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**ADDRESSING THE EUROPEAN PERSPECTIVE:
U.S. TIMBERLAND IN A GLOBAL TIMBERLAND ALLOCATION**

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Introduction

The first recorded institutional investment in timberland occurred in 1982. Initial investments were focused exclusively on the largest timber market: the United States. Over time, the pursuit of diversification and higher returns led pioneering investors and their management advisors (known as timberland investment management organizations or TIMO's) to seek opportunities outside the United States. New Zealand was the first institutionally sourced non-U.S. timberland investment in 1992. Not long thereafter, other regions across the globe also received institutional capital (see geographic timeline in Table 1). Within a decade, Australia, Brazil, Chile and Uruguay had joined New Zealand as part of the institutional timberland investment universe. Estimates vary, but today we believe roughly 10 to 20 percent of the estimated US\$40 to \$50 billion of investor-held timberland is currently located outside the United States.¹

Table 1. Timeline on countries where institutional capital has been placed in timberland for long-term investment.

| 1980s | 1990s | 2000s | 2009 |
|---------------|---------------------------------------|---|--|
| United States | United States Chile New Zealand | United States Chile New Zealand Canada Australia Brazil Uruguay | United States Chile New Zealand Canada Australia Brazil Uruguay China Latvia Mozambique Russia South Africa |

As the timberland asset class has globalized, so has the investor base. Originally, timberland investors were U.S. domiciled. By the early 2000's, a track record of competitive long-term returns and increasing awareness of the asset class overall had garnered the interest of non-U.S. players as well – particularly Europeans. This new group of investors, unlike their U.S. counterparts, generally took a more global view of the asset class with less reservation – and in some cases keen interest – towards investing in emerging, non-traditional markets such

as Latin America, Africa, Southeast Asia and Central Europe.

More recently, as some European investors consider timberland asset allocation decisions, they are weighing arguments to discount U.S. timberland in favor of other global markets. The reasons given by some for their ex-U.S. biases are varied, but the majority fall into four main lines of thought:

¹ For example, *Timberland Markets Report*, August 2008, p. 1.



1. The U.S. timberland asset class has matured to the point where most, if not all prime investment opportunities in the U.S. for timberland have disappeared.
2. Investment regions outside the U.S. offer higher risk-adjusted performance than the U.S.
3. The U.S. tax code under Foreign Investment Real Property Tax Act (1980) (FIRPTA) will significantly harm investment returns when cash is repatriated.
4. Investment grade timberland in the U.S. – whether natural or plantation – is disadvantaged against other regions because of the lower biological productivity of U.S. forests.

This paper will address these four concerns, argue that U.S. timberland should remain an important component of most European investors' timberland investment allocation and seek to demonstrate that a diversified timberland portfolio with a substantial U.S. allocation can provide long-term returns on a risk-to-return basis that match or exceed a global portfolio lacking a U.S. allocation.

The U.S. is the Largest Untapped Market of Investable Timberland

Widely known is the fact that the U.S. holds the majority share of global institutional timberland investments. For the past three years through 2008, investors have placed more than US\$8 billion of capital each year in U.S. timberland.² With all major forest product companies except one – Weyerhaeuser – effectively divested of their U.S. timberland holdings, the concern exists among some in the European investment community that the U.S. market for timberland is fully subscribed and substantially all attractive timberland “deals” are gone.

Latest estimates suggest that TIMO's are managing 9.7 million hectares (24 million acres) of timberland in the United States.³ While this developed market is substantial, there remains a significant untapped pool of

² *Timberland Markets Report*, Dec. 2008, p. 4

³ *Timberland Markets Report*, Aug. 2008, p. 1, 4



investable timberland not yet owned by institutional timberland investors. These properties, however, may no longer come from large forest product companies as they have in the past. Future transactions are more likely to come from the individual landowners, timber REITs, or privately owned sawmills that still maintain some timberland ownership.

According to the United Nation’s Food and Agriculture Organization in their 2005 *Forest Resource Assessment*, there are 17.1 million hectares (42.2 million acres) of forest plantations in the U.S., the most of any nation. That suggests $17.1 - 9.7 = 7.4$ million hectares (16.6 million acres) are uncommitted to investors. The figure is conservative as there remains significant timberland in the Northeast and Lakes States regions of the U.S. that is naturally regenerated, and thus is not classified as plantation but still qualify as investment grade timberland.

Table 2. Total estimated area of forest plantations and timberland owned by investors through an investment manager (TIMO). The difference between the two measures is a rough relative gauge of the available timberland not yet owned by institutional investors. Values are shown in thousands (1,000) of acres.

| Country | Estimate of Investable Timberland Area* (x 1,000 ha) | Institutionally Invested Timberland** (x 1,000 ha) | Timberland Not Owned by Investors (x 1,000 ha) |
|---------------|--|--|--|
| United States | 48,300 | 9,700 | 38,600 |
| New Zealand | 1,852 | 650 | 1,202 |
| Australia | 1,766 | 220 | 1,546 |
| Uruguay | 766 | 180 | 586 |
| Brazil | 5,384 | 120 | 5,264 |
| South Africa | 1,426 | 60 | 1,366 |
| Chile | 2,661 | 20 | 2,641 |
| Argentina | 1,229 | 10 | 1,219 |

* Plantation area statistics from the *FAO Forest Resource Assessment 2005*; USDA Forest Service. In the listed non-U.S. countries in the table above, only plantations are viable for institutional investment; natural forests except the U.S. are not considered by institutional investors due to government restrictions and sustainability issues.

