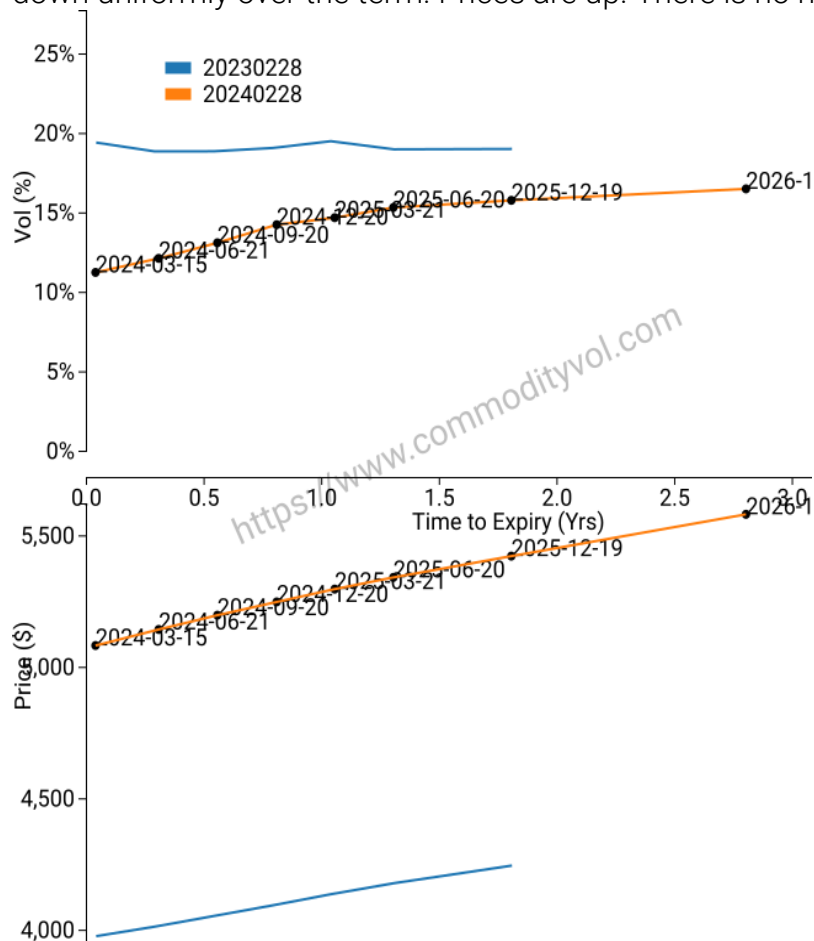




Welcome to our February 2024 Recap:

We are pleased to welcome you to our February 2024 month-end report.

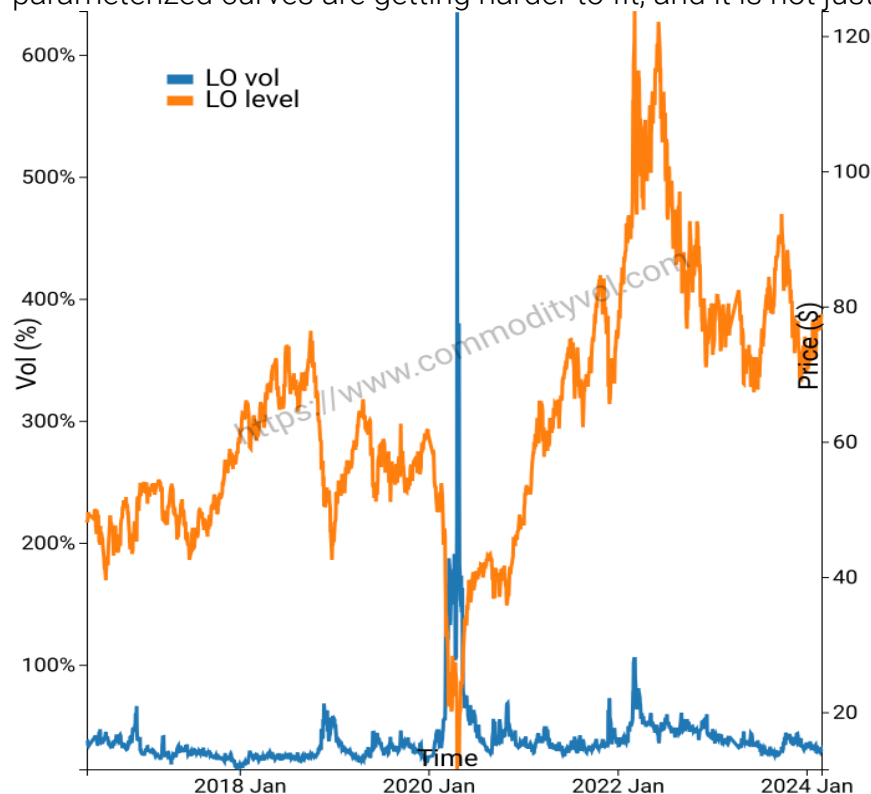
The march of the equities continues higher this month. This is so expected that it almost doesn't warrant mention. Indexes act as if they are stuck in the past (perhaps the dotcom days), one day they will come back to the future-just not this month. The move is likely to create quite a shock-several gigawatts for sure. Politics in the US seem to have coalesced. Barring a last minute substitution on one side of the aisle, or another arrest and booking on the other, at least the contenders are known. You'd think equity index vol, or currencies might show some blip in the Sept/Oct time frame. There is none. Vols are down uniformly over the term. Prices are up. There is no meaningful kink in anything.



Food prices caused a stir this past week. The share of the average consumer's budget is

now the largest it has been since anyone has kept records. Where the money is going isn't clear. Aside from the meats (lean hogs, live and feeder cattle), Ags have been a mixed bag. Models of commodity driven inflation are confounded by this. Yes, we are aware that cocoa is hitting new highs, but this is most likely a small part of the food consumption spectrum. The grains and oil seeds have meandered.

Energy is beginning to resemble equities. The price of crude has ratcheted up since the fighting in the Middle East started, but it has been an example of control and calmness, a masterclass if you will. The general consensus is that there is still economic weakness worldwide. Interestingly, a few articles have popped up on social media relating to peak oil. With the tail end of winter upon us, much of the interest in energy will wane for a while. The persistent theme across the energy sector has been reduced volume and open interest. Perhaps it is the general trend towards large capital requirements or the post 2021 fear of potentially unbounded downside that has caused the exit of market players. One might wonder why the exchanges and regulators aren't worried about such an important sector becoming more opaque. It is probably easier for a career-minded bureaucrat to pursue a spoofer than worry about whether the markets are healthy as an institution. We switched to SABR curves for most of our social media updates because there are so many strikes which have de minimis participation-making our calibrated skews look like a hyperactive kid's crayon drawing. We've noticed that even the parameterized curves are getting harder to fit, and it is not just energy products.



The Forex markets are also exceptionally quiet, with the exception of Crypto. Crypto has been on a tear. Vol has also spiked on the move. Crypto has been on a wild roller coaster.

The metals complex was down. Inflation was not that tame to justify this move (in our opinion). Vol was down across the board except in Palladium which was up 400bps.

We now proceed to our dive into the different market segments and our observations.

Forex

Both ETH and BTC futures were up dramatically. 49% and 45%, respectively. The move in vol was also quite breathtaking. Vol was up 2300bps. The price curve moved up in a parallel fashion, while the term structure of vol looked like a rotation. The front moving much more than the back end. Ethereum vol moved in a parallel fashion. The front month skew shape was not changed much. This month the European Union passed yet more sanctions on the Russians. With the industry on the ropes in many parts of Europe, partly because of these sanctions, it would seem that forex would be moving. In general, not a lot has changed. Vol came off across the board with very little change in the front month skew.

[Foreign Exchange ATM](#)

[Bitcoin Detail](#)

[Ethereum Detail](#)

[Yen Detail](#)

[Pound Detail](#)

Rates

The rates rose again. 30 Year bond future was down the most, almost 4%. The 10 Year was down a little less, and the 5 Year less. Excluding the Ultrabond, the curve move was probably duration driven. SOFR skews showed a collapse in the call wing. The Fed hasn't moved into easing mode-at least explicitly. It is even more confounding that, with a general election a few months on, they haven't switched to accommodation. Perhaps the levitating indexes are all they think they need, or they are afraid of igniting a second flare up of inflation.

[Interest Rates ATM](#)

[30 Year Detail](#)

[SOFR Detail](#)

Equity Indexes

Equity indexes should convince even the most fervent unbeliever that miracles do exist. As we discussed, most of the indexes were up about 3.6%. Russell vol was up, but the SP500 and Nasdaq were down. On the front month skew, SP500 vols were offered in the near at ranges. The wings were a bit higher. The move looked similar for Nasdaq.

[EquityIndex ATM](#)

[SP500 Detail](#)

[Russell Detail](#)

[VIX Detail](#)

Metals

Metals were all down. In gold, the near strikes and call wing got shellacked. This might be related to the moves in fixed income. If rates and monetary policy are tighter for longer,

then it would seem to create a ceiling on gold price. Silver vol was uniformly down. Copper had some interesting effects. First, the front month skew was sold in the near atm strikes. Additionally, the termstructure of vol seemed to pivot at the 1 year point. The front of the expiry structure was sold off, while the back moved up. Again, perhaps this is the signal that sluggishness remains for at least a year. Palladium vol was bid across the entire strike space.

[Metals ATM](#)

[Gold Detail](#)

[Palladium Detail](#)

[Copper Detail](#)

Ags

The meats continued their tear in terms of price. On the other hand, the grains and oil seeds all fell significantly. With the exception of Feeder Cattle and Soybean Meal, vol was up almost across the board. Lean hogs vol was up by 740bps. The front month vol skew seems to have brought up the atm strikes, while the wings were offered.

[Ags ATM](#)

[Feeder Cattle Detail](#)

[Live Cattle Detail](#)

[Corn Detail](#)

[Soybean Detail](#)

[Ags Details](#)

Energy

The energy sector's prices witnessed upside moves in crude, both WTI and Brent, and RBOB. Natural gas, on the other hand, continued its multi-month slide. Crude and ethanol vol declined, while heating oil and RBOB saw vol spiking. Recall that in the US, the blends of gasoline are changing for the summer driving season. Additionally, the Russians announced a complete export ban on refined gasoline. The sell off in crude vol is particularly difficult to understand given the conflicts in the Middle East and Eastern Europe. The front month skew took a parallel movement down. As prices for natural gas have crashed beneath 2 and then rallied, vol has ratcheted up. The move in the front month skew was one of put vol increasing and causing the skew to pivot upwards.

[Energy ATM](#)

[US Natty Gas Detail](#)

[WTI Crude Detail](#)

[Details Energy](#)

As always, we welcome you to visit our website and hope to help you manage risk!

