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The Whole Forest: A Holistic Framework for Timberland Valuation

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Introduction

Determining the value of timberland assets sits at the core of successful timberland investing. When valuations miss the mark, investors risk overpaying for forest assets, submitting uncompetitive bids, or misjudging the optimal timing of asset sales. After acquisition, assigning an inaccurate value can lead to timberlands being sold prematurely or held well beyond their economically optimal maturity.

Despite its importance, timberland valuation is not as straightforward as it may initially appear. Many asset classes rely on relatively simple and widely accepted measures of value. Bonds are evaluated through yield. Public equities are commonly assessed using price-to-earnings ratios or EV/EBITDA multiples.[1] Commercial real estate is frequently priced using capitalization rates (or "cap rates").[2]

Timberland, however, resists such simplification. Like real estate, timberland is an income-generating real asset. At first glance, the capitalization rate might appear to be a natural measure of value. While cap rates once played a meaningful role in timberland valuations, their relevance has diminished over time. Modern timberland valuation is far more nuanced. The drivers of value extend well beyond discounting near-term cash flows, and understanding this complexity is increasingly essential for informed investment decision-making.

Timberland Valuation: Past and Present

Forests are often described as nature's factory. Sunlight, rainfall, and soil work together to grow trees that can be harvested periodically for income. Under this framework, the value of a timberland asset would be derived from the discounted cash flow (DCF) of future harvest revenues, net of the costs associated with planting, managing, and maintaining the forest.

If this framework fully explained timberland valuation, asset values would be highly sensitive to two variables: interest rates and timber prices. Rising interest rates would reduce net present value (NPV) by increasing discount rates, while higher timber prices would raise projected harvest revenues and, in turn, asset values.

[1] EBITDA represents **E**arnings **B**efore **I**ncome, **T**axes, **D**epreciation and **A**mortization. It is shorthand for operating income. EV represents Enterprise Value which is the firm's value of equity and debt combined.

[2] Capitalization rate is operating income divided by the net asset value of the property.

This logic is intuitive. But does it hold in practice?

To test these assumptions, we examine how historical timberland prices compare with movements in interest rates and timber prices.