** *Timberland Market Report*, August 2008; DANA Ltd., 8 Sept. 2008 @ “Who Will Own the Forest?” Conference

A different and arguably more accurate measure is to count all privately owned timberland held in properties of 2,000 hectares (5,000 acres) or larger in size. Two thousand hectares could be considered the threshold size to attract institutional investors. According to the USDA Forest Service, in the U.S., 33.7% of the 143 million hectares (354 million acres) of privately held timberland are in parcels of 2,000 hectares (5,000 acres) or larger, which calculates to 48.3 million hectares (119.4 million acres).⁴ This implies that $48.3 - 9.7 = 38.6$ million hectares (86.4 million acres) are not yet held by institutional investors.

Regardless of which measure is used, the United States contains more investable timberland than any other country by a wide margin. As shown in Table 2, the U.S. surpasses other leading

⁴ Timberland is defined by the United States Forest Service as forest capable of producing timber crops with a minimum productivity level of 1.4 cubic meters per hectare per year (20 ft³/ac/yr).



forest investment regions such as New Zealand or Brazil in timberland not yet held by investors. The U.S. size advantage is augmented by the fact that much of the sustainably managed forests in many emerging markets in Latin America and Southeast Asia are held by vertically integrated forest product companies that consider their land holdings to be of strategic importance and may be reluctant to divest them without a significant price premium.

Performance of Timberland in the U.S. is Globally Competitive

The belief that the U.S. no longer has a sufficient pool of investable timberland is often associated with another misconception: *U.S. timberland investment returns are inferior on a risk-adjusted basis to other countries.* To fully test that assumption, we need historic return data from representative global timberland investment markets. Unfortunately, such data is not publically available. The exception is the United States, which has been covered by the NCREIF Timberland Index since 1987.

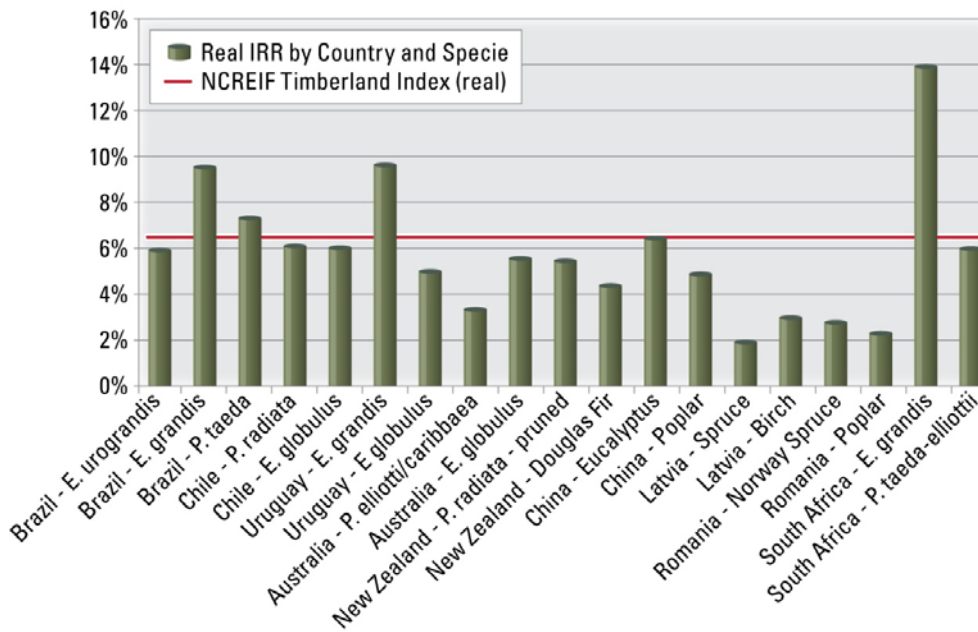


Figure 1. Projected real internal rate of return (IRR) of timberland investments of various countries and species as calculated by RISI and DANA Ltd. in comparison to the historical, annualized, time-weighted, average total real return of the NCREIF Timberland Index, which represents returns of U.S. institutional timberland investments over the last 10 years (1999-2008). Sources: NCREIF; *The Global Tree Farm and Managed Forest Industry, 2007*, RISI.



