



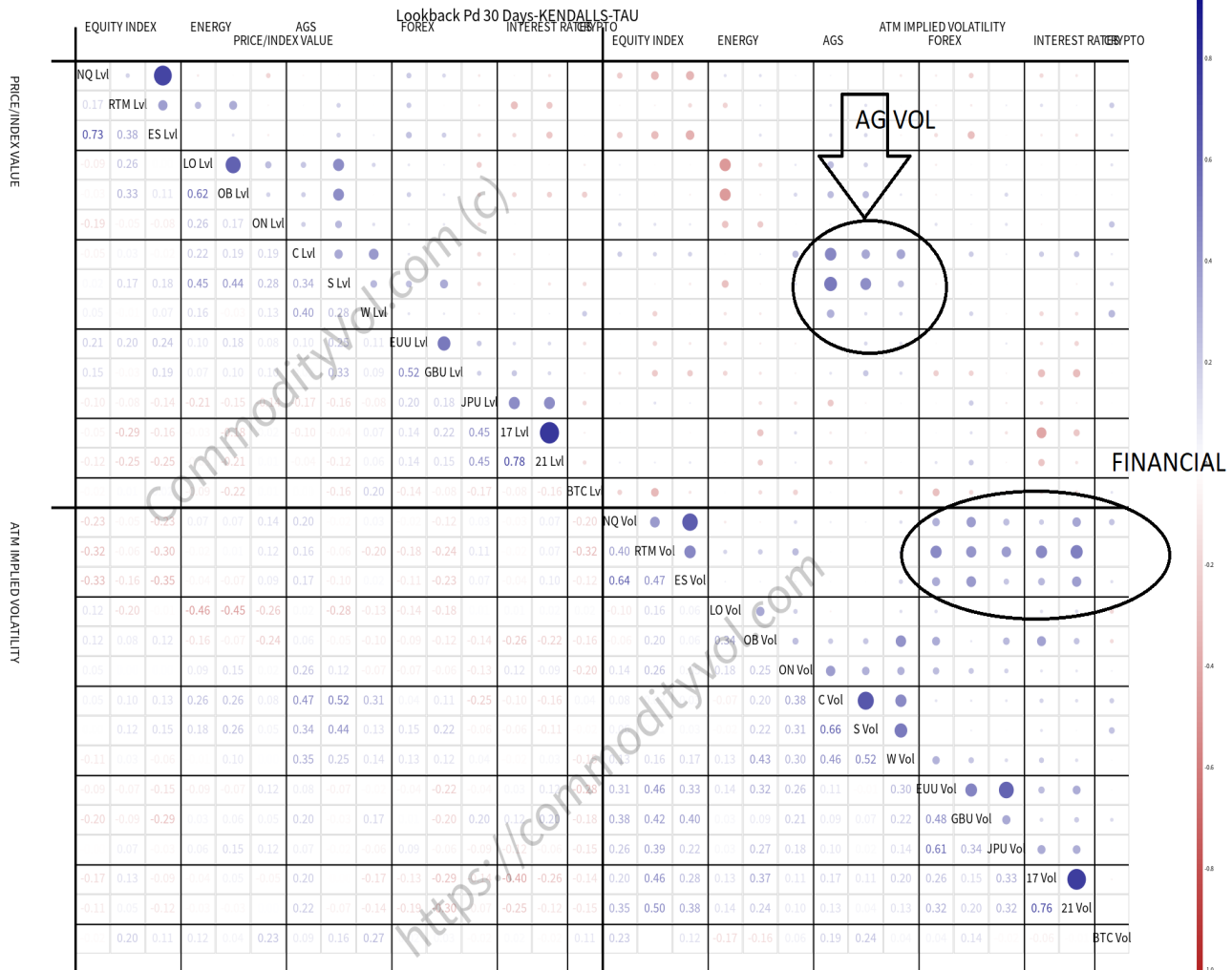
Welcome to our June 2023 Recap:

We are pleased to welcome you to our June 2023 Report.

June was witness to some grand theater on the World stage. The Nato/Russo/Ukrainian war continued with pictures and videos of destroyed tanks and armored vehicles. We then segued into an attempted coup/tantrum in Russia. We ended the month with rampages in France. You'd be forgiven if you thought that there might be some flight to safety. You'd be wrong. US Equity futures ended up dramatically. Exchange rate futures didn't seem to blink. Treasury futures in the US were down.

We return to our view of correlations. Looking at a relatively short time period, we see a strong futures price/vol correlation between the agricultural products (captioned AG VOL). We also see correlation in financial vols (equities, forex and interest rates - FINANCIAL). It looks like there are systematic factors at play here.

Higher Order Correlation Analysis
2023-06-30



Energy

Energy was a mixed bag. Brent and WTI were quiet. The trade seems to be reflective of late summer doldrums. Refined products did show some life, but the big winner was Natural Gas. It rallied almost 30%. Vol stumbled though. This is unusual. In most cases, a rally in one is associated with a rally in the other. We share a view of the natural gas volsurface. The overwhelming feeling one gets is that of quietude. The wings are not stretched. The termstructures are also quite subdued.

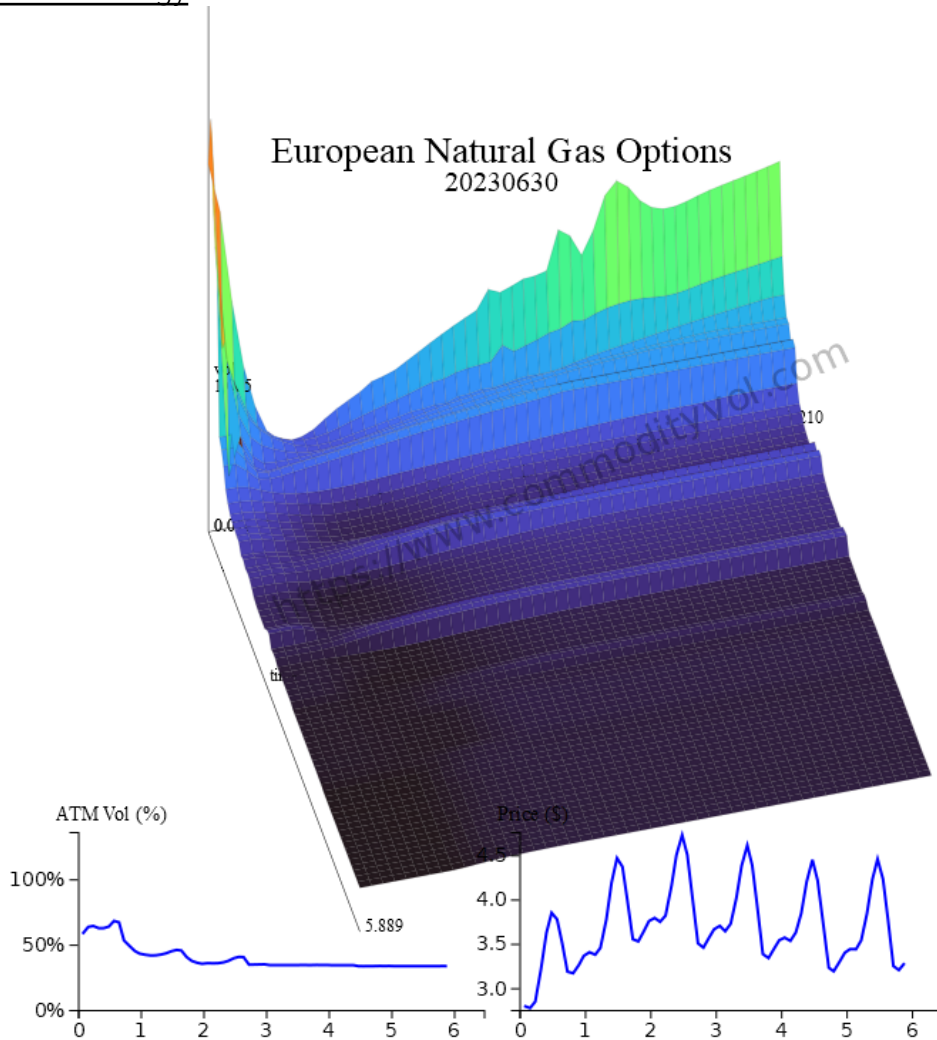
[Energy ATM](#)

[WTI Crude Detail](#)

[Brent Crude Detail](#)

[US Natty Gas Detail](#)

[Details Energy](#)



Equity Index

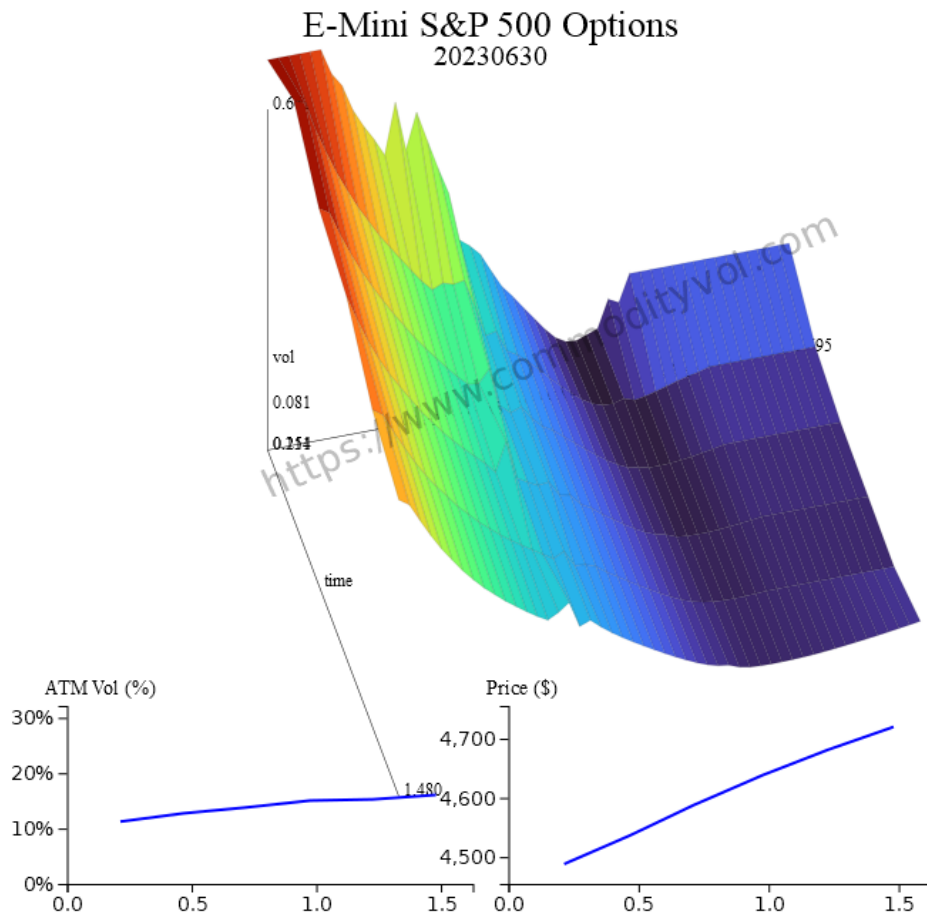
As we mentioned in the introduction to our weekly missive, indexes decided that it was rally time. The SP500 was up about 6%, Russell 7.5% and Nasdaq about 6%. As one might imagine, vol got chopped down. Considering the World political situation (on the precipice of World War III, riots in a major European country, and ballooning debt in the US), one would expect a modicum of risk aversion. One would be wrong! As in the energy case, we share a plot of the SP500 vol surface.

Vol is low, both near and far. The put wing is steep, but that's it.

[EquityIndex ATM](#)

[SP500 Detail](#)

[VIX Detail](#)



Interest Rates

Futures were down across the board. Vol was down across the board. We said goodbye to the venerable Eurodollar contract. Nothing seems like it matters. The banking system has skated past (it would seem) the duration hedging mess. There are constant rumblings about commercial real estate, but the retail market continues. Having been dour on the US economic prospects for a while, we will omit our usual gloom and doom.

[Interest Rates ATM](#)

[30 Year Bond Detail](#)

[10 Year Note Detail](#)

[SOFR](#)

Foreign Exchange

Crypto staged a massive comeback. BTC futures rallied 14% and Ethereum 4%. Crypto vol also rallied strongly. In the other currencies their prices rose, with the exception of the Yen. Vol fell for most the major currencies. Again, this a bit hard to understand, considering the signs of global turmoil, but, as they say, the market is forward looking!

[Foreign Exchange ATM](#)

[Yen Detail](#)

[Euro Detail](#)

[Bitcoin Detail](#)

[Ethereum Detail](#)

Metals

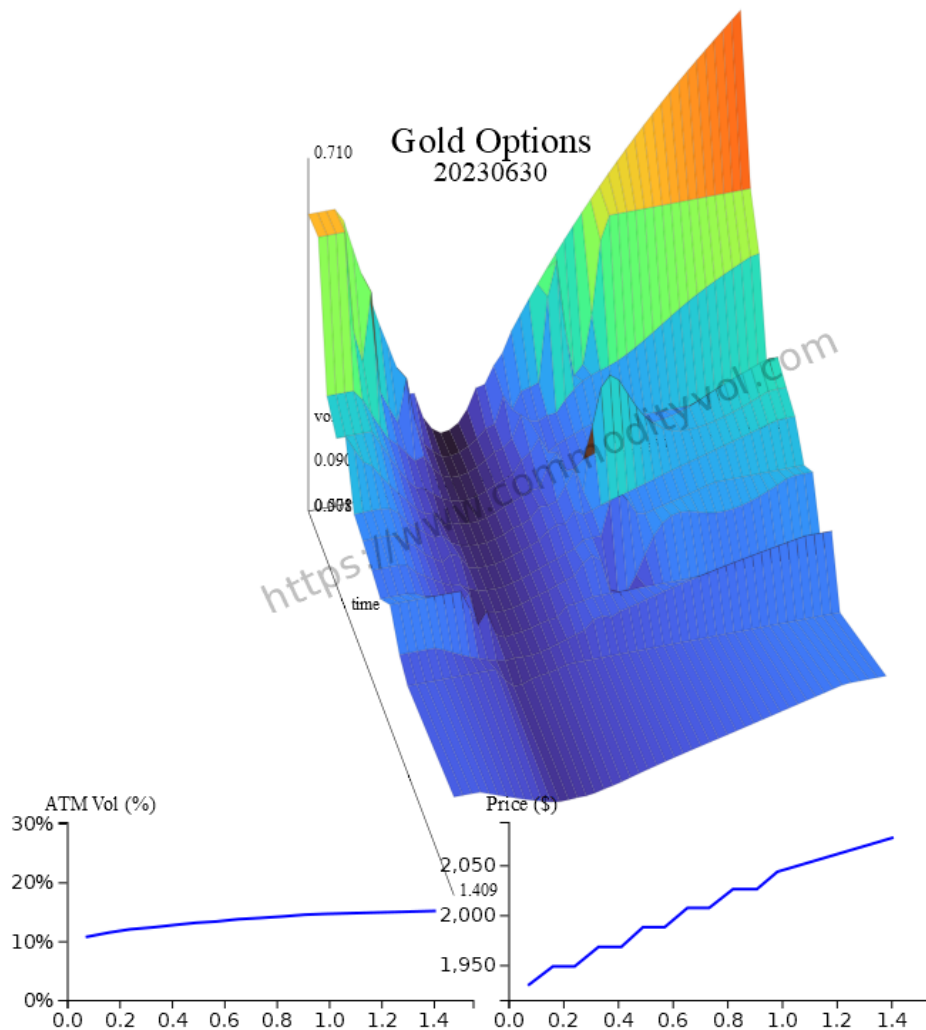
There is no joy in the metal complex again this month. Copper was up slightly, with the other metals falling. We show the gold vol surface as a way of illustrating both how low vol is (teens) and the degree to which the surface is roughly symmetric about the at the money strikes.

[Metals ATM](#)

[Gold Detail](#)

[Silver Detail](#)

[Copper Detail](#)



Agriculture

Agriculture was where the action was out of control (again-same as last month). Lean Hogs, Oats, Wheat, and the Bean complex rallied dramatically. Corn reversed direction. Vol exploded in Beans, Meal, and Corn (among others). It collapsed in Bean Oil, Milk products, and rice along with a few others. It is an interesting time as the interplay of market forces, weather, and yields conspire to move prices and vols.

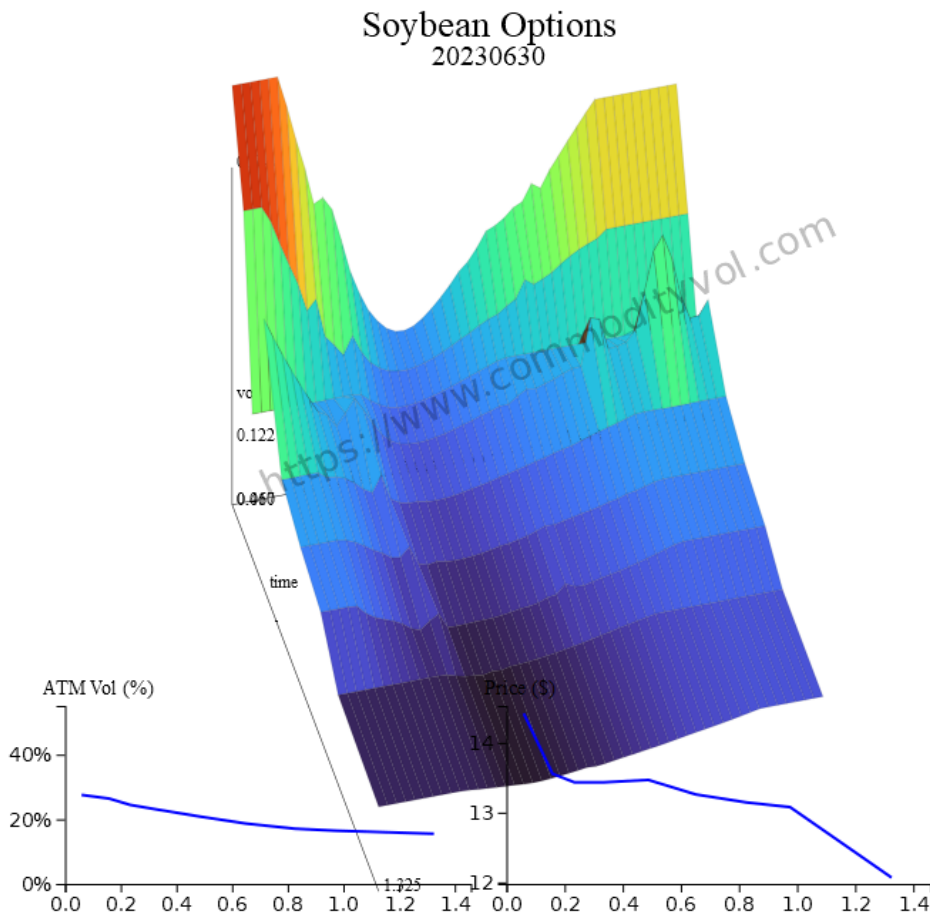
[Ags ATM](#)

[Wheat Detail](#)

[Corn Detail](#)

[Lean Hog](#)

[Ags Details](#)



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At The Money Roundup of Products

EquityIndex

exch/prod	desc	futures chng [%]	vol chng [%]
CBT/YM	E-Mini Dow	+1540.000 [+4.7%]	-0.020 [-16.8%]
CME/NQ	E-Mini Nasdaq	+864.750 [+6.0%]	-0.010 [-5.4%]
CME/RTO	E-Mini Russell 2000	+132.700 [+7.5%]	-0.025 [-12.8%]
CME/RTM	E-Mini Russell EOM	+116.500 [+6.5%]	-0.027 [-14.4%]
CME/ES	E-Mini S&P 500	+260.250 [+6.2%]	-0.009 [-7.2%]
CBOE/VIX	VIX Volatility Index	-2.060 [-13.2%]	-0.011 [-1.9%]

Energy

exch/prod	desc	futures chng [%]	vol chng [%]
NYMEX/BZO	Brent Crude Oil Margin	+1.130 [+1.5%]	-0.080 [-20.1%]
NYMEX/BE	Brent Euro Style	+0.630 [+0.8%]	-0.134 [-29.0%]
NYMEX/CVR	Chicago Ethanol(platts) Average Price	+0.052 [+2.1%]	-0.198 [-94.7%]
NYMEX/LO	Crude Oil	+0.540 [+0.8%]	-0.115 [-26.5%]
NYMEX/LN	European Natural Gas	+0.640 [+29.7%]	-0.094 [-13.9%]
NYMEX/E7	Henry Hub Financial Last Day	+0.640 [+29.7%]	-0.088 [-13.2%]
NYMEX/ON	Natural Gas	+0.640 [+29.7%]	-0.091 [-13.6%]
NYMEX/OH	NY Harbor ULSD	+0.133 [+5.7%]	+0.001 [+0.4%]
NYMEX/OB	RBOB	+0.109 [+4.5%]	-0.014 [-4.2%]

exch/prod	desc	futures chng [%]	vol chng [%]
CME/DK	Class IV Milk	-0.200 [-1.1%]	-0.039 [-35.6%]
CBT/C	Corn	-1.040 [-17.6%]	+0.064 [+20.4%]
CME/62	Feeder Cattle	+5.925 [+2.5%]	+0.009 [+6.8%]
CBT/KW	KC HRW Wheat	-0.025 [-0.3%]	-0.043 [-11.1%]
CME/LN	Lean Hog	+12.100 [+14.5%]	+0.029 [+16.8%]
CME/48	Live Cattle	+4.800 [+2.8%]	+0.013 [+9.3%]
CME/NF	Nonfat Dry Milk	-0.625 [-0.5%]	-0.010 [-13.1%]
CBT/O	Oats	+0.505 [+14.9%]	-0.053 [-11.8%]
CBT/14	Rough Rice	-2.495 [-14.3%]	-0.052 [-26.2%]
CBT/S	Soybean	+1.125 [+8.5%]	+0.056 [+24.8%]
CBT/06	Soybean Meal	+12.500 [+3.1%]	+0.070 [+32.1%]
CBT/07	Soybean Oil	+13.840 [+28.9%]	-0.075 [-17.6%]
CBT/W	Wheat	+0.402 [+6.6%]	-0.007 [-1.8%]

Metals

exch/prod	desc	futures chng [%]	vol chng [%]
COMEX/HX	Copper	+0.049 [+1.3%]	-0.042 [-16.7%]
COMEX/OG	Gold	-66.100 [-3.3%]	-0.030 [-22.1%]
NYMEX/PAO	Palladium	-168.700 [-12.1%]	-0.013 [-3.1%]
NYMEX/PO	Platinum	-96.900 [-9.6%]	-0.037 [-13.3%]
COMEX/SO	Silver	-0.967 [-4.0%]	-0.042 [-16.2%]

Forex

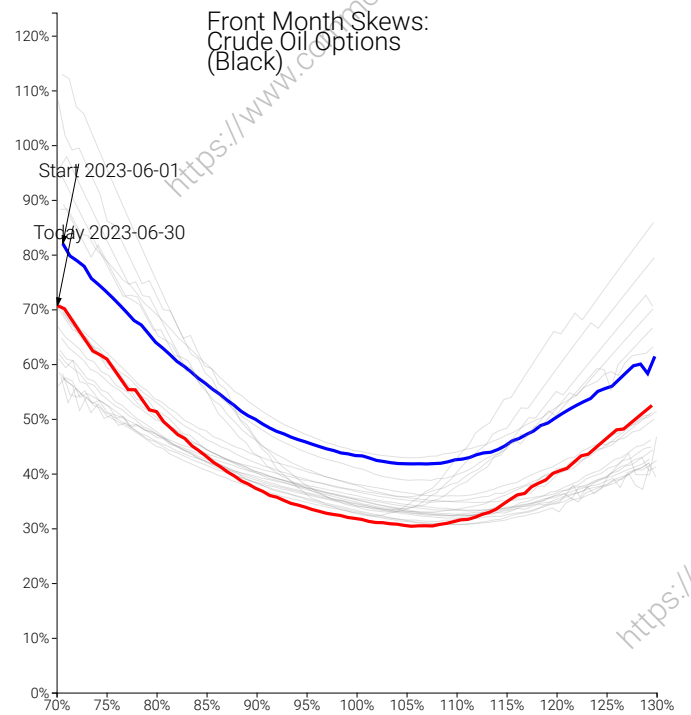
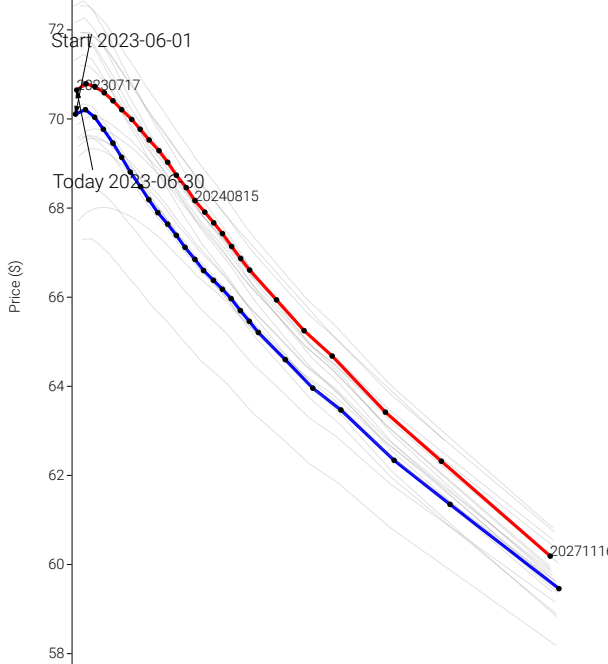
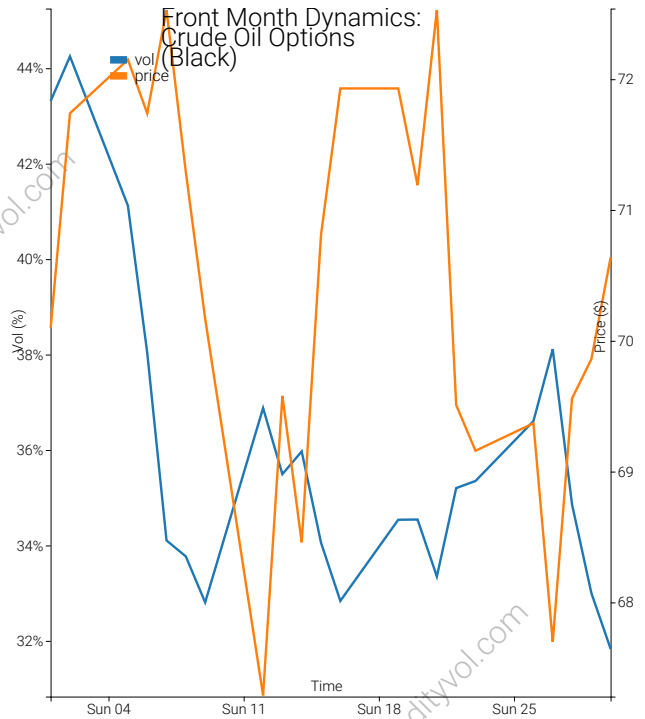
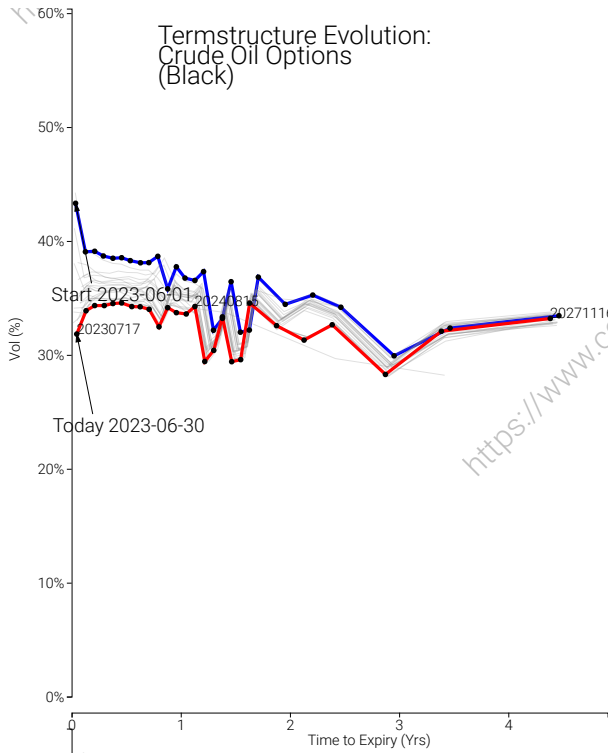
exch/prod	desc	futures chng [%]	vol chng [%]
CME/ADU	AUDUSD 2pmfix	+0.010 [+1.5%]	-0.001 [-1.3%]
CME/BTC	Bitcoin	+3755.000 [+13.9%]	+0.084 [+23.7%]
CME/CAU	CADUSD 2pmfix	+0.012 [+1.7%]	-0.013 [-18.9%]
CME/CHU	CHFUSD 2pmfix	+0.021 [+1.9%]	-0.007 [-9.8%]
CME/ETH	Ethereum Futures	+75.500 [+4.0%]	+0.036 [+9.6%]
CME/EUU	EURUSD 2pmfix	+0.018 [+1.7%]	-0.004 [-6.3%]
CME/GBU	GBPUSD 2pmfix	+0.017 [+1.3%]	-0.004 [-5.0%]
CME/JPU	JPYUSD 2pmfix	-0.000 [-2.9%]	+0.003 [+3.4%]
CME/MP	Mexican Peso	+0.001 [+1.3%]	-0.017 [-17.3%]
CME/NE	New Zealand	+0.007 [+1.2%]	-0.003 [-3.4%]

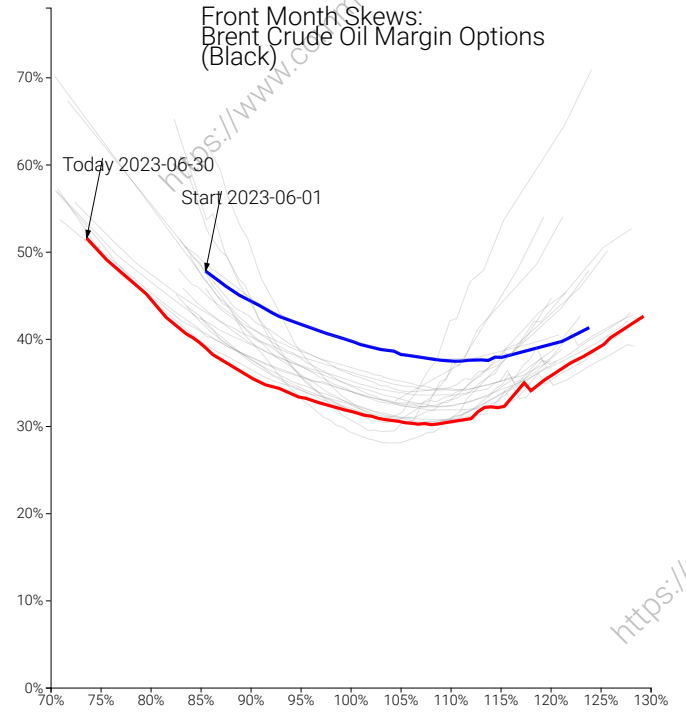
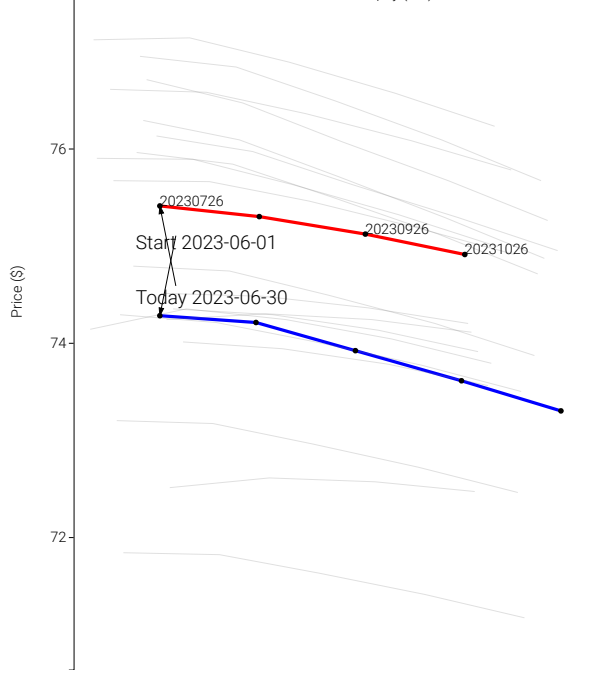
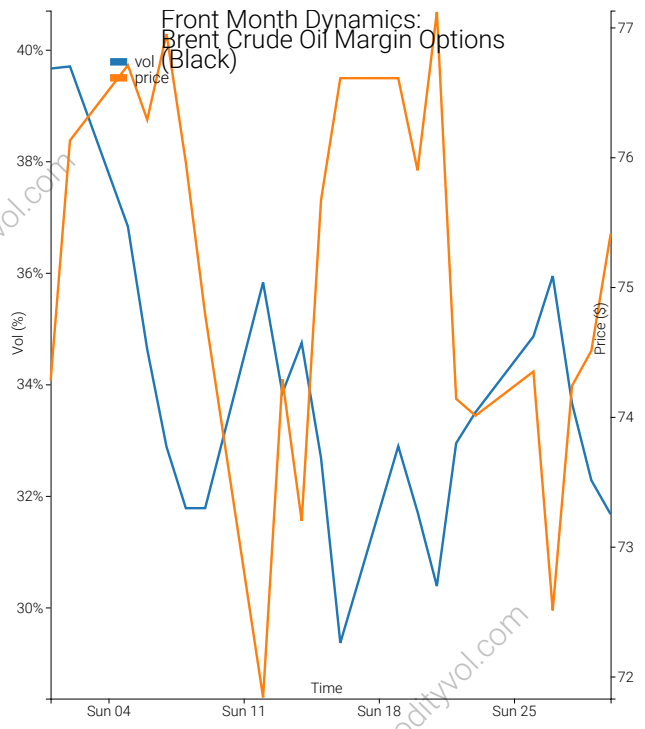
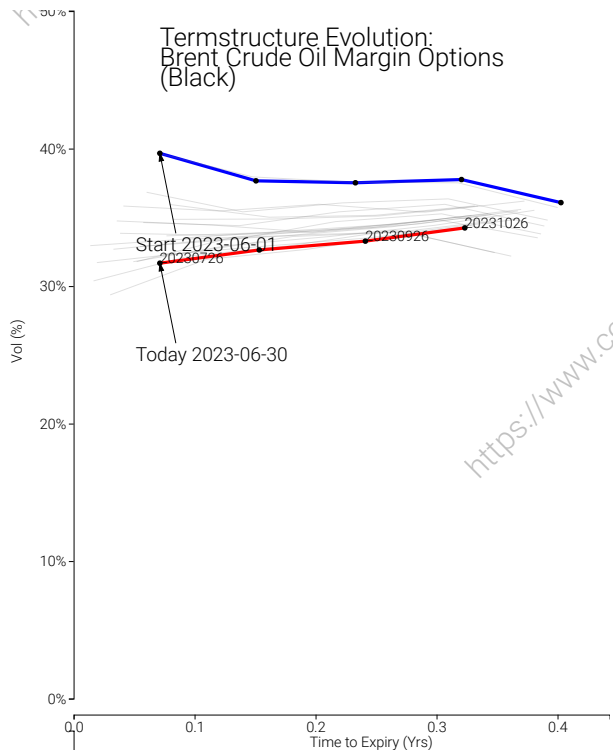
InterestRates

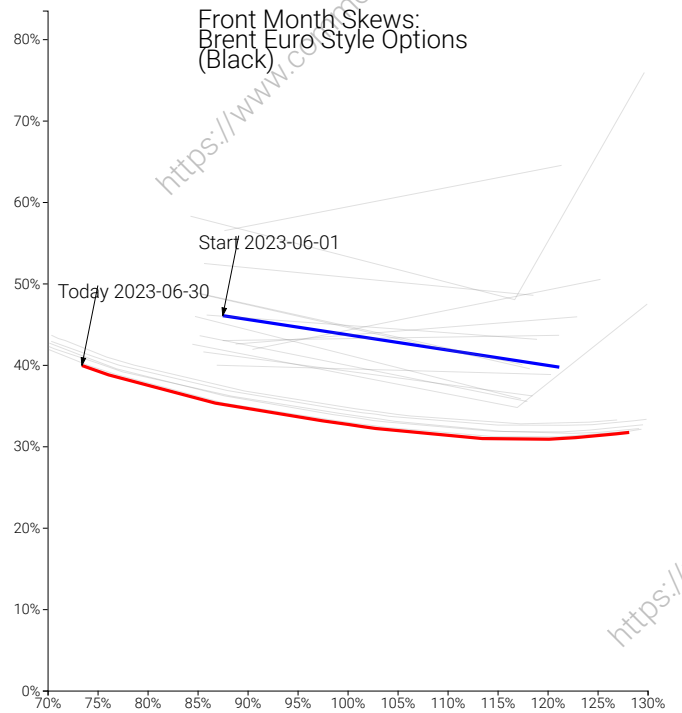
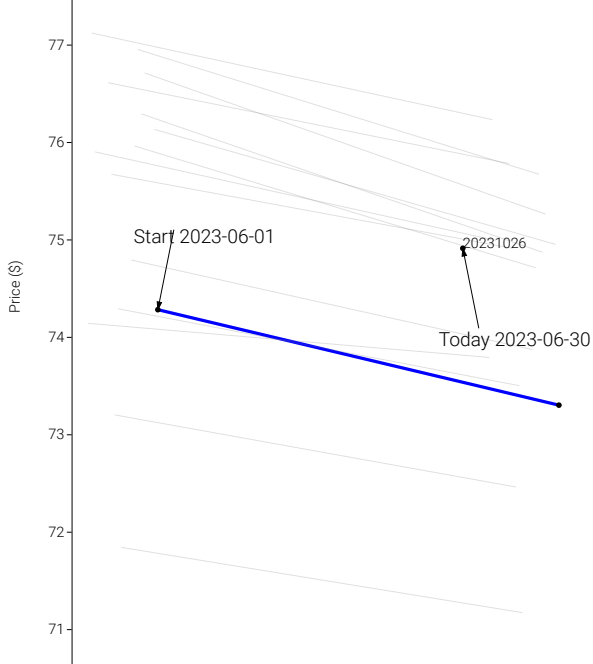
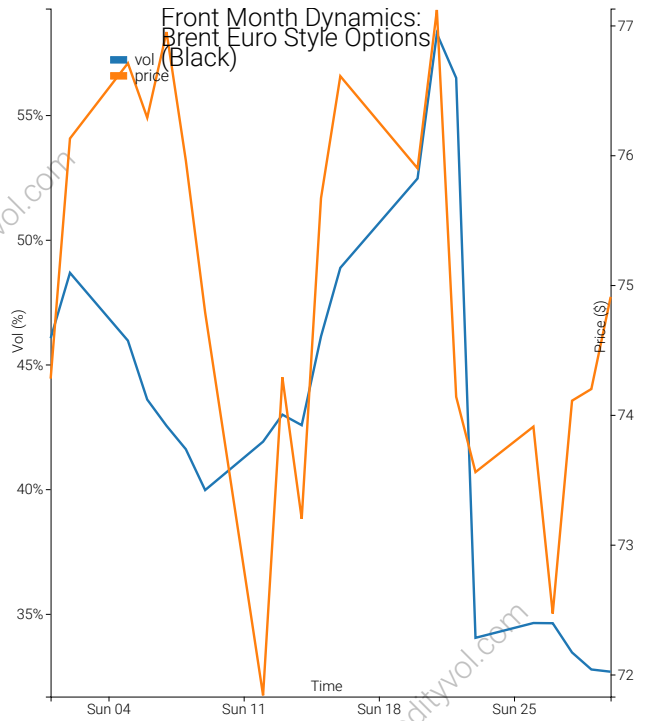
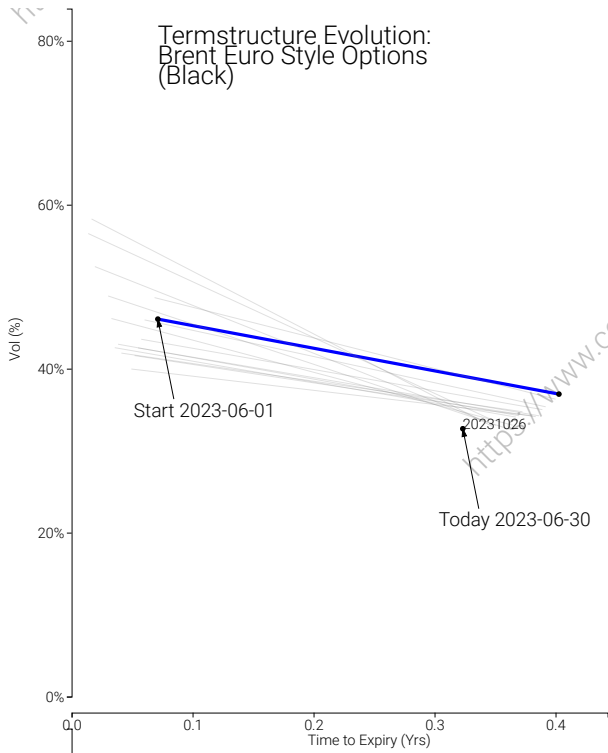
exch/prod	desc	futures chng [%]	vol chng [%]
CBT/26	2 YR US Treasury Note	-1.355 [-1.3%]	-0.006 [-18.7%]
CBT/25	5 YR US Treasury Note	-2.195 [-2.0%]	-0.011 [-18.1%]
CBT/21	10 YR US Treasury Note	-2.469 [-2.2%]	-0.014 [-17.6%]
CBT/17	30 YR US Treasury Bond	-1.938 [-1.5%]	-0.013 [-11.7%]
CME/ED	Eurodollar	0.000 [0.0%]	-0.003 [-43.9%]
CBT/UBE	Long Term US Treasury Bond	-1.250 [-0.9%]	-0.026 [-18.5%]
CME/S0	One-year Mid-curve Three-month SOFR	-0.545 [-0.6%]	-0.004 [-16.7%]
CME/SR3	Three-month SOFR	-0.157 [-0.2%]	-0.001 [-18.0%]
CME/S3	Three-year Mid-curve Three-month SOFR	-0.330 [-0.3%]	-0.003 [-17.8%]
CME/S2	Two-year Mid-curve Three-month SOFR	-0.545 [-0.6%]	-0.003 [-17.8%]

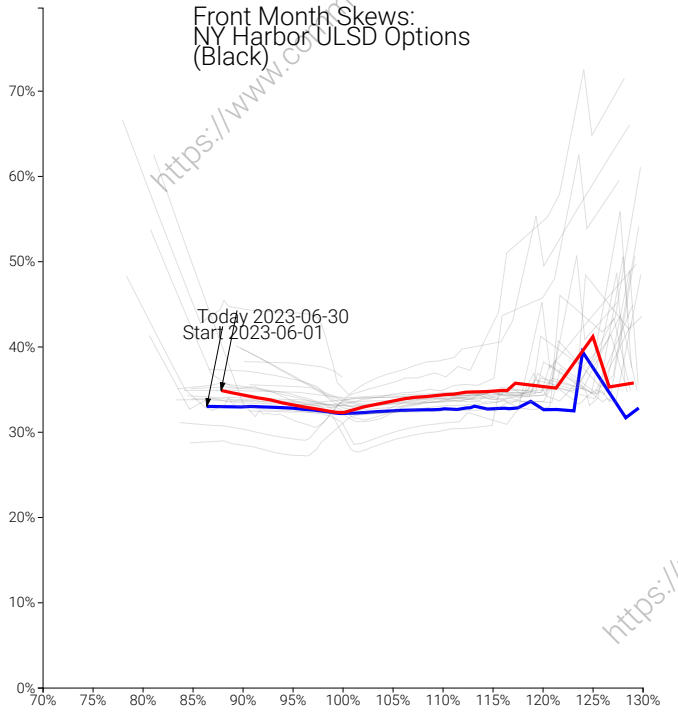
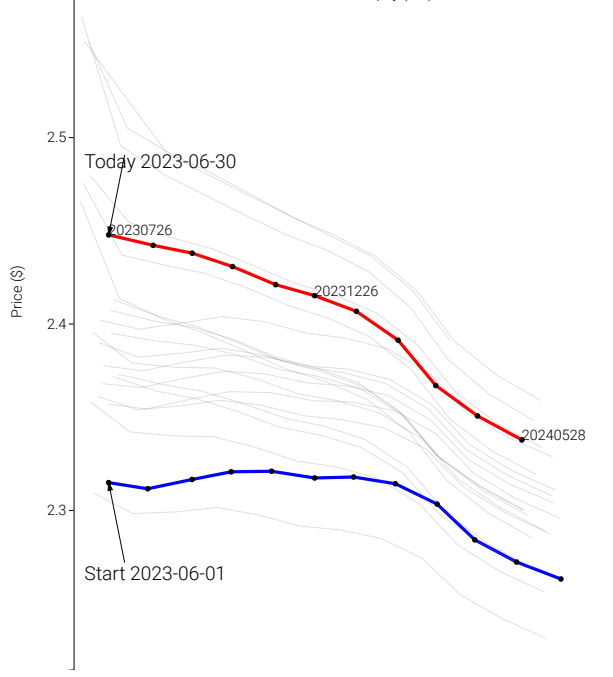
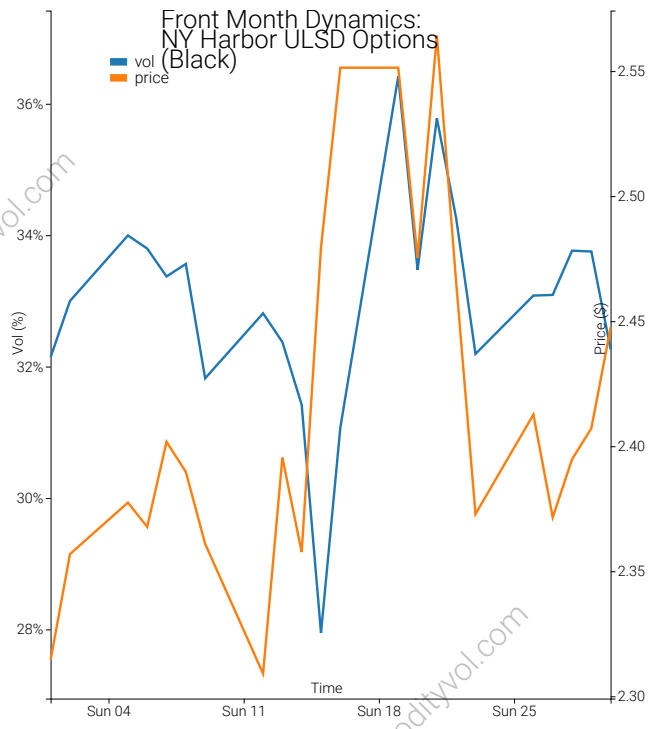
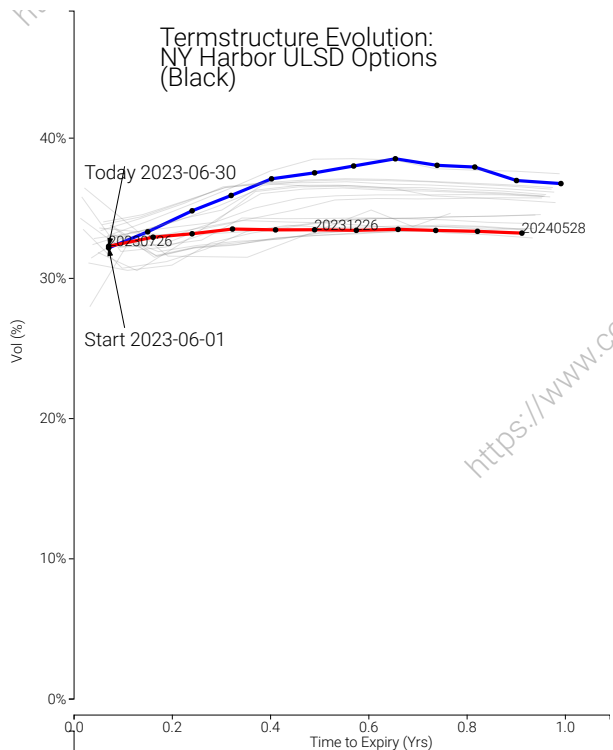
Skews, Termstructures and more

