

Title: Timber Marketing and Management | Southern Heritage Land Co

Description: Our registered foresters can provide timber marketing and management services to help you make the most of your investment.

Keyword: timber marketing and management

An Economic Analysis of Investing in Planted Pine Timberland

By: Rick Cooper

GA Registered Forester # 1964

In this timber marketing and management exercise, an analysis of the economics of investing in planted pine timberlands was performed in order to help explain how revenues are achieved and the expected returns for a typical investment. The example used in this evaluation is based on the performance of “average” quality land (site index 60’ @ 25 yrs.). It’s reasonable to assume, that returns would be increased if land productivity were better than this average and conversely, the returns reduced for the lower productivity sites.

Assumptions: The following assumptions were used to describe the timber stand and the financials used in the analysis:

Stand Parameters

Initial Stand Conditions (per acre)	
Site Index (age 25 yrs.)	60 feet
Current Age	10 years
Current Pine Trees/Ac	500
Current Pine Basal Area	100 sq. ft.

Taxes

Capital Gains	15%
State Tax	5%

All values were kept on an uninflated basis and no other real appreciation was included in this analysis.

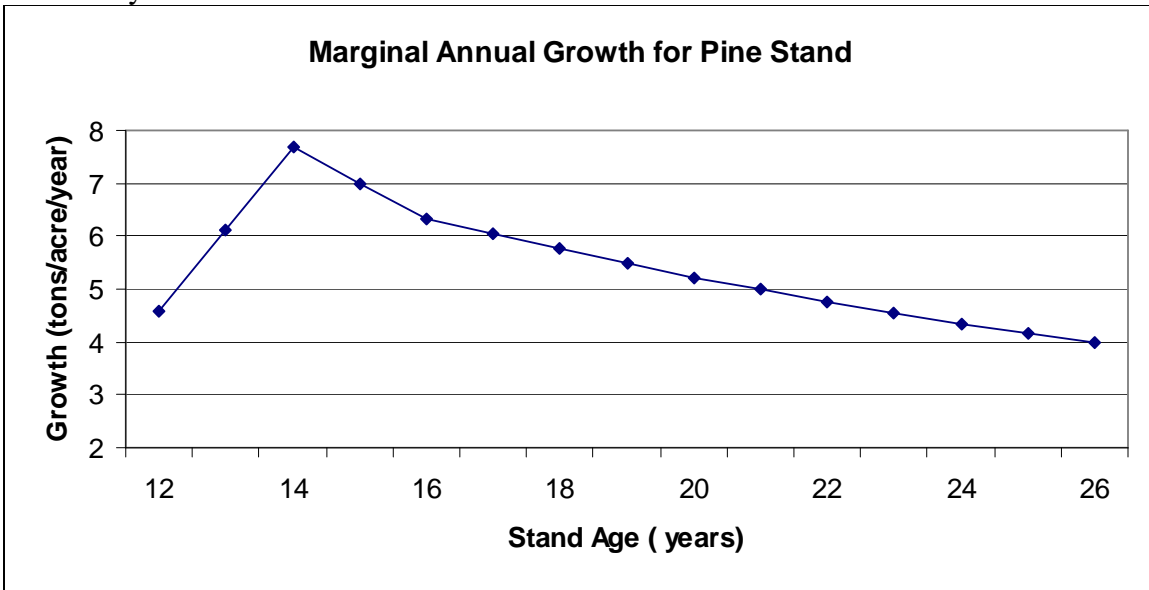
Results: Based on this analysis, the Internal Rate of Return (real basis-w/o inflation) for the timber portion of the investment would be 19% before tax. Since this investment requires the ownership of land, when the land costs and taxes are included, the IRR After Tax become 4% (real). If inflation were 2%/year, this 4% real IRR would be equivalent to 6.1%. It’s critical to note, that no prices were inflated for land or timber in this timber marketing and management analysis. Therefore, any appreciation in these prices would increase the returns. The example planted pine timberland used here would be purchased at age 12 years, following a thinning, and retained for up to its 26 year and harvested or sold with the land. The land value (uninflated) is included in the income at the completion of this project. The cash flows are shown here:

Planted Pine Cash Flow Summary

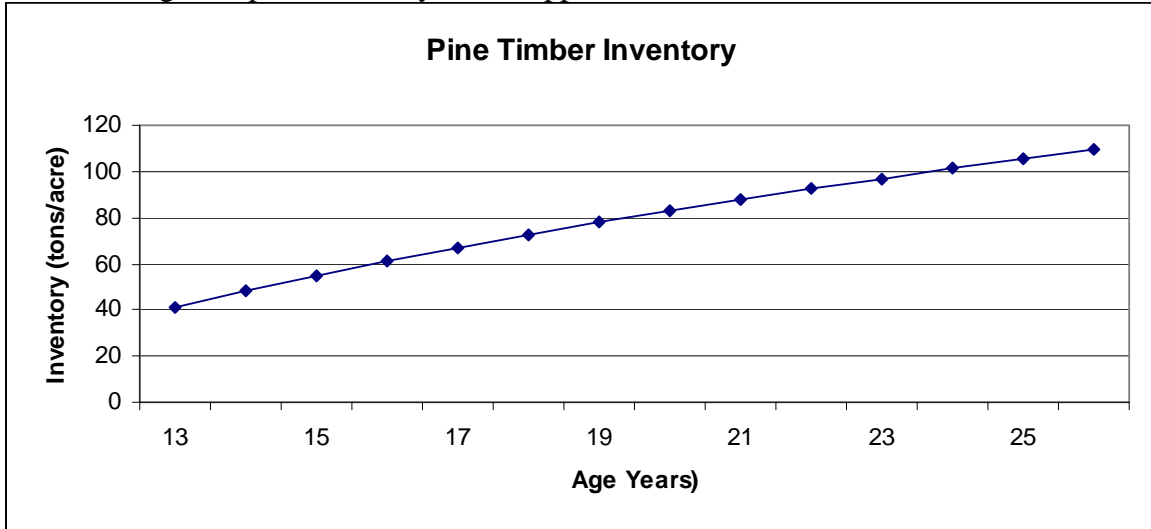
Age	State, Fed Tax Impact	Timber Tax	AdVal Taxes	Hunt Lease	Land	Timber	After Tax Cash Flow
13	\$ 4.41		\$ (31.00)	\$ 10.00	\$ (2,500.00)	\$ (268)	\$ (2,785)
14	\$ 4.41		\$ (31.00)	\$ 10.00	\$ -	\$ -	\$ (17)
15	\$ 4.41		\$ (31.00)	\$ 10.00	\$ -	\$ -	\$ (17)
16	\$ 4.41		\$ (31.00)	\$ 10.00	\$ -	\$ -	\$ (17)
17	\$ 4.41		\$ (31.00)	\$ 10.00	\$ -	\$ -	\$ (17)
18	\$ 4.41		\$ (31.00)	\$ 10.00	\$ -	\$ -	\$ (17)
19	\$ 4.41		\$ (31.00)	\$ 10.00	\$ -	\$ -	\$ (17)
20	\$ 4.41		\$ (31.00)	\$ 10.00	\$ -	\$ -	\$ (17)
21	\$ 4.41		\$ (31.00)	\$ 10.00	\$ -	\$ -	\$ (17)
22	\$ 4.41		\$ (31.00)	\$ 10.00	\$ -	\$ -	\$ (17)
23	\$ 4.41		\$ (31.00)	\$ 10.00	\$ -	\$ -	\$ (17)
24	\$ 4.41		\$ (31.00)	\$ 10.00	\$ -	\$ -	\$ (17)
25	\$ 4.41		\$ (31.00)	\$ 10.00	\$ -	\$ -	\$ (17)
26	\$ (498.86)	\$ (31.00)	\$ (31.00)	\$ 10.00	\$ 2,500.00	\$ 2,675	\$ 4,624

