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IS NOW A GOOD TIME TO INVEST IN TIMBERLAND?

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Economic Research and Analysis

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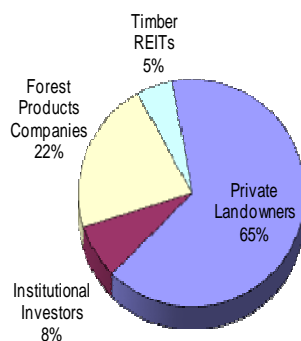


Why Invest in Timberland Now?

Investors may have concerns about whether now is the appropriate time to invest in timberland¹. We believe it is. Investors should have confidence investing in timberland today based on four compelling reasons:

1. The timberland investment universe is large enough to easily absorb the influx of new investor capital.
2. Timber prices, while cyclical, remain on a long-term positive trend. Since timber prices contribute to timberland returns, price increases in timber help support timberland investment over the long-term.
3. Despite changes in ownership, there is a limited amount of available timberland to supply a growing demand for wood products. This demand provides a foundation for price stability of timberland.
4. Timberland markets are increasing in depth as more and more timberland shifts toward owners driven by financial return. The result will be greater liquidity and competitive pricing, which helps the investor at the exit stage of the investment.

Reason 1: Timberland is Large Enough to Absorb the New Capital



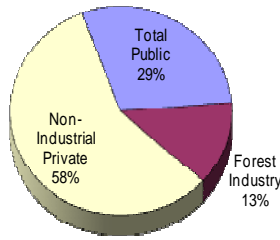
Source: USDA Forest Service 2002 Resource Planning Act draft report

Figure 1. Ownership of 504 million acres of U.S. timberland

Industry holds about 66 million acres of timberland in the United States. That is a mere 13% of the timberland area compared to 291 million acres – or 58% - held by non-industrial private landowners, as reported by the United States Forest Service. This suggests that the timberland market has significantly more depth than the land holdings of forest products companies. While the sizeable sales of timberland by IP, Bowater and other forest products companies may make headlines, eventually it will be the non-industrial landowners that will take center stage in the timberland market.

Of the 356 million acres not owned by the government, the total value of investable commercial timberland in the

¹ Timberland is defined as forested land capable of producing at least 20 cubic feet of industrial wood per year (or 1.4 cubic meters per hectare per year)

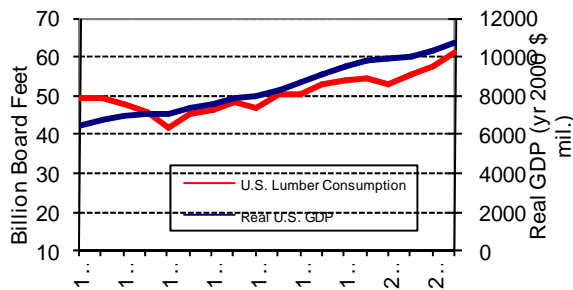


United States is estimated by Professor Michael Clutter of the University of Georgia's Warnell School of Forest Resources to be around \$230 billion. Of that amount, institutional investors are estimated to hold only about \$18 billion, or about 8%. With the value of worldwide timberland estimated to be \$400 billion, institutional investors make up an even smaller percentage on a global basis.

Source: Michael Clutter, TIR Research

Figure 2. Value of private commercial timberland in the U.S. by ownership

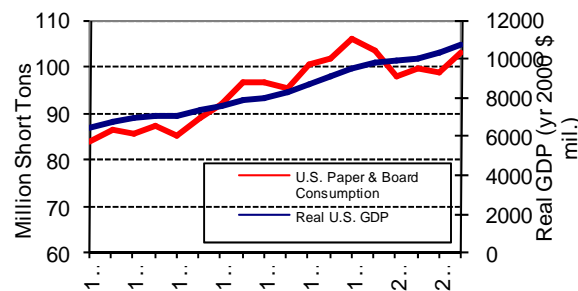
Reason 2: Timber Prices, While Cyclical, Offer Long-Term Appreciation



Source: Paperloop, U.S. Department of Commerce

Figure 3. U.S. lumber consumption and gross domestic product (GDP) 1987-2004

As with many commodity based industries, the forest products sector is cyclical. Swings in paper and lumber prices eventually impact timberland values. However, the forest products sector is a multi-dimensional industry of many products and markets. While new home construction is important (softwood lumber), newspaper and magazine publishing are important as well (printing paper). Processed foods (containerboard), shipping (pallets) and furniture manufacturing (hardwood lumber) also contribute to the total market demand for timber.