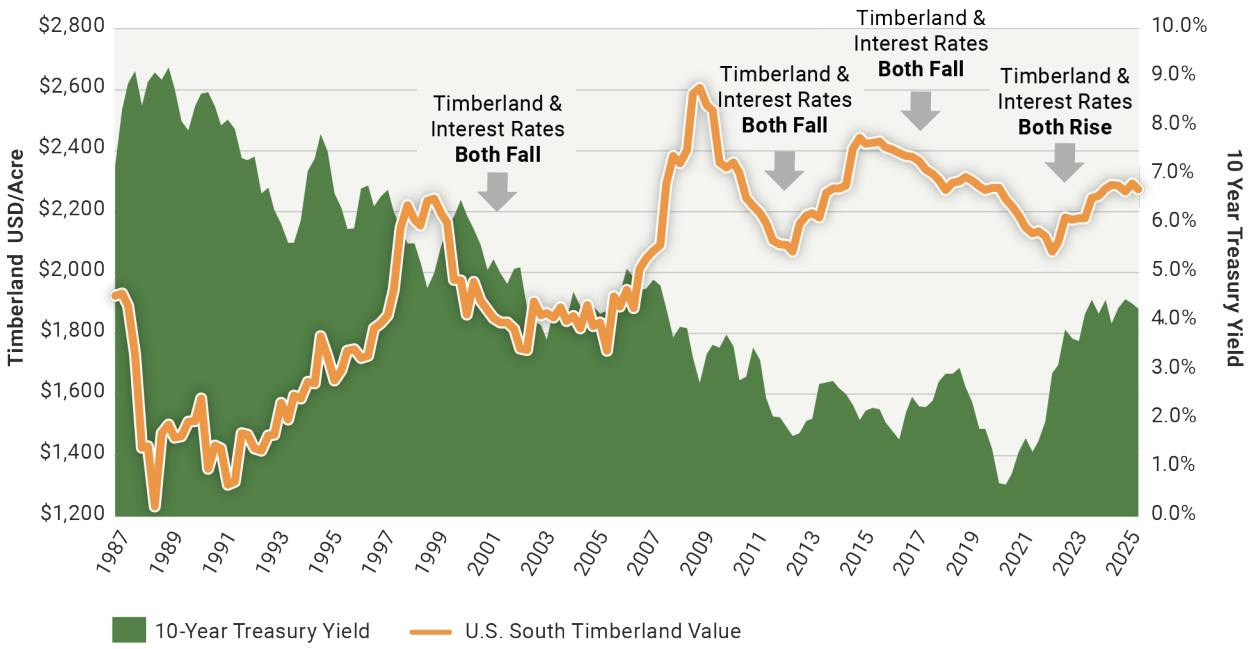
Timberland and Interest Rates

Figure 1 compares timberland values in the U.S. South with 10-year U.S. Treasury bond yields. The U.S. South represents the largest and most actively traded timberland market in the country, accounting for approximately 65% of the NCREIF Timberland Property Index by value.[3] The 10-year Treasury serves as a useful reference point because its duration broadly aligns with the long-term holding periods typical of timberland investments.

Figure 1.

U.S. South Timberland Price (Inflation Adjusted) Against 10-Year U.S. Treasury Bond Yield since 1987

Prices are adjusted by the U.S. Consumer Price Index to the value U.S. dollar for September 2025.



Sources: U.S. Federal Reserve (bond yield), NCREIF Timberland Property Index (timberland prices).

[3] NCREIF is the National Council of Real Estate Fiduciaries. The NCREIF Timberland Property Index began in 1987 and is considered the leading benchmark index for the timberland asset class covering the United States.

During the 1980s and 1990s, timberland values and interest rates moved largely in opposite directions, consistent with traditional discounted cash flow theory. Interest rates declined, and timberland prices rose.

Beginning in the early 2000s, however, this relationship weakened. In several periods thereafter, timberland values in the South increased even as interest rates rose. In other periods, both variables moved in parallel. This breakdown suggests that timberland values are influenced by forces beyond the discounting of future timber income alone.