CommodityVol.com is here to serve your needs around modeling, forecasting and understanding the market. If you have needs for commodity skews, parameterized surfaces (including stochastic volatility models), please do not hesitate to contact us! info@commodityvol.com

At The Money Roundup of Products

Energy

exch/prod	desc	futures chng [%]	vol chng [%]
NYMEX/BZO	Brent Crude Oil Margin	+3.210 [+4.1%]	-0.039 [-12.9%]
NYMEX/CVR	Chicago Ethanol(platts) Average Price	-0.163 [-10.1%]	-0.018 [-11.6%]
NYMEX/LO	Crude Oil	+4.440 [+6.0%]	-0.045 [-13.0%]
NYMEX/LN	European Natural Gas	-0.190 [-9.3%]	+0.040 [+6.4%]
NYMEX/E7	Henry Hub Financial Last Day	-0.190 [-9.3%]	+0.035 [+5.7%]
NYMEX/ON	Natural Gas	-0.190 [-9.3%]	+0.041 [+6.7%]
NYMEX/OH	NY Harbor ULSD	-0.063 [-2.3%]	+0.007 [+2.1%]
NYMEX/OB	RBOB	+0.386 [+17.6%]	+0.014 [+4.5%]

Metals

exch/prod	desc	futures chng [%]	vol chng [%]
COMEX/HX	Copper	-0.006 [-0.2%]	-0.011 [-7.5%]
COMEX/OG	Gold	-16.400 [-0.8%]	-0.019 [-16.3%]
NYMEX/PAO	Palladium	-24.800 [-2.6%]	+0.043 [+11.8%]
NYMEX/PO	Platinum	-38.300 [-4.2%]	-0.005 [-2.4%]
COMEX/SO	Silver	-0.351 [-1.5%]	-0.012 [-5.6%]

EquityIndex

exch/prod	desc	futures chng [%]	vol chng [%]
CBT/YM	E-Mini Dow	+418.000 [+1.1%]	+0.003 [+3.1%]
CME/NQ	E-Mini Nasdaq	+646.000 [+3.7%]	-0.011 [-6.7%]
CME/RTO	E-Mini Russell 2000	+74.700 [+3.8%]	+0.016 [+7.5%]
CME/RTM	E-Mini Russell EOM	+98.400 [+5.0%]	+0.010 [+4.5%]
CME/ES	E-Mini S&P 500	+175.250 [+3.6%]	-0.004 [-3.2%]
CBOE/VIX	VIX Volatility Index	-0.480 [-3.5%]	-0.150 [-20.0%]

InterestRates

exch/prod	desc	futures chng [%]	vol chng [%]
CBT/26	2 YR US Treasury Note	-0.508 [-0.5%]	+0.000 [+1.2%]
CBT/25	5 YR US Treasury Note	-1.797 [-1.7%]	-0.000 [-0.6%]
CBT/21	10 YR US Treasury Note	-2.453 [-2.2%]	+0.003 [+3.7%]
CBT/17	30 YR US Treasury Bond	-4.781 [-3.9%]	-0.008 [-6.6%]
CBT/UBE	Long Term US Treasury Bond	-3.813 [-2.9%]	-0.015 [-9.3%]
CME/S0	One-year Mid-curve Three-month SOFR	-0.710 [-0.7%]	-0.001 [-6.6%]
CME/SR3	Three-month SOFR	-0.205 [-0.2%]	-0.004 [-60.9%]
CME/S3	Three-year Mid-curve Three-month SOFR	-0.425 [-0.4%]	-0.001 [-10.1%]
CME/S2	Two-year Mid-curve Three-month SOFR	-0.535 [-0.6%]	-0.001 [-5.6%]

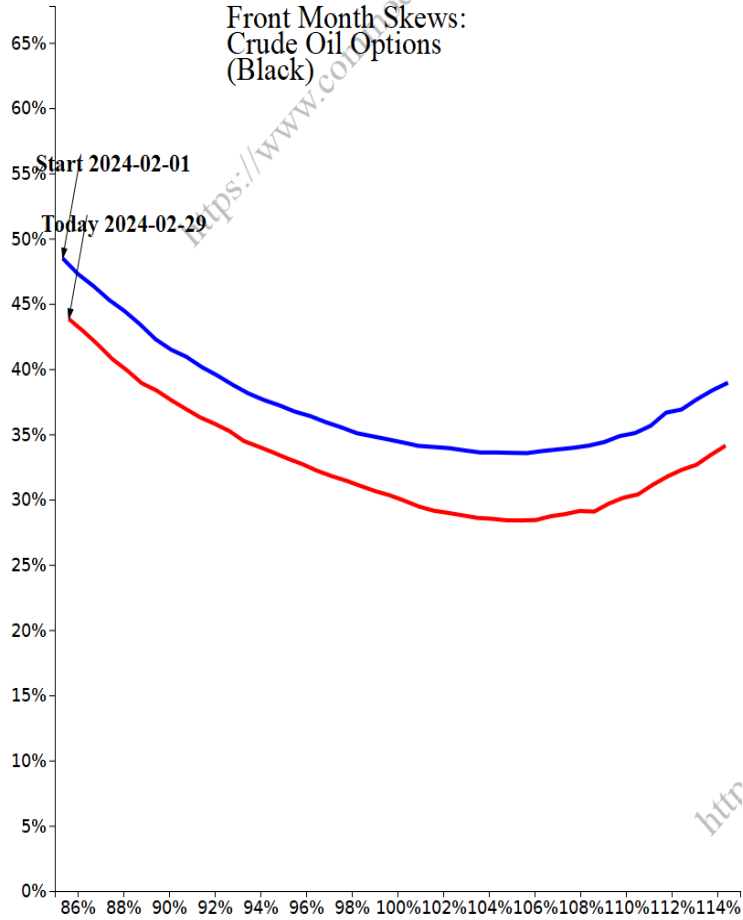
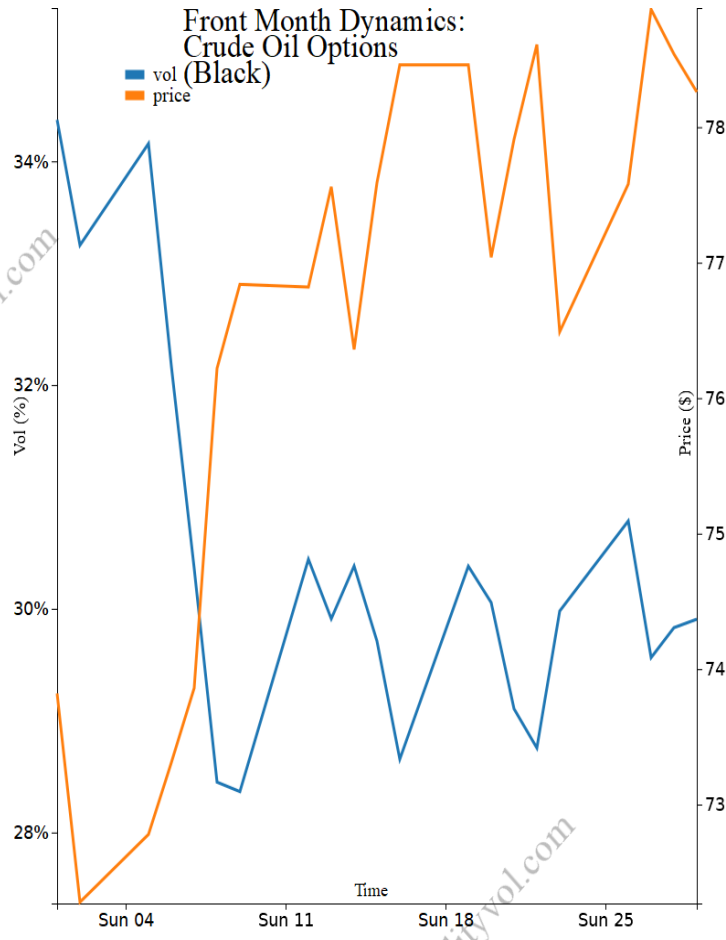
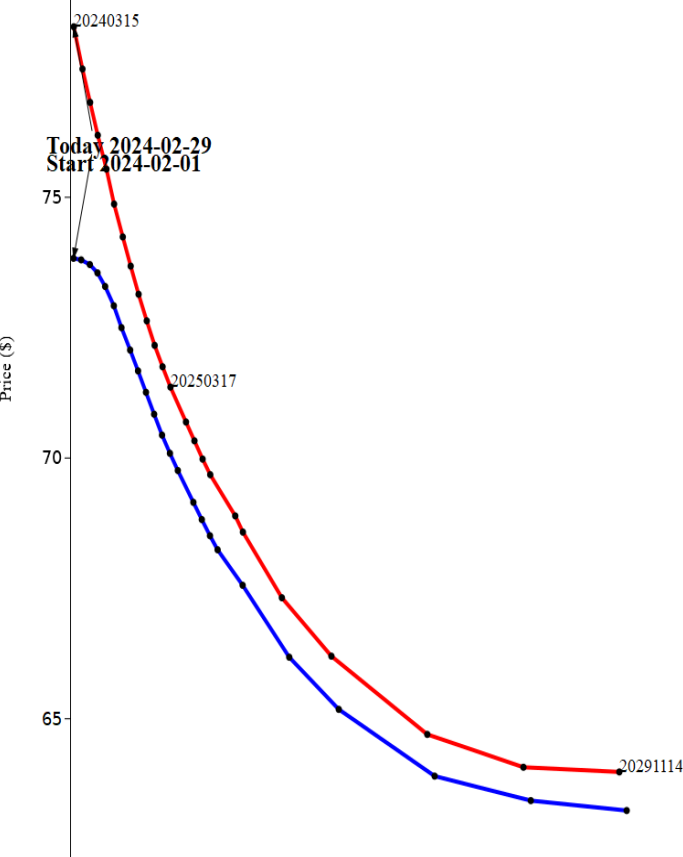
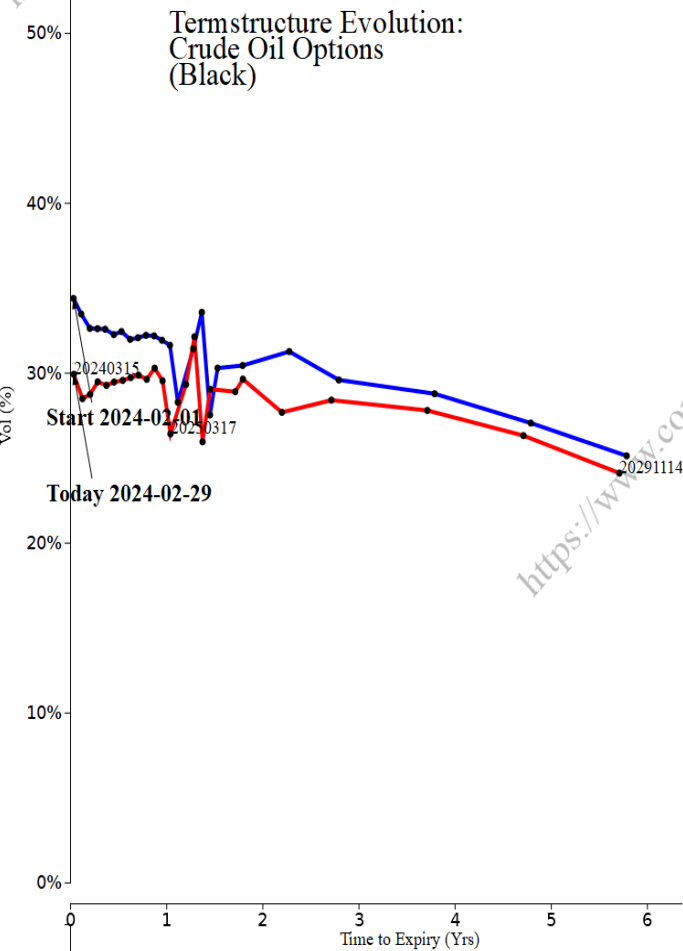
Forex

