TIMBERLAND AND INFLATION

Help protect against inflation by adding some cellulose (in this case, trees) to your portfolio.

By Mark Foley

Key reasons why timberland investments can be good inflation hedges:

- *Continuous and positive contribution of biological growth*
- *Timber demand and pricing have historically tracked and benefited from inflation*
- *Inability to change timber supply (upward) quickly (true for structural softwoods)*

Inflation can be harmful to investment portfolios in many ways, and planning for it should be an important part of the investment process. Bondholders' portfolios can lose value when inflation erodes the purchasing power of their fixed coupon payments. Similarly, stock investors' portfolios can lose value, particularly over the short to medium term, when dividend payments and capital appreciation do not keep pace with inflation. Companies sometimes have difficulty raising prices fast enough to match the inflation-led increases in expenses. In the long run, companies can pass inflationary costs on to customers. It can take years, however, for this "pass through" to make its way through the economy.

Many investors, after facing years of relatively benign inflation, are starting to wonder about higher levels of inflation in the future. The massive U.S. fiscal deficits have many observers believing the U.S. will try to "reflate away" this substantial debt burden. Many investors have a significant part of their portfolio in the mainstream stock and bond markets. If inflation is about to reemerge from years of dormancy, investors may find their portfolios badly exposed.

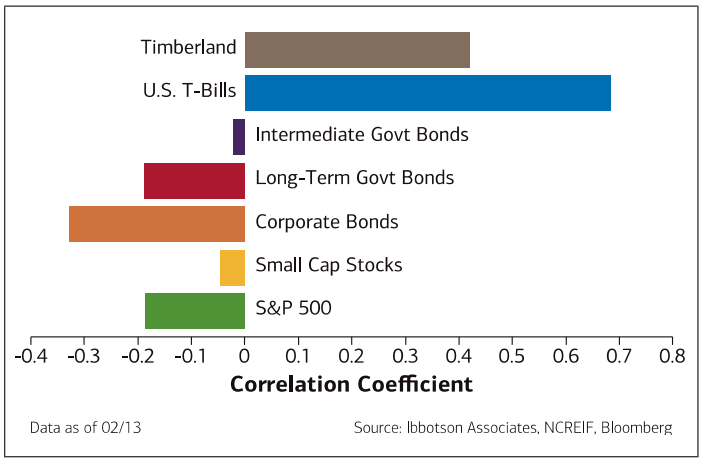
Asset pricing theory suggests that, all else being equal, most investors prefer a portfolio with returns that are insensitive to departures from inflation expectations. This being the case, an investor could add timberland (an asset that can hedge higher-than-expected inflation) to a portfolio to help insulate it against unexpected currency devaluation.

ABOUT THE AUTHOR

Mark Foley is a senior vice president and specialty asset manager of U.S. Trust's Specialty Asset Management Timberland Services group.

Whenever their investment portfolios are vulnerable to inflation, investors should consider adding some dedicated "real return" assets to their diversification strategy. In contrast to many financial assets, timberland is often portrayed as a hedge against unanticipated inflation; and the relationship between the two — namely, historically strong risk-adjusted real returns — is used as evidence.[1] Consider Figure 1 below:

Figure 1: Correlation With Inflation With Asset Classes, 1960–2012



For illustrative purposes only.

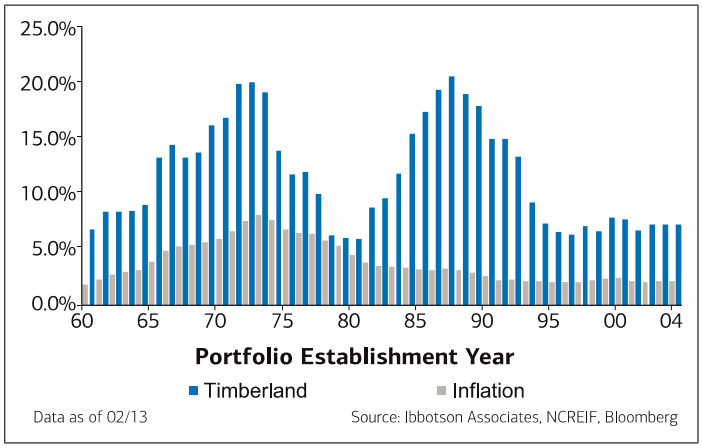
Figure 1 shows that, with the exception of 2009, the correlation coefficient[2] for inflation has been positive during that time period (1960–2012). The results depicted here are typical. Since both series — timberland and inflation — are generally positive, they are likely to be correlated in the same way that calculating a correlation coefficient on two positive data sets would yield a positive correlation coefficient.

