

# STRATFORD ADVISORY GROUP

## *Can Money Grow on Trees? A Discussion on Timberland Investing*

### *Synopsis:*

*As traditional capital markets appear poised to deliver more moderate returns in the near future, institutional investors have shifted focus to alternative investments as a source for uncorrelated and potentially better returns. Money has poured into alternative investment strategies such as hedge funds, private equity, and real estate in the past several years. While interest remains strong in these strategies, more investors are considering “hard assets” such as commodities and timberland to pick up additional return. This paper explores timberland market characteristics, the rationale for timber investing, and the current market environment.*

### **The Market for Timberland**

Timberland investing involves the ownership, harvesting, and sale of timber properties worldwide. Timberland represents a small portion of the world’s capital market, which is estimated at over \$26 trillion. However, the market for forest products is significant, with roughly 350 million acres in the U.S. (valued at approximately \$200 billion), and an even greater supply in non-U.S. countries. The largest suppliers to the U.S. include Brazil and Chile. Russia is currently attracting attention as an important timberland market due to substantial demand from neighboring China. Unfortunately, there are political and infrastructure issues that reduce the attractiveness of the Russian market. Countries such as New Zealand, Australia, Brazil, and Chile are considered the most attractive investment opportunities by many timber investors, though harvesting and transportation costs can be prohibitive in certain areas.

Ownership of domestic timberland is undergoing a structural change. Historically, very little of the nation’s forests were owned by institutional investors. Prior to the 1980’s, almost all timberland was owned by individual families, state and local governments, and industrial producers. The 1980’s saw the development of several timberland investment management organizations (TIMO’s), which spurred the growth in institutional ownership of forests in the U.S. In addition, industrial producers of timber, namely paper companies, have begun to divest ownership in timberland at shareholders’ request. These combined forces have raised institutional ownership of the U.S. timber market to over 30%.

Trees, classified as either hardwoods or softwoods, have a multitude of end uses. Hardwoods are used primarily for high end goods such as furniture, cabinetry, and other woodwork. Demand for hardwood comes mostly from developed countries. Examples of hardwood trees include cherry and oak. Softwoods include species of cone-bearing trees (i.e., various pines) and are used for construction lumber and paper and packaging products. Softwoods tend to have higher margins than hardwood species due to the lower costs of harvest, transportation, and demand. In addition, demand for softwood tends to

## Can Money Grow on Trees?

### The Market for Timberland

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be more stable than hardwoods. As a result, most timber portfolios will include both types of trees, though typically allocations are greater to softwoods.

### Sources of Return

The timberland market's size and investibility make it an asset class worth consideration by institutional investors. In the end, however, investors want to know what potential return can be delivered by the asset class as well as the potential risks involved. Before we examine the returns of timberland, it is important to understand the primary source of returns.

There are four main drivers of returns for a timberland portfolio:

- 1) Natural Tree Growth (biological growth and ingrowth)
- 2) Acquisition price
- 3) Professional management
- 4) Price changes (timber and land)

#### Natural Tree Growth

The primary source of return for a timber portfolio is biological growth and can be thought of as the “income component” of the investment. Tree growth is highly predictable and has no correlation with financial capital markets or even the timberland market. Trees will continue to grow regardless of equity and fixed income market performance! Biological growth rates vary by species and location, but will account for the bulk of return in any area.

Another related source of return is in-growth, which refers to an increase in wood volume (trunk size) that allows a tree to be used for higher-value products. For example, a small pulpwood tree might demand \$5 per ton from a paper mill, while the same tree (only slightly larger) might be purchased by a sawmill for \$35 a ton. Different species of trees obtain maximum growth during certain years of existence, offering a return premium during these cycles. An understanding of the market environment for various types and sizes of trees can result in substantially higher returns from in-growth.

#### Acquisition Price

Like any investment, the price an investor pays is an important part of total return. The acquisition price of timberland is interrelated to the natural growth characteristics of the forest. An investor will have to pay more for a forest with higher growth characteristics. While deal pricing has become more competitive (and therefore more efficient), there still appear to be opportunities for investors to add value from purchasing land at a discount to its true value.