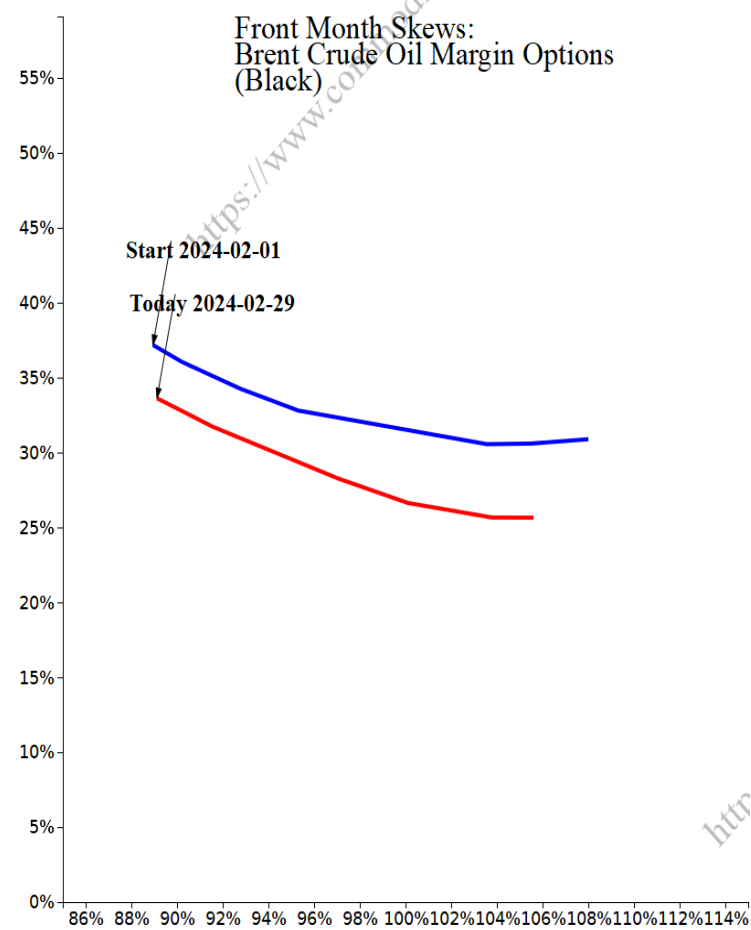
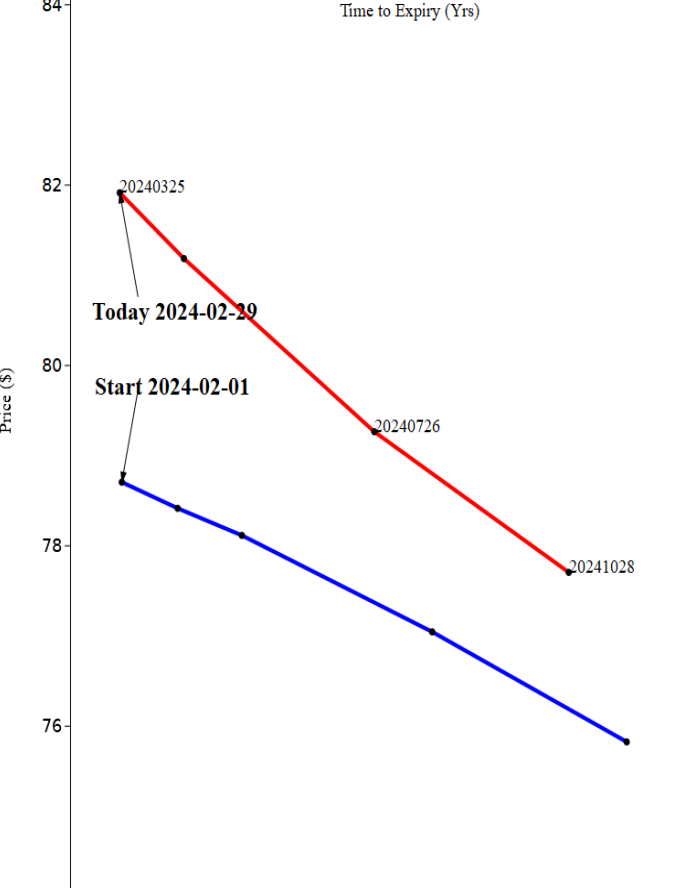
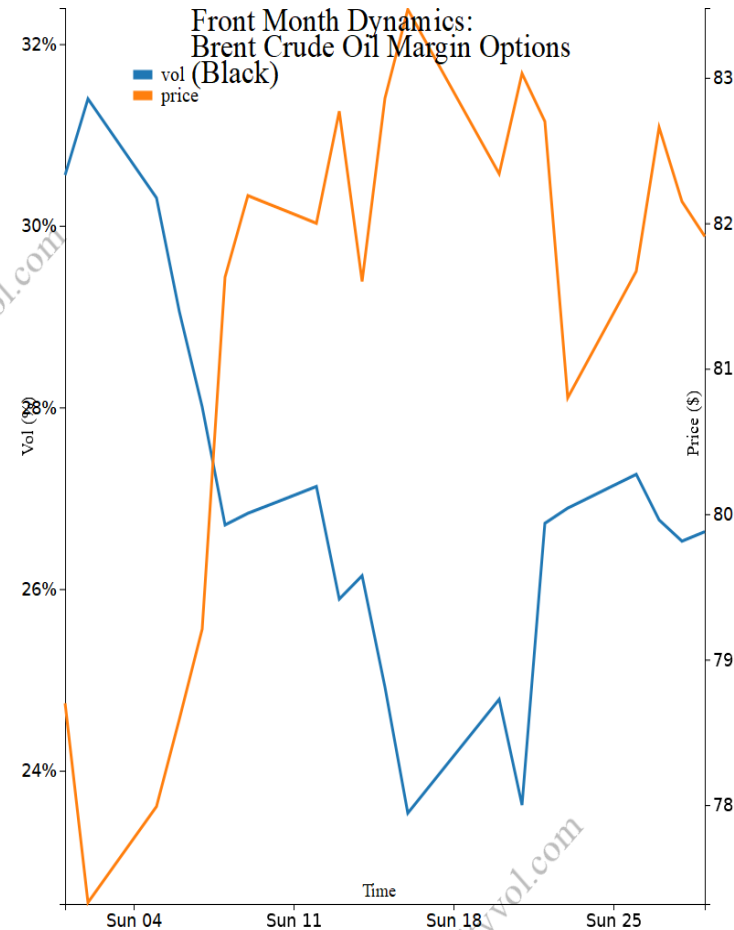
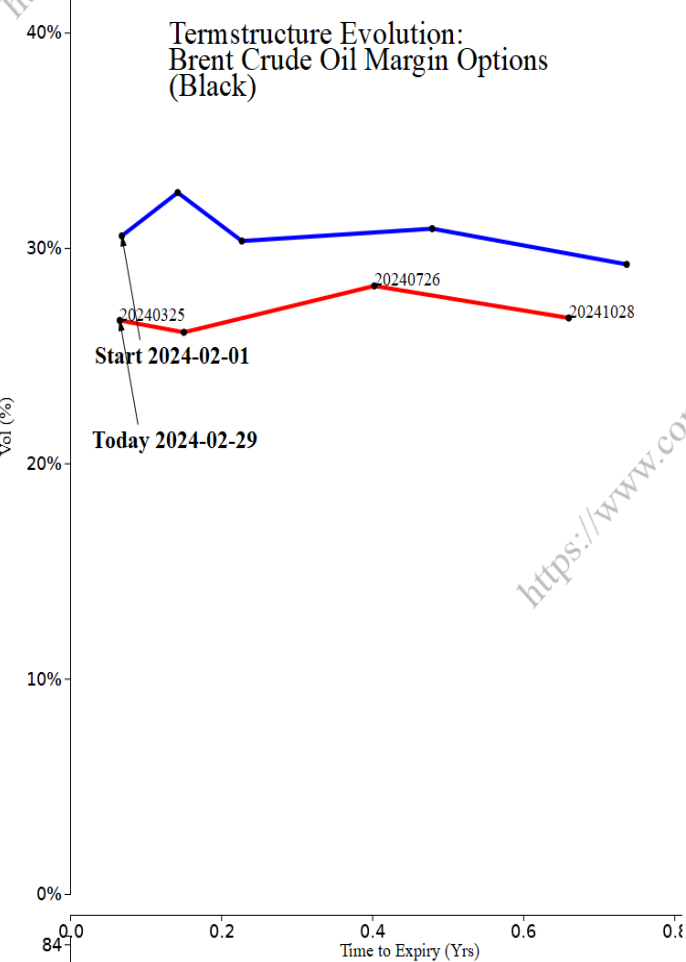
exch/prod	desc	futures chng [%]	vol chng [%]
CME/ADU	AUDUSD 2pmmfix	-0.008 [-1.3%]	-0.013 [-12.9%]
CME/BTC	Bitcoin	+19485.000 [+45.0%]	+0.232 [+57.9%]
CME/CAU	CADUSD 2pmmfix	-0.011 [-1.4%]	-0.004 [-7.2%]
CME/CHU	CHFUSD 2pmmfix	-0.039 [-3.3%]	-0.008 [-10.6%]
CME/ETH	Ethereum	+1137.000 [+49.3%]	+0.238 [+57.5%]
CME/EUU	EURUSD 2pmmfix	-0.008 [-0.8%]	-0.002 [-2.8%]
CME/GBU	GBPUSD 2pmmfix	-0.014 [-1.1%]	-0.004 [-5.5%]
CME/JPU	JPYUSD 2pmmfix	-0.000 [-2.9%]	-0.027 [-26.4%]
CME/MP	Mexican Peso	+0.000 [+0.7%]	-0.034 [-34.0%]
CME/NE	New Zealand	-0.005 [-0.9%]	-0.015 [-14.5%]