***Caveat:** The RISI / DANA study attempts to project returns that may be obtained in timberland investments across various countries. Actual returns in some or all of those countries may differ from those projected, as the RISI / DANA study relies in part on historical data and anticipated prices and growth rates that may not be realized. Past performance is no guarantee of future results.*

There exists, however, a body of independent research and literature that estimates probable future internal rates of return (IRR) of commercial timberland of different locales and species. One such work is *The Global Tree Farm and Managed Forest Industry*, produced in 2007 by Resource Information Systems International (RISI) in association with DANA Ltd. *The Global Tree Farm* study takes the best available country-level data on biological growth, costs, and market prices for land and timber to estimate a real (inflation adjusted) return that investors may expect to receive if they made the timberland investment today. The chart in Figure 1 shows a representative sample of those projected real IRRs of the leading countries targeted for institutional forest investments. Plotted along those projected returns for comparison is the average 10-year time-weighted total real return of U.S. institutional timberland investments from 1999 through 2008 as represented by the NCREIF Timberland Index.

According to NCREIF, U.S. timberland investment returned an average of 6.43% on an annualized inflation-adjusted basis (or 9.12% nominal) in the last 10 years. Interestingly, most other leading timberland investment regions across the globe, as observed in Figure 1, are equal or inferior to U.S. performance. The few exceptions, according to RISI and DANA, are some plantation types from Brazil, Uruguay and South Africa.

Table 3. Country risk premiums of nations with timberland investments based on sovereign bond ratings and default spreads as estimated by Prof. Aswath Damodaran of NYU Stern School of Business (January 2009).

| Country | Moody's Long-Term Sovereign Bond Rating | Country's Risk Premium |
|----------------------|---|------------------------|
| Australia | Aaa | 0.00% |
| Brazil | Ba1 | 4.50% |
| Chile | A1 | 2.10% |
| China | A1 | 2.10% |
| Latvia | A3 | 2.63% |
| New Zealand | Aaa | 0.00% |
| Romania | Baa3 | 3.90% |
| South Africa | A2 | 2.40% |
| United States | Aaa | 0.00% |
| Uruguay | B1 | 9.75% |

It should be mentioned that the real IRRs estimated in *The Global Tree Farm* study are somewhat conservative because they do not factor in any real price increases in land or in timber. On the other hand, many timberland investment regions outside the U.S. are located in emerging markets which carry a higher risk premium for return (see Table 3 left). On balance, even assuming that real price appreciation could add a 100 or 200 basis point enhancement to the IRR, the U.S. remains very competitive after accounting for greater risks in select non-U.S. markets.



Source: A. Damodaran (NYU Stern)

The Return Burden of FIRPTA Can Be Managed

Another significant issue that foreign investors face when investing in U.S. timberland is taxation of repatriated income. Some European investors express concern that the tax burden is too heavy for the U.S. investment region. Central to the taxation issue is the Foreign Investment in Real Property Tax Act of 1980 (or FIRPTA). Under FIRPTA, the net income generated from the sale of timber or the sale of timberland will be taxed at the same rate as U.S. tax payers.

Marginal income tax rates cap at 35% at the time of writing. However, gains from sales of harvested timber and property that have been held for investment are generally classified as capital gains. Taxpayers who are classified as individuals or trusts benefit from a lower long-term capital gains tax rate – presently at 15%.⁵ In contrast, taxpayers classified as corporations lack that benefit. Capital gains for corporations are taxed at the same rate as ordinary income – i.e., currently 35%.

How does this play out for a European investor? European pension funds are usually considered to be trusts for taxpaying purposes by the United States Internal Revenue Service (IRS). Many European endowments, like their U.S. counterparts, are likewise eligible for tax-exempt status by the IRS. European insurance companies, on the other hand, are deemed to be corporations. The resulting tax rates expected for European investors are shown in Table 4 below. The 15% tax rate on long-term capital gains from timber and land sales is competitive against many other countries with timberland investments, particularly some emerging markets such as Brazil which has much more onerous tax rates and regulations.

⁵ The 15% rate on long-term capital gains is set to expire at the end of calendar year 2010. The 15% may or may not be reinstated by the U.S. Congress before it expires. The possibility exists that the rate will lapse to the prior 20% rate, or be further increased.



Table 4. Marginal U.S. tax rates expected for different sources of income from timberland holdings for a variety of investors, using the most common investment vehicle.

| Type of Investor | Typical Investment Vehicle | Source of Income | Tax Classification | Maximum Marginal Tax Rate |
|--|----------------------------|------------------|--------------------|---------------------------|
| Taxable Individual Investor | Pass-Through Entity | Timber Sales | Capital Gains | 15% |
| | | Property Sales | Capital Gains | 15% |
| | | Other Income | Ordinary Income | 35% |
| Domestic Tax-Exempt Investor (e.g. Pension Funds, Endowments, Foundations) | Pass-Through Entity | Timber Sales | N/A | 0% |
| | | Property Sales | N/A | 0% |
| | | Other Income | N/A | 0% |
| Foreign Individual | Pass-Through Entity | Timber Sales | Capital Gains | 15% |
| | | Property Sales | Capital Gains | 15% |
| | | Other Income | Ordinary Income | 35% |
| Foreign Pension Fund | Pass-Through Entity | Timber Sales | Capital Gains | 15% |
| | | Property Sales | Capital Gains | 15% |
| | | Other Income | Ordinary Income | 35% |
| Foreign Insurance Company | Blocker | Timber Sales | Ordinary Income | 35% |
| | | Property Sales | Ordinary Income | 35% |
| | | Other Income | Ordinary Income | 35% |

Table Notes:

Pass-Through Entity: A structure such as a limited partnership where income retains its tax character when distributed to the investors. For example, realized capital gains can be filed as capital gains by the investor. The downside is that the foreign investor is considered to be engaged in a U.S. trade or business. The foreign investor therefore must file a U.S. federal tax return and be taxed as would a U.S. resident.

