
The Unique Tax Advantages of a Timber Investment

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Introduction

Timberland investments have increased significantly in popularity over the last few years. It has been estimated that there are at least \$12 billion of direct investments in U.S. timberlands, the vast majority of which represent investments by nontaxable institutions such as pension funds and educational endowments¹. For example, the Harvard University endowment, perhaps the most well respected institutional investor of its kind in the country as well as the single largest investor in timberlands in the United States, has approximately 10 percent of its portfolio, or approximately \$2 billion, in timberland. So what are the expected returns from this asset class? The Harvard Management Company's Chief Executive Jack Meyer expects annual real returns of 7.5% to 8.0% assuming flat real log prices.² History has proven roughly consistent with this forecast. The NCREIF Timberland Property Index has produced ten-year annualized returns of 8.0 percent through September 30, 2004, with an appreciation component of 2.8 percent and an EBITDDA component of 5.2 percent. Respective one- and five-year annualized returns through September 30, 2004, are 8.9 percent and 4.0 percent.

The irony here is that, notwithstanding the domination of the timberland investment market by institutions, such an investment is inherently even more attractive to taxable investors given certain unique tax attributes of a timber investment, including the fact that the majority of timberland returns are taxed at a capital gains rate. With attractive returns coupled with unique tax advantages, timberland investments could yield the highest after-tax returns for taxable investors compared with investments in other major asset classes, including traditional equities and fixed-income investments.

In this article, we will explore the tax efficiency of timberland investments relative to traditional asset classes, review three specific tax advantages, and discuss the means to invest in the asset class. In addition,

¹ Source: Forest Investment Associates

² "How to Invest Like Harvard," *Business Week*, December 27, 2004. Over the last decade, the Harvard Management Company has posted 15.9 percent annual compound returns, compared with 10.1 percent for the median large institutional fund.

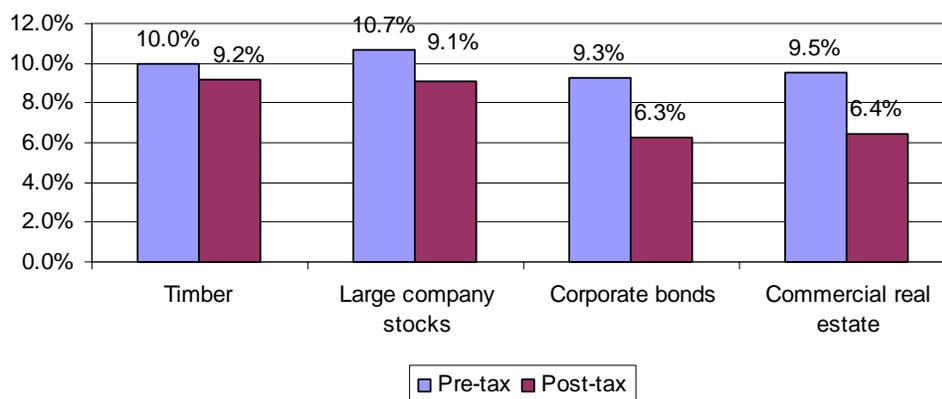
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we also provide a summary financial model to further illustrate the details of the tax advantages.

Tax efficiency of a timberland investment relative to traditional asset classes

Taxes on a timberland investment by an individual investor may amount to less than 10 percent of total pre-tax returns (see Figure 1). This compares with effective tax rates of up to 40 percent or more for traditional asset classes. For example, a fixed-income investment can be subject to effective tax rates of 40 percent given that interest payments — a significant component of return — are taxed at an ordinary income rate. Similarly, a real estate investment that achieves the majority of its returns from rental income may have a significant portion of that return taxed at an ordinary income rate. Further, effective tax rates for timber can be even lower than for more traditional tax advantaged investments such as municipal bonds. The figure below illustrates the relative impact of tax for timberland, large cap stocks, corporate bonds, and real estate investment.

Figure 1. Pre- and Post-Tax Returns



Source: *Growth Magazine*.

Specific tax advantages

Exactly what are the specific tax advantages of a timberland investment? First, as stated above, revenue from the sale of timber, which generally represent the vast majority of cash flow from a timberland investment, qualify for capital gains treatment. Second, the recovery of

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invested capital through timber depletion provides meaningful deferral of taxation on that gain. Finally, because the majority of cash flow from a timberland investment receives capital gains treatment, operating expenses may be sufficient to shield other ordinary income and even produce consistent “passive” losses that may be used to offset other passive income that would otherwise be taxed at ordinary income rates.

Timber tax efficiency #1: Income from timber sales taxed as a capital gain

Section 631(b) of the tax code provides for capital gains treatment for gain on the sale of timber, as measured by the difference between the amount the buyer pays for the timber and the owner’s tax basis for that timber.

Timber tax efficiency #2: Tax deferral with timber depletion

Timber depletion – When timberland is purchased, the purchase price is allocated proportionately between timber and the underlying land. The allowance for cost depletion in any year is based on the amount attributable to merchantable timber. The cost basis attributable to land is recovered only when the land is sold.