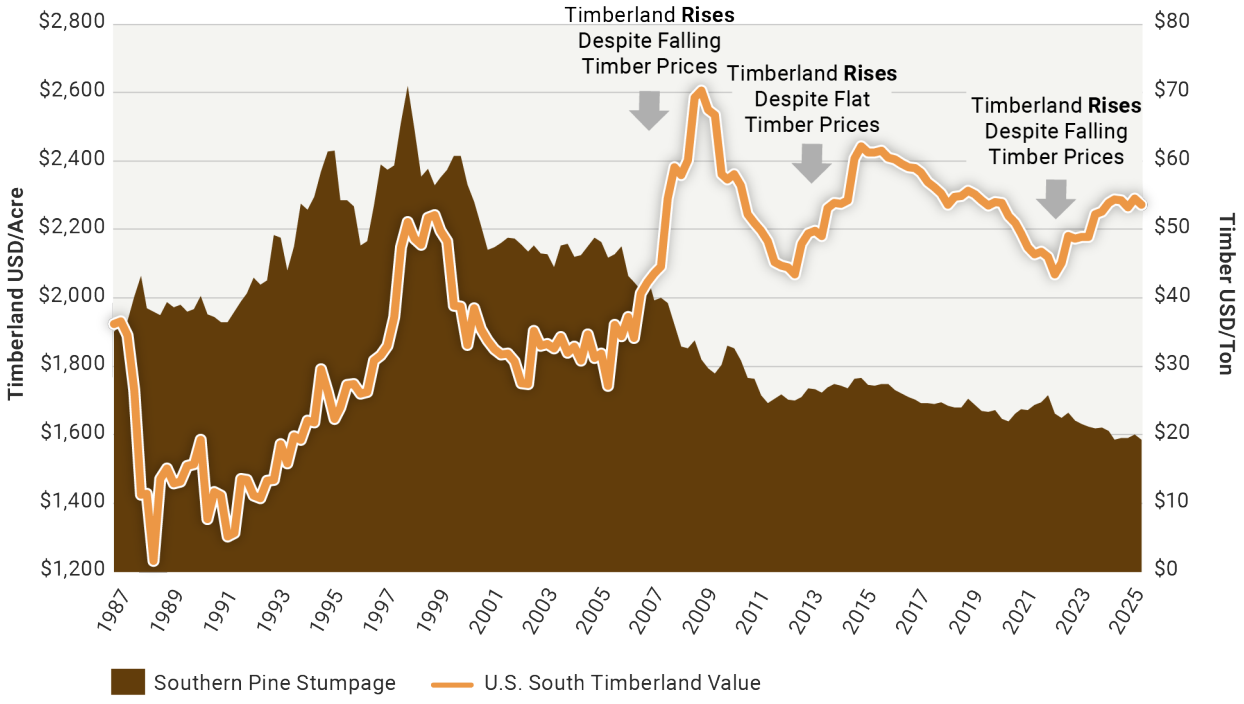
Timberland and Timber Prices

A similar pattern emerges when comparing timberland values with timber prices, as shown in Figure 2. Using a blended price series composed of pine sawtimber (50%), pine chip n' saw (30%), and pine pulpwood (20%), timberland values and timber prices in the U.S. South tracked one another closely through the early 2000s.

At that point, the relationship became less consistent. During the Great Financial Crisis of 2007-2009, timberland values remained relatively resilient despite weakening timber markets. More recently, during the post-pandemic period of 2022-2024, timberland values in the U.S. South rose even as regional timber prices softened.

Figure 2.

Price of U.S. South Timberland and Southern Pine Timber Since 1987 (Inflation Adjusted to Current USD)
Prices are adjusted by the U.S. Consumer Price Index equal to the value of the U.S. dollar for September 2025. Timber prices are a 50:30:20 blend of pine sawtimber: pine chip n' saw: pine pulpwood as reported by Timber Mart-South.



Sources: Timber Mart-South (timber prices), NCREIF Timberland Property Index (timberland prices).

Increasing Complexity in Timberland Valuation

Taken together, the historical relationships between timberland values, interest rates, and timber prices point to a structural shift in how timberland assets are valued beginning in the early 2000s. The two charts illustrate that relationships which were once more closely aligned began to change during this period. Statistical analysis supports this observation, with correlation values shifting materially after 2003, as shown in Table 1.

While timber growing and harvesting remain central to timberland economics, they no longer account for observed valuation outcomes on their own.

Table 1.
Statistical Correlation of Annual Timberland Prices in the U.S. South Against Interest Rates and Timber Prices

U.S. South Timberland Price Correlation with:	1987-2003	2004-2025
10-yr U.S. Treasury Bond Yields	**-0.64**	**-0.27**
U.S. South Timber Prices 50:30:20 blend of southern pine	**0.84**	**-0.43**

Note:
1.0 = perfect correlation (move in tandem)
0.0 = no correlation (move independently)
-1.0 = perfect negative correlation (move in opposing directions)

U.S. South timberland prices sourced from the NCREIF Timberland Property Index. U.S. Treasury Bond Yields sourced from the Federal Reserve. U.S. South timber prices are pine sawtimber, pine chip n' saw and pine pulpwood, sourced from Timber Mart-South. Prices are inflation adjusted to current to 2025 dollars using the Consumer Price Index (U.S. Census Bureau).

Over the past two decades, additional sources of value have emerged alongside timber production. Investors now have a wider range of opportunities to generate returns from forest holdings. The asset class is no longer evaluated strictly as a biological production system, but as a multi-dimensional real asset with distinct risk, return, and optionality characteristics. As a result, the process for determining the value of timberland assets has become more nuanced and complex.

Structural Drivers of Timberland Value

The factors that contribute to the richness and complexity of timberland valuation can be grouped into four broad areas: the presence of multiple income sources, the role of non-monetary values, the ability of owners to shape valuation pathways, and the influence of property size on value.

