



Third Quarter 2017

Hancock Timberland Investor

China's Softwood Log Markets – Impending Change

China is the largest importer of softwood sawlogs in the world, with a decades long trend of rising imports which reached a new peak in 2017. Yet, China may be approaching a turning-point as a build-up in its debt levels clouds the prospects for China's construction sector while at the same time, China's preference shifts from importing unprocessed sawlogs toward favoring lumber.

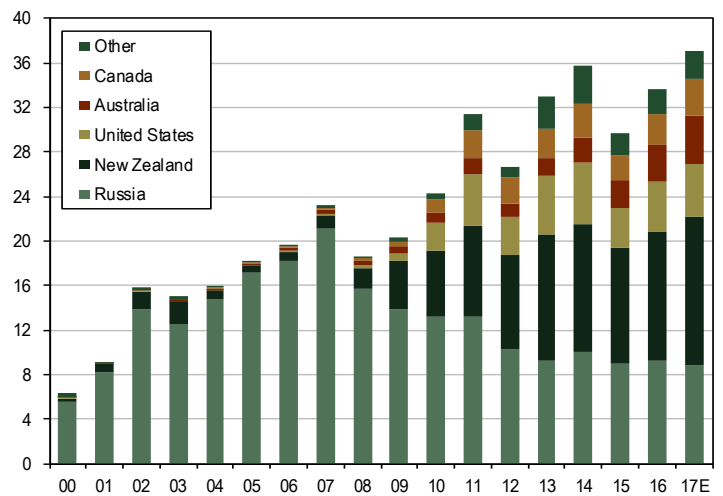
China is the largest importer of unprocessed softwood sawlogs in the world, accounting for over 42 percent of globally traded logs in 2016¹. China is on track to set a new record for imports of softwood sawlogs in 2017. Based on the trade data for the first ten months of 2017, Chinese imports of softwood sawlogs will reach 37 MMCM, 3.6 percent above the previous annual peak set in 2014, and almost double the volume imported at the time of the GFC in 2008.

China's growing appetite for imported softwood logs over the past decade has had direct and positive impacts on the demand and pricing of softwood timber in a number of regions in which institutional investors own and manage significant timberland assets, including New Zealand, Australia, and the U.S. (*Chart 1, New High for Softwood Log Imports*). Looking forward, China's demand for imported softwood sawlogs may be approaching an inflection point as debt build up in China's economy could dampen prospects for the construction sector, and China's shift in preference away from importing unprocessed sawlogs to lumber continues to strengthen.

A key driver of China's increased imports of softwood sawlogs has been the growth in construction activity. Between 2008 and 2016, total construction activity in China increased 81 percent, from 585 million square meters to 1061 million square meters, and was accompanied by a corresponding increase in softwood log imports (*Chart 2. Construction Activity Reaching Peak, on page 2*). The boom in Chinese construction activity in the wake of the GFC was fueled by an explosive expansion in debt. Total private nonfinancial

New High for Softwood Log Imports

Chart 1: China: Softwood Log Imports by Source, 2000-2017E (Million Cubic Meters)



Source: RISI, China Timber Supply Outlook, 2017

sector debt in China as a percent of GDP increased from 109 percent in 2008 to 202 percent in 2016. Real estate investment has been an important contributor to both the growth in the overall Chinese economy and in China's debt. Real estate investment expanded from about 4 percent of China's GDP in 1997 to a peak of 15 percent in 2014 and in 2016, credit issued for real estate accounted for 25% of China's total bank loans and about half of all new lending². Debt in China is now at levels similar to Japan in the early 1990s, just before Japan entered into an extended economic slowdown (*Chart 3, Is China's Ballooning Debt Sustainable? on page 3*).

(Continued on page 2)

¹Wood Resources Quarterly (Q4 2016)

²IMF working paper *Assessing China's Residential Real Estate Market*, November 2017

China's continuing rapid accumulation of debt has raised concerns about potential financial and economic instability in the Chinese economy compromising future growth. International awareness of China's growing debt led to a downgrading of China's credit rating by Moody's last May (first time in nearly 30 years) and by S&P Global Ratings in September (first time since 1999). In December, the IMF issued a Financial System Stability Assessment for China which noted the growing risks inherent in China's continuing credit expansion and the need to de-emphasize growth targets that depend on expanded credit and to better measure asset quality and mitigate risk.

