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Agricultural Finance

U.S. Timberland Discount Rates

Executive Summary

Expanding sawmill capacity in the U.S. South has contributed to decreasing real discount rates on timberland in the region, particularly in states with the largest investments in capacity. Sawmill expansion has been driven by the accumulation of U.S. South log supply over the past decade, resulting in depressed log prices. With logs accounting for the greatest proportion of a sawmill's operating costs, North American sawmill capacity has shifted to the U.S. South to capitalize on relatively low input costs. Increased investment in the U.S. South will likely keep timberland discount rates near historical lows.

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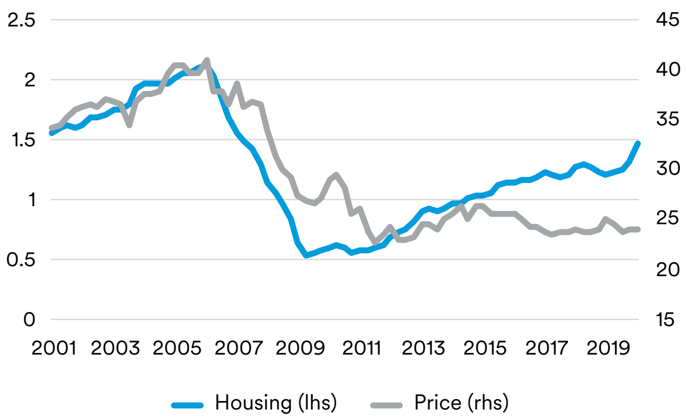
A Divergence of Inventories

The U.S. timber sector fed off the housing boom prior to the 2008-09 recession.[1] Strong demand for housing translated to record prices for timber, particularly in the U.S. South, where construction materials account for about 60% of softwood timber demand.[2] As a result, U.S. South sawtimber stumpage prices climbed 20% between 2003 and 2006[3] (Figure 1). With the housing market soaring, timberland owners in the U.S. South continued to plant one million acres of trees annually through 2005 after planting over 1.5 million acres annually from 1985 to 2000.[4] Advances in genetics and silviculture also improved achievable volumes per acre.

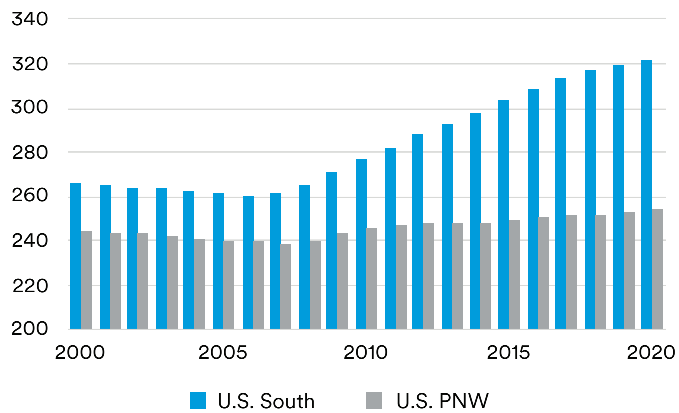
However, when the housing bubble burst and U.S. housing starts began to plummet in 2006, log prices were dragged down as well. Landowners deferred harvests, anticipating pricing improvement, but a slow recovery in the housing market created a supply and demand imbalance in the U.S. South. Along with genetic advancements and increased plantings, significant efficiency gains in the sawmilling process compounded the timber oversupply in the U.S. South. The increase in the U.S. Pacific Northwest (PNW) timber supply was less pronounced, given there is less privately-owned timberland and more diverse demand for logs due to export markets (Figure 2).

Figure 1 | U.S. Housing Starts (million units) and U.S. South Pine Sawtimber Prices ($/ton)



Source: U.S. Census, TMS, MIM

Figure 2 | U.S. Sawtimber Inventories (billion board feet)



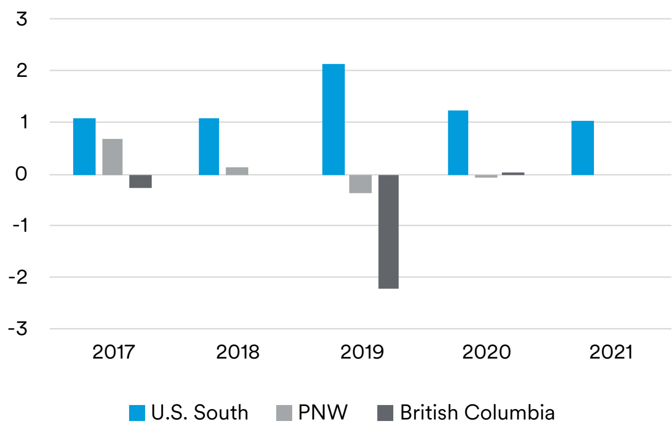
Source: FEA, MIM

Sawmills Turn Focus to the U.S. South

The supply constraints in British Columbia caused by the mountain pine beetle epidemic, coupled with elevated inventories in the U.S. South, have encouraged a shift in sawmill capacity from British Columbia to the U.S. South. The PNW has not attracted similar levels of capital investment from Canadian firms searching for an abundant and inexpensive timber supply. Logs represent the largest operating expense for a sawmill.[5,6] Therefore, companies have expanded capacity in the U.S. South to capitalize on lower input costs.

Since 2017, 10 new softwood sawmills were added in the U.S. South. Accounting for other expansions, softwood capacity increased by 4.3 billion board feet (BBF), or approximately 20%, between 2017 and 2019.[2,7] Capacity is projected to increase by another 2.2 BBF by the end of 2021. In addition to helping draw down timber inventories, increased investment will likely decrease the perceived risk associated with U.S. South timberland as an asset, which has contributed to a corresponding decline in discount rates.

