



RESEARCH NOTE 2012-1

## A Note on Managing Currency Risks in an International Timberland Investment Portfolio

(Clark S. Binkley - 22 October 2012)



## **GreenWood Resources**

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## **I. INTRODUCTION**

Because the liabilities of institutional investors are generally denominated in their home currencies, they generally seek returns denominated in this same currency. An international portfolio of timberland investments is likely to have long- and short-exposure to currencies other than the investor's home currency. These facts together give rise to currency exchange risk ("FX risk"). Two questions immediately pose themselves: (i) to what degree does this FX risk increase the volatility of home-currency-based returns? And (ii) how can an investor or her manager control these risks? This note addresses these two questions.

With respect to timberland, we do not know of any analysis that speaks to the impact of FX risk on the volatility of USD-based returns for an international timberland investment portfolio. The principal difficulty in conducting such an analysis is the lack of any comprehensive data on returns from non-US timberland. In the absence of such data, it is impossible to address the question in a quantitative way. Some analysis has been done for global private-equity in general.<sup>1</sup> This analysis concludes that hedging does not reduce the volatility of private equity returns, and indeed may increase it. We caution in accepting this result for an international timberland investment portfolio, but it does indicate the complexity of the issue at hand.

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<sup>1</sup> Torrey Cove Capital Partners. 2012. Perspectives. The trouble with currency: is hedging effective for private equity. August.

Before discussing FX risk in *international* timberland investment portfolios it is useful to note that a purely domestic timber portfolio also faces currency exposure due to the global nature of commodity wood markets. By constructing a globally diversified portfolio of high quality, productive assets in good markets that can be held over the long term, domestic currency risk is being hedged.

To set the stage, it is useful to note the nature of timberland returns. Like those from most assets, the returns come in two parts: cash distributions and changes in asset value. In the case of timberland, changes in asset value arise organically from the surplus of timber growth above harvest levels as well as from changes in such economic parameters as timber prices, production costs and capitalization rates. Both the income and capital components of return may suffer FX risk, but the source and control of these risks differ significantly so we treat them separately in the discussion below.

We begin with a discussion of the FX risks that arise in a typical international timberland investment portfolio, and then discuss how to manage these risks. We conclude with some thoughts on how a prudent timberland investor might approach and control these risks.

## II. DETERMINING THE EFFECTIVE FX EXPOSURE

The cash returns from a timberland investment equal harvest revenues minus operating costs and the ongoing capital expenditures to renew the forest (these latter are similar to maintenance capex in a manufacturing facility, and need to be included as part of operating costs if one plans on a sustainable operation). The FX exposure is determined by the underlying functional currency of these costs and revenues.

In the case of revenues, timber products (e.g. logs, lumber, pulpwood, pulp products, and biomass) trade locally, regionally and globally. As a result, the functional currency of prices depends on the specific circumstances of each investment, and may change over time as markets evolve. One extreme is the US South where southern pine timber flows mainly in US domestic markets—sawlogs for lumber and plywood; pulpwood for pulp and oriented strandboard. As a result, southern pine prices are denominated in USD. For the same reason, in strong US domestic markets, the prices of southern pines from Brazil and Uruguay may be denominated in USD as these products are imported into the US. As a result, an investor can hold an investment in these countries and have currency exposure is to USD and not to the currencies of where the plantations are actually located.

An extreme case of this is New Zealand where *all* timber prices are effectively denominated in USD<sup>2</sup>. Logs flowing into the large Pacific Rim log market are sold in USD regardless of the origin (much as oil is traded in USD). There are no restrictions

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<sup>2</sup> C. S. Binkley, C.W. Washburn and Mary Ellen Aranow. 2003. Exchange-rate risk for timberland investments in New Zealand. Hancock Timberland Resources Group **Research Note** N-03-8.

on log exports, so changes in FX or USD-denominated log prices are quickly transmitted back into domestic NZD-denominated sawlog prices. As a consequence, and investor holding radiata pine plantations in NZ, even if she sells only to domestic sawmills, has revenues that are functionally denominated in USD.

Does this mean there is no FX risk? No, because the FX risk depends on the *net* exposure, and production costs comprise part of that net exposure. The problem is to understand the underlying currency exposure of the operating cost structure. Operating costs for timberland investments generally comprise labor, machinery, agricultural chemicals and fuel (the cost of plant material is similarly comprised of these four components). We generally believe that only the former is priced in local currency, with machinery, chemicals and fuel being sold in USD. Of course, in certain circumstances this general case does not hold (e.g. in places where diesel is subsidized and traded in local currency).

As a result, to determine the functional currency of the investment, one must drill down into the actual cost structure and determine the FX exposure of each cost component. The only general conclusions that may be drawn are (i) for timberland investments where a most of the output is sold into international trade, the investment is likely to be *short* the local currency if operating margins are positive, and (ii) it is possible to have an FX-neutral investment in a foreign country if domestic sales (denominated in domestic currency) just offset domestic costs, especially labor. It all depends on the details of the individual investment.

### III. INTERNAL “NATURAL” HEDGES

As noted above, the natural FX exposure of a timberland investment depends on the functional FX exposure of the revenues and costs. If the domestic-currency component of revenues matches that of costs, then the cash flows are inoculated against FX risk. What if they are not so nicely matched?

One approach is to load into the cost structure an offsetting exposure to the net long currency position. The classic way to do this is with debt denominated in the appropriate currency to offset the shortfall in the cost structure (Canadian forest products companies have used this strategy for decades to offset their large exposure to USD from export lumber sales—they borrow in USD).<sup>3</sup> Even if the local debt is not available in USD, for many currencies it may be swapped into USD because the payments are fixed in time and amount.