Pressures to rein in the growth of China's debt are likely to translate into tighter credit availability and more restrictive lending standards which should have a moderating impact on Chinese construction activity in the medium and longer term.

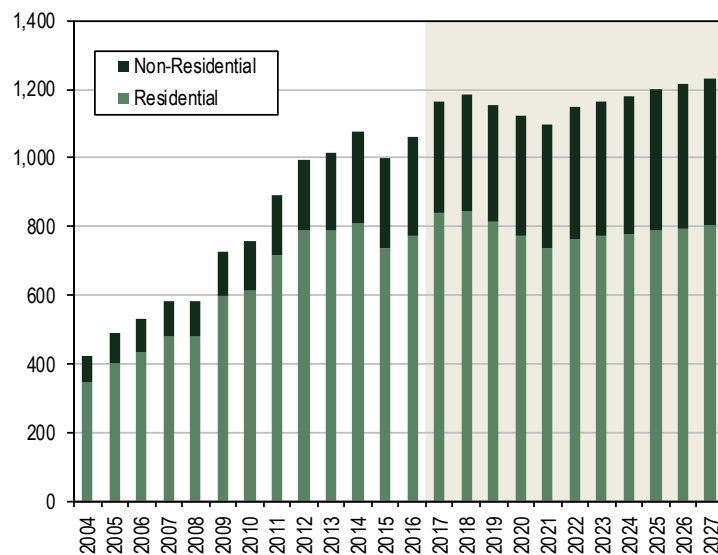
Over the next couple of years, a sharp reversal in credit availability is not anticipated. At the end of 2017, President Xi Jinping issued his first economic blueprint after consolidating his power at the Communist Party Congress in October and beginning his new five-year term. The new plan calls for "reasonable" credit expansion next year, and did not target deleveraging as a main policy objective. A recurring theme in the new economic plan was to maintain the stable growth in the economy.

China's very high domestic savings rate (48 percent)⁴ and the interconnected nature of the balance sheets of the Chinese state-owned banks, the government, and the People's Bank of China will probably result in a measured approach to the management of the country's formidable debt load, but the recent pattern of credit growth is likely not sustainable and will inevitably constrict future construction activity. RISI is currently projecting that China's total construction activity will slip to an average of 1139 million square meters in the period 2018-2021, down 2 percent from 2017⁵.

Another moderating factor for China's future imports of softwood sawlogs is likely to be the continuing pivot from importing unprocessed softwood logs to buying semi-finished and finished lumber. Between 2009 and 2016, China's softwood sawlog imports increased by 66 percent while imports of softwood lumber more than tripled⁵. If the volume of lumber imported by China is converted to a roundwood equivalent basis (adjusting for the loss of volume in round log conversion), softwood lumber's share

Construction Activity Reaching Peak

Chart 2: China: Residential and Non-Residential Completions (Million square meters)



Sources: RISI, China Timber Supply Outlook, 2017

of the combined Chinese imports of both softwood sawlogs and softwood lumber moved from 15 percent in 2006 to 51 percent in 2016⁵. RISI expects the shift to imports of softwood lumber rather than unprocessed sawlogs to continue, driven by rising labor costs in China, increasing market appreciation and acceptance of the imported lumber products, and better and more efficient transportation and logistics systems to deliver the lumber to end-users in China⁶.

Attempts to rein-in China's debt could translate into more restrictive lending standards, moderating future construction activity

Russia is the dominant supplier of imported softwood lumber to China, steadily increasing both the volume shipped and its share of the total market over the past decade. Russian shipments of softwood lumber to China nearly doubled between 2010 and 2014, and then doubled again by 2017. In 2017, Russia accounted for 58 percent of China's rapidly growing softwood lumber imports.⁶