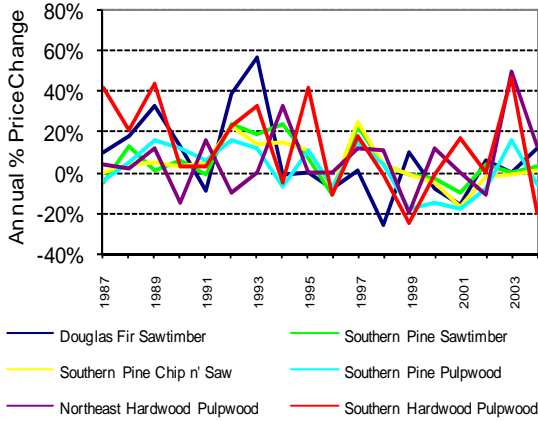


Source: Paperloop, U.S. Department of Commerce

Figure 4. U.S. paper and board consumption and gross domestic product (GDP) 1987-2004

The broad source of demand for wood from many sectors of the economy means that long-term trends of (a) population growth, (b) rising incomes and (c) economic expansion will drive consumption of timber domestically and globally. This applies both to large timber that is made into lumber (**Figure 3**) and small timber that is made into paper and board products (**Figure 4**). Both lumber and paper consumption have been increasing at an average 1.2% compounded annual rate since 1987.

Thus, diversification of a timberland portfolio across different timber products and species can help insulate an investor's vulnerability to the cyclical pricing. For example, weakness in new home construction may hurt an investment in mature Douglas fir in the Pacific Northwest, but strong overseas demand for fine hardwood furniture benefits an investment in oak and maple in the Northeast. Hence, a well balanced portfolio of different timberland assets can help insulate investment returns against a downturn in a single end-use market (such as new home construction).



Source: Paperloop

Figure 5. Annual percent of change in prices of six major timber products

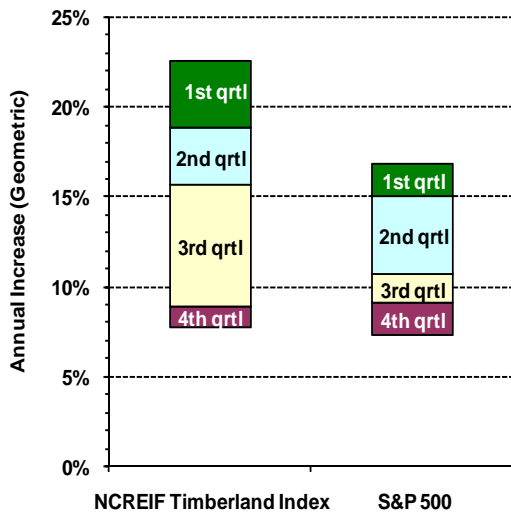
Below is a chart (Figure 5) of annual price changes of various timber products from 1987 through 2004. Note that in many cases, a price decline for some products is balanced by a price increase in other products. Rarely is there a cycle where all timber product categories fall in concert.

Also, while price volatility is quite high for many of the timber product categories, a blend of products where each product has equal weight can significantly lower the volatility, as measured by the standard deviation (see Table 1).

Table 1. Volatility of annual shifts in prices of six major timber products and an equal weighted blend of all six products

Product	Standard Deviation
Douglas Fir	20.3%
Southern Pine Sawtimber	11.2%
Southern Pine Chip n' Saw	10.4%
Southern Pine Pulpwood	12.0%
Southern Hardwood Pulpwood	22.2%
Northeast Hardwood Pulpwood	16.9%
6 Product Blended Price	10.1%

Source: Paperloop



Source: NCREIF, Standard & Poors'

Figure 6. Distribution of historic annual rates of change of the NCREIF Timberland Index and the S&P 500 over a 10-year interval from 1Q 1987 through 3Q 2005

In addition, timberland investments are typically held as long-term investments of 10 or more years. This long investment horizon mitigates much of the short-run cyclical nature of the asset class. To illustrate, compare the NCREIF Timberland Index – which has tracked institutional returns of the timberland asset class on a quarterly basis since 1987 – to the S&P 500 for any 10-year period from 1st quarter 1987 through 3rd quarter 2005. Of the 35 ten-year periods in the history of the NCREIF timberland benchmark, the Timberland Index always increased at a 7% annual rate or better (Figure 6). Its overall track record exceeds that of the S&P 500.