#### Professional Management

Timber is a “real” asset and as a result is influenced more by local factors than are many other investments. Given the sheer size of the product, there are costs and logistical concerns associated with the transporting timber. These complexities make knowledge of

local markets essential. Furthermore, a professional manager with a good understanding of the growth cycle of trees can be essential in maximizing the profitability of each harvest. In this way, timberland is one of the few asset classes where value is created rather than simply traded (e.g., stocks). Active management of forests is essential in ensuring top returns within the asset class.

**Sources of Return**

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**Price Changes**

Historically, timberland prices have risen faster than inflation. Over the past century, the supply of accessible timber has lagged demand for products and the result has been a 3% real appreciation in timber prices. Most professional investors believe that real returns will be lower in the future, but consensus thinking is that prices should keep up with inflation at a minimum. There are macroeconomic factors that affect timber pricing such as the overall health of the economy, interest rates, and housing activity. However, these effects are not always well correlated with timberland prices and usually occur on a lag. There may be short-term volatility in timber prices; however, this volatility gets dampened over the life of a timberland investment (typically 10 to 13 years).

We have discussed how a forest delivers return to an investor and now shift focus to what the actual return expectations are for timberland investing. The collection of timberland returns dates back to 1987 in the NCREIF Timberland Index. As shown in Exhibit A, the annualized performance of timberland since 1987 has far exceeded that of stocks, bonds, and inflation since the timberland index was created.

**So What Return Can I Expect?**

	<b>Returns</b>	<b>Volatility</b>
S&P 500 Index	11.43%	16.01%
LB Aggregate Bond Index	7.27%	4.50%
NCREIF Timberland Index	15.18%	8.72%
Inflation	3.19%	1.25%

Exhibit A

It is important to note, however, that the majority of timberland's outperformance came in the early years of the index when the number of investment manager constituents was very small. The index saw six quarters of double digit returns during the first six years, and only one period since then. Since the index has become more robust in recent years, it is more meaningful to look at performance over a ten-year annualized period (Exhibit B):

	<b>10 Years</b>	<b>Volatility</b>
S&P 500 Index	8.32%	17.51%
LB Aggregate Bond Index	6.22%	3.58%
NCREIF Timberland Index	8.71%	5.82%
Inflation	2.67%	1.46%

Exhibit B

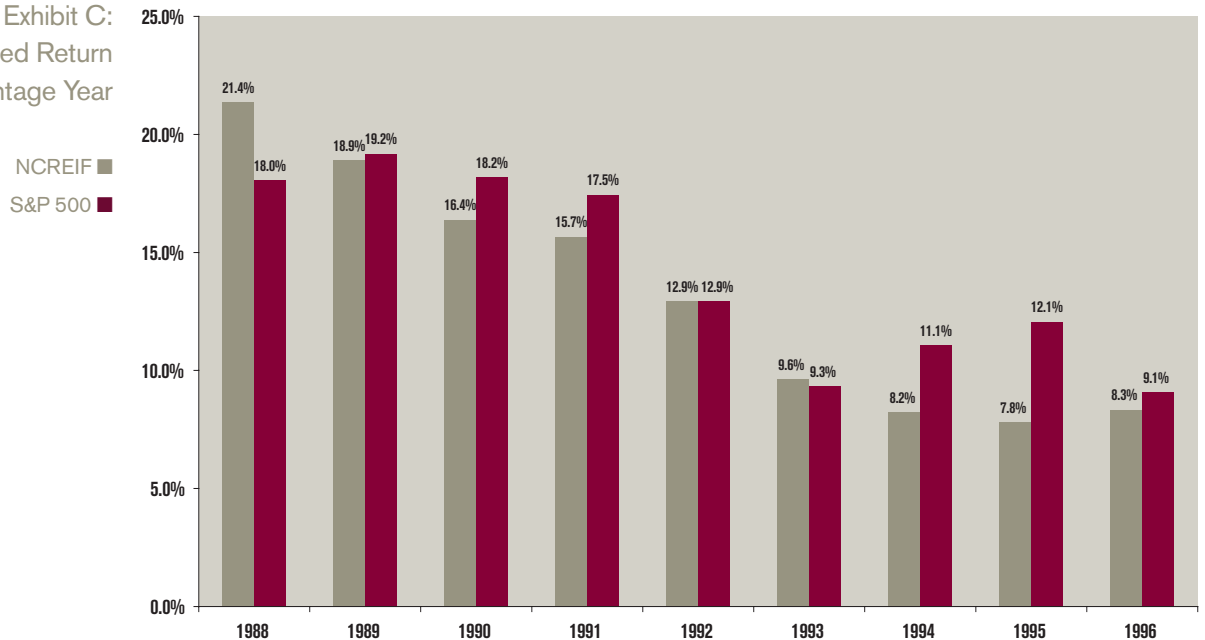
As illustrated above, timberland has outpaced stocks over the past ten years and is particularly impressive on a risk-adjusted basis. However, despite those strong past results,