Figure 3 | Annual Change in Softwood Sawmill Capacity by Region (BBF)



Source: Forisk, MIM

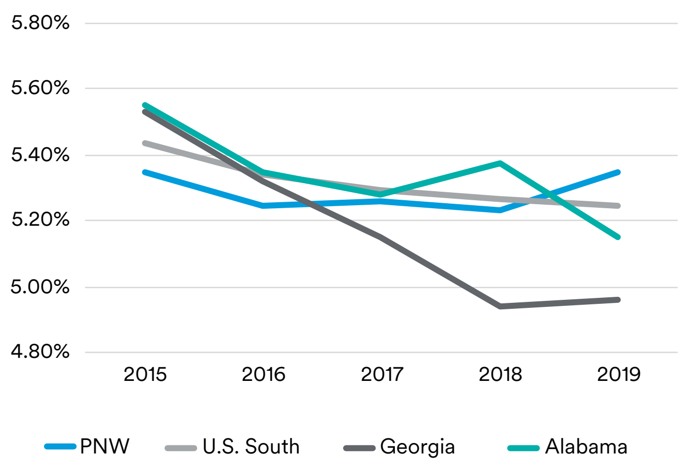
> If sawmills continue to relocate to the U.S. South, timberland incomes in the region may improve—reducing the risk associated with the asset.

U.S. South Timberland Real Discount Rates Decline

Based on MetLife Investment Management data, real discount rates used to value timberland properties in the U.S. South have steadily declined over the last five years.[8] This downward trend in discount rates has occurred simultaneously with increased investment in U.S. South sawmill capacity, strengthening timber demand and potentially lowering the perceived riskiness of the region. While declining U.S. Treasuries over the last few years likely contributed to the contraction, the data show that discount rates for PNW timberland have remained relatively stable since 2016. This trend suggests that interest rates are not the only factor influencing discount rates. Timber prices in the U.S. South are projected to remain stable over the next few years, but we expect growing demand for sawtimber will likely support timber prices in the long term.

Compared to other states in the U.S. South, the trend in declining discount rates is accentuated in individual states with larger capacity increases. Georgia and Alabama account for approximately half of the announced increase in U.S. South sawmill capacity over the last three years. Discount rates in these states have fallen more than other U.S. South states since 2015 (Figure 4). Between 2015 and 2019, the average discount rates used in Georgia and Alabama timberland appraisals decreased 57 and 40 basis points, respectively, compared to an average decline of 19 basis points across the U.S. South.

Figure 4 | Average Timberland Real Discount Rates

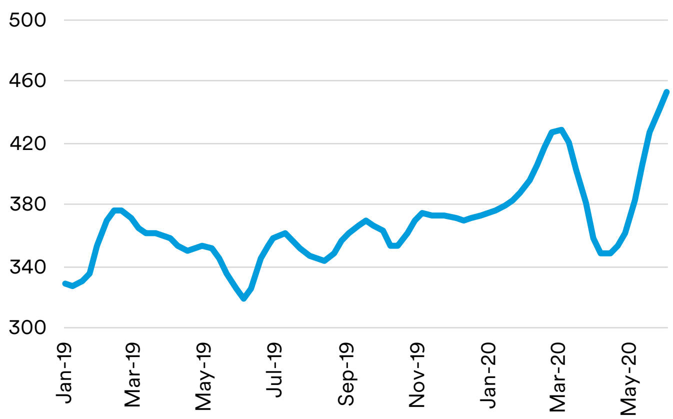


Source: MIM

Could the Recession Prompt More Sawmill Investment in the U.S. South?

Due to the impact of COVID-19 and the resulting recession, decreased U.S. housing starts in the short term has led to volatility in lumber markets[9] (Figure 5). A prolonged dip in lumber prices would likely pressure sawmill profit margins, particularly for higher-cost PNW mills. Should demand for lumber and building materials improve, capacity will likely move to more efficient PNW mills or to the U.S. South due to lower input costs. If North American sawmills continue to relocate to the U.S. South, incomes for timberland owners in the region may improve—reducing the risk associated with the asset.

Figure 5 | Random Lengths Framing Lumber Composite Price ($/MBF)



Source: Forisk, MIM

Regardless, barring a prolonged recession significantly impacting the U.S. housing sector, the perceived risk associated with owning timberland in the U.S. South may be declining as a result of increasing capacity in the region. While only a sample of U.S. timberland properties, MetLife Investment Management data support this finding with discount rates in the U.S. South decreasing over the last few years. Other factors influence timberland discount rates and the impact of COVID-19 on required risk premiums will continue to evolve. However, we expect increased investment in the region's capacity has and will likely continue to keep discount rates on U.S. South timberland investments at historically low levels in the near term.

Endnotes

[1] U.S. Census, New Residential Construction, April 2020

[2] Forest Economic Advisors, TFS Quarterly Update, 1Q2020

[3] TimberMart-South, The Journal of Southern Timber Prices, 1Q2020

[4] RISI. North American Timber Outlook, October 2019

[5] Forest2Market, Southern Sawmills Must Prepare for Change in Log Costs, February 2020.

[6] Energy Engineering, Establishing baseline electrical energy consumption in wood processing sawmills for lean energy initiatives: A model based on energy analysis and diagnostics, February 2019.

[7] Forisk, Research Quarterly, 1Q2020

[8] MetLife Investment Management

[9] RISI. North American Lumber Price Report, May 2020

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