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**TIR**

## INSIGHTS INTO INEFFICIENCY AND MANAGER SELECTION: A LOOK AT QUARTILE RETURNS OF TIMBERLAND FUNDS

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## Executive Summary

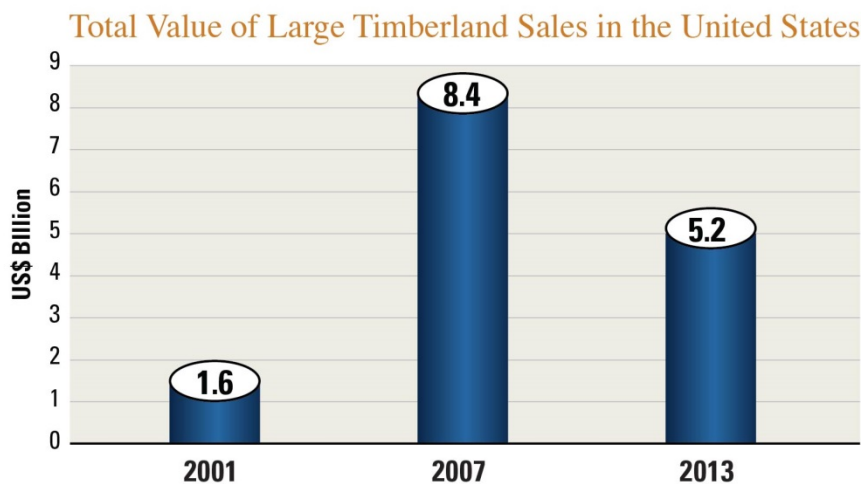
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The increasingly competitive nature of timberland markets has created a perception by some that most of the value has already been extracted from the timberland investment space. We tested this theory by analyzing the long-term upper quartile and lower quartile returns of commingled funds and separate accounts managed by timberland-specific investment managers, as tracked by the National Council of Real Estate Investment Fiduciaries. The results indicate that there is a wide variability of performance across the asset class. The differences among the better and poorer performers exceed those observed in many other asset classes, including real estate. Moreover, this variability of performance is seen as increasing, not declining, in recent years. This suggests that timberland remains a highly inefficient market with a great deal of complexity and depth. In such a diverse universe, timberland managers with different strategies, skill sets, and execution, can create widely divergent returns for their investors. From this perspective, we believe timberland still offers investors many opportunities to unlock value and generate strong returns. The key is embracing the right strategy and engaging the right investment manager to execute it.



## Introduction

Timberland emerged as an asset class in the early 1980s as institutional investors in the United States diversified their portfolios beyond stocks and bonds and ventured into alternative assets. However, it was the exceptional performance achieved in the 1990s and early 2000's that gave timberland wide recognition and standing among investors. That, in turn, attracted a great deal of investor interest. As a result, transaction volumes expanded dramatically – growing an average of \$1 billion to 2 billion a year to more than \$8.4 billion in the United States alone in 2007 (Figure 1). In 2013, transactions were more than double the rate observed a decade ago. With a more active and competitive market, timberland prices in many regions have appreciated significantly, creating a perception that discount rates and yields have declined.



**Figure 1.** Total value of large timberland transactions in the United States in the select years of 2001, 2007 and 2013, as tracked by Timber Mart-South.

Consequently, some industry analysts have reasoned that timberland has transitioned into an efficient asset class, where all types of forest assets are performing similarly. By extension, the existence of a homogenous market suggests manager selection should not matter. If true, this further suggests returns should closely track the overall norm – or “Beta” – of the asset class. On the other hand, if one argues that timberland remains an inefficient market, returns well above or well below the expected composite

performance – or “Alpha” – should be available to investors.

Which is the case? Fortunately, the National Council of Real Estate Investment Fiduciaries (NCREIF), has released historic performance data of timberland funds that could provide insight into the matter. By examining the upper quartile and lower quartile returns of the NCREIF Timberland Fund and Separate Account Index, we can draw informed conclusions about whether choosing the right timberland fund or timberland manager does or does not add value.