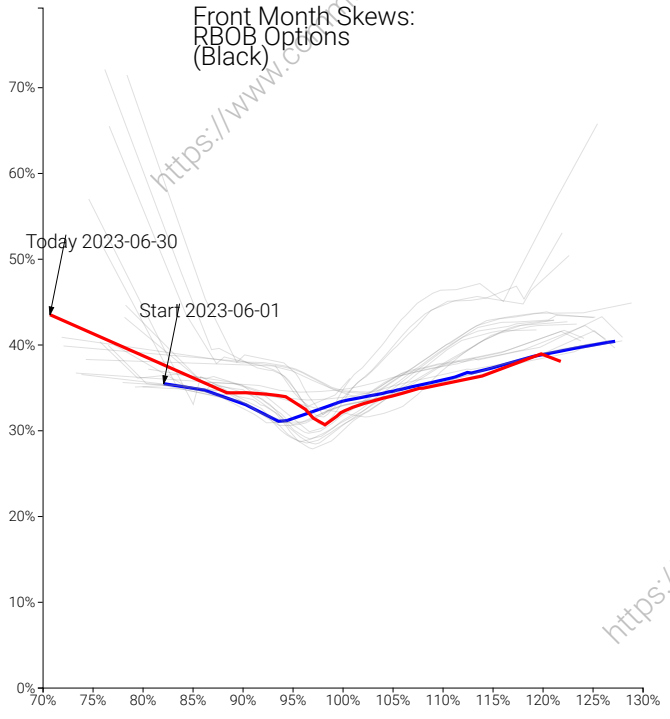
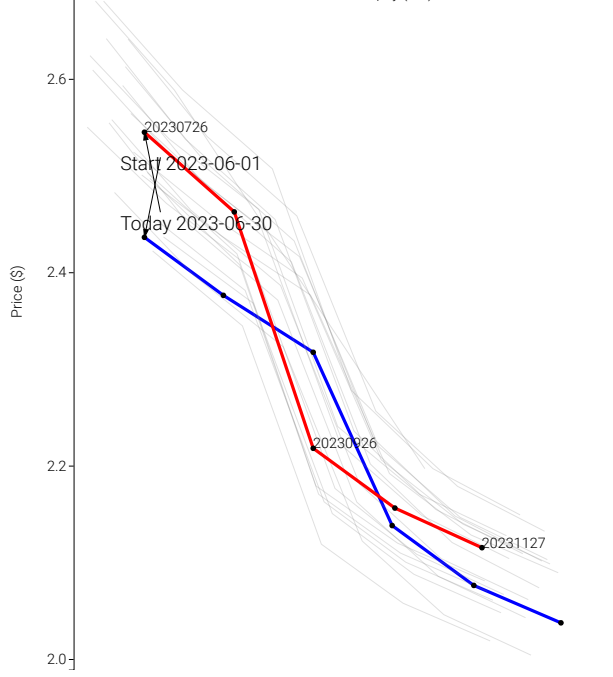
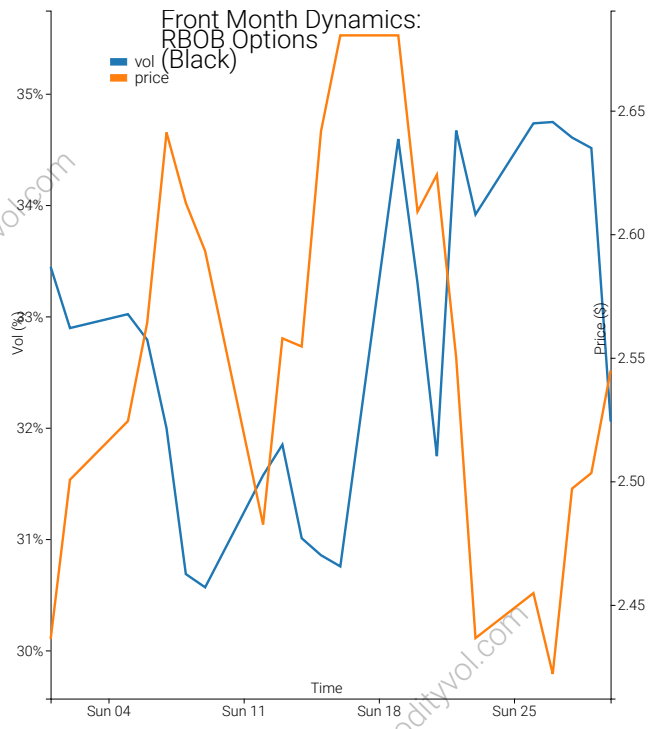
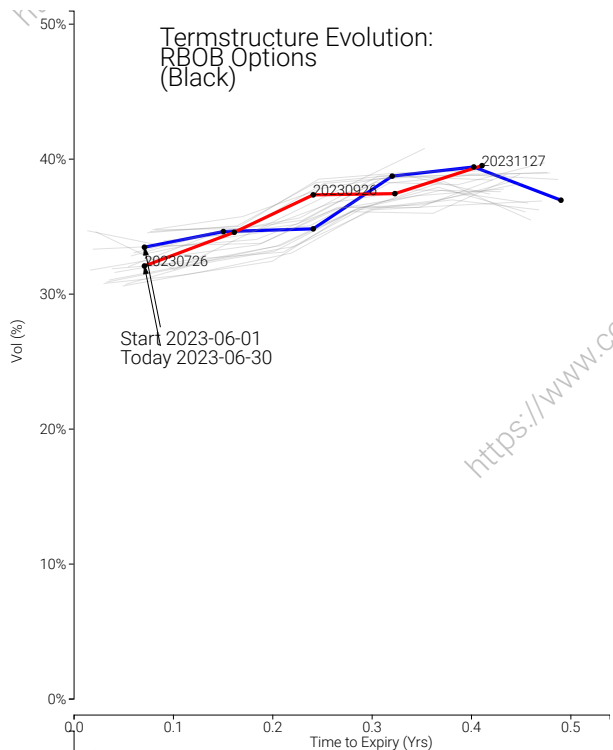
Energy: Crude and Derivatives

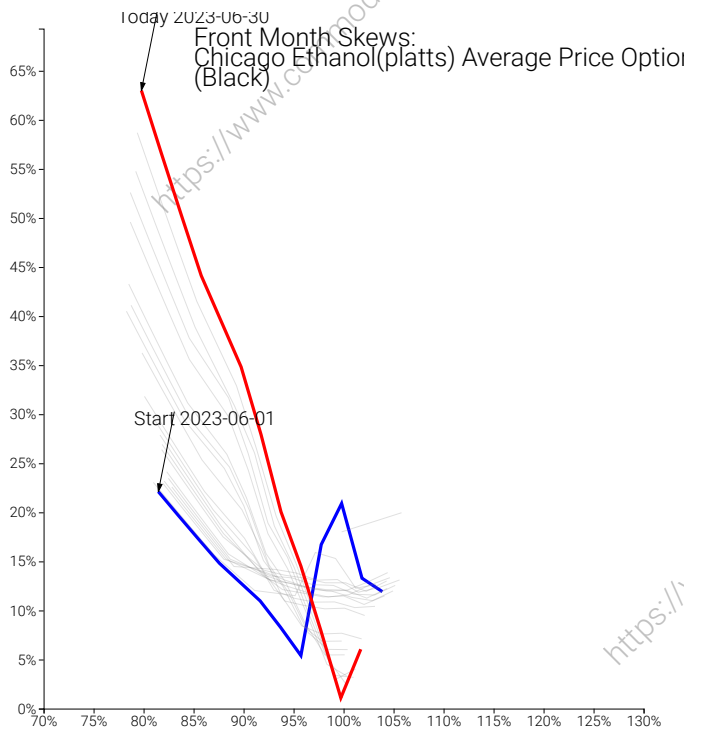
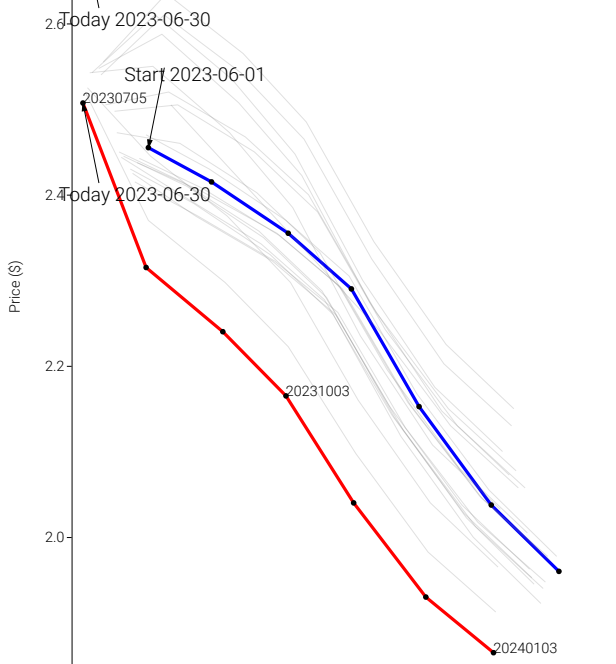
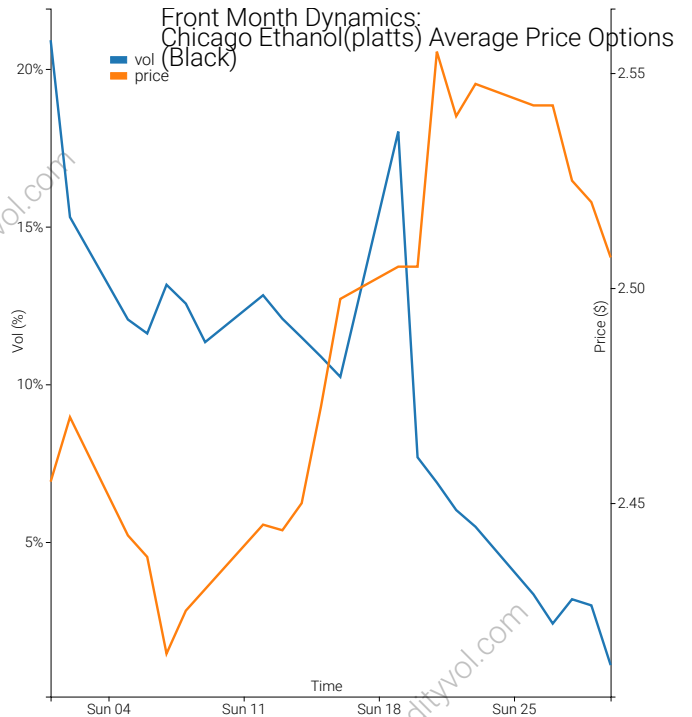
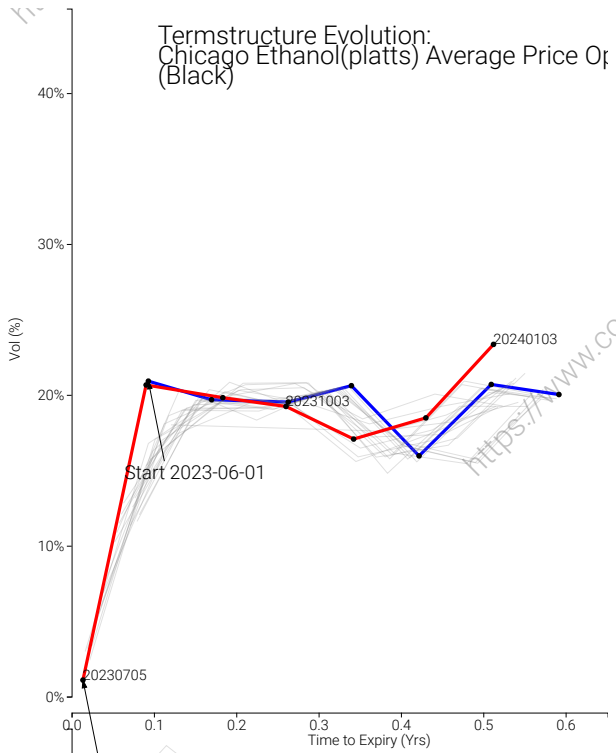




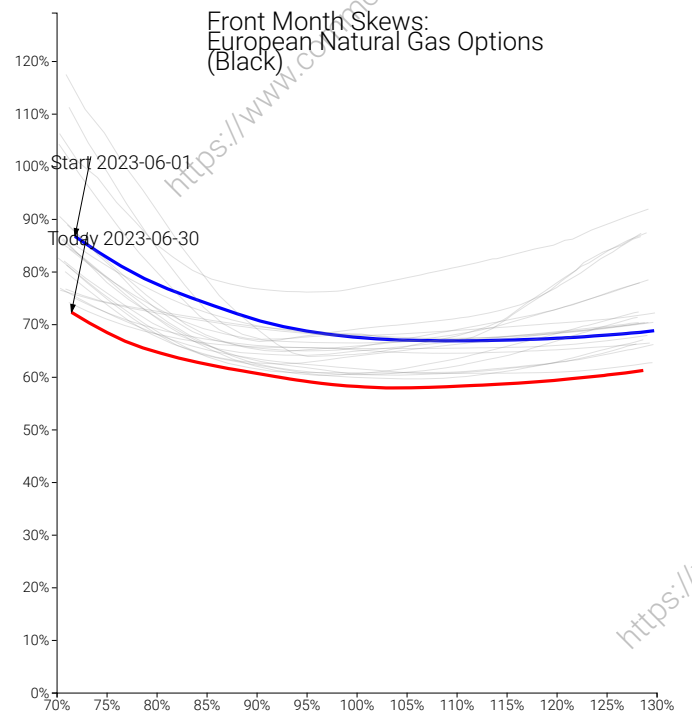
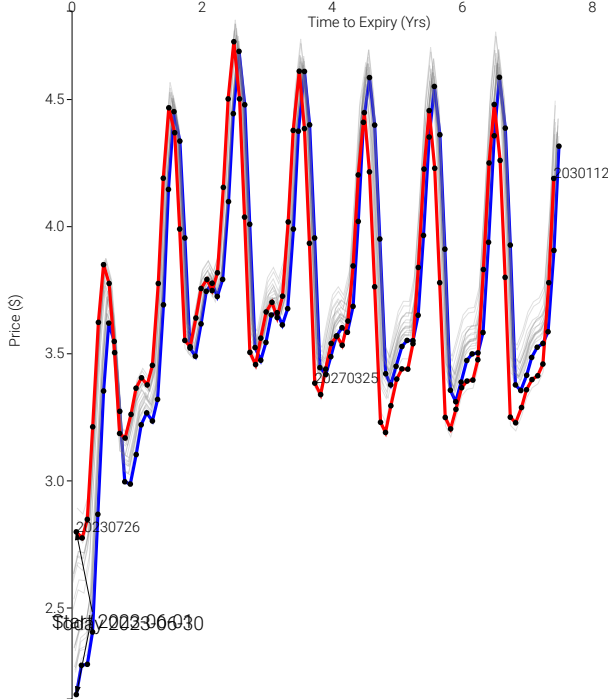
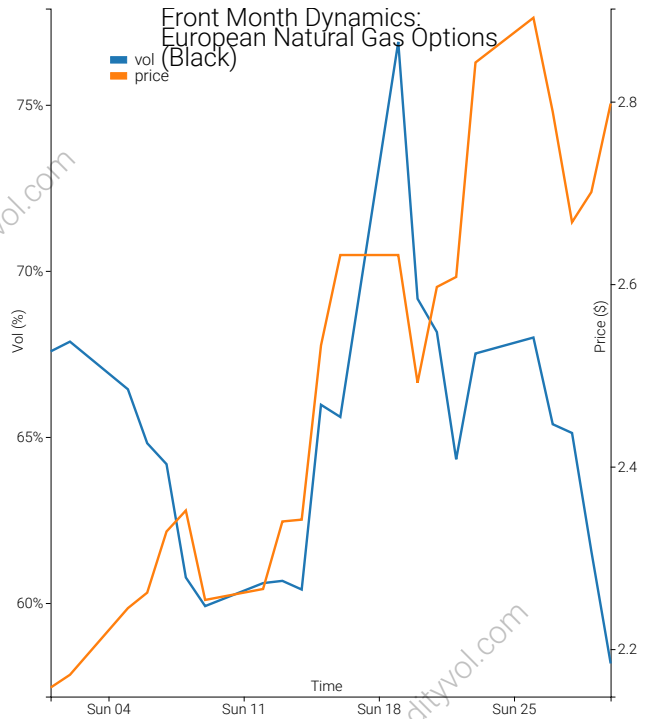
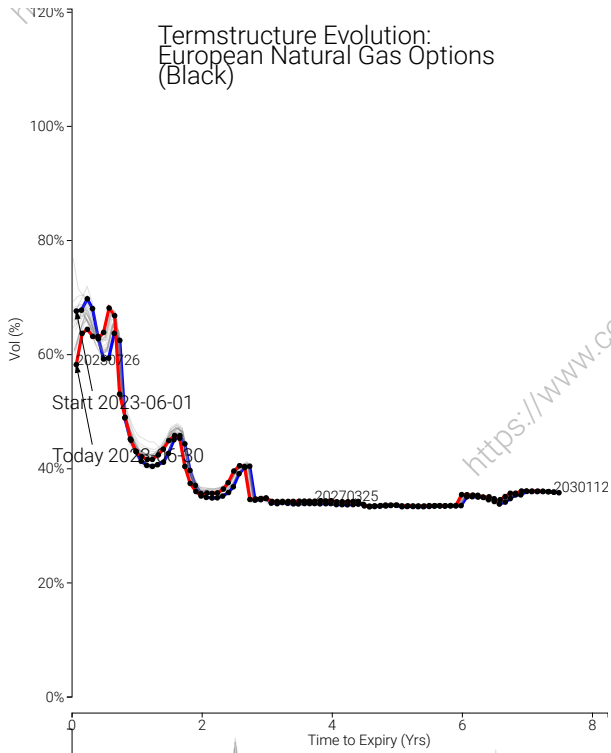


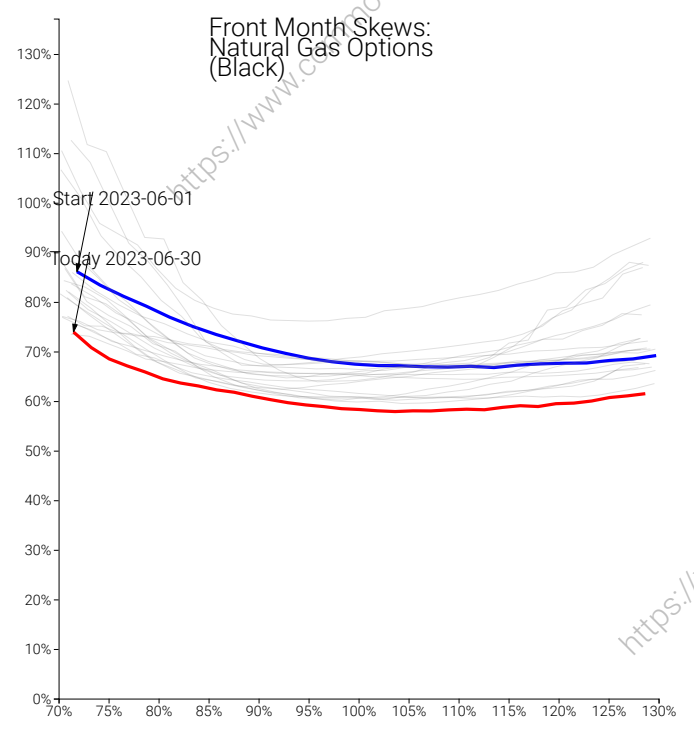
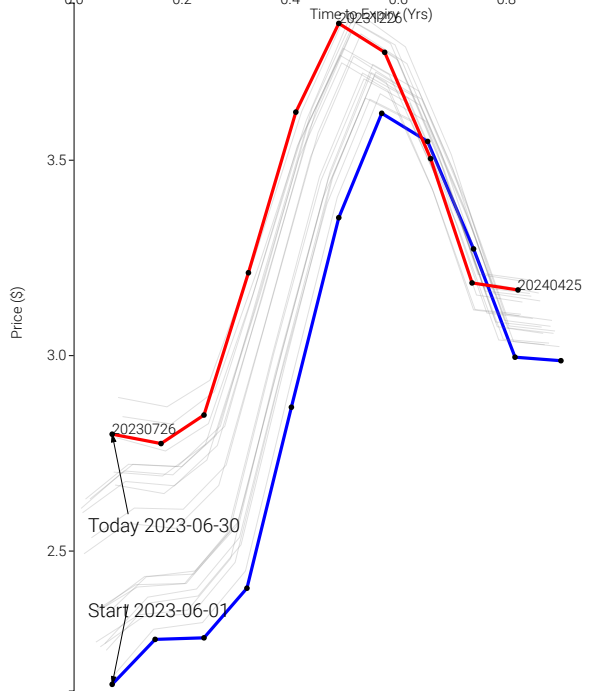
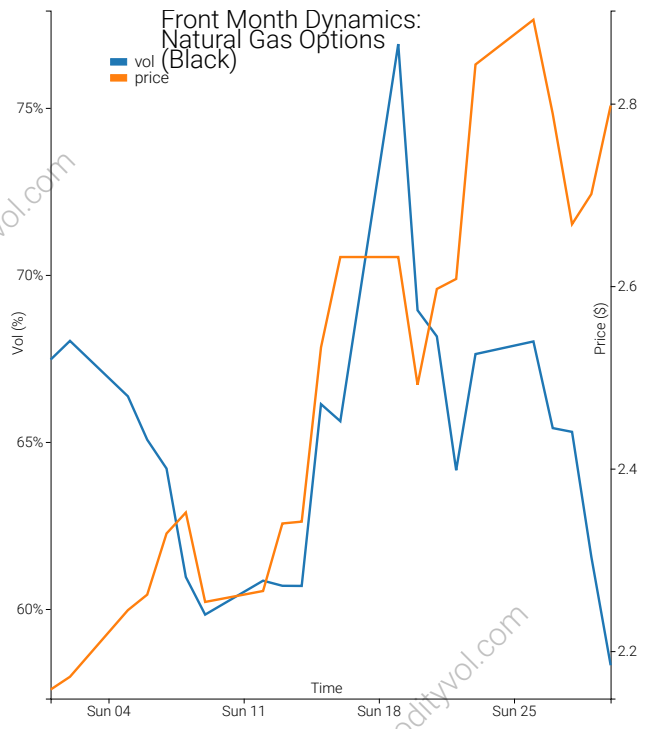
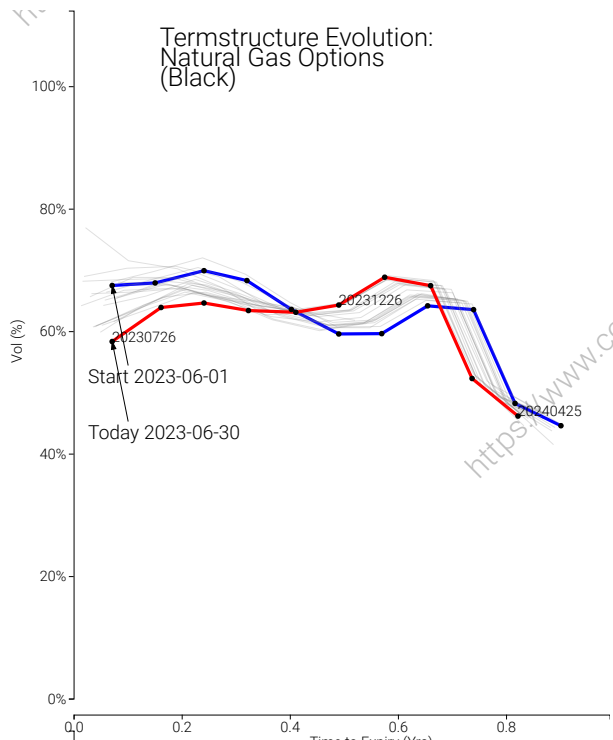


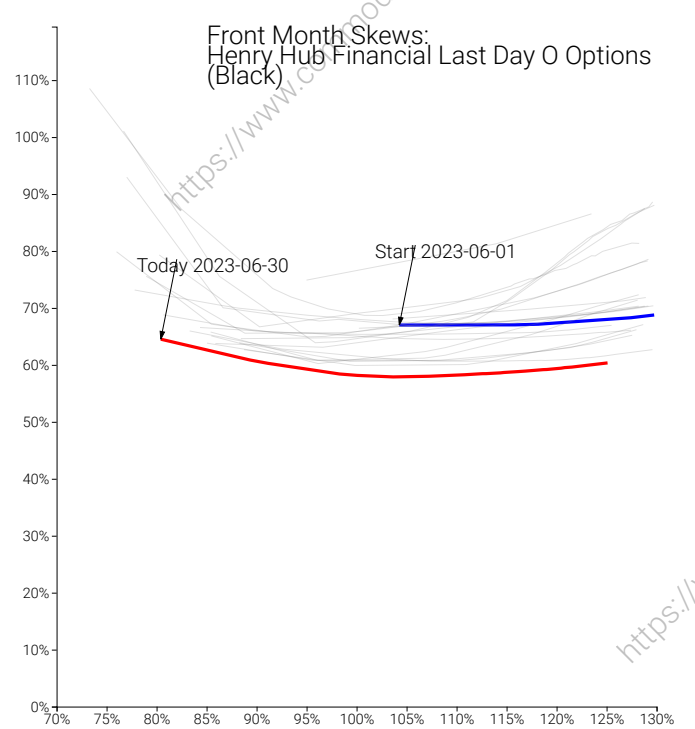
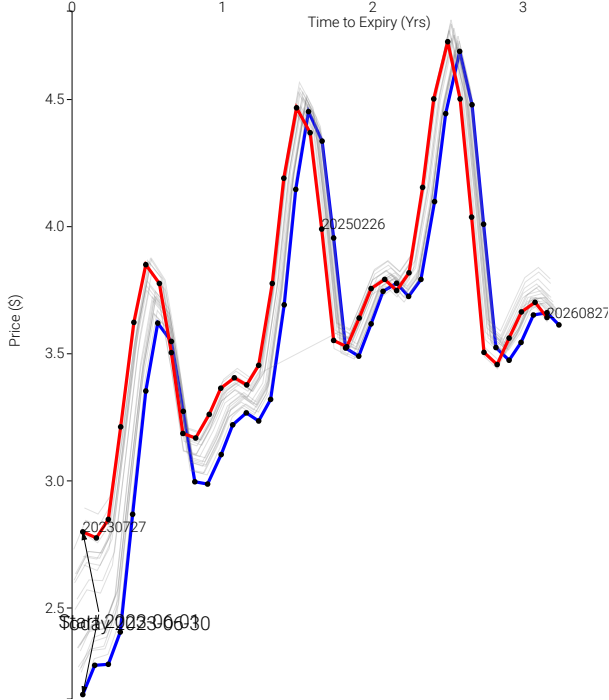
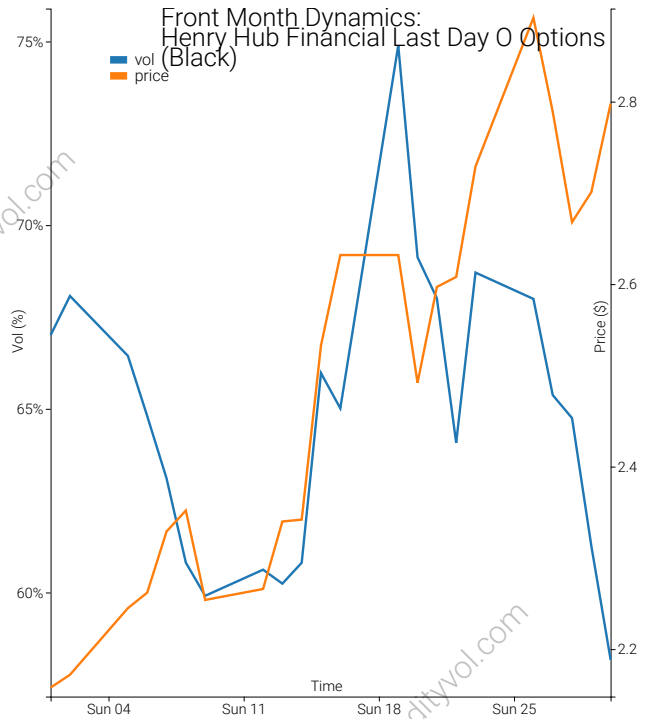
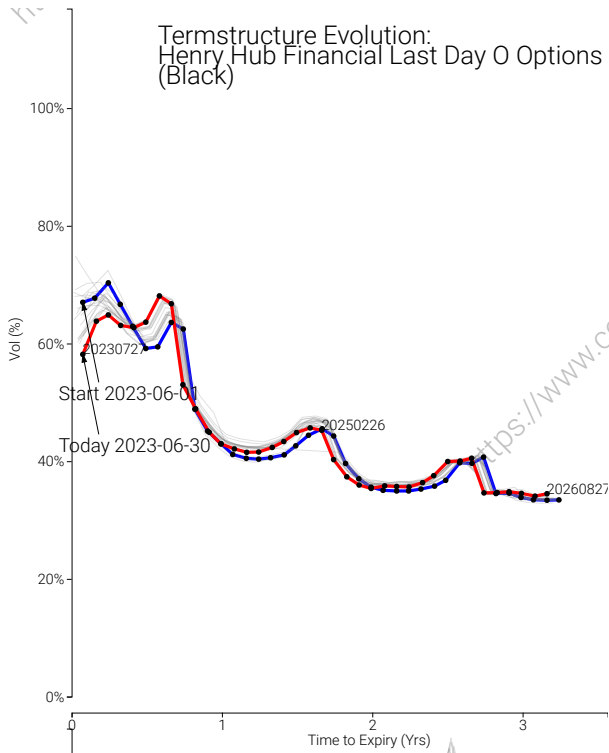




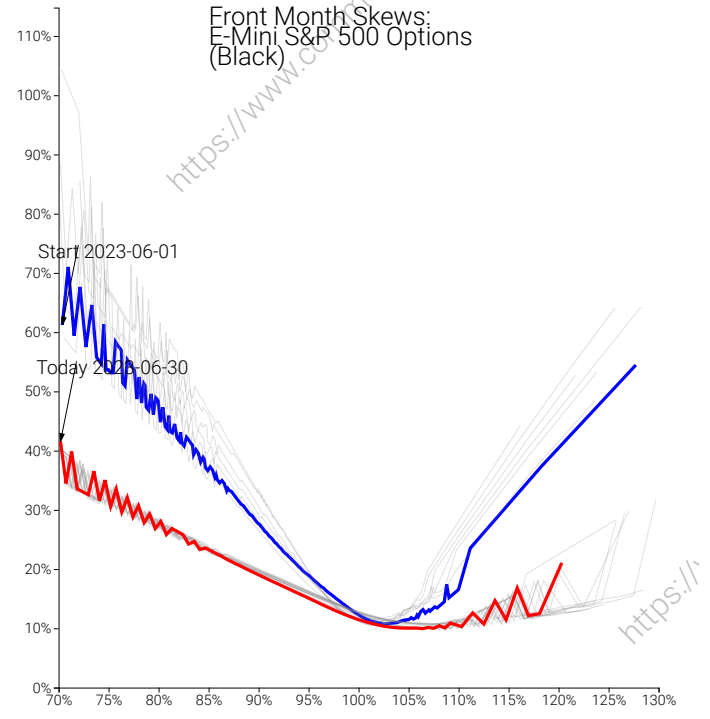
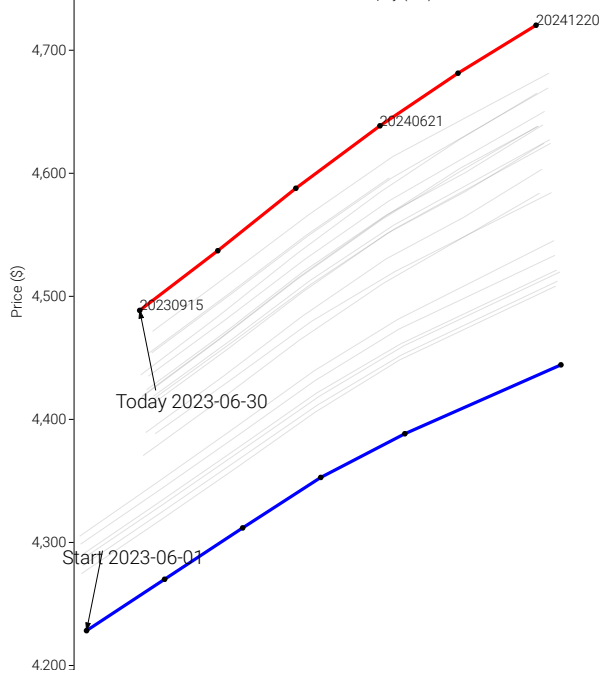
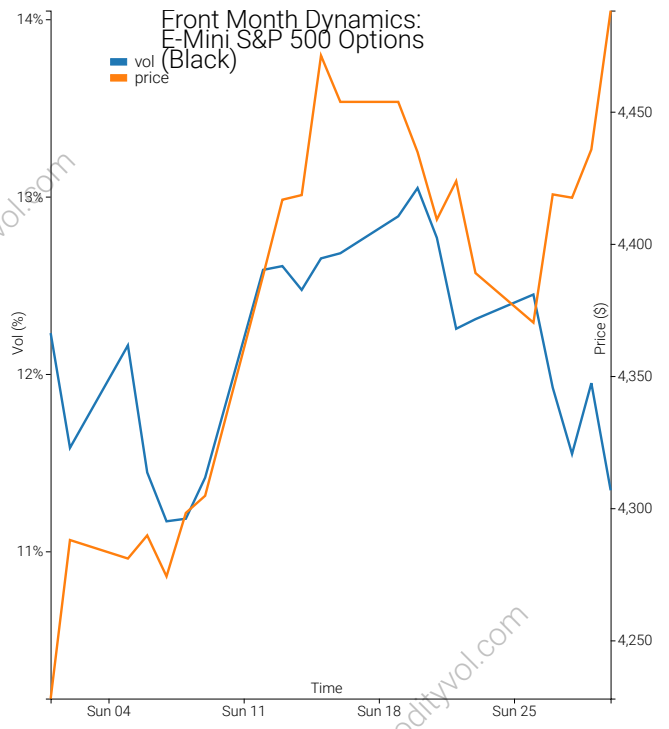
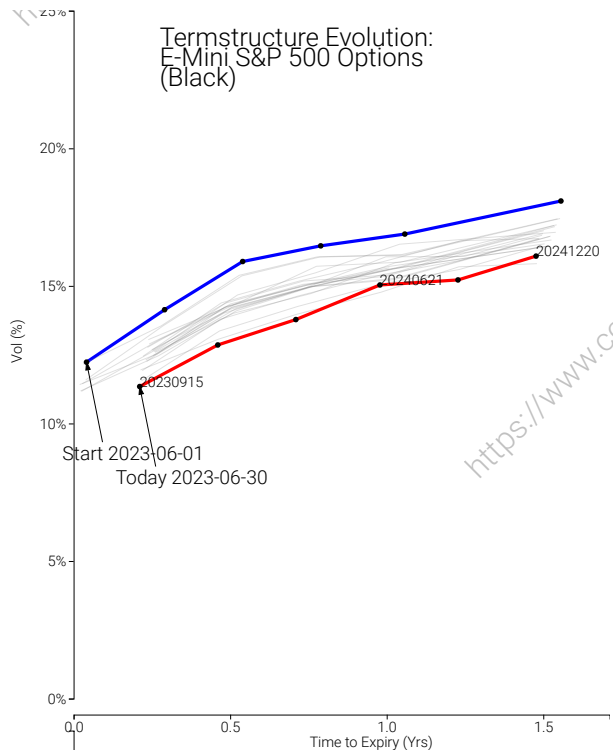
Energy: Natural Gas

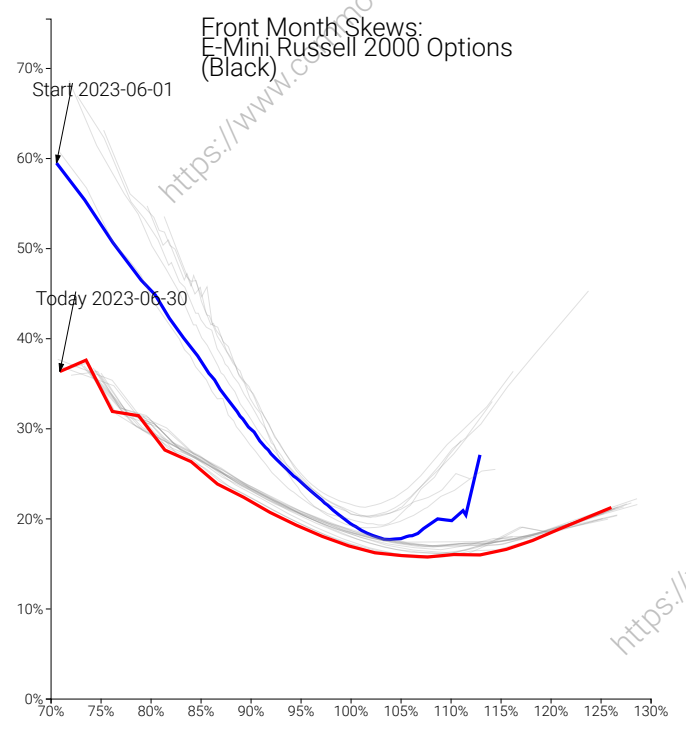
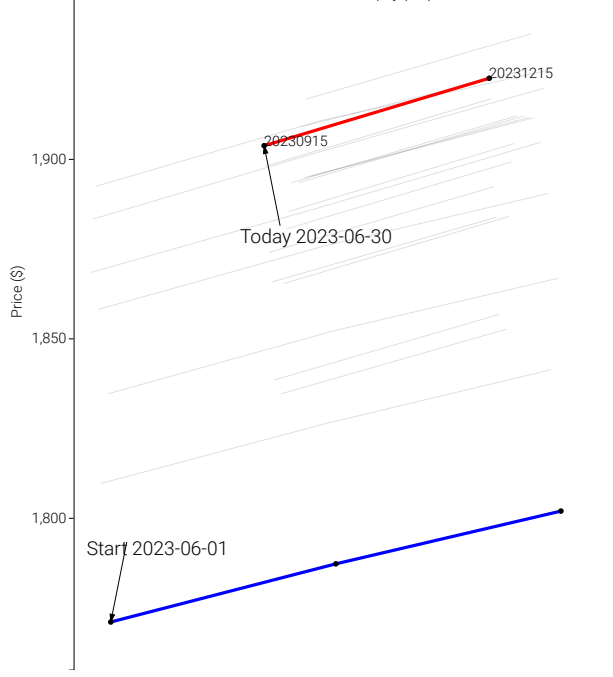
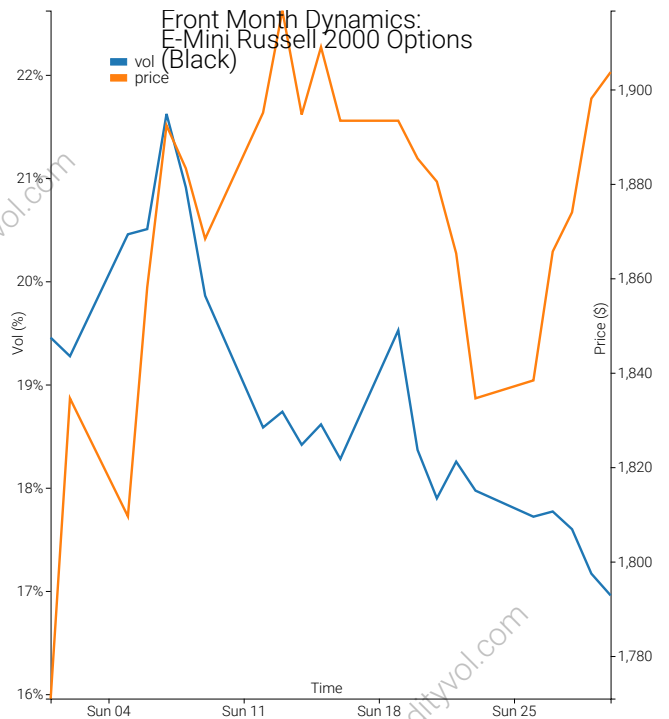
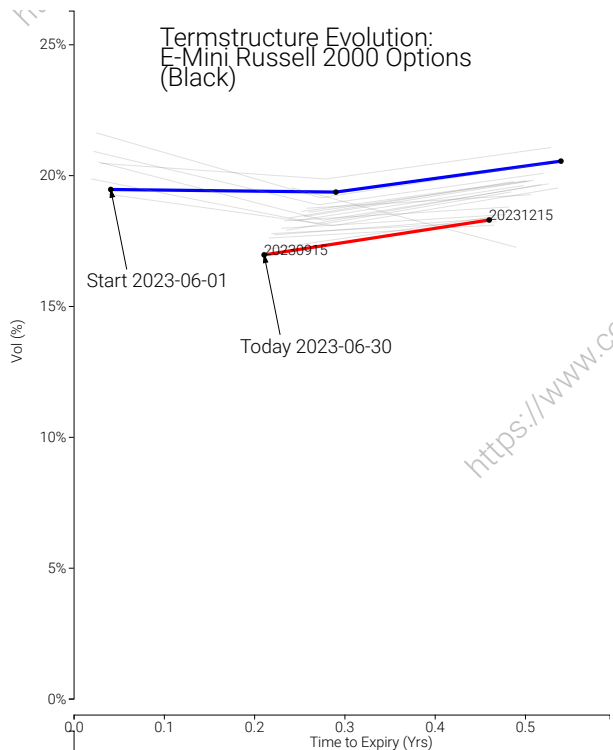


