

# UBS CMCI WTI Crude Oil Index

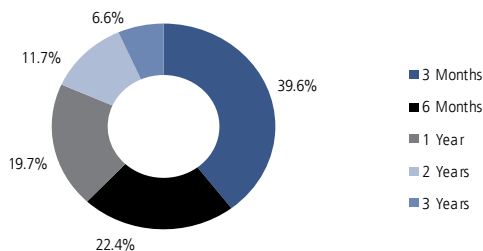
Factsheet, **April 2023**

## Index Characteristics

- Objective:** The UBS CMCI WTI Crude Oil Index is designed to provide enhanced beta exposure to the WTI Crude Oil by applying the daily rolling mechanism and tenor-diversification principle from the CMCI Methodology to its underlying components.
- Methodology:** The CMCI was developed and launched by UBS in 2007 as a state-of-the-art broad commodity index. It features a weighting engine that allocates across a variety of commodities. For each underlying, exposure is distributed across the liquid tenors. Its methodology can be applied to any number of individual commodities and commodity sectors.
  - Daily rolling: Small proportions of the underlying futures are rolled daily to avoid the potential problems associated with the punctual roll of traditional indices.
  - Tenor diversification: The index takes positions across the liquid part of the commodity futures curve to avoid concentration at the front of the curve.
- Rebalancing:** In accordance with the CMCI Methodology, the UBS CMCI WTI Crude Oil Index rebalances on a monthly basis back to target weights which are updated once per year. Monthly rebalancing helps to lower concentration risk, but does not eliminate it as weights are not capped intra-month.
- Enhanced benchmark:** These innovative features aim to reduce the effects of negative roll yield and maximize the tracking of spot commodity prices. The methodology does not guarantee complete mitigation of negative roll yield.

Source: UBS AG.

## Weights of constant maturities for WTI Crude Oil in the UBS CMCI composition



Source: UBS AG, Weights valid from first business day of August 2022 till first business day of August 2023.

## Higher risk – adjusted returns

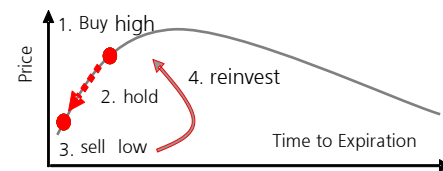
	UBS CMCI WTI Crude Oil index	S&P GSCI WTI Crude Oil Index	Bloomberg WTI Crude Oil Index
Bloomberg code	CTWCTR Index	SPGCCLTR Index	BCOMCLTR Index
Performance p.a. (%)	0.27	(9.70)	(8.21)
Volatility p.a.	31.67%	42.65%	40.45%
Sharpe Ratio	(-ve)	(-ve)	(-ve)

Based on daily closing prices from 01.01.2007 to 31.03.2023. Performance and volatility is based on Total Return indices, Sharpe Ratio is based on Excess Return Indices. Past performance does not indicate future results.

Source: Bloomberg, UBS AG

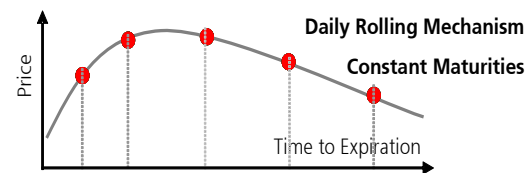
## Traditional Commodity Indices

- Limit exposure to short-dated futures contracts
- An upward sloping forward curve (“contango”) such as below puts investors in the costly position of “buying high, selling low” each time a future is rolled. This effect is known as negative roll yield.



## UBS CMCI

- Expands commodity investment beyond short-dated futures contracts
- Gives access to various constant maturities. In doing so, it can reduce the financial impact of rolling futures and may diminish volatility found in traditional indices



Source: UBS AG, For illustrative purposes only.

## Energy sector – Supply drivers

- The supply depends heavily on the discovery of new fossil reserves.
- Political uncertainty security issues and hurricanes keep supply tight and uncertain.
- A political example therefore could be seen during the decline of the energy prices, where the OPEC, in order to support the oil prices, reduced the oil production several times.

Source: Desk commentary.

## Energy sector – Demand drivers

- Global trends, including population growth, rising GDP trade expansion as well as globalization push up demand for energy of all kinds.
- Main positive driver – Global energy intensity of GDP is growing due to transport fuel demand and developing economies strengths.
- Limiting factors – High prices as well as ecological/environmental concerns (CO2 emissions) can have some demand destruction effect.

