HAMMOND ASSOCIATES
Portfolio Strategy

# Implementing Real Assets for Smaller Institutions

In a recent research note, "Liabilities and Endowment Management," we outlined strategic reasons for endowments and other non-for-profit institutions to tilt their portfolios towards assets that provide inflation protection. From a tactical perspective, inflation-protected assets are particularly compelling. With the heavy debt burden of the US economy, the Federal Reserve may be find it tempting to generate inflation to reduce the real value of debt.

Real asset investments, such as real estate and natural resources, fit the role of assets that should perform well in the event of inflation. Many real asset investment vehicles are in the form of private limited partnerships. Exposure to those often requires large investments to meet minimums and to gain adequate diversification. In this piece, we outline investment vehicles for smaller institutions. The liquid vehicles could also be appropriate for larger institutions that need a parking place for assets earmarked to private deals.

## Real Estate

### Core Real Estate / REITS

Smaller institutions can gain exposure to "core" real estate (collecting rent on fully leased buildings) by investing in real estate investment trusts (REITS). Over the long-term, REITS and private core real estate should perform similarly (after adjusting for differences in leverage). Therefore, REITS are an acceptable, and in some ways superior, vehicle for core real estate exposure versus private partnerships. REITS offer the advantage of liquidity.

High volatility comes along with the liquidity that REITS offer. Some of this higher volatility arises from infrequent appraisals on private real estate, which result in an artificially low volatility return stream. However, this probably cannot account for all the excess volatility of REITS. REITS' value versus their underlying net asset value fluctuates wildly. Over the long-term, these fluctuations should balance out, but it can result in a bumpy ride along the way. Current REIT valuations are a concern. Green Street Advisors estimates REITS are trading at a 9% premium to their net asset value. This means REIT investors could be paying up for real estate exposure.

A fund of funds we recommend, **Guggenheim**, offers one-stop-shopping for core real estate. Guggenheim combines direct real estate investments, private real estate funds, and REITS to create a diversified portfolio of real estate.

### Value-Added / Opportunistic Real Estate

Gaining exposure to non-core real estate is more difficult than core real estate. Core real estate properties appear to be trading at rich prices, while their fundamentals are soft. For this reason, we have been emphasizing value-added and opportunistic real estate of late. Exposure to these areas necessitates investing in private commingled funds. Nevertheless, smaller institutions can invest in this area for $1 million through a fund of funds. A value-added fund of funds that we have recommended in the past, **Metropolitan Real Estate**, will begin raising a new fund at the end of 2005 through the summer of 2006.

## Natural Resources

Investments in natural resource-related strategies have considerable appeal to us at this time. A continued weakening of the dollar should have positive effects for natural resource investments, because they are often globally traded products. Furthermore, demand growth from China could put further upward pressure on commodity prices. While the secular outlook for natural resources is positive, the cyclical outlook is a concern given the recent prices increases over the last thirty-six months. Oil has reached $50 per barrel, and industrial metals prices have rocketed.

There are fewer investment vehicles for natural resources than for real estate, particularly for smaller institutions. However, the opportunity set is not completely void. In the sections below, we outline some opportunities for smaller institutions.

### Commodities

Direct exposure to natural resources is available through commodity-based investments. A few mutual funds are available that invest in commodities through futures and swaps contracts. One fund we have recommended, **PIMCO Commodity Real Return**, invests in swap contracts to receive the returns of the Dow Jones-AIG Commodity index. The Dow Jones-AIG index tracks a diversified basked of commodity futures. It has exposure to twenty commodities across seven major commodity groups. PIMCO collateralizes the swap contracts with inflation-indexed Treasury bonds (TIPS), thus giving a second level of inflation protection. **SSgA** and **Credit Suisse** offer commingled products, and **Oppenheimer** a mutual fund, indexed to the energy-centric Goldman Sachs Commodities Index. **Wellington Management** actively manages a commodity portfolio to a custom index.

A concern with commodities is question of whether there is a systematic risk premium. In real terms, many commodity prices have declined through time because of productivity gains. Adjusted for inflation, it is cheaper to produce a bushel of soybeans today than one hundred years ago. Investments in commodity *futures* could provide a positive return in the absence of increases in the underlying commodities. However, the long-term excess return may not be sufficient to justify the volatility.

### Natural Resource Stocks

Indirect exposure to commodities is available through investments in natural resource stocks, such as integrated oil companies and mining stocks. Oil companies should benefit from unexpected increases in oil and natural gas prices. Investments in mining stocks should benefit from rising gold and other metal prices. An advantage of natural resource stocks is that they should provide a fair return even if commodity prices *do not* increase. Investors should price the stocks to provide a fair return for the systematic risk incurred even if commodity prices are expected to stagnate or fall.

There are disadvantages to natural resource stocks for real asset exposure. First, on a month-to-month, and even on a year-to-year basis, the correlation of natural resource stocks versus both inflation and commodity prices is low. Surprisingly, since 1970, the correlation of rolling 12-month returns between the MSCI Energy index and oil has only been 0.07. A second downside is that natural resource stocks, whether rationally or not, tend to trade more like the stock market than commodity prices. The correlation of the MSCI Energy index to the S&P 500 has been 0.65 since 1973.[1] In contrast, the Goldman Sachs Commodity index has exhibited a *negative* 0.25 correlation to the S&P 500.