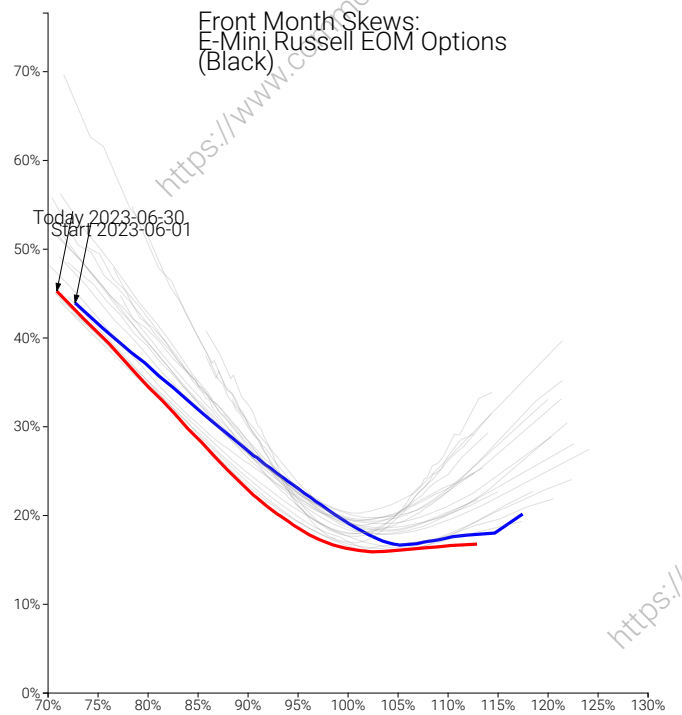
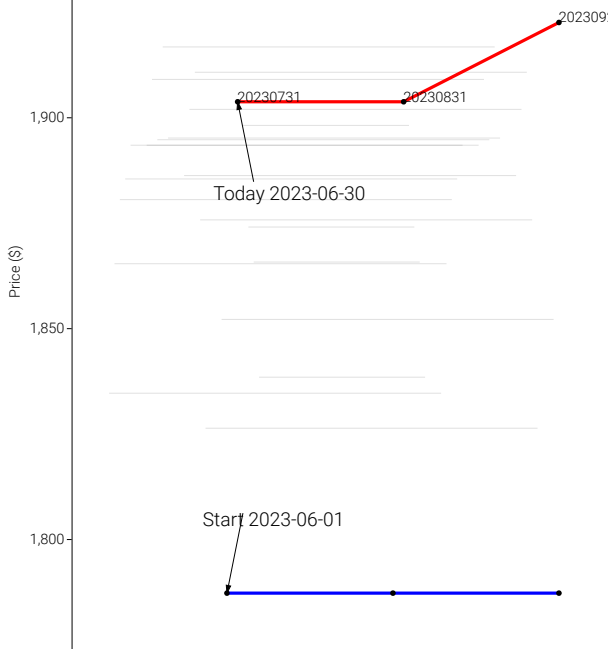
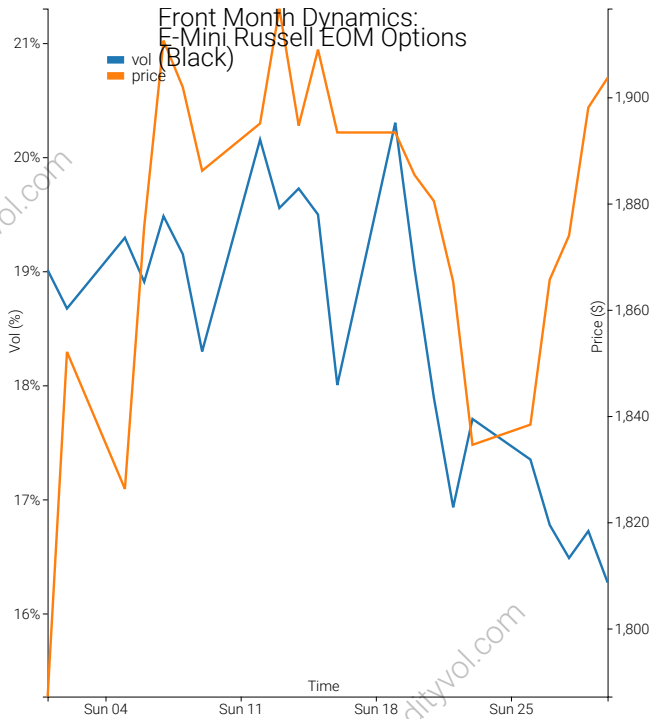
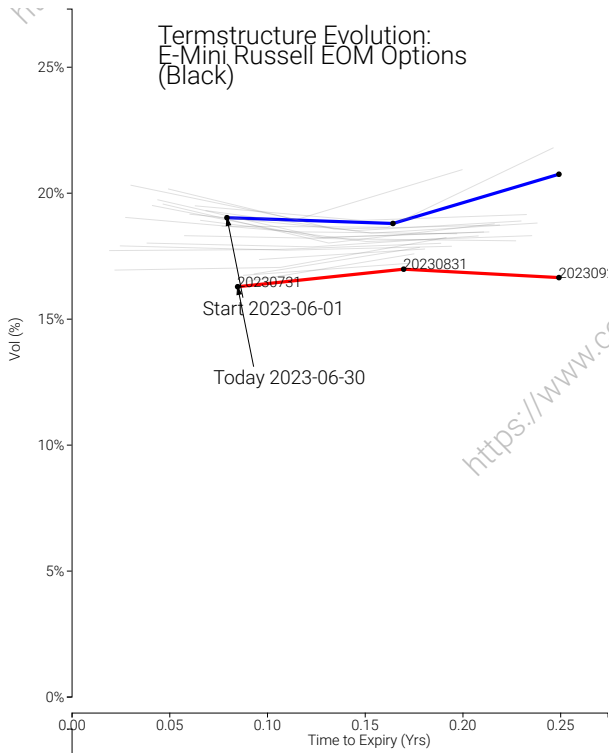


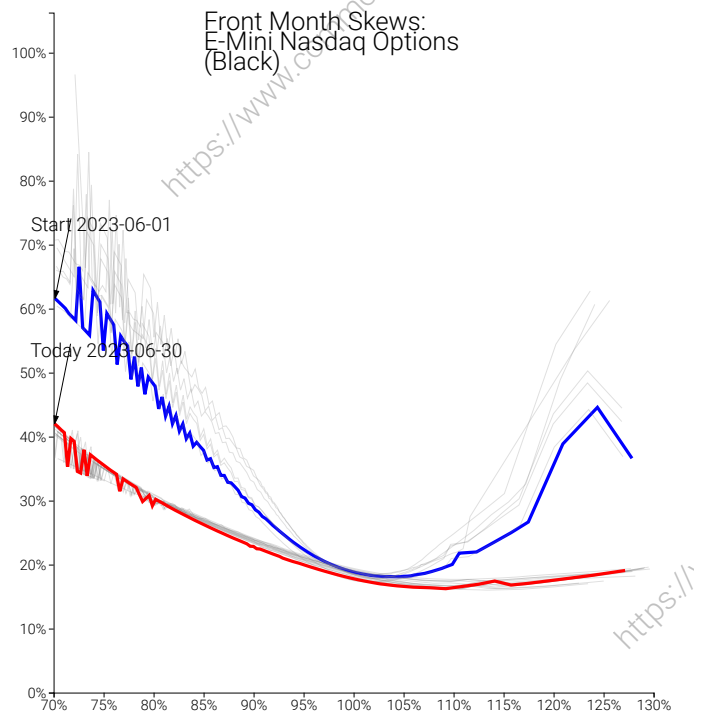
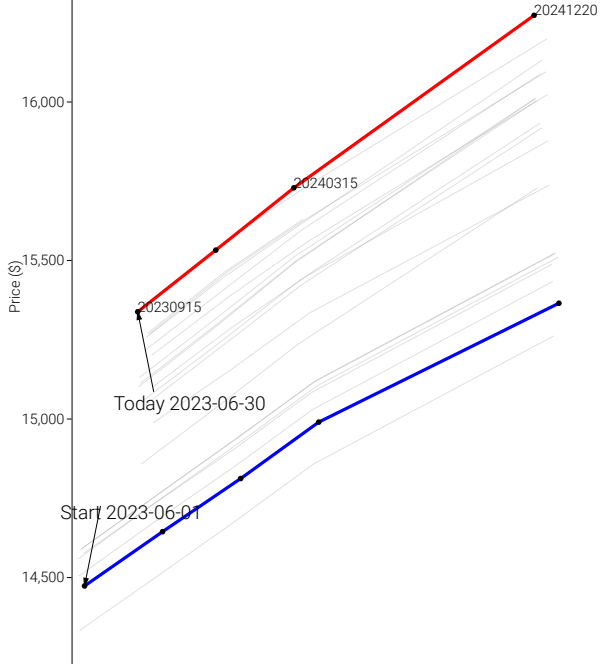
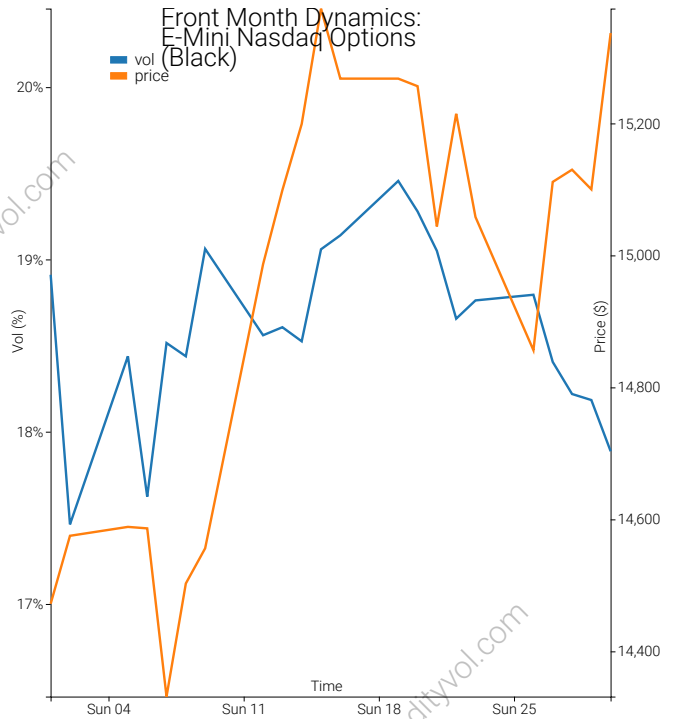
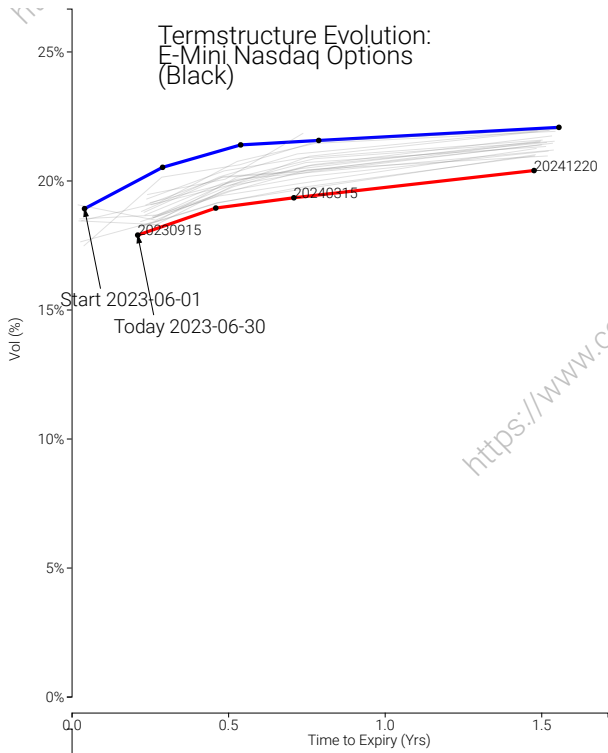


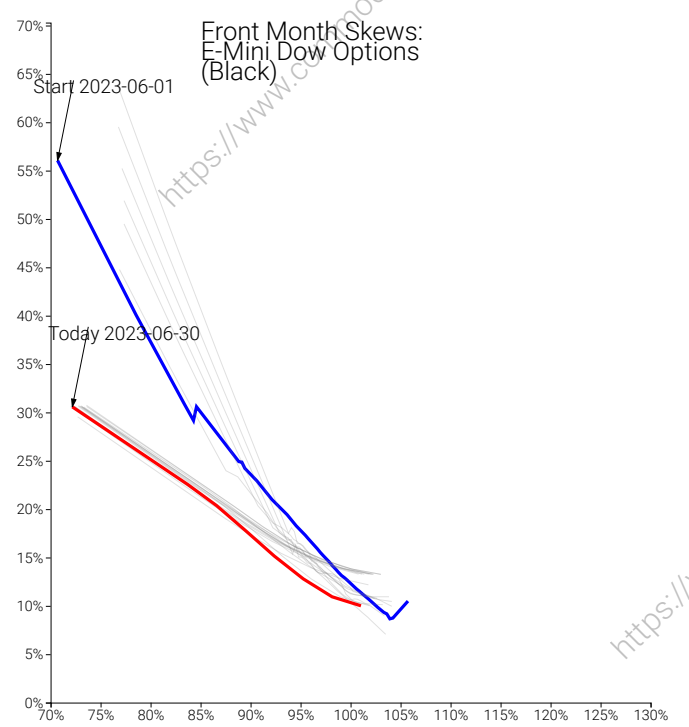
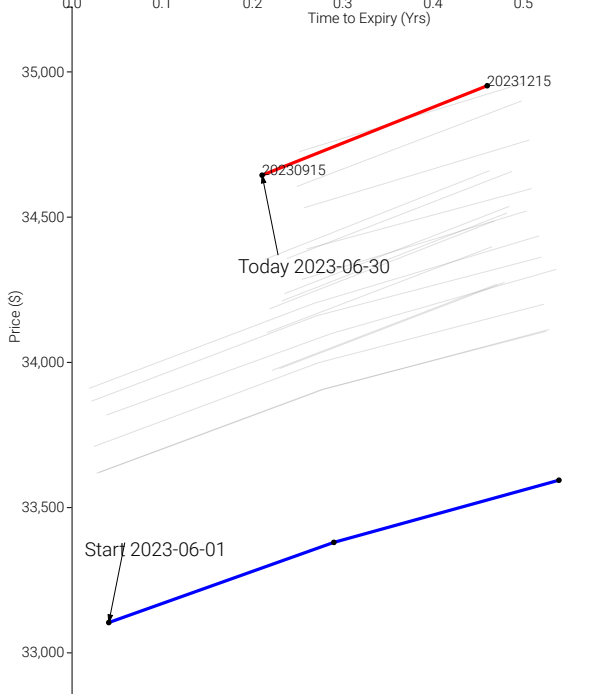
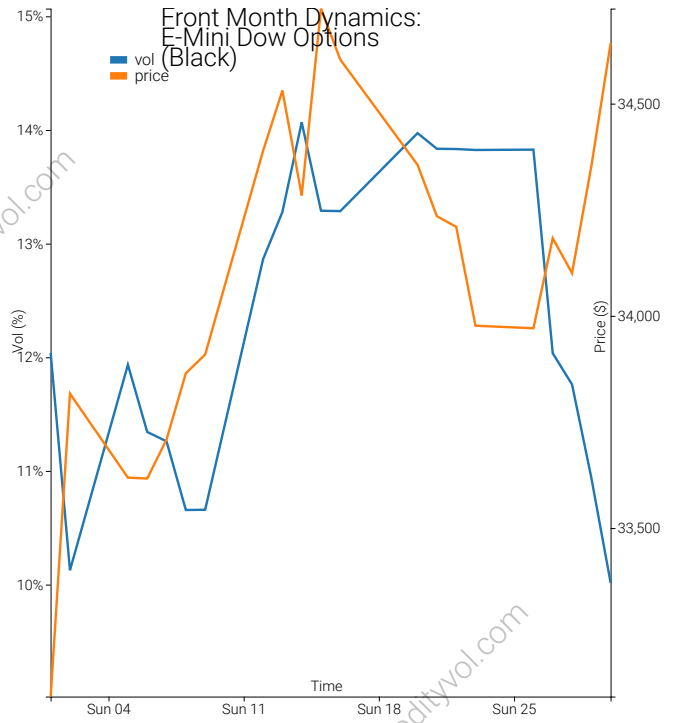
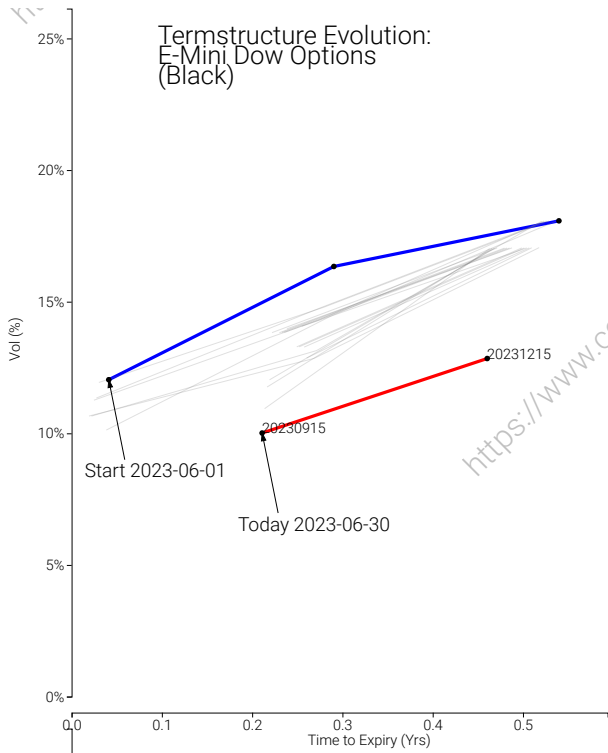
EquityIndex

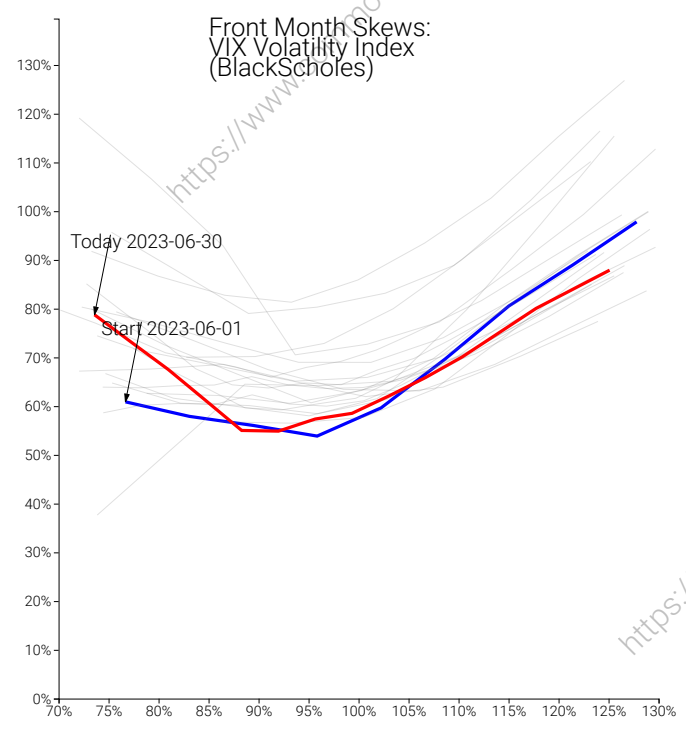
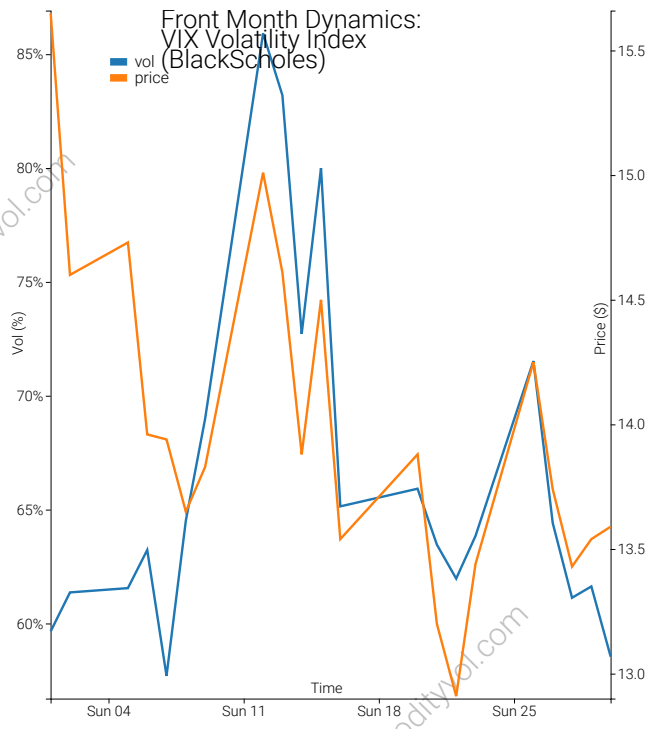
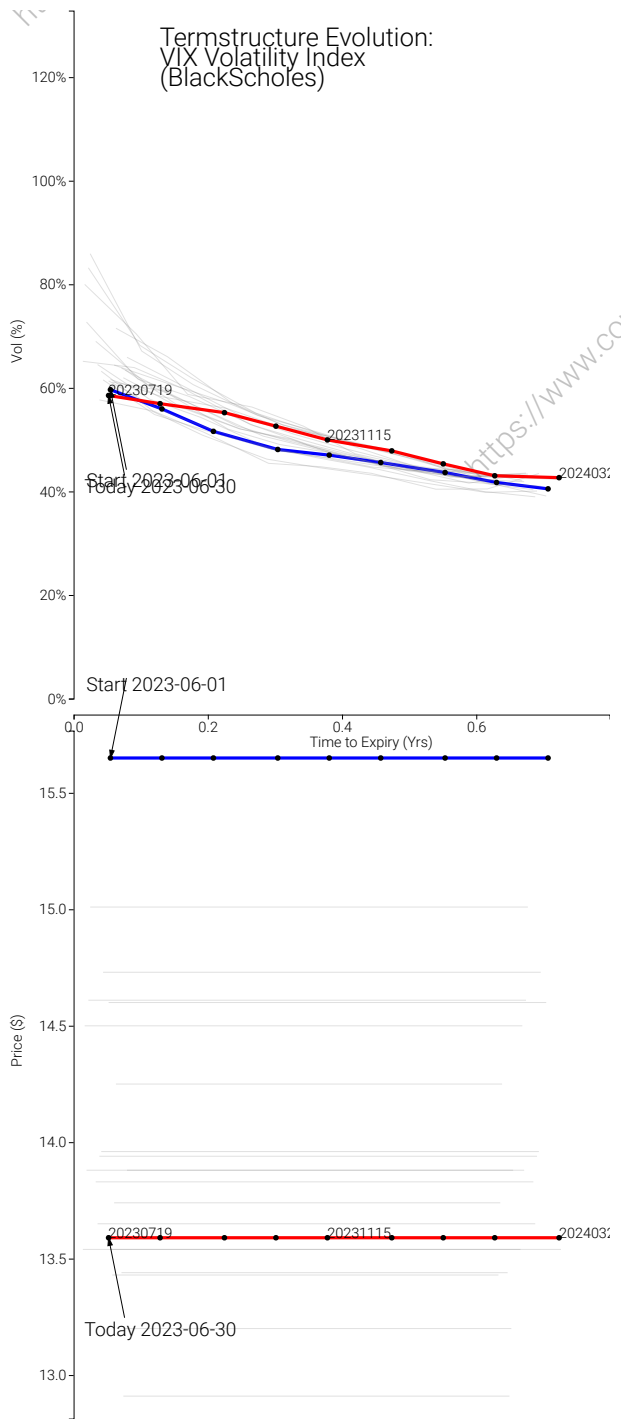




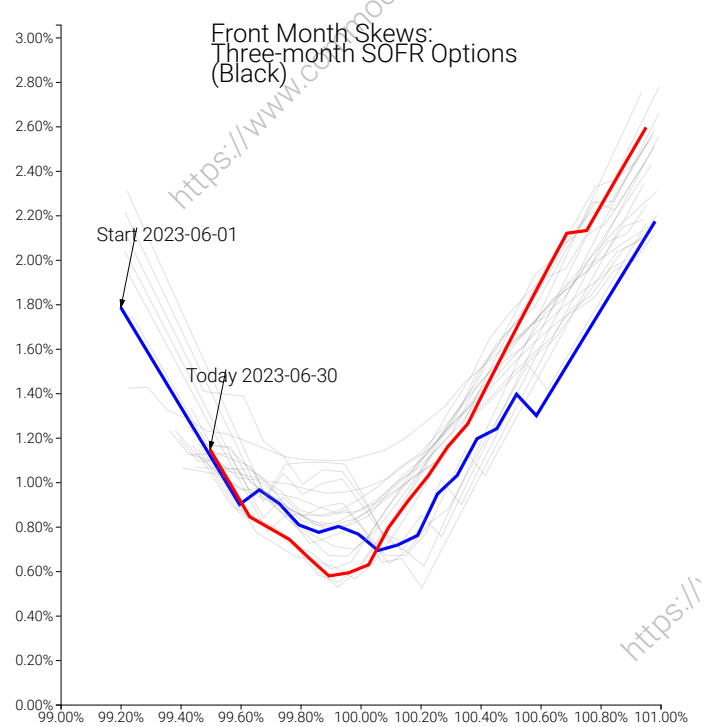
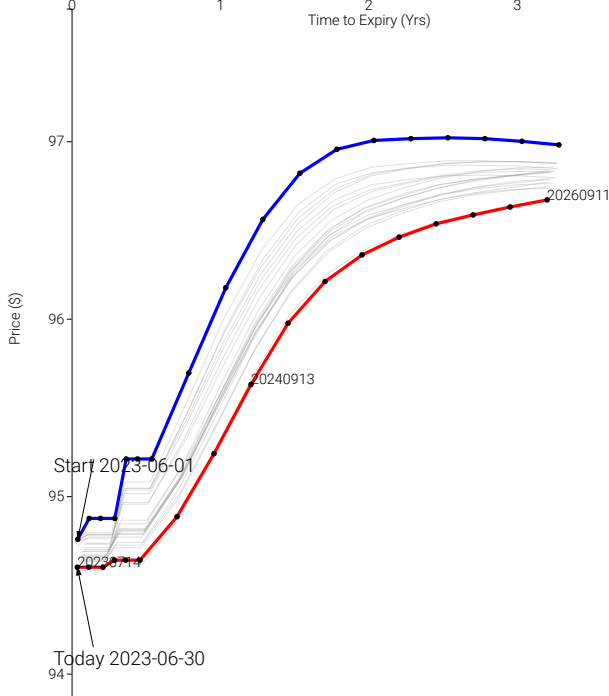
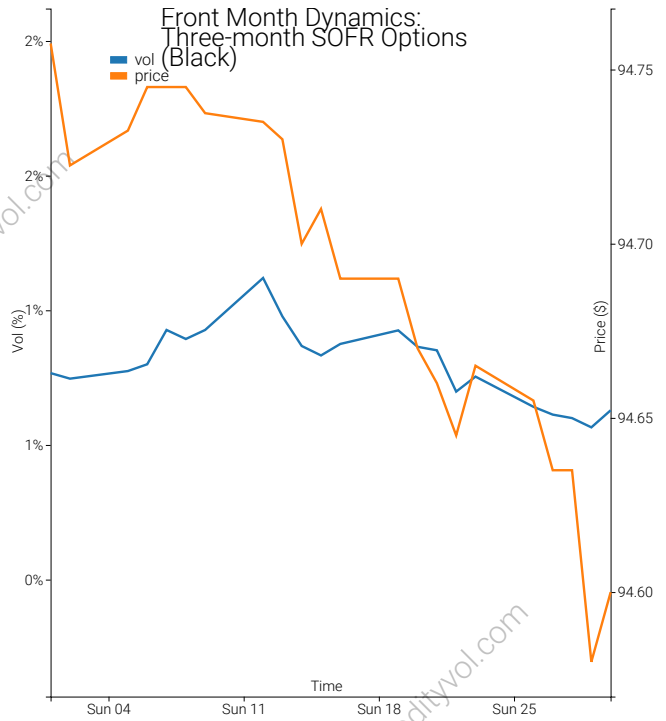
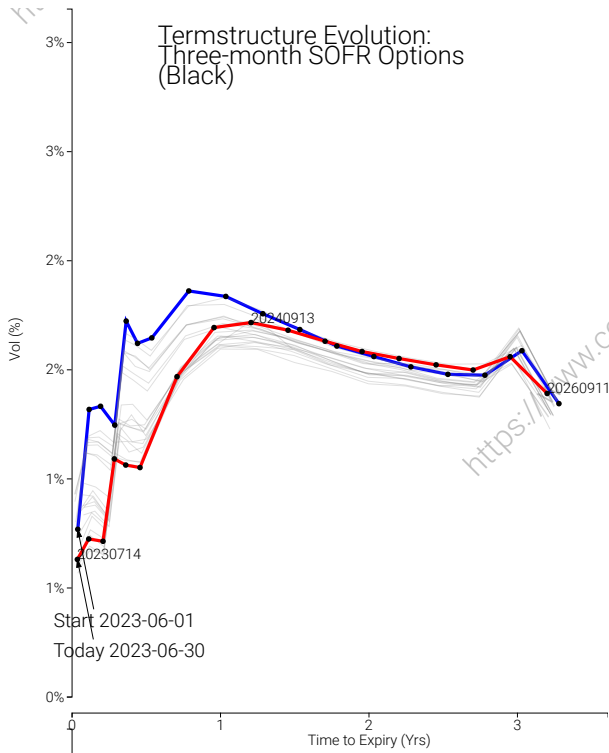


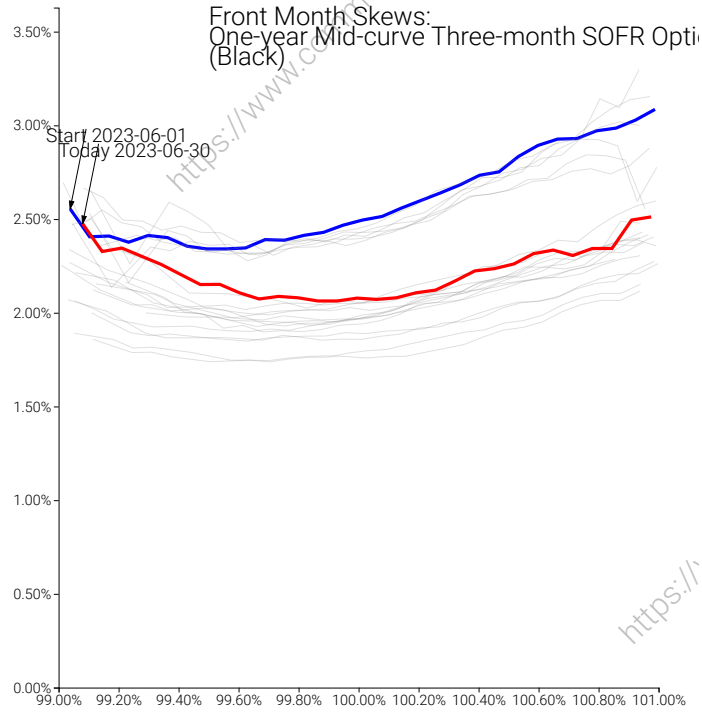
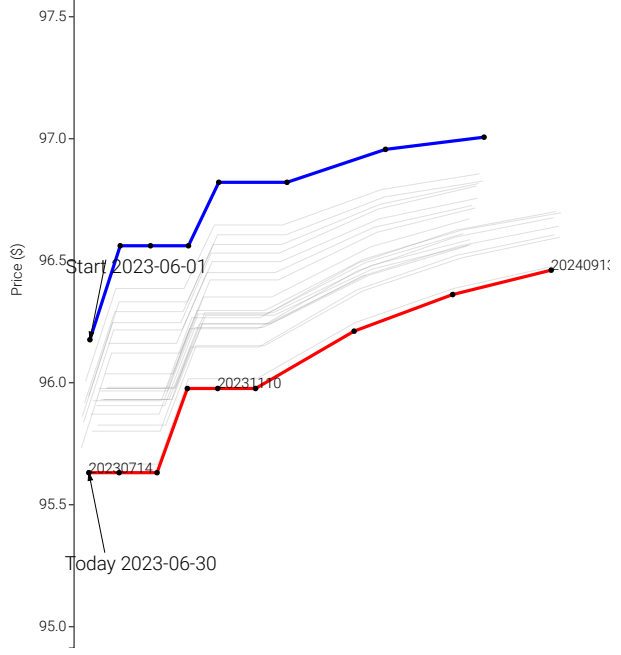
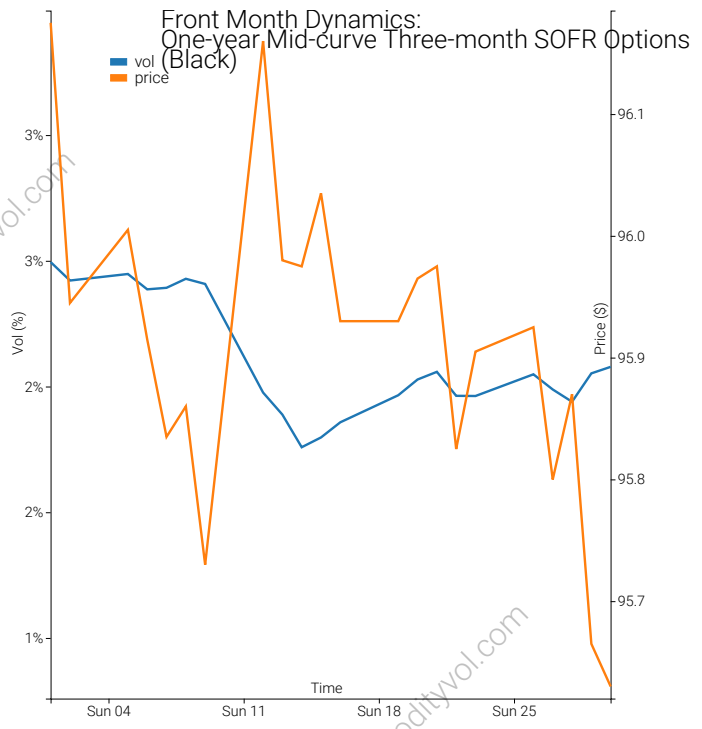
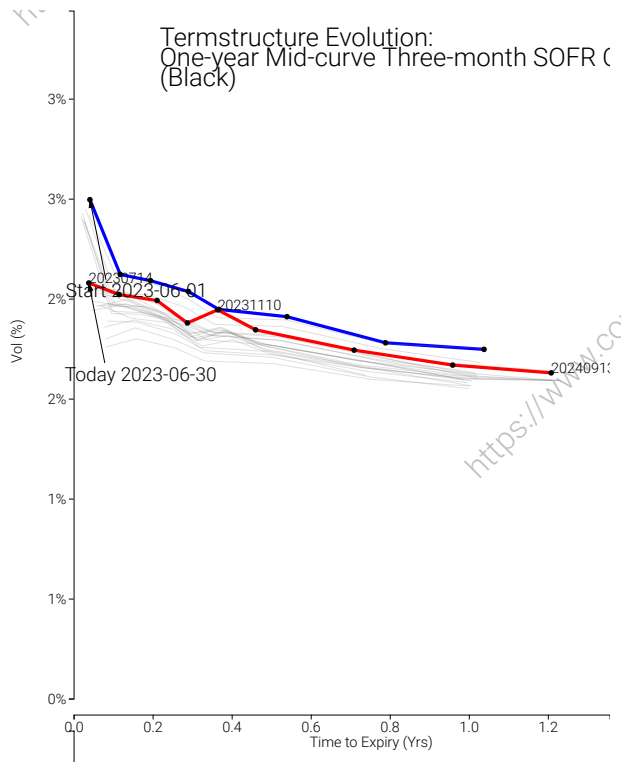


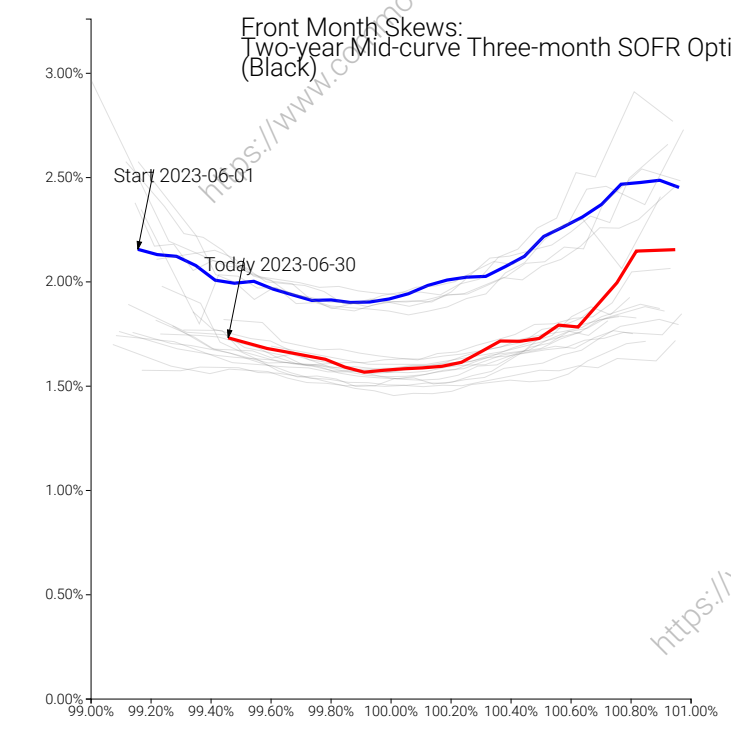
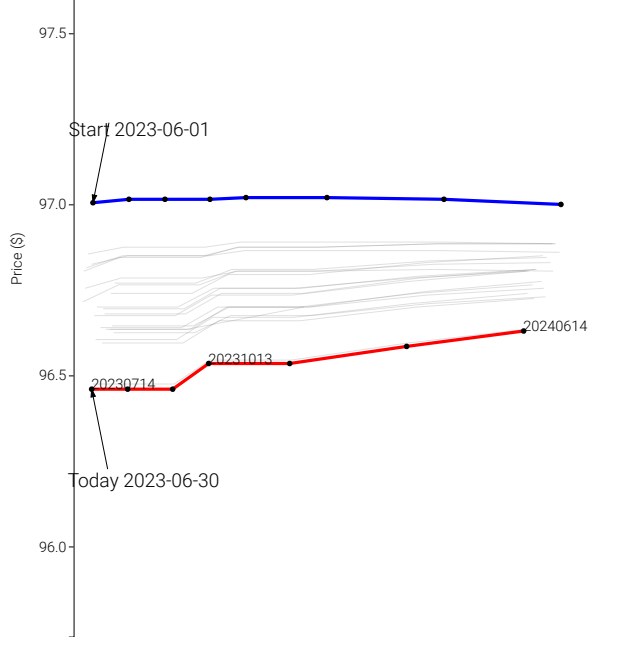
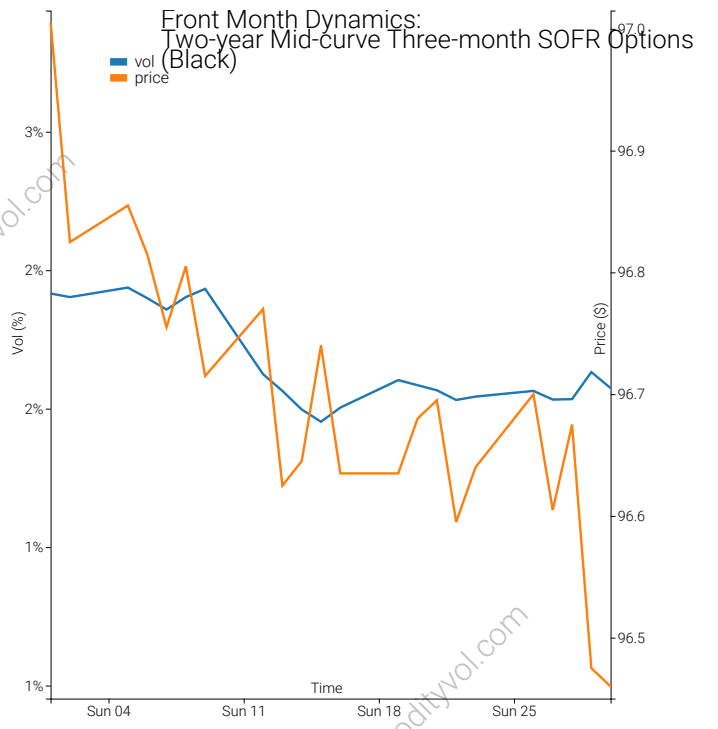
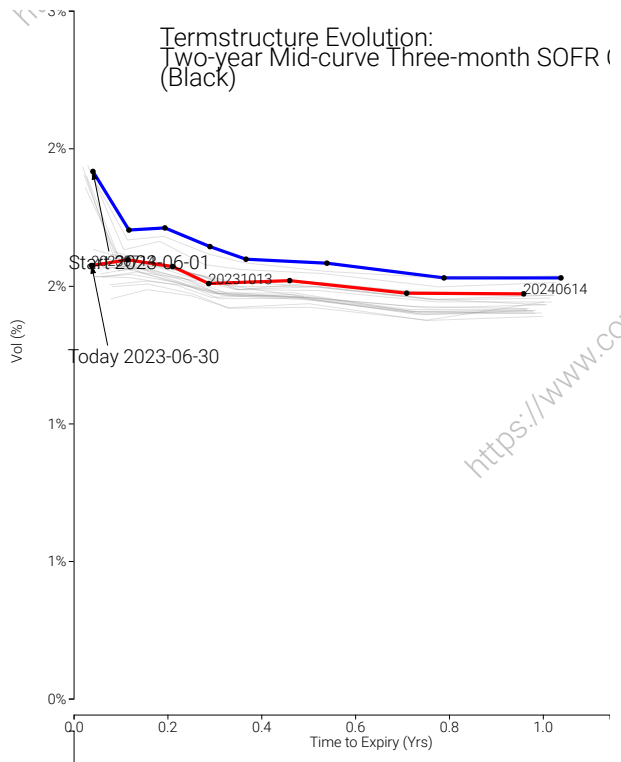


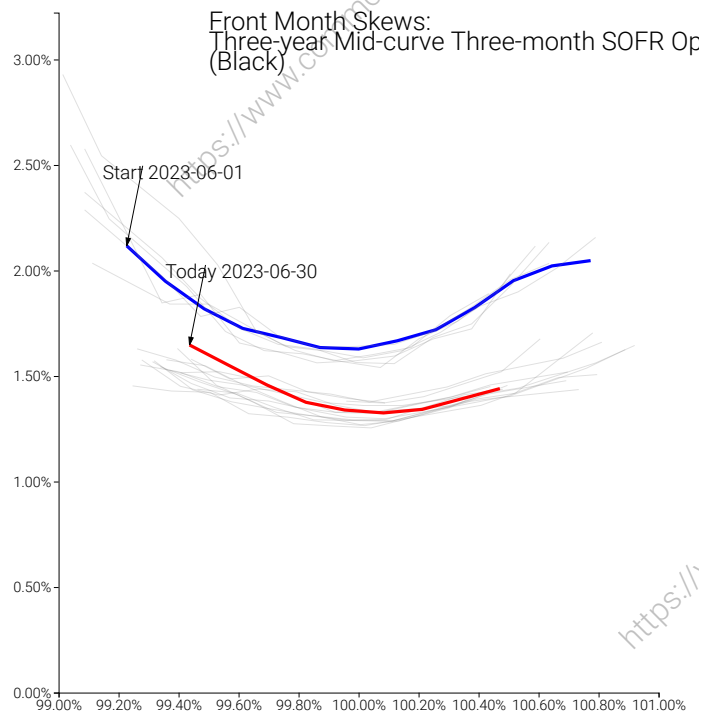
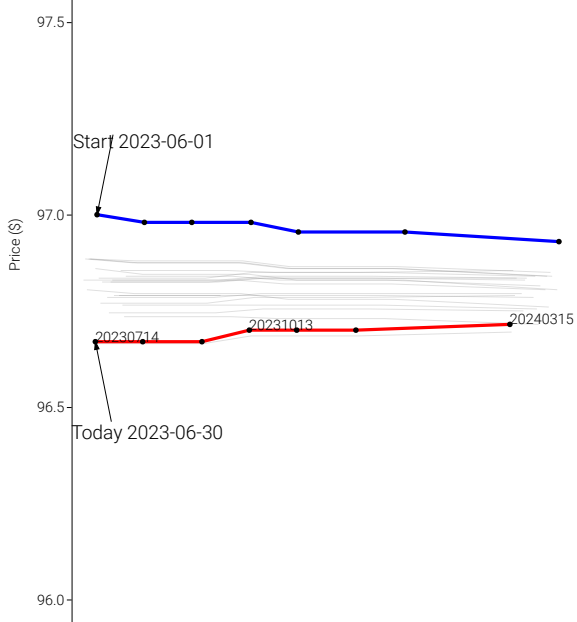
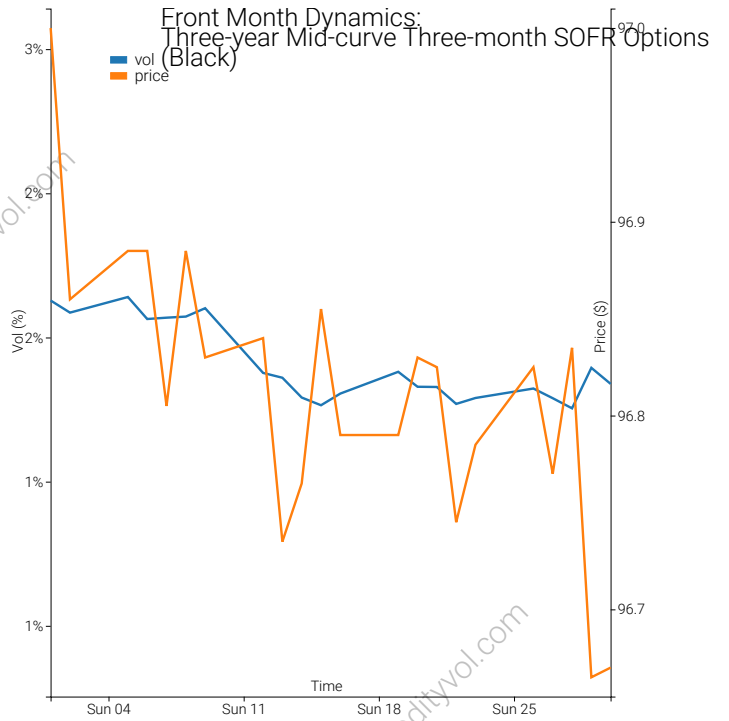
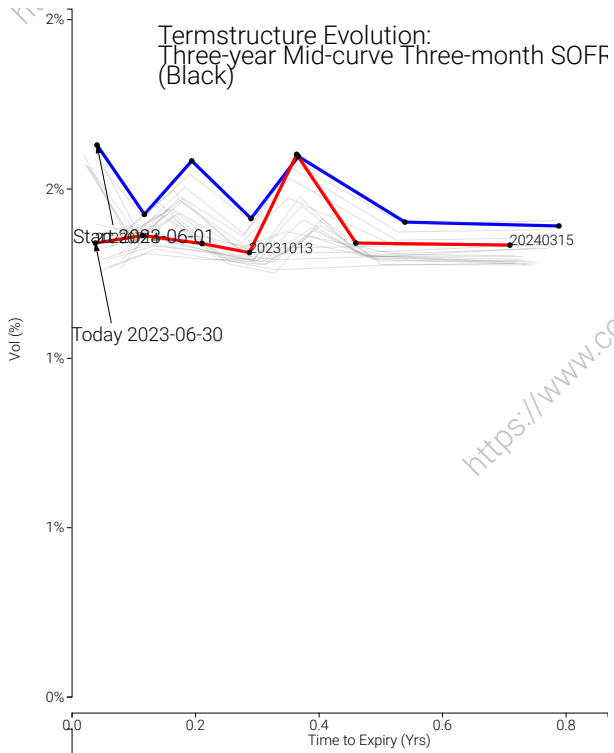