## Methodology

TIR analyzed the range of investment performances generated by a diverse body of timberland portfolios by utilizing 10-year quartile performance data published by the NCREIF Timberland Fund and Separate Account Index, which began reporting quartile rankings beginning in the first quarter of 2012. This entails separating funds and individual accounts with 10 years of return history over a common span of time into quartiles by their net total return performance. Net return means return after all fees and expenses, including manager fees.

Timberland is then compared to various other asset classes. Against real estate, TIR used the NCREIF Fund Index – Open End Diversified Core Equity (or simply NCREIF ODCE), which represents open-ended commingled funds with core investment strategies that focus on the U.S. commercial real estate sector. In

addition to real estate, timberland was compared with several categories of publicly-traded securities. For that purpose, TIR utilized quartile data provided by Standard & Poor's *S&P Indices Versus Active Funds* (SPIVA) reports on a variety of equity and fixed income sectors. Table 1 below lists the asset classes included in this analysis as well as the associated benchmark index.

**Table 1.**

### Chosen Benchmark Indices Where 10-Year Quartile Fund Performances are Compared

Fund Category	Comparison Index
Timberland (U.S.)	NCREIF Timberland Fund & Separate Account
Real Estate (U.S.)	NCREIF Fund Index ODCE
Emerging Market Stocks	S&P IFCI Composite
Global Stocks	S&P Global 1200
Large Cap Stocks	S&P 500
Mid Cap Stocks	S&P Mid Cap 400
Small Cap Stocks	S&P Small Cap 400
High-Yield Bonds	Barclays High-Yield Bond
Investment-Grade Intermediate Bonds	Barclays Intermediate Government/Credit
Investment Grade Long-Term Bonds	Barclays Long Government/Credit

The quartile performances are defined as follows:

**Lower Quartile:** A return where one-fourth (25%) of the funds performed below that level and three-fourths (75%) of the funds performed better than it.

**Upper Quartile:** A return where three-fourths (75%) of the funds performed below that level and one-fourth (25%) of the funds performed better than it.