Blocker: A structure such as a domestic corporation where any and all income, when distributed, is considered ordinary income for tax purposes. However, a blocker prevents the foreign investor from being classified as engaged in U.S. trade and business. Tax reporting and filing requirements are thus avoided.

Other Income: Net revenue generated from hunting leases, mineral royalties, earned interest, pine straw raking leases, and other sources of ancillary income from timberland.



To illustrate the impact these tax rates in Table 3 could have for a European investor of U.S. timberland, we will use a hypothetical (but reasonable) case example. This investment will have the following characteristics that are not uncommon in a U.S. timberland investment:

- Investment time horizon of 10 years, where all remaining property is sold at termination of the investment.
- Pre-tax nominal internal rate of return of 10.0%, net of all management fees.
- Inflation rate of 2.50% per annum.
- Annual cash-on-cash yield of 5.0% for timber and land sales (80% of which can be applied to the cost basis of the assets sold), and 0.5% from other miscellaneous income. Both are net of all costs and fees, scaled to inflation.
- Assume for simplicity that applicable marginal tax rates are at their maximum levels for all categories of income, with no ladder tiers of increasing rates.

The resulting after-tax returns for each type of investor are shown in Table 5.

Table 5. The after-tax return for different investor categories for a 10-year timberland investment producing a 10% nominal pre-tax IRR in a 2.5% inflationary environment, generating cash-on-cash yields of 5.0% from property sales (20% net margin to basis) and 0.5% from ancillary income. Assume each category of investor uses the most appropriate investment vehicle to hold the timberland investment.

As observed in the illustrative example in Table 5, FIRPTA does exact a tax burden on foreign investors of U.S. timberland. However, for a large portion of overseas investors, that burden is no worse than a resident of the U.S. A European individual or pension fund will likely see its pre-tax returns decline by roughly 120 basis points to 8.8% from an investment that offers a 10% IRR on a pre-tax basis. The moderate tax effect is due to a lower capital gains tax rate (currently 15%) that individuals and trusts qualify for on gains from sales of timber and property held for more than

| Type of Investor | Internal Rate of Return Net of All relevant U.S. Fees and Taxes | Reduction in Return Compared to a Tax-Exempt Domestic Investor |
|----------------------------------|---|--|
| Taxable Individual U.S. Investor | 8.82% | 1.18% |
| Domestic Tax-Exempt Investor | 10.00% | 0.00% |
| Foreign Individual Investor | 8.82% | 1.18% |
| Foreign Pension Fund | 8.82% | 1.18% |
| Foreign Insurance Company | 7.31% | 2.69% |



one year – which are the primary sources of return of a timberland investment.

FIRPTA is most detrimental to European investors classified by the IRS as a corporation for taxpaying purposes – such as a foreign insurance company. This investor group will experience a more significant impairment of their investment returns. From the example in Table 2, the impact is close to 270 basis points – or approximately one-quarter of the pre-tax return.

Non-Traditional Tax Reduction Strategies

The discussion to this point has focused on the effects of taxation using traditional investment vehicles – such as a limited partnership or a limited liability corporation. More exotic strategies do exist for European investors to potentially utilize lower U.S. tax liability of repatriated timberland income. While these strategies are beyond the scope of this paper, as they are generally more complex to execute and may not be fully proven, a couple are worth mentioning for reader awareness. These include: (1) portfolio interest; and (2) domestic REIT.

Portfolio Interest

One way to avoid timberland property income taxation is to structure the investment as a loan. The returns repatriated as payments of interest and principal on that loan are exempt from U.S. taxation. The downside is that there is no direct equity control on the portfolio. Stringent guidelines must be met to prevent the IRS from characterizing debt payments to the European investor as equity. Other hurdles include (a) finding an appropriate domestic partner to hold the nominal equity and (b) making certain that the debt-paying entity that holds the U.S. timberland properties is sufficiently capitalized in order for the interest payments to be deductible. As a result, the added complication and effort to create this structure dissuades most foreign investors from using this method.

