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TIMBERLAND IN THE EYE OF THE FINANCIAL STORM: THE SHORT AND LONG-TERM OUTLOOK FOR TIMBERLAND IN TODAY'S ECONOMIC ENVIRONMENT

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Economic Research and Analysis

February 2009

Introduction

The housing market has collapsed. The global economy is in a downturn. Prices for lumber have reached new inflation-adjusted lows. Paper and packaging markets have lost strength and have begun to decline as well. Some industry observers have even posited a possible asset pricing bubble for timberland. These events seemingly do not portend well for an investor of timberland. For existing investments, is it best to hold or sell the timberland? For investors considering new investments, would it be prudent to delay or reduce the allocation to the asset class? The answers to these questions depend on how vulnerable timberland investment returns are to the strong economic headwinds we are facing. This paper will provide an assessment of how the current difficult financial climate may affect an investor's timberland investment strategy.

Timberland Value in the Current Market

To understand where timberland investments are vulnerable in the current economic climate, one must first understand the sources of return. A timberland investment derives its return from income[1] and capital appreciation. The NCREIF Timberland Index showed a median return of 9.65% from the Index's inception in 1987 through 2008. For that period, the median contribution of income to timberland returns was 58.5% and capital appreciation made up the remaining 41.5%. These statistics suggest that income typically contributed 59 basis points for every 100 basis points of total return to the timberland investor. Capital appreciation contributed 41 basis points for every 100 basis points of return. This resulting ratio of income to appreciation is 1.41.

This ratio, however, has not been constant. Since the early 2000s, the ratio has shifted away from income and towards capital appreciation. Figure 1 shows the 4-quarter rolling returns of the NCREIF Timberland Index broken out between *EBITDDA Return* (income) and *Appreciation Return* (capital appreciation).

[1] Income is generated from timber sales, land sales and other transactions that convert rights to cash.

