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**TIR**

## A LOOK AT THE NEW NCREIF TIMBERLAND FUND AND SEPARATE ACCOUNT INDEX

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## Executive Summary

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- The NCREIF Timberland Property Index (herein referred to as the "Timberland Property Index") formally came into existence in 1994 and has been recognized since as an important measurement tool that has enabled institutional investors to quantify and compare the investment fundamentals and performance track record of the asset class through time.
- However, the Timberland Property Index has limitations. It only tracks the performance of U.S. timberland investments. It also does not account for the impact of fees or leverage. Finally, it does not track the performance of timberland investments that have been made using structures, like timber deeds, that are viable alternatives to fee simple ownership.
- In 2012, NCREIF introduced a companion index, the NCREIF Timberland Fund & Separate Account Index (herein referred to simply as the "Timberland Fund Index") to address some of the limitations of the Timberland Property Index. This new index tracks the fund level performance of both separate account and commingled timberland funds. In addition, an international component is planned for the future, which will further expand investors' capacity to gain insight and perspective on the asset class.
- Among the more interesting conclusions TIR has reached from analyzing the early metrics produced by the Timberland Fund Index are that investment management fees account for roughly one percentage point of return across most periods of measurement; the notion that the timberland investment universe has become mature and efficient has been over-stated as investment strategy, execution and asset allocation continue to influence the performance experienced by timberland investors; larger-sized funds do not necessarily generate premium performance due to operating and transaction economies of scale; smaller-sized funds are not necessarily disadvantaged on a relative basis because they often provide easier access to market inefficiencies that are overlooked or passed over by timberland investment management organizations (TIMOs) that focus primarily on doing large-scale deals; and finally, separate accounts have tended to outperform commingled accounts over the last decade and this may be a result, in part, of the higher average levels of debt carried by pooled funds which has proven to be a liability during the recent economic downturn.



## Introduction

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The recognized standard bearer for performance measurement within the timberland asset class for close to two decades has been the Timberland Property Index published by the National Council of Real Estate Investment Fiduciaries (NCREIF).

Most institutional investors consider the NCREIF Timberland Property Index the most representative benchmark for the asset class, but it is not without shortcomings and limitations. Among other things, it only tracks timberland investment returns on a property level. Consequently, it does not necessarily reflect investors' actual realized returns, which can include portfolio-level cash flows such as leverage and advisory fees.

To address these issues, NCREIF released a companion index in 2012 called the Timberland Fund & Separate Account Index (herein referred to simply as the "Timberland Fund Index").

Because investors may not be familiar with this newly-released index TIR has produced this white paper to provide an introduction and overview. We begin with a brief history, followed by a discussion of the new index's construction and an assessment of how it differs from the NCREIF Timberland Property Index (herein referred to as the "Timberland Property Index"). We conclude with an analysis of the Timberland Fund Index's published performance to date.

## A Brief History

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Recognizing investors' growing need for a standardized measure of investment performance within the emerging timberland asset class, a number of timberland investment managers (TIMOs) began working with NCREIF in the early 1990s to develop a conceptual framework for a new timberland index that would be based on the organization's already well-established commercial real estate index and sub-indexes. NCREIF, a non-profit, trade group of institutional real estate professionals based in North America, focuses on providing the investment community with useful and credible data on the various sectors of the broader real estate asset class.



**Outside of the two NCREIF timberland indices, at present, there are no other asset class-specific performance measurement tools available to investors that are of comparable breadth and quality.**

The NCREIF Timberland Property Index was formally introduced in 1994 and included data reporting back to 1987 – the period when large amounts of institutional capital first began to flow into the asset class. Since its inception, NCREIF has continued to work to improve, enhance and expand the scope of its timberland investment tracking and reporting capabilities in response to the evolving information needs of investors. After more than a decade of development and testing, the organization introduced its Timberland Fund Index in 2012.

