

Laughing in the face of diversity



The role of commodity derivatives in portfolio diversification may be an old story, but it is more relevant than ever in highly correlated market conditions, argues **Hilary Till**

The holy grail for investment managers and investors is a high Sharpe ratio: high returns per unit of risk taken. How is this achievable? One might expect that one could exclusively focus on generating high returns to achieve this goal, but the risk component is just as important a factor, and one that can become a problem when investing only in the dominant asset classes, where returns are so highly correlated that there are minimal diversification possibilities.

Most US equities and even international equity indices are highly correlated to the world equity market factor. Also, global diversification in international equity markets has become more difficult as industrial sectors have become more correlated across countries and regions.

In bonds, the state of affairs is similar. Most bond securities and even the shape and curvature of the yield curve are highly correlated to the overall level of US rates.

With foreign exchange, there are effectively only two currencies left: dollar/yen and dollar/euro. There are excep-

tions, but one has to look pretty far afield in very esoteric, emerging market currencies to find currency performance unrelated to these two dominant currency pairs.

Even now, one could argue that investments in equities, bonds, and the US dollar all express the same bet, so that one cannot even diversify by investing across asset classes. When the unemployment rate is as low as it is now, wage pressures usually build and cause inflation. This in turn leads to higher interest rates, causing bond investments to do poorly. When rates become sufficiently high, a rational asset allocation choice is to switch from equities to bonds, causing equities to suffer. Also, with higher interest rates, one uses a higher rate to discount future earnings and dividends of companies, also causing equities to suffer.

That has not happened during this market cycle. Instead, the US has been able to turn to imports to satisfy demand, rather than stressing the tight US labor market. This has resulted in a huge current account deficit. Again, this would usually put pressure

on the currency, resulting in a higher cost of imported goods, which would, again, cause inflation. But this has not happened either this cycle. Returns on US financial assets have been sufficiently high to encourage the foreign holding of dollars, enabling the currency to escape cyclical pressure. At some point this virtuous circle could also become a vicious circle.

Alternative answers

Are there any alternatives to the dominant asset classes? The answer is yes, but they are usually illiquid and require long investment horizons. Examples include timber, property, and oil and gas.

Happily, there are a number of liquid 'absolute return' strategies that do not require long investment horizons. These strategies are typically not tied to broader financial-market moves. One such class of strategies that can be put together will be discussed in depth here.

Our research into absolute-return strategies has thus far mainly focused on the commodity futures markets, because of the diversification possibilities of this asset class. Not only are commodity markets generally uncorrelated to the financial markets, but this asset class has also exhibited periods of negative correlation with financial assets.

Also, uniquely among asset classes, commodities offer uncorrelated investment opportunities across individual commodity markets. Moreover, energy-sector commodities are frequently negatively correlated to non-energy-sector commodities. This greatly aids in setting up dampened risk portfolios. The reason for this negative correla-

tion is that an energy spike can dampen economic growth, which in turn, dampens demand for other less economically essential commodities.

When one adds commodity futures spread trading to the portfolio mix, one has yet more opportunities for non-correlated position-taking. Commodity spreads are not necessarily correlated to the direction of the underlying commodities.

Several commodity strategies will be described here briefly. They include well-timed long positions in commodity futures contracts where significant producer hedging pressure can be detected. One earns a return by taking the other side of these hedging transactions.

Other strategies include certain commodity futures spread trades, which represent processing margins. These trades are entered into when commercial entities lock in processing margins via the futures markets, which exerts one-sided pressure on these spreads. Again, on average one earns a return by taking the other side of these trades.