Domestic REIT

Under FIRPTA, dividends from timberland holdings in a Real Estate Investment Trust (REIT) are taxed as ordinary income. However, if the REIT qualifies as a domestic REIT by being more than 50% owned by U.S. residents, then the foreign investor can sell its equity stake of the REIT and not be taxed on the capital gains of the sold shares. Consequently, the life-of-investment



Table 6. World Bank rankings of tax burdens for businesses in The Ease of Doing Business Index, 2009.timberland investment.

| Country | Paying Taxes Rank | Key |
|---------------|-------------------|---------|
| Argentina | 134 | 1-49 |
| Brazil | 145 | 50-99 |
| Canada | 28 | 100-149 |
| Chile | 41 | 150+ |
| China | 132 | |
| Colombia | 141 | |
| Finland | 97 | |
| Indonesia | 116 | |
| New Zealand | 12 | |
| Paraguay | 102 | |
| Russia | 134 | |
| South Africa | 23 | |
| United States | 46 | |
| Uruguay | 167 | |
| Venezuela | 177 | |

tax cost for the foreign investment can be significantly reduced. However, the major obstacles of this strategy are twofold: (1) finding domestic investors to hold majority ownership of the non-public timberland REIT; and (2) working under very stringent rules and structures of a REIT that also carries a high overhead cost of formation and maintenance.

Taxation Favorable Relative to Other Countries

From a broader perspective, U.S. taxation levels are comparable against many other countries with timberland investments. The *Doing Business 2009* study by the World Bank ranked countries by their regulatory environment to promote the establishment and operation of a business – including enforcing contracts, establishing credit, cross border trade and paying taxes. In regards to paying taxes, the World Bank ranks the United States in the upper quartile of lowest tax burden to businesses. The majority of other economies with timberland investments actually have tax burdens above that of the U.S., as shown in Table 6.

The Next Step in Implementing a Tax Strategy; Disclaimer Regarding Tax Advice

Although this paper discusses certain U.S. federal income tax considerations that may be relevant to a European investor’s investment in U.S. timberland, it is not meant to serve as a guideline on tax strategy for investing in U.S. timberland and it does not otherwise constitute legal or tax advice. This paper does not address all aspects of U.S. federal, state, local, or foreign tax law that may affect an investment in U.S. timberland. Those aspects that are addressed are discussed only in general. Also, tax laws are subject to change. In particular, currently, the 35% maximum U.S. federal income tax rate applicable to an individual taxpayer’s ordinary income, and the 15% maximum U.S. federal income tax rate applicable to an individual taxpayer’s net long-term capital gain, are scheduled to remain in effect only through the year 2010 and are scheduled to increase thereafter. No one can predict with certainty what tax legislation, if any, may be proposed or enacted or what changes may be made to existing regulations or ruling policies of the U.S. Treasury Department, Internal Revenue Service, or other tax agencies. In some cases, whether a particular timber property will be treated as held by the taxpayer “for investment” rather than held as a “dealer” (in other words, whether it will be treated as a “capital asset”) such that, if it has been held long enough, any gain from its sale will eligible for the lower income tax rates applicable to long-term capital gains, can be difficult to predict with certainty.

A European taxpayer seeking to determine the U.S. federal income tax (or other tax) consequences to himself of an investment in U.S. timberland should consult an independent tax advisor (familiar with investments by non-U.S. institutions and individuals in real estate and natural resources located in the U.S.) based on that taxpayer’s particular circumstances.



Lower Growth Rates Do Not Necessarily Entail Lower Returns

The fourth argument some investors have used to dismiss the United States is biological productivity. Without a doubt, U.S. timberland cannot measure against the high-yield plantations in warmer, wetter climates (see Figure 2). On the other hand, U.S. growth rates are comparable to other investment regions such as Oceania and the temperate regions of Europe, Asia and Africa.

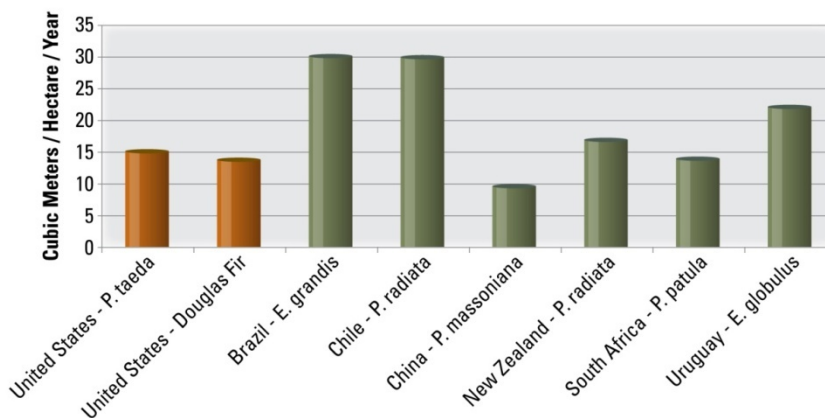


Figure 2. Typical growth rates of various commercial plantations in different countries across a full rotation – from planting to harvest.
Source: Cabbage et al. 2009.

It is important to recognize that biological growth rates are one of multiple factors contributing to return. Ultimately, cash flows drive returns, not growth rates. For this reason, investors have identified opportunities to place capital in slower growth forest regions such as China, Latvia, South Africa, Russia and the like. These regions, like the U.S., cannot compete in biological productivity against the best intensive plantations of Brazil and Uruguay. However, other cash flow drivers have made the lower productivity regions compelling to institutional investors.