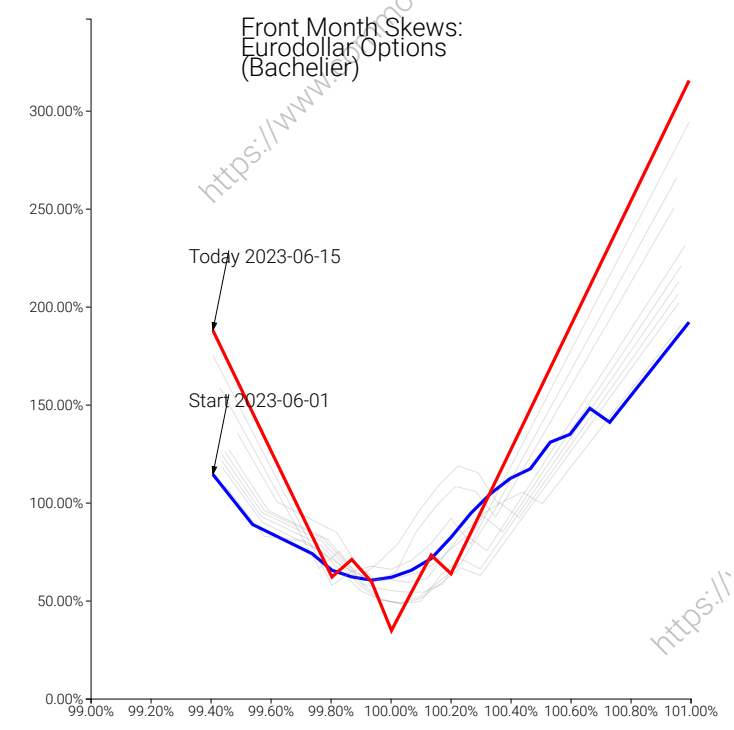
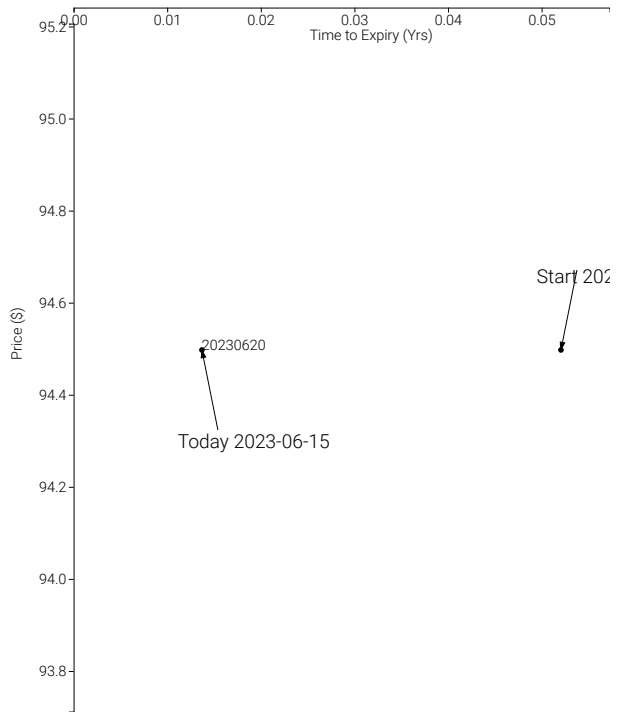
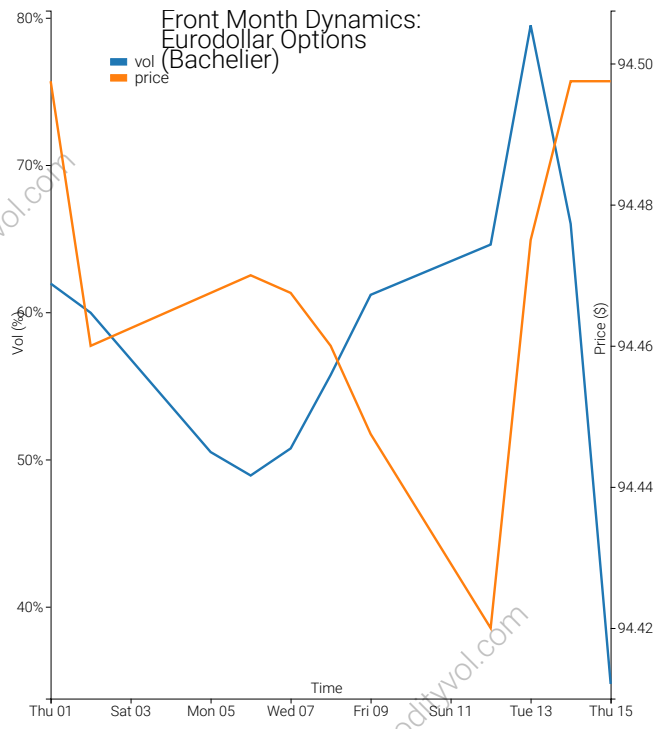
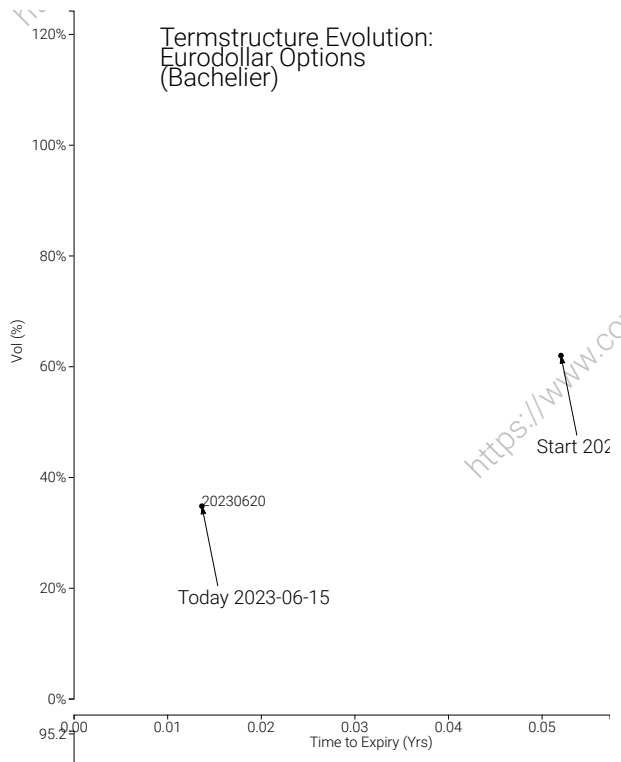
InterestRates: Fixed Income and STIRS

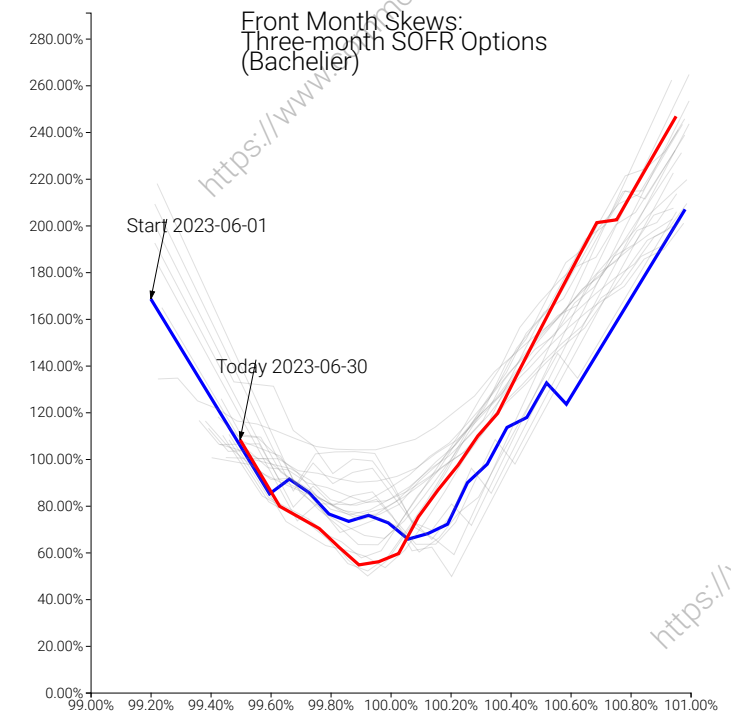
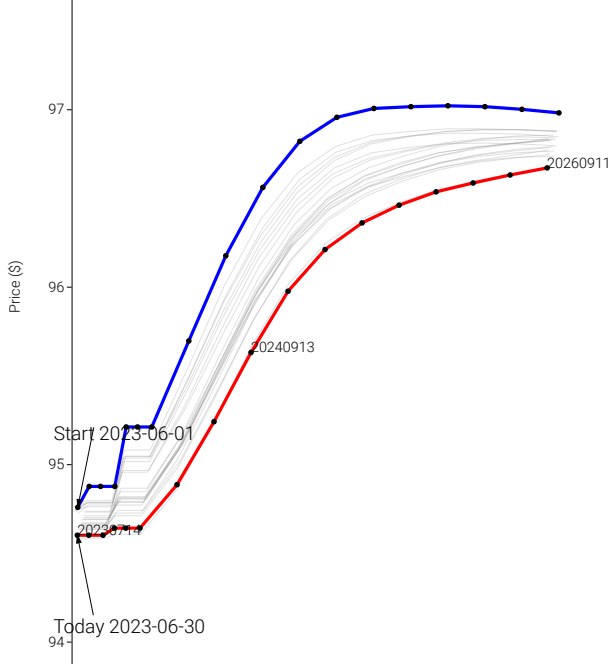
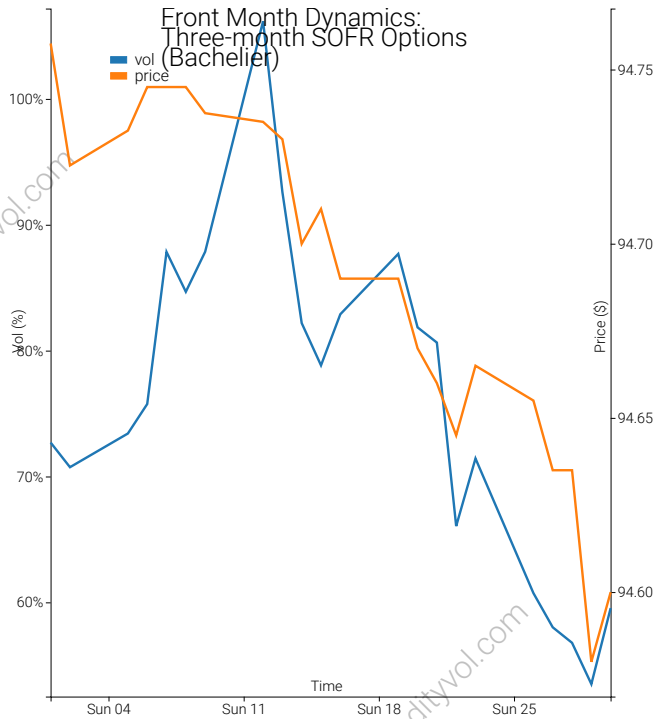
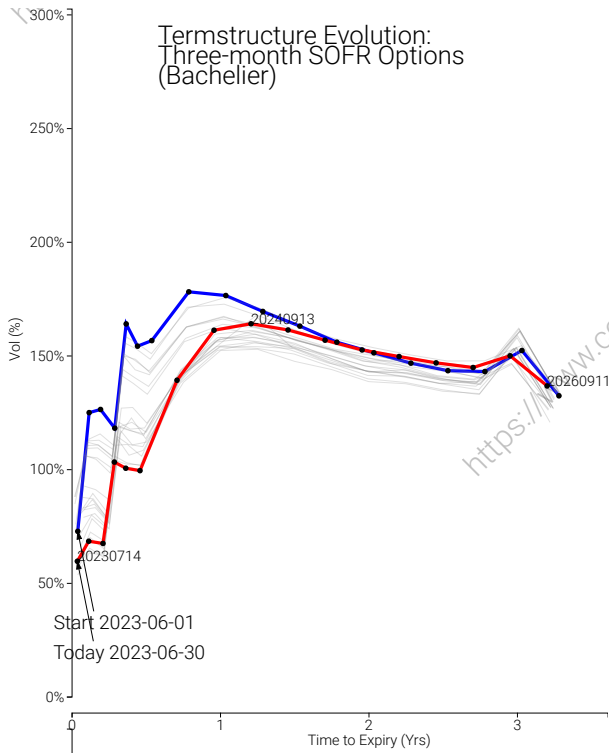


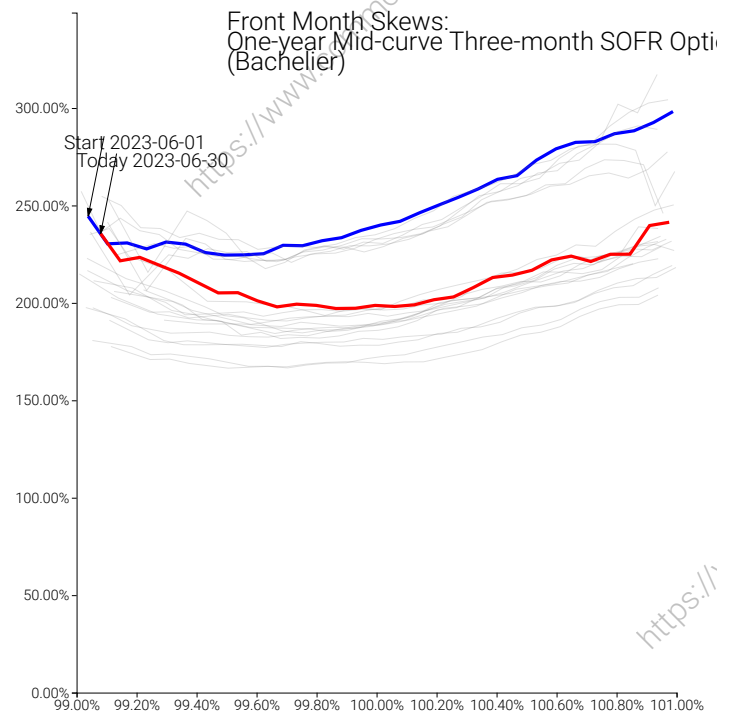
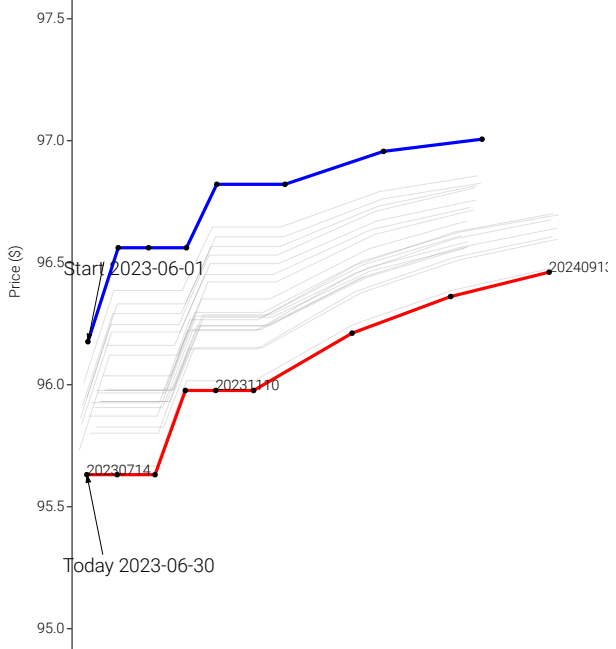
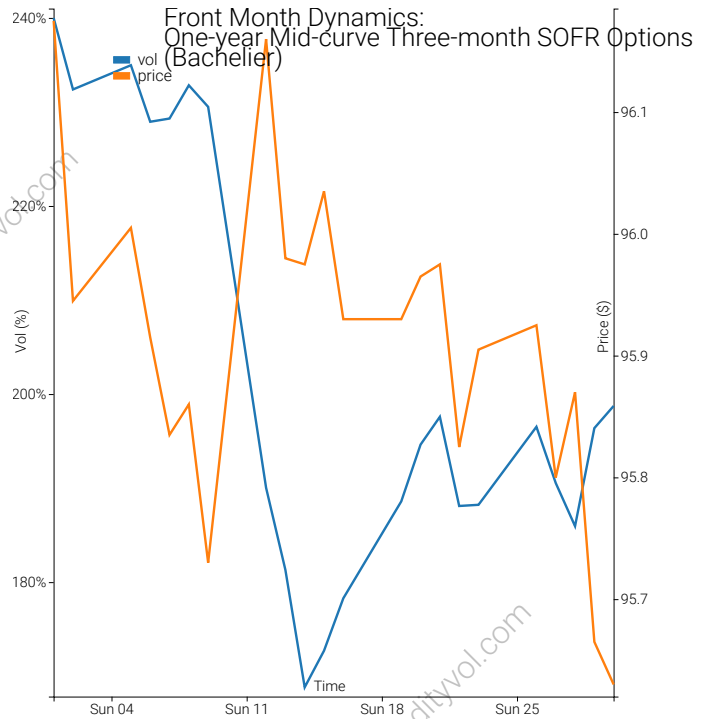
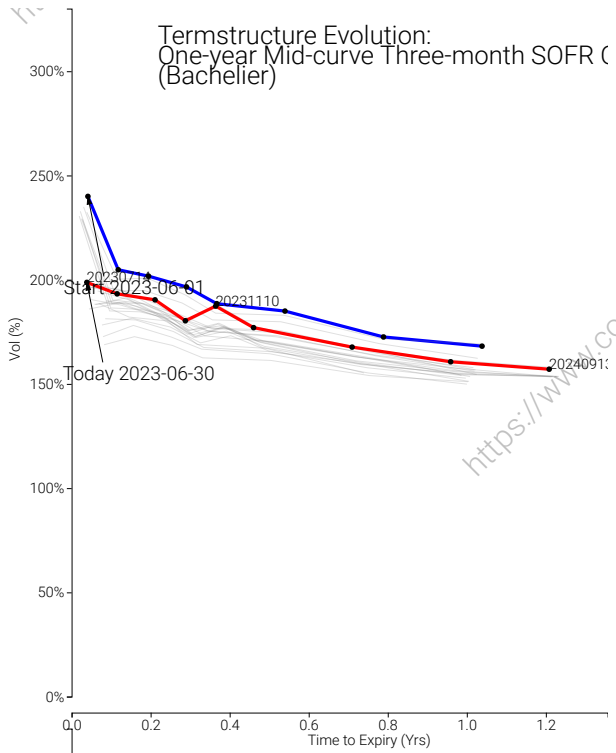


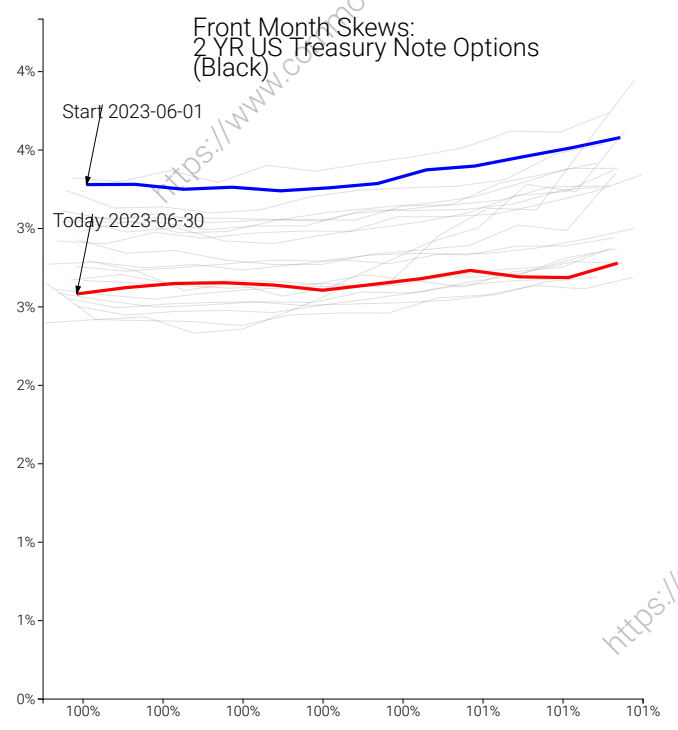
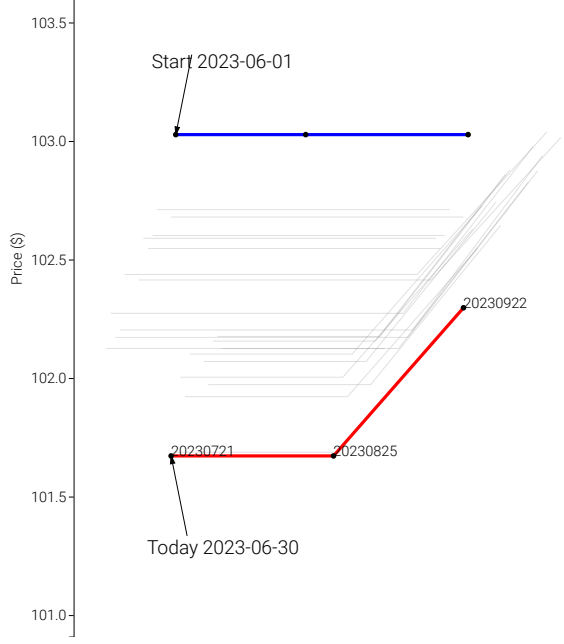
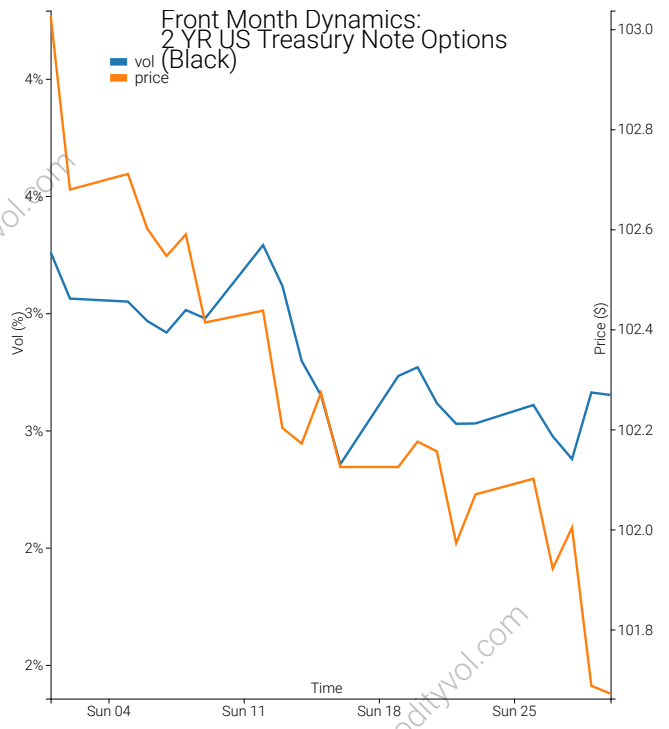
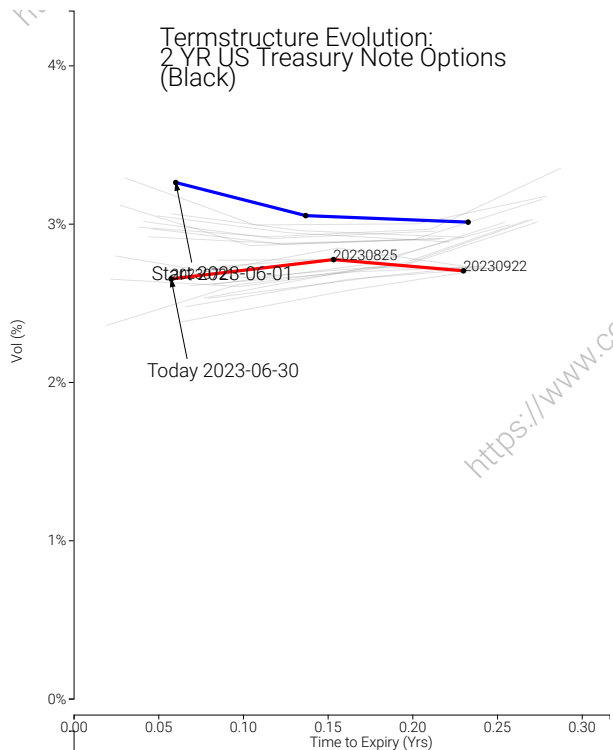


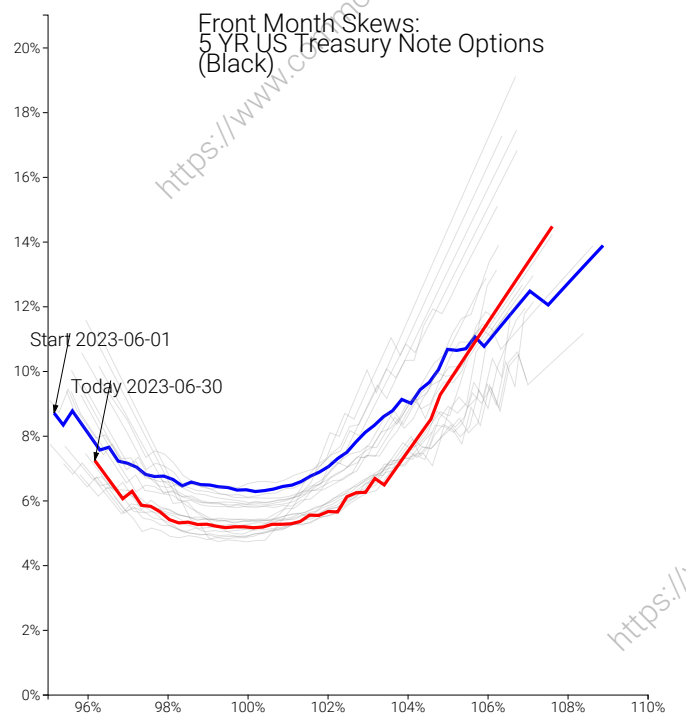
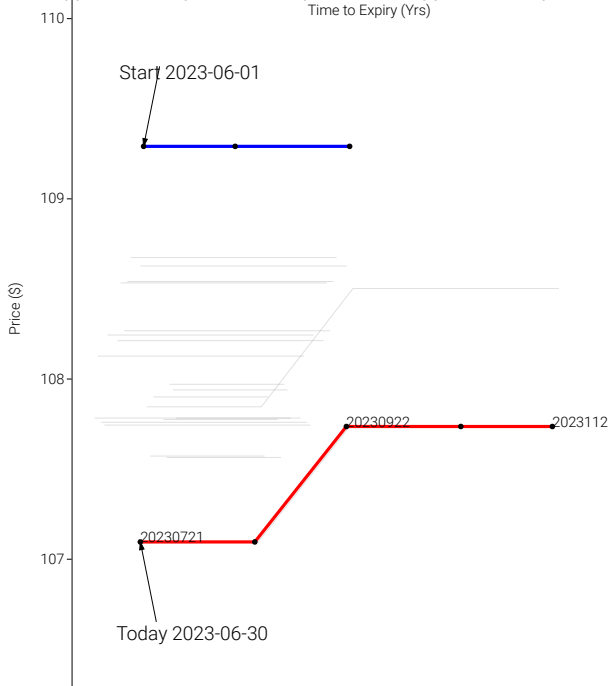
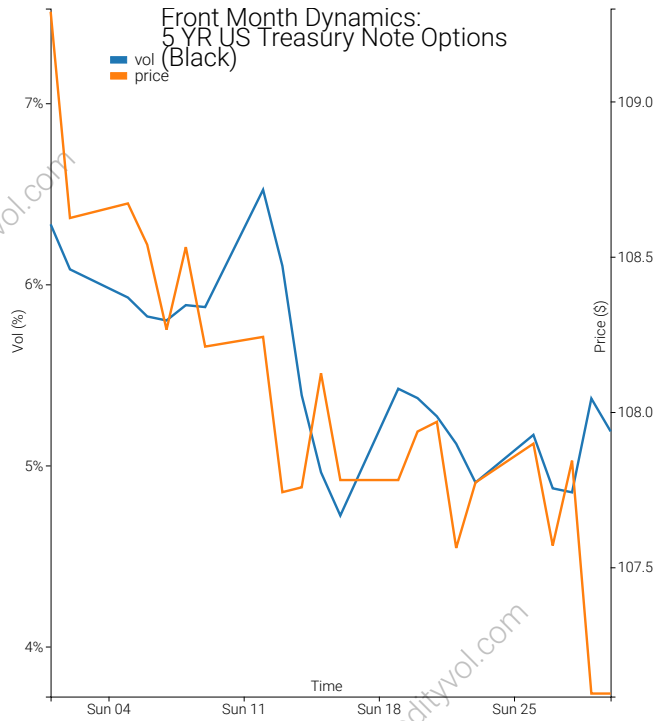
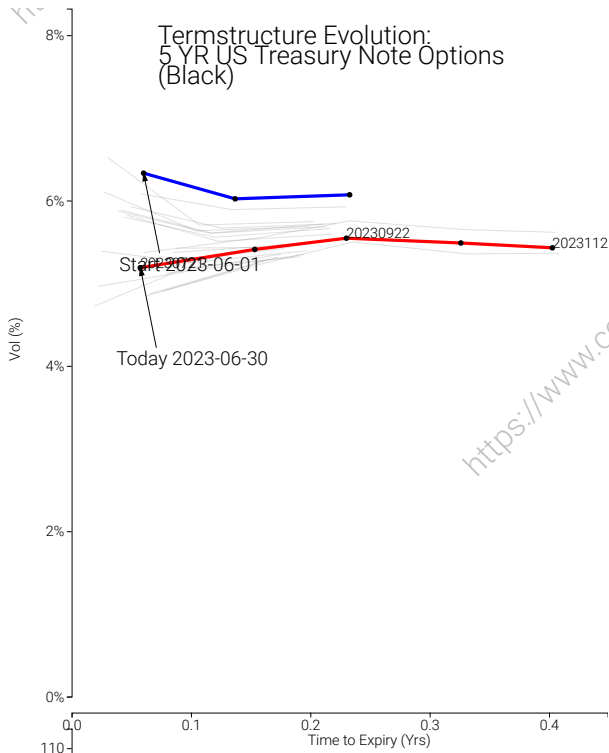


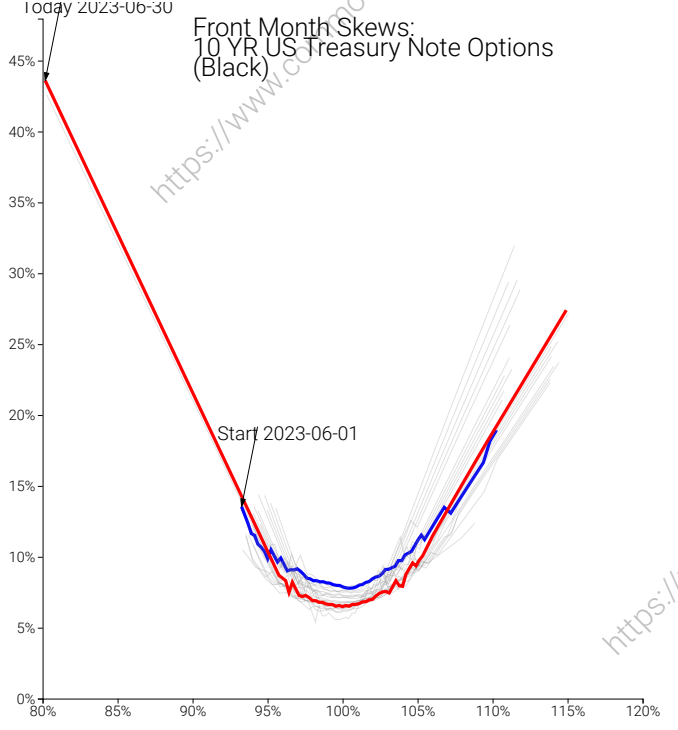
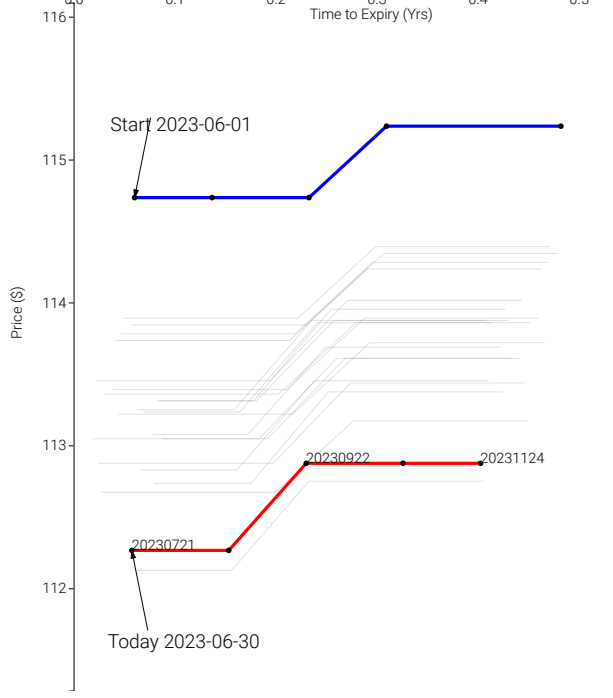
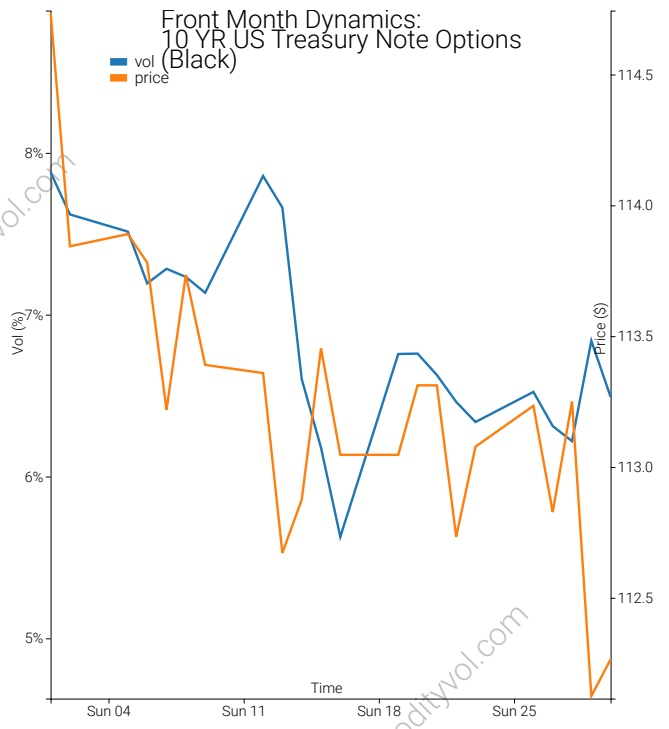
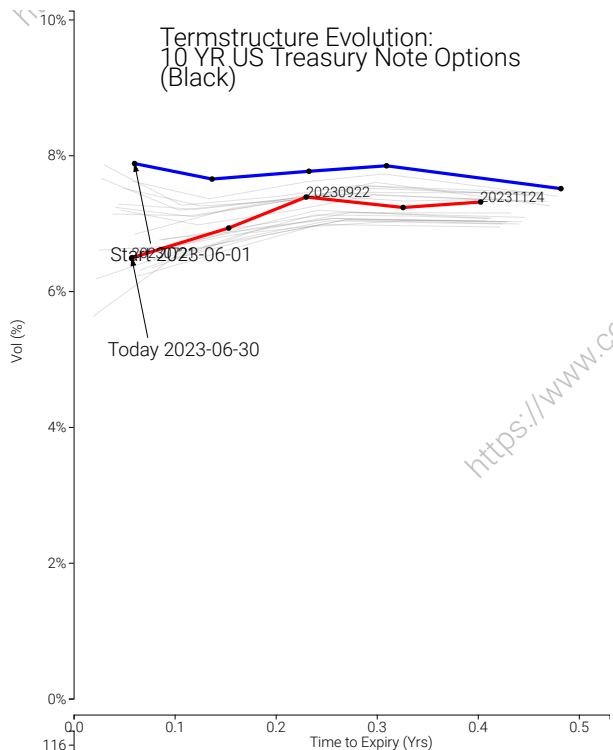


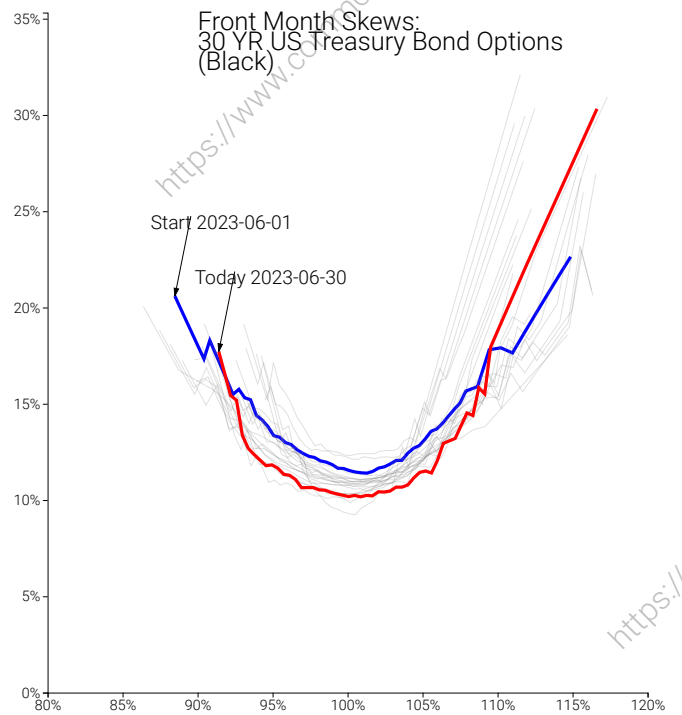
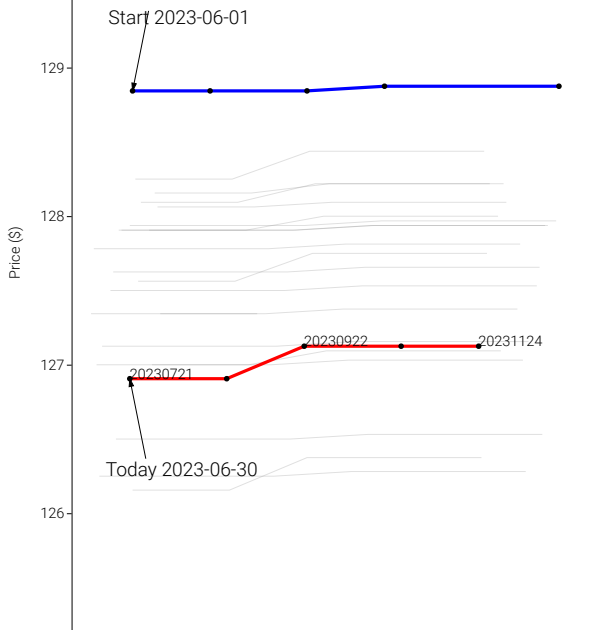
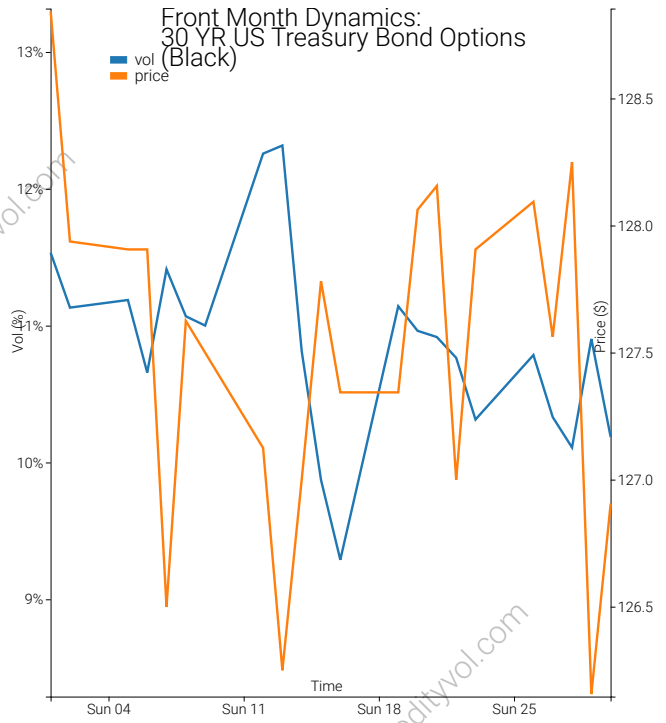
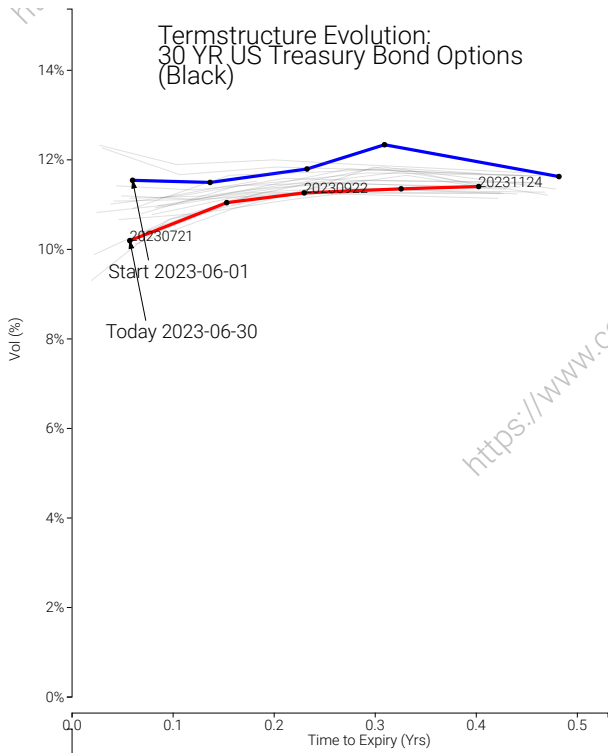


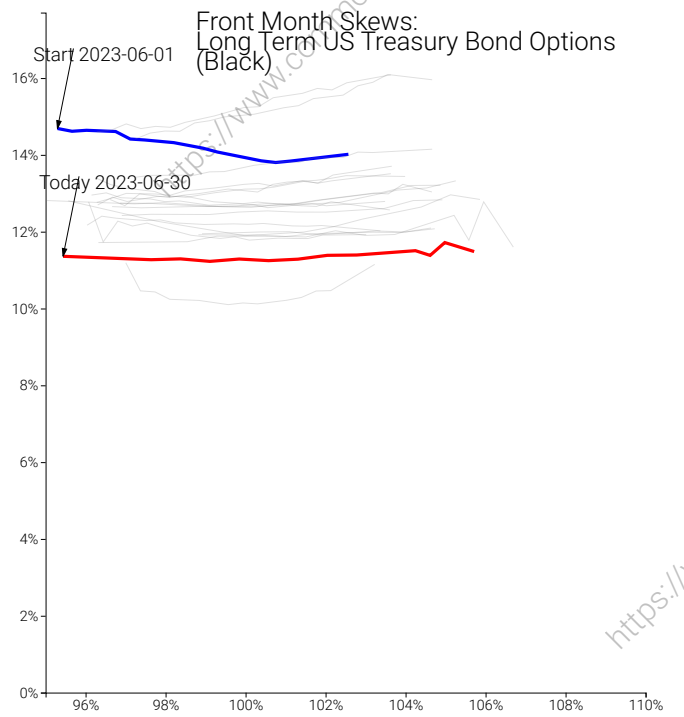
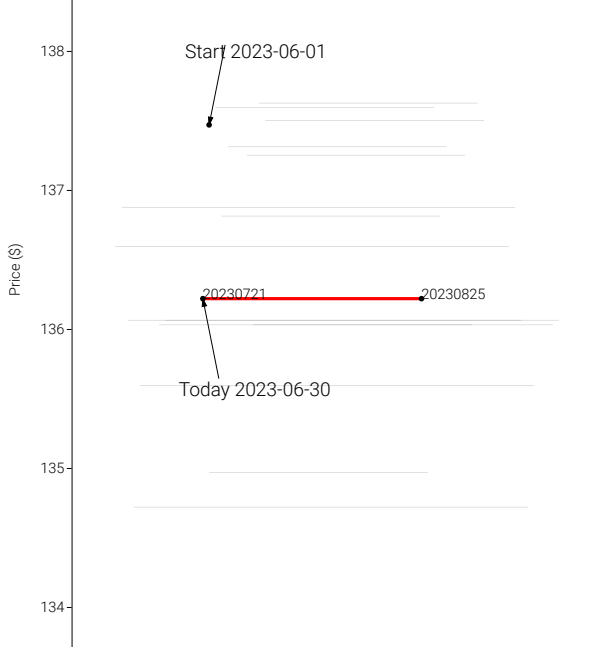
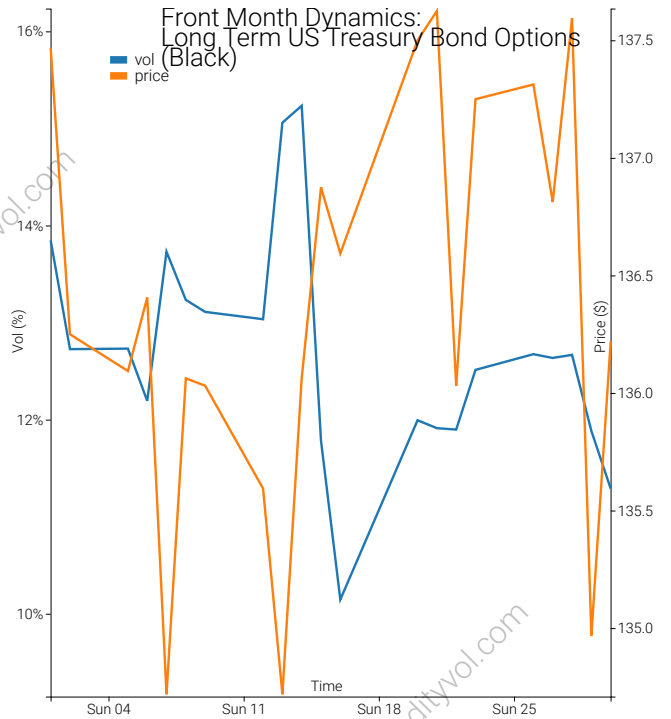
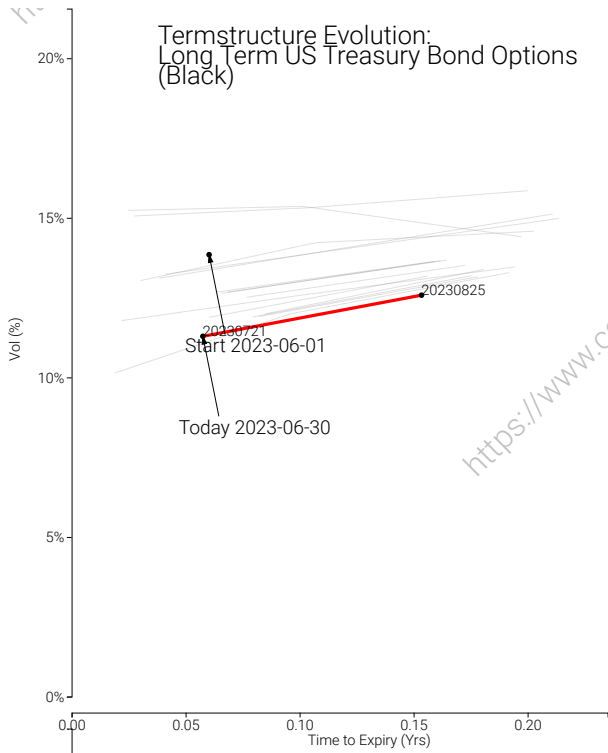