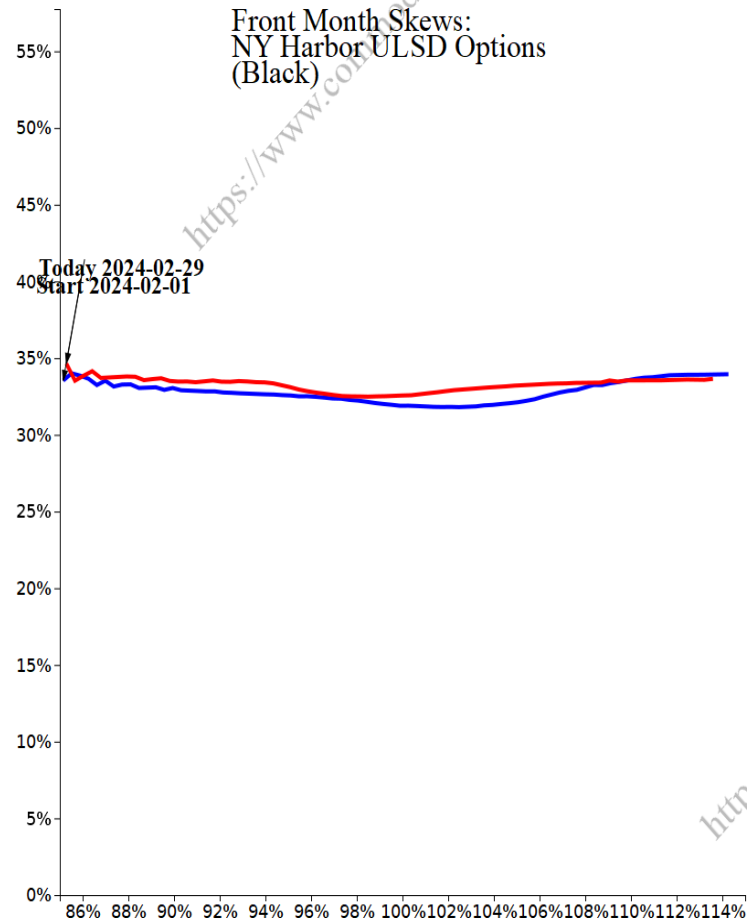
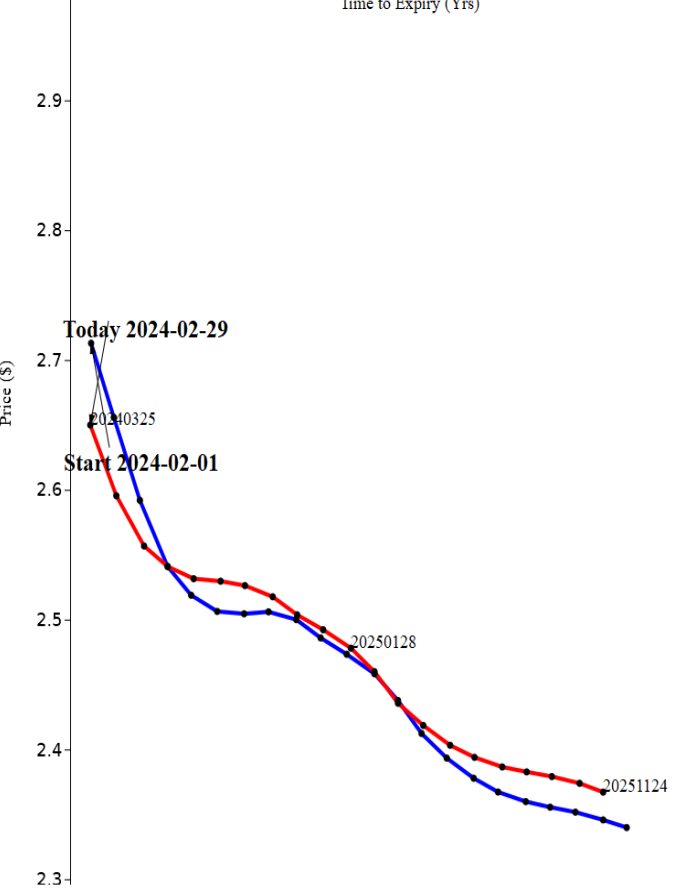
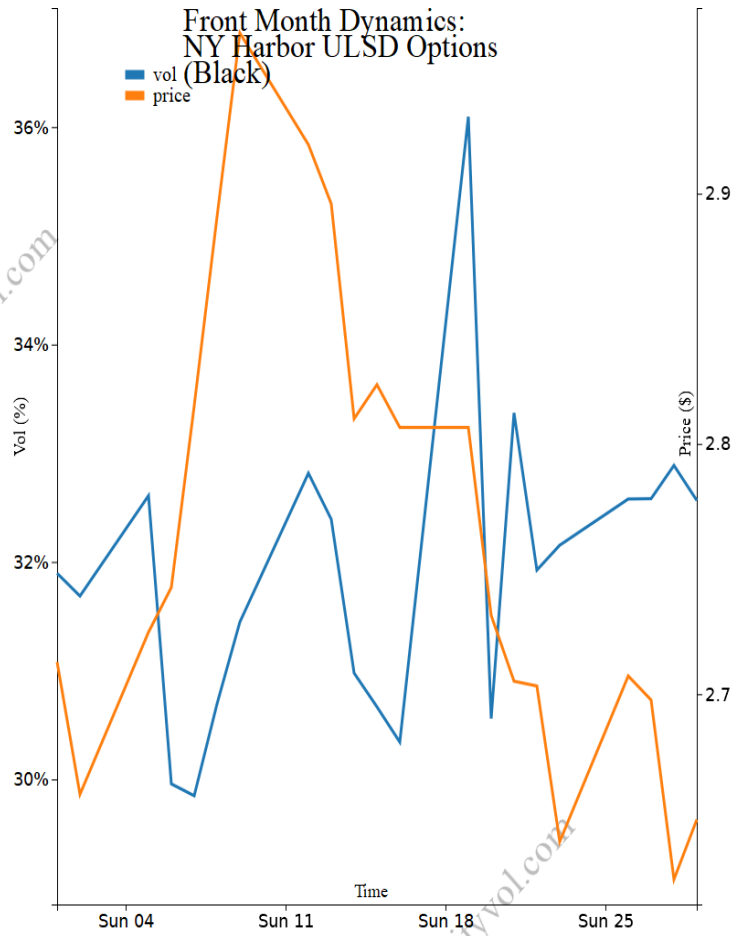
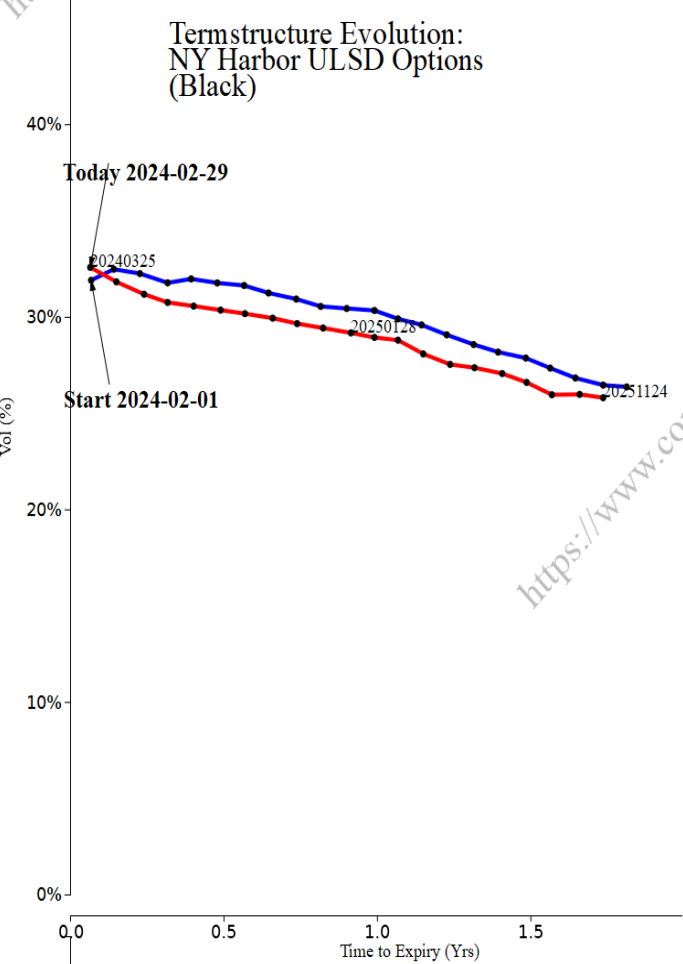
exch/prod	desc	futures chng [%]	vol chng [%]
CME/DK	Class IV Milk	+0.190 [+1.0%]	+0.003 [+3.1%]
CBT/C	Corn	-0.178 [-4.0%]	+0.045 [+26.6%]
CME/62	Feeder Cattle	+4.125 [+1.7%]	-0.029 [-22.1%]
CBT/KW	KC HRW Wheat	-0.335 [-5.4%]	+0.032 [+12.6%]
CME/LN	Lean Hog	+10.825 [+14.3%]	+0.074 [+76.7%]
CME/48	Live Cattle	+2.175 [+1.2%]	+0.010 [+9.2%]
CME/NF	Nonfat Dry Milk	-1.500 [-1.2%]	+0.002 [+2.6%]
CBT/O	Oats	-0.132 [-3.4%]	+0.173 [+50.0%]
CBT/14	Rough Rice	+0.180 [+1.0%]	+0.013 [+8.7%]
CBT/S	Soybean	-0.625 [-5.2%]	+0.000 [+0.1%]
CBT/06	Soybean Meal	-32.500 [-9.0%]	-0.030 [-12.1%]
CBT/07	Soybean Oil	-0.390 [-0.9%]	-0.000 [-0.1%]
CBT/W	Wheat	-0.252 [-4.2%]	+0.029 [+11.3%]