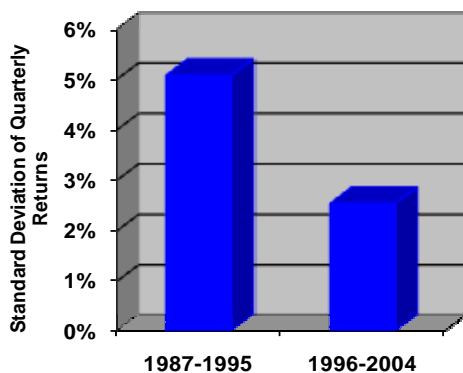


Reason 3: There is a Limited Supply of Timberland Available

Another key support for the long-term value of timberland is its limited availability. When one factors in the losses of timberland to conservation and the conversion of timberland to farmland and urbanization, the net effect is flat or declining forest area in many parts of the world. According to the United States Forest Service the U.S. had 756 million acres of forests² in 1963; in the latest U.S. Forest Service estimate, it has 749 million acres in 2002. Globally, the United Nations' Food and Agriculture Organization estimated that the world's forests suffered a net annual acreage loss of 0.22% each year throughout the 1990's with the expectation that this trend will continue.

Timberland investors will benefit as more and more of the world's wood demand must be met from fewer and fewer acres. This creates a fundamental shift from natural forests to intensively managed, high-productivity plantations. As advances in genetics and forest management science raises productivity – all other things being equal - the value of an acre of plantation rises as well. Investors also benefit when timberland is converted to higher and better uses, when land is sold for an economic use greater than timber production.

Reason 4: Increasing Market Depth Promotes Liquidity and Competitive Pricing



Source: NCREIF

Figure 7. Comparison of the volatility of quarterly returns of the NCREIF Timberland Index between 1987-1995 and 1996-2004

Institutional investors continue to make up a larger portion of the timberland ownership landscape. From less than \$2 billion and five timberland investment managers in 1990, institutional ownership of timberland has grown to approximately \$18 billion and around 20 timberland managers today. As more commercial timberland shifts away from industry and towards owners focused on maximizing financial returns, the market will deepen over time. The greater liquidity due to a more competitive market means a reduction in volatility to returns in timberland investments.

With more market players participating in purchasing and selling timberland, the asset class becomes more

² Forest is defined as land with predominant tree cover. It is a broader, more encompassing definition than timberland, which must meet a minimum level of productivity.



reflective of its true underlying economic value and is less vulnerable to wide swings in prices. Note in the chart below (**Figure 7**) how volatility dropped by half from the first 9 years of the NCREIF Index (from 1987 through 1995) compared to the latter 9 years (1996-2004). This reduction in risk has been tested to be statistically significant at the 0.1% level.

Allaying Market Apprehension

Consider some of the leading investor concerns about the present timberland investment environment.

The housing market, after years of strong growth, may be finally be losing momentum under rising interest rates.

Housing, while important, is only one part of the wood products sector. Proper diversification by product and species could reduce much of the portfolio's exposure to housing cycles. More important than housing is total wood demand. Wood consumption is tied closely to overall economic growth, and, as a result, is expected to continue its long-term growth.

The asset class is awash with capital trying to find limited timberland investment opportunities. Estimates range as high as \$10 billion of capital seeking placement in the asset class.

Institutional investors hold less than 10% of the U.S. timberland market, in terms of value. Forest products companies hold more than double that level. Even if all the industrial timberland were sold, non-industrial private landowners still hold the remaining 58% (representing 291 million acres in the U.S.). That represents a primary source from which timberland can be purchased (and sold). In summary, the timberland market represents \$230 billion domestically and \$400 billion globally; such a scale means it can easily absorb the new capital coming in from institutional investors.

If investor capital retreats from the asset class in the future due to high prices and poor returns, the market for timberland will weaken, harming the existing investors in the asset class.

