



Southern Timberland Index--Update

We first wrote about *Timber Mart-South's* Southern Timber Index (STI) in 2016 (Vol 13, No 4), where we explained how the STI is calculated. The STI allows timberland owners in the South to estimate how the value of their timberland is performing compared to an average southern timberland property.

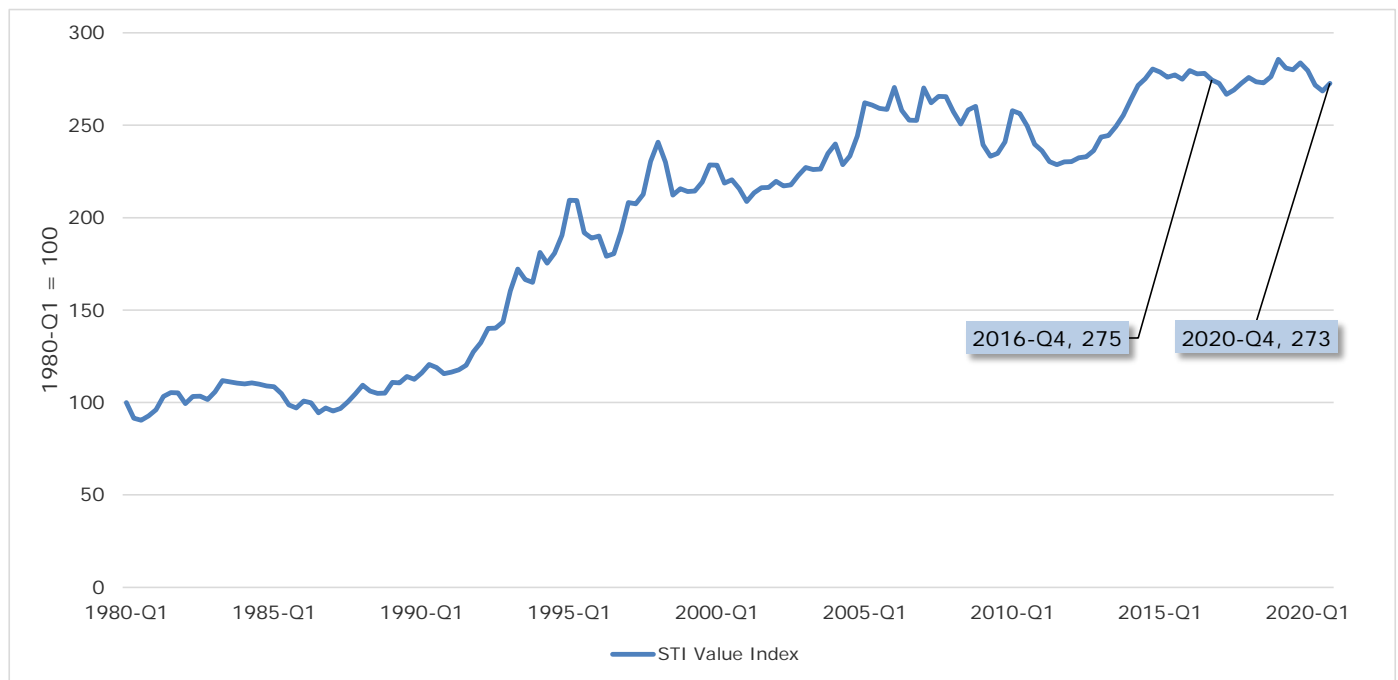
As explained in the previous *Note*, the index property is almost half pine plantation and almost half hardwood forest, with a small area of non-forested land for roads. The pine forest is fully regulated, with a constant area (and volume) harvested each year. Half of the pine acres are in

premerchtable age classes. The hardwood inventory is constant from year-to-year because the amount of hardwood harvested is equal to the hardwood growth each year.

Figure 1 shows how the value of the average southern timber property has changed since 1980, and highlights the values for year-end 2016 (the previous *Note*) and 2020.

It seems southern timberland values have not moved much over the past 4 years.

