

UBS Bloomberg CMCI

A new perspective on **commodity investments.**



UBS Bloomberg CMCI Index Universe

The UBS Bloomberg CMCI Index family was developed by UBS in cooperation with Bloomberg to track real performance of commodity prices via futures contracts as closely as possible. The UBS Bloomberg CMCI Index family is the first to use up to five constant maturities, as well as maintaining broad-based diversification across 27 commodity futures contracts.

The index thus reflects the complete pricing picture and all market opinions, whilst at the same time reducing negative roll returns. Daily rolling of futures contracts ensures that the average time-to-maturity of the futures contracts tracked in the UBS Bloomberg CMCI index is kept permanently constant, unlike most traditional indices that only roll once a month.

The UBS Bloomberg CMCI Index family covers the most economically significant exchange traded commodities. The UBS Bloomberg CMCI Index universe permits investments in three dimensions:

1. Broadly diversified commodity investment in the composite market that comprises several commodity sectors (via the UBS Bloomberg CMCI Composite TR Index).
2. Investment in a particular commodity sector (for example, the energy sector via the UBS Bloomberg CMCI Energy TR Index).
3. Targeted investment in a particular individual commodity (for example, coffee via the UBS Bloomberg CMCI Coffee TR Index).

Overview of the UBS Bloomberg CMCI Indices

Entire commodity sector	UBS Bloomberg CMCI Composite Index				
Energy & metals	UBS Bloomberg CMCI Energy & Metals Index				
Industry focus	Energy	Industrial metals	Precious metals	Livestock	Agriculture
Single commodity focus	WTI Crude oil	Copper	Gold	Live cattle	Wheat
	Brent Crude oil	Zinc	Silver	Lean hogs	Milling wheat
	Heating oil	Aluminium	Platinum		Corn
	Gasoil	Nickel			Soybeans
	Gasoline	Lead			Soybean meal
	Natural gas				Soybean oil
					Sugar
					Cocoa
					Coffee
					Cotton
					Rough rice

Source: UBS AG

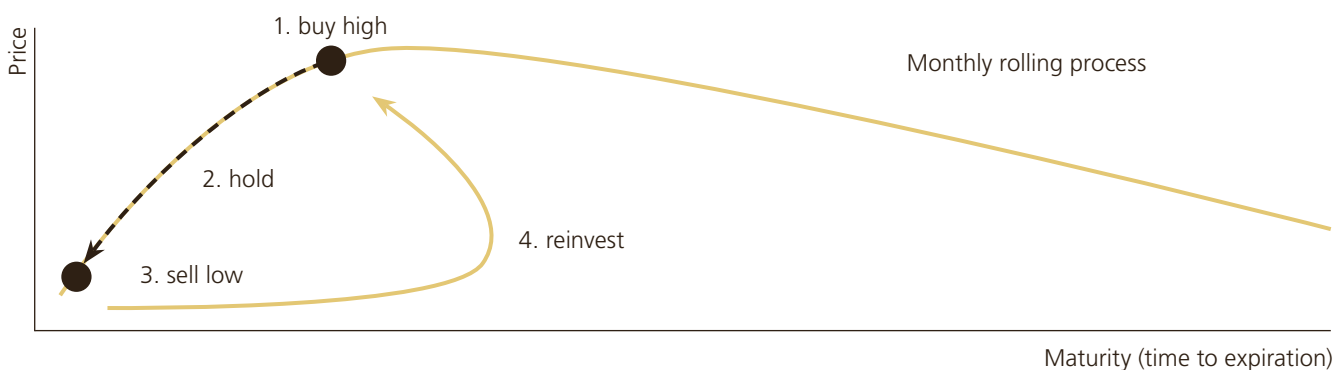
The CMCI rolling process in comparison

Traditional indices are generally invested exclusively in short-term futures contracts. They therefore only consider a small proportion of the commodity market. In a contango situation, for example at the short end of the futures curve, this limited method which excludes futures contracts with longer maturities will inevitably lead to negative roll returns.