While natural resource stocks behave more like equities than commodities in normal environments, when commodities make a major unexpected move stocks eventually follow suit. With the substantial increase in oil prices in 2004, energy stocks are up 20% in the first nine months of 2004. From 1973 through 1981 when oil and inflation was surging, energy stocks gained 11.6% versus 5.2% for the S&P 500.

Numerous mutual funds focus on natural resource stocks. **Vanguard's Energy and Precious Metals & Mining** funds are low cost means to exposure. Barclay's Global Investors offers an exchange-traded fund, **iShares Goldman Sachs Natural Resource Index**, that invests in global natural resource stocks. The bulk of the fund (75%) is in oil and oil services companies. The fund also has exposure to metals & mining stocks and paper & forest products stocks.

There are other more direct forms of energy-related investments, but their suitability for institutions is questionable. Several Canadian-listed royalty & income trusts directly hold oil & gas producing properties and pay out the royalties each year to investors. Some master limited partnerships also offer direct plays on commodity prices. A disadvantage with both royalty & income trusts and master limited partnerships is they generate unrelated business taxable income (UBTI) for not-for-profit funds and pension plans due to their partnership structure.

Focused exposure to energy and mining stocks are easily available through mutual funds. We know of no good mutual fund options for timber investments. Several individual REITS and stocks predominantly hold timber tracts. Some of these are Plum Creek Timber (PCL), Deltic Timber (DEL), and Rayonier (RYN). However, since these are individual companies, they have more idiosyncratic risk than diversified investments.

### Private Investments Through Funds of Funds

A handful of fund of funds invest in private natural resources opportunities, including oil & gas and timber. These include **Park Street** and **TIFF.** Like a private equity fund of funds, there will a long lag between commitment to these funds and investment. Park Street recently closed their Natural Resource Fund II LP, which will be split between timber partnerships and oil & gas partnerships. TIFF expects to raise a fund in 2005.

## Liquid Real Asset Strategy

Incorporating some of the investment vehicles mentioned above, we have constructed a sample portfolio that can be implemented entirely with mutual funds and exchange-traded funds. We also highlight two self-contained commingled funds. Using these liquid vehicles is worth consideration for institutions that don't have the means to invest in private real asset opportunities through direct partnerships or funds of funds. It could also make sense for larger institutions that desire a placeholder for money earmarked to private opportunities. It may even merit a permanent allocation for large institutions to further diversify the real asset portfolio and to facilitate rebalancing.

Broad, liquid exposure to real assets can be obtained by investing in three of the funds mentioned above: PIMCO Commodity Real Return, iShares Goldman Sachs Natural Resource Index, and StreetTRACKS Wilshire REIT index. PIMCO's fund is an open-end mutual fund. The iShares and StreetTRACKS funds are exchange-traded funds offered by Barclays and SSgA, respectively. Combining these three funds should provide reasonable protection against a secular reflationary environment. We back tested a portfolio of these funds to analyze its behavior in the past versus conventional assets. The table below shows the allocation among the three funds in the back test.

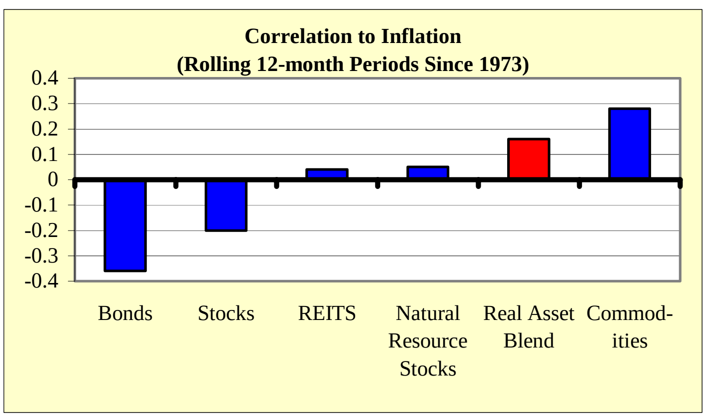
| | Allocation (%) | Expense Ratio (%) | Inception Date |
|---|---|---|---|
| StreetTRACKS Wilshire REIT Index | 40 | 0.26 | Apr-01 |
| iShares GS Natural Resources | 30 | 0.50 | Oct-01 |
| PIMCO CommodityRealReturn | 30 | 0.75 | Jun-02 |

[1] It should be noted that energy stocks have been as high as 30% of the S&P 500, so high positive correlation is not a surprise. We do not have data for the S&P 500 excluding energy.

