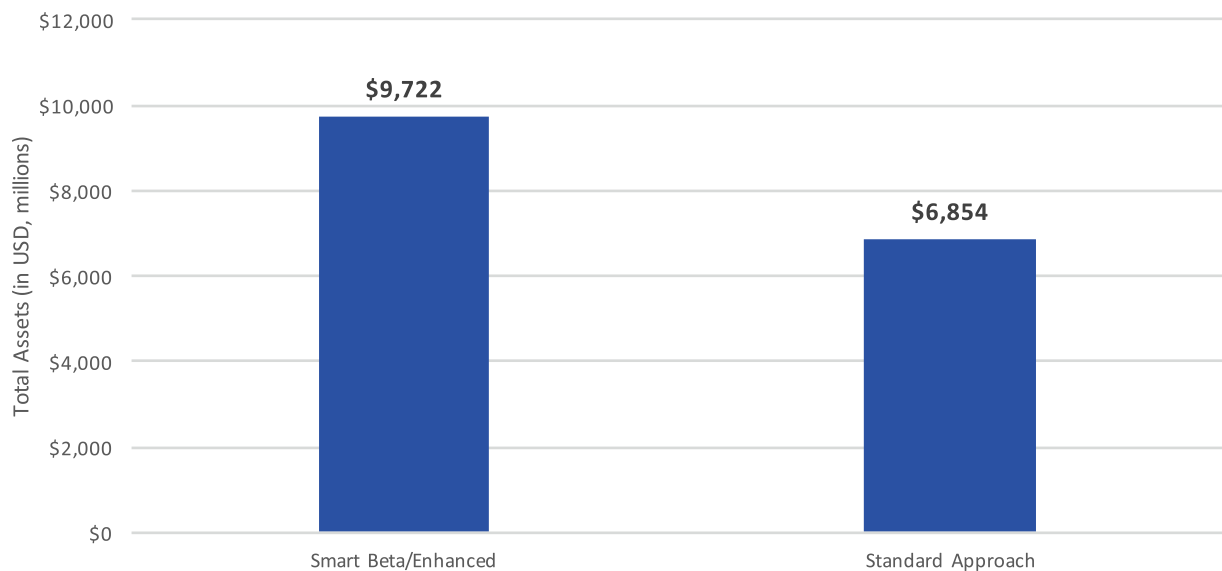


INVESTORS ARE BUILDING THEIR COMMODITY EXPOSURE WITH SMART METHODOLOGIES

In a recent analysis of broad-based commodity exchange traded funds (ETFs) listed in Europe, we noticed a very interesting fact in relation to where the bulk of commodity assets lie. According to our research, the majority of ETF-based commodity exposure within Europe is not focused on traditional broad-based commodity indices, but instead, is focused on 'enhanced' or 'smart-beta' strategies that are designed to perform differently to standard approaches to commodity investing.

We show the asset breakdown in Figure 1 below.

FIGURE 1: ASSETS IN EUROPEAN-LISTED BROAD-BASED COMMODITY ETFs



Source: Bloomberg, with data as of 18 April 2019. ETFs are sorted by trading on either a Western European or Eastern European exchange, not being exchange traded notes, not being leveraged, and being exposed to broad-based commodities as opposed to single commodities. **Historical performance is not an indication of future performance and any investments may go down in value. You cannot invest directly in an index.**

Note that smart beta is a broad term that can mean many different things within a diversified commodity investment. Often, this is manifested through the way in which the approach manages the risk of rolling one contract to the next, a process in which significant headwinds can develop if not managed properly. There are also approaches to diversified commodity investments that may weight individual commodities differently than the standard benchmarks—one example of this is an ‘equal-weighting’ approach.

We refer to a ‘standard approach’ because commodity indices are unique and are quite different to market capitalisation-weighted indices. In our experience, the Bloomberg Commodity Index is generally the most widely followed commodity index, but there are others such as the Thomson Reuters CRB Index and the S&P GSCI Index. The biggest differences across these indices are the specific commodities that are included and the way in which these individual commodities are weighted. The key similarity is that the way in which futures contracts transition from one position to the next is not sensitive to changes in the shape of the futures curves and is done on the same schedule regardless of any ‘contango’ or ‘backwardation’ conditions.