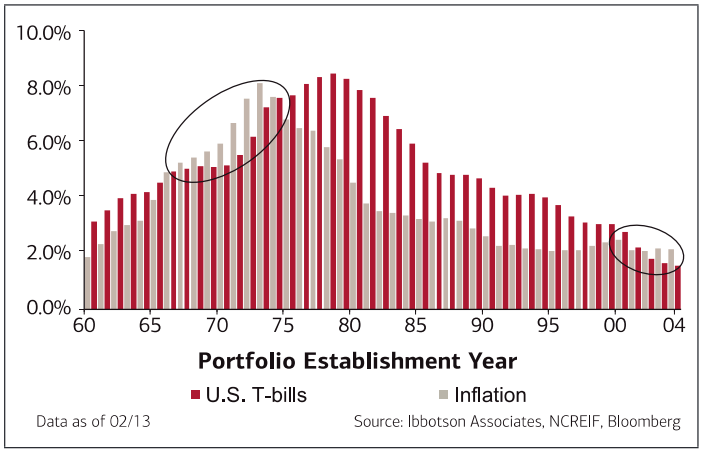
An analysis by Jack Lutz[3] — principal and forest economist of the Forest Research Group — found that one year lagged timberland returns are highly correlated with the following year's inflation rate. (Timberland returns for 1960 were paired with inflation for 1961.) The correlation coefficient in Lutz's analysis jumped from 0.39 (1960–2006) to 0.61 (1961–2006). The question is, then, why is this lagged relationship so strong? Timberland returns are influenced by timber prices.

Higher timber prices typically lead to higher timberland returns and appear to contribute to higher consumer prices in the following year. Higher timber prices are reflected in higher prices for lumber, housing and furniture. This is a case of rising commodity (timber) prices contributing to an increase in inflation. As Jack Lutz concluded, "timberland returns are highly correlated with inflation because timber prices contribute to the inflation rate in the following year."

So, using correlation as an indicator of an asset's ability to hedge against inflation, we would conclude that timberland is a better inflation hedge than most of the other assets in the analysis. Only T-bills have been more strongly correlated. Yet, if investors are looking for investment assets that provide protection from inflation (by assisting in capital preservation), the correlation coefficient may not provide the most complete indication of an asset's ability to preserve capital or provide returns that are protected from, or are greater than, inflation.

Figure 2: Correlation of Timberland and U.S. T-bill Returns With Inflation — 10-year Investment Periods





For illustrative purposes only.
Past performance is no guarantee of future results.

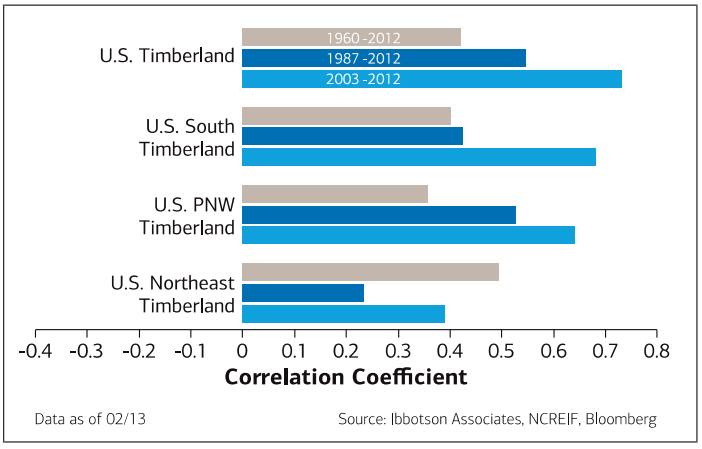
Figure 2 shows that timberland returns have exceeded inflation over all 10-year investment periods since 1960 (1960–2004). U.S. T-bill returns have not; and in fact, from the 1967–1976 investment period to the 1974–1983 investment period, T-bill returns were less than inflation despite the correlation with inflation being well over 0.8. T-bill returns also fell below inflation for the 2002–2011 and 2003–2012 periods. What this indicates is that a strong correlation with inflation is not a guarantee that an asset will maintain its value against inflation.