In the case of the U.S., what it may lack in biological productivity is compensated with a variety of additional income drivers. Among the significant drivers of return in U.S. timberland investments include (1) land appreciation, (2) monetization of ecosystem services, and (3) highly competitive timber markets.

Appreciating Land Values

Land price appreciation has the potential to be a larger contributor to U.S. timberland investment returns than in many other overseas markets. The key driver is demographic growth: a growing population and rising incomes are pushing timberland into economic uses beyond that of growing timber. Known as higher and better uses (or HBU), these emerging values of conservation, recreation, aesthetics, and development can add value to select portions of a U.S. timberland portfolio.



Studies have indicated that as population densities reach approximately 19 people per square kilometer (or 50 per square mile), a tipping point is reached in which commercial timber production begins to lose out to other higher valued land uses.⁶ At population densities of 58 per square kilometer (or 150 per square mile), research indicates that commercial forestry is no longer economically viable against HBU alternatives.

Through 2050, the U.S. population is projected by the U.S. Census Bureau to grow by over 40% to 439 million people from 306 million in 2009. Over that time period, the USDA Forest Service estimates that 8 million hectares (20 million acres) of forestland will shift to another land uses.⁷ In contrast, many emerging countries are showing the reverse: rural populations migrating towards major urban centers, thereby causing falling population densities in forest regions (see Figure 4). For that reason, the U.S. is among the few timberland markets that offers significant appreciation of forestland values from HBU.

1960 Census by County

2000 Census by County

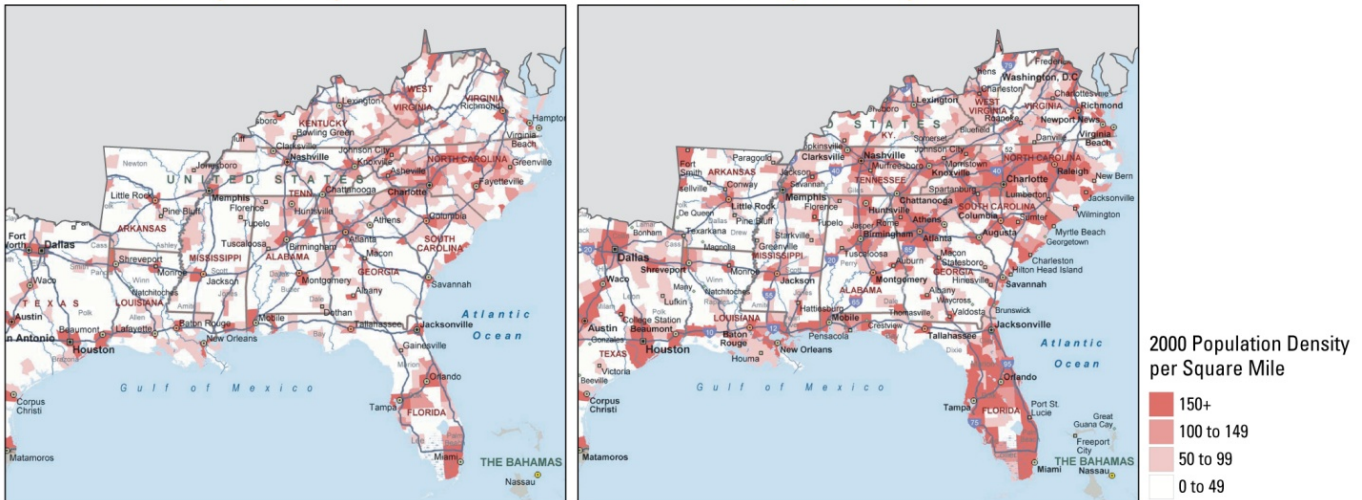


Figure 3. County level population densities in the Southeast region of the United States as determined by the 1960 and 2000 Census.

⁶ Virginia Study, Dave Wear, et al., USDA Forest Service, 1998

⁷ USDA Forest Service. *Interim Update of the 2000 RPA Assessment*. 28 November 2007.

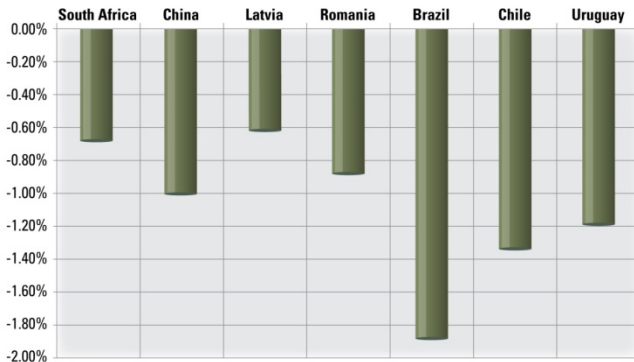


Figure 4. Projected average annual rate of change in rural populations from 2005 through 2010 for emerging countries with timberland investments. Source: United Nations Department of Economic and Social Affairs.