1. Multiple Income Sources

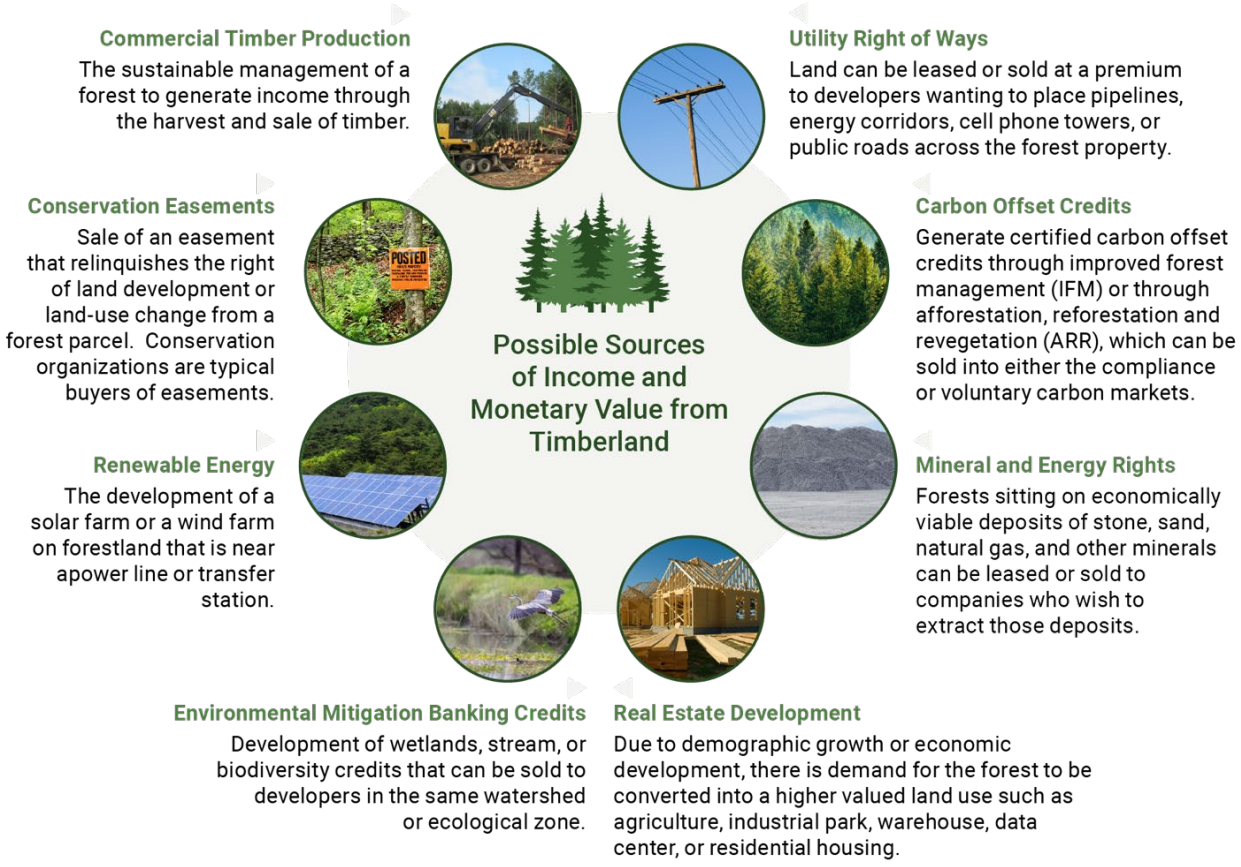
Since its emergence as a global asset class, timberland has evolved to encompass a broad range of income sources and economic uses. It is no longer defined solely by timber harvests as the primary driver of return. Beginning in the early 2000s, additional markets, commonly referred to as ecosystem services, entered the

forest investment landscape. These include recreational leases, conservation easements, and environmental mitigation banking credits.

Over time, these set of opportunities expanded into what are now often described as *natural capital markets* or *nature-based solutions*. Potential value streams may include carbon offset credits, biodiversity credits, and renewable energy installations. In parallel, demographic shifts and regional economic growth can materially enhance the economic potential of forest properties, including through mineral rights, utility rights-of-way, or conversion to agricultural, industrial, or residential uses.

Figure 3 illustrates a selection of income sources and monetary values that a forest asset may generate. While not exhaustive, it highlights the diversity of value drivers available to timberland investors.

Figure 3.



2. Non-monetary Values

Not all value derived from a forest is reflected through direct financial transactions. Non-monetary values can influence how much a buyer is willing to pay for a timberland property. Some buyers may prioritize conservation outcomes, aesthetics, recreation, biodiversity, or indigenous cultural values.