Source: Desk commentary.

## Performance since CMCI went live in 2007



Based on daily closing prices from 01.01.2007 to 31.03.2023. Total Return indices.

Source: Bloomberg, UBS AG

## Monthly performance - UBS CMCI WTI Crude Oil Index

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
<b>2007</b>	-6.20%	6.94%	4.88%	0.06%	-3.40%	6.45%	5.98%	-4.43%	10.03%	16.03%	-1.96%	7.81%	48.0%
<b>2008</b>	-1.7%	10.8%	-0.5%	12.0%	15.4%	11.1%	-11.4%	-6.1%	-12.7%	-29.0%	-15.8%	-13.2%	-41.5%
<b>2009</b>	-8.8%	-3.8%	8.6%	-1.3%	20.7%	4.8%	0.3%	1.0%	-4.2%	8.6%	2.2%	-0.8%	27.2%
<b>2010</b>	-8.2%	6.6%	4.1%	6.0%	-14.9%	-0.8%	4.2%	-5.8%	7.0%	0.0%	1.8%	8.2%	5.4%
<b>2011</b>	3.5%	1.8%	6.8%	5.0%	-7.5%	-5.8%	-0.1%	-8.3%	-11.0%	14.1%	6.9%	-0.5%	2.0%
<b>2012</b>	0.9%	7.4%	-2.7%	0.6%	-15.9%	-0.9%	2.6%	7.7%	-3.9%	-5.4%	2.6%	1.9%	-7.0%
<b>2013</b>	4.4%	-5.2%	3.9%	-3.8%	-1.1%	2.5%	6.9%	2.5%	-1.8%	-2.1%	-2.1%	3.5%	7.3%
<b>2014</b>	-2.8%	5.9%	0.1%	-0.2%	3.3%	4.2%	-4.6%	-1.2%	-4.8%	-8.6%	-15.3%	-14.9%	-34.6%
<b>2015</b>	-6.3%	4.8%	-8.1%	14.5%	-1.9%	-1.2%	-16.9%	-3.7%	-3.5%	2.9%	-8.5%	-10.7%	-35.1%
<b>2016</b>	-6.6%	-3.3%	6.8%	11.7%	5.1%	0.1%	-11.9%	4.3%	5.8%	-3.1%	4.4%	6.6%	19.0%
<b>2017</b>	-3.1%	0.0%	-6.1%	-2.9%	-2.7%	-2.9%	5.9%	-2.3%	4.7%	3.7%	4.4%	5.3%	3.1%
<b>2018</b>	5.7%	-4.2%	6.1%	5.8%	0.2%	5.8%	-2.5%	3.3%	6.4%	-7.8%	-20.7%	-8.0%	-13.1%
<b>2019</b>	14.3%	6.6%	2.4%	4.9%	-14.1%	7.8%	0.6%	-6.6%	-0.7%	1.7%	1.8%	8.8%	27.3%
<b>2020</b>	-10.8%	-10.3%	-30.3%	-18.1%	36.9%	6.1%	4.7%	5.7%	-6.7%	-9.8%	18.9%	5.4%	-22.7%
<b>2021</b>	5.3%	15.6%	-1.2%	7.2%	4.3%	9.2%	1.9%	-4.0%	8.5%	6.9%	-13.8%	12.4%	61.4%
<b>2022</b>	13.3%	6.3%	9.6%	3.3%	8.8%	-4.9%	-0.8%	-5.3%	-11.5%	10.1%	0.2%	-0.4%	28.6%
<b>2023</b>	-0.7%	-2.4%	-1.0%										-4.1%

Based on monthly closing prices from 01.01.2007 to 31.03.2023. Total Return indices.

Source: Bloomberg, UBS AG

### Key advantages

- CMCI indices are based on an intelligent rolling process that could reduce the negative roll effects of rolling commodity futures.
- Given CMCI indices invest across the liquid part of the futures curve, it could reduce the volatility of investment as compared to front month rolling indices.

### Principal risks

- CMCI indices may not fully reflect any sharp rallies or drawdowns in commodities as they tend to affect the near dated futures contracts more than the farther dated.
- While CMCI aims to reduce negative roll yield, in certain market scenarios it may underperform the traditional front month rolling indices.

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