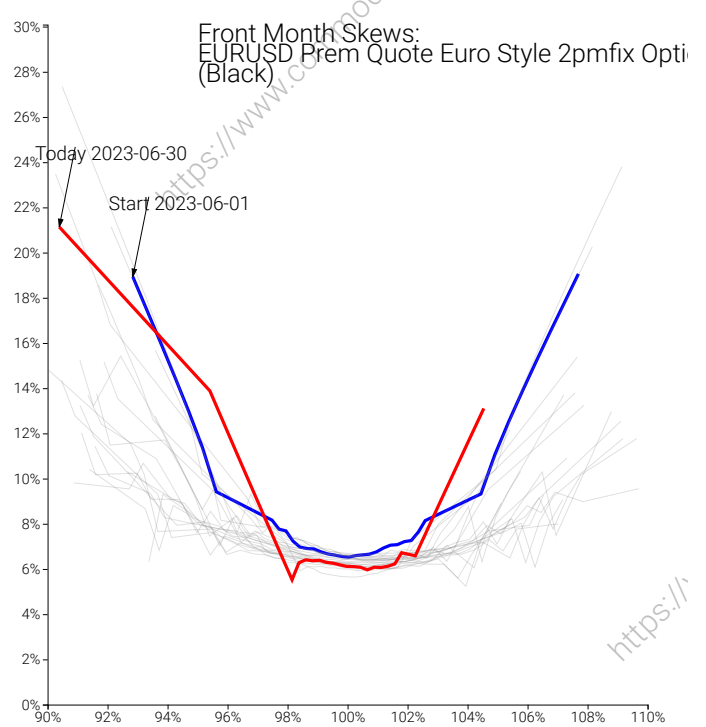
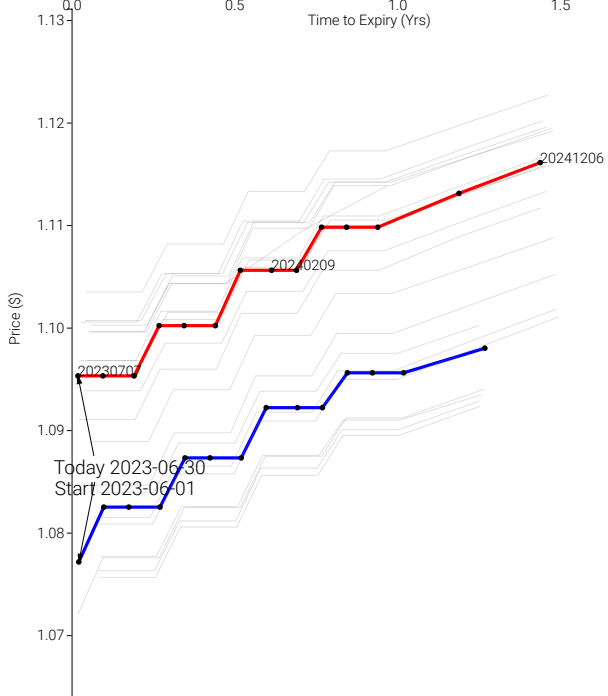
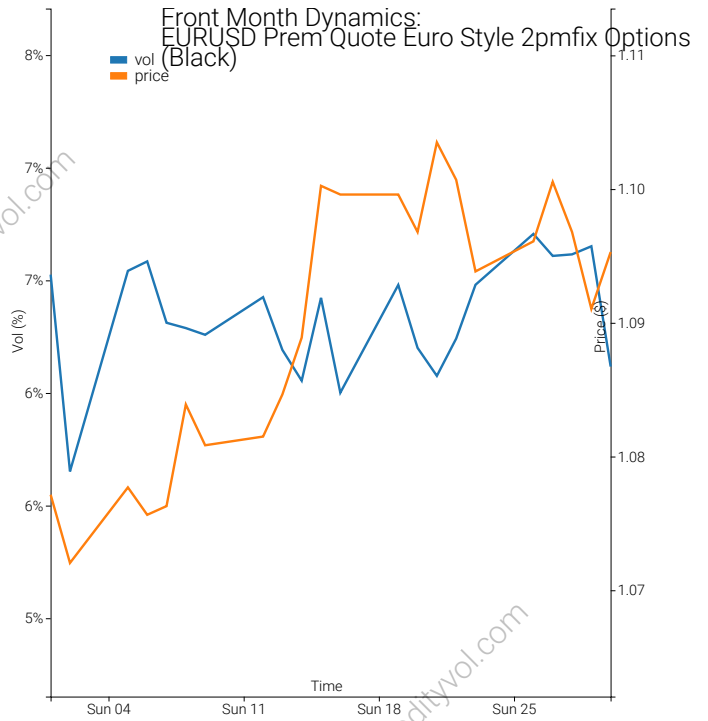
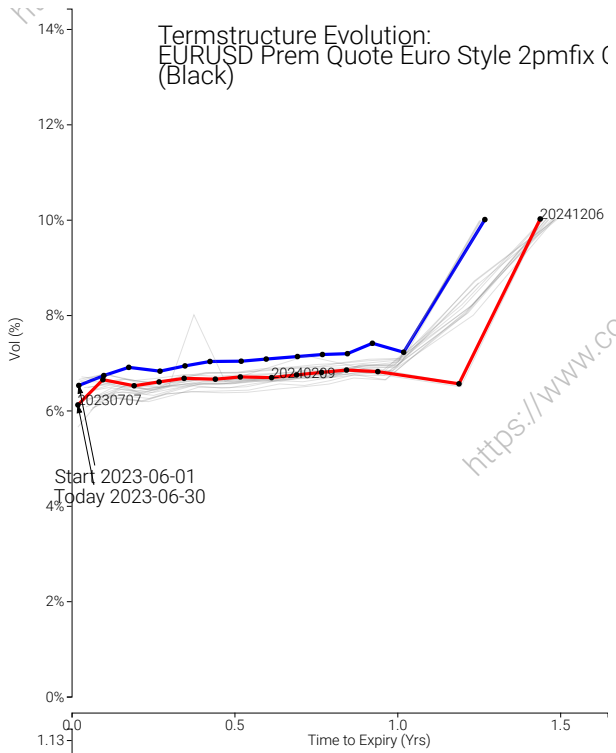


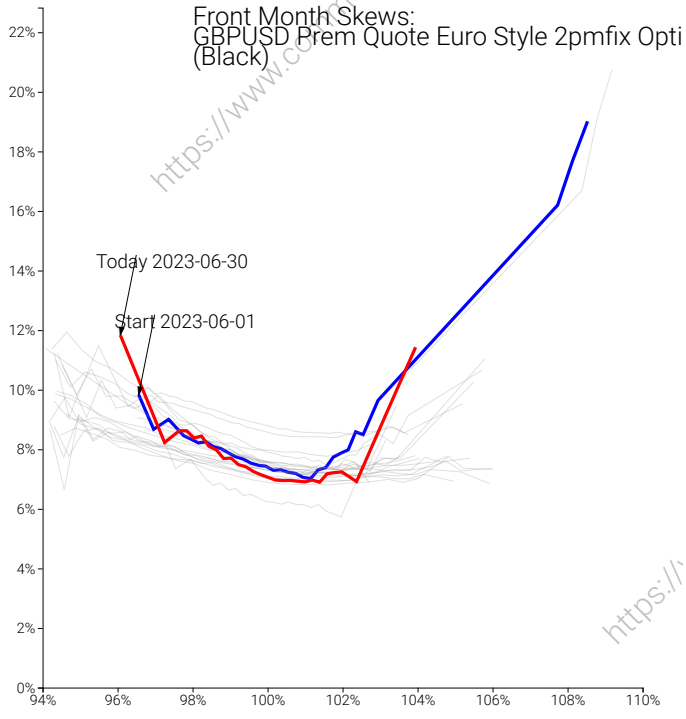
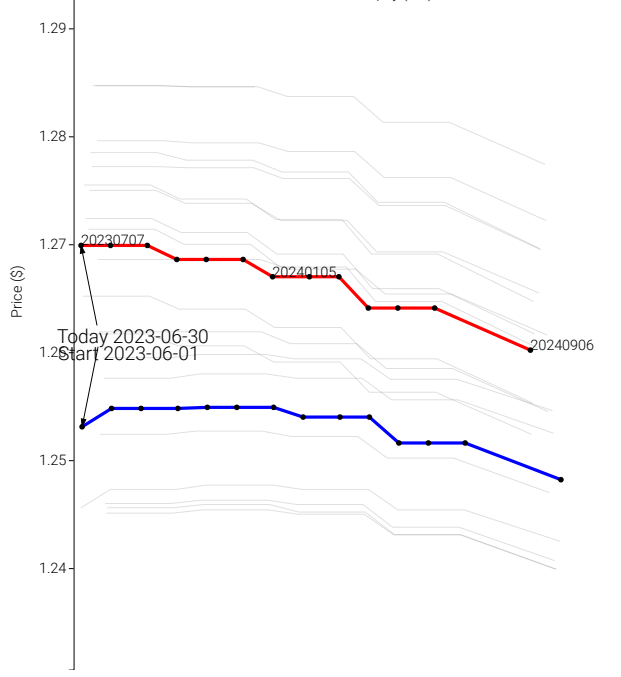
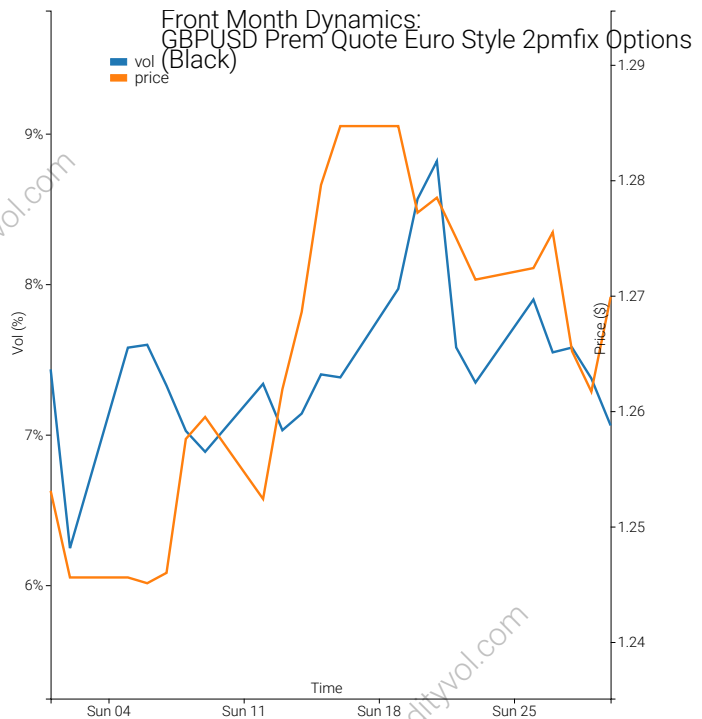
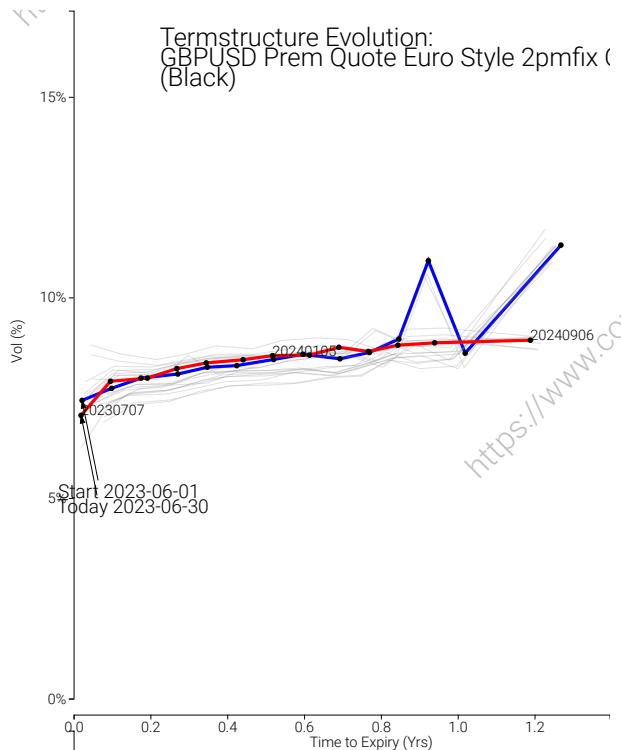


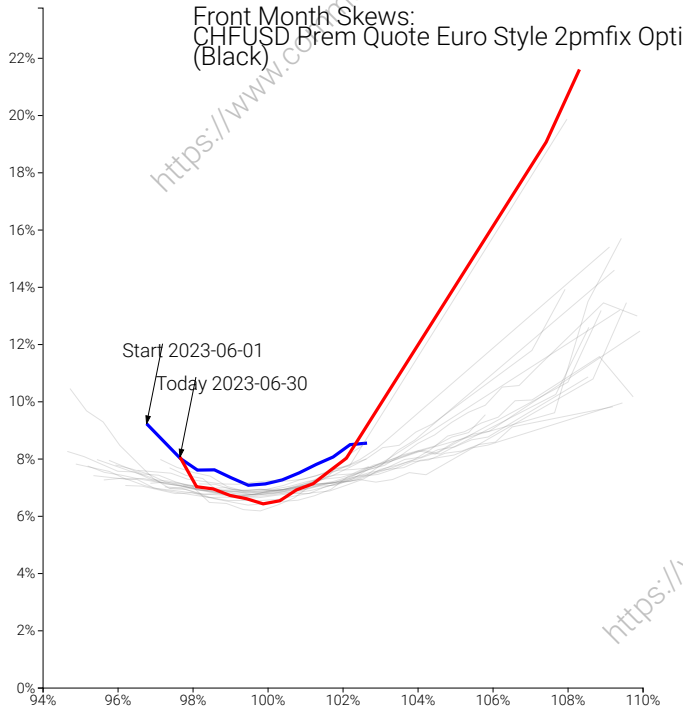
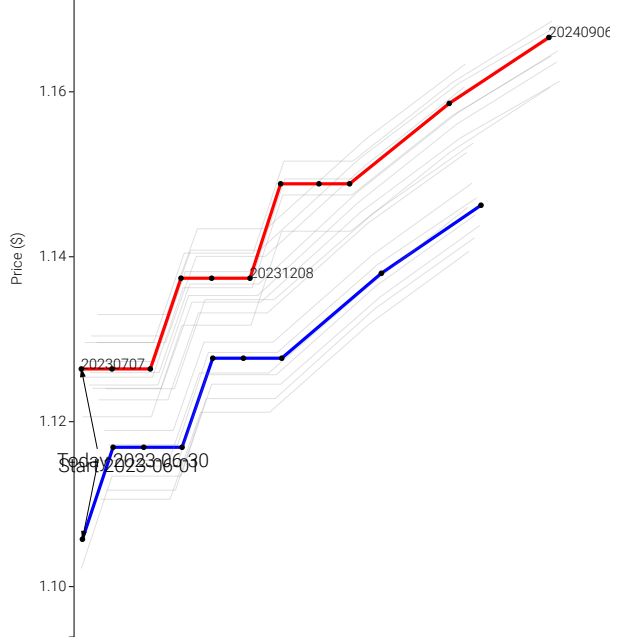
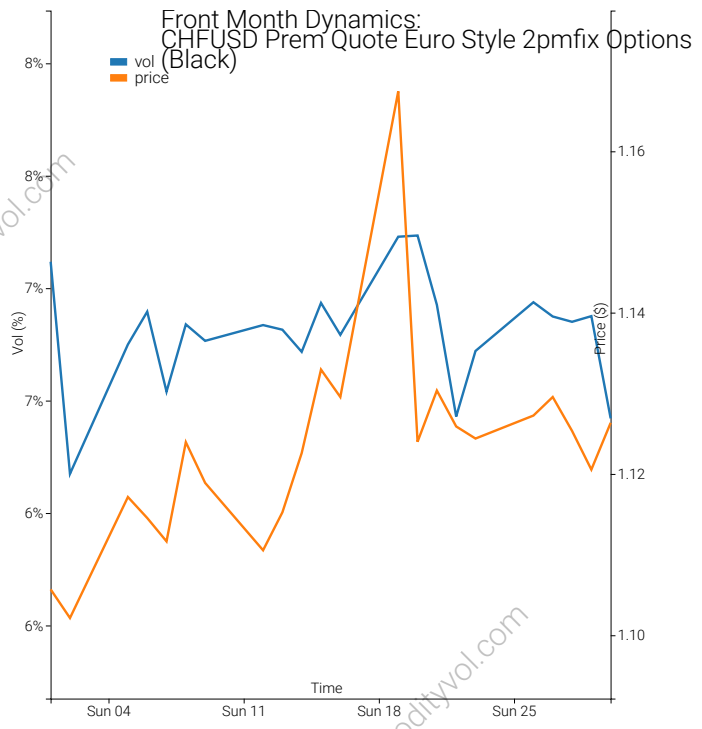
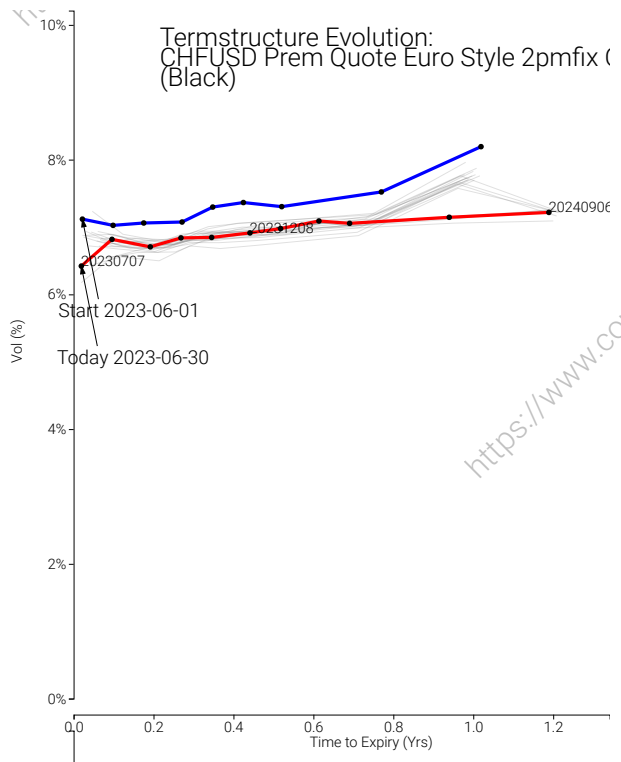


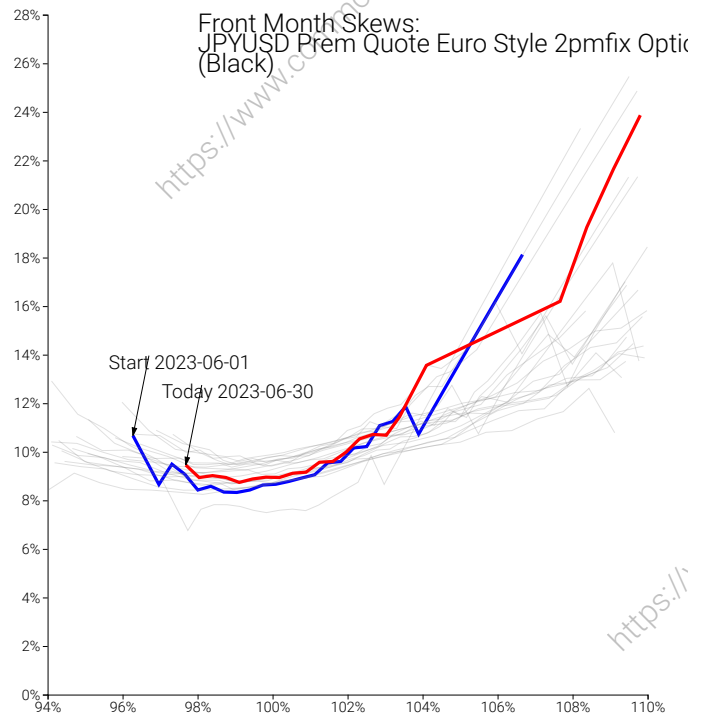
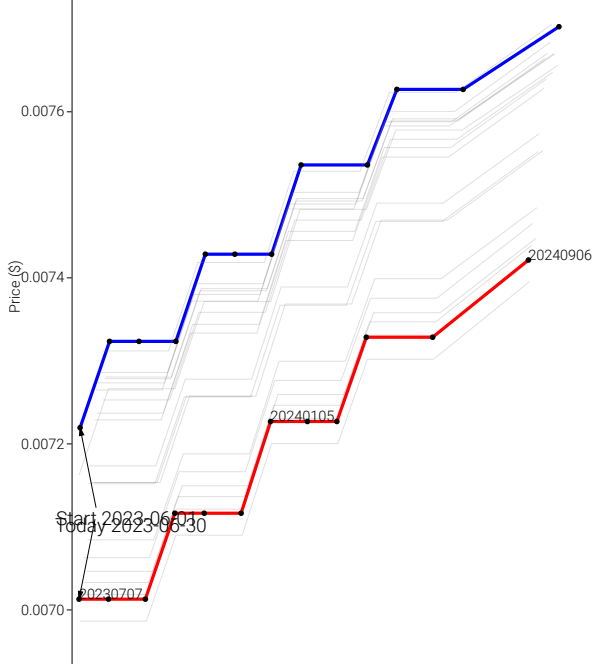
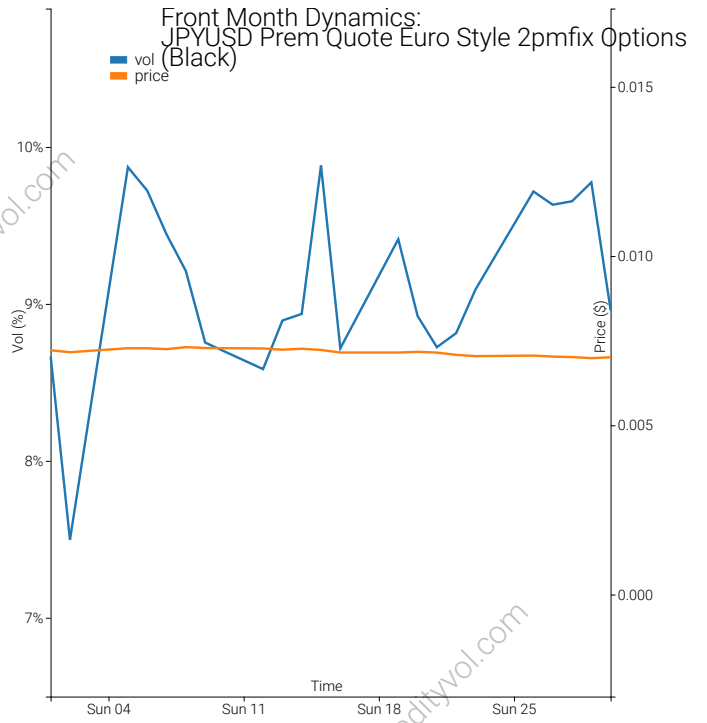
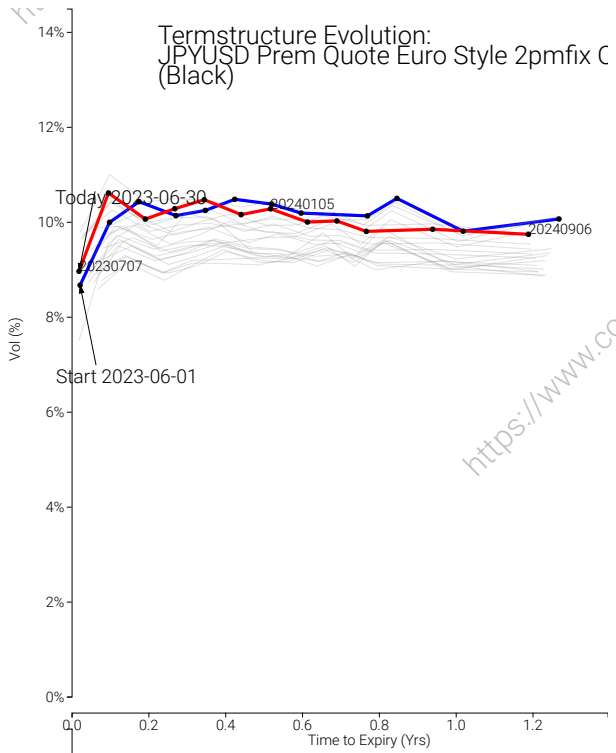


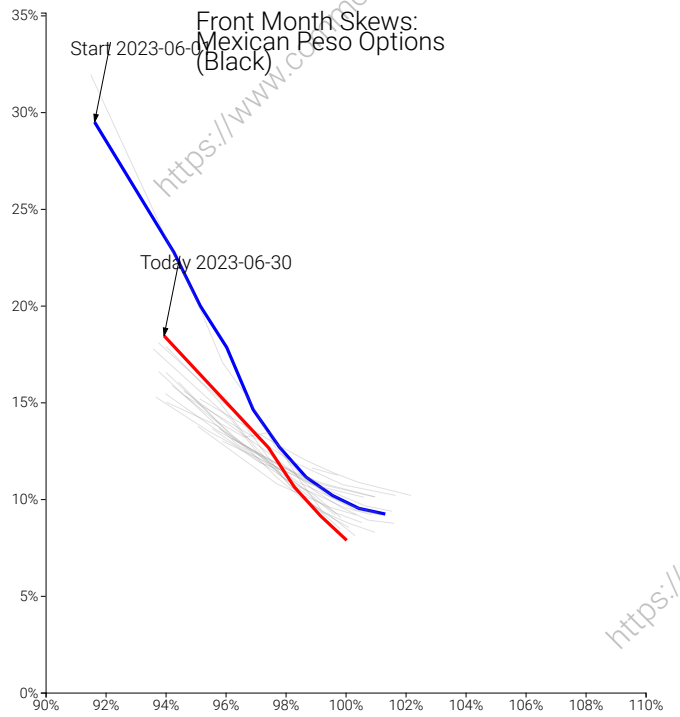
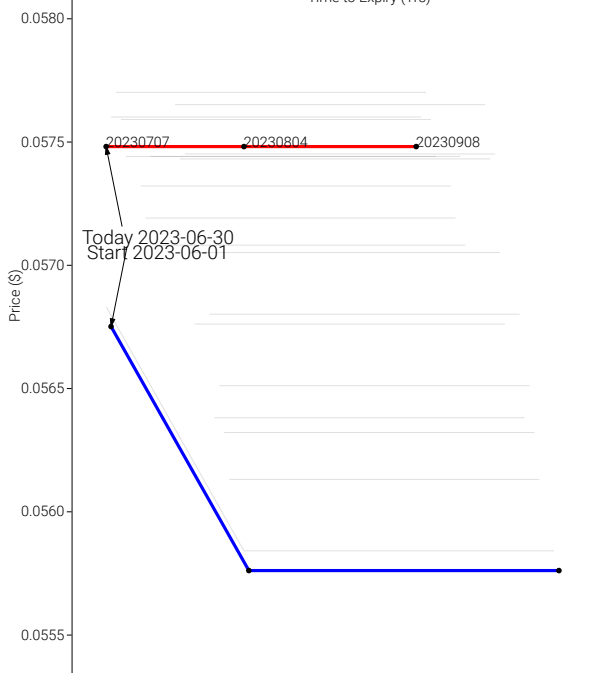
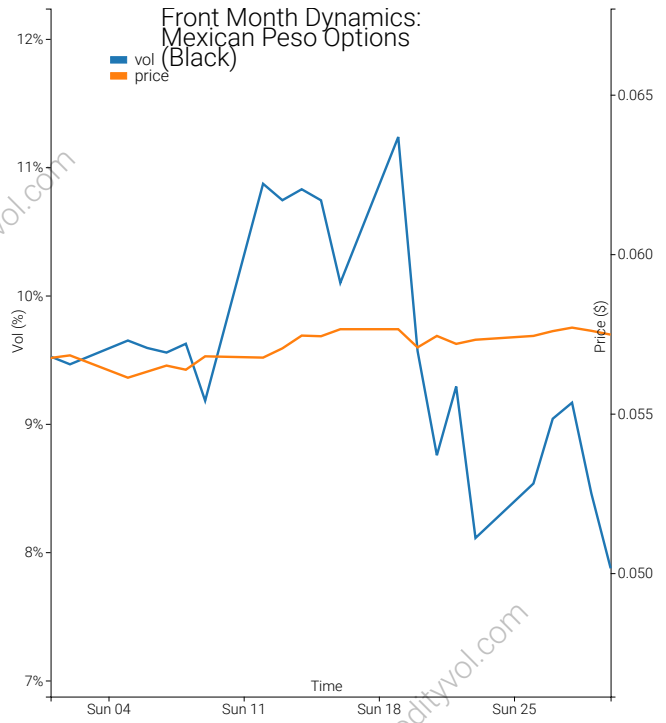
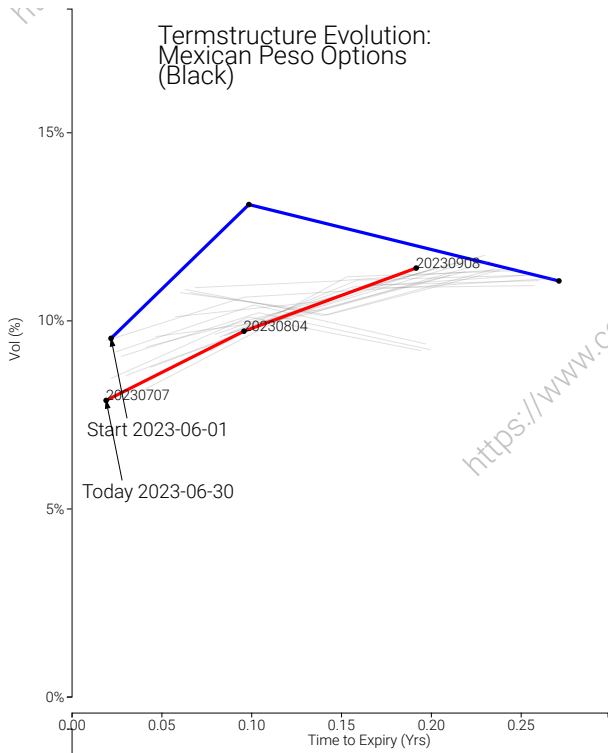
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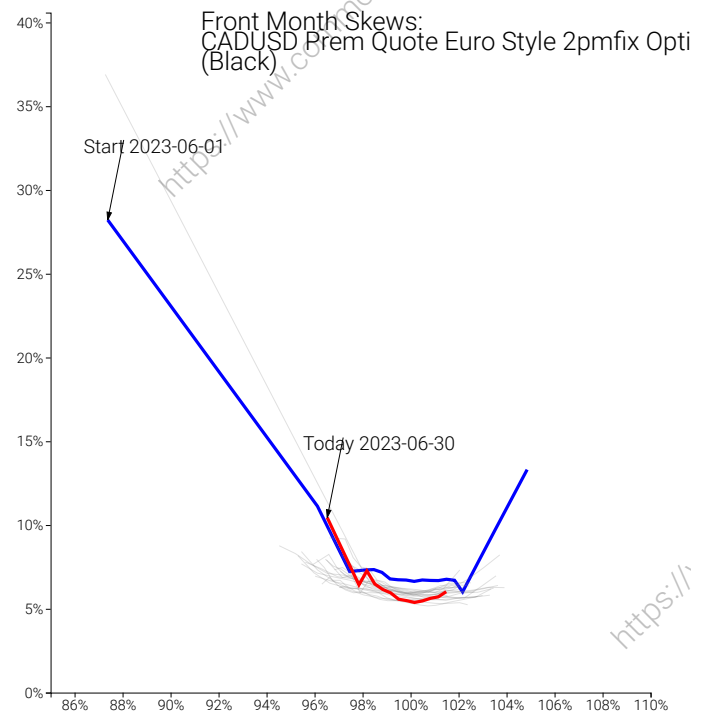
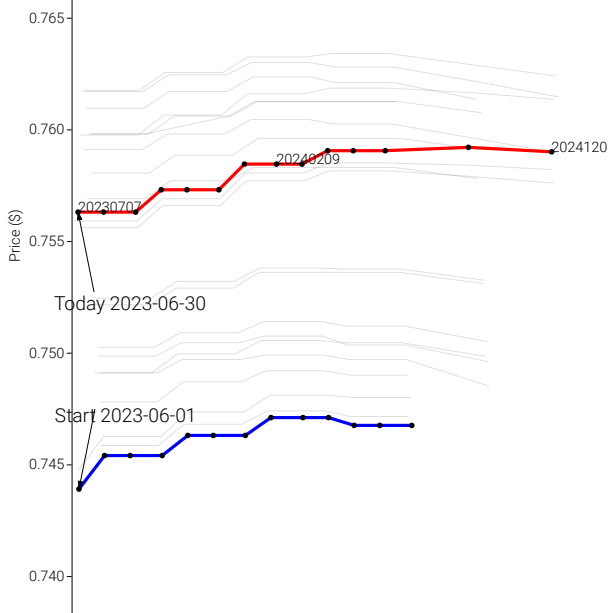
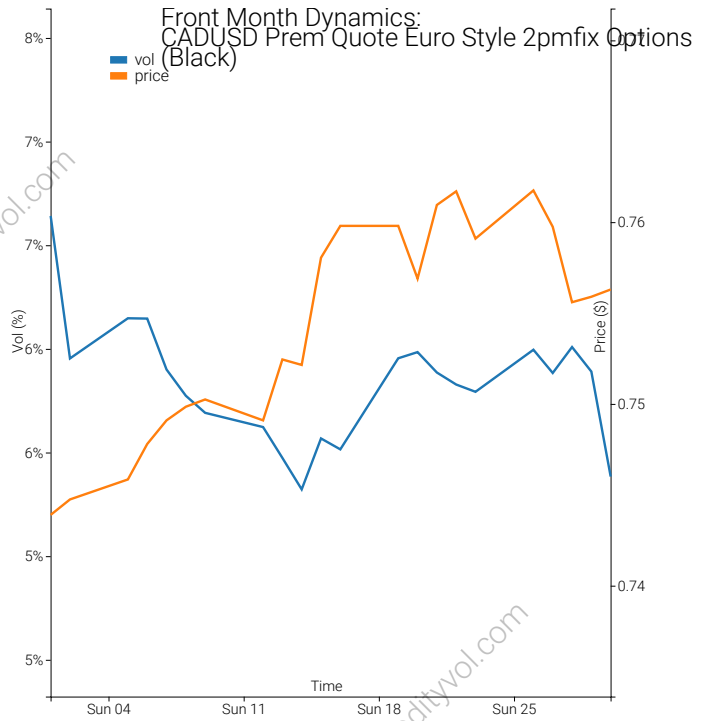
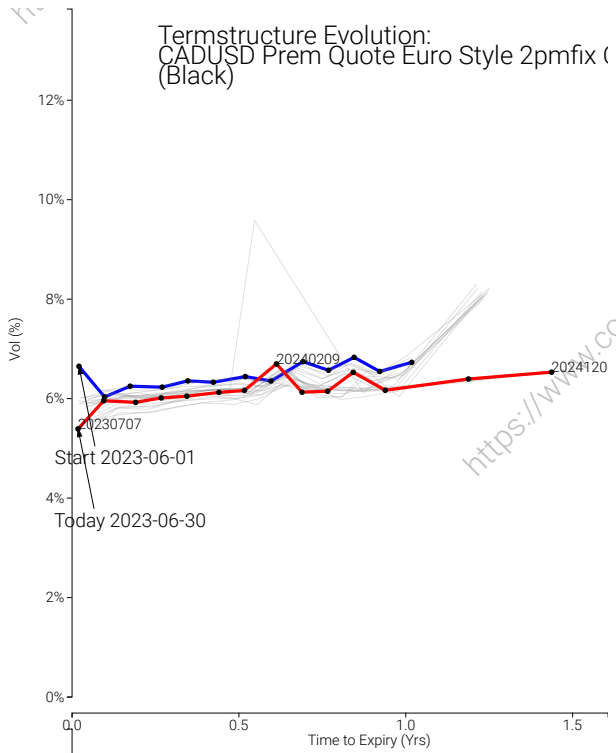


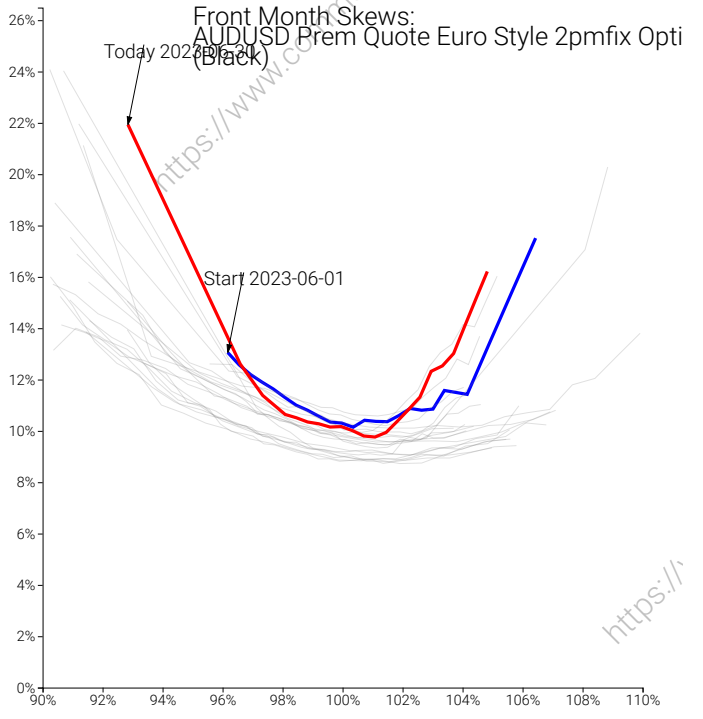
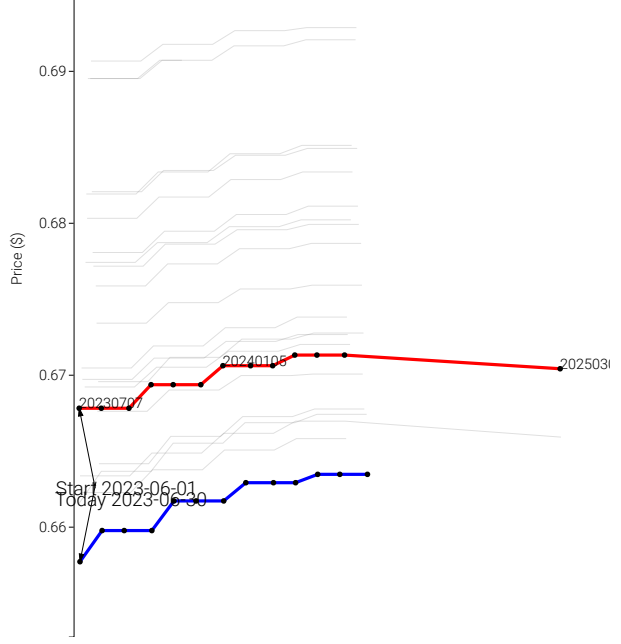
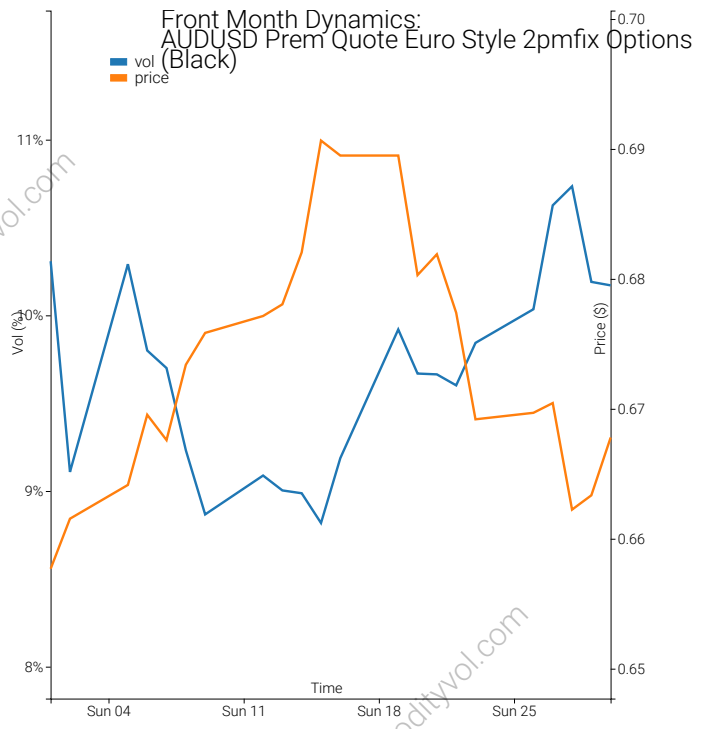
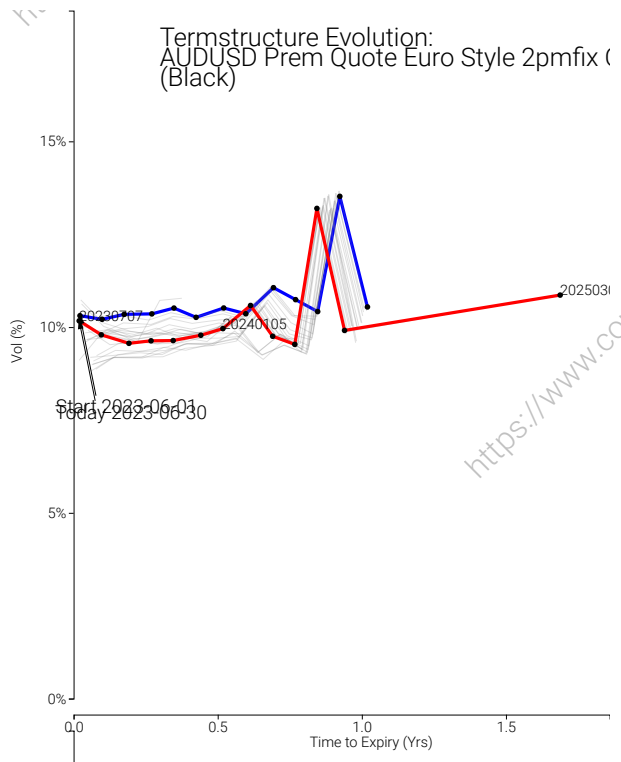