For example, a private individual may acquire a smaller forest parcel for recreational use or as a long-term legacy asset. Similarly, a conservation organization may purchase forestland for its ecological or aesthetic qualities and subsequently transfer the property to the state to be managed as a nature preserve or incorporated into a public park.

A non-monetary consideration that has gained prominence in recent years is *insetting* – particularly carbon insetting.[4] Some timberland owners use their own forest holdings to reduce their environmental footprint, including carbon emissions. In these cases, the perceived return is derived less from cash income and more from meeting environmental or sustainability objectives.

3. Owner Agency in Valuation Pathways

For many real assets, such as real estate, farmland and infrastructure, there is typically a well-defined path to maximizing economic value. Timberland differs in that multiple buyer types may value the same asset in different ways, depending on their objectives, constraints, and motivations.

A timber REIT[5], such as Weyerhaeuser or Rayonier, may assess a timberland property differently than a solar developer or a conservation organization. As a result, forestland owners have a degree of agency in shaping valuation pathways toward particular economic outcomes.

For example, a large forest property may be subdivided into smaller tracts that have appeal to a high net worth individual. Improvements such as enhanced road access and gates, and selective thinning can increase recreational interest. Alternatively, carbon offset credits may be developed through detailed inventories of forest carbon stocks and implementation of *improved forest management* (IFM) practices consistent with recognized carbon registry standards. In other cases, portions of a property may be positioned for solar development by securing access to transmission infrastructure and obtaining the necessary zoning and permits.

4. Size Matters in Valuations

Unlike many traditional real estate assets, timberland properties can be subdivided or aggregated to influence value. Strategies such as breaking larger properties into smaller tracts or aggregating parcels to achieve scale can result in pricing premiums.

Property size impacts the pool of available potential buyers. High net worth individuals often target timberland properties below certain price thresholds and may pay premiums for access to recreational or lifestyle uses. Developers seeking land for residential or industrial projects would typically prefer smaller parcels. On the other end of the spectrum, timber REITS and large timberland investment managers (TIMOs)[6] may pay premiums for sizeable properties that provide immediate operational scale and allow capital to be deployed efficiently.

[4] Insetting is taking the net carbon sequestered in the forest (or other natural capital asset) to offset the owner's carbon emissions in their other activities. The goal is to become "net zero" or approach it.

[5] A REIT is a Real Estate Investment Trust. As a tax-advantaged corporation focused on real estate, a REIT is required to distribute most of its profits to shareholders. A timber REIT is a type of REIT dedicated owning and managing timberland for profit.

[6] TIMO is an acronym for Timberland Investment Management Organization, a term commonly used for timberland managers.

Practical Approach to Value Timberland

Given these factors, determining an appropriate price for a timberland property can be an involved process. A discounted cash flow (DCF) analysis provides a practical foundation.

Among the range of economic pathways available to value a timberland asset, the analyst should identify the option with realistic potential to generate the highest return, taking into account the investor's, or the market's, tolerance for risk. The discount rate should reflect the risk profile of the selected strategy, and the resulting value is the net present value of projected cash flows.