Figure 1. Southern Timberland Index (Value)



Source: *Timber Mart-South*

STI Components

Farmland Values

Farmland values have been climbing steadily since 2012 (Figure 2), which indicates that bare timberland values have been increasing since then.

Timber Prices

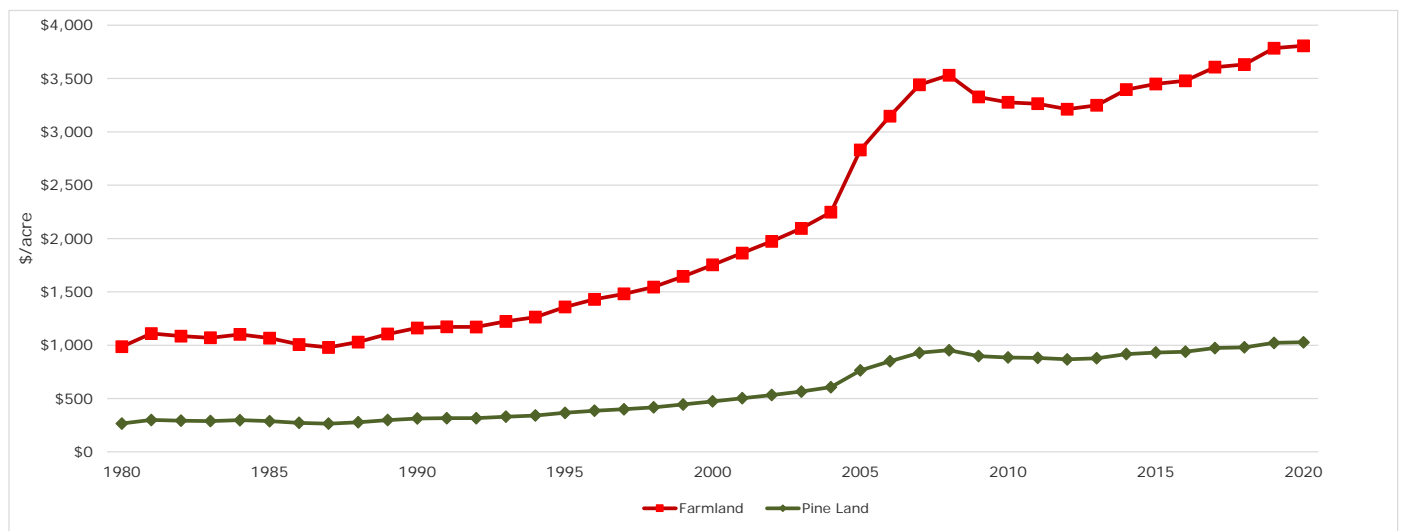
Figure 3 shows quarterly stumpage prices since 1980 from *Timber Mart-South*. Note how prices for hardwood sawtimber and pulpwood rose steadily between 1985 and 2014 and have been generally flat since then. Hardwood sawtimber prices are significantly higher than pine sawtimber and

hardwood pulpwood prices have generally matched pine pulpwood prices since 2005. Prices for all three pine products have risen in the past two quarters (2020-Q4 and 2021-Q1.)