The reason Figure 1 stood out to us is that if you look at Eurozone equity or Eurozone fixed income ETF assets, the picture is entirely different. For example, in Eurozone equities, the delineation between smart-beta strategies and market capitalisation-weighted strategies is around \$6 billion versus more than \$130 billion, respectively ¹. Similarly, for Eurozone fixed income, the delineation between smart beta and more standard approaches is set at approximately \$2 billion versus over \$60 billion ².

WHAT IS DIFFERENT ABOUT COMMODITIES?

Clearly, there is a big difference between commodities and these other asset classes, and it seems like the ‘status quo’ bias has impacted equities and fixed income much more than it has impacted commodities. In all cases, the non-smart beta approaches were launched first and have been trading in the market longer.

It’s worth noting that commodity investors cannot hold many commodities directly, as the storage costs can quickly become significant. Futures represent a convenient way to generate exposure, however, trading futures does not generate perfect exposure to the movements in the spot prices of commodities due to ‘roll yield.’ This is the impact of moving between different commodity contracts, and it is related to the shape of the specific futures curve in question. If spot prices are below future prices, the curve will slope upward from left to right and there will be a negative roll yield (contango). In contrast, if spot prices are above future prices, the curve will slope downwards from left to right and there will be a positive roll yield (backwardation). For commodity investors, roll yield certainly adds complications. Could this be related to the strong demand for smart-beta commodity ETFs?

THE SHAPE OF COMMODITY FUTURES CURVES

Taking a step back, it makes sense to consider the general shape of commodity futures curves for different commodities. While some features are specific to the current environment (May 2019), others relate more to general patterns of behaviour associated with certain commodities. Here is a concise breakdown of the different commodities.

¹ Source: Bloomberg, with data as of 18 April 2019. ETFs are sorted by trading on either a Western European or Eastern European exchange, not being exchange traded notes, not being leveraged, and being exposed to broad-based Eurozone equities as opposed to equities of single countries.

² Source: Bloomberg, with data as of 18 April 2019. ETFs are sorted by trading on either a Western European or Eastern European exchange, not being exchange traded notes, not being leveraged, and being exposed to broad-based Eurozone equities as opposed to equities of single countries.

Energy-focused commodities

Oil receives the bulk of attention within the energy complex with the most widely followed contracts tracking Brent crude oil and West Texas Intermediate. As of May 2019, both of these commodities exhibit backwardation, indicating that supply is viewed to be a bit tighter, but with the expectation of supply outpacing demand in the future.

'Seasonality' is also important to consider when analysing commodity futures curves. Gasoline, natural gas, and even heating oil tend to exhibit this property in varying degrees. This can result in upward and downward movements in futures curves, indicating that market participants are predicting changing supply and demand dynamics as different future months go by.

Industrial metals

Aluminium, lead, copper and nickel are showing contango as of May 2019, meaning that spot prices are below future predicted prices. The curves appear to have smooth slopes, indicating little in the way of seasonality.

Tin and zinc, on the other hand, exhibit backwardation at the present time, which tells us that spot supply might be tight, but in the future more supply could be coming online relative to demand.

Precious metals

For gold, the futures curve exhibits contango as of May 2019, suggesting that demand for gold could increase in the future, possibly due to higher inflation or greater geopolitical risks.

Silver, platinum and palladium—which all have industrial uses—are mixed. The silver and platinum curves are in contango, whereas palladium is in slight backwardation. Palladium had a remarkable upward price move during 2018, however, with a bit of lead time users can shift their demand from palladium to platinum (or vice versa) if the price of one metal is rising quickly relative to the price of the other. Perhaps this is reflected in the shape of palladium's futures curve?

Agricultural Commodities

There are many agriculture commodities, so we won't discuss each in detail, yet seasonality also has an impact here. At present, corn, cotton, and sugar show an undulating pattern of seasonality in their futures curves. However, it would be incorrect to assume that every agricultural commodity is always reflecting these types of patterns. Coffee, at the present time, exhibits a smoother trend of contango, for example.