Outside of the two NCREIF timberland indices, at present, there are no other asset class-specific performance measurement tools available to investors that are of comparable breadth and quality. Several other forestry-based benchmarks, such as the Standard & Poor's Global Timber and Forestry Index, and the Forisk Timber REIT Index, cover publicly-traded equities, and a few others focus on relatively niche segments of the forestry sector, like the United Kingdom Forestry Index. A third group of synthetic indices, most notably the John Hancock Timber Index, uses other market measures such as timber prices as an expedient proxy for timberland returns. However, these alternative measures have never achieved the same level of market acceptance among the investment community as the two NCREIF timberland indices.

The remainder of this document focuses on the composition, content and intended uses of the NCREIF Timberland Fund Index.

## **Construction of the Timberland Fund Index**

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### ***Composition***

To submit performance data to the either the NCREIF Timberland Property or Fund Indices, an investment manager must be a supporting member of NCREIF. At present, there 11 TIMOs that currently contribute data out of a prospective universe of firms that is commonly thought to include 30 or more firms. Based on TimberLink's survey estimates of the asset space, the index captures about 55% of the area and 65% of the market value of TIMO-managed timberland investments in the United States, which is quite comprehensive for a benchmark index.



### TIMOs that Contribute Data to the NCREIF Timberland Fund Index (as of Q1 2013)

- Brookfield Timberlands Management
- Forest Investment Associates
- Global Forest Partners
- Hancock Timber Resource Group
- Molpus Woodlands Group
- Olympic Resource Management
- Pennsylvania Timber
- Regions Timber Group
- Resource Management Service
- The Campbell Group
- Timberland Investment Resources

**Combined AUM = US\$21.9 Billion**  
**Total Funds = 108**

These organizations act as fiduciaries on behalf of their clients – managing North American-focused timberland investment funds that employ a variety of investment strategies. They submit their funds' performance data to NCREIF on a quarterly basis for market-wide aggregation and reporting purposes.<sup>1</sup>

To qualify for submission, at least 90 percent of a fund's net asset value, aside from cash, must be derived from standing timber or timberland. NCREIF maintains very high standards for its benchmark indices. Contributors must adhere to a body of rules before their performance numbers are accepted. TIMOs contributing to the indices must report performance data on a fair value basis and account for their funds in a manner substantially in compliance the Real Estate Information Standards (REIS) Fair Value Accounting Policy Manual. In addition, all properties included in funds whose performance are being reported by NCREIF must undergo external, independent, third-party appraisals every year and these appraisals must be performed in accordance with the Uniform Standards of Professional Appraisal Practices (USPAP).

It should be noted that the selection of timberland funds comprising the Timberland Fund Index is never fixed. The funds that make up the index can vary from quarter to quarter as new funds or accounts are added and older ones are excised as they reach the end of their investment terms and are liquidated or cease to qualify for inclusion in the index. In addition, TIMOs may join or leave NCREIF, which, in turn, can result in material shifts in the underlying composition of the timberland assets that make up the index.

#### ***What is Reported in the Timberland Fund Index***

The NCREIF Timberland Fund Index shows time-weighted returns for domestic (United States) timberland funds on a pre-tax basis. NCREIF reports these returns collectively for all contributing and qualifying portfolios. Returns are also segregated by commingled fund and separate account categories. The former represent

<sup>1</sup> In return, contributing members of NCREIF benefit by having privileged access to the full detail of both timberland indices. Nevertheless, there has been active pursuit by members of NCREIF and other parts of the investment community to increase participation in NCREIF's timberland indices in order to: (1) broaden the coverage of the timberland asset space and (2) reduce the free-rider problem of non-members taking advantage of member-exclusive data.



**The NCREIF Timberland Fund Index takes into account more factors that impact realized returns than does the Timberland Property Index.**

pooled investment vehicles that accommodate multiple investors. A separate account is a portfolio with a single investor, also known as a *bespoke account*.