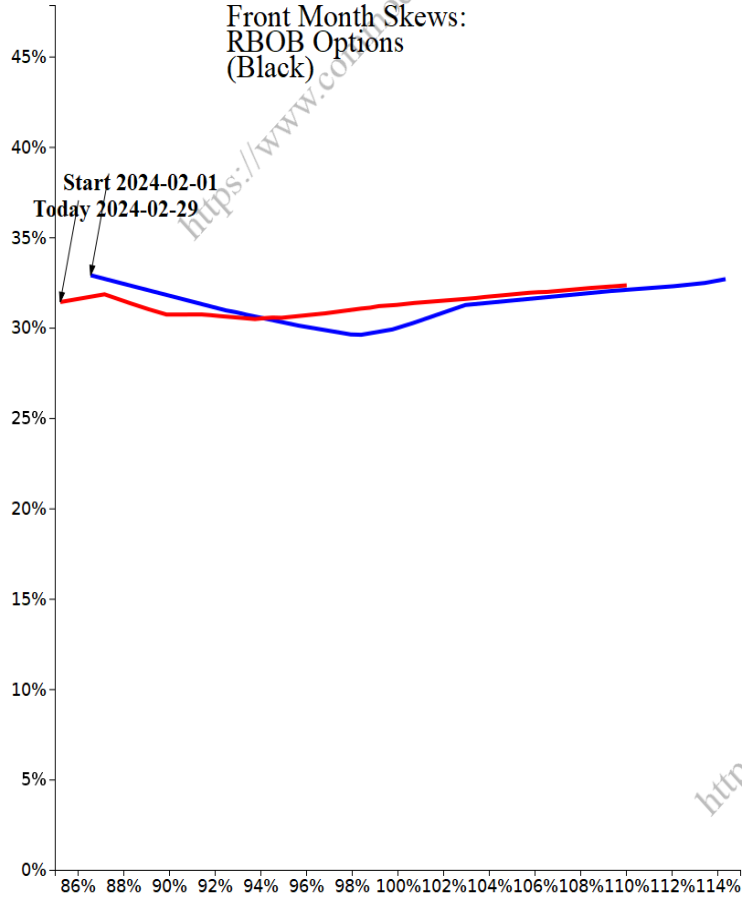
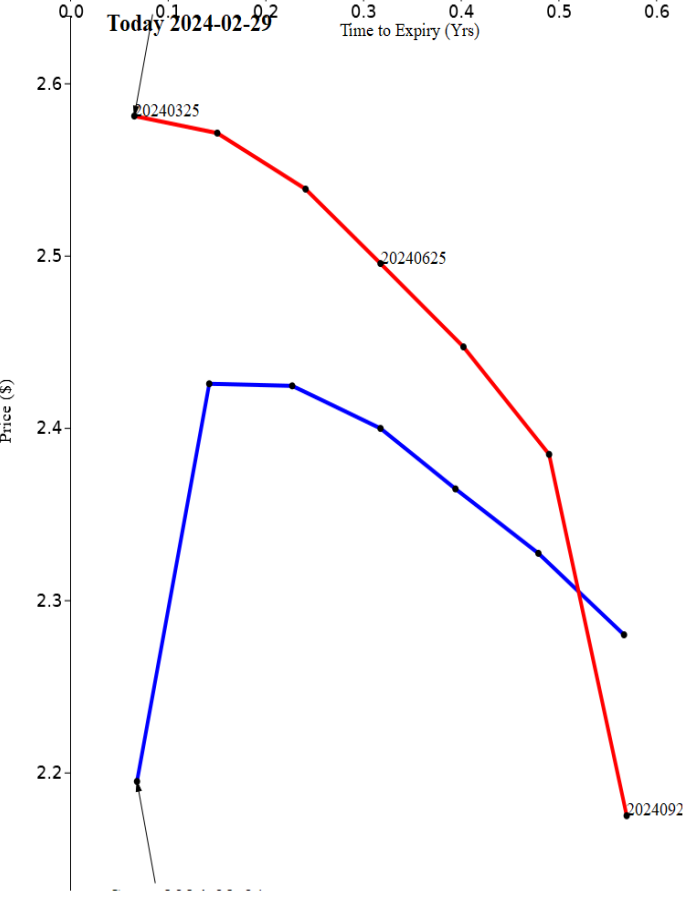
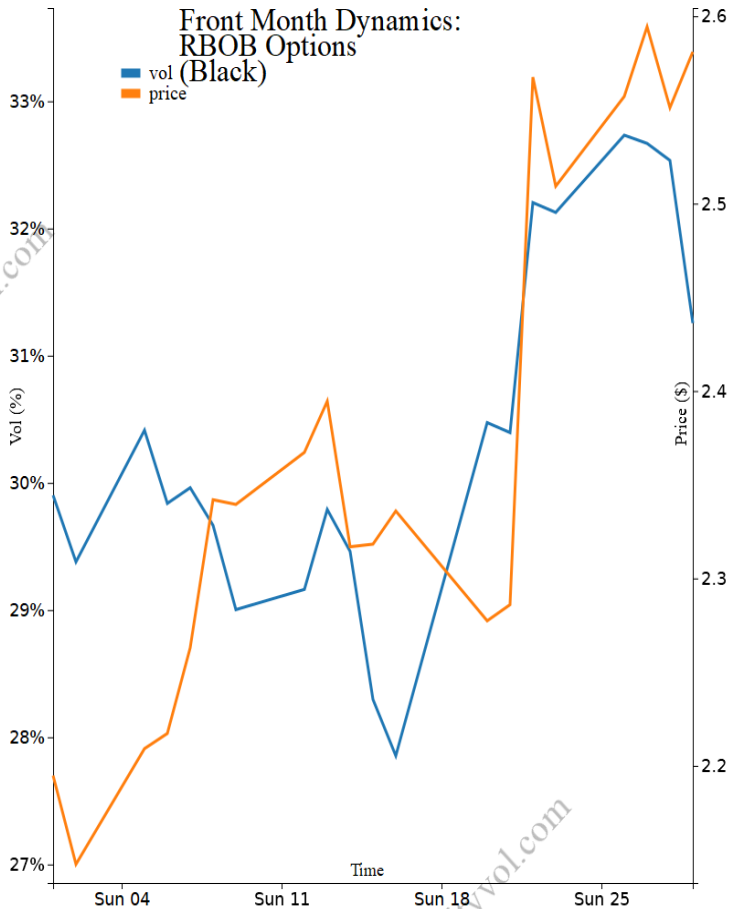
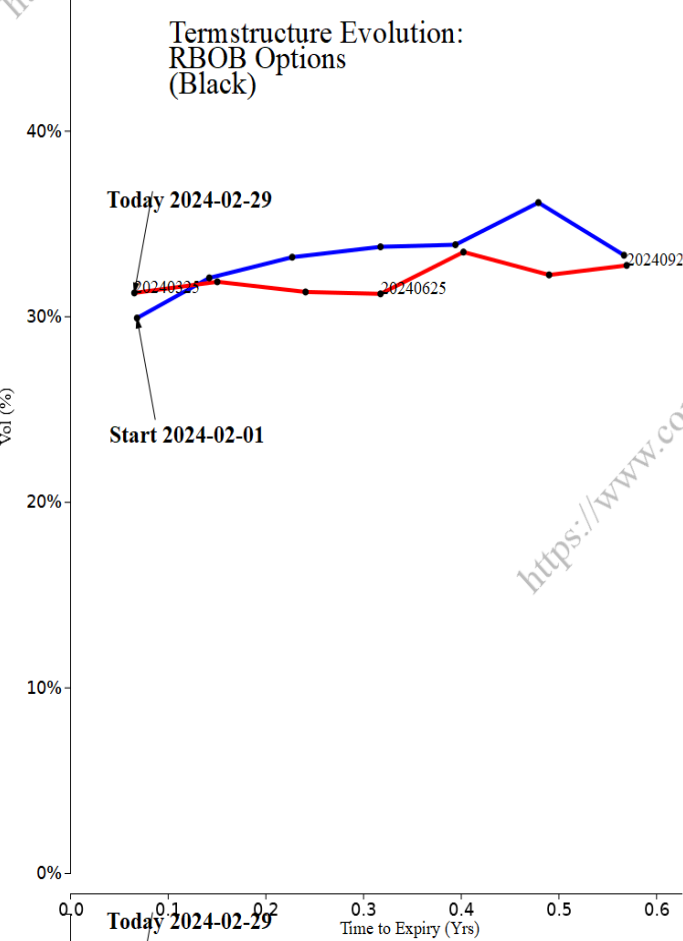
Skews, Termstructures and more