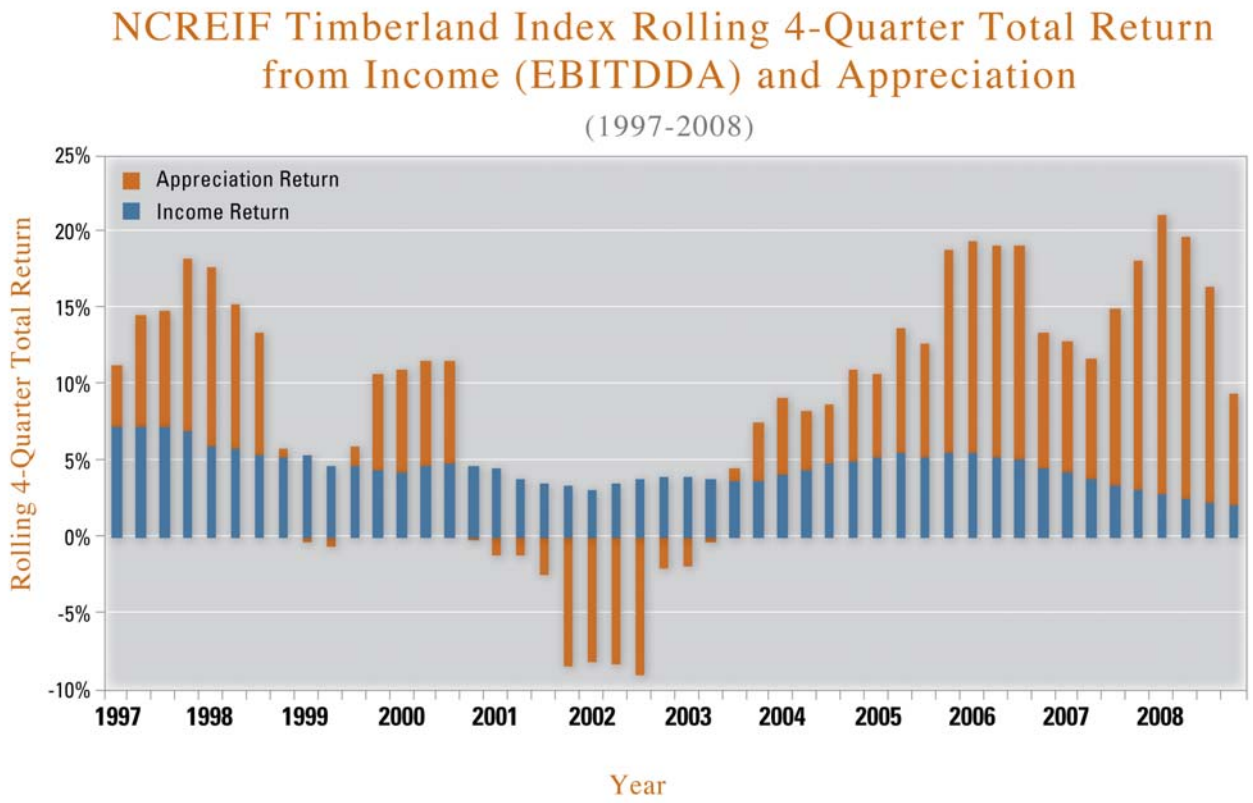

Figure 1. NCREIF Timberland Index rolling 4-quarter total return from income (EBITDDA) and appreciation, 1997-2008.

As observed in Figure 1, capital gains are volatile due to the fact that the net asset value (NAV) of timberland investments is subject to shifting market prices of timber and land. Income, however, is quite stable and remains positive even during the recessionary period of 2001-2003, as observed in the chart. Never once did income turn negative.

What has shifted over time is the relative contribution of return between income and appreciation. In the 1990s, income made up a median 68.1% of total timberland return. Since 2006, the contribution of income has declined to 34.7%. That means for every 100 basis points of total return, 35 basis points came from income and 65 came from appreciation, yielding a ratio of income to appreciation of 0.53. The logical interpretation of these trends is that timberland achieved strong capital appreciation. Sales in recent years bear this out.

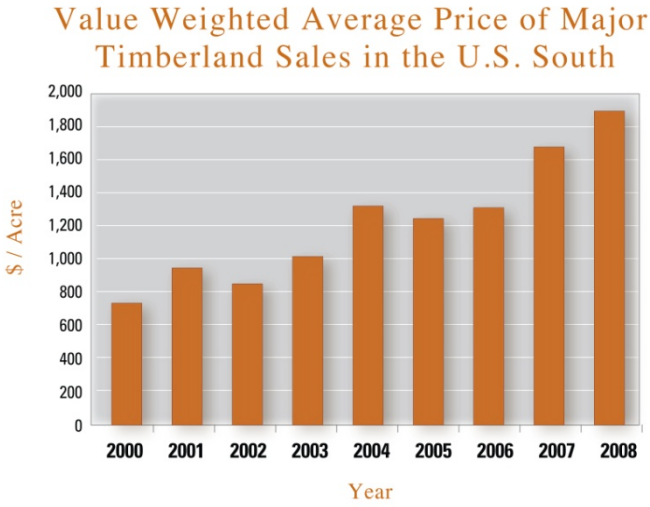

Figure 2. Value weighted average price of major timberland sales in the U.S. South as reported by the RISI Timberland Sales Database, 2000-2008 H1

According to the RISI Timberland Sales Database, the average price of large timberland transactions in the U.S. South has, for example, grown from $738 per acre in 2000 to close to $1,895 per acre (Figure 2), a compounded annual appreciation rate of 12.5%. Timberland markets in other regions like the U.S. Pacific Northwest and the U.S. Northeast show similar increases.

More precisely, timberland has appreciated in value in the last three years by roughly 69% relative to historic price to income levels (or P/E ratios).[2] The question lies in the source of the appreciation. If the appreciation is based largely on market fundamentals, then the current economic downturn is less likely to hurt the long-term return potential of timberland investments.

To partially explain these price shifts, there are two developments in the timberland investment market that have created long-term, fundamental shifts in how timberland investments are priced in the market:

1. ***Lower Illiquidity Premium***
   Timberland markets have become more competitive and, as a result, more liquid. The greater ease in purchasing and selling timberland in a more transparent market lowers some of the illiquidity premium that timberland once carried. This should incrementally lower the discount rate used to value a timberland property. Since this is a fundamental change in the asset class, it should not be affected by a negative economic climate.