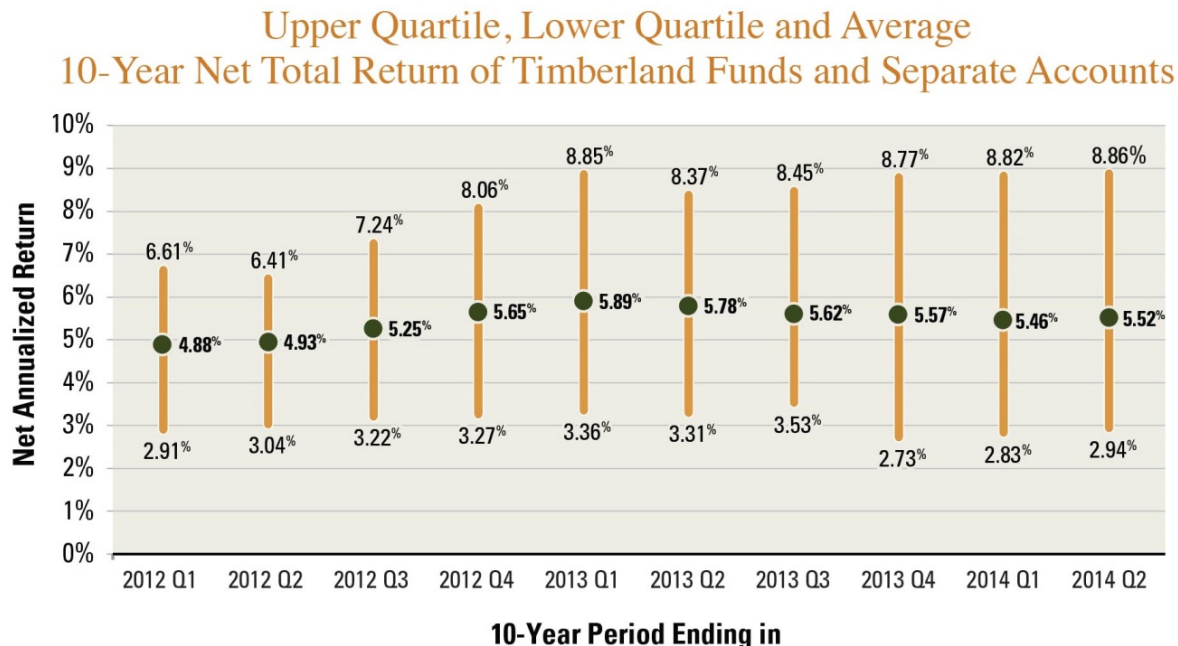


Quartiles are a useful measure of the overall collective variability of funds because they ensure that values are not biased by extreme outliers that may have performed exceptionally well or particularly poorly. In addition, reporting quartiles with a common period eliminates the risk of vintage year bias, as the timing of a fund's inception will naturally cause performance variation in relation to its exposure to the market cycle.

## Results

When we plotted the upper and lower quartile ranges of timberland portfolios with 10-year histories, we observed a wide gap between the 25th percentile and the 75th percentile in the NCREIF Timberland Fund and Separate Account Index (Figure 2). Furthermore, this divergence appears to be significant, as the results were generated from a statistically meaningful population sample; one that averaged 34 funds and accounts and that never fell below 29.

Interestingly, contrary to what we would expect from an increasingly efficient market, the 370 basis point difference between the top and bottom quartile in 2012 Q1 grew to 592 basis points by 2014 Q2. During that



**Figure 2.** Dispersion chart showing the upper quartile, lower quartile and average total return, net of all fees, of timberland investment funds and accounts over a 10-year period, as tracked by the NCREIF Timberland Fund and Separate Account Index. The NCREIF Index began reporting quartile performance starting in 2012 Q1, which is the earliest period that can be tracked in this chart.

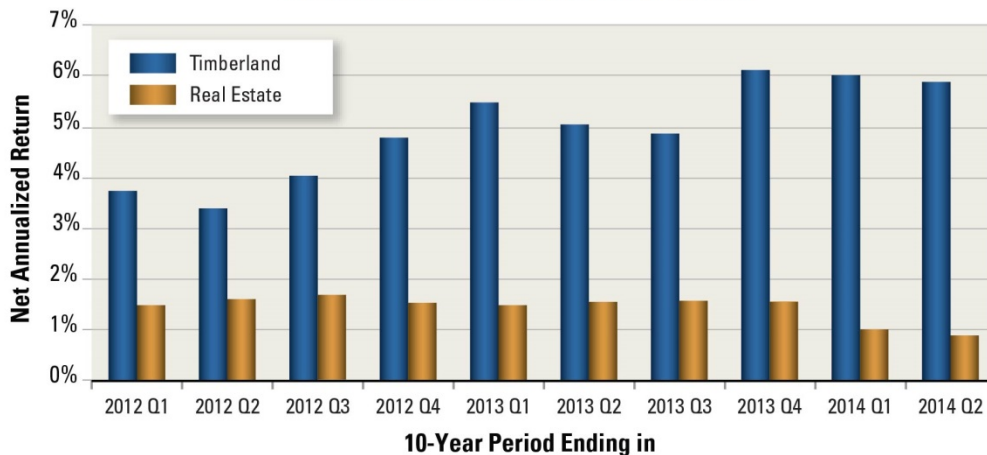


Stand of mature Loblolly pine

period, it should be noted that timber and timberland markets in the United States began to improve. This suggests that the “rising tide” of better markets did not lift all timberland portfolios equally. In other words, some timberland funds and accounts appear to be better positioned to take advantage of the ongoing recovery than others.

Another interesting and relevant assessment is to compare how that variability across timberland investments compares with other types of alternative investments. As a real asset, timberland is often placed in the same investment category as real estate. Therefore, comparisons between the two are commonplace. With that in mind, TIR compared the variance between the upper and lower quartile returns of investment products for timberland and real estate. The chart in Figure 3 shows that over a two and a half year period ending in the second quarter of 2014, the variability of 10-year timberland fund performance far exceeded that of real estate. Furthermore, the data suggests that the difference between timberland and real estate has actually grown over time.