Performance data from the Timberland Fund Index is further subdivided between gross return and net return. The difference between the two is that gross return does not include the impact of investment advisory fees – including performance incentive fees – while net return does. A third level of differentiation within the index is the weighting of returns. Value-weighted and equal-weighted returns are reported separately. To derive an aggregated value-weighted return, which is also known as *capitalization weighting*, the performance of each timberland fund reported within the index is weighted by its average market value for the quarter. In the case of tracking and reporting equal weighted returns, each fund's performance affects the index to the same degree regardless of its size.

For purposes of maintaining confidentiality, NCREIF does not report returns within the Timberland Fund Index on either an individual fund or account level. Because all of the performance data reflect aggregated values, there are certain types of information that cannot be drawn from the Timberland Fund Index. For example, as interesting as it might be for investors, it is not possible to compare a fund's specific performance against others based on its vintage year or its age. It also is not possible to discern how differing levels of debt (i.e., leverage or gearing), or different advisory fee structures, impact net returns.

***Differences between the Timberland Property Index and the Timberland Fund Index***

Because timberland investment performance is drawn from the fund level and not the property level, the NCREIF Timberland Fund Index takes into account more factors that impact realized returns than does the Timberland Property Index. Among other things, it incorporates advisory fees, such as asset management fees and performance-based fees, as well as the effect of cash balances held as capital reserves. Since returns in the Timberland Fund Index are based on market value equity, it also incorporates the effect of debt (if any) that has been used in the investments that are being tracked. By comparison, the NCREIF Timberland Property Index does not account for the influence of debt on reported performance.



Another point of difference between the two indices is the kind of assets that qualify for inclusion. Investments tracked by the Timberland Property Index must be largely held as timber and land together, where 80 percent or greater of the asset value is fee-simple (or freehold) ownership. In contrast, the Timberland Fund Index accepts performance data for funds that also hold other direct forms of forest assets, such as timber deeds, leases and cutting rights.

One aspect of the Timberland Property Index that the Timberland Fund Index currently lacks is a breakdown of data by regions. In addition to tracking and reporting data for the United States as a whole, the Timberland Property Index also reports performance across the four major U.S. commercial timberland investment regions: the Northeast, the Lake States, the Northwest, and the South. In contrast, the Timberland Fund Index only provides a national roll up of performance data because many timberland investment funds invest across several regions.

Another feature of the Timberland Property Index that the Timberland Fund Index lacks is a breakout of return data by income (i.e., EBITDDA) and appreciation (i.e., capital gains). This feature is absent from the Timberland Fund Index, largely due to potential inconsistencies between some contributing managers' calculations of these subcomponents of the returns. While the calculation is consistently applied by NCREIF in the Timberland Property Index and is a fairly straightforward process, the breakout is much more problematic on a fund or account level, where expenses such as advisory fees, administrative costs, debt service and taxes complicate the analysis. NCREIF therefore decided that the breakout of income and appreciation returns in the Timberland Fund Index would not add enough new information to what is already provided in the Timberland Property Index to be worth the effort.

A table summarizing these differences can be found below (Table 1).



Featured in Index Reporting	NCREIF Timberland Fund & Separate Account Index	NCREIF Timberland Property Index
Quarterly Time-Weighted Returns	✓	✓
Total Area and Market Value of Contributing Timberland Investments	✓	✓
Returns Net of Advisory Fees	✓	
Returns Reflect Effects of Debt (Leverage)	✓	
Could Include Non Fee-Simple Forest Assets	✓	
Includes Both Value-Weighted and Equal Weighted Returns	✓	
Returns Net of Working Capital	✓	
Breaks Out Regional Performance		✓
Attribute Returns to Income and Appreciation		✓

**Table 1.** Similarities and differences between the two NCREIF timberland indices

## Deriving Insight into the Timberland Asset Class from the Fund Index

With regard to the additional perspectives the NCREIF Timberland Fund Index offers investors, what follows are highlights and useful insights into the timberland asset class based on the index's unique features.