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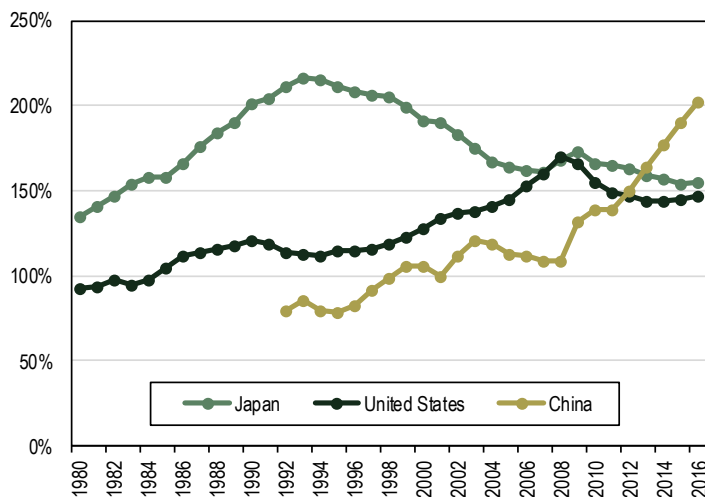
⁴IMF 2015
⁵RISI, China Timber Supply Outlook 2017

⁶Wood Markets, China Bulletin November 2017

The sharp devaluation of the Russian ruble in 2014 boosted the profitability of the softwood lumber sector in Siberia and eastern Russia, triggering a surge in capital investment in forestry and sawmills in Russia that has boosted production capacity and improved cost-competitiveness. Russian producers are also becoming more attuned to providing their customers the sizes and grades of softwood lumber they desire, while also producing more kiln-dried and higher-grade softwood lumber.

Is China's Ballooning Debt Sustainable?

Chart 3: Credit to Private Nonfinancial Sector as Percent of GDP



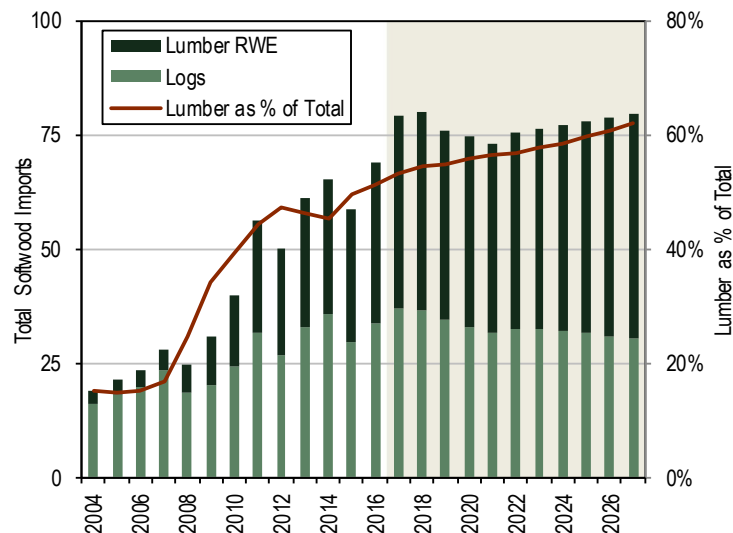
Sources: Bank for International Settlements, Total Credit to Private Non-Financial Sector, 2017

Weakness in softwood lumber markets in the Middle East has also shifted the attention of sawmills in western Russia and Finland and Sweden on developing distribution channels into China. Access to Chinese markets for softwood lumber suppliers in western Russia and Europe could also benefit from better transportation options as China invests in improved railroad connections with Europe as part of its high priority One Belt, One Road initiative.

The prospect of easing demand for imported softwood sawlogs in China markets should have relatively modest negative implications for timber prices and timberland values in the U.S. and Australia, where domestic markets dominate overall demand. New Zealand's timber producers have a larger exposure to sawlog demand in China.

China Imports Shift from Logs to Lumber

Chart 4: China Softwood Imports by Source 2000-2017E (Million Cubic Meters)



Sources: RISI, China Timber Supply Outlook, 2017

Further shifts to importing lumber rather than logs will be driven by rising labor costs in China and improved transportation and logistics systems for Russian and European suppliers