### Difference in Upper Quartile and Lower Quartile 10-Year Returns in Timberland Funds and Real Estate

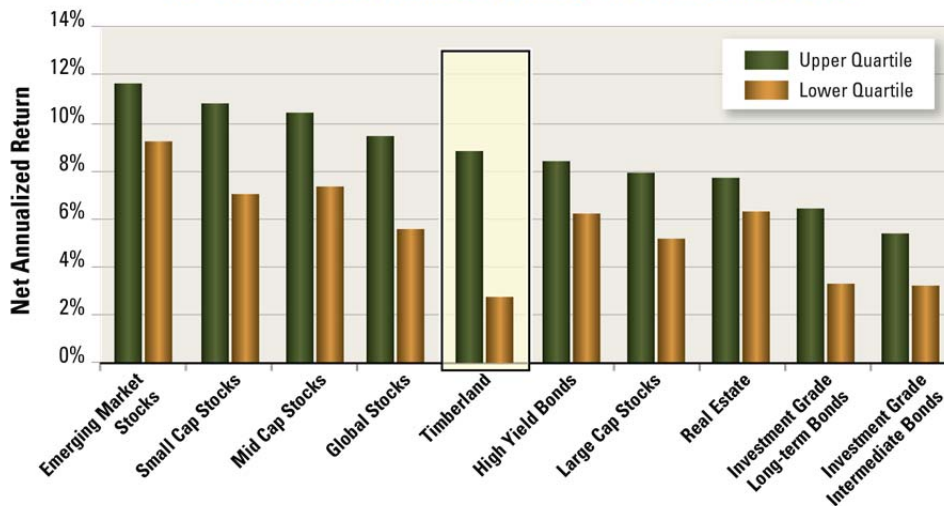


**Figure 3.** The span of return between upper quartile and lower quartile of funds in timberland and commercial real estate over a 10-year period, as represented by the NCREIF Timberland Fund and Separate Account Index and the NCREIF Fund Index - Open End Diversified Core Equity, respectively.



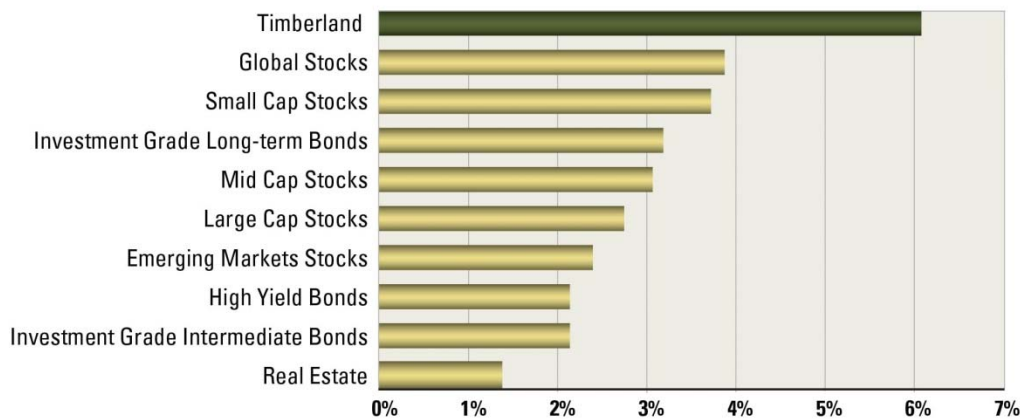
Timberland's return variability also can be viewed in the context of other asset classes. For instance, and as is shown in Figures 4 and 5 below, a broader separation between higher and lower levels of performance exist in the timberland investment sector than in various equities and fixed income sectors.

### Upper Quartile and Lower Quartile 10-Year Returns of Funds in Various Asset Classes, Ending in 4th Quarter 2013



**Figure 4.** The upper quartile and lower quartile of returns of funds in various asset classes covering a 10-year period ending in December 31, 2013. Unless specified otherwise, the asset classes reflect domestic U.S. Sources: NCREIF, Standard & Poor's.