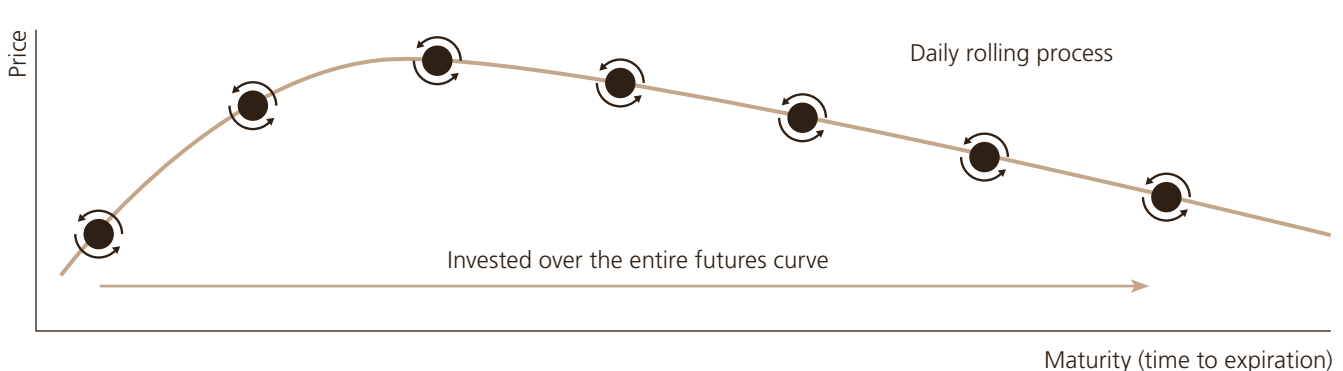
By contrast, the UBS Bloomberg CMCI index exhibits a substantially broader diversification across the available maturities. This allows the commodity market to be tracked more comprehensively. The effects of any negative roll returns at the short end of the futures curve can be reduced (and sometimes even moved into positive territory) by switching to other maturities. We can generalize from this to say that using all futures maturities reduces the direct impact of the short end of the futures curve.

(Source: Bloomberg, UBS AG)

Traditional commodity indices



UBS Bloomberg CMCI



Source: UBS AG, for illustrative purposes only

Futures markets: Contango vs. Backwardation

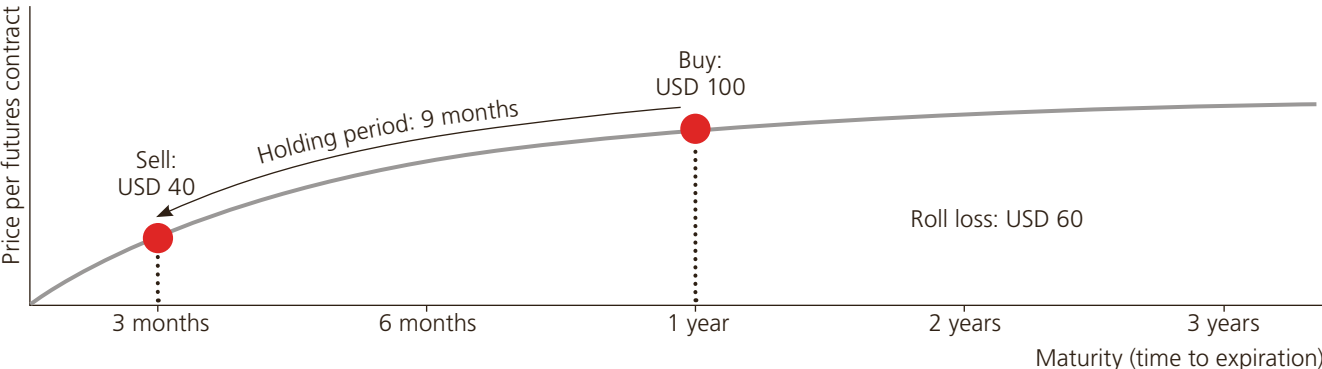
Contango example

'Contango' is the term for an upward sloping futures curve. In this constellation, futures prices for later delivery months are higher than spot prices. It is therefore more expensive to switch (roll) to the next shortest-dated contract, so that the number of futures contracts decreases after rolling. This negative roll effect (roll loss) leads to a decline in the participation rate for the relevant commodity index.