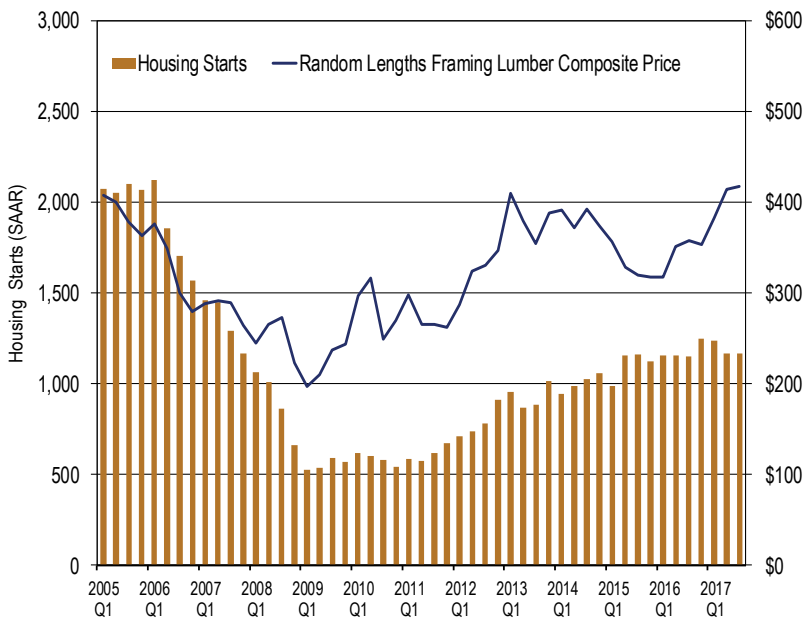
In 2016, 58 percent of New Zealand's total softwood sawlog harvest was exported as unprocessed logs, 70 percent of which was shipped to China⁷. The possibility of lower softwood sawlog imports in China will require New Zealand timber producers to accelerate the development of alternative log export markets, such as India, or upgrade the efficiency, scale and cost competitiveness of its domestic softwood lumber producers to allow New Zealand to compete more effectively in global markets. 🌲

⁷NZ Ministry of Primary Industries, June 2017

Timberland Market Indicators

Lumber Prices Rise Despite Stalled Housing Starts

Figure 1: Quarterly U.S. Housing Starts (1,000 units) and U.S. Softwood Lumber Composite Price (USD per MBF)

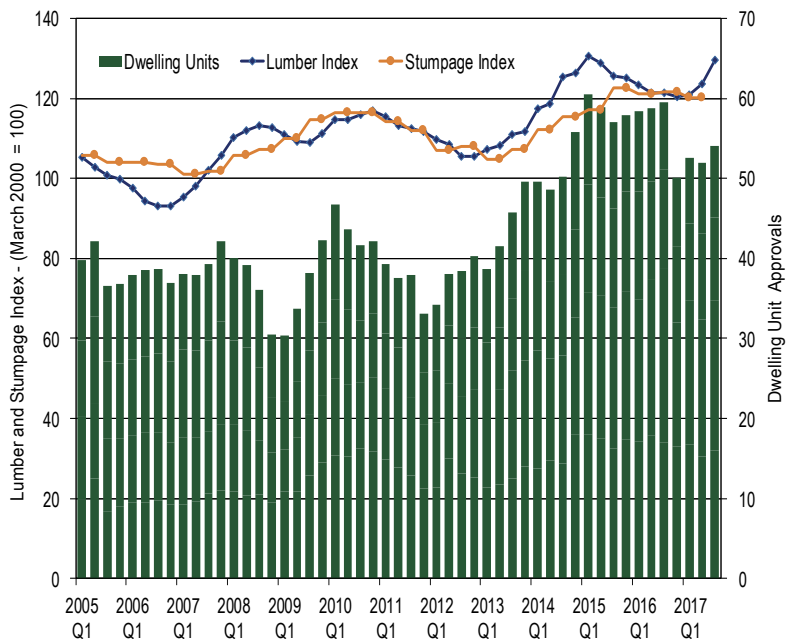


Sources: Random Lengths Lumber Report as of October 2017, U.S. Census Bureau as of October 2017

U.S. total housing starts in the third quarter of 2017 at 1.16 million units (SAAR), were nearly flat with the previous quarter and just 1 percent above the same period a year earlier. The lackluster number for third quarter housing starts was driven by weakness in multi-family starts, which were down 12 percent year-over-year. The weakness in multi-family starts were offset by rising single-family activity, which was up 11 percent year-over-year. Softwood lumber prices in the third quarter remained at high levels, supported by healthy single-family construction activity; reduced production at B.C. sawmills due to severe fires; and the duties on shipments of Canadian softwood lumber to the U.S. The Crow's Framing Lumber Composite was up marginally compared to the previous quarter, and 17 percent above the same period in 2016.