Determining amount of depletion – A simple example illustrates the method used to calculate timber depletion. Suppose the basis in sawtimber for a particular tract is \$150,000. Furthermore, assume the inventory at the end of the year in which timber is sold is 400 MBF (thousands of board feet). The depletion unit value is calculated by dividing the basis, \$150,000, by the inventory, 400 MBF, and arriving at \$375/MBF. If the timber volume sold is 10 MBF, the amount of depletion is determined by multiplying volume sold by depletion unit value, or 10 MBF X \$375, which equals \$3,750 of depletion allowance. If the current timber sale yields \$10,000, the calculations are as follows:

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	Volume (MBF)	Value (\$)
Basis allocated to sawtimber (\$)		\$150,000
Total volume of sawtimber (MBF)	400	
Resulting depletion unit value (\$ per MBF)		\$ 375
Proceeds from sale of portion of sawtimber (\$)		\$ 10,000
Volume of sawtimber sold (MBF)	10	
Depletion (volume sold times depletion unit)		<u>\$ 3,750</u>
Income subject to capital gains treatment		<u>\$ 6,250</u>

As a result, \$3,750 of the \$10,000 in revenues would be shielded from current tax by the depletion allowance, while \$6,250 would be subject to capital gains tax.

Timber tax efficiency #3: Positive cash flow and passive tax losses

As noted above, the majority of revenue from a timber investment is attributable to the sale of standing timber, which is subject to capital gains treatment. Smaller amounts of revenue from hunting leases and other ancillary sources of revenue subject to ordinary income treatment are often offset entirely by operating expenses related to timberland management activities. Assuming that a timberland investment is treated as a “passive investment” under the tax code, any passive losses may be used to offset other passive income³ (though not used to offset ordinary income). Unused passive losses can be carried forward for subsequent years.

Means to invest in timberland

The taxable investor has a number of different ways to invest in timberland. The first, and perhaps most accessible, way is to invest in a publicly traded timber Real Estate Investment Trusts, of which there are two

³ “Passive income” is earnings an individual derives from a rental property, limited partnership, or other enterprise in which he or she is not actively involved. For tax purposes, it is important to note that losses in passive income generally cannot offset “active income” (wages or income from an active business) or “portfolio income” (dividends and interest income).

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traded on the New York Stock Exchange⁴, with an aggregate market cap of approximately \$9.5 billion. A second and more direct way is to purchase timberland property directly, most often through a “separate account” managed by a timberland investment management company. A third alternative is to invest via a commingled timberland investment fund. Although a detailed review of the relative merits of these vehicles is beyond the scope of this paper, there are a number of pros and cons to consider when evaluating the appropriate vehicle to invest in timberland, a few of which are summarized here.

Investment Vehicle	Pros	Cons
Publicly traded equity such as Plum Creek (PCL) or Rayonier (RYN)	Very liquid Relatively low cost	Equity value may not reflect underlying asset value. Given relatively strong dividend, may trade in line with other yield-based investments Not all tax advantages available to investor (e.g., no flow-through passive losses) No management rights
Separate account	A more direct investment in timberland than in public equities Greatest management control Maximum tax benefits	Generally very high minimums (tens of millions of dollars) Management costs are higher than they are for public equities Reduced liquidity
Commingled fund	A more direct investment in timberland than in public equities Lower required investment amount than required amount for a separate account	Higher investment minimums (from \$250,000 to \$5,000,000) than minimum for an investment in public equities Long investment lock-up periods Management costs are higher than they are in public equities No management rights

⁴ Plum Creek (ticker: PCL) and Rayonier (ticker: RYN)

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Conclusion

Timberland investments have become increasingly popular over the last 10 to 20 years, driven in large part by attractive returns and diversification benefits. Although investments in this asset class have been dominated by institutions (in particular by educational endowments), these attributes, plus the unique tax advantages of timber, should cause investments by taxable investors to grow significantly.

Illustrative economics of a timberland investment

A model showing the economics of a timberland investment follows. This model illustrates the tax efficiency of such an investment, as well as the potential for passive losses that can be used to offset passive income. Note that this model has been simplified to highlight the major components of a timber investment. For example, the model assumes just one class of timber — sawtimber — whereas most timberland investments typically have two or more classes of timber, including pulpwood and sawtimber.

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Hypothetical Timberland Investment

ASSUMPTIONS					
Purchase price	\$	200,000,000	Volume of sawtimber at purchase (MBF)		400,000
Acres		200,000	Annual volume growth		30,000
Purchase price allocation			Annual volume cut		30,000
Sawtimber (%)		75%	Resulting initial depletion unit value	\$	375
Sawtimber (\$)	\$	150,000,000	Revenue per MBF	\$	550
Land (%)		25%	Inflation rate		3.0%
Land (\$)	\$	50,000,000	Hunting lease revenue per acre	\$	5
Annual asset appreciation		4.0%	Property management expenses per acre	\$	10
Annual management fee (% of purchase price)		1.0%	Disposition expense	\$	1,000,000

