

## Webinar Accumulators in commodity contracts - FAQ

**Is it also possible to run scenarios before entering the trade, to analyze different market circumstances?**

Yes, this possible.

**Can you see the maximum risk (MTM) over the lifetime of the trade?**

Yes, we provide this in our reports for both an individual deal and for a whole portfolio including accumulators and other deals.

**The unbiased calculation method of KYOS with the unique KyAccumulator model --> can this calculation also be fully audited by the auditors of our financial statements?**

Yes, that is certainly possible!

**Do you account for term structure dynamics in your simulator? Like a two-factor model for example?**

Yes, the model does take into account term structure dynamics. It is a multi-factor model. Depending on the commodity price dynamics it has 2 or 3 factors.

**Can't the accumulator be valued like a fixed-price collar?**

A collar is a related instrument. Both accumulators and collars can be valued with Monte Carlo simulations, and sometimes broken down into a combination of more standard options.

**Can your model also consider embedded FX exposure in the deal? For example, if the accumulation price is in EUR but the futures price is in USD or vice versa?**

Yes, that is possible.

**Could you discuss the benefits of using an accumulator vs using option contracts (i.e. selling a straddle) to benefit from market moving sideways? Could this work in energy (i.e. power) markets or will options be the preferred way?**

You are right that selling a straddle (call and put) is profitable when the market moves sideways. That is similar to an accumulator. One major difference is that the pay-off of the accumulator depends on the price development over a certain period of time, not only at a specific date. Furthermore, the loss of a straddle is unlimited when prices move far up or far down.

With an accumulator, there is actually a positive P&L if the market prices move up (a lot), and potentially a large negative P&L when the price drops significantly (double-up).

However, we would like to emphasize that an accumulator is mainly bought as a hedging tool. When combined with a spot sourcing strategy, then the combined strategy can lead to an attractive purchase price with limited risk.

### How does the KYOS Portfolio and Risk Management system handle position / risk reporting?

In the KYOS system we value accumulator deals separately but also include accumulators (and other deals) in portfolio risk reporting. As we showed in the webinar you can see the financial positions, cashflows, average price and market to market in the monthly reports.



		2020												2021													
Contract comm	Underlying comm	Tot	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Coffee Arabica	Contract	Coffee Arabica	Contract	LBS	333,693,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	underlying	Coffee Arabica	Accumulator	LBS	1,529,044	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Contract		LBS	-293,068,689	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

The monthly report shows the contract volumes (physical volumes, as well as the underlying financial exposures). The system offers various options to filter and display your portfolio. For example, you can split the aggregate numbers per deal as shown below.

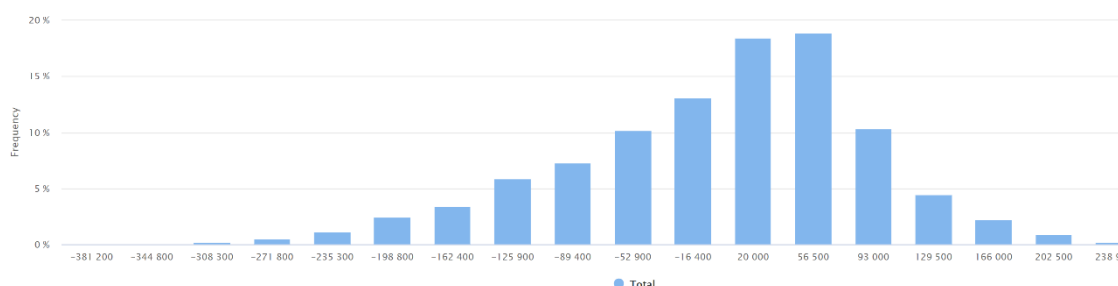
		2020												2021												
Contract comm	Underlying comm	Tot	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Coffee Arabica	Contract	Coffee Arabica	Contract	ID 214	LBS	66,138,600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				ID 215	LBS	66,138,600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				ID 216	LBS	66,138,600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				ID 217	LBS	66,138,600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				ID 218	LBS	66,138,600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				ID 249	LBS	1,000,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				ID 253	LBS	1,000,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				ID 254	LBS	1,000,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	underlying	Coffee Arabica	Accumulator	ID 19	LBS	332,759	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
				ID 2	LBS	1,196,285	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				ID 214	LBS	-66,138,600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				ID 215	LBS	-66,138,600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				ID 216	LBS	-66,138,600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				ID 217	LBS	-66,138,600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				ID 218	LBS	-66,138,600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				ID 219	LBS	17,636,960	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				ID 220	LBS	13,227,720	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				ID 221	LBS	4,150,391	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				ID 222	LBS	4,409,240	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				ID 249	LBS	-1,000,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				ID 250	LBS	800,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				ID 252	LBS	400,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				ID 253	LBS	-1,000,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				ID 254	LBS	-1,000,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Moreover, it is possible to include the accumulators in the risk physical report. This report takes budgets as a starting point and shows which volumes have been hedged, physically and financially. The accumulators are included in the financial hedges.



## Explanation of MTM reporting of the accumulator

The system reports the mark-to-market (MTM) per deal (single number) and a complete distribution of the future cash-flows.



## Example of system generated report

In the system generated report, we provide a table, which can be exported to excel or the data retrieved via an API:

1. Accumulator overview
  - a. Underlying future
  - b. Total pricing days
  - c. Elapsed pricing days
  - d. Remaining pricing days
  - e. Proportion of contract completed
2. Position overview
  - a. Accumulated position to date
  - b. Minimum and maximum volume
  - c. Expected position
3. Valuation overview
  - a. Mark to Market
  - b. Cashflow fixed leg
  - c. Cashflow floating leg
4. Price overview
  - a. Current market price
  - b. Highest
  - c. Lowest
  - d. Highest simulated price
  - e. Lowest simulated price
5. Daily output
  - a. Last accumulated volume
  - b. Daily minimum volume
  - c. Daily notional volume
  - d. Daily maximum volume
  - e. Numbers of accumulation days

In addition, we have the following graphs:

- f. Price distribution
- g. Daily expected position
- h. Total position distribution
- i. Mark-to-Market distribution
- j. Minimum, expected and maximum positions