Australia Housing Correction Continues

Figure 2: Australian Softwood Lumber Prices, Timber Prices, and Dwelling Unit Approvals



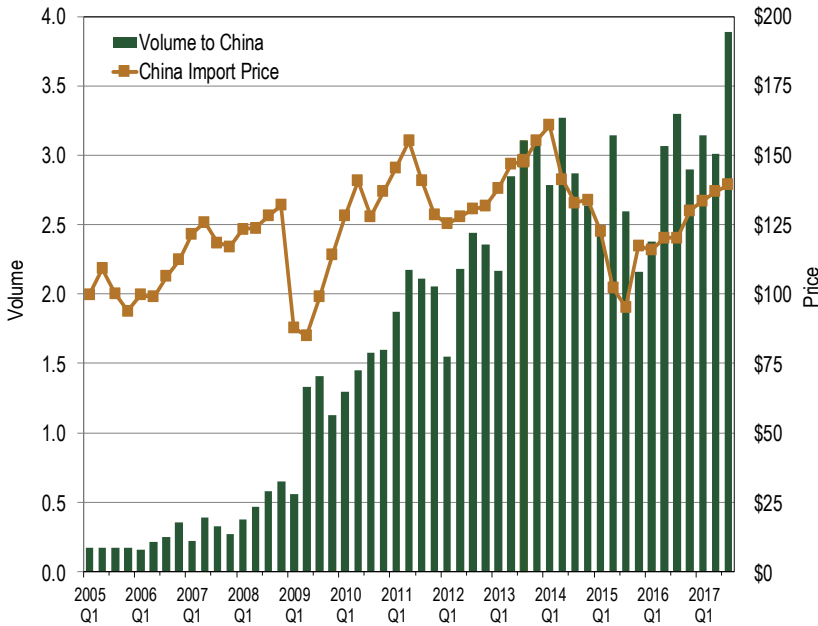
Sources: Australia Bureau of Statistics as of November 2017, KPMG as of September 2017 and Indufur Timber Market Survey as of October 2017

In the third quarter of 2017, Australian dwelling approvals (a key indicator of residential construction activity) gained 4 percent over the second quarter, but was still 9 percent lower than the same period last year. Structural lumber prices moved higher on the modest improvement in housing activity, increasing 5 percent over the previous quarter and 7 percent from a year earlier. Australian sawlog stumpage prices, reported biannually, for the six months ending June, were flat from the prior six months.

Timberland Market Indicators

Strong Exports Push New Zealand Log Prices Higher

Figure 3: Quarterly New Zealand Softwood Log Export Volume to China (million m³) and Price in China (USD per m³ CIF)

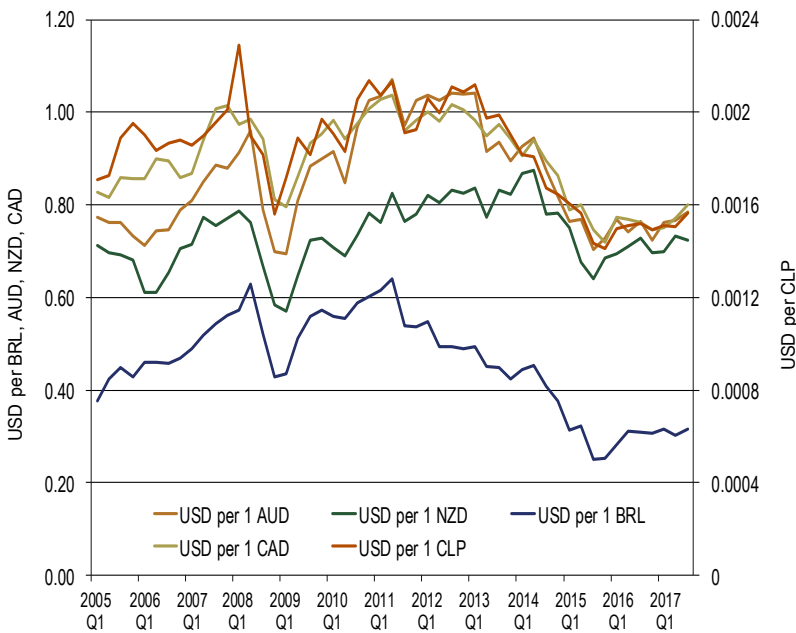


Source: International Wood Markets Inc. as of November 2017

New Zealand log export volumes to China surged in the third quarter increasing 29 percent over the previous quarter, setting a new quarterly high-point. The strong gains in New Zealand shipments to China reflected healthy construction activity in China and constrained sawlog supplies in some competing regions (Canada and U.S). The strong demand conditions supported a small 2 percent increase in the China import price over the previous quarter.

