

Hancock Timber RESEARCH Note

Timberland can be a Useful Addition to a Portfolio of Real Assets

N-12-15

Real assets, such as timberland or real estate, share several fundamental investment characteristics that attract investors. Among these are strong risk-adjusted total returns, the potential for relatively high cash yields, and the capacity to improve the risk-efficiency of a typical mixed asset portfolio comprised of stocks and bonds.

Because returns on financial assets are negatively correlated with inflation, many investors turn to investing in real assets, whose returns are positively correlated with inflation, to reduce inflation risk.

In contrast to their financial counterparts, real assets are physical assets with intrinsic value. The real asset class consists of diverse components. A collection of asset classes frequently present in real asset portfolios is shown in Table 1.

Among the included assets are commercial real estate, infrastructure, farmland, commodities, timberland, and direct energy.

Table 1: A Sample of Real Assets

Asset Class	Description
Timberland	The ownership of forest land properties and the trees standing on them. This excludes wood product manufacturing facilities such as those owned by integrated forest product companies.
Commercial Real Estate	Office buildings, shopping centers, warehouses, and apartment complexes operated to generate income from rent and appreciation.
Infrastructure	Consists of economic and social categories. The former includes toll roads, bridges, and power utilities. The latter includes healthcare and correctional facilities.
Farmland	Investment in row (corn, cotton) and permanent (wine grapes, cranberries) cropland. Returns from lease payments, crop sales, and appreciation of land through improvements such as irrigation.
Commodities	Products include produce, gold, oil and others. Investments in the physical commodity itself or in futures contracts. The former is common with precious metals, the latter with commodities such as corn and oil due to storage, insurance, and delivery costs.
Direct Energy	Oil and gas producing assets usually held in limited partnerships where investors directly supply capital. Long term, illiquid investments with high returns and volatility.

Institutional investment in commercial real estate has the longest tradition among real assets, and is frequently undertaken to hedge inflation. Timberland first gained its place in the real estate component of a mixed asset portfolio.

Infrastructure, once a sector of real estate, has emerged as a distinct asset class only recently.

Farmland, an investment class with a long history in the United States, is becoming an increasingly attractive asset class due to a fixed supply of land and demographic trends.

Commodities, a broad asset class that has been studied extensively, offers a good inflation hedge and liquidity. Research results show that moderate allocations of commodities further reduce risk in mixed asset portfolios that already contain timberland and farmland.

Direct energy is another emerging asset class. Capital raised from investors is primarily used to fund exploration and drilling. Direct energy has been shown to increase returns and reduce risk when allocated correctly in mixed asset portfolios.

Historical Performance

The historical relationship of risk to return observed during 1982-2011 for a sample of real assets is presented in Chart 1 (page 2).

As interest in real assets grows, so does the desire to diversify this part of investors' portfolios. Here we focus on timberland specifically.

Our global diversified timberland portfolio consists of timberland in the United States, Canada, Brazil, Australia and New Zealand. Over the past thirty years, timberland returns exceeded those from farmland and commercial real estate, while volatility of timberland returns was higher. Timberland returns also exceeded returns for direct energy investments and infrastructure, with a lower volatility.

Chart 1 also contains the historical Sharpe ratios, a measure of the excess return or risk premium for each asset. The ratios were calculated using the US 90-day T-Bill as the risk free rate. Note that timberland produces the highest Sharpe ratio—twice as high as many of the other listed assets.

(Continued on page 2)

Historical correlations between timberland and real assets are shown in Chart 2. The relationships have been low to moderate in strength. Timberland has been positively correlated with inflation (.30) over the past thirty years. Commodities also produce a high correlation with inflation (.68) during the same period.

Real Asset Portfolios can be Strengthened by adding Timberland

We constructed two risk efficient frontiers to assess the potential of timberland for improving the future performance of real asset portfolios. The first frontier consists of portfolios that include timberland. The second frontier was constructed without timberland. We constrained each asset to a maximum allocation of 25 percent of the overall portfolio. In the calculations, we used historical volatility data assuming these accurately represent future and expected real returns. The expected returns for timberland are based on an assessment of likely future performance. The values for the non-timber real assets are implied returns inferred from available information on real asset allocations in institutional portfolios.

The plot shows that including timberland in a real asset portfolio is expected to shift the efficient frontier up and to the left. In other words, at a given level of risk, the overall portfolio return is higher with timberland included.

Summary

A review of historical returns reveals that real assets have been positively correlated with inflation, and have provided an effective inflation hedge.

Timberland returns have also been weakly or moderately correlated with returns for other real assets. Therefore, including timberland in real asset portfolios has provided diversification benefits.

The results of efficient frontier analysis based on future expectations show the potential of timberland to improve portfolio performance.

Both historical and expected performance suggest that timberland should be strongly considered when constructing a real asset portfolio. Even at relatively moderate allocations, timberland is likely to improve the risk efficiency of real asset portfolios and provide an inflation hedge.