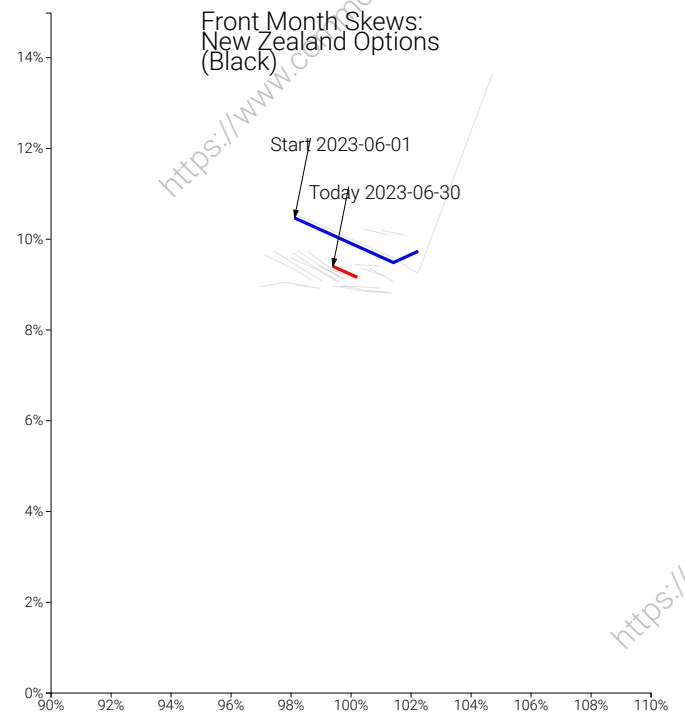
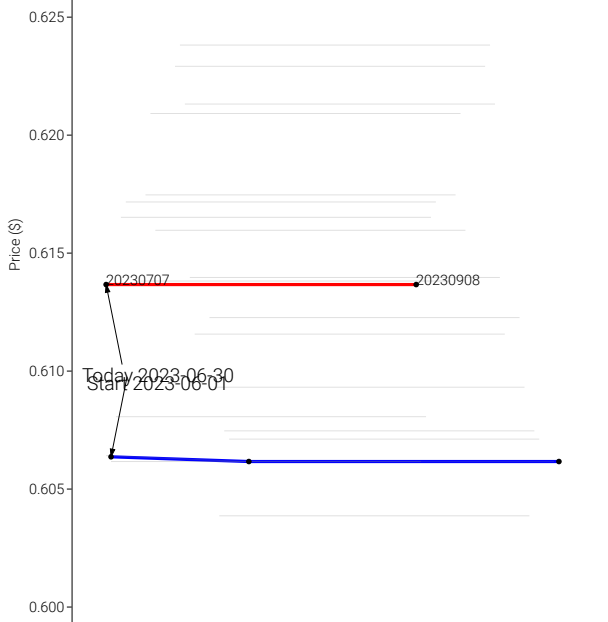
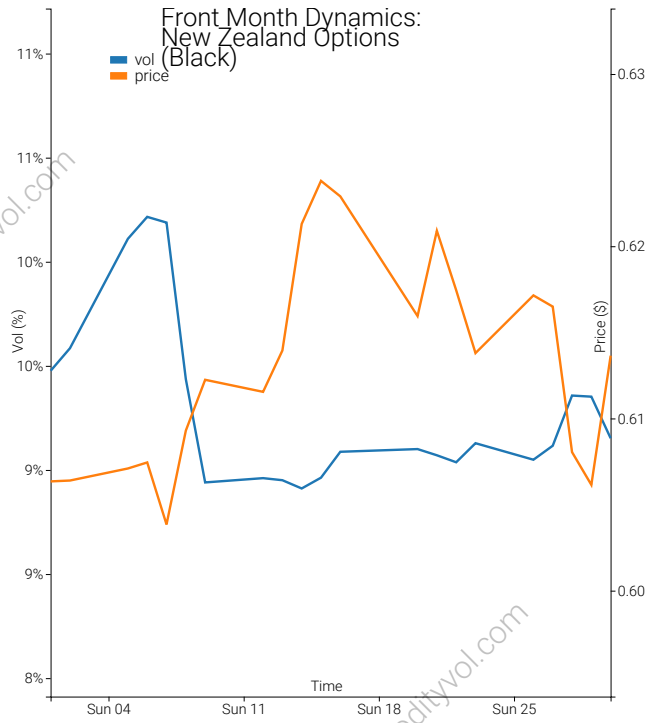
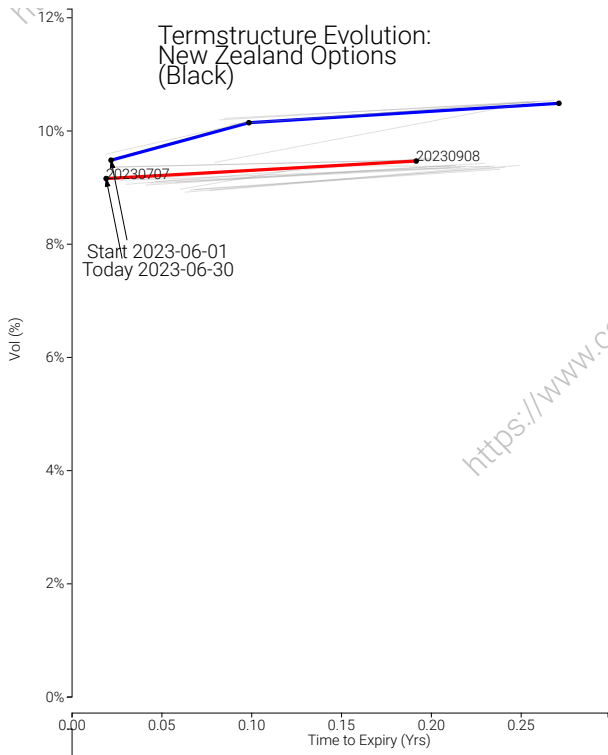


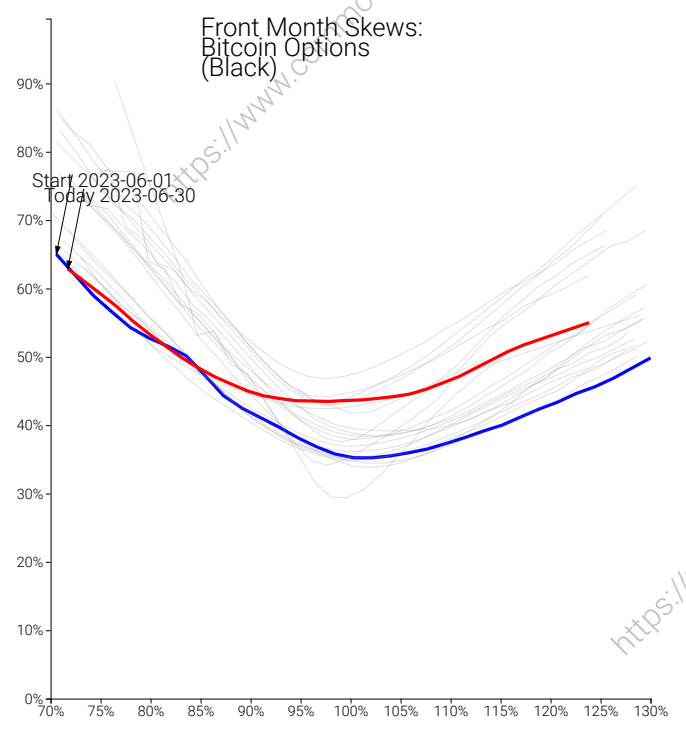
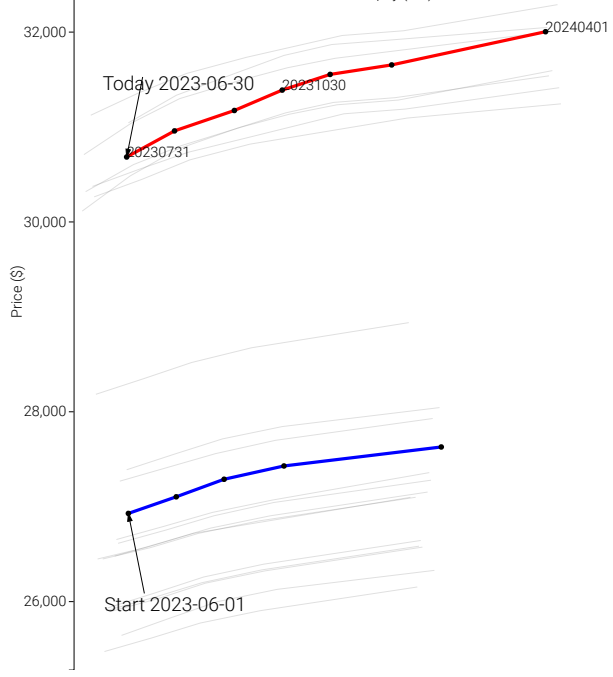
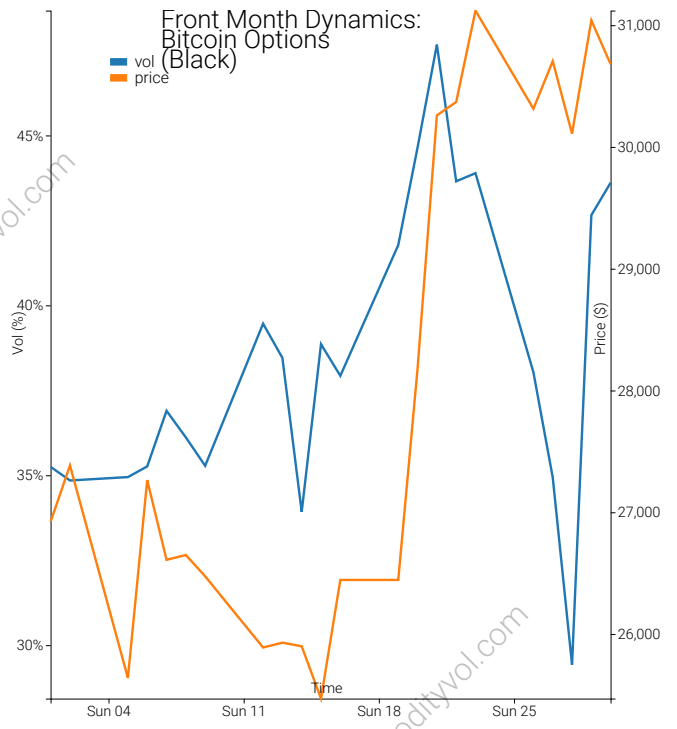
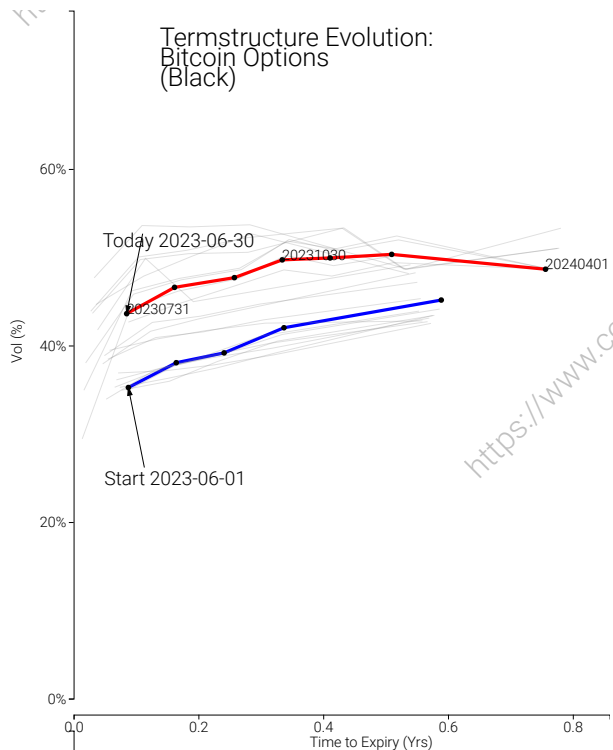


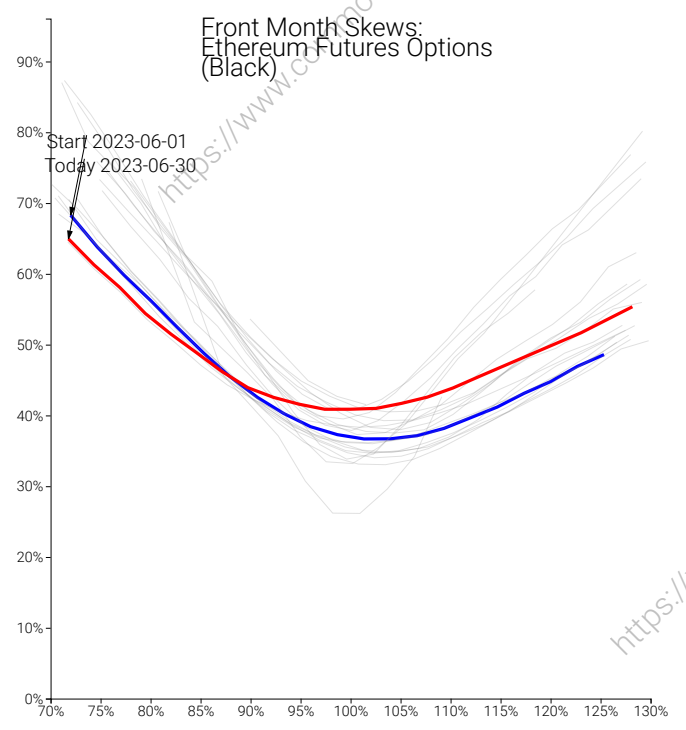
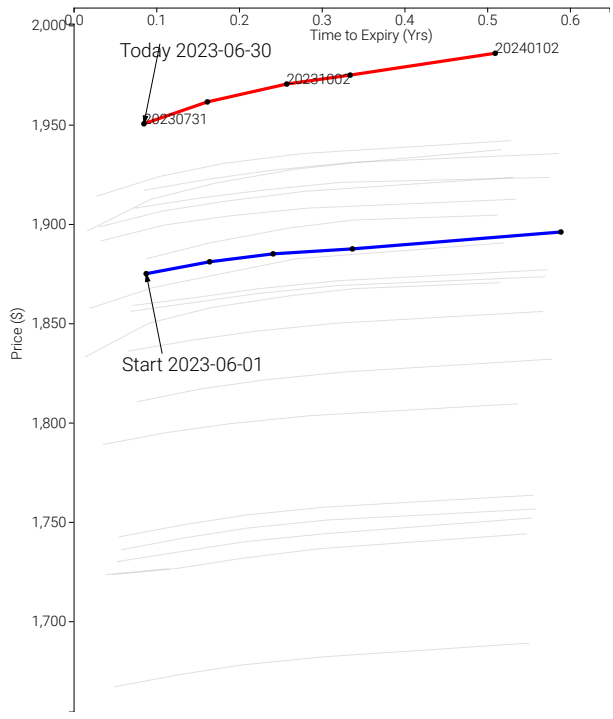
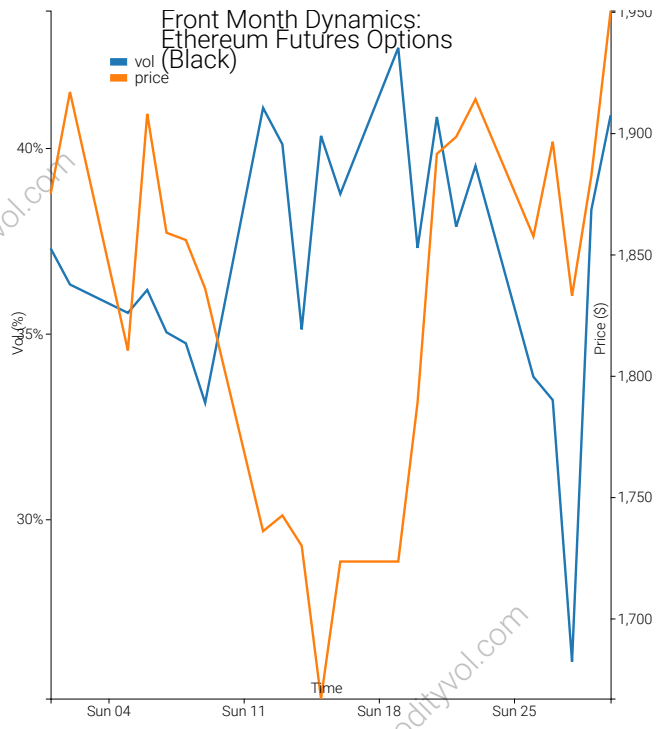
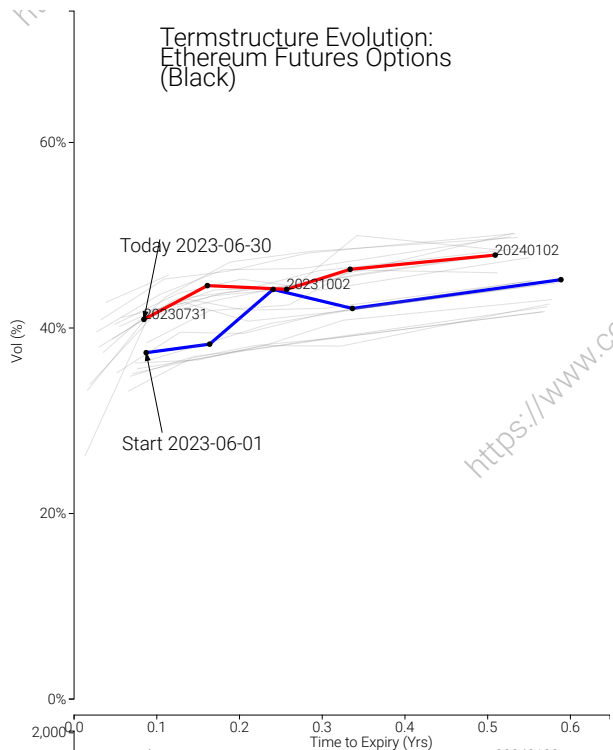




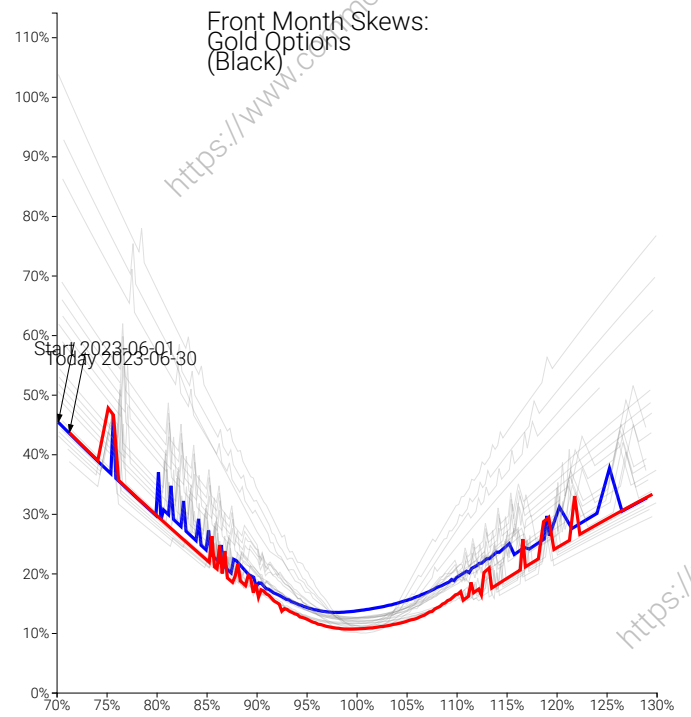
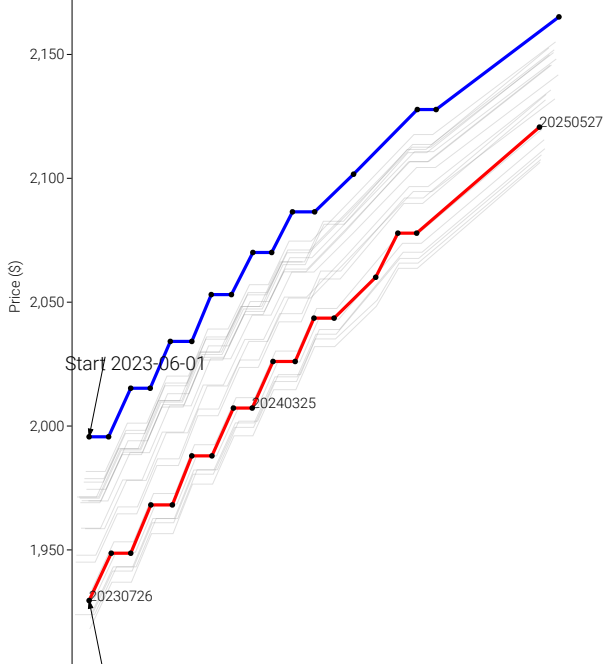
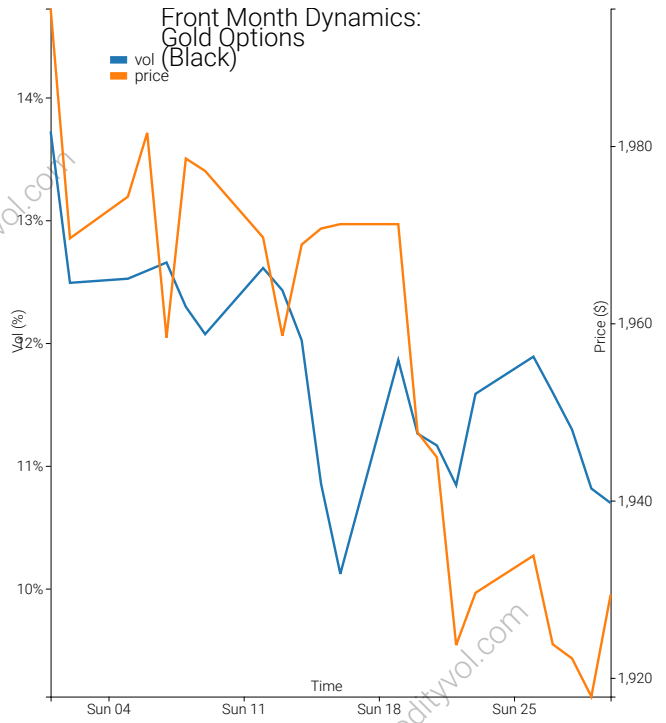
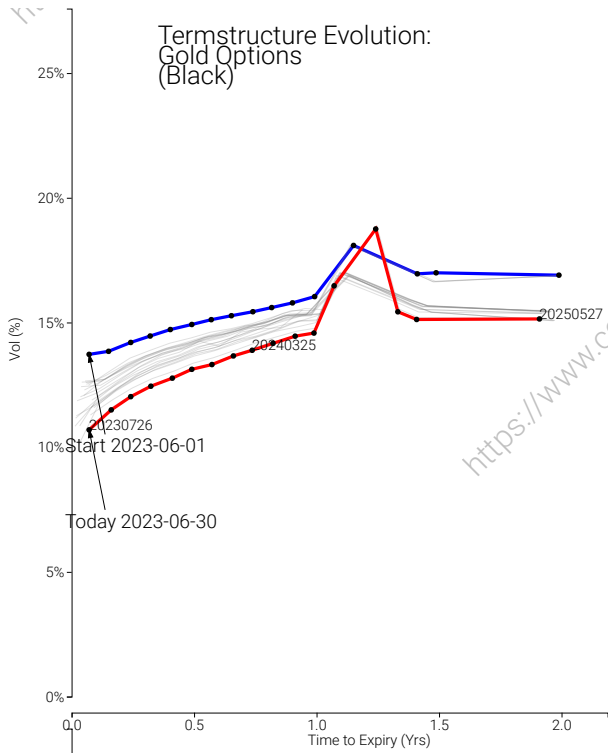


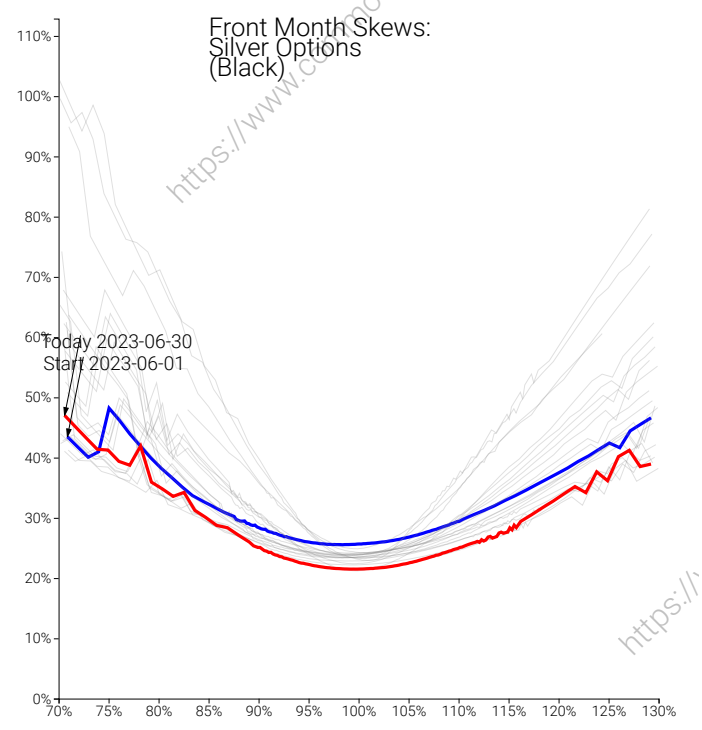
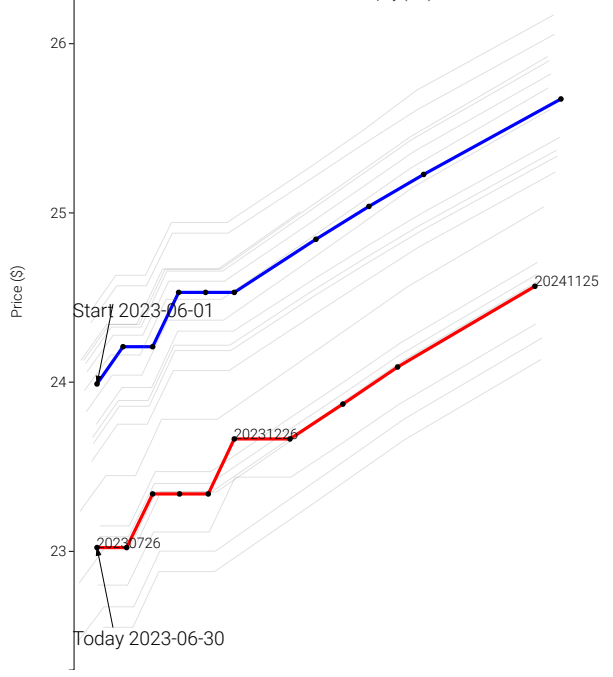
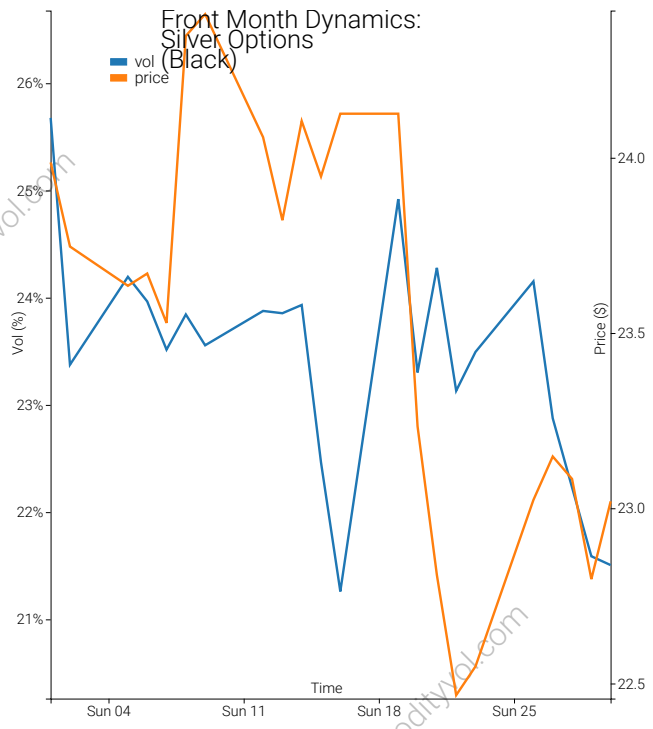
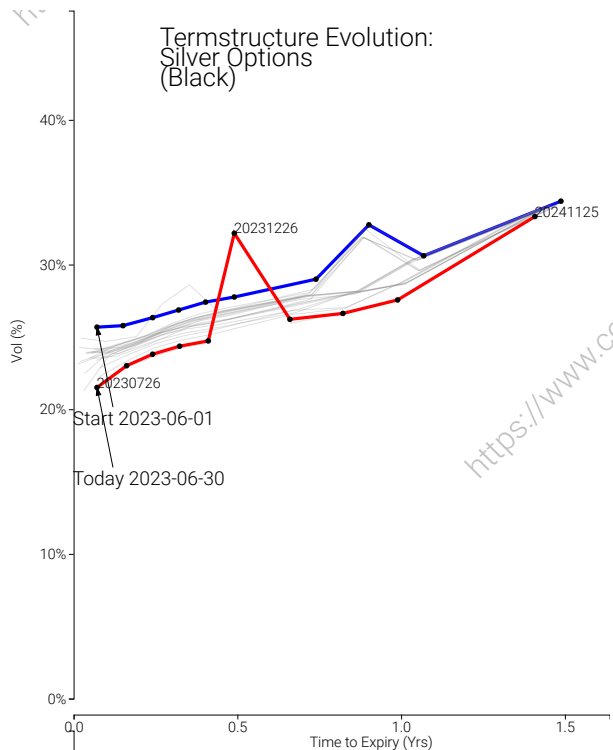


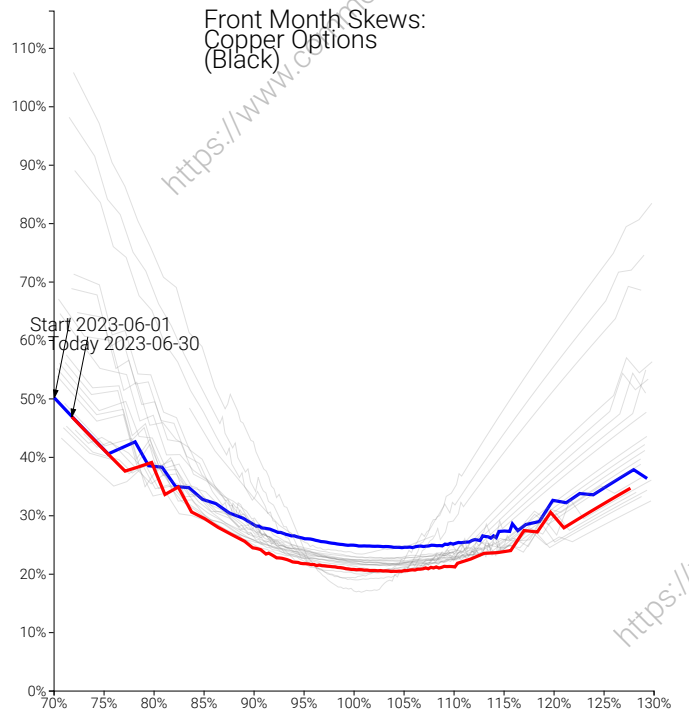
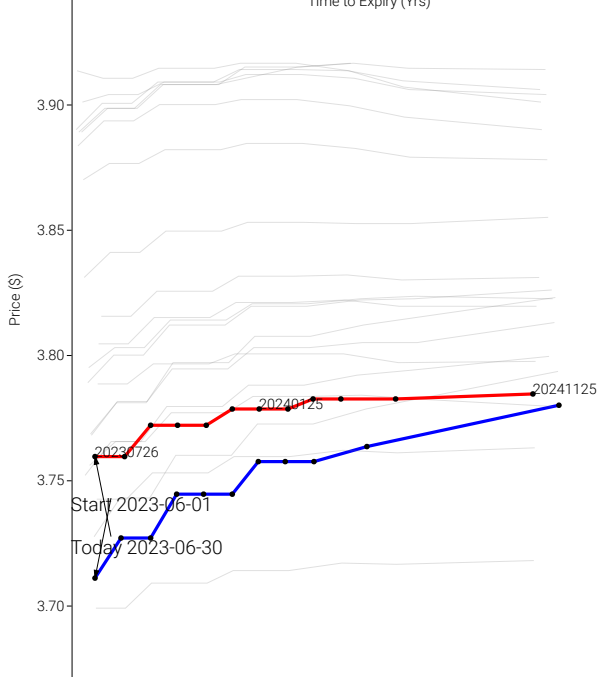
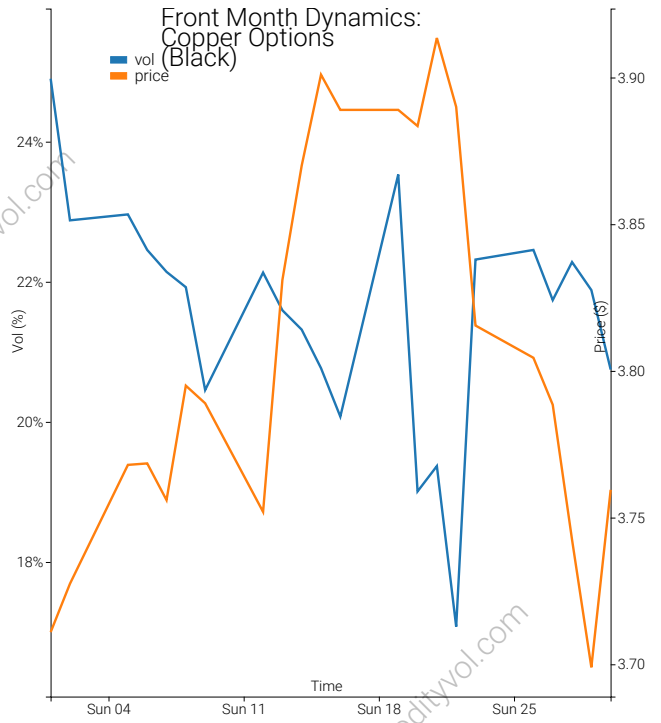
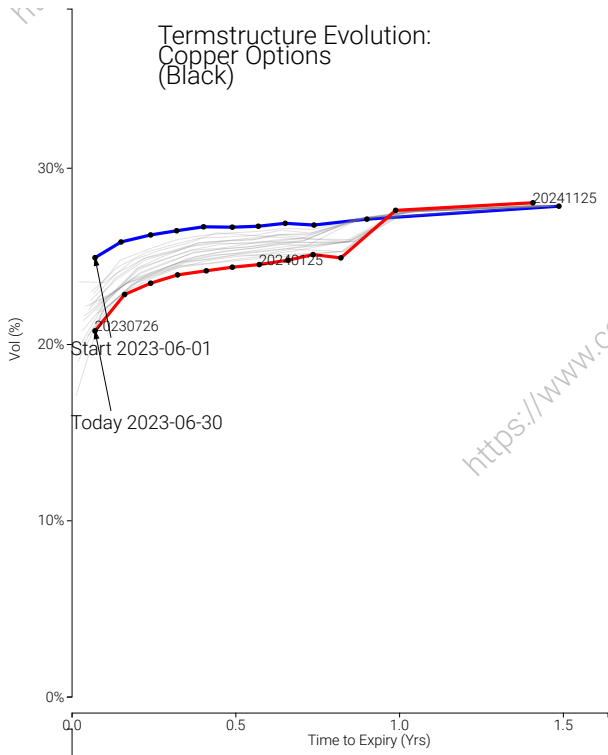


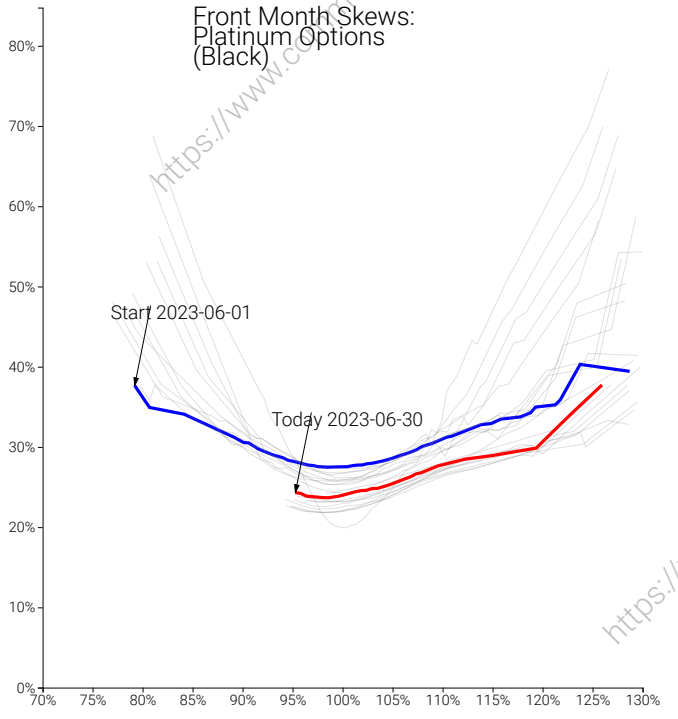
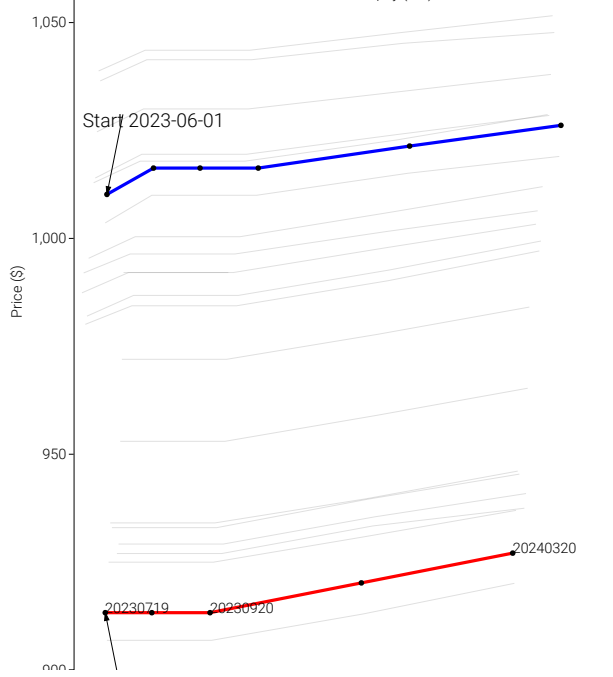
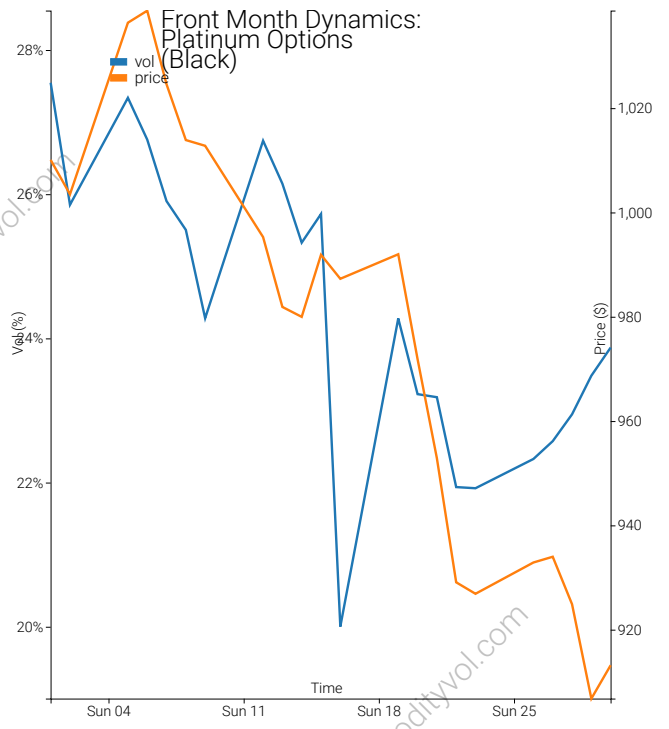
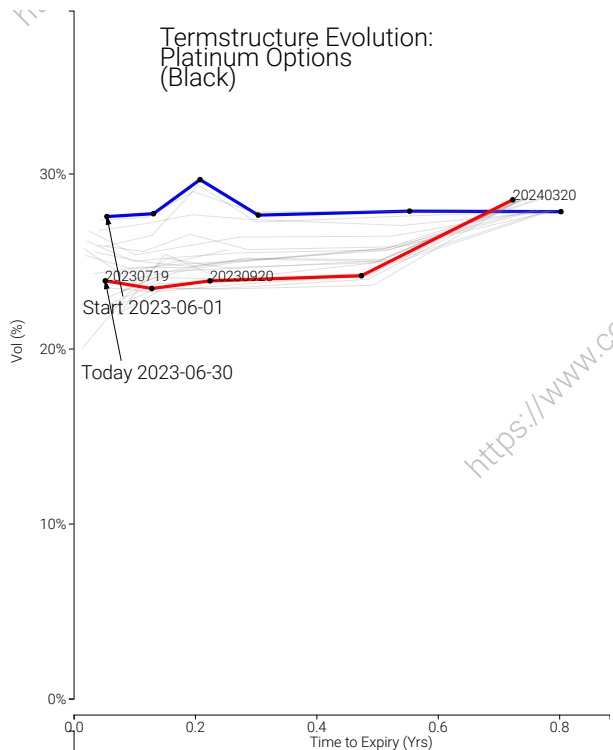