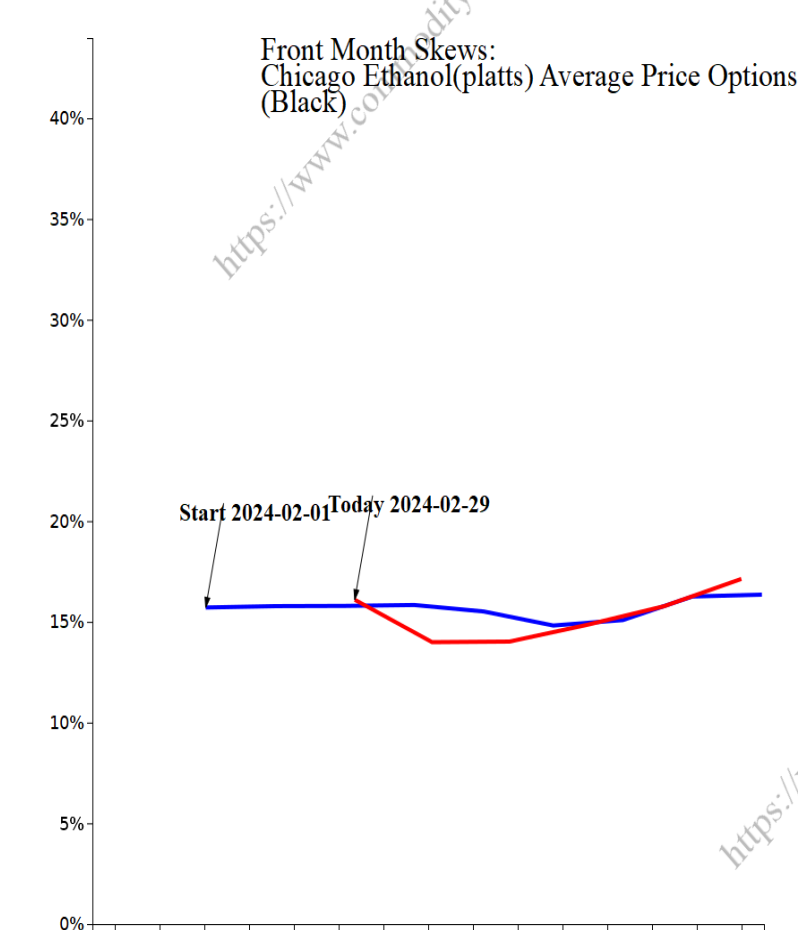
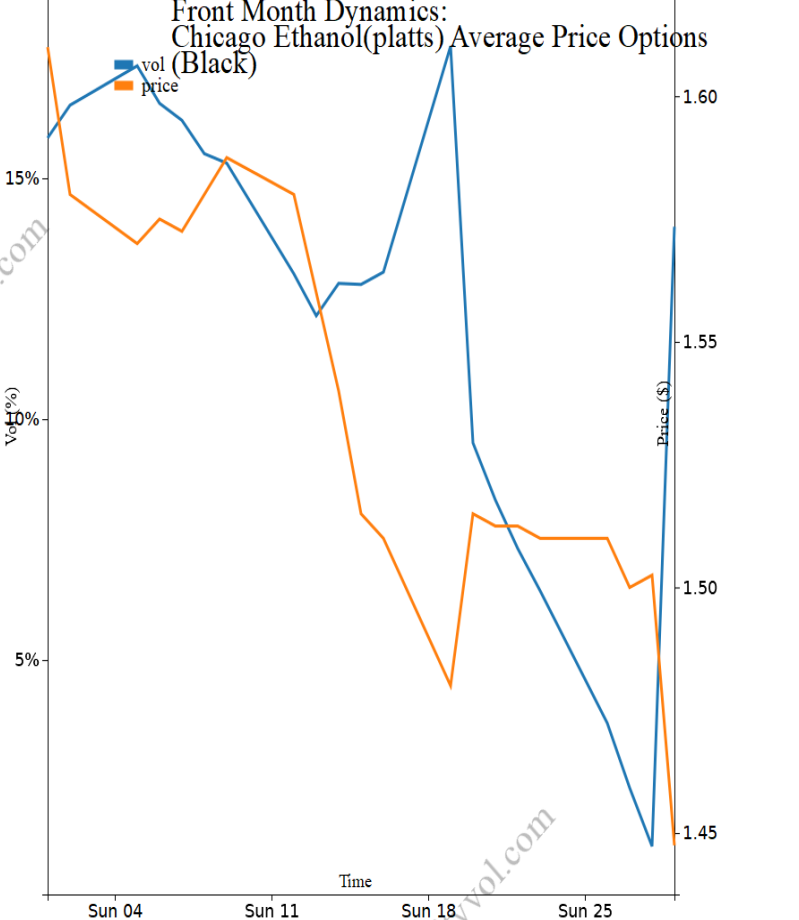
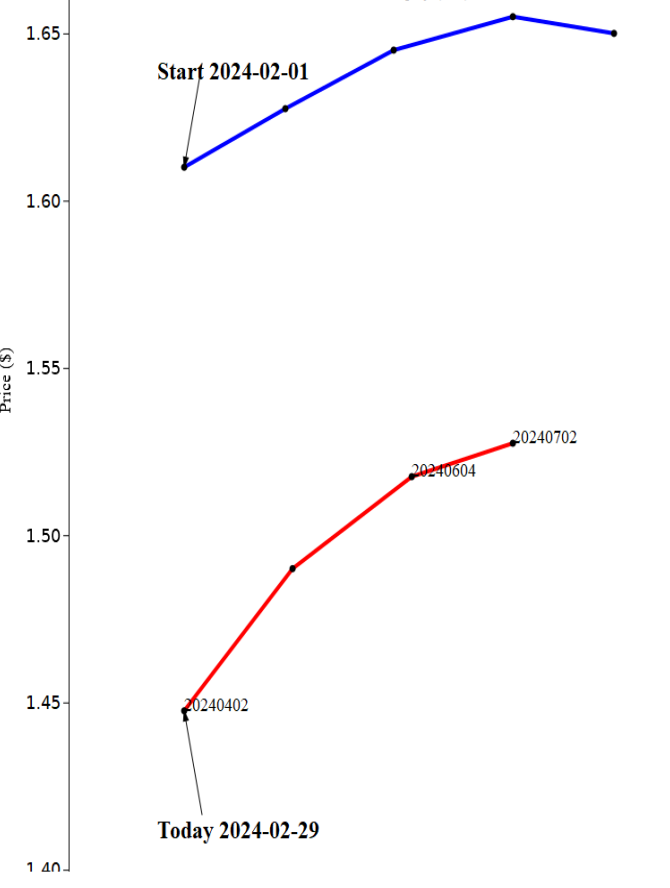
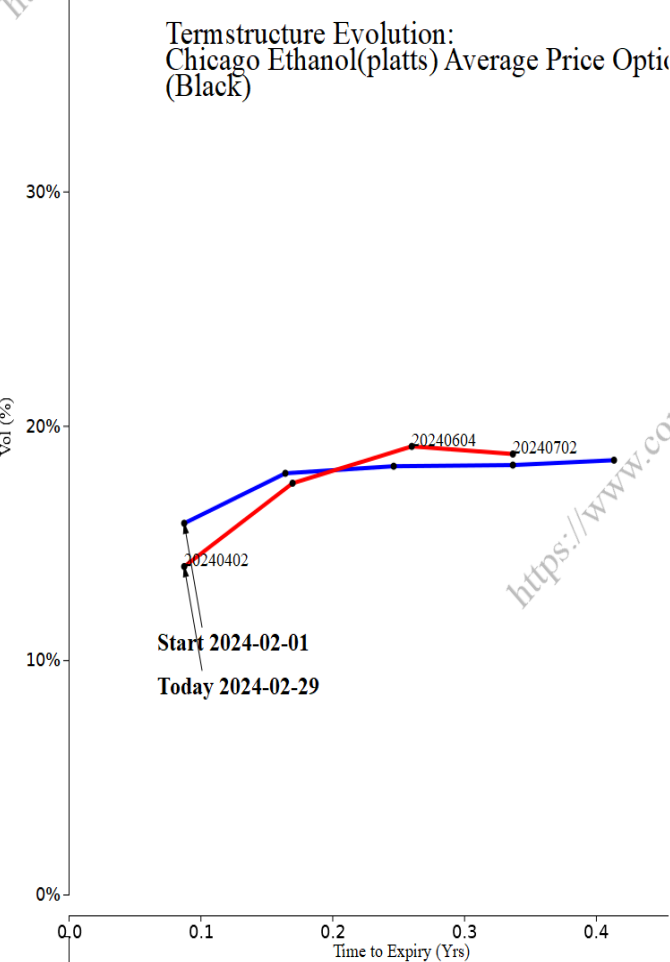
Energy: Crude and Derivatives



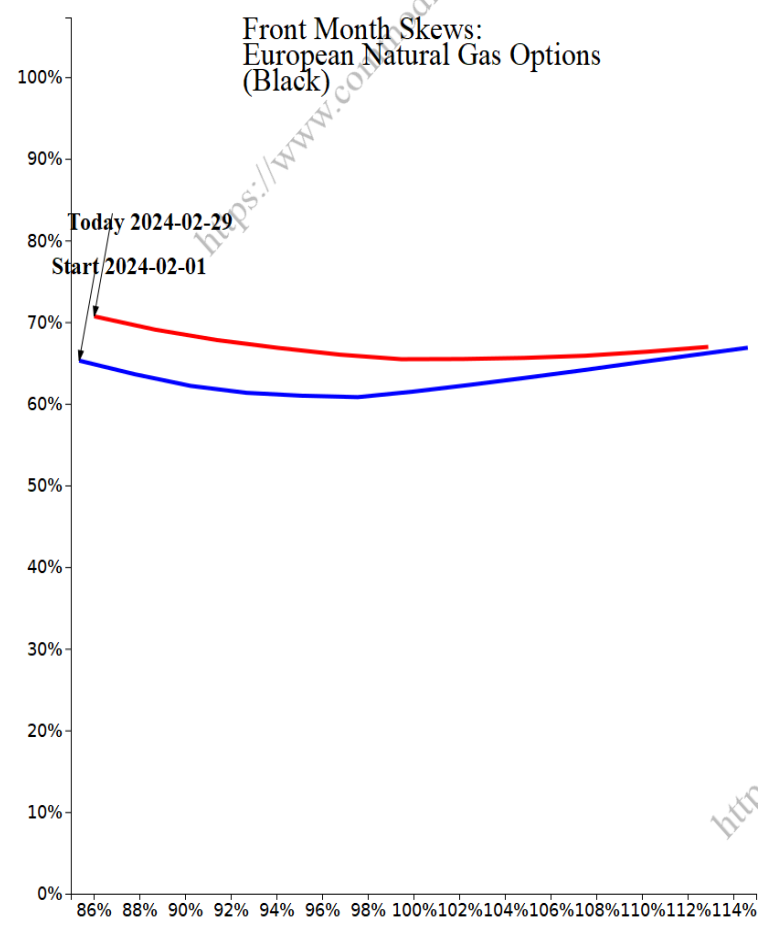
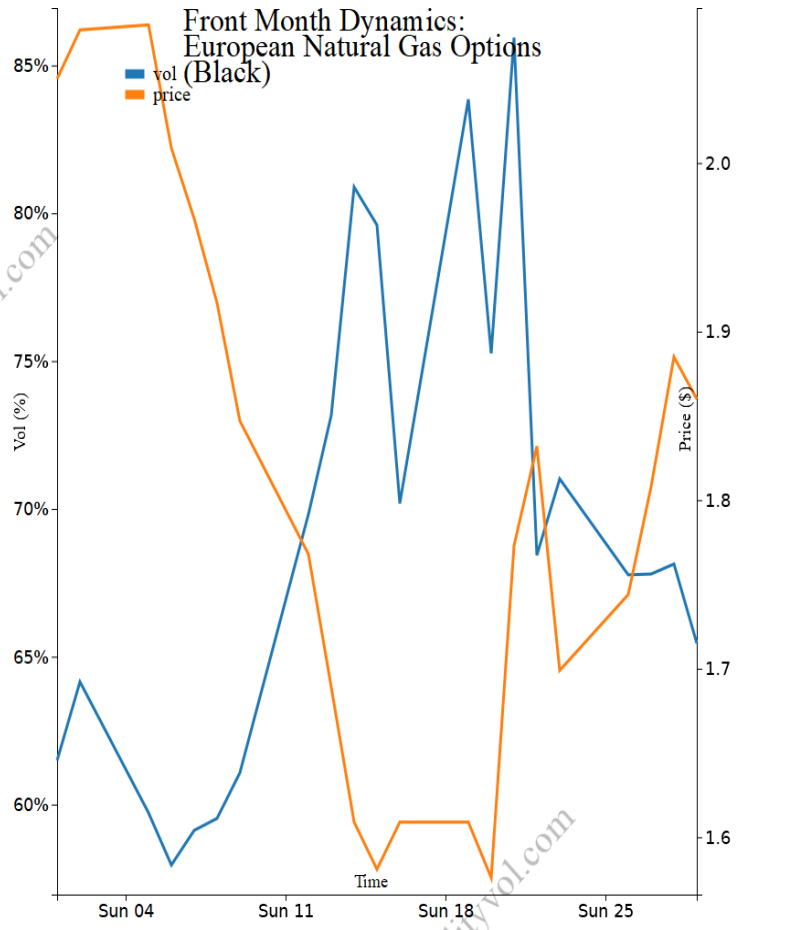
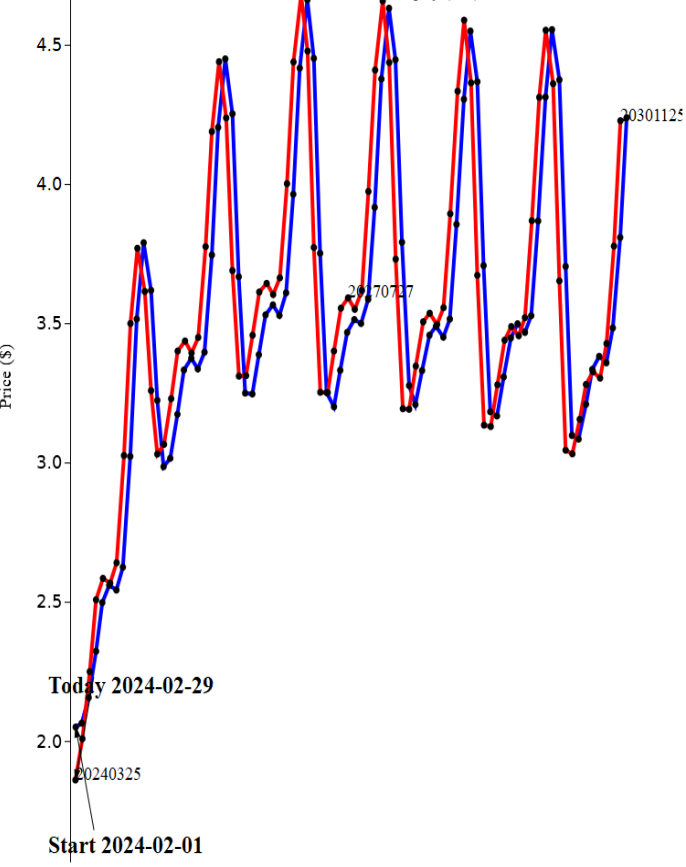
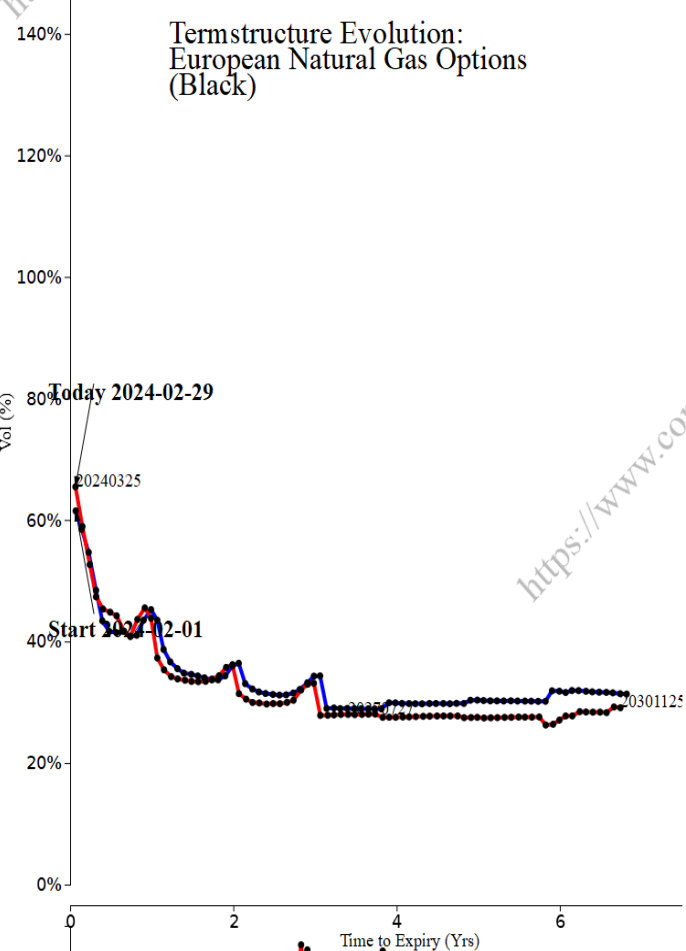