Combined Values

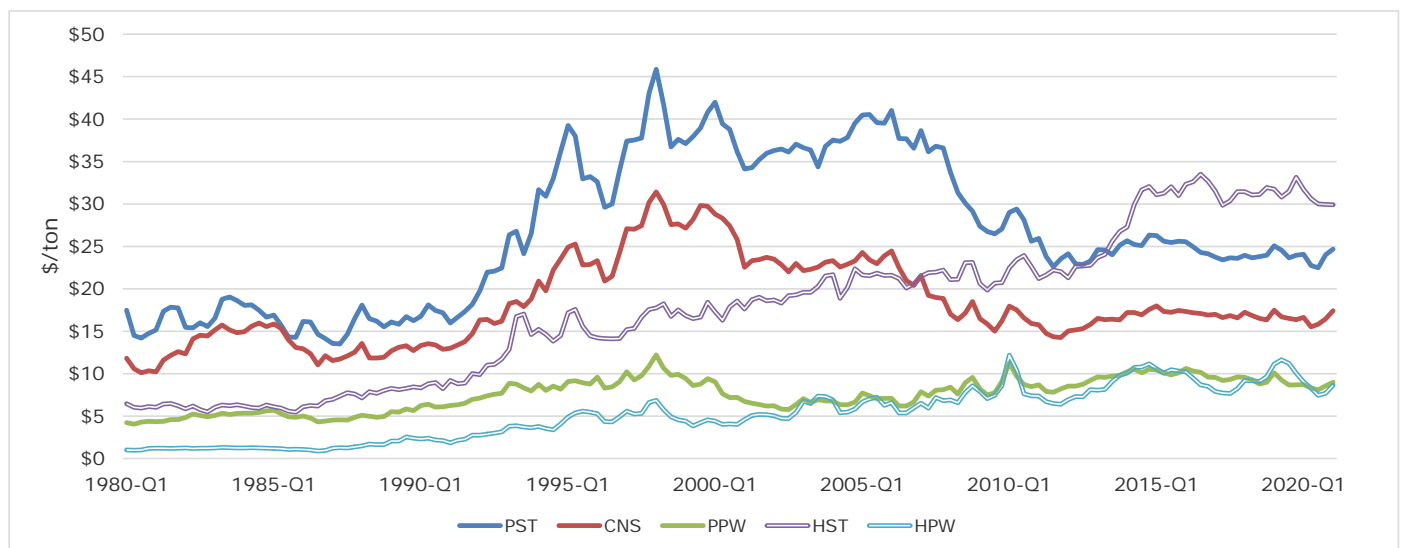
The slow rise in land values has been largely offset by a slight decline in pine prices and level hardwood prices since 2015. In the fourth quarter of 2020, timber (merch and premerch) accounted for 65% of the value of the property and hardwoods made up almost 50% of the merchantable timber value.