Ecosystem Services

In addition to the potential benefit from rising land values, U.S. timberland investment could also draw additional income from a spectrum of ecosystem services. A sample of the leading forest based ecosystem services monetized from timberland include:

- **Recreational Leases:** Leasing access rights to timberland for a leisure function. The dominant form is hunting leases.
- **Conservation Easements:** The sale of the rights to develop the land to a public agency or environmental group in order to keep property in forest cover and out of development in perpetuity.
- **Wetlands Mitigation Banking:** The sale of created wetlands to offset wetlands lost elsewhere due to development.

Contribution to Return from a Broader Palette

U.S. timberland investments often possess a broader basket of income sources than their overseas counterparts. The appreciation of land values and the monetization of ecosystem services, for example, can play a measurable role to the performance a U.S. timberland portfolio. This puts less reliance of a U.S. investment on timber productivity to generate the expected return as may a high-yield plantation in the Southern Hemisphere.

Competitive Markets for Timber

Third and last, the United States benefits from being among the most competitive markets for wood in the world. Its number and diversity of mills purchasing a wide range of wood species and products brings greater market stability. That, in turn, could help support prices and lower volatility. For example, when sawlog prices are poor due to weak lumber markets, pulpwood used to make paper may be experiencing strong prices, and *vice versa*. The same can be said between hardwoods versus softwoods.

In contrast, it is not uncommon for local timber markets in emerging economies to be dominated by few buyers – sometimes only one or two forest product company mills buying only limited species and products. These



emerging markets can be considered a monopsony or oligopsony, where the market power lays more with the buyers of timber (the mills) and less with the sellers (the timberland owner). Latin America is a prime example. Pulp and paper mills in Brazil source more than 75% of their wood needs from their own plantations. In the case of Chile, 68% of pine plantations and 45% of eucalyptus plantations are owned by the two dominant forest product companies – CMPC and Arauco.⁸ Other parts of the world face similar market leverage skewed toward the manufacturers: in Australia, four forest product companies make up 70% of the market for softwood structural timber.⁹ The concentrated market power to a limited set of timber buyers in many emerging markets could cause greater volatility in timber prices and downward pressure on prices. Such scenarios are far less common in the U.S. given its high density and varied ownership of mills (see Figure 5).



Figure 5. Map of the location of wood consuming mills in the United States producing pulp, lumber, panels and bioenergy. Sources: USDA Forest Service, Beck Group, Forisk Consulting, and RISI.

⁸ RISI, *The Global Free Farm and Managed Forest Industry*, 2007

⁹ ITC Limited



Summary

Despite the headwinds of the recent global downturn, the timberland asset class is expected to continue to expand globally into the foreseeable future. As the world's appetite for wood products grows, so will its appetite for capital to acquire, plant, grow and harvest more trees. Institutional investors can have a strong role to play in this regard. They recognize that an investment opportunity exists to supply the patient long-term capital needed to fund world's need for wood. European investors are no exception.

The U.S. continues to be a compelling area to invest. First and foremost, the U.S. holds the largest pool of timberland available for foreign institutional investment. Many other countries simply lack sufficient size and depth of market to absorb significant investor capital during a given period without distorting the regional land market.

Second, although the U.S. remains an established, developed market for timberland, its risk-adjusted returns remain competitive against emerging markets. Institutional U.S. timberland investments, as represented by the NCREIF Timberland Index, reported a 9.1% average return in the 10-year period between 1999 and 2008 – a value comparable to many non-U.S. regions.

Third, taxation should not be a defining issue for a large portion of foreign institutional investors. When repatriating timber and land income, European investors who can file as an individual, endowment, or trust can qualify for the lower long-term capital gains tax rate of 15% for income derived from timber and land sales – a significant savings from the higher 35% marginal rate on ordinary income.

Finally, while the U.S. may not offer the same rates of biological growth as some of the high-yield plantations in the lower latitudes, cash flow drives returns, not wood volumes. Biological growth is but one contributor of many to cash flow. Another contributor is a deep, competitive market for timber – which the U.S. has. The U.S. offers a diverse range of ecosystem services that can be monetized. They include hunting leases, conservation easements, and wetlands mitigating banking, for example. In addition, population growth and rising household incomes could mean a portion of a



timberland portfolio can be subject to higher and better use land values.

All these factors support the argument European investment in U.S. markets when developing a globally diversified timberland portfolio.



Appendix

The following are the calculations of the after-tax returns of different types of taxable investors of a hypothetical timberland investment that provides a 10.0% pre-tax IRR as shown in Table 5.

Taxable Individual (U.S. or Foreign) Investor and Foreign Pension Fund

Model Assumptions

| | |
|---------------------------------------|------------------------|
| Target Pre-Tax Domestic Return | 10.0% |
| Invested Capital | \$100 million |
| Annual cash flow from timber and land | 5.0% of market value |
| Annual cash flow from other income | 0.5% of market value |
| Net Profit Margin | 20.0% above cost basis |
| Inflation Rate | 2.5% per annum |
| <u>Cash Repatriation</u> | |
| Tax on Timber and Land Sales | 15.0% |
| Tax on Miscellaneous Income | 35.0% |

Financials

| \$ million | Inception | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 | Year 7 | Year 8 | Year 9 | Year 10 |
|--|-----------|--------------|--------|--------|--------|--------|--------|--------|--------|--------|---------|
| Basis Removed from Timber & Land Disposition | | 4.27 | 4.38 | 4.49 | 4.60 | 4.71 | 4.83 | 4.95 | 5.08 | 5.20 | 57.49 |
| Remaining Basis in Timberland Asset | 100.00 | 95.73 | 91.35 | 86.86 | 82.27 | 77.55 | 72.72 | 67.77 | 62.69 | 57.49 | - |
| Taxable Income from Timber & Land Sales | | 0.85 | 0.88 | 0.90 | 0.92 | 0.94 | 0.97 | 0.99 | 1.02 | 1.04 | 110.19 |
| Capital Investment (Timberland Purchase) | (100.00) | | | | | | | | | | |
| + Net Cash Flow from Timber & Land Sales | | 5.13 | 5.25 | 5.38 | 5.52 | 5.66 | 5.80 | 5.94 | 6.09 | 6.24 | 167.67 |
| + Net Cash Flow from Other Income | | 0.51 | 0.53 | 0.54 | 0.55 | 0.57 | 0.58 | 0.59 | 0.61 | 0.62 | - |
| = Pre-Tax Net Cash Flow | (100.00) | 5.64 | 5.78 | 5.92 | 6.07 | 6.22 | 6.38 | 6.54 | 6.70 | 6.87 | 167.67 |
| - Tax on Timber and Land Sales | | 0.13 | 0.13 | 0.13 | 0.14 | 0.14 | 0.14 | 0.15 | 0.15 | 0.16 | 16.53 |
| - Tax on Other Income | | 0.18 | 0.18 | 0.19 | 0.19 | 0.20 | 0.20 | 0.21 | 0.21 | 0.22 | - |
| = Net Cash Flow After Taxes | (100.00) | 5.33 | 5.46 | 5.60 | 5.74 | 5.88 | 6.03 | 6.18 | 6.34 | 6.49 | 151.14 |
| After Tax Internal Rate of Return (IRR) | | 8.82% | | | | | | | | | |

Foreign Insurance Company

Model Assumptions

| | |
|---------------------------------------|------------------------|
| Target Pre-Tax Domestic Return | 10.0% |
| Invested Capital | \$100 million |
| Annual cash flow from timber and land | 5.0% of market value |
| Annual cash flow from other income | 0.5% of market value |
| Net Profit Margin | 20.0% above cost basis |
| Inflation Rate | 2.5% per annum |
| <u>Cash Repatriation</u> | |
| Tax on Timber and Land Sales | 35.0% |
| Tax on Miscellaneous Income | 35.0% |

Financials

| \$ million | Inception | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 | Year 7 | Year 8 | Year 9 | Year 10 |
|--|-----------|--------------|--------|--------|--------|--------|--------|--------|--------|--------|---------|
| Basis Removed from Timber & Land Disposition | | 4.27 | 4.38 | 4.49 | 4.60 | 4.71 | 4.83 | 4.95 | 5.08 | 5.20 | 57.49 |
| Remaining Basis in Timberland Asset | 100.00 | 95.73 | 91.35 | 86.86 | 82.27 | 77.55 | 72.72 | 67.77 | 62.69 | 57.49 | - |
| Taxable Income from Timber & Land Sales | | 0.85 | 0.88 | 0.90 | 0.92 | 0.94 | 0.97 | 0.99 | 1.02 | 1.04 | 110.19 |
| Capital Investment (Timberland Purchase) | (100.00) | | | | | | | | | | |
| + Net Cash Flow from Timber & Land Sales | | 5.13 | 5.25 | 5.38 | 5.52 | 5.66 | 5.80 | 5.94 | 6.09 | 6.24 | 167.67 |
| + Net Cash Flow from Other Income | | 0.51 | 0.53 | 0.54 | 0.55 | 0.57 | 0.58 | 0.59 | 0.61 | 0.62 | - |
| = Pre-Tax Net Cash Flow | (100.00) | 5.64 | 5.78 | 5.92 | 6.07 | 6.22 | 6.38 | 6.54 | 6.70 | 6.87 | 167.67 |
| - Tax on Timber and Land Sales | | 0.30 | 0.31 | 0.31 | 0.32 | 0.33 | 0.34 | 0.35 | 0.36 | 0.36 | 38.56 |
| - Tax on Other Income | | 0.18 | 0.18 | 0.19 | 0.19 | 0.20 | 0.20 | 0.21 | 0.21 | 0.22 | - |
| = Net Cash Flow After Taxes | (100.00) | 5.16 | 5.29 | 5.42 | 5.56 | 5.69 | 5.84 | 5.98 | 6.13 | 6.29 | 129.11 |
| After Tax Internal Rate of Return (IRR) | | 7.31% | | | | | | | | | |