Income Statement

	2004	2005	2006	2007	2008	2009
Sales						
Timber sales (1)		\$ 16,500,000	\$ 16,995,000	\$ 17,504,850	\$ 18,029,996	\$ 18,570,895
Hunting lease revenue		1,000,000	1,030,000	1,060,900	1,092,727	1,125,509
Real estate sales						243,330,580
Total Sales		17,500,000	18,025,000	18,565,750	19,122,723	263,026,985
Cost of Sales						
Timber depletion (volume in MBF)		30,000	30,000	30,000	30,000	30,000
Total depletion allowance (2)		11,250,000	10,406,250	9,625,781	8,903,848	8,236,059
Cost of timberland sold (remaining basis)						151,578,062
Total Cost of Sales		11,280,000	10,436,250	9,655,781	8,933,848	159,844,121
Gross Margin		6,220,000	7,588,750	8,909,969	10,188,875	103,182,864
Operating Expenses						
Operating expenses (3)		2,000,000	2,060,000	2,121,800	2,185,454	2,251,018
Disposition expense						1,000,000
Management fee		2,000,000	2,000,000	2,000,000	2,000,000	2,000,000
Total Operating Expenses		4,000,000	4,060,000	4,121,800	4,185,454	5,251,018
Operating Income (loss)		2,220,000	3,528,750	4,788,169	6,003,421	97,931,846
Taxable income						
Ordinary income						
Ordinary income (loss) (4)		(3,000,000)	(3,030,000)	(3,060,900)	(3,092,727)	(4,125,509)
Passive loss tax benefit (35% rate)		1,050,000	1,060,500	1,071,315	1,082,454	1,443,928
Capital gains						
Capital gains (loss) (6)		5,220,000	6,558,750	7,849,069	9,096,148	102,057,355
Capital gains tax (benefit) (15% rate)		783,000	983,813	1,177,360	1,364,422	15,308,603
Net income		1,437,000	2,544,938	3,610,808	4,638,999	82,623,243

Tax efficiency #1: Vast majority of revenue taxed at capital gains rates

Tax efficiency #2: Depletion tax shield defers much of current tax

Tax efficiency #3: Passive tax losses

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Cash Flow Statement

Net income		\$ 1,437,000	\$ 2,544,938	\$ 3,610,808	\$ 4,638,999	\$ 82,623,243
Depletion expense (non-cash charge)		11,250,000	10,406,250	9,625,781	8,903,848	159,814,121
Total cash flow		12,687,000	12,951,188	13,236,590	13,542,846	242,437,364

Tax efficiency #3 (con't):
Positive cash flow

IRR to Investors

Cash flow	(200,000,000)	12,687,000	12,951,188	13,236,590	13,542,846	242,437,364
Passive loss tax benefit	-	1,050,000	1,060,500	1,071,315	1,082,454	1,443,928
Total returns	(200,000,000)	13,737,000	14,011,688	14,307,905	14,625,301	243,881,292
Net after tax IRR to investor	9.5%					
Taxes as a percentage of total returns		5.7%	7.0%	8.2%	9.3%	6.3%

Balance Sheet

Total market value	\$ 200,000,000	208,000,000	216,320,000	224,972,800	233,971,712	243,330,580
Basis: Total (7)	200,000,000	188,750,000	178,343,750	168,717,969	159,814,121	151,578,062
Basis: Sawtimber (\$) (7)	150,000,000	138,750,000	128,343,750	118,717,969	109,814,121	101,578,062
Timber removal (sales)		11,250,000	10,406,250	9,625,781	8,903,848	8,236,059
Timber additions (growth)		11,250,000	10,406,250	9,625,781	8,903,848	8,236,059
Basis: Land Value (\$)	50,000,000	50,000,000	50,000,000	50,000,000	50,000,000	50,000,000
Timber Inventory (vol) (8)						
Timber inventory at beginning of year	400,000	400,000	400,000	400,000	400,000	400,000
Timber removal (sales)		30,000	30,000	30,000	30,000	30,000
Timber additions (growth)		30,000	30,000	30,000	30,000	30,000
Ending timber inventory	400,000	400,000	400,000	400,000	400,000	400,000
Depletion unit value (9)	375	347	321	297	275	254

(1) Revenue per MBF times total volume cut. Grows at rate of inflation annually.

(2) Depletion allowance calculated by multiplying annual timber depletion (in MBF) by "depletion unit value" calculated as of last day of prior year (see balance sheet).

(3) All non-capitalized expenses, including road and boundary maintenance, etc.

(4) All non-timber revenue (here, just hunting lease revenue), less operating expenses.

(5) Passive losses may be used to offset other passive income, and, subject to certain limitations, may be carried forward to future years.

(6) All timber revenue less depletion expenses.

(7) Basis declines due to depletion charges relating to timber harvested. Note, for the sake of simplicity, model assumes just one class of timber (sawtimber).

(8) Model assumes that the volume harvested annually is "replaced" by an equivalent amount of growth.

(9) Calculated by dividing timber basis by volume of timber. This number declines because the numerator (the basis), declines due to depletion charges relating to harvests, but does not increase due to the growth of timber. The denominator in this example, however, remains constant because harvests are exactly offset by volume growth.