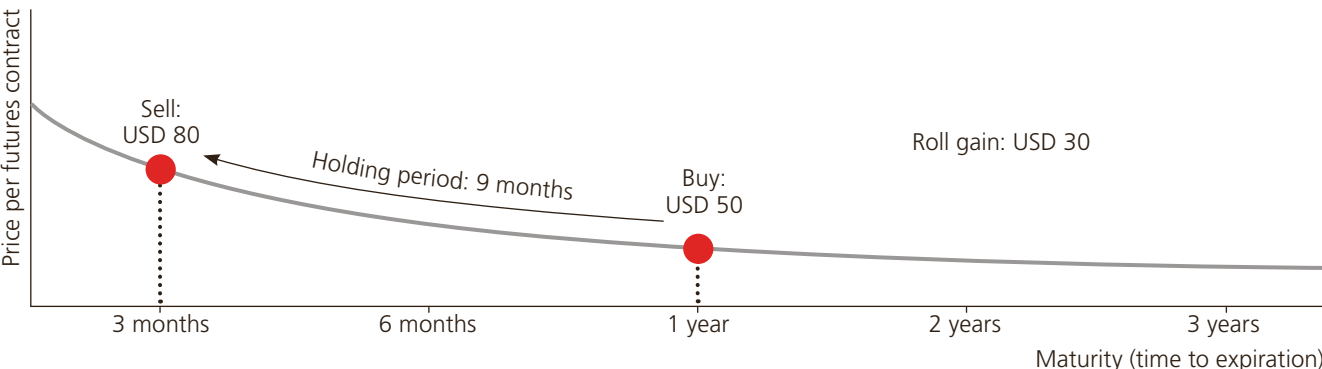
Backwardation example

'Backwardation' is the term used to describe a downward sloping futures curve. In this case, futures prices for later delivery months are lower than spot prices. It is therefore less expensive to switch (roll) to the next shortest-dated contract, so that the number of futures contracts held increases after the roll procedure. This positive roll effect (roll gain) leads to an increase in the participation rate of the relevant commodity index.

Contango: negative roll returns



Backwardation: positive roll returns



Source: UBS AG, for illustrative purposes only

Weighting procedure for UBS Bloomberg CMCI Index family

The UBS Bloomberg CMCI Composite Index represents the entire commodity market. The weighting of the commodity sectors and commodity components it contains is therefore of especial importance. (With a UBS Bloomberg CMCI Sector Index, by contrast, it is only the weighting of the commodity components that is brought to bear). The multi-staged weighting process places value both on the economic significance of the commodities under consideration and on high market liquidity. This is designed to track the economic significance of the individual components in the index as closely as possible and to ensure that the individual components of the index are actually tradable on a daily basis at the lowest possible transaction costs.



Sector weighting

Determining the sector weighting is the first stage in the weighting process. The UBS Bloomberg CMCI Composite Index covers all five sectors: energy, industrial metals, precious metals, agriculture and livestock. At sector level a higher weighting is assigned to economic significance (two thirds) than liquidity (one third).

Economic significance of the sector

The sector's economic significance is calculated by adding the relevant commodity sector's share in the consumer price index (CPI) (two thirds) and in the producer price index (PPI) (one third) and multiplying it by the sector's share of the gross domestic product (GDP) of the USA, EU and Japan.

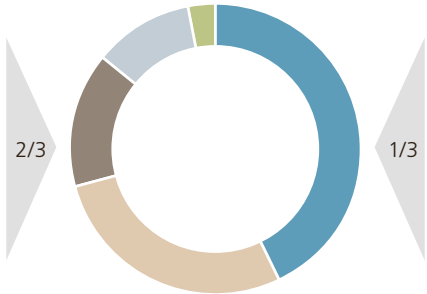
Sector liquidity

Sector liquidity is determined based on two futures market indicators reported on the relevant exchanges: open interest and market turnover for the relevant commodity sector, which are each given a 50% weighting. Open interest represents the nominal market value of the open/outstanding futures contracts in the relevant sector. Market turnover reflects the accumulated nominal volumes of futures contracts traded.

Stage 1: Sector weighting

Sector's economic significance

- USA (CPI (2/3) + PPI (1/3)) x GDP Weight
- EU (CPI (2/3) + PPI (1/3)) x GDP Weight
- Japan (CPI (2/3) + PPI (1/3)) x GDP Weight



Sector liquidity

- Sector open interest 50%
- Sector turnover 50%

Source: Bloomberg, UBS AG

Component weighting

The second stage of the process involves calculating the share of the individual commodities within their allocated sector through a process of component weighting. This determines for example the share of WTI crude futures in the energy sector. Economic significance and market liquidity are also considered at the component level. However, at this point a higher weighting is assigned to the component liquidity for each commodity (two thirds) than to the economic significance of the sector (one third).

Economic significance of components

The component's economic significance is determined by its share in the dollar value of global consumption for each individual commodity within the relevant sector. The greater the relative consumption of a commodity, the greater its share tends to be in the relevant sector.

Component liquidity

As at sector level, component liquidity is again determined by two parameters on the futures market: component liquidity is determined by the respective commodity's share in the sector's open interest (half) and the sector's market turnover (half) (see explanation above).

Stage 2: Component weighting

Economic significance of components
Share of components in the dollar value of global consumption



Component liquidity
Component's share in the sector's open interest 50%
Component's share in the sector's turnover 50%

Source: Bloomberg, UBS AG

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