U.S. Dollar Mixed

Figure 4: Quarterly Exchange Rates Between USD and Commodity Currencies



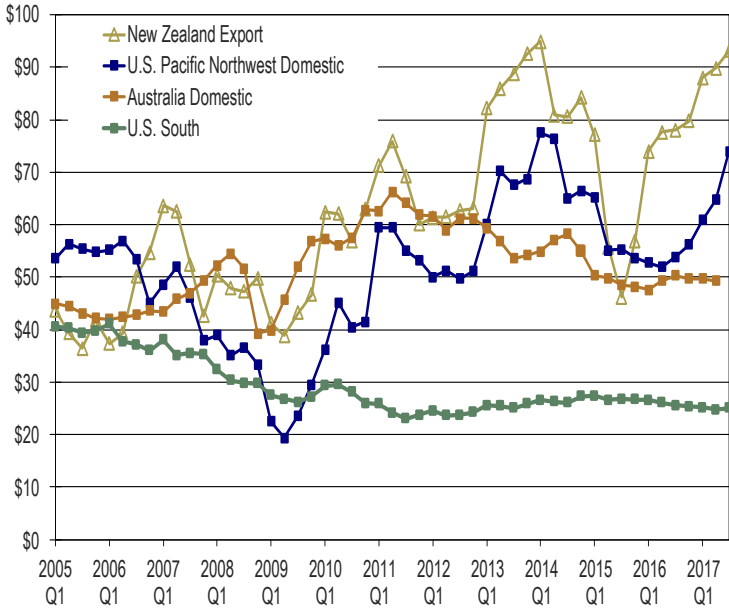
Source: Macrobond as of September 2017

The USD weakened against most currencies in the third quarter, depreciating by 2.3 percent against the AUD, 3.9 percent against the CAD, 4 percent against the CLP and 4.6 percent against the Brazilian Real. The USD made a small 1.3 percent gain against the NZD. Stronger growth abroad compared to the U.S. economy, and rising oil and other commodity prices provided support for the non-U.S. currencies in the third quarter.

Timberland Market Indicators

New Zealand and U.S. Pacific Northwest Sawlog Prices Move Higher

Figure 5: Regional Softwood Sawtimber Stumpage Prices (USD per m³)

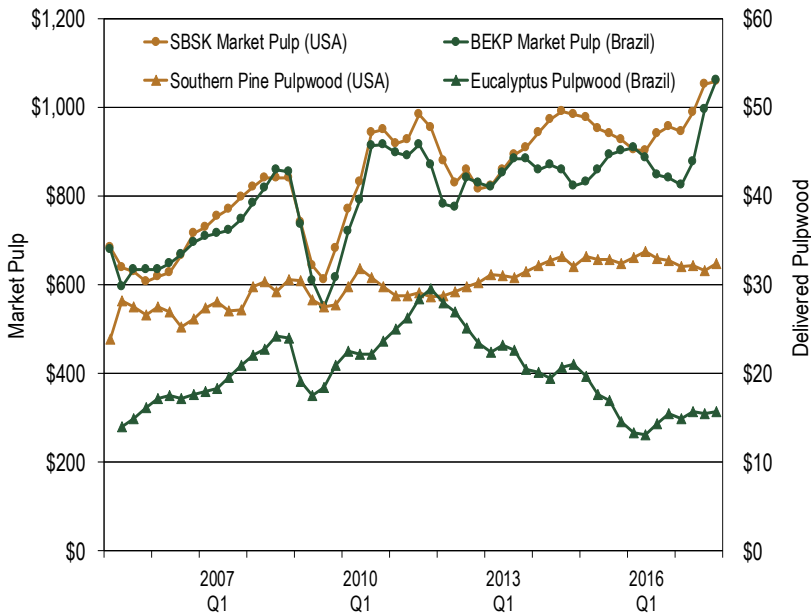


Sources: Log Lines as of October 2017, Timber Mart-South as of October 2017, NZMPI and Agrifax as of October 2017, and KPMG as of September 2017

Third quarter softwood sawtimber prices (in USD) moved higher across regions, with the U.S. Pacific Northwest recording the strongest gains, rising 14 percent over the previous quarter, supported by strong demand at domestic sawmills and plywood plants which were enjoying record prices. New Zealand Radiata Pine prices increased 4 percent from the previous quarter, boosted by record export log shipments. The price of Southern pine sawtimber stumpage finally registered a modest quarterly gain of 1 percent, its first upward movement after six consecutive quarters of drifting lower. Australian sawlog stumpage prices, reported biannually, for the six months ending June, decreased by 1 percent from the prior six months.