Another category of commodity futures trades involves short positions in weather-sensitive markets like the grains, coffee, natural gas futures markets. During key times of weather uncertainty these markets will embed a 'fear premium', to account for the markets' inability to tolerate threats to the food or energy supply. Over time, one earns this fear premium as prices sag when the feared, extreme weather event does not occur. The profits from earning this premium over time more than make up for the one-off huge losses that occur when the rare, but

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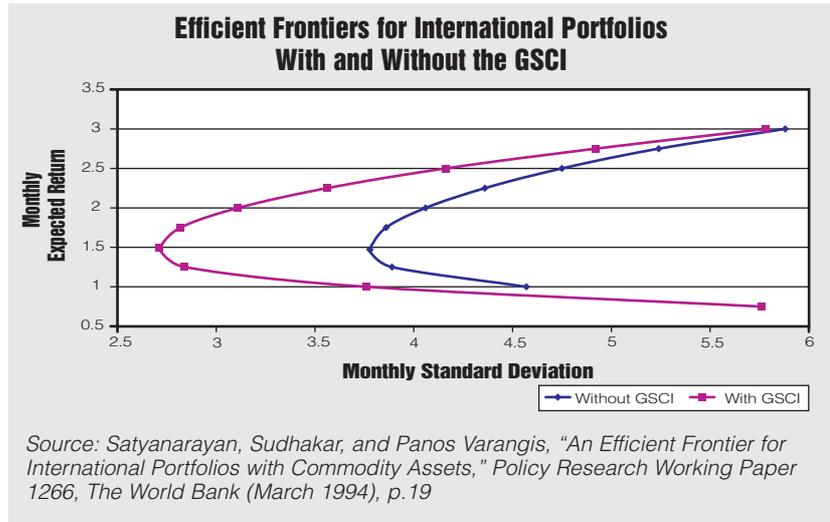
extreme weather event occurs.

The interesting thing about the various strategies discussed here is that they are well known by the commercial commodity trade. Most of them are documented in papers and books from the late 60s through the 80s. Much of the good, academically rigorous literature on the commodity markets pre-dates the 1980s, because since then the dominant financial opportunities have been in the financial rather than commodity markets. The exponential rise in financial derivatives since the late 70s has crowded out academic and practitioner interest in the commodity futures markets.

Even though the class of trades described here may be well known and well documented, it has not become extinct. This is because undiversified, commercial commodity companies are not motivated by positive expected value trades but act to minimise risk in their wider business operations and to plan future operations. For this, they are willing to pay away some return for price certainty, as long as this cost is incidental to the overall profits of their enterprise.

A diversified commodity investor, on the other hand, can take advantage of the individual, highly risky opportunities in the commodity futures markets, since each positive expected value trade is just one small part of an overall portfolio of unrelated trades.

In practice, we have found that the combination of different types of commodity futures trades results in dampened risk portfolios. Each individual trade is correlated to the other trades in the portfolio by no more than



20% (and sometimes they are negatively correlated.)

Adding financial markets

Once one has created a core portfolio of diversified commodity futures trades, one may elect to add a handful of highly statistically significant financial derivatives trades. After all, these additional trades will definitely be portfolio diversifiers for the overall commodity portfolio.

Surprisingly, a number of well-documented, empirical regularities in the financial markets continue to exist. First documented in the 1970s, the turn-of-the-year effect on the relationship between US small- and large-capitalisation stocks continues to exist in some form, because of the huge impact of the US personal tax-year change.

Another effect which has become more prominent is an end-of-October effect on US stocks, due to the tax-year ending for most mutual funds on 31 October.

In several European equity markets, one can note certain bearish price patterns during particular times of the year,

which seem to be due to synchronised vacation-taking.

In the bond markets, cash flows in the municipal bond markets are highly seasonal. This is due to synchronised timing of coupons and call schedules. This creates detectable patterns in the relationship between municipal bonds and Treasuries during key times of the year.

One can selectively add these niche financial market opportunities to a core commodity portfolio in an effort to create a better Sharpe ratio. The financial trades satisfy the criteria of having statistically significant returns while being unrelated to the commodity positions in the core portfolio.

The type of approach discussed in this article should become very relevant to investors as participants attempt to enhance return to risk via diversification into non-conventional approaches. This may prove to be a more fruitful approach than attempting to capture incremental returns within the dominant, highly efficient financial markets. □

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