The issue is not how much timberland is owned by investors, but how much timberland is available and in production. Along with timber prices, that is a greater determinant of value than the level of investor capital in the asset class. In that regard, timberland is a limited



resource. More timberland is taken away due to land conversion and protection than is added. Also, timber prices – a fundamental source of return and valuation of timberland – have historically been a hedge against inflation and are expected to continue to appreciate in the long-term due to increasing domestic and global demand for wood products.

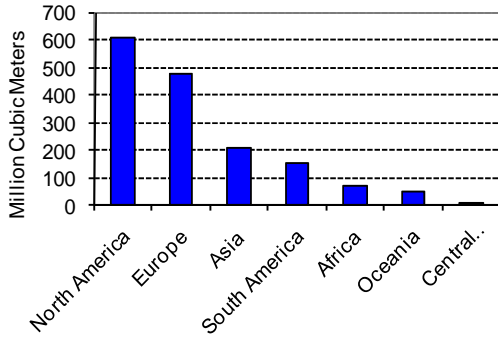
This does not mean that cycles will not occur in timberland prices. It does, however, mean that for a typical timberland investment of 10 years, the fundamental drivers of value (i.e., growing wood consumption against a declining wood resource) will become more important in determining the investment return than short-run market cycles. This has been demonstrated by the NCREIF Timberland Index which has consistently made at least a 7% annual return across all 10-year periods.

Sparked by International Paper's sale of its timberland holdings, other forest product companies will follow suit, thereby driving down timber prices in the future – thus harming current investors.

Any price depression due to an influx of industrial timberland into the market will be of short or medium duration. The impact over a 10-year investment horizon should be minimal. As timberland moves increasingly away from industrial ownership and toward private investors focused on financial return, the outcome is increasing market depth and liquidity. The benefit is reduced volatility in timberland values as pricing becomes more competitive.

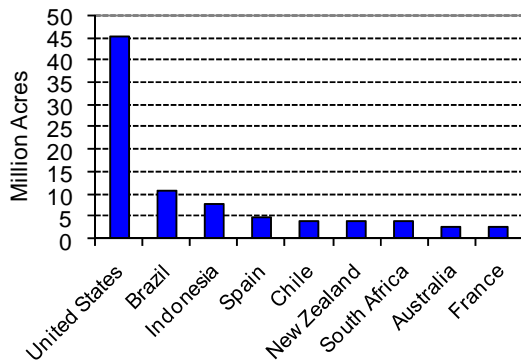


Side Topic: Domestic or International?



Source: United Nations Food and Agriculture Organization 2003

Figure 8. Industrial timber production by region in 2000



Source: United Nations Food and Agriculture Organization 2003, Roise et al., 2000

Figure 9. Intensive industrial plantation area by country

After answering the question of whether one should invest in timberland, the common follow-up question is whether one should invest domestically or internationally. That decision is shaped largely by the investment goals and risk appetite of the investor. However, both domestic and overseas markets offer excellent opportunities for timberland investment.

The main attraction of overseas investment is the high productivity that some regions offer. A eucalyptus plantation in Brazil, for instance, can produce 14 to 18 tons of wood per acre per year. A loblolly pine plantation in the U.S. South, in contrast, typically produces 4 to 6 tons per acre per year. Combine the higher productivity with lower labor costs, the arguments are compelling to invest overseas.

However, the reasons to invest in domestic markets are equally compelling. The U.S. timberland market offers the significant advantage of less risk to domestic investors due to the following factors: (1) lack of currency exchange fluctuations and (2) less risk due to adverse changes in markets, taxes, and regulation in the country of investment. In addition, the United States remains, by far, the world's largest market for wood products. It exceeds all other regions in output (**figure 8**) and in land area dedicated to intensive timber production (**figure 9**).

Being situated in the dominant market offers the competitive advantage of lower transportation costs. As such, domestic timberland owners will likely enjoy a continued market demand for their timber now and into the foreseeable future.

The final choice is not which is the better place to invest, but which fits the goals and needs of the investor. Domestic producers will have the advantage of potentially lower risk, yet can expect competitive returns, as the U.S. domestic forest products sector will remain the largest producer and consumer of wood in the world. Foreign investments offer the opportunity for higher return but with commensurate higher levels of risk.