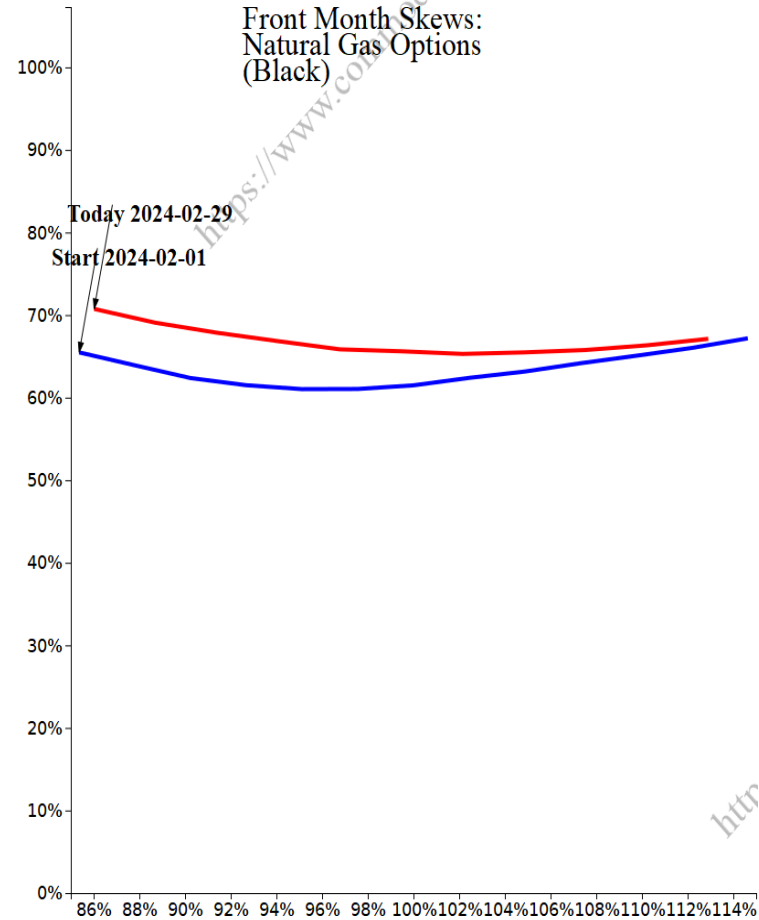
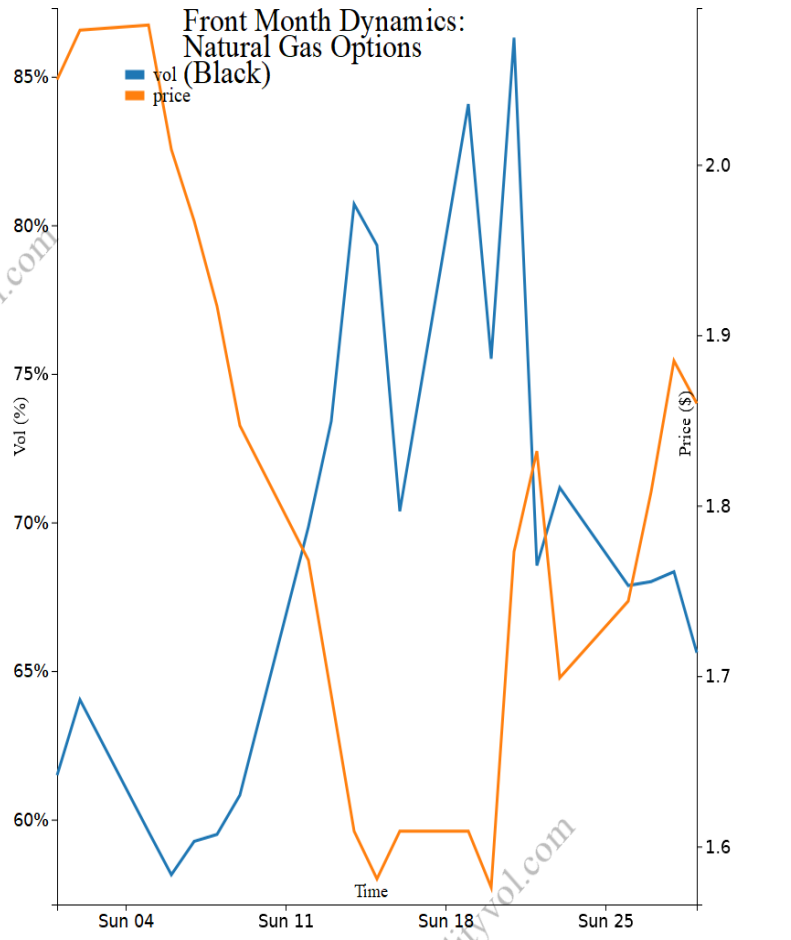
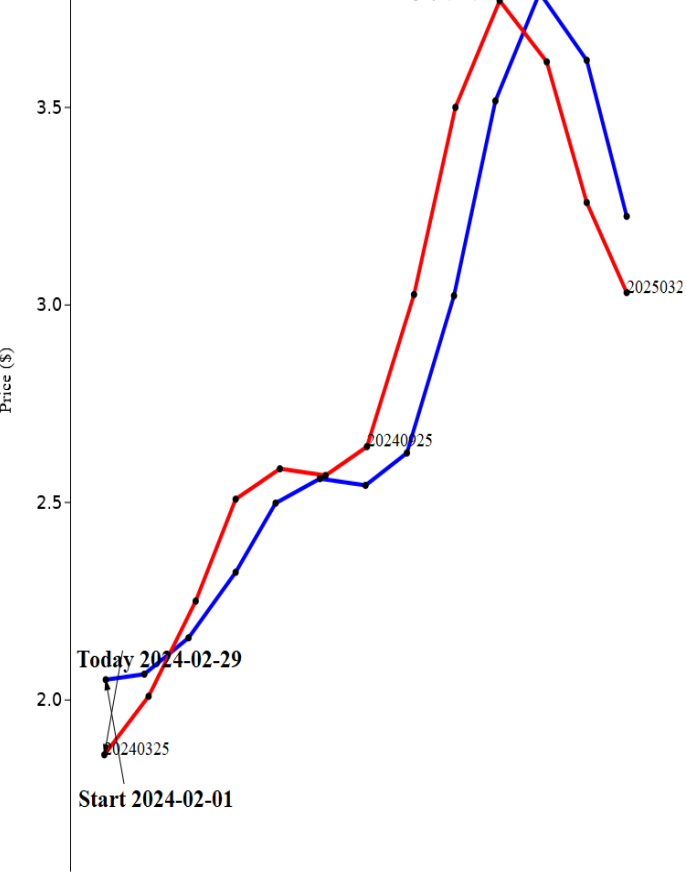
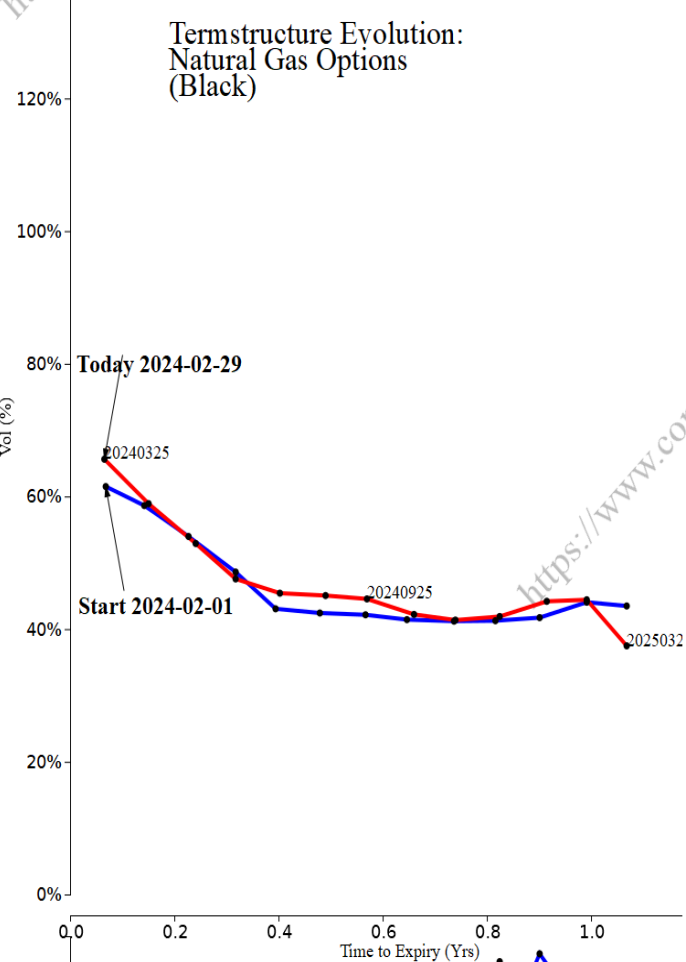