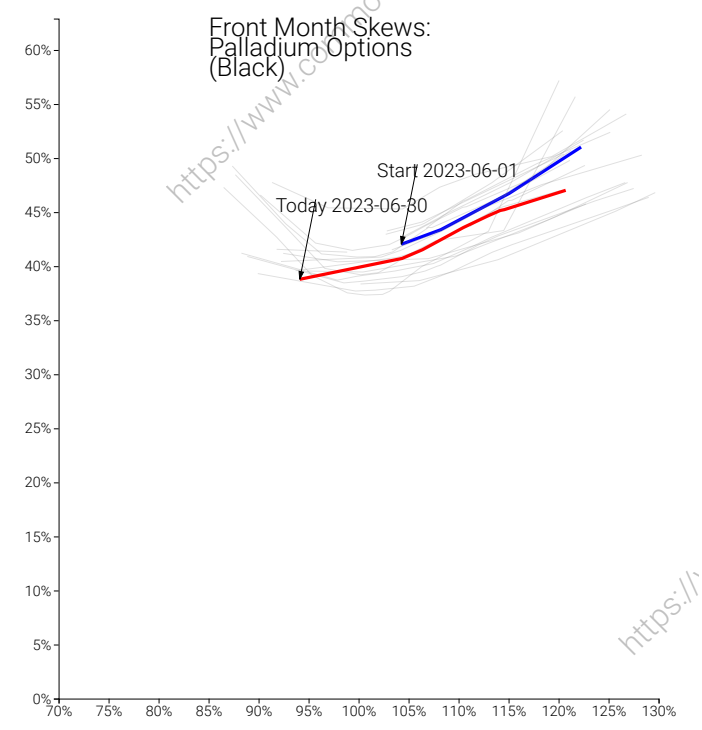
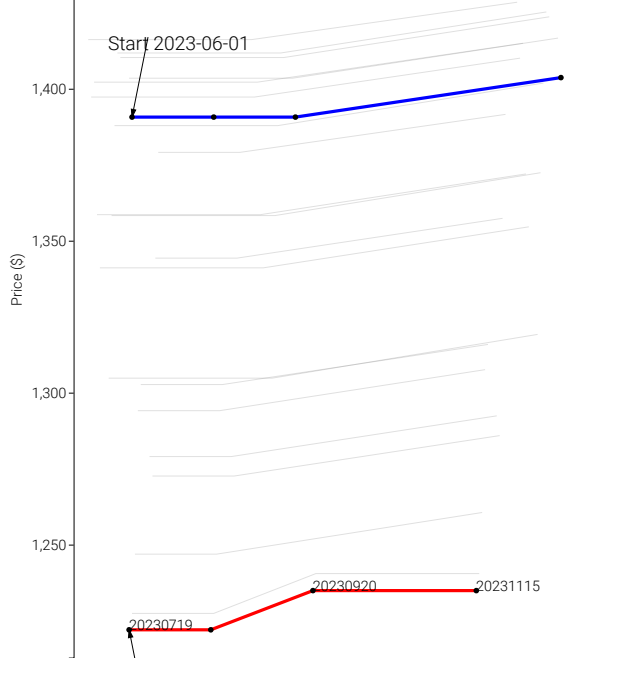
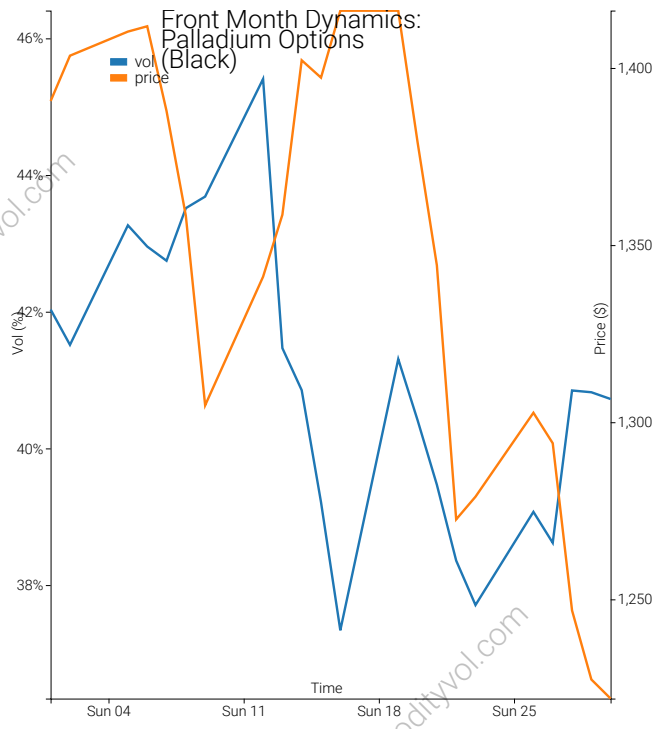
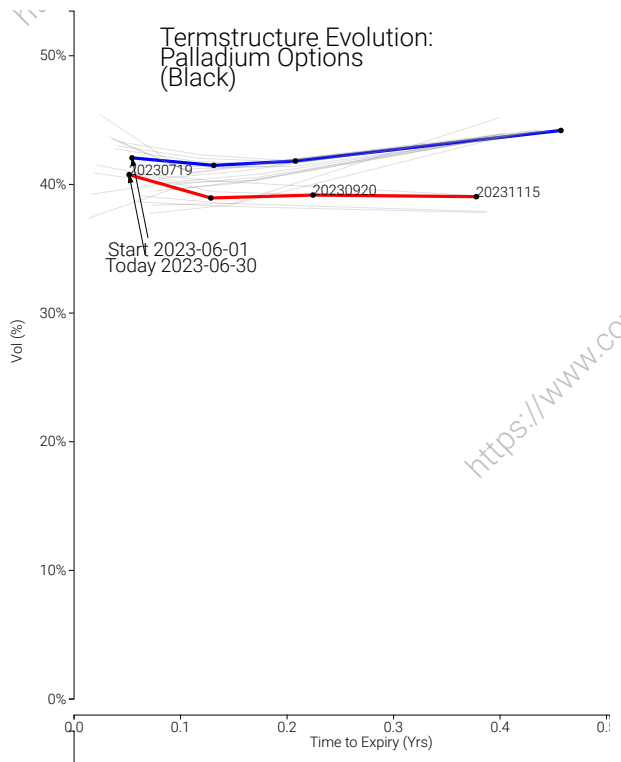
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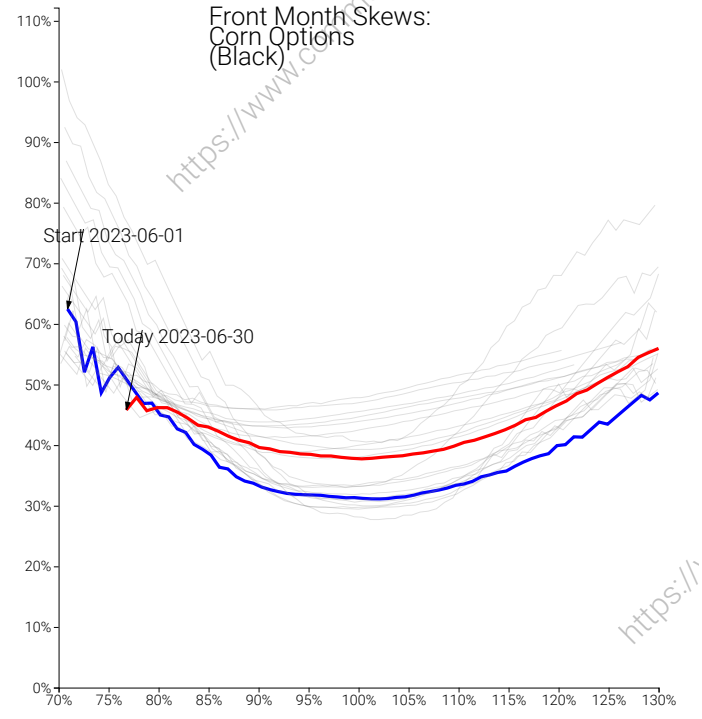
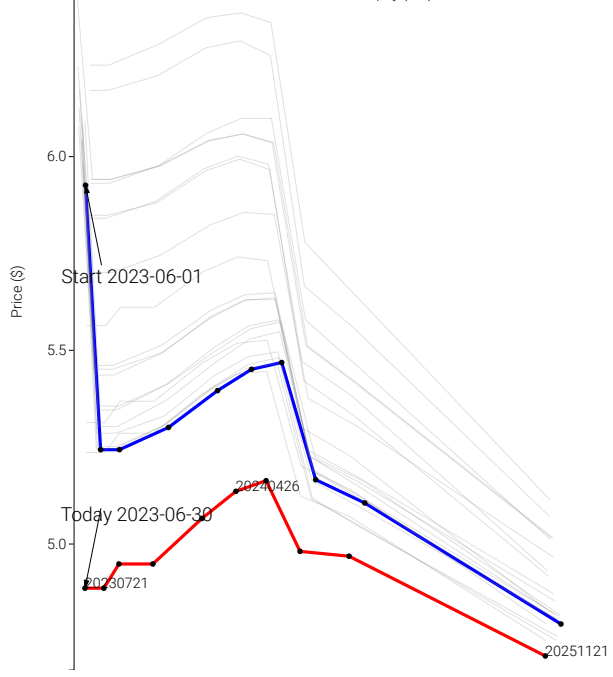
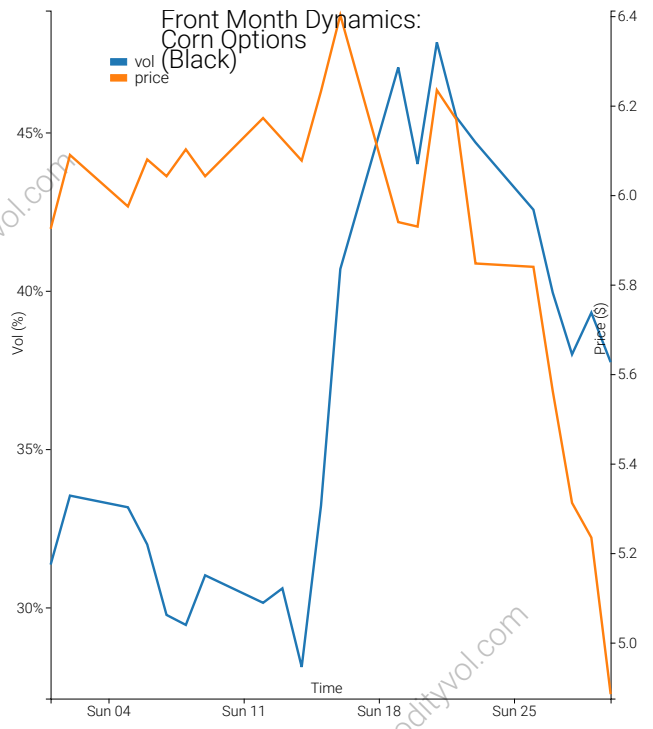
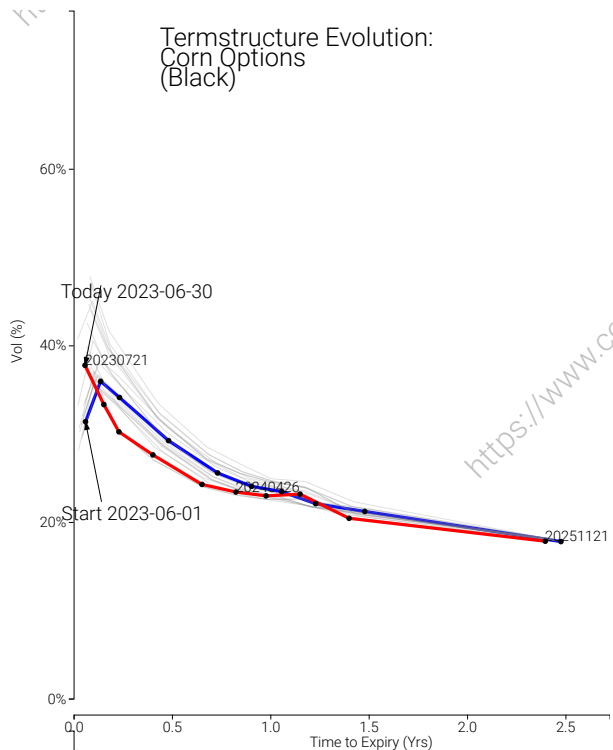


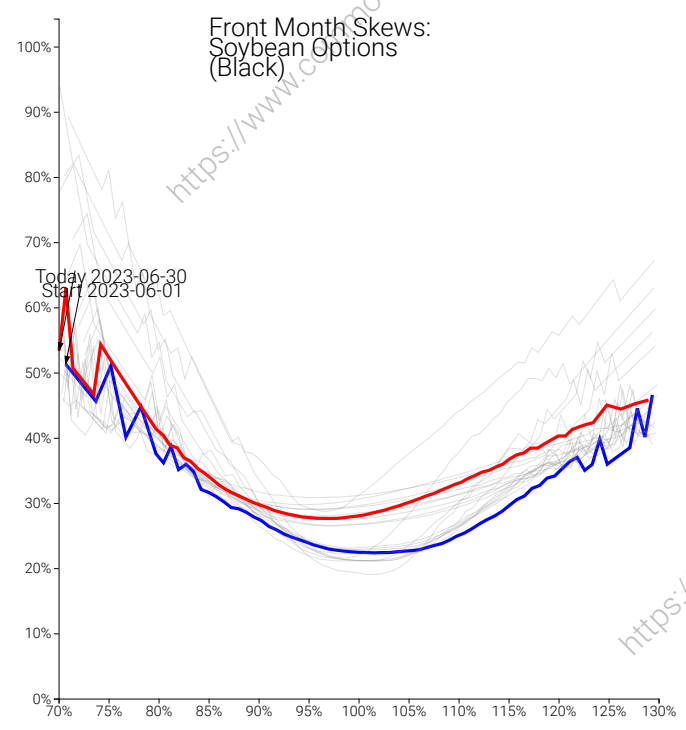
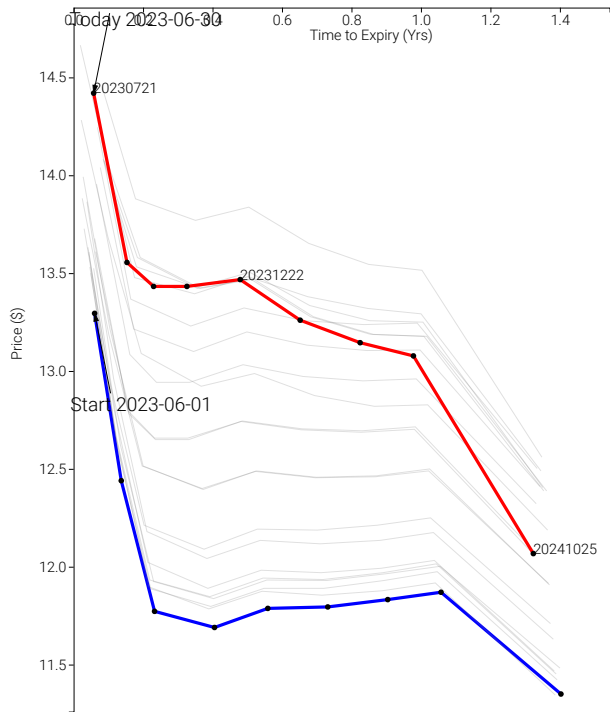
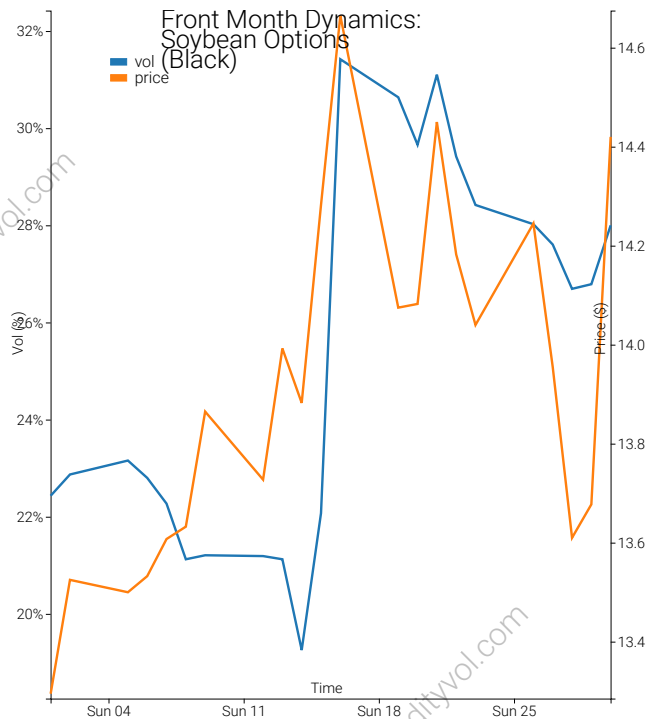
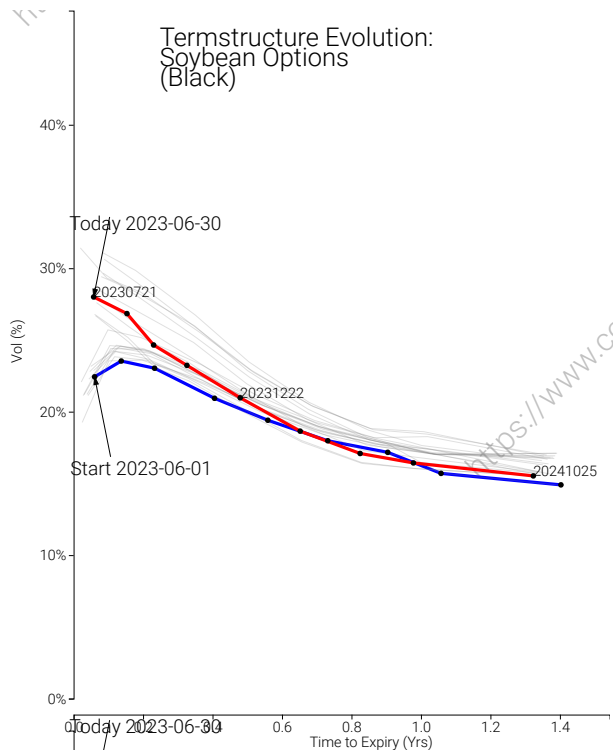


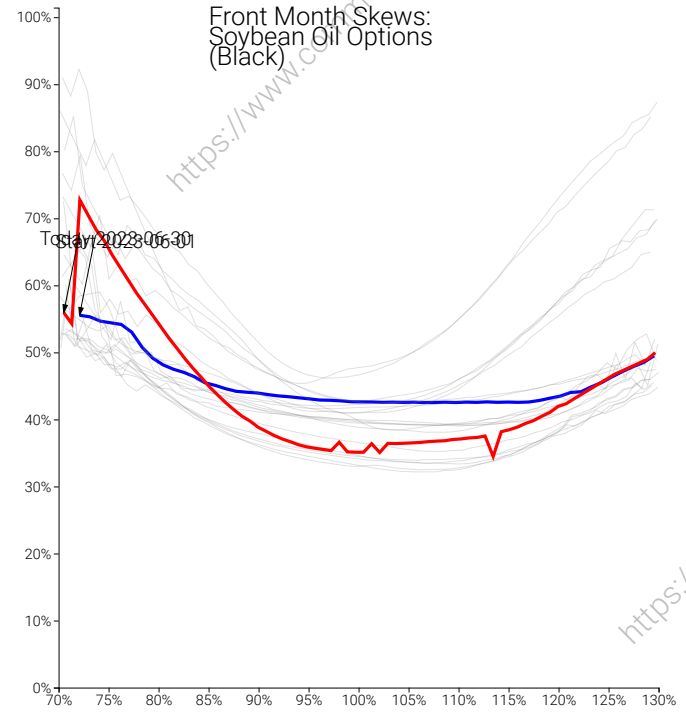
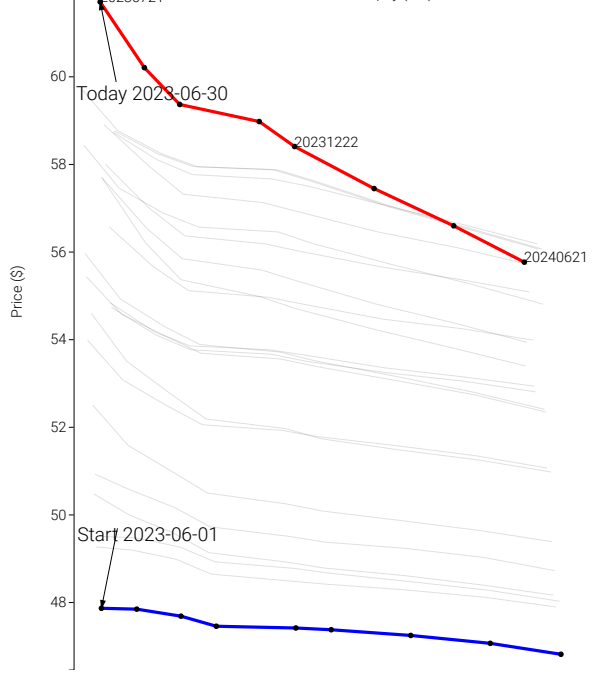
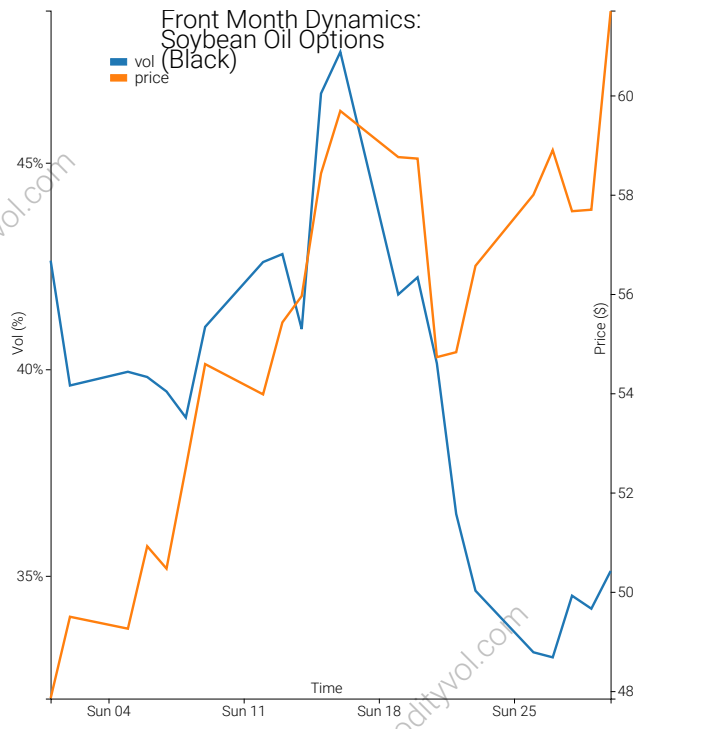
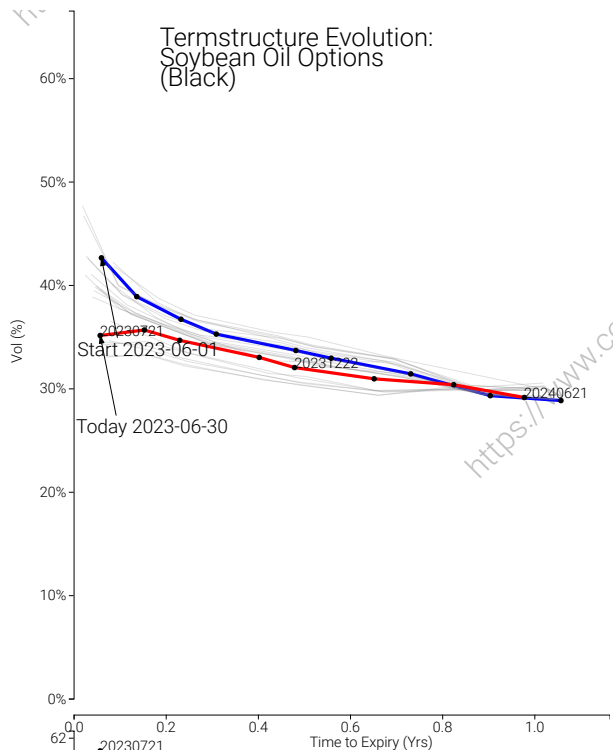


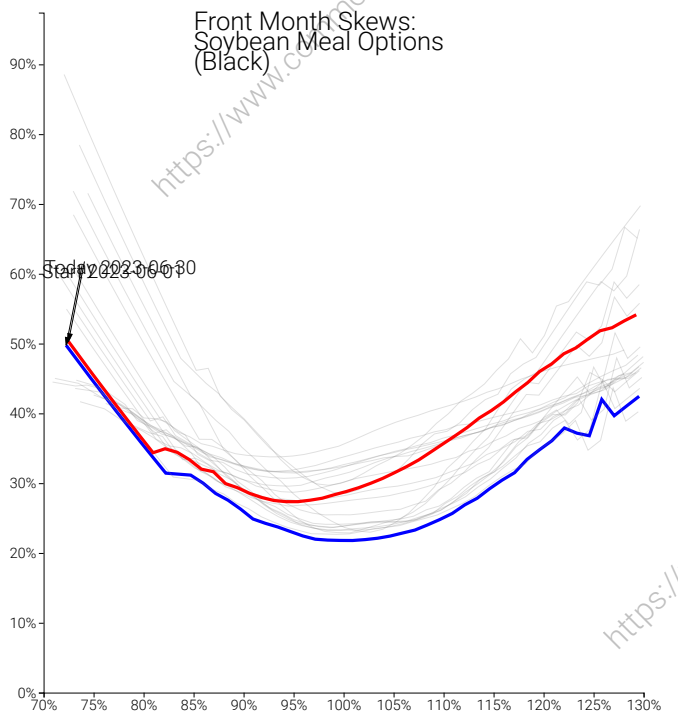
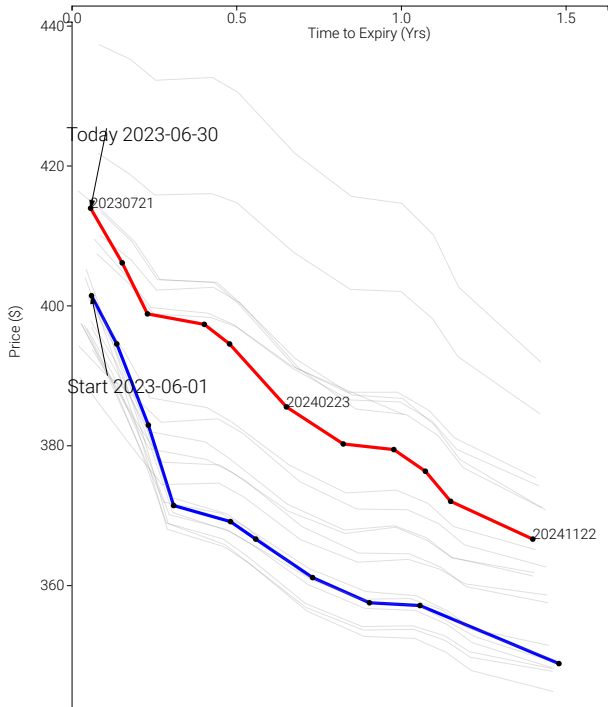
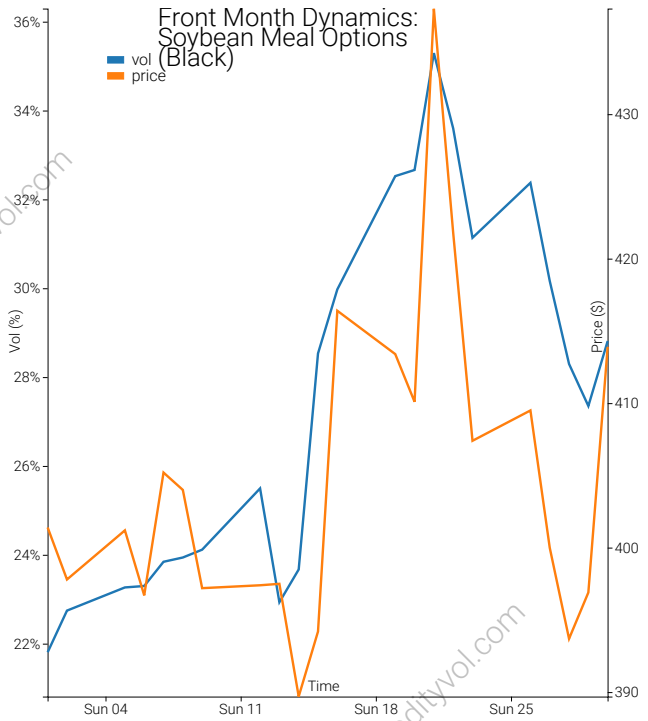
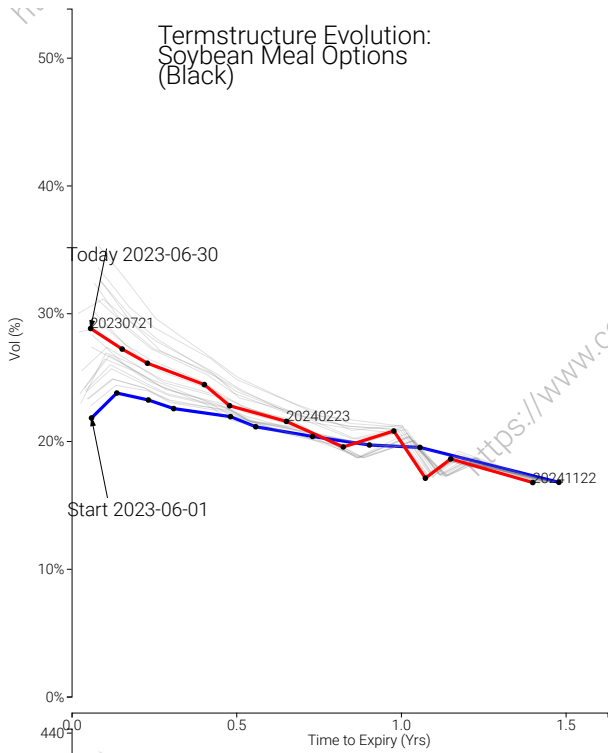


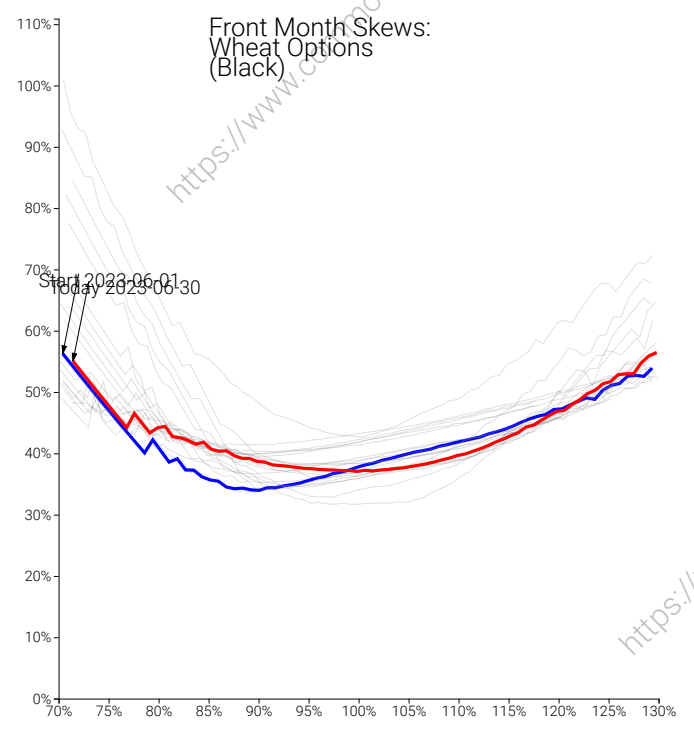
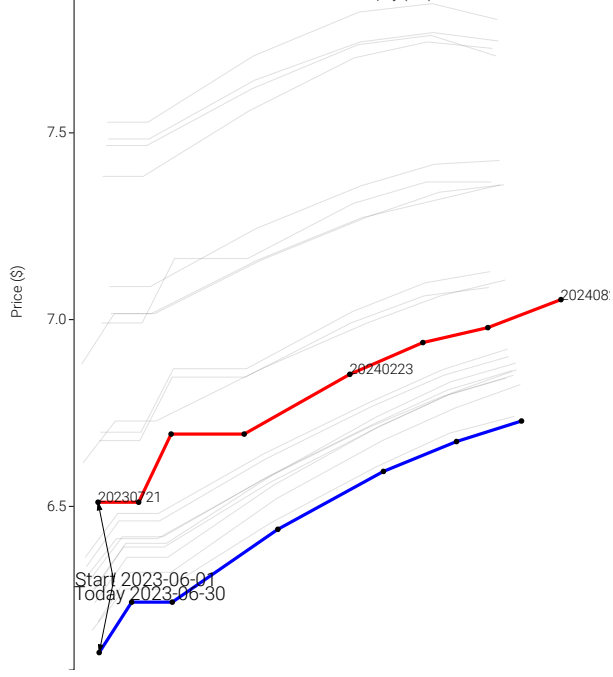
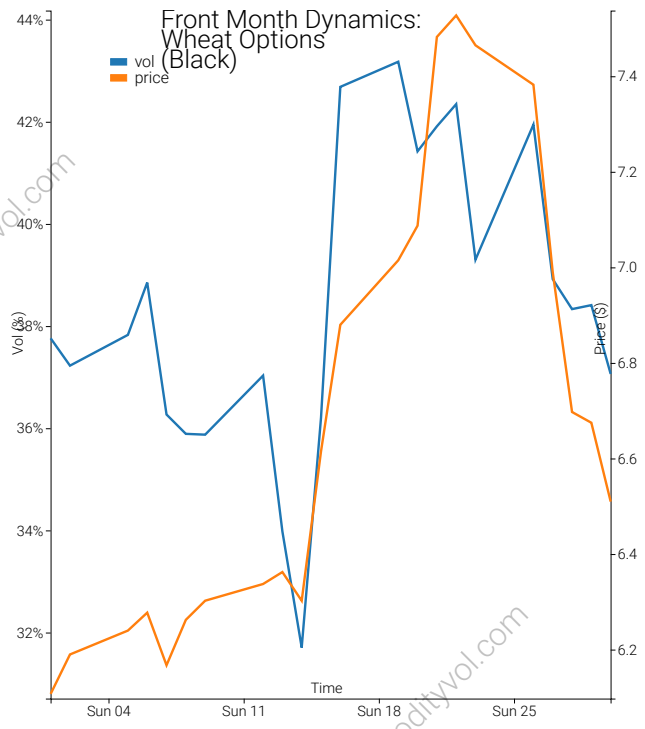
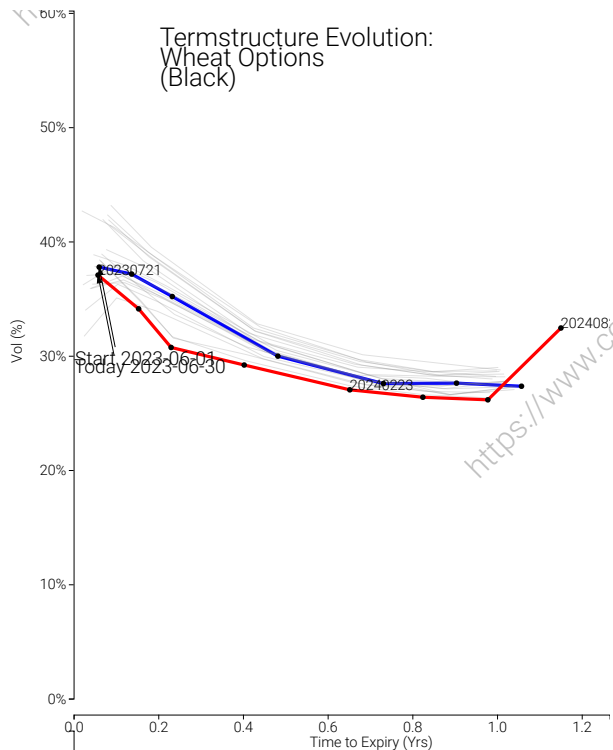
Ags: Grains, Oilseeds, and so forth

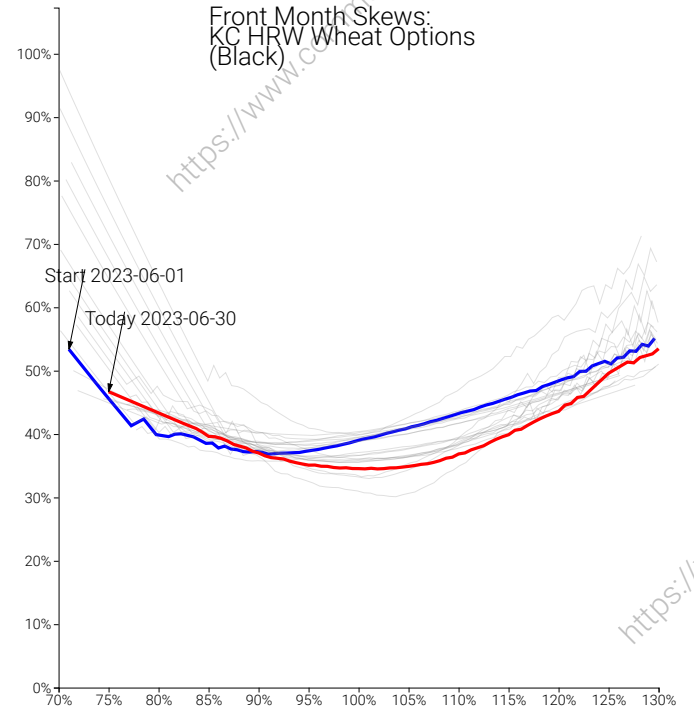
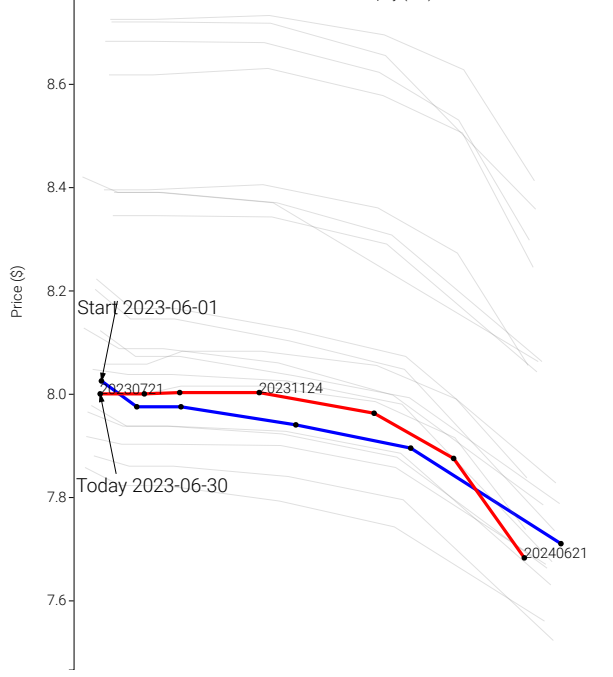
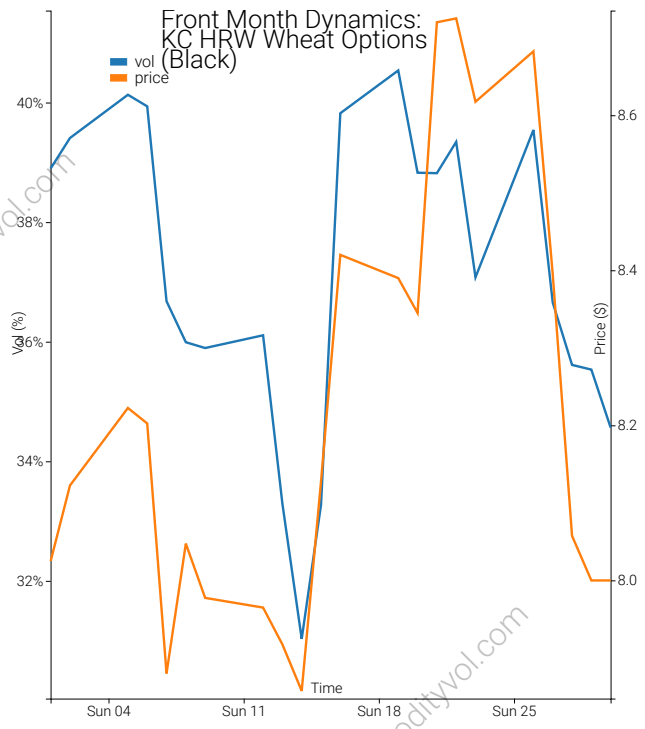
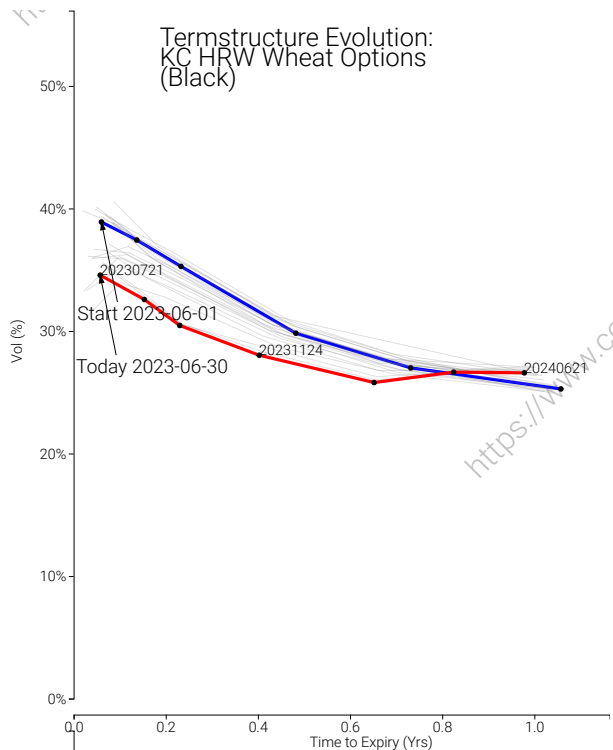


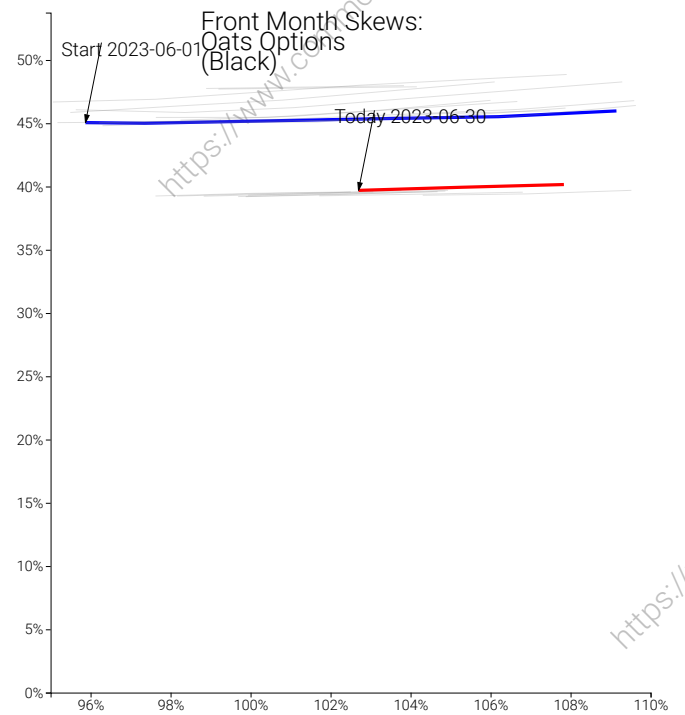
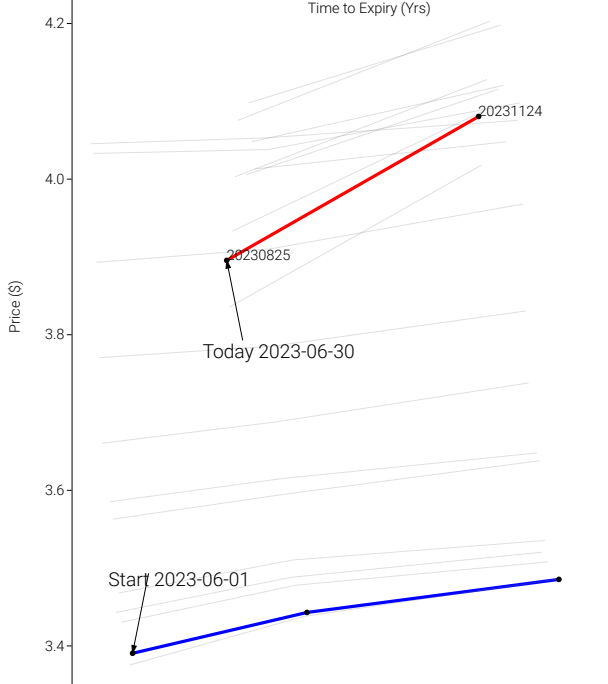
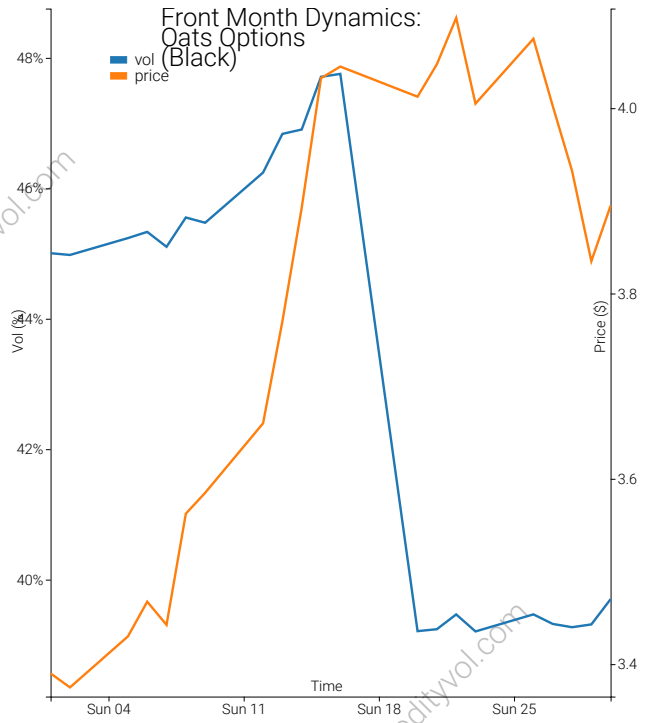
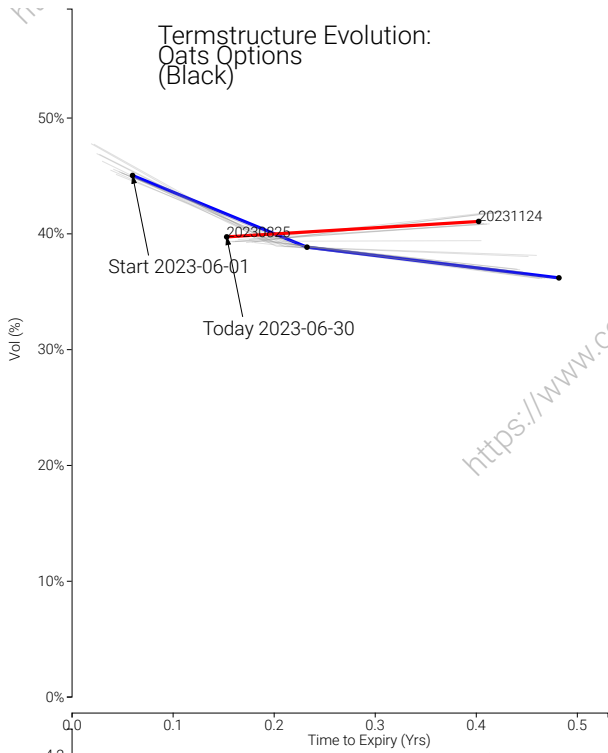


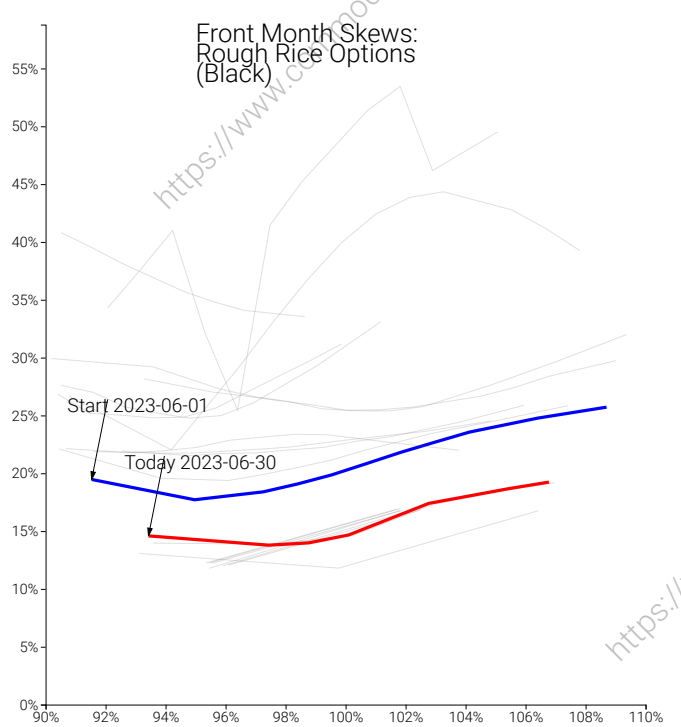
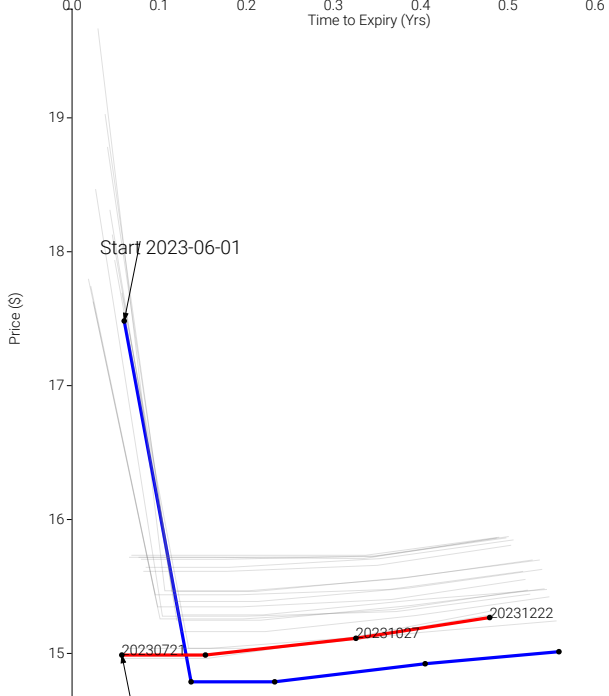
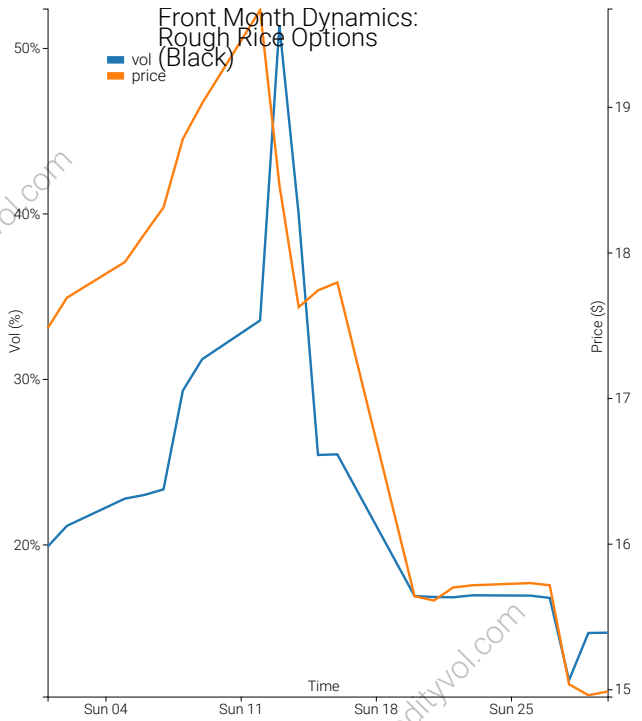
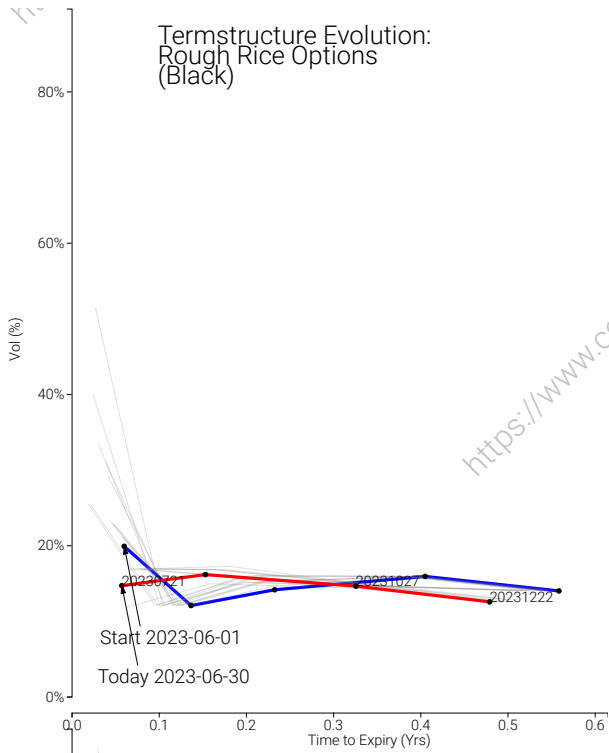