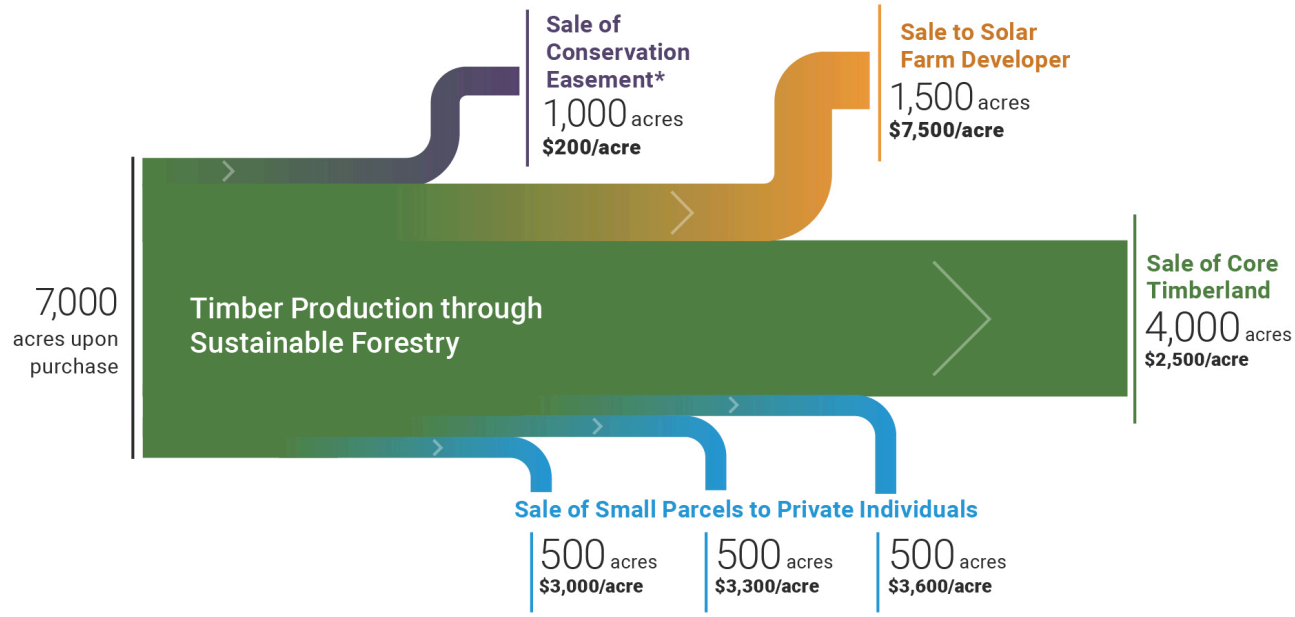
A prudent investor should not rely solely on this analysis. The DCF valuation should be supplemented with comparable sales (i.e., "sales comps") and component value[7] for reasonableness.

While a DCF approach may appear challenging for a multi-dimensional asset such as timberland, it is not necessary to model every potential pathway in detail. Values associated with alternative uses, such as mitigation banking or solar development, can often be inferred from market premiums paid by specialized buyers. These inferred values can then be easily incorporated into the DCF framework.

Figure 4 illustrates this process for a hypothetical timberland property held over a ten-year period, combining commercial forestry with selective parcel sales, conservation easements, and solar development.

[7] Component value – also known as replacement value – is a sum-of-parts valuation where all the individual parts of the forest asset such as the standing timber and the bare land underneath are priced at current market prices and added together into a sum value.

Figure 4.
Illustrative Example of a DCF Valuation for a Timberland Asset



$ '000	Purchase	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Sustainable Forestry		280	280	260	260	240	240	180	160	160	10,000
Conservation Easement		-	-	200	-	-	-	-	-	-	-
Solar Farm		-	-	-	-	-	-	7,500	-	-	-
Sale to Private Individuals		-	-	1,500	-	1,650	-	1,800	-	-	-
Total		280	280	1,960	260	1,890	240	9,480	160	160	10,000
Discounted Cash Flow @ 8%		**259**	**240**	**1,556**	**191**	**1,286**	**151**	**5,531**	**86**	**80**	**4,632**
Net Present Value @ 8%	14,014										

* Ownership of land is retained after easement is sold.

Framing a Range of Possible Values

A limitation of the DCF analysis is that multiple value-creation pathways may exist, raising the question of which path should anchor the valuation. A seller's perception of value may differ materially from that of a prospective buyer.

For this reason, framing a range of values can be a useful exercise. This range serves as a confidence interval (or sensitivity analysis) around a baseline estimate. The upper bound may reflect a realistic best-case scenario, such as a potential acquisition by an energy company for geologic carbon capture and storage (CCS). On lower bound may assume the property remains in commercial timber production indefinitely. Presenting valuation as a range rather than a single point helps investors understand the spectrum of outcomes available to current and future owners.

Conclusions and Recommendations

Timberland value is influenced by more than interest rates and timber prices alone. Today, multiple pathways exist to generate income and return from forest assets. Successful timberland investing begins with careful research and the identification of value opportunities that may not be readily apparent.

A practical guideline is to acquire timberland with an exit strategy already in mind, including a clear understanding of the likely buyer at exit. Managing the asset toward that anticipated end use can support a full-cycle investment strategy and strengthen long-term portfolio outcomes.

For questions and additional information, contact:

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