**So What Return Can I Expect?**

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we expect that timberland should achieve a return that falls between that of stocks and bonds over the long-term. As Exhibit C illustrates, point-in-time performance comparisons can be misleading. Timber investments generally have minimum ten-year lockup periods. The graph shows a comparison of ten-year annualized returns of the Timberland Index and the S&P 500. The assumption here is that the investment was made at the start of that year and held for ten years (which reflects a realistic lockup period). The illustration shows that for most vintage years, timberland underperformed stocks. Only more recently has timberland held a decisive advantage. This is in large part due to the equity bear market of 2000-2002, the magnitude of which is unlikely to occur again soon.

Exhibit C:  
10 Year Annualized Return  
By Vintage Year



From an academic perspective, the idea that returns should fall between stocks and bonds makes sense. The asset class is bond-like in that the natural growth of the forest produces income with some certainty. There is the potential for appreciation through active management and real pricing changes over time, which may allow the asset class returns to approach or exceed that of equities. However, we don't expect appreciation levels seen recently to continue. Focus on timberland has increased and competition for deals has raised prices, which will lower prospective returns.

While we caution investors not to expect outsized gains, we do emphasize that the asset class offers attractive risk-adjusted returns as shown above. Furthermore, because the asset class has low correlation coefficients (Exhibit D) and an absolute return element, timberland acts as a great diversifier for an overall portfolio. Exhibit E shows how timberland has performed in periods of positive and negative returns for the stock market dating back to 1987. In periods of strong equity markets, timberland has produced an annualized return of 17.3%. During negative equity market environments, timberland

## A Discussion on Timberland Investing

holds up very well, returning 9.3% and outperforming equities by 35.2%. This illustrates again the absolute return element that the asset class offers. Since the timberland index was constructed in 1987, there has only been one period of negative experience (around 2002).

### So What Return Can I Expect?

CONT'D

	Stocks	Bonds	Inflation
Timberland	0.07	0.12	-0.17

Exhibit D:  
Correlation Coefficients  
(1987–June 2006)