Market Pulp Prices Gain Momentum While Pulpwood Prices Languish

Figure 6: Quarterly Prices for Market Pulp and Delivered Pulpwood (USD per metric ton)



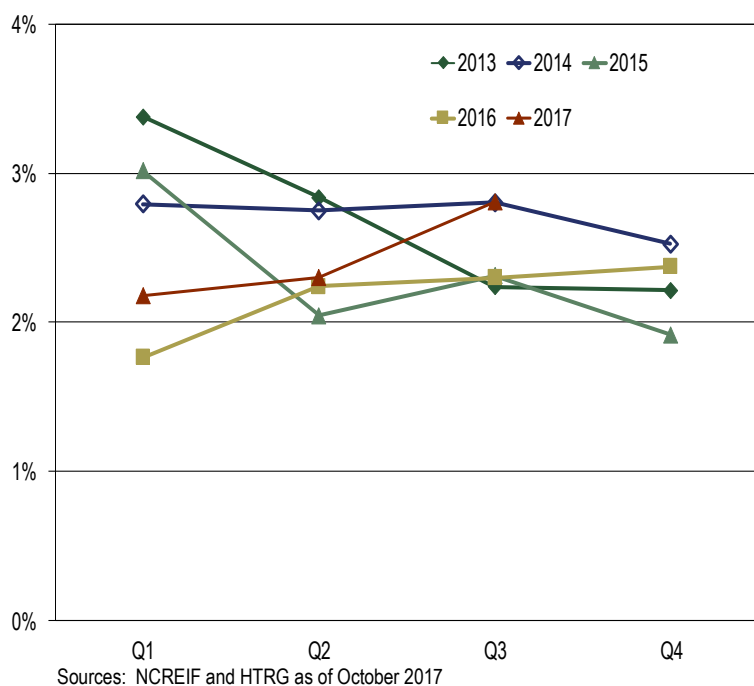
Sources: Hawkins Wright as of October 2017, Timber Mart-South as of October 2017 and STCP as of November 2017

Prices for Bleached Eucalyptus Kraft Pulp (BEKP) and Southern Bleached Softwood Kraft (SBSK) continued to move higher in the third quarter, with BEKP up 7 percent compared to the previous quarter and SBSK up 1 percent. Pulp prices have been supported by strong global production of packaging grades of paper and paperboard and the upward surge in the price of recovered paper. The strong upward movement in pulp prices over the past year have still not carried over to pulpwood markets. In the third quarter, delivered pine pulpwood prices in the U.S. South increased a modest 3 percent compared to the prior quarter, while Eucalyptus delivered pulpwood prices in Brazil slipped 1 percent.

Timberland Market Indicators

Cash Yields Just Below 10 Year Average

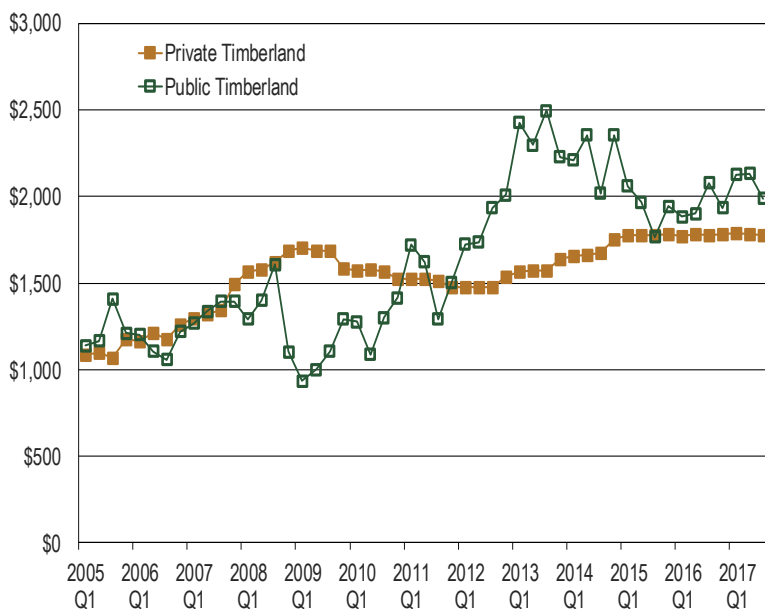
Figure 7: U.S. Timberland Annualized Operating Cash Yields (percent per year)



U.S. cash yields from timberland operations in the second quarter of 2017 were 2.8 percent annualized, which is on the high end of historical third quarter cash yields generated over the past five years (2.5 percent on average). Strong cash yields reflected strong demand for timber at U.S. sawmills and wood panel mills.