Figure 2. South-wide Farmland and Bare Timberland Values



Source: NASS

Figure 3. South-wide Average Stumpage Prices



Source: *Timber Mart-South*

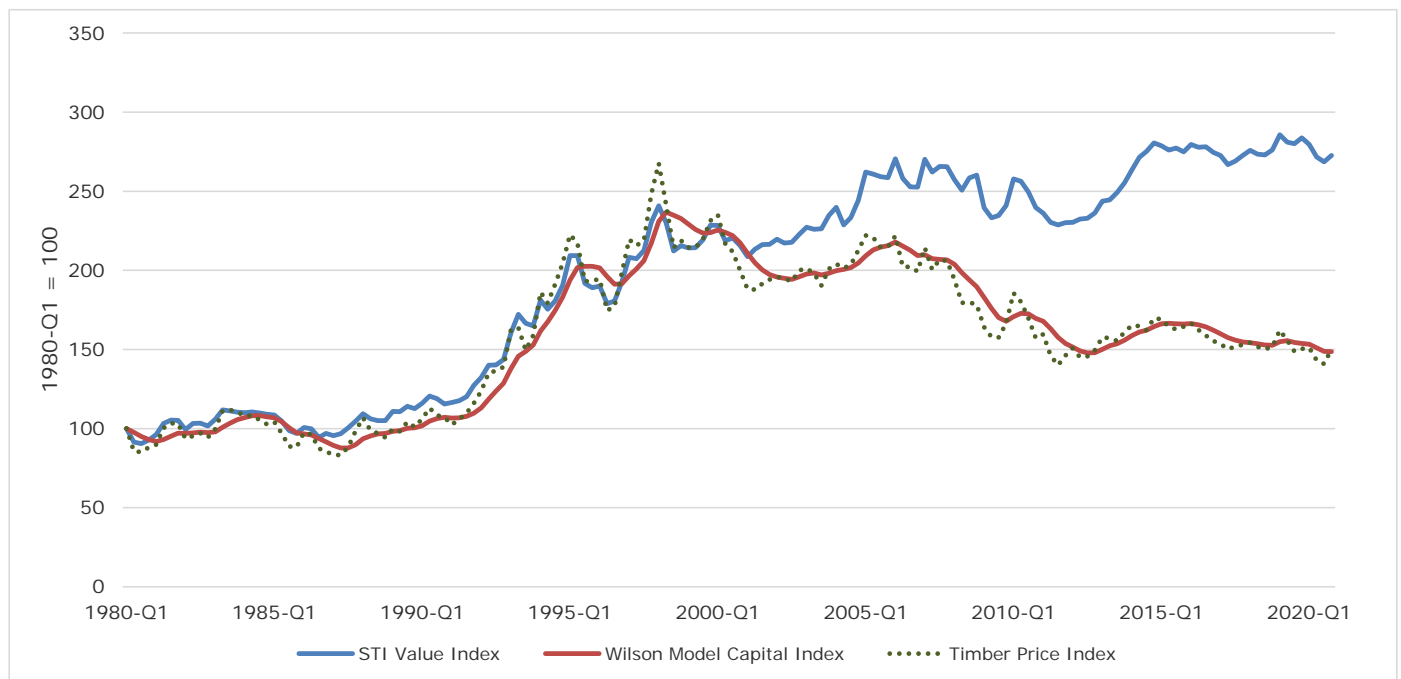
STI and Other Timberland Indexes

Wilson Model

The Wilson model, more widely known as the John Hancock Timber Index, uses pine sawtimber and pulpwood prices to calculate income and capital returns for a timberland property. There are no hardwood timber or land values involved in the calculations.

Figure 4 compares the STI with the capital component of the Wilson Model. The two indices were strongly correlated until 2000, when the Wilson model began a long decline until 2012. The difference is largely due to the Wilson model's dependence solely on pine timber prices. The dotted line in Figure 4 shows an index of the average quarterly prices used in the Wilson model calculations and shows how closely the Wilson value index is tied to those timber prices.

Figure 4. Southern Timberland Index and Wilson Model Value Index for the South

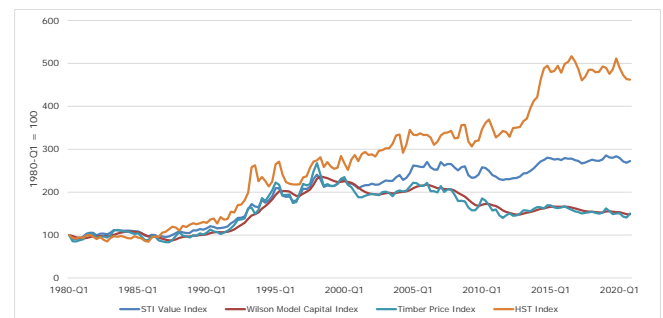


Source: Forest Research Group, Timber Mart South

The land value component of the STI contributes to the stronger STI values. In addition, half of the STI timber value is based on hardwoods, which have shown stronger performance than pine and are not represented at all in the Wilson model.

Figure 5 adds a hardwood price index to Figure 4 and clearly shows that hardwood prices have performed well over the last 20 years. This also suggests that a southern timberland property that was entirely made up of hardwood would have strongly outperformed a property that was all pine (though large pure hardwood or pure pine properties are very rare).