While timberland is not as strongly correlated with inflation as T-bills, timberland returns have been greater than inflation during all investment periods (1960–2004). They have exceeded inflation, on average, by 7.9%.

REGIONAL DIVERSIFICATION

In his research paper "Regional Diversification in Timberland,"[4] Lutz found that different timberland regions provided better returns over different time periods. His conclusion was that a geographically diversified timberland portfolio was more likely to provide better returns over time than a timberland portfolio that was solely focused on a single region. This also appears to be the case when inflation hedging is a key objective in a timberland investment program. Figure 3 shows that each investment region in the U.S. has been more strongly correlated with inflation over different time periods.

Figure 3: Correlation Coefficients for Timberland and Inflation Returns



For illustrative purposes only.
Past performance is no guarantee of future results.

This conclusion is supported in research by Court Washburn and Clark Binkley, which was performed 20 years ago. In their paper "Do Forest Assets Hedge Inflation?"[5] they concluded that "forests in the West and South have been effective hedges against higher-than-anticipated inflation; northeastern forests have been less effective hedges." What are the implications for the timberland investor? Forests in the West and South can be combined with financial assets that hedge lower-than-expected inflation to form a portfolio wherein the value is insensitive to inflation surprises. The addition of northeastern forests to a portfolio of financial assets would also reduce its sensitivity to unexpected inflation, but to a lesser degree.

Inflation may well be the largest single enemy of long-term investors. The goods and services many individuals purchase in retirement will be priced in tomorrow's dollars, not today's. Rapid acceleration in inflation-reflation can dramatically impact bonds and, to a lesser extent, stocks.

CONCLUSION

Over the past 52 years,[6] U.S. timberland returns have historically led the U.S. Consumer Price Index by a year, and those returns were positively correlated with inflation. Also, returns for different regions have been correlated with inflation at different periods of time. If individuals expect to invest in timberland as a hedge against inflation using the correlation coefficient, it is important to build a geographically diversified portfolio.

Analysis done by the Timberland Services group on the optimal regional allocation for an investor's timberland portfolio fits very well with this research. Assuming no other constraints, our recommendation for a portfolio to minimize risk would be to consider 50% U.S. South, 30% Pacific Northwest and 20% Northeast.

To learn more about timberland investment opportunities and U.S. Trust's Specialty Asset Management group, please visit ustrust.com/sam.

U.S. TRUST

[1] The most appropriate measure of an asset's inflation hedging ability is the relationship between contemporaneous rates of real return for the asset and unanticipated inflation. This is because investors hedge to insure against unexpected conditions. An effective inflation hedge must therefore provide insurance against departures from inflation expectations.

[2] A measure that determines the degree to which two variable's movements are associated. The correlation coefficient will vary from -1 to +1. A -1 indicates perfect negative correlation, and +1 indicates perfect positive correlation.

[3] Forest Research Notes, Volume 4, Number 3, 2007. (Latest available data.)

[4] Forest Research Notes, Volume1, Number 3, 2004. (Latest available data.)

[5] Forest Science, August 1993, 69(3):215-224. (Latest available data.)

[6] Forest Research Notes, Volume 4, Number 4, 4th Qtr, 2007. (Latest available data.)