2. ***Less Perceived Risk***
   As timberland has become a more established asset class within the investment community, its perceived risk has dropped. Early on, physical threats (e.g., wind, fire, disease and insects) were often expected by investors to be a significant risk of investing in timberland. Foresters and academic researchers have analyzed physical risk and concluded that there is relatively low loss associated with these physical risks. For example, one study by James W. Sewall Company, a forestry consulting firm, suggested that the annual loss of timber to physical threats

[2] See Appendix for a detailed explanation of how the 69% value was calculated.

by TIMOs has been less than 0.4%.[3] Investors, when performing due diligence, have heard these statistics but have been dubious. However, with over 25 years of institutional investment history, the absence of "horror stories" has buttressed the statistics. This reduction of perceived risks by investors of timberland over time has lowered the required risk premium. A lower risk premium, akin to the lower illiquidity premium, should reduce the discount rates some investors attach to the asset class.

Another Market Pressure: Excess Capital

While these two changes in the timberland asset class are contributors to the higher value of timberland, industry observers have noted that a strong influx of capital into the asset class may have also contributed to the timberland asset inflation in recent years. The argument is that excessive capital chased a limited pool of timberland investment opportunities. Given the uncertain economic climate of today, there is a concern by some analysts that there will be a pullback of investor capital, creating a collapse in timberland prices, thus hurting investors who entered into the asset class "at the wrong time". Is this a valid concern?

Given the turmoil in the financial markets and the portfolio losses taken by many, a pullback of investor capital from the timberland asset class is considered likely. However demand is only one side of the equation. Market values are the result of supply and demand forces. Should supply of timberland adjust accordingly to reduced demand, then a market correction may be cushioned.

Will there be a Recession Induced Correction?

While nobody can truly predict the market, there is reason to believe that the timberland asset class will more likely follow a moderate, selective adjustment or pause rather than a sharp blanket correction in the current economic environment for the following reasons:

1. ***Patient Capital***
   Timberland is typically held with patient capital. In other words, much of the timberland holdings

[3] James W. Sewall Company. *Timberland Report.* Vol. 6, No. 4 (4th Qtr. 2004)

are acquired by institutional investors with long-term time horizons. Investment durations of 8, 10 or 12 years are common. Some timberland properties are purchased to be held indefinitely. The pressure to sell in a difficult market generally does not exist. Given the steady cash yield that timberland generates, as seen in Figure 1, investors may not feel the pressure to liquidate their timberland portfolios early.

2. Little or No Debt Service

The restraint on the sell side of the timberland market is helped by the fact that leverage (i.e., the use of debt to help acquire the property) is quite low. In contrast to commercial real estate, the majority of timberland investments are acquired as 100% equity. Leverage, when it is used, rarely exceeds a 40% debt ratio. As a result, premature sales due to excessive debt loads or "margin calls" will not be a factor as we have seen in other asset classes.

3. Low Opportunity Cost of Delayed Income

Another market dampening factor is the biological feature of timber allowing for "storage on the stump". When market conditions are poor, timber can be held and value still added through continued biological growth. Productive forest plantations here in the United States can grow 5% to 7% in value each year. If an investor's target rate of return is for instance, 8.0%, then the opportunity cost of delaying harvest is reduced to 100 to 300 basis points rather than the full 8.0% hit. Consequently, the long-term impact of timberland investment return from weak timber markets is minimized as timberland owners can wait out a down cycle with fairly low opportunity cost.

Given these three factors, a pullback of capital from the timberland asset class may not necessitate a sharp drop in timberland prices to the detriment of current investors of timberland because there is a lack of need to sell prematurely. Patient capital, low leverage and low opportunity cost of biological growth all help contain supply to better match demand.

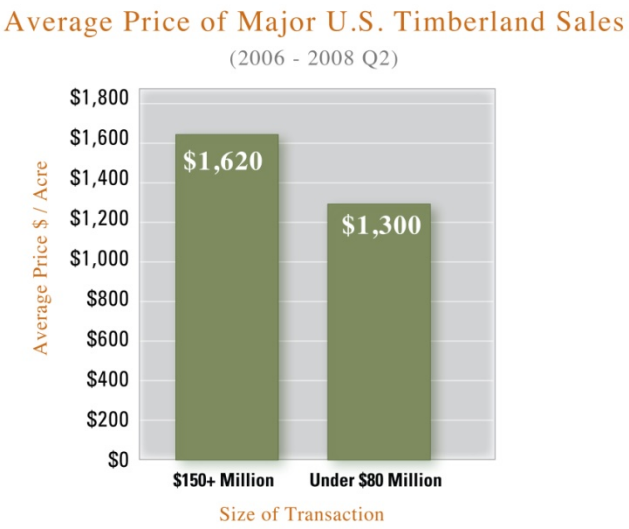

Figure 3. Average per acre price of major timberland sales for sales $150 million or above and for sales below $80 million in the United States from 2006 to 2008 Q2 as reported by the RISI Timberland Sales Database.