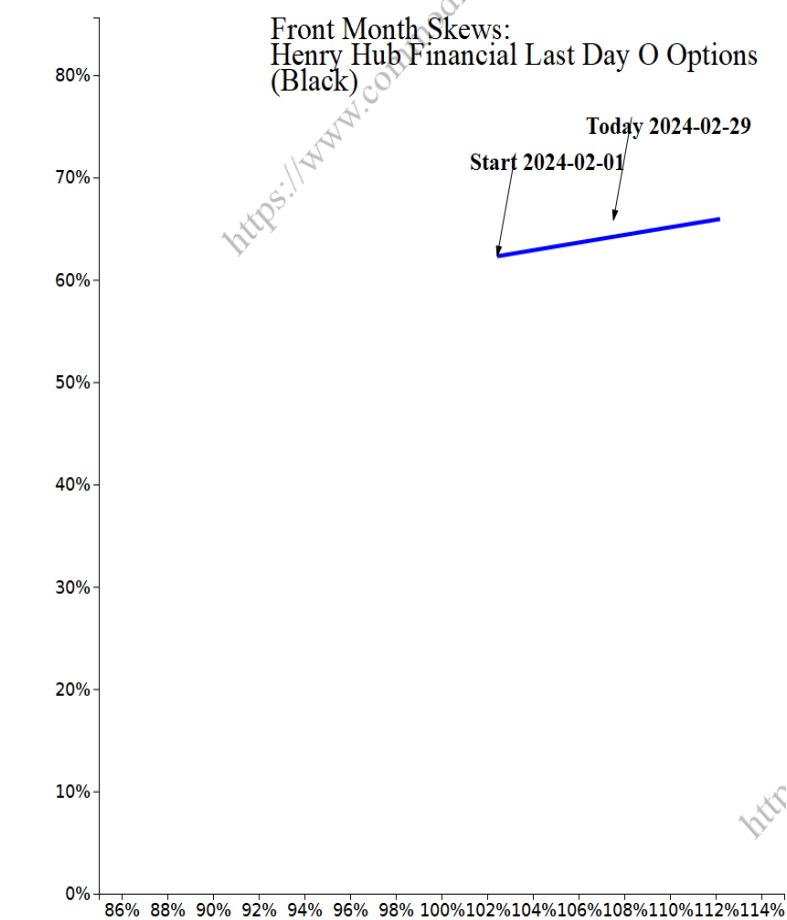
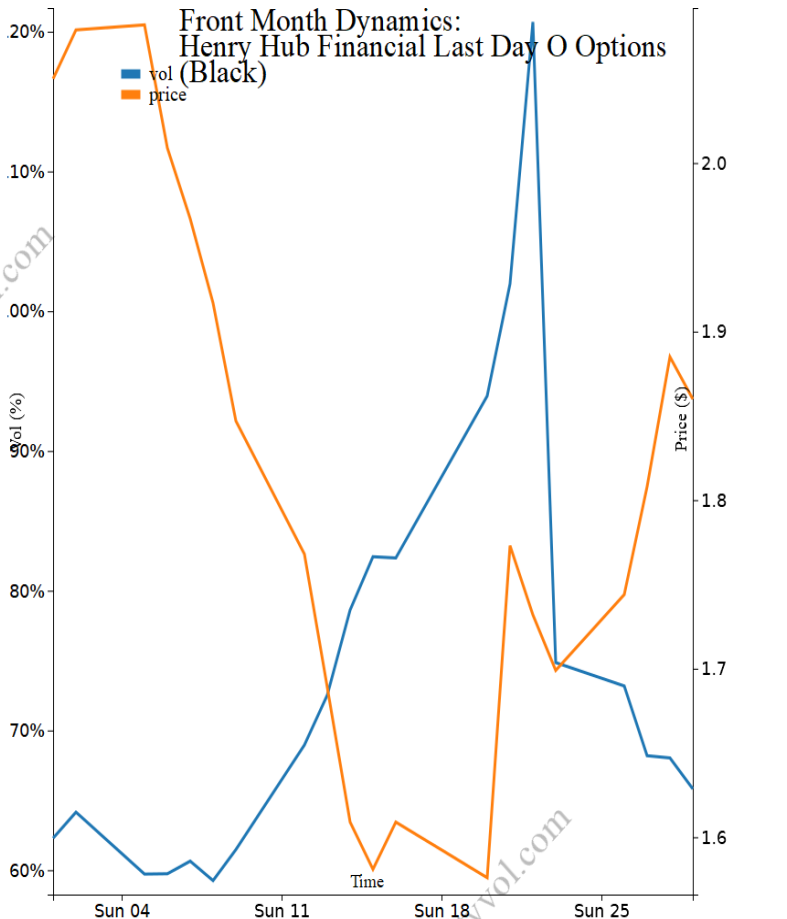
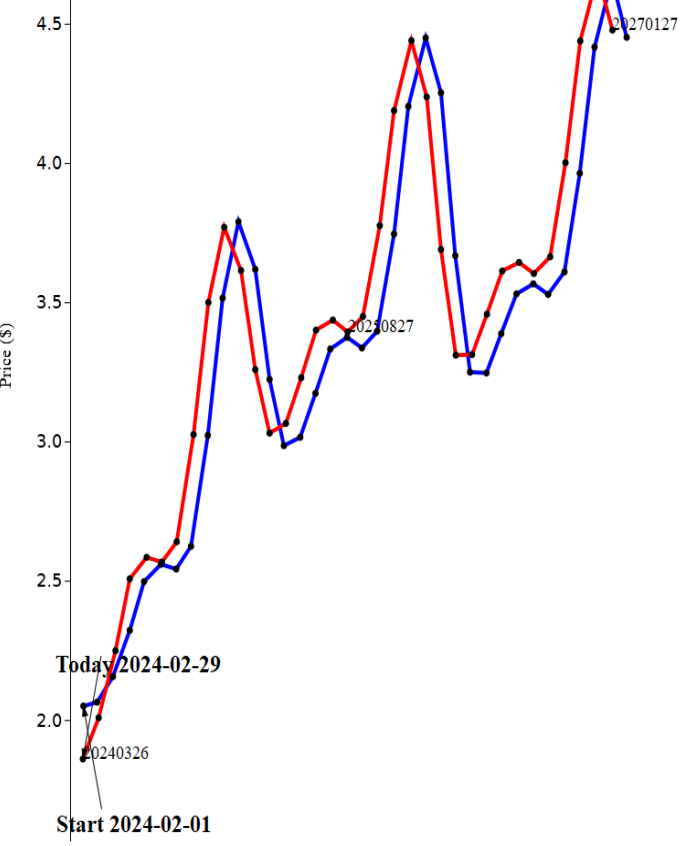
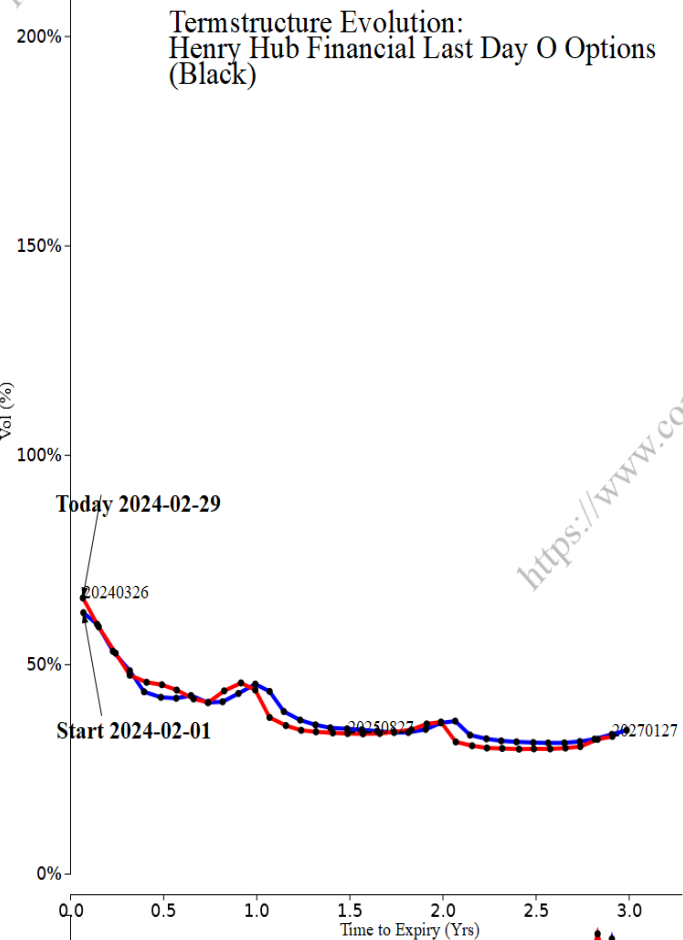




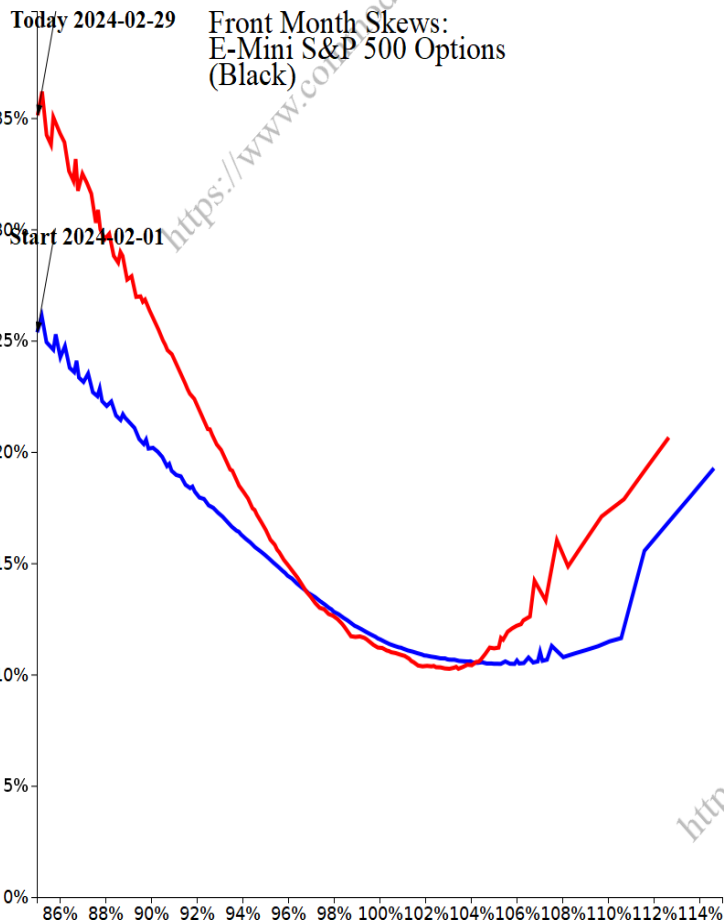