Rather than trying to draw too many conclusions from the shape of futures curves at a single point in time, what we would emphasise here is that the futures curve of each commodity can and does change over time. This means that the cost of rolling commodity futures from one month to the next will vary over time and will also be quite different for each commodity. Therefore, flexibility and responsiveness to changing conditions could be important in developing an effective investment strategy.

THE COST OF ROLLING COMMODITY FUTURES CONTRACTS

Figure 2 tracks the impact from roll yield on a rolling 3-year annualised basis using the Bloomberg Commodity Index exposure as the baseline.

FIGURE 2: ROLL YIELD FOR THE BLOOMBERG COMMODITY INDEX (ROLLING 3-YEAR ANNUALISED BASIS)



Source: Bloomberg, with period from 31 March 1991 to 31 March 2019. Includes backtested data. The Bloomberg Commodity Index began live calculation on 14 July 1998. **Historical performance is not an indication of future results and any investments may go down in value. You cannot invest in an index.**

We can see that roll yield is not constant, and that it fluctuates significantly. It is impacted by the shapes of the different commodity curves. As of January 2019, the Bloomberg Commodity Index represented exposure to 23 different commodities with each having an influence through the shape of its specific futures curve. This influence is proportionate to the weight of that commodity within the broader index.

Note that various factors influence the shape of futures curves. A useful starting point could be thinking in terms of the supply/demand balance for each commodity. The futures curve is essentially reflecting the market's expectations as to how this will evolve across time. Using oil as an example, if the market thinks that oil is currently in plentiful supply, then one could see a lower spot price. If oil was to 'normalise' in the future, supply would diminish relative to demand, and this would cause prices to rise. One would see an upward slope in the futures curve, which is known as contango.

A problem for investors: roll yield has frequently been negative

Figure 2 demonstrates the investor experience of late—negative roll yields have been a headwind. The fact that this is well known is helpful to the enhanced commodity approaches, which as we noted earlier, often seek to manage this particular risk.

There are two distinct approaches to managing this risk, and both use the Bloomberg Commodity Index as a base from which individual commodity exposures are drawn.

- + The UBS Bloomberg CMCI Composite Index (CMCI): This index recognises that neither contango or backwardation are constant features of the futures curve of any commodity, and spreads its futures contract exposures out across the futures curves as opposed to selecting a single contract. This is beneficial because if a particular commodity is experiencing contango for example, then the further one takes their exposure from the front-month, the less of a negative impact from the roll yield.