Figure 5. STI, Wilson Model, Pine and Hardwood Timber Prices



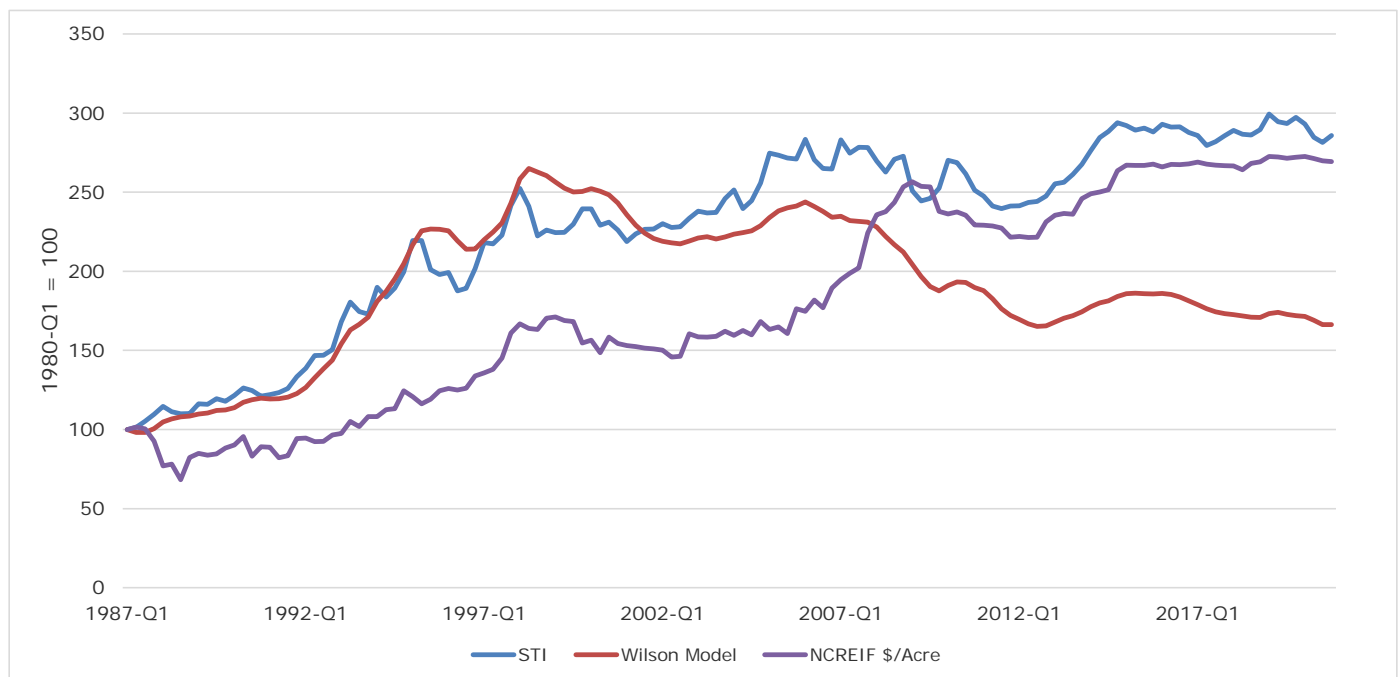
Source: Forest Research Group, Timber Mart South

NCREIF Timberland Index

The NCREIF Timberland Index (NTI) includes an appreciation return. This return includes adjustments for capital improvements and partial sales and purchases. These additional components have added significantly to the NTI appreciation return, but makes that index less comparable to the STI and Wilson model.

However, NCREIF also reports average \$/acre values for each of its reporting regions. These values are based on actual properties that change over time as properties are added to and removed from the NTI. We indexed these values and they appear alongside the STI and Wilson model indexes in Figure 6. The graph shows that the NTI was showing much lower timberland values than the STI until 2009, when it caught up.

Figure 6. STI, Wilson Model and NCREIF Timberland Value Indices



Source: Forest Research Group, Timber Mart South, NCREIF

Summary

We have compared the STI to two other indexes that are measuring southern timberland values. The differences in the indexes highlight how different components of timberland value have changed over time. The STI has been relatively flat since the beginning of 2015. Declining pine timber prices were offset by slight increases in land values and flat hardwood timber prices.

NCREIF timberland values have been strongly correlated with the STI values since 2010, shortly after the Wilson Model index began to decline. The STI values are slightly higher. We don't have any details on timber and bare land values for the NCREIF properties, but the graph suggests

NCREIF properties tend to have somewhat more pine and less hardwood than the STI property.

The pine-dependent Wilson model values has been strongly correlated with pine prices.

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