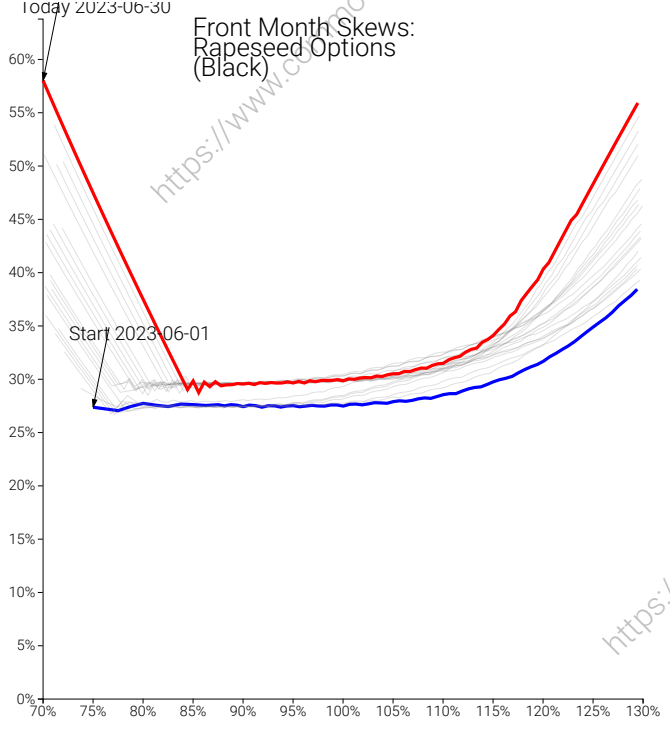
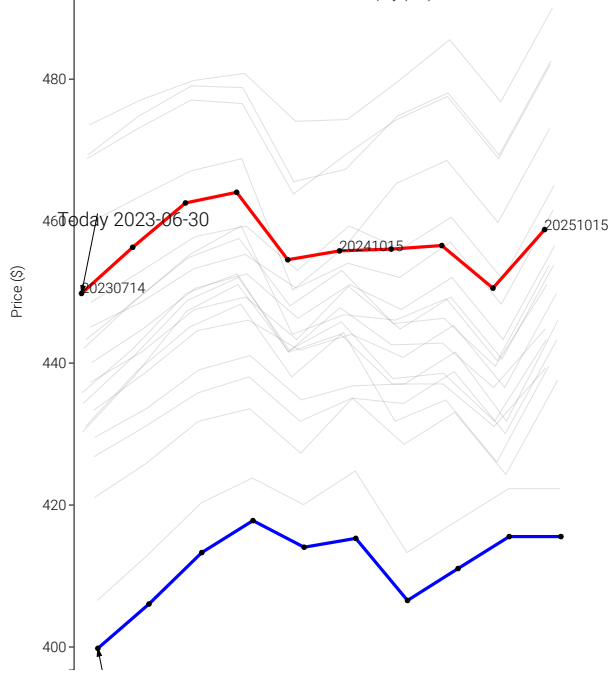
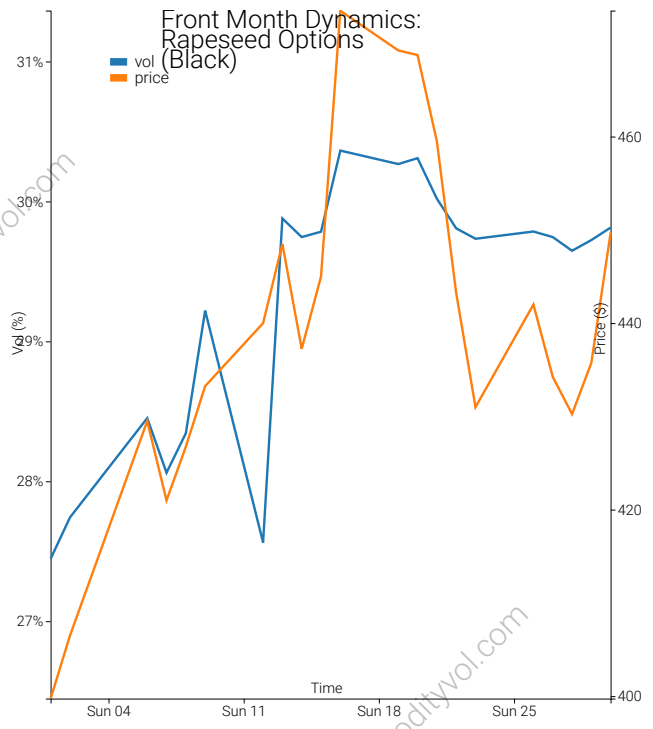
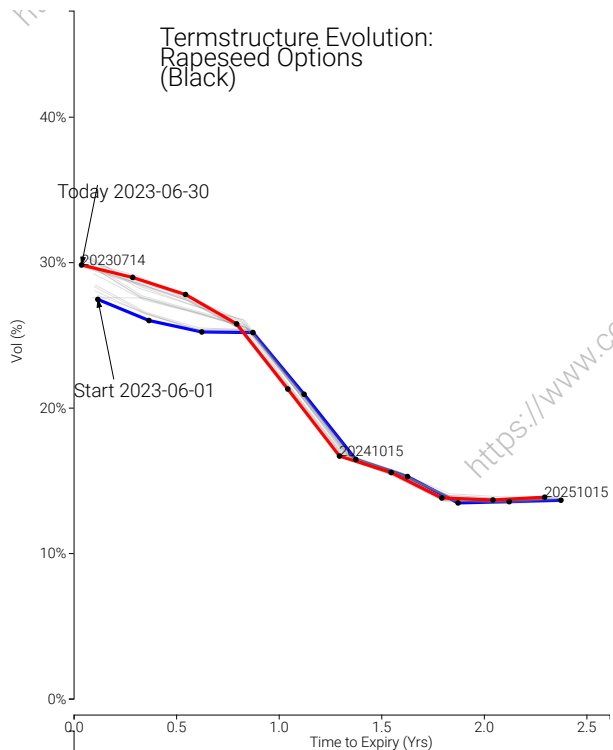




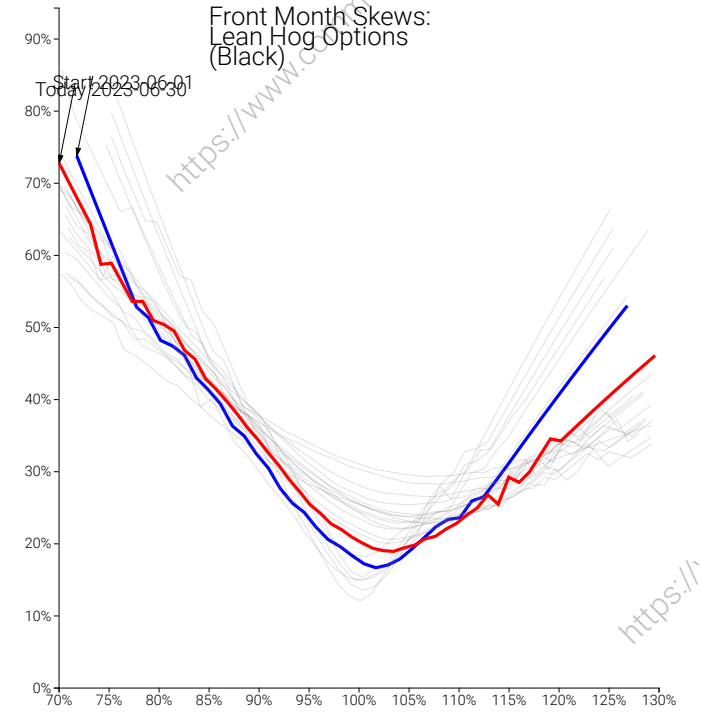
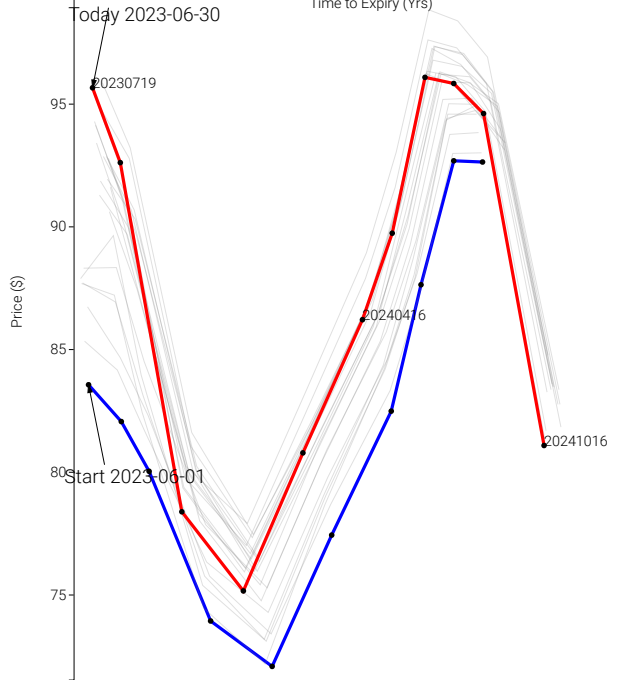
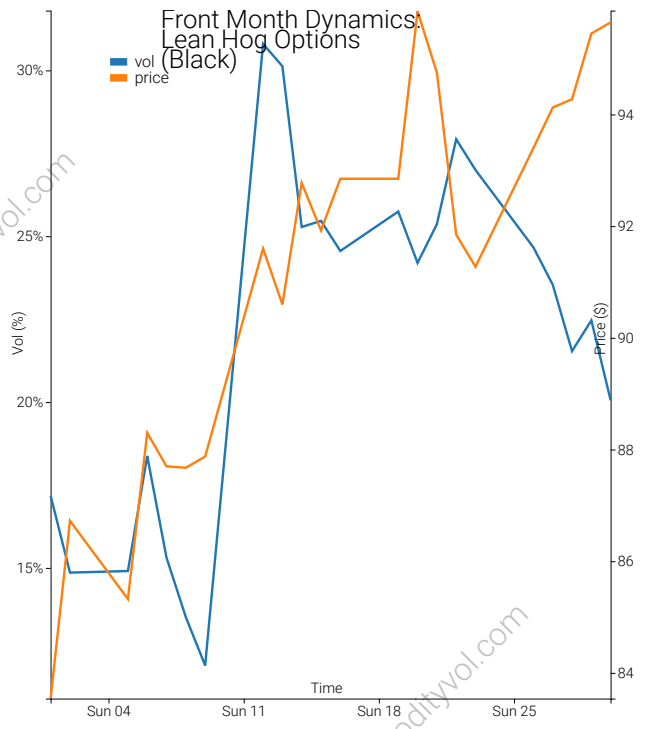
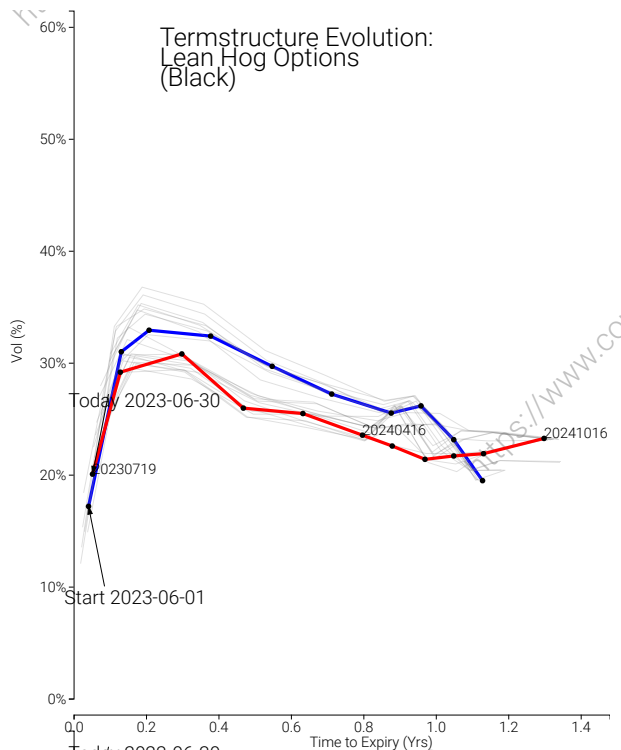


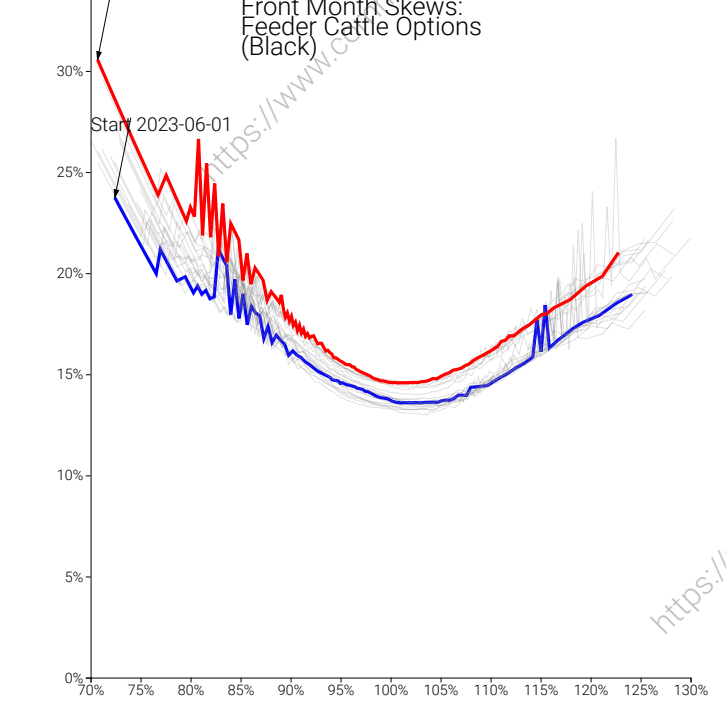
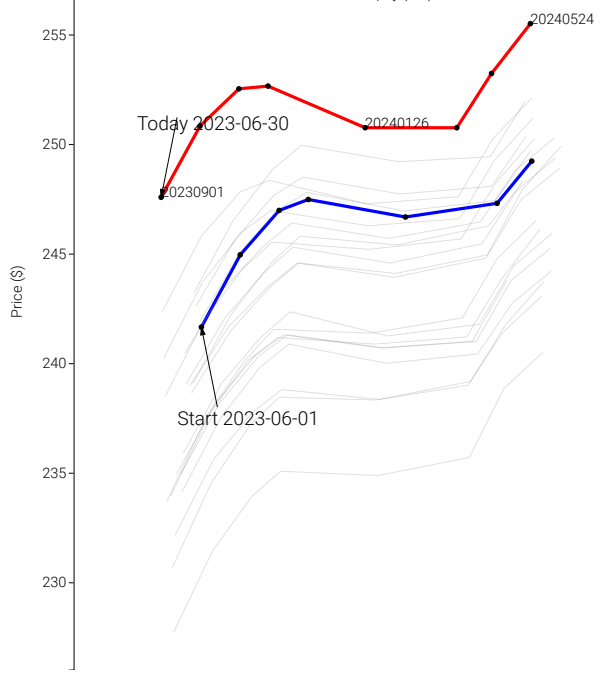
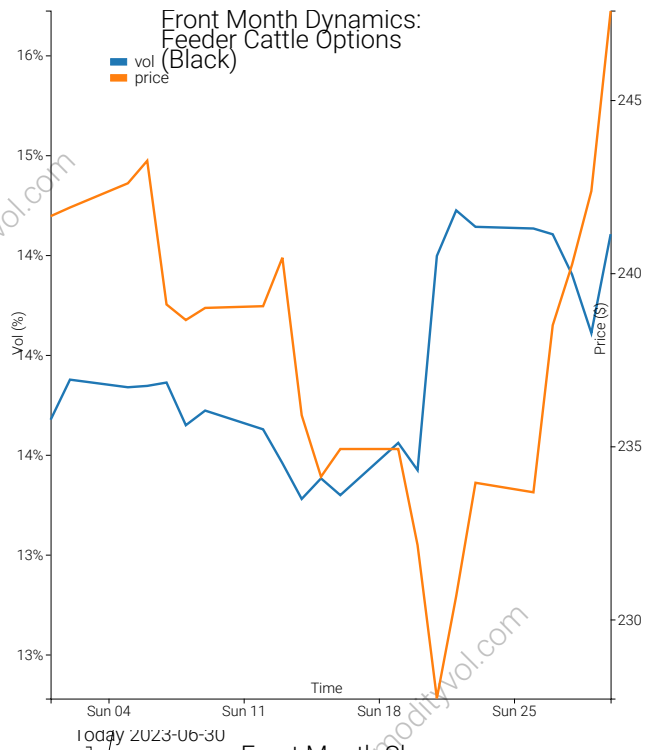
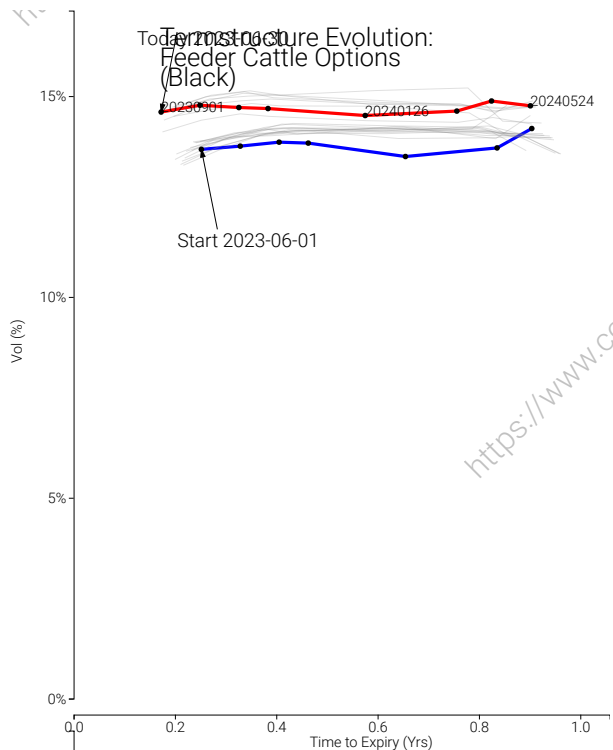


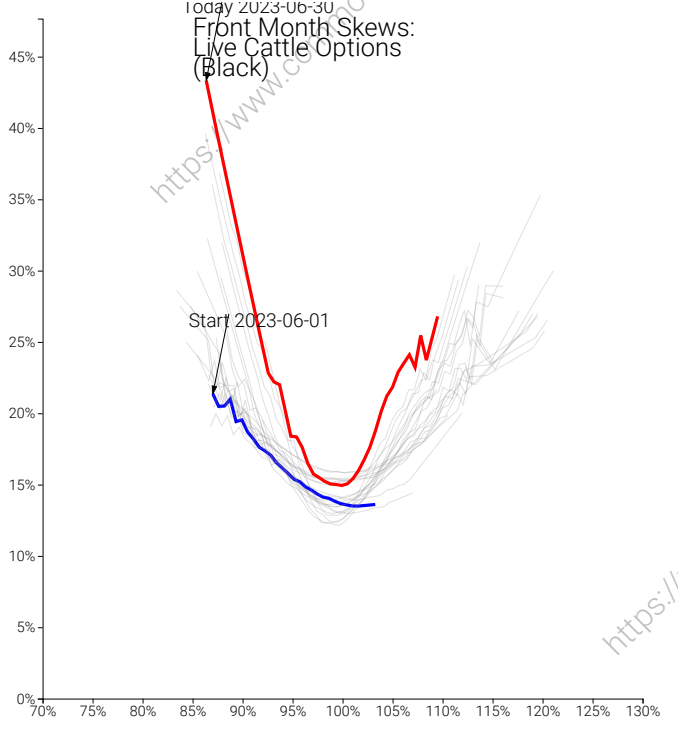
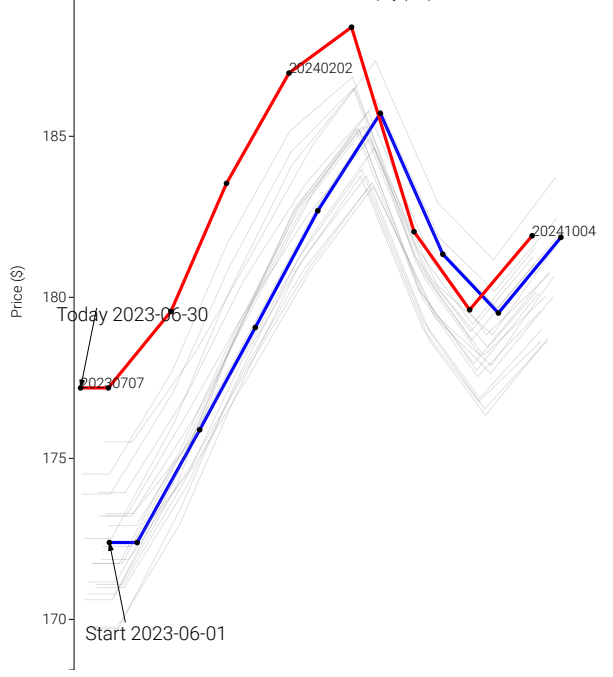
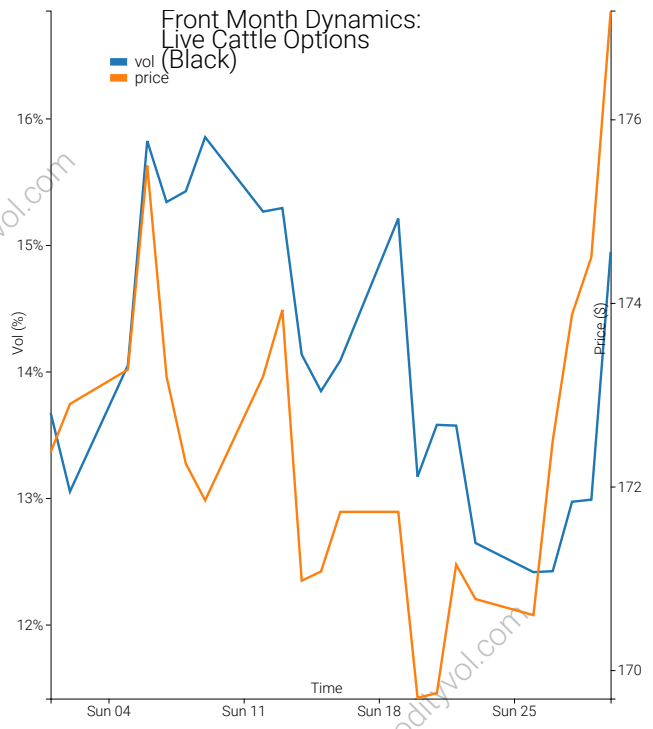
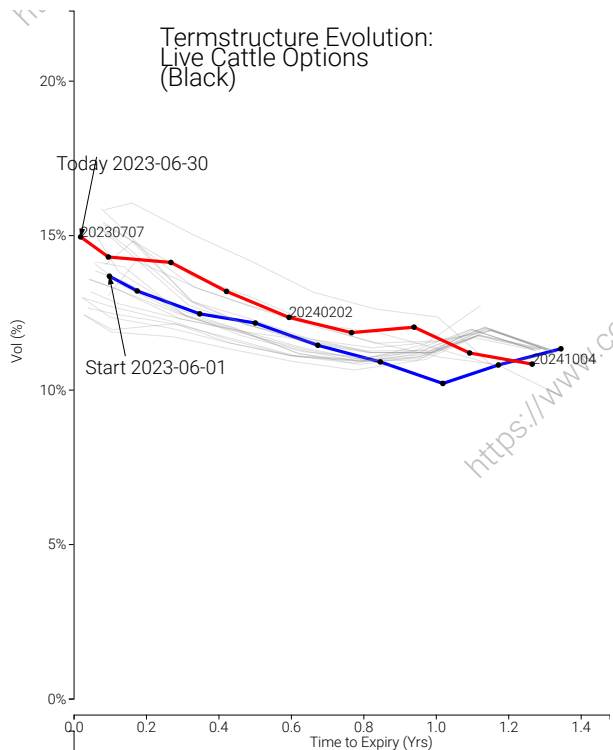


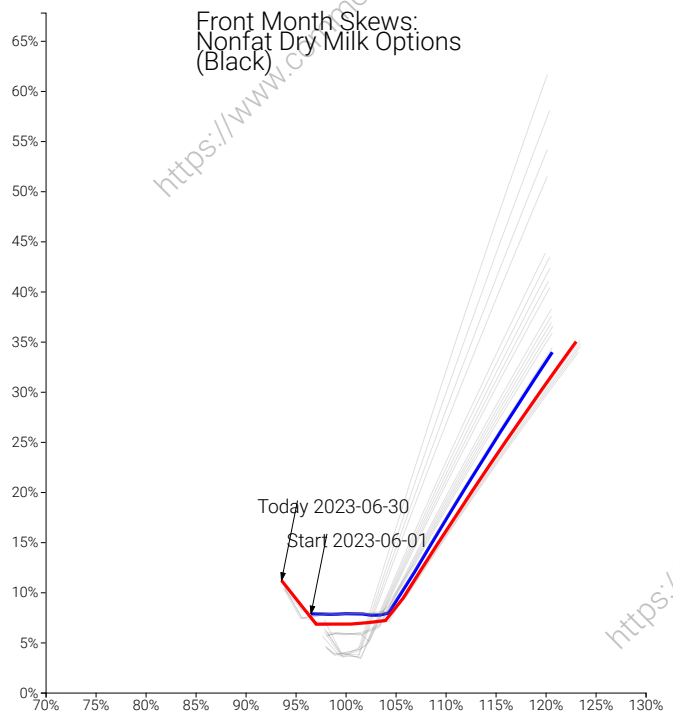
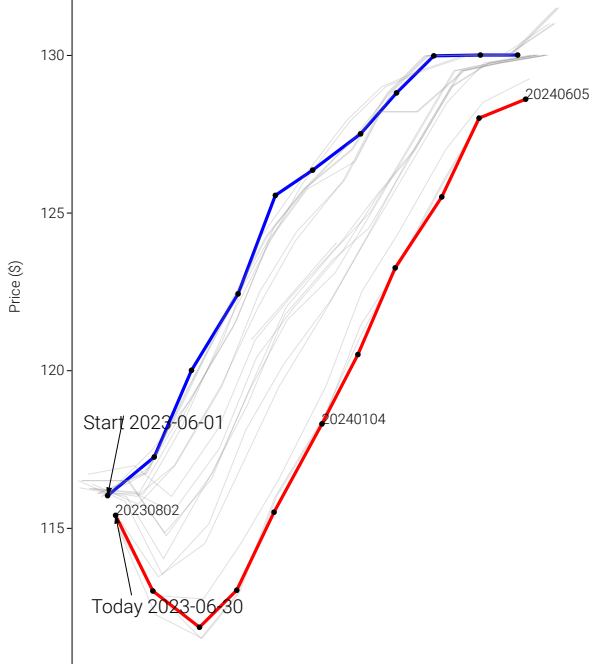
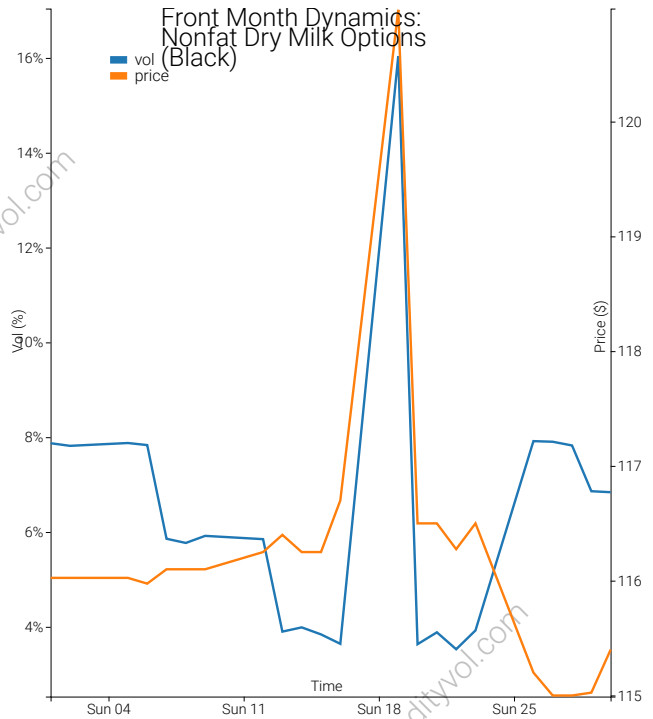
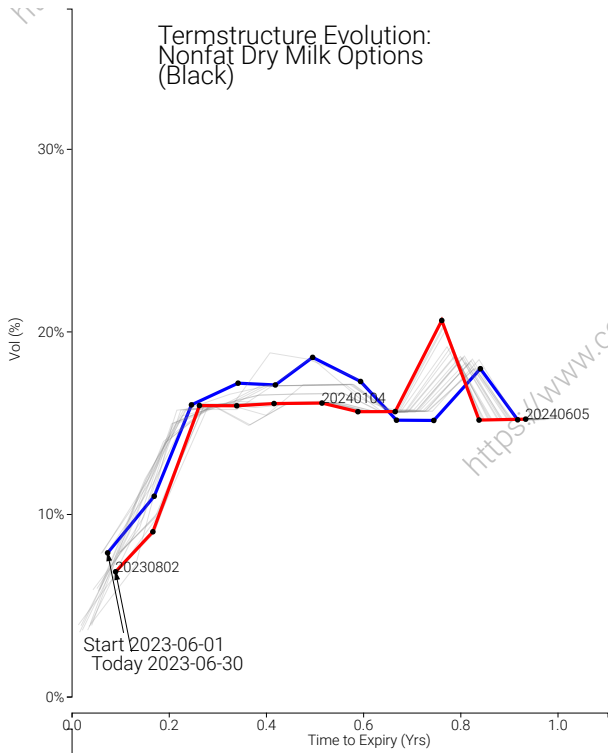


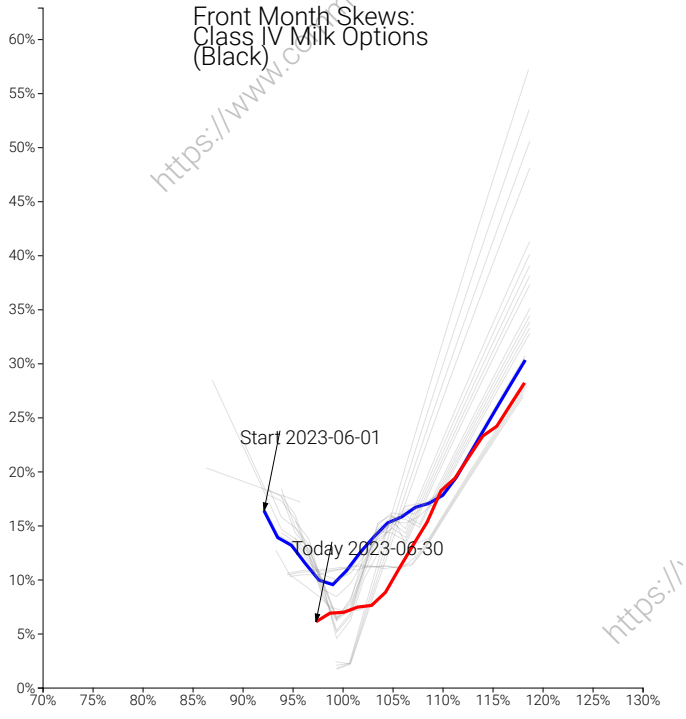
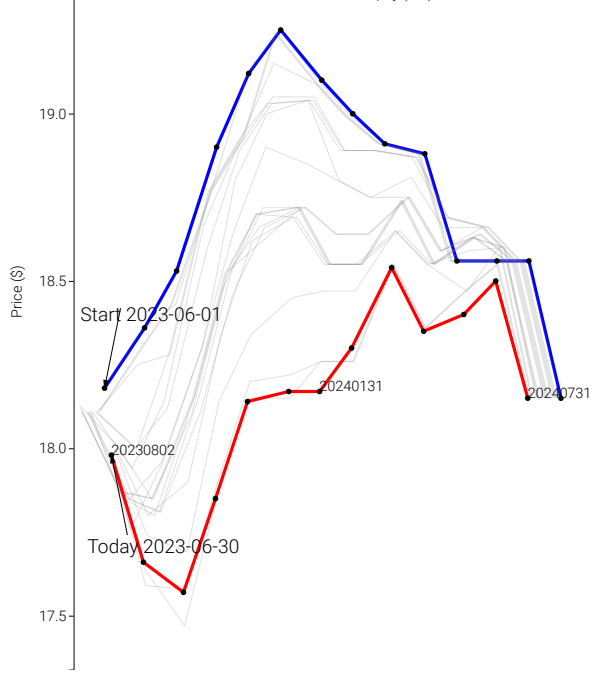
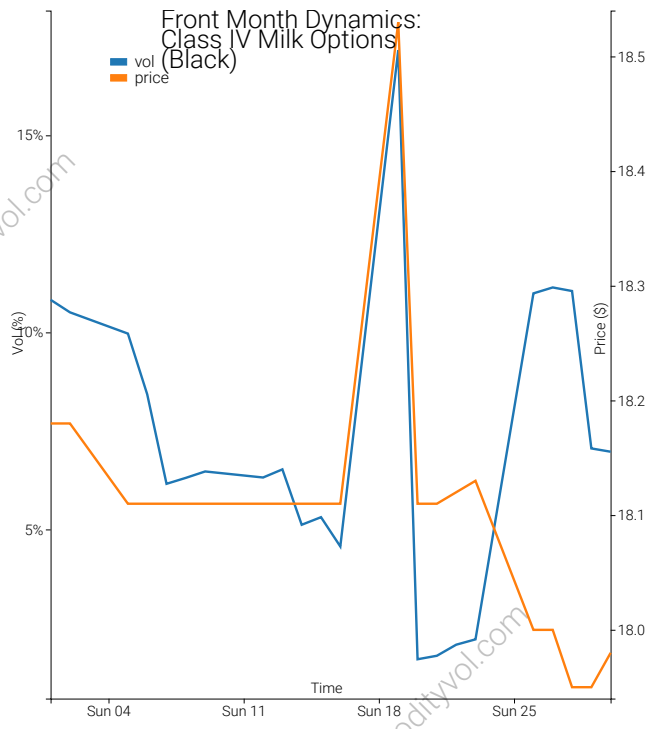
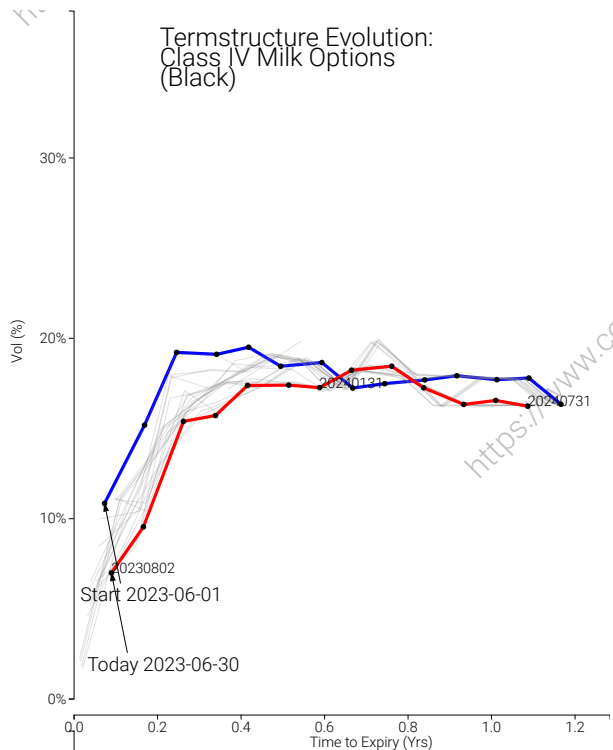
Ags: Proteins, Meats and so forth









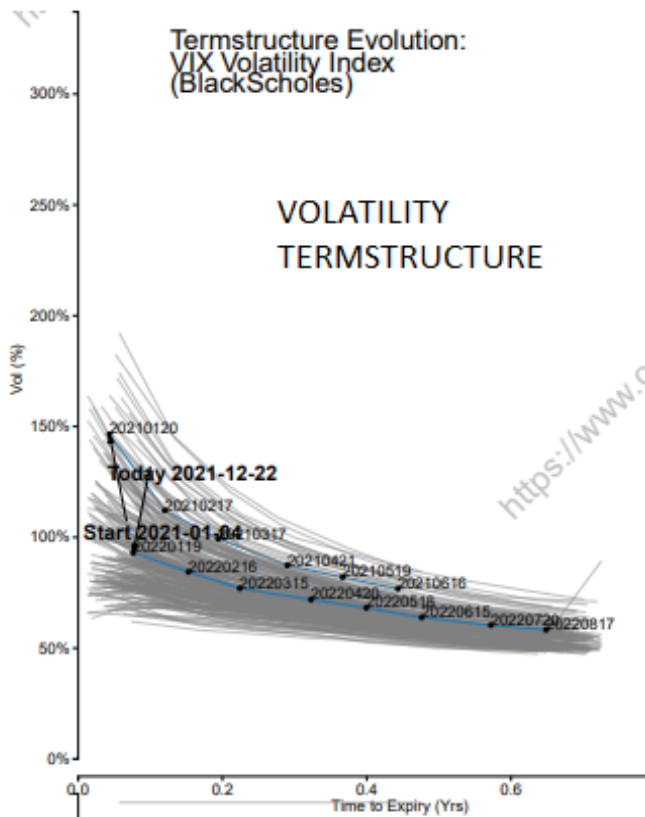


Explanation:

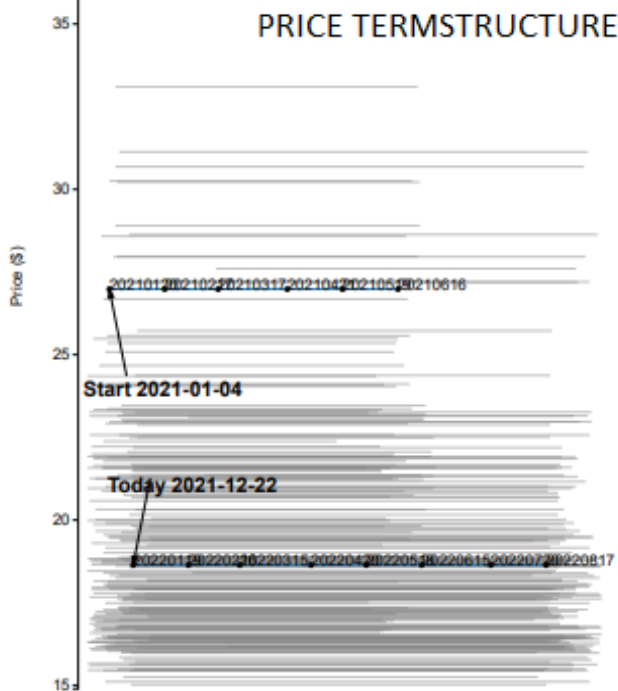
The document is composed of two parts. There is a tabular portion which summarizes the changes in front month futures prices and the changes in the at the money front month implied volatility. The results are presented as raw differences and percentage changes. The plots in this document try to give a feel for the evolution of the futures and options for each product type. The skew/termstructure/xyplots are broken out by major asset classes: Indexes, Fixed Income and so on.

At the Money Volatility and Price Term Structures:

Stacked on top of the other on the left hand side, see the termstructures of vol and the (underlying) futures contract price.

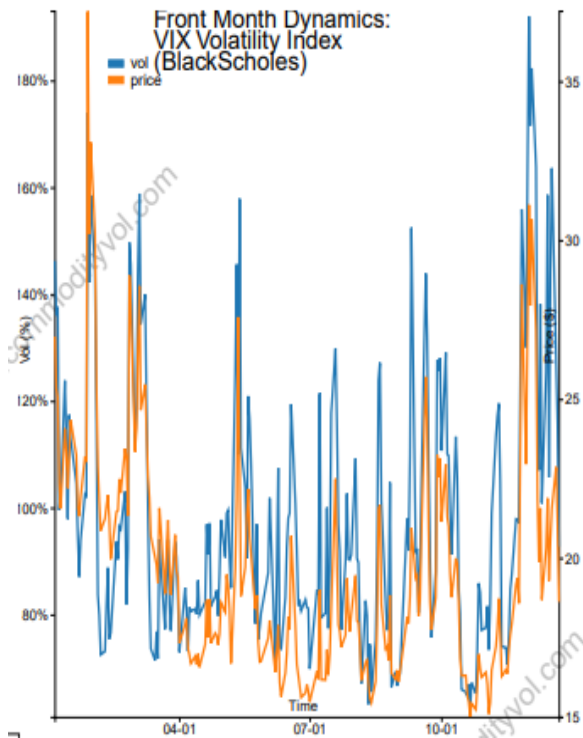


The starting curve is the termstructure at the beginning of the period. This curve is labelled start and is typically colored blue. The ending curve is typically colored red and denoted by the text: Today. The greyed out lines are the termstructures for each day of the period. The hope is that the range of movements becomes apparent.



Front Month At the Money Volatility and Front Month Price Over the Year:

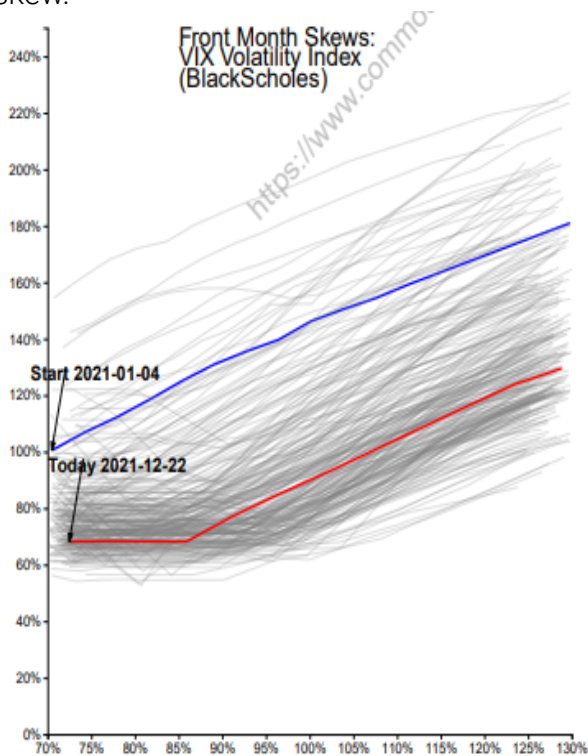
On the right hand panel we have the price and implied volatility of the front month contract.



At the money implied volatility is shown in blue and the axis on the left should be used to read off the values. The front month futures price is in orange and the right hand axis is where its value can be read.

Front Month Skew:

On the right hand in the bottom panel we have the starting front month skew and the ending front month skew.



The front month skew is shown for the starting date. The starting curve is labelled as 'Start' and captioned with the date. The starting curve is blue. Conversely, the ending curve is shown in red and labeled Today. The y-axis shows the implied volatility and the x-axis shows the moneyness. The moneyness is a way to normalize the skew so that it is comparable across time.

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