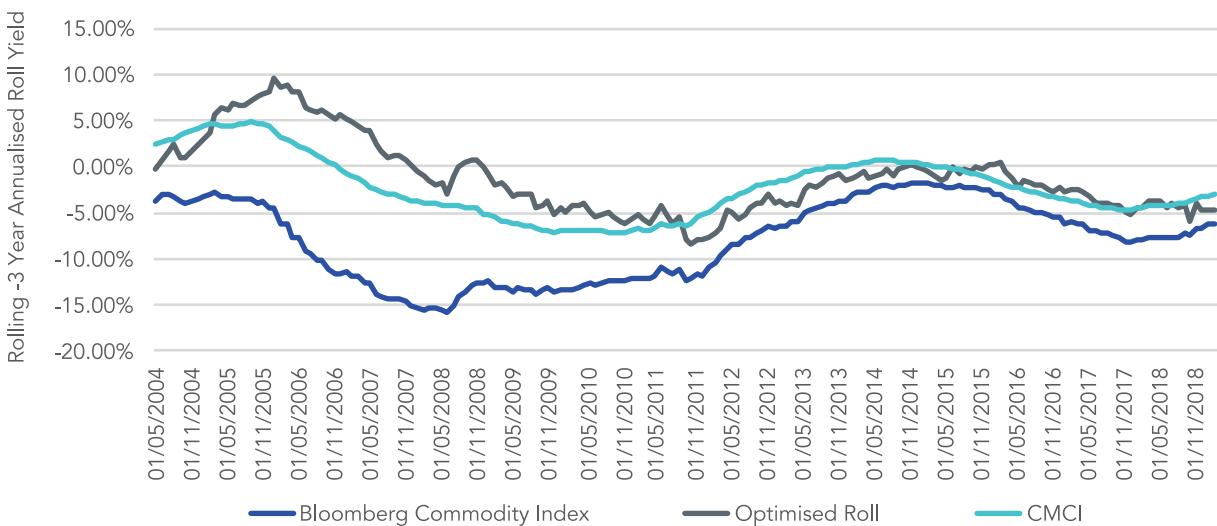
- +

The Optimised Roll Commodity Index (Optimised Roll): This index evaluates the shape of each commodity curve every month and seeks to adjust exposure across the different curves to minimise headwinds. Critically, instead of spreading exposure across different tenors, this strategy selects one tenor based on a monthly snapshot of the respective curve. If we assume that the shape of the futures curve across different commodities is changing all the time, this strategy makes sense. For example, if a commodity enters backwardation, it makes sense to maximise the positive roll yield to the extent possible. In contrast, if a commodity enters contango, it makes sense to minimise the negative headwind.

Impact on roll yield

Do these strategies actually mitigate the impact of negative roll yield though? We explore this question in Figure 3.

FIGURE 3: BEHAVIOUR OF ROLL YIELDS ACROSS DIFFERENT VERSIONS OF THE BLOOMBERG COMMODITY INDEX



Source: Bloomberg, with period from 31 March 1991 to 31 March 2019. Includes backtested data. The Optimised Roll Commodity Index began live calculation on 30 July 2013. The UBS Bloomberg CMCI Composite Index began live calculation on 1 January 2007. **Historical performance is not an indication of future results and any investments may go down in value. You cannot invest in an index.**

What Figure 3 indicates is that on a rolling 3-year annualised basis, it is clear that both the Optimised Roll and the CMCI lessened the negative impact from roll yield. However, it is not clear from Figure 3 whether either the Optimised Roll or the CMCI is always the clear leader in this regard. Both have traded leadership in mitigating the impact of a negative roll yield during different rolling 3-year annualised periods.

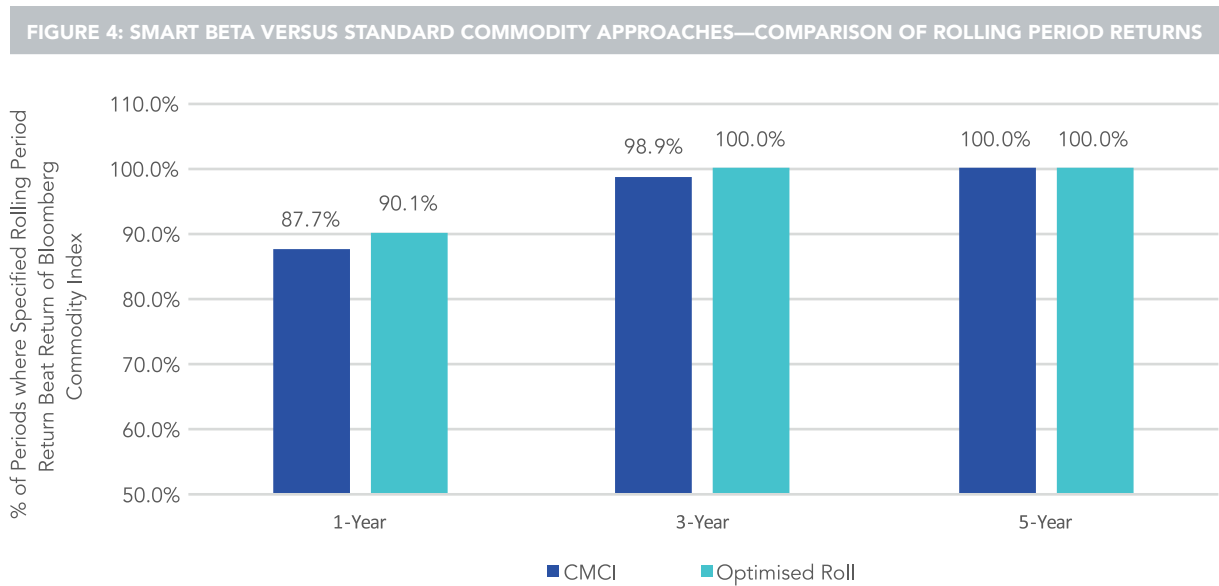
DOES SMART BETA OUTPERFORM THE STANDARD METHODOLOGY?

