt remains a priority for many
  - Interest rates will only go up!
- Baby-boomer demographics
  - Older households tend to spend less than younger households
- Consumer purchasing power turning around
  - Weak US$ turning around now
  - Declining fuel prices
- Subdued income growth
  - Real wages have struggled to beat inflation for last 5 years
  - Job quality issues
- Income distribution
Median Real Income Growing Slowly; Rising Wages Needed to Fill Gap

Real Household Income: Comparison of Median with Mean

- Median Real Household Income (Sentier Research)
- Mean Real Household Personal Income (BEA, Census)

Source: FEA

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Sawn Timber & Structural Panels Consumption will Recover when Housing Recovers

Data are in units reported by source. 1 Mbf sawn timber equals 2.36 m³ full sawn volume or 1.57 m³ actual volume. 1 Msf (3/8” basis) equals 0.89 m³.
Most Factors Needed for Housing Recovery also in Place

- Excess unsold home inventories down
  - Shadow inventories declining also
- Pent-up housing demand building
- Affordability remains favorable
  - Despite rising house prices & subdued income growth
Unsold Housing Inventories At or Below Pre-downturn Levels

Inventories of new single-family and existing houses for sale

Sources: US Census Bureau, National Association of Realtors
Looking Forward to Release of Pent-up Demand from Recession Years

US Pent-up Demand for Housing

![Graph showing US Pent-up Demand for Housing from 2005 to 2013. The demand increased significantly from 2009 onwards, reaching its peak in 2013. The source of the data is RISI.](image)

Source: RISI
Housing Affordability Remains High

Comparison of Median Price for Existing Homes with Home Affordability Index

Median price of existing homes (nominal US$) vs. Affordability index (i.e., ratio of median family income to qualifying income)

Source: NAR

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Sawn Timber & Structural Panels Consumption Forecast to Rise Steeply

Data are in units reported by source. 1 Mbf sawn timber equals 2.36 m$^3$ full sawn volume or 1.57 m$^3$ actual volume. 1 Msf (3/8" basis) equals 0.89 m$^3$. 

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WHAT DOES THIS MEAN FOR LOG PRICES?
What Does this Mean for Log Prices?

- Cyclic adjustment phase
  - Recovery in US housing drives expanding demand
    - Especially in US South
  - Reduction of deferred harvest volume in US South
  - Softening log demand in China
Significant Deferred Harvest Volumes in US South

Estimated deferred harvest compared with average harvest prior to downturn

Data are in units reported by source. 1 Mbf International ¼” rule log volume equals approximately 5.8 m³.

Source: FEA

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What Does this Mean for Log Prices? (cont.)

- Cyclic adjustment phase
- Trend phase
  - Expanding log demand
    - Domestic & foreign
  - Contracting Canadian timber supply
  - Potentially expanding US South timber supply
China Fiber Deficit

Source: IWG
But Where will the Needed Product Come From? (Boiling Frogs)

BC Interior Merchantable Softwood Log Harvest: History and Forecast

Note: Merchantable includes sawlog and "low-grade" logs
Sources: BC MoFR, IWG

-19% (≈ 9 million m³)
Maturing Age Classes Approaching Harvest in the US South

Area planted in Southern Yellow Pine in the US South

Source: Harper et al.
How Much Southern Timber will be Harvested?

- Available harvest & haul capacity
- Operability, e.g., ground conditions, economic margin
- Over-mature age classes, especially natural regeneration
- Other harvest restrictions, e.g., conservation plantings, etc.?
- Conversion from timberland to ‘higher & better’ use
Sawlog Prices Tracked Sawn Timber Prices Through the Downturn in US West Coast Region …

Delivered Price for Douglas-fir #2 Sawlogs in Lower Columbia River Region Compared with Douglas-fir Lumber Price Index

Data are in units reported by source. † Mbf Scribner long log scale equals approximately 6.5 m³ log volume. † Mbf sawn timber equals 2.36 m³ full sawn volume or 1.57 m³ actual volume.

Sources: Loglines, WWPA
But Sawlog-Sawn Timber Price Tracking Slow to Re-emerge in US South

Pine Sawtimber: Comparison of Stumpage and Delivered Prices in Southeast Texas (TMS Region 2) with Southern Yellow Pine Lumber Price (2x4, #2 kd, Westside)

Data are in units reported by source. 1 (short) green ton equals approximately 0.82 m$^3$ log volume. 1Mbf sawn timber equals 2.36 m$^3$ full sawn volume or 1.57 m$^3$ actual volume.

Sources: Timber Mart-South, Random Lengths
Different Set of Drivers Influencing Pulpwood Prices, Especially in US South

Delivered Softwood Fiber Prices in the US South Central Region

Data are in units reported by source. 1 (short) green ton equals approximately 0.91 tonnes.

Sources: IWR, WBMR
Expanding Consumption of Pulpwood Anticipated for OSB & Bioenergy Production

Roundwood Demand in the US South for Pulp, Oriented Strandboard, and Bioenergy Production

Source: FEA
Will Upsurge in North American Wood Pellet Production Have Legs?

Comparison of Natural Gas Prices in the USA, Germany, and Japan Compared with Average Crude Oil Price

Source: IMF
US housing recovery slowly gathering traction

- Strong export demand
  - A boon to western timber growers

Log demand & price recovery in the US South awaits:
- Accelerating US housing recovery, in conjunction with
- Tightening SPF sawn timber supply from Canada
- A matter of timing: Which will come first?

Increasingly fierce competition for fiber at woodshed level:
- Pulpmills, pellet mills, OSB mills
What Does This Mean for Timberland Value?

- Major value drivers:
  - Price
    - Sawlog prices typically double pulplog prices
    - Cyclic log price adjustment
    - Longer-term US demand & supply fundamentals drive trend prices
      - Outlook for rising real softwood sawlog prices
  - Discount rate
    - Currently compressing, reflecting:
      - Product price expectations
      - Demand for timberland investments
      - Availability of investment opportunities
QUESTIONS ARE WELCOME
APPENDIX
About US$44 Billion in Assets & 30 Million Acres Under Management (12/31/2013)

Source: Timberlink
US Private Timberland Ownership Increasingly Dominated by TIMOs & REITs

Change in Ownership Status of Timberland Formerly Owned by the US Forest Industry, by Ownership Category

Notes: (1) Includes REIT conversions; (2) Timberland data from USFS (GTR-NC241 & GTR NRS-27); (3) Totals may not add due to rounding