Public and Private Timberland Values Hold

Figure 8: Quarterly U.S. South Timberland Values (USD per acre)



Sources: NCREIF as of October 2017 and HTRG as of December 2017

In the third quarter of 2017, privately-held timberland in the U.S. South averaged \$1,777 per acre, which represents a \$5 (0.3 percent) decrease from last quarter, and a \$2 (0.1 percent) decrease from the year prior. Public timberland values, measured by the Timberland Enterprise per Southern Equivalent Acre (TEV/SEA), decreased 6.8% over the quarter, from \$2,131 to \$1,987 per acre. Year over year, the TEV/SEA decreased by 4.5 percent. Over the last quarter, most timberland equities in the index saw mild to moderate appreciation which helped to offset a decline in the estimated value of Weyerhaeuser. A recent acquisition in the Pacific Northwest caused WY's timberland assets to rise materially matched only by a marginal change in share price, causing the firm's value to fall nearly 10% on a TEV/SEA basis.

Notes Timberland Market Indicators

Figure 1: The source for the U.S. Housing Starts is U.S. Bureau of Census. The Housing Starts data includes Single-family and Multi-family starts. Random Lengths Lumber Report is used for lumber prices.

Figure 2: Quarterly Australian Dwelling Unit Approvals is published by the Australian Bureau of Statistics. The Lumber Index is published by Indufor Timber Market Survey using Softwood Structural lumber prices (Blended Price - 60 percent MGP 10 90x35x4800, 40 percent MGP 10 70x35x4800). Log Price Index is calculated using the (APLPI) Radiata Pine Domestic Stumpage prices. The log price is an average of Intermediate and Medium sawlog prices

Figure 3: Quarterly New Zealand softwood log export volume to China and China Import prices are published by International Wood Markets Group Inc.

Figure 4: Monthly average Exchange Rates are from Macrobond.

Figure 5: Quarterly Softwood Sawtimber Stumpage Prices for the U.S. Pacific Northwest is reported in Loglines published by RISI. The weighted index is made up of 50 percent Domestic Douglas-fir (47 percent #2 and 53 percent #3 Sawmill sorts) and 50 percent Whitewoods (47 percent #2 and 53 percent #3 Sawmill sorts). U.S. South prices are published by Timber Mart-South (60 percent Southern Pine Sawtimber and 40 percent Chip-n-Saw). Australian domestic prices are calculated using the KPMG Australian Pine Log Price Index (APLPI) Radiata Pine Domestic Stumpage prices. The log price is an average of Intermediate and Medium sawlog prices converted to USD/m³. New Zealand radiata pine export log prices are a blend of Agri-Fax A and K log sort prices and A,K and J log prices published by New Zealand Ministry of Primary Industries converted to USD.

Figure 6: Quarterly Market Pulp prices are published by Hawkins Wright. U.S. Southern Pine Pulpwood prices are published by Timber Mart-South. Brazil Eucalyptus Pulpwood prices are published by STCP Engenharia de Projetos Ltda.

Figure 7: Annualized Operating Cash Yields are published by National Council of Real Estate Investment Fiduciaries (NCREIF). Yields are calculated using 60 percent U.S. South and 40 percent U.S. West.

Figure 8: Public equity values are derived from our Timberland Enterprise Value per Southern Equivalent Acre (TEV/SEA) calculation for five timber-intensive publicly traded companies as compared to southern timberland values per acre calculated from the NCREIF database. TEV is a quarterly estimate based on total enterprise value (total market equity + book value debt) less estimated value of processing facilities, other non-timber assets and non-enterprise working capital. SEA uses regional NCREIF \$/acre values to translate a company's timberland holdings in various regions to the area of southern timberland that would have an equivalent market value.

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