Land (BT) Timber (BT) Total (AT)
IRR 0% 19% 4%

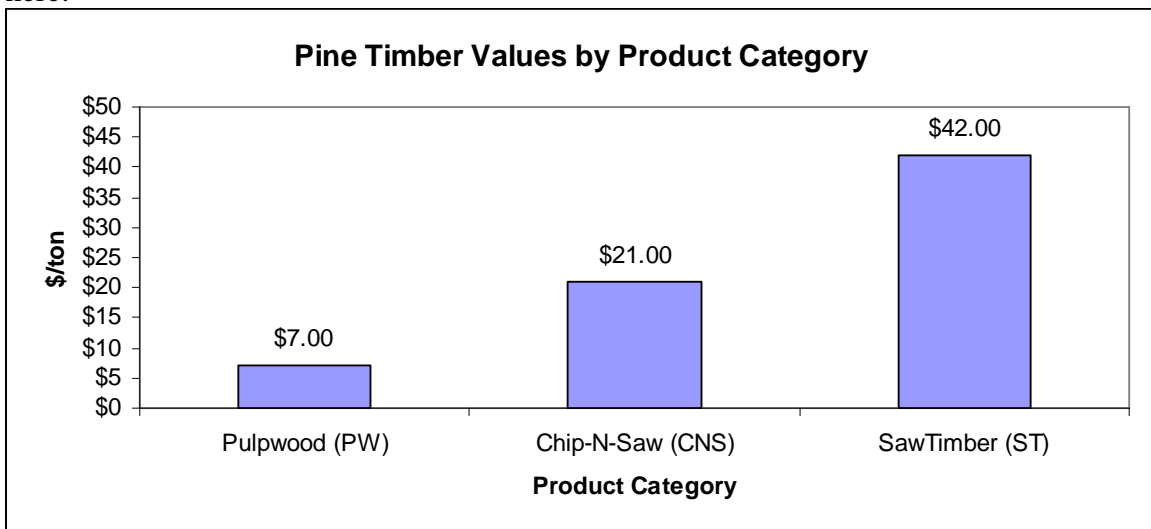
Timber Growth versus Value Growth: Using a proprietary computer pine growth model based on data and algorithms from The University of Georgia’s Warnell Forestry School, the average planted pine acre was projected for growth and value. Growth rates varied over the projected period from as low as 3.9 tons/acre/year to as much as 7.7 tons/acre/year. The chart below demonstrates these trends:



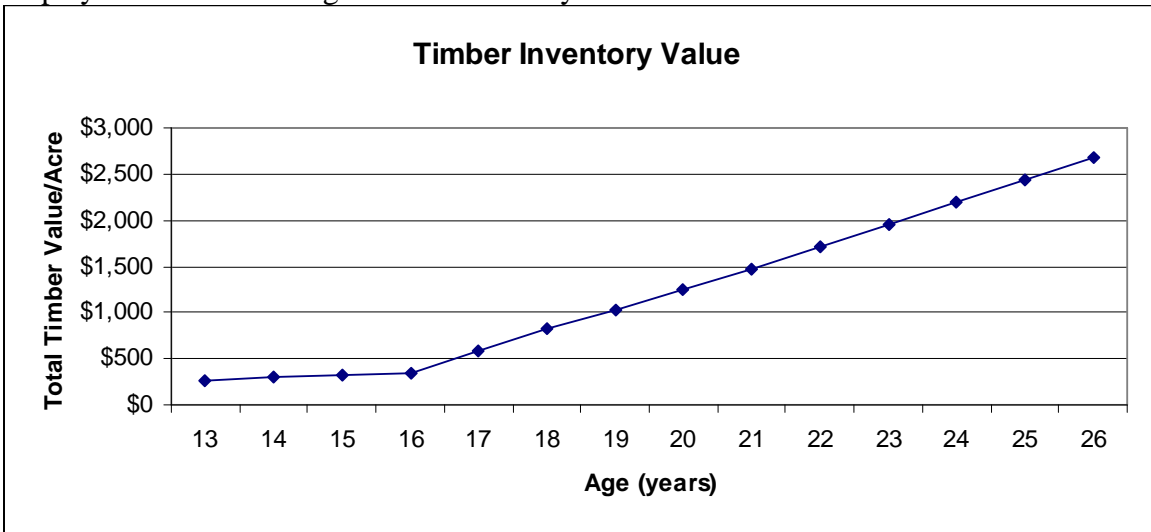
The resulting total pine inventory would appear as follows:



The value of different pine products depends to a large extent on the tree size and quality (limb & knots, forks, disease, etc). The largest and best quality trees are usually sold as sawtimber for use in lumber manufacturing. Chip-N-Saw trees are smaller than Sawtimber but have good quality enough for use in lumber manufacturing. Pulpwood is usually the smaller trees, topwood, and cull that are used for manufacturing pulp and paper. Typical timber prices for these products is shown here:

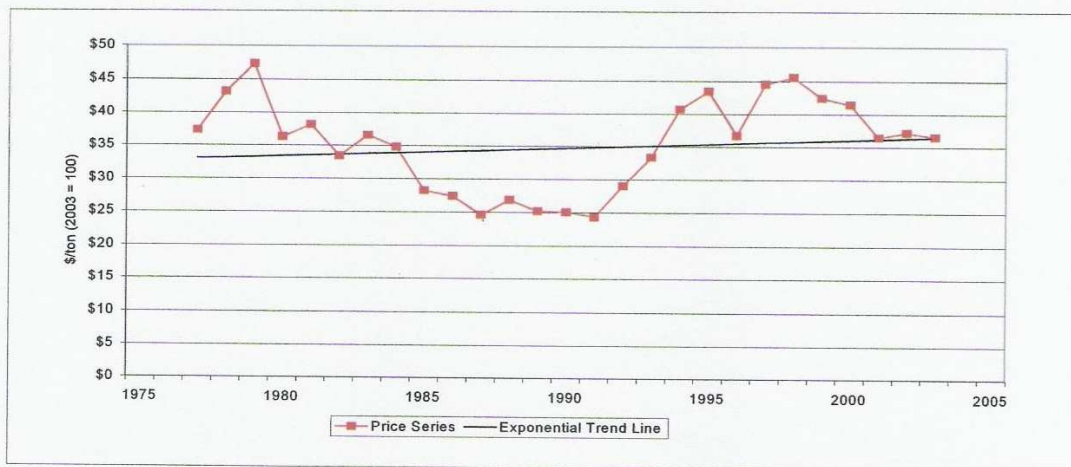


As planted pine stands mature, the portion of the inventory that becomes larger and of better quality increases. So not only is the total inventory increasing each year, but the value of those tree is increasing as well. This creates an additive effect that is best displayed in the following chart of inventory value:



The performance of a timber investment is sensitive not only to the productivity of the land, but also timber prices. Timber marketing and management standards indicate that timber prices by product category do change relative to each other as supply and demand dynamics dictate. However, over time, prices have changed little on a real basis (w/o inflation). Predicting the future of timber pricing is risky but necessary if one is to consider the investment. This analysis assumed no real change in pricing. That assumption was based primarily on historical trends. Those trends are shown below on a real (uninflated) basis as follows:

Figure 1. Southwide Pine Sawtimber Prices (Real 2003\$)



\$/ton	Current Price	Actual /Trend	Coeff. Of Variation	R ²	Compound Growth Rate		
					History	10-Yr Proj	25-Yr Proj
Actual	\$36.50		19.80%		-0.09%		
Exponential Trend	\$36.46	100.11%		0.0211	0.38%	0.37%	0.37%
Linear Trend	\$37.06	98.48%		0.0207	0.36%	0.49%	0.39%
Linear Trend Change	\$0.13 /year						

Summary/Recommendations: Investing in timberland can be an intimidating prospect for the uninitiated. This analysis demonstrates that the average planted pine investment could yield a return of 4% real after tax (6% nominal w/ inflation) The more knowledgeable an investor is about managing timber investments, including an understanding of the relationships of stand age, land quality, and pricing, the more likely these results can be improved. The wise investor should have a cache of skilled advisors such as professional foresters and accountants to increase the odds of success in timberland investing. It is critical that timberland investments be thoroughly evaluated by the investor and the professionals prior to purchasing rather than subsequently hoping to salvage an investment started on the wrong foot. For more information on timber marketing and management, contact the professionals at SHLC today.