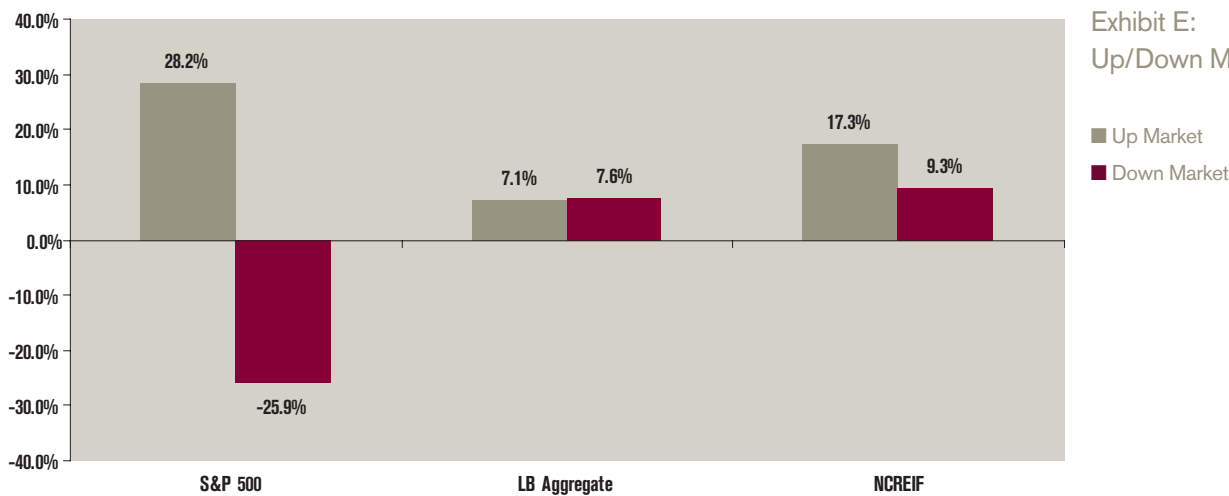


Exhibit E:  
Up/Down Market Analysis

**Economic Risks:** The biggest risk of investing in timber is economic risk due to changes in supply and demand. Demand for wood products is most materially affected by a decrease in residential construction and remodeling. The supply of timberland is generally fixed and can be easily determined with a satellite map. However, supply available to the market can be affected locally by regulations, changes in foreign exchange rates, and availability of substitutes. Economic risks can be mitigated in a portfolio by diversifying geographically and among types of wood. Long-term supply/demand dynamics are in favor of the investor as global economies expand.

### Risks in Timberland

**Physical Risks:** There are several physical risks that forests face, including natural disasters, pest infestation, disease, and animal damage. While the effects of these risks may be severe at times, the cumulative effect has been very low (less than 1%). Again, diversification is key to ensuring that a problem in one forest does not adversely affect the entire portfolio.

Since historical economic and physical risks have been minor, practical considerations generally garner more attention. Most concerning to investors is the illiquidity of a timberland investment. TIMO's are generally structured as limited partnerships with investment terms of 10 to 13 years. Capital is pooled with other investors and is drawn

### Practical Considerations

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**Practical Considerations**

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over the first three years to pay for purchasing, managing, and eventually selling the forest. Each party is required to “lockup” its committed capital for approximately 10 to 13 years.

Due to the specialized nature of timberland, fees are predictably higher than those of traditional capital market investments. The investment managers charge a flat management fee in the range of 75-125 basis points. In addition, there is typically a performance-based fee on the returns that exceeds some performance threshold (e.g., T-bills). These performance-based fees can vary significantly between funds and can result in the bulk of the fees paid by clients.

Another potential drawback for investors is the use of leverage. Some TIMO’s, though not all, may use leverage to purchase forests. When used properly, leverage can add to overall returns. However, if problems arise in the market, leverage can amplify losses, which is why many institutional investors disallow the use of leverage in their portfolios.

Lastly, it may not be feasible for smaller clients to invest in timberland. Many funds have investment minimums that would result in smaller clients having too large of an allocation to an illiquid investment.

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**Current Market Environment**

Relative to other alternative investments such as hedge funds and private equity, timberland use by institutional investors remains fairly minor. That said, the timberland market is receiving much more attention these days. Forest divestitures by International Paper and Weyerhaeuser during the past two years have garnered much attention by TIMO’s and other alternative investment organizations. Current deals are very competitive and, in some estimations, are being overbid because of investor demand. As in any asset class, substantial money flows chasing limited capacity will ultimately lead to lower prospective returns.

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**Conclusion**

Timberland investing offers an uncorrelated source of return to most investors’ current portfolios. The risk/return profile of the asset class is fairly compelling. However, expectations for prospective returns should be tempered somewhat given the current market environment. Over the long-term, an investor should expect timberland to produce returns between traditional equity and fixed income investments, with low correlation to each. Clients seeking additional diversification or an additional alternative asset class may want to consider timberland as a long-term investment.