Conclusion: Value and Opportunities Exist for the Focused Investor

In conclusion, we believe the market could be due for a selective correction. Nevertheless, there is reason to believe such a correction would not be as severe nor as protracted as some industry observers fear. Several factors are working in support of timberland prices as discussed earlier: (a) lower illiquidity premiums; (b) lower perceived risks; (c) patient long-term capital; (d) low leverage; and (e) low opportunity costs of delayed income. Furthermore, the correction may not be broad based because many segments of the timberland market are arguably reasonably priced or, in some cases, undervalued. For example, it has been the very large properties that have shown the highest price appreciations relative to the smaller properties in the mid-market. The price differential can be observed in Figure 3, where the average per acre price of timberland sold for $150 million or more since 2006 was $1,620 per acre, a 25% premium over timberland of $80 million or smaller which sold at an average of $1,300 per acre, as tracked by the RISI Timberland Sales Database.

Recommendations: Buy with Discipline to Reduce Market Exposure

For investors with existing timberland holdings, the strategy will depend on their investment horizon. Responsive strategies include (a) extending the investment length of existing properties beyond the present economic cycle or (b) seeking opportunistic sales to rebalance the timberland portfolio toward markets that are undervalued or show strong growth potential. The best opportunities will be realized by investors with an investment horizon greater than 5 years. Long-term, timberland is expected to remain a sound investment. Market fundamentals are in its favor after the economy and the financial market recover. While future appreciation of the timberland asset may not be as strong as observed in recent years, we can reasonably expect stable returns from income of around 4% to 6%. The foundation lies in the growing appetite for wood in the U.S. and globally. Demographic projections estimate net new households formed in the U.S. at a rate of 1.3 million a year (see Figure 4). Demand for lumber and other wood products is expected to grow at an average annualized rate of 2.5 percent a year through the expected economic recovery and beyond (Figure 5).

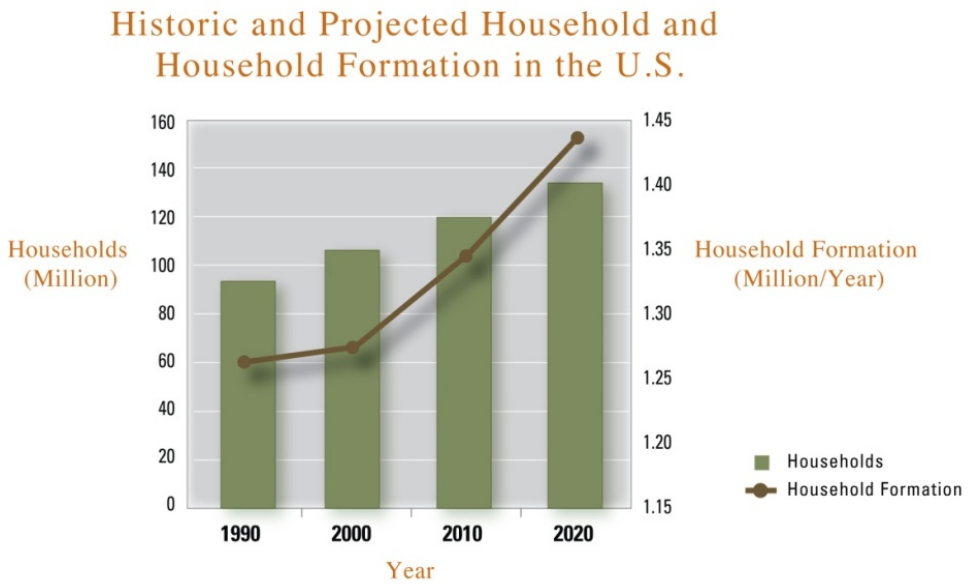

Figure 4. Historic and projected household and household formation in the United States. New household formation is a key driver in new home construction and therefore demand for building products. Source: RISI