For those that follow the commodities markets closely, the discussion of roll yield is important. However, many investors will simply be keen to know whether smart beta or standard commodity approaches have produced the best results over time.

To address this question, we constructed the following framework:

- + We took the CMCI and the Optimised Roll—two distinct smart beta options that both start with the Bloomberg Commodity Index as a base from which commodity exposures are determined.
- + We then compared rolling-period returns over 1-year, 3-year and 5-year periods. Our goal was to determine the percentage of rolling periods from each respective time period where the smart-beta approach outperformed the standard approach.

The results of this analysis are presented in Figure 4.



Source: Bloomberg, with period from 31 March 1991 to 31 March 2019. Includes backtested data. The Optimised Roll Commodity Index began live calculation on 30 July 2013. The UBS Bloomberg CMCI Composite Index began live calculation on 1 January 2007. **Historical performance is not an indication of future results and any investments may go down in value. You cannot invest in an index.**

Figure 4 shows that in the 3-year and 5-year analysis both of the smart-beta approaches to broad commodity exposure beat the returns of the Bloomberg Commodity Index in nearly every period, making a clear case for the use of these approaches. The rolling 1-year returns exhibited the greatest variability, yet this is to be expected as one tends to see the largest fluctuations in data over the shortest period. However, in this case, both the CMCI and the Optimised Roll still outperformed the standard Bloomberg Commodity Index in more than 87% of rolling 1-year periods.

Commodity investors are wise to allocate capital to smart-beta approaches

In conclusion, it is clear to us that ETF investors have realised the benefits that smart beta, or enhanced commodity strategies offer. The primary benefit, in our view, is the capability to show some sensitivity to roll yield, a factor that can have a substantial negative impact on returns. In this unique asset class, the newer, non-standard strategies offer a solution to a fundamental problem, and asset flows reflect this.

IMPORTANT INFORMATION

Communications issued in the European Economic Area (“EEA”): This document has been issued and approved by WisdomTree Ireland Limited, which is authorised and regulated by the Central Bank of Ireland.

Communications issued in jurisdictions outside of the EEA: This document has been issued and approved by WisdomTree UK Limited, which is authorised and regulated by the United Kingdom Financial Conduct Authority.

WisdomTree Ireland Limited and WisdomTree UK Limited are each referred to as “WisdomTree” (as applicable). Our Conflicts of Interest Policy and Inventory are available on request.

For professional clients only. The information contained in this document is for your general information only and is neither an offer for sale nor a solicitation of an offer to buy securities or shares. This document should not be used as the basis for any investment decision. Investments may go up or down in value and you may lose some or all of the amount invested. Past performance is not necessarily a guide to future performance. Any decision to invest should be based on the information contained in the appropriate prospectus and after seeking independent investment, tax and legal advice.

This document is not, and under no circumstances is to be construed as, an advertisement or any other step in furtherance of a public offering of shares or securities in the United States or any province or territory thereof. Neither this document nor any copy hereof should be taken, transmitted or distributed (directly or indirectly) into the United States.

This document may contain independent market commentary prepared by WisdomTree based on publicly available information. Although WisdomTree endeavours to ensure the accuracy of the content in this document, WisdomTree does not warrant or guarantee its accuracy or correctness. Any third party data providers used to source the information in this document make no warranties or representation of any kind relating to such data. Where WisdomTree has expressed its own opinions related to product or market activity, these views may change. Neither WisdomTree, nor any affiliate, nor any of their respective officers, directors, partners, or employees accepts any liability whatsoever for any direct or consequential loss arising from any use of this document or its contents.

This document may contain forward looking statements including statements regarding current expectations or beliefs with regards to the performance of certain assets classes and/or sectors. Forward looking statements are subject to certain risks, uncertainties and assumptions. There can be no assurance that such statements will be accurate and actual results could differ materially from those anticipated in such statements. WisdomTree strongly recommends that you do not place undue reliance on these forward-looking statements.

Any historical performance included in this document may be based on back testing. Back testing is the process of evaluating an investment strategy by applying it to historical data to simulate what the performance of such strategy would have been. However, back tested performance is purely hypothetical and is provided in this document solely for informational purposes. Back tested data does not represent actual performance and should not be interpreted as an indication of actual or future performance.