### Difference Between Upper and Lower Quartile Returns of Funds in Various Asset Classes Covering a 10-Year Period Ending in 4th Quarter 2013

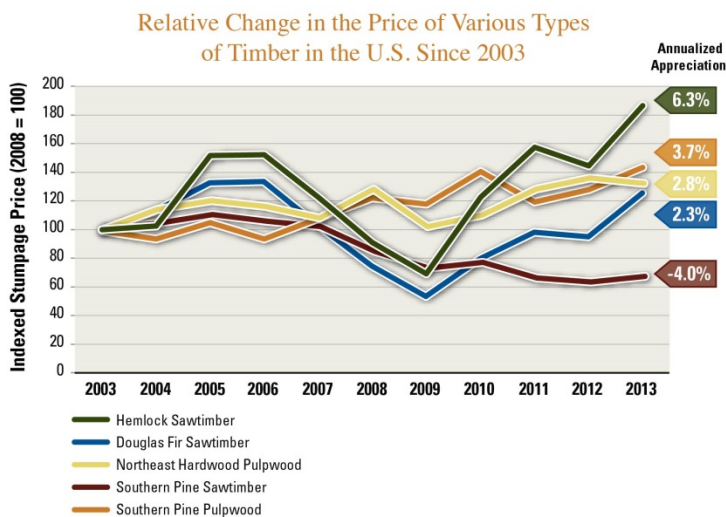


**Figure 5.** The span of return between upper quartile and lower quartile of funds in various asset classes covering a 10-year period ending in December 31, 2013. Unless specified otherwise, the asset classes reflect domestic U.S. Sources: NCREIF, Standard & Poor's.



## Discussion and Conclusions

The degree to which U.S. timberland portfolios generate levels of long-term performance that vary considerably over long time horizons suggests that the timberland asset class remains quite inefficient. In fact, the results show that some timberland investment managers have significantly outperformed their peers over such time horizons. For instance, according to NCREIF, one quarter of the managers have achieved 10-year average annual returns that are more than 490 basis points higher than managers whose performance has been in the bottom quarter. This suggests that opportunities continue to exist for timberland managers to create “alpha” – i.e., the premium to exceed “beta” returns for the asset class.



**Figure 6.** The relative price movement of standing timber prices of various major timber products in the United States over a 10-year period from 2003 through 2013, which 2003 begins with a unit value of 100. Source: RISI.

There are several potential reasons for this broad spectrum of fund and manager performance in timberland. One reason is that timberland is actually a very diverse asset class with a great deal of variation across local wood markets, species and log grades. To illustrate this point, Figure 6 shows price movements for several major timber products in the U.S. over a 10-year period. It demonstrates that prices can vary significantly between timber products over time. As a result, investment managers that have differing levels of exposure to these wood markets, or that are employing different investment strategies, will naturally produce results that also differ significantly.

The second source of “alpha” is manager execution. Even if two managers have the same information, the same modeling expertise, and similar investment strategies, the results they produce can differ markedly depending on the quality and consistency of their execution. Timberland is a very hands-on asset. Activities like silviculture, forest inventory, land sale, ancillary income, and harvest management can have a considerable impact on returns over time. Good choices or poor choices with regard to the forest-management practices employed can manifest themselves in the income stream and asset value of a forest for years to come.





In conclusion, the timberland asset class has continuously grown and evolved over the last three decades. The influx of investor capital and higher turnover has allowed for greater market depth and liquidity. Nevertheless, the varied track records of timberland investment funds and individual accounts indicate that timberland is not yet a homogenous market. It is possible to create and experience superior – or inferior – returns in the asset class relative to one’s peers. For that reason, manager selection is important. Investors who perform outstanding due diligence and who conduct in-depth research when evaluating and selecting timberland managers can identify and capture timberland’s many inefficiencies and be rewarded with strong risk-adjusted returns.



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