Note that all three funds started within the last four years. For a long-term perspective we used proxy indexes for each fund.[2] Since the beginning of 1973, the Liquid Real Asset portfolio has earned 11.7%, annualized, slightly outperforming the S&P 500. Thanks in part to the low cross correlations among the three components, the volatility of the Liquid Real Asset portfolio has been one-quarter less than that of the S&P 500. Adding inflation-protected bonds to the mix could lower the volatility further. A 25% allocation to them would trim the volatility from 12.8% to 10.0%. Adding inflation-protected bonds to the mix may have particular merit for institutions using the portfolio as a placeholder for uncalled commitments to private real asset partnerships.

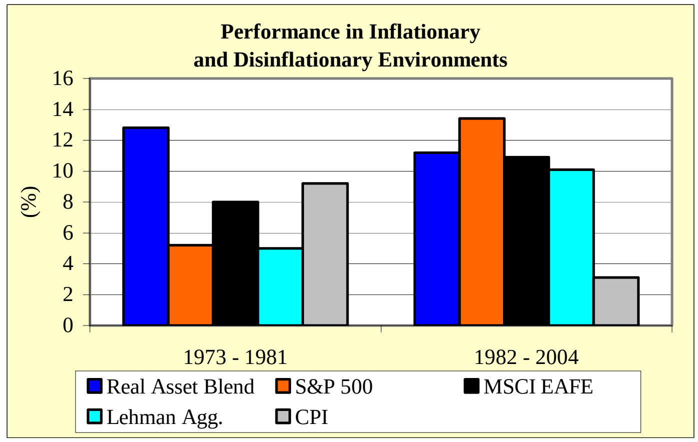
| | Through 9/2004 (%) | | | | | |
|---|---|---|---|---|---|---|
| | 3 Yr | 5 Yr | 10 Yr | 20 Yr | Since Jan-73 | St. Dev. |
| **Liquid Real Asset** | **18.0** | **14.3** | **11.1** | **10.9** | **11.7** | **12.8** |
| S&P 500 | 4.0 | -1.3 | 11.1 | 12.8 | 11.0 | 17.7 |
| MSCI EAFE | 9.1 | -0.9 | 4.1 | 11.1 | 10.0 | 19.2 |
| Lehman Agg. | 5.9 | 7.5 | 7.7 | 9.2 | 8.6 | 6.6 |
| CPI | 2.1 | 2.5 | 2.4 | 3.0 | 4.8 | — |

The critical question is whether the Liquid Real Asset portfolio accomplishes the desired goal of protecting against inflation. The Real Asset portfolio has shown a 0.16 correlation to inflation. While this isn't high, it is a substantial improvement over the –0.20 and –0.36 correlations exhibited by stocks and bonds, respectively.




The benefits of the Liquid Real Asset portfolio are evident during the stagflation period of 1973 - 1981. The hypothetical portfolio earned 12.8% annualized over this period, exceeding the inflation rate of 9.2%. Stocks and bonds, in contrast, trailed inflation over this nine-year period, earning just 5.2% and 5.0%, respectively. Of course, this is only one observation. We do not have sufficient data to test the performance of the portfolio during previous inflationary environments.

In the disinflationary period from 1982 forward, the Liquid Real Asset portfolio performed admirably, earning 11.6%, annualized. However, this was below the 13.4% return posted by the S&P 500.




**State Street Global Advisors** (SSgA) and **Wellington Management** offer commingled products that invest in liquid real assets. SSgA's product is a combination of index funds tracking commodities, natural resource stocks, REITS, and inflation-protected bonds. Wellington's product invests in similar areas, but it is actively managed. Wellington seeks to add value through security selection within each broad category and through tactical allocation across the categories. The table below shows the target allocation for Wellington's and State Street's products.[3]

| | SSgA (%) | Wellington (%) |
|---|---|---|
| Real Estate | 30 | 5 |
| Natural Resource Stocks | 25 | 50 |
| Commodities | 25 | 25 |
| Inflation-Protected Bonds | 20 | 20 |

Versus the liquid portfolio of mutual funds and exchange-traded funds, State Street offers the advantage of lower costs (0.3% versus 0.5%). Furthermore, State Street automatically rebalances the portfolio quarterly. Wellington's advantage is the prospect of added value through security selection and tactical bets. (We are currently conducting due diligence on Wellington's product.)

### *Caveat Emptor*

Protection against an inflationary environment is available through liquid investment vehicles. A concern we have with liquid real asset investments (and to a lesser extent, private

[2] *StreetTRACKS Wilshire REIIT Index*: NAREIT 1/73 – 12/77, Wilshire REIT Index 1/78 – present; *iShares GS Natural Resources*: MSCI Natural Resources 1/73 – 8/96, Goldman Sachs Natural Resources 9/96 – present; *PIMCO CommodityRealReturn*: Goldman Sachs Commodities Index 1/73 – 12/90, DJ-AIG Commodity Index 1/91 – present.

[3] The weighting among the segments can be customized for both products.

investments) is the stunning recent performance. Through the third quarter, the hypothetical Liquid Real Asset portfolio has returned 16.6% in 2004, and the portfolio looks like it will add to that gain in the fourth quarter. The 2004 performance is on top of a 32% gain in 2003. The steep increases in prices gives us concern that there may be cyclical pullback over the short-term. Nevertheless, given the macroeconomic environment, **real assets are a compelling long-term investment**.

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