### ***The Effect of Manager Fees***

When comparing the two timberland indices, it is apparent that the Timberland Property Index shows higher historic returns than those reported within the Timberland Fund Index (Table 2). This is to be expected because the Timberland Property Index does not account for the impact of advisory or management fees while the Timberland Fund Index does. Nor does the Timberland Property Index consider the cash carried in a





portfolio (i.e., working capital), which can create a drag on returns. The difference between the two sets of performance numbers is generally in the range of one percentage point, which is consistent with an average, market-wide advisory fee structure of about 80 to 100 basis points.

One discrepancy of particular note between the two indices is that the 10-year return provided by the Timberland Property Index is currently 167 basis points higher than the return reported by the Timberland Fund Index. TIR speculates that this difference could be the result of incentive fees TIMOs earned during the period of strong performance that the timberland asset class generated between 2004 and 2007. After 2007, there was a correction in U.S. timberland markets and TIR believes this likely reduced the effect of incentive fees in the subsequent 1, 3 and 5-year performance reporting periods.

**Table 2.** Time-weighted average returns between the NCREIF Timberland Fund Index and the NCREIF Timberland Property and Separate Account Index. Performance from the Timberland Fund Index is a value-weighted, net return measure.

Time Weighted Returns	2013 Q1	1 Year	3 Year	5 Year	7 Year	10 Year
Timberland Fund Index	0.92%	7.85%	2.49%	1.20%	4.96%	6.90%
Timberland Property Index	1.53%	9.01%	3.61%	2.07%	6.20%	8.27%
<b>Difference Between the Indices</b>	<b>0.61%</b>	<b>1.16%</b>	<b>1.12%</b>	<b>0.87%</b>	<b>1.24%</b>	<b>1.37%</b>

***The Potential for Alpha***

Another interesting insight that the NCREIF Timberland Fund Index provides is the diversity of returns generated by contributing TIMOs. In the first quarter of 2013 for example, performance metrics for 108 timberland portfolios managed by 11 different managers contributed to the Timberland Fund Index's data pool. TIR is unable to dissect and synthesize performance by individual portfolio, but NCREIF does show the upper and lower quartile values in aggregate. Displayed in Table 3 below are the top quartile (upper 25 percent), average, and bottom quartile (lower 25 percent) returns for 70 timberland funds and accounts with five years of performance history.



**Table 3.** Time-weighted net returns of timberland funds and accounts in the NCREIF Fund Index with 5 years of performance history up through March 31, 2013.

Time Weighted Returns of Funds and Accounts with 5 Years of History	Average	Top Quartile	Bottom Quartile	Range of Return from Top Quartile to Bottom Quartile
All Accounts	1.20%	3.19%	-0.22%	3.41%
Commingled Funds	-0.31%	3.02%	-4.25%	7.27%
Separate Accounts	1.99%	3.49%	0.58%	2.91%

**Timberland is not a homogenous asset class. Managers are reporting a range of performances for the funds they manage.**

Two things stand out from Table 3. First, it is obvious that timberland is not a homogenous asset class. Managers are reporting a range of performances for the funds they manage. Over the five-year period profiled, those funds performing in the top 25 percent provided an average of 341 basis points more net return than those in the bottom 25 percent. This indicates that timberland remains an inefficient asset class.

By way of further explanation, when a market is *inefficient*, there is imperfect information available to buyers and sellers. There exists significant variability or complexity to the information. Such market disparities can prove beneficial to investors who have the capacity to perform well under conditions of such ambiguity. As a result, they are able to recognize and capture the benefits of opportunities that are missed by other investors. In contrast, when a market is *efficient*, all investors have a predictable market with few or no overlooked opportunities. Thus, everyone is on a relatively level-playing field where any investor has an equal chance to perform as well as any other. In such cases, efficient markets show very compressed ranges of returns. But when the timberland asset class is inefficient, the strategy, execution and regional allocation a TIMO employs on behalf of investors could all play key roles in how value is generated for clients. Effectively, “alpha” – or the unique premium to the overall expected performance of the sector – is alive and well in timberland.

The second notable feature in Table 3 is the variability in performance among timberland investment vehicles. Commingled funds seem to show a greater diversity of returns than single-investor accounts. Between the top



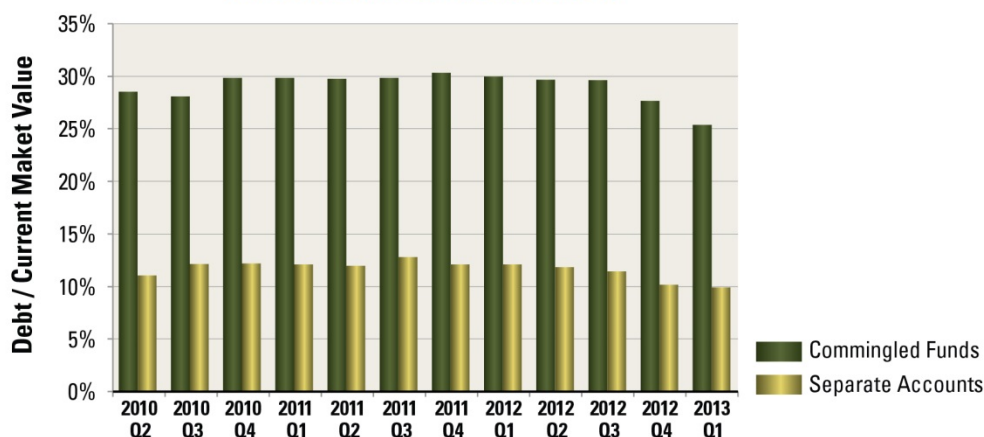
25 percent and the bottom 25 percent, commingled funds with five years of history generated a positive 727 basis point differential. For separate accounts, the span between the top performers and the bottom performers was a much smaller at 291 basis points. There may be several reasons for this disparity. One is leverage. The Timberland Fund Index reports that commingled funds have consistently held higher levels of debt, on average, than have separate accounts (Figure 1). This is significant because leverage can increase return on equity (ROE) when markets are buoyant and cash flows are strong.

However, leverage hurts ROE when markets are weak and cash flows are constrained. The Timberland Fund Index indicates that pooled funds generally have held leverage of close to 30 percent of net asset value while separate accounts have been in the range of just 12 percent.

As was mentioned earlier, the United States suffered from weak timber markets between 2008 and 2011 because of the broad economic downturn. For timberland investments

carrying higher levels of debt during this period, this likely had a more significant impact than it did for investments that were not as heavily leveraged. Demand for building products in the U.S. slowed considerably – driving down prices for higher valued chip-n-saw and sawtimber logs, which are used for the production of dimensional lumber and plywood. This likely made it challenging for timberland investors to service their debt, which, in turn, contributed to the gulfs observed between the higher and lower performers of the two categories (commingled funds and separate accounts).

Cummulative Leverage Ratios of Commingled Funds and Separate Accounts that Contribute to the NCREIF Timberland Fund Index



**Figure 1.** Total leverage ratio (debt / NAV) of contributing commingled funds and separate accounts to the NCREIF Timberland Fund Index.

**Effect of Fund Size on Performance**

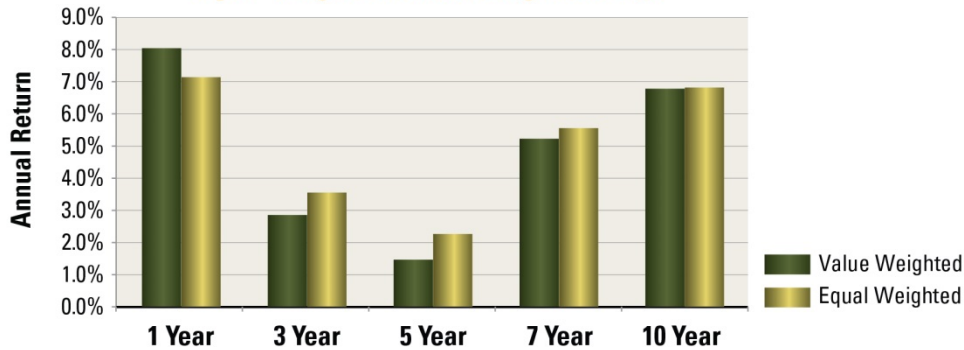
Another piece of useful information that can be gleaned from the new Timberland Fund Index is the potential impact fund size may have on investment performance.



## Larger funds have not historically afforded any sustained innate net advantages to investors than smaller funds.

By comparing the value-weighted and equal-weighted values of the funds whose data is contributed to the index, it is possible to discern whether fund or account sizes impart any inherent performance advantages. For example, if a value-weighted return is lower than the equal-weighted value, this may suggest that, all else being equal, larger funds had poorer performance than smaller funds because the larger funds tend to pull down the average in a value-weighted measure. Likewise, if a value-weighted return is higher than the equal-weighted return for the index, that suggests that larger funds performed better than smaller funds.

Time Weighted Net Returns of the NCREIF Timberland Fund Index on a Value-Weighted and Equal-Weighted Basis through 2013 Q1



As is observed in Figure 2, the equal-weighted index has consistently outperformed the value-weighted index for the 3, 5, 7 and 10-year periods. The one exception was the 1-year period when the value-weighted number was higher. The implication is that larger funds have not historically afforded any sustained innate net advantages to investors than smaller funds.

**Figure 2.** Time-weighted annual net returns of the NCREIF Timberland Fund Index on a value-weighted and equal-weighted basis over 1, 3, 5, 7 and 10-year periods ending in first quarter 2013.

In theory, larger timberland portfolios arguably offer certain advantages. Among other things, they potentially provide operating economies of scale, which can result in lower property management costs. An argument can also be made that they tend to have broader market exposure, which can enhance access to more timberland acquisition opportunities. Finally, in some cases, size may offer transaction pricing advantages by providing access to larger-scale and more attractively priced deals. However, the values shown in Figure 2 suggest that these supposed advantages are either lacking or are insufficient. When compared to larger funds, it appears smaller funds may benefit from the capacity to be more nimble in the development and execution of their investment strategies, which may prospectively allow them to unlock value that is overlooked by those focused on completing larger, higher-volume transactions.



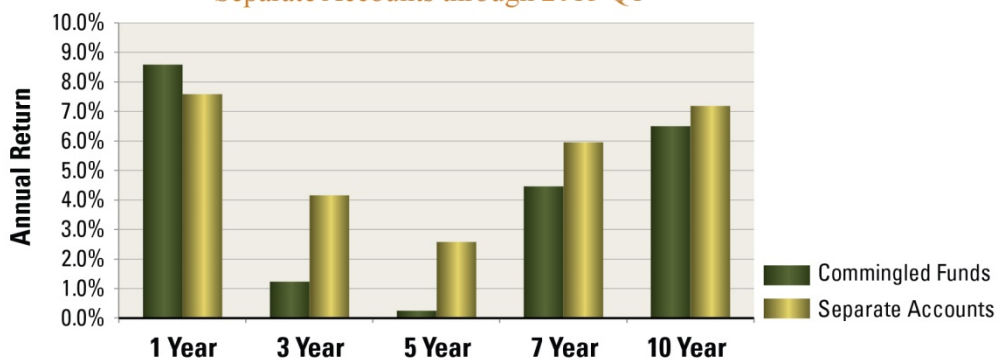
**Separate accounts, in aggregate, outperformed commingled funds. One possible reason for this disparity... is the higher average amount of leverage employed by commingled funds.**

### **Performance Difference between Commingled Funds and Separate Accounts**

The historic argument for investing in pooled timberland funds has been that they provide greater levels of diversification than is possible when one invests through a dedicated separate account. The recognized tradeoff, however, is that there is less flexibility when investing through a commingled vehicle. Investors have limited capacity to influence or direct the investment strategy that is being implemented by a TIMO on their behalf. The new Timberland Fund Index provides insight on whether that tradeoff impacts net returns.

In the chart below (Figure 3), except for the most recent year, separate accounts, in aggregate, outperformed commingled funds. One possible reason for this disparity – particularly over the most recent 3-year and 5-year periods – is the higher average amount of leverage employed by commingled funds.

**Time Weighted Net Returns of the NCREIF Timberland Fund Index Between Commingled Funds and Separate Accounts through 2013 Q1**



**Figure 3.** Time-weighted annual net returns of the NCREIF Timberland Fund Index segregated between commingled funds and separate accounts over 1, 3, 5, 7 and 10-year periods ending in first quarter 2013.

While we do not know for certain why commingled funds tend to have held more than double the levels of debt held by separate accounts, TIR speculates it is related to the greater latitude and discretion TIMOs tend to have when managing pooled funds. A fund manager may be tempted to use debt to enhance investment returns in the hope of earning a higher performance-based incentive fee. They may be more aggressive with leverage because there is

little, perceived downside risk since investor capital is held captive for the life of the fund. TIMOs managing separate accounts, on the other hand, would choose to be more conservative in adding debt because they recognize the risk of the client withdrawing their account should performance become hurt by excessive leverage. This would also explain why commingled funds underperformed separate accounts in the five-year index numbers while outperforming over the most recent one-year period. Declining timber and timberland markets from 2008 to 2011 would have hurt funds with higher levels of debt by depleting their limited cash flow.



However, U.S. timber markets have improved in recent quarters because of the emerging recovery of the housing sector, which may have allowed the same, more leveraged commingled funds to outperform those separate accounts (see 1-year returns in Figure 3).

## Summary and Conclusions

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The introduction of the NCREIF Timberland Fund Index in 2012 is a significant step forward because it offers investors and TIMOs additional insight and perspective on the performance of the timberland asset class. By providing collective returns of actual, active timberland funds that are managed by timberland investment managers, it adds a new layer of information that previously could not be provided by the original NCREIF Timberland Property Index.

Interesting details that TIR has gleaned from analyzing the new Timberland Fund Index include the following:

- The net impact to an investor that uses a TIMO to oversee its involvement in the asset class is roughly equivalent to one percentage point of return.
- Despite concerns by some in the investment community about excessive competition in the U.S. timberland space, there is no indication that the sector has become fully mature and “efficient” (i.e. all above-average returns are squeezed out). Significant variability exists with regard to the performance generated among TIMOs and funds, which suggests that investment strategy, execution and asset allocation all continue to play roles in the experiences of investors involved in the asset class.
- Larger-sized funds do not appear to enjoy an inherent, sustained performance advantage and smaller funds are not necessarily disadvantaged by their lack of scale – having outperformed the universe of larger funds for certain periods of time.
- Single-investor timberland portfolios in the U.S. have generally performed better than commingled funds over the last 10 years. This may be a result of the higher, average leverage ratios commonly found with pooled funds, which, in all likelihood, were disproportionately hurt by the cyclic downturn of the sector from 2008 to 2011.



Despite the progress that has been made with the new Timberland Fund Index, more remains to be done with regard to quantifying and understanding the timberland asset class. To that end, the hope is that NCREIF will be able to include more performance data within its two timberland indices, particularly with respect to geographic investment regions where industry representation has been traditionally light, such as the U.S. Lake States and U.S. Northeast. In addition, reporting standards for NCREIF's contributing members are expected to be tightened and refined in the future.

With regard to the next immediate goal on the organization's horizon, NCREIF is expected to add an international component to the Timberland Fund Index, which will track and report on the performance of international and non-U.S. funds. The achievement of this major milestone will enable the proper performance measurement of the timberland as a global asset class.

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