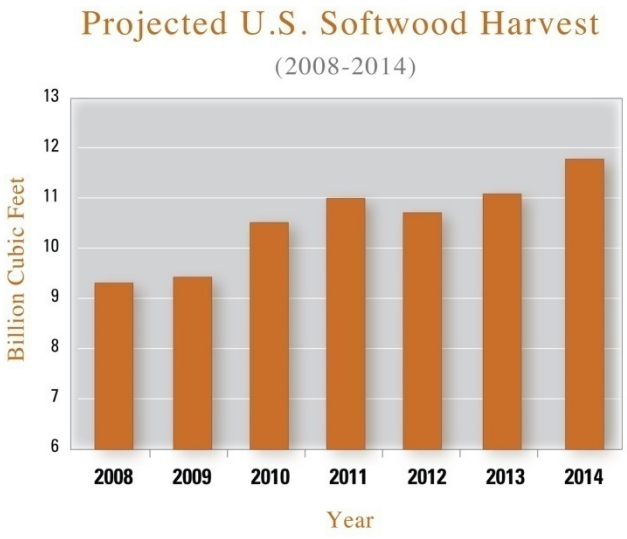

Figure 5. Total annual forecasted harvest in the United States of softwood to make lumber, panels, paper and other wood products. Source: RISI

Continued Opportunities for New Capital

For the investor who is considering whether to increase or add a new allocation of timberland to the portfolio, the recommendation is to be diligent and selective. It is true that certain segments of the timberland market may be considered richly priced. But value can be found with careful search, good judgment and discretion. Timberland markets remain highly heterogeneous and inefficient. The wide variability of prices for timberland even in recent years is illustrated in Figure 6. Certain markets may be overlooked and/or be less competitive. The key is to not over pay. Acquire investments with conservative assumptions and use a prudent discount rate reflective of the asset's inherent risks.

A Global Perspective

Opportunities remain in timberland. But how does the United States compare with international markets? As a general rule of thumb, a rising tide lifts all boats. The long-term fundamentals of rising global demand for wood products beyond the current economic cycle apply equally to foreign markets as they do to U.S. markets. However, a global economic downturn can exacerbate

Figure 6. Price per acre of major U.S. timberland sales from 2000 to 2008 H1 as reported by the RISI Timberland Sales Database.

or heighten country level risks in emerging markets where many international timberland investment opportunities lie. A higher, adjusted risk premium may be necessary for investments outside of non-industrialized markets such as the United States, Canada, Australia and New Zealand. Down markets in wood products can also expose the vulnerability of some emerging markets to a very limited income stream – as investments in emerging markets often only rely on one or two log products from a single plantation species. With those caveats in mind, good opportunities still exist in both U.S. and non-U.S. markets. In a capital starved economic environment, a timberland investor with cash could be negotiating at a position of strength and could capture good values – both domestically and overseas.

Appendix

Calculation of Timberland Value from Historic Norms

The following is an explanation of how current timberland prices are determined to have appreciated in value by 69% from historic NCREIF Timberland Index norms:

- The historic median total net return before manager fees of the NCREIF Timberland Index from inception in 1987 Q1 through 2008 Q4 was 9.65% on an annualized basis.

- The breakout of total return between income (EBITDDA) and capital appreciation for the NCREIF Timberland Index (1987-2008) was calculated for all the quarterly returns. The median portion of total return that comes from income was 58.47%.

- 58.47% income share of 9.65% total return suggests that timberland investments have historically provided, in median terms, $56.44 of income for every $1,000 of net asset value (or NAV). (9.65% x 58.47% x $1,000 = $56.44)

- Since 2006, however, the portion of total return that comes from income has dropped from 58.47% to 34.66% (in median terms). Assume that the historic norm of 9.65% return for timberland still holds. Then income would now contribute only $33.45 for every $1,000 of NAV. (9.65% x 34.66% x $1,000 = $33.45)

- All things being equal, timberland values must have risen in value in order for cash yield to decline. We then ask: how much does timberland prices have to rise in order for annual income to fall from $56.44 to $33.45 for every $1,000 of value in a timberland portfolio? That is simply a ratio of the old income over the new income: $56.44 / $33.45 = 1.687.

- Timberland value would have increased 68.7% in order for income to decline to $33.45 for every $1,000 NAV. To put it differently, timberland, for illustration, that used to be priced at $1,000 an acre to generate $56.44 of income is now priced at $1,687 an acre in order to generate that same $56.44 per acre of income. ($1,687 x 9.65% x 34.66% = $56.44)