Many timberland investors eschew debt for the perfectly sensible reason that the fixed payments may force managers to cut trees in down markets when the asset-value-maximizing decision would be to hold the trees. Such investors have other opportunities to install natural hedges to their FX exposure.

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<sup>3</sup> See the appendix of Binkley, et al., for a detailed analysis of how this strategy works.

One of these is lease payments. In many jurisdictions, timberland either cannot be owned outright by foreign investors, or may be cheaper to acquire, on a risk-adjusted basis, via leaseholds. In such circumstances, it may be possible to negotiate to make the lease payments in a currency to offset the net FX exposure of the asset.

Similarly, it may be possible to offset FX risk via the terms of a wood supply agreement (“WSA”). The WSA can have sales denominated in a currency that is tied to the net FX exposure of the timberland operations. The price adjustment mechanism can reflect the cost components.

These natural, internal FX hedges tend to be quite cheap and effective when compared with purchased financial hedges.

#### **IV. DIFFICULTIES OF HEDGING AT THE ASSET OR TIMBERLAND PORTFOLIO LEVEL**

Of course, financial hedges—forward contracts, futures, options, swaps—are generally available for broadly traded currencies. A timberland investor might be tempted to control FX risk using these traditional techniques. This is more difficult than might be imagined.

In the first place, timing and amount of distributable cash flow cannot be predicted with adequate accuracy. Although timberland managers develop annual budgets and long term harvest plans, the actual performance may deviate quite dramatically based on market conditions. In fact, to maximize returns, timberland investment managers should take advantage of temporary pricing volatility to accelerate or decelerate harvest volumes and actively skew returns positively. This, in effect, captures the value of the one of the underlying real options in timberland: harvesting more when prices are high, and being able to store on the stump when prices are down. Capturing the value of the real option causes cash flows to fluctuate more than anticipated. This means that it is difficult to hedge currency risk. Attempts to do so likely will leave the asset under- or over-hedged most of the time. This will create additional volatility in the returns, and, depending on that kind of hedge, may require cash payments to make up mark-to-market losses.

Furthermore, depending on the age-class of the forest, cash flow distributions will typically be generated periodically over long periods of time and thus, this type of foreign currency-conversion-averaging over time can serve as a partial natural FX hedge

Finally a considerable component of the FX risk relates to the underlying asset value. From the perspective of FX risk, there are three relevant times to consider this particular component of risk.

The first is the time of initial investment. This component of risk can be managed by reviewing exchange rates relative to long- term trend and near- term outlook at the time of acquisition. We particularly believe that, for a period of three to five years, a forward curve based on relative inflation rates and interest rates (consistent with those used in the underwriting) is a useful way to separately the currency bet and the underlying timberland investment bet (this is the so-called “uncovered interest rate parity” no-arbitrage condition for forward currency contracts). In addition, we evaluate the sensitivities to various currency trends and consider FX risk as a significant part of the investment thesis.

The second is during the holding period. We mark investments to market on an annual basis, generally using a third-party appraiser. The asset value therefore varies from year to year, and these variations may or may not be denominated in USD. In circumstances where they are not, typical practice is to bring these values back to USD using the currency exchange rate as at the date of the valuation (typically the end of the fiscal year). As a result of this mark-to-market process, the capital return may contain FX risk. Because these capital returns are largely non-cash, it would be very expensive to try to hedge them, and may require ongoing cash payments to hedge a non-cash event. For a long-term, illiquid asset like timber, it seems preferable simply to ride out this non-cash volatility, and try to take advantage of the implied option at the time of exit.

The third is at exit. Exit timing depends on careful analysis of the forward-looking USD-denominated returns from the asset. If FX is at a highly favorable position for crystalizing some or all of the value of an asset, a sale might be indicated even if the underlying economics of the asset remain favorable. Or, there may be other ways to capture that temporary deviation in FX while continuing to hold the asset. Such decisions are all part of the ongoing management of an international timberland investment portfolio. We do believe, that once a definitive, binding purchase and sales document has been executed, it may make sense to lock in the USD value (or, range of values) of the sale with a short-term financial hedge.

## **V. HEDGING AT THE OVERALL PORTFOLIO LEVEL**

We have seen that understanding the functional currency risk requires a careful assessment of each individual investment, that there are some good “natural” ways to manage this risk and that typical financial hedges may be costly, undesirable or unavailable for timberland investments. How can an investor manage whatever residual FX risk arises from an international timberland investment portfolio? One approach is via currency overlays against the entire portfolio.

While we are not expert in this subject, we simply note that most large mixed-asset institutional portfolios contain a vast array of long and short positions in many different currencies. One approach is to monitor the net FX exposure and take the

FX “bets” at the portfolio level. This is likely to be far less expensive and more effective than a series of FX bets at the level of the individual assets.

## **VI. CONCLUSIONS AND RECOMMENDATIONS**

The FX exposure of an international timberland investment or portfolio must be analyzed on a case-by-case basis. Just because an investment is in a particular country does not mean that the investment necessarily carries a long exposure to the currency of that country.

Once the FX exposure is understood, there are several low-cost ways to manage the ongoing FX risk associated with cash distributions. Financial hedges are likely to be costly, undesirable or unavailable.

The important FX exposure of the capital return differs in that it takes place primarily on two occasions—the entry and exit. On entry, the critical task is to include careful consideration of FX trends as part of the underwriting. On exit, the critical task is to capture the embedded real option in a timberland investment marketed in a foreign currency.

Beyond these approaches, we concur with the conclusions of a recent, thoughtful analysis of FX risk in private-equity portfolios: “usually the optimal strategy for dealing with currency risk in a private equity portfolio is to take no action.”<sup>4</sup>

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<sup>4</sup> Torrey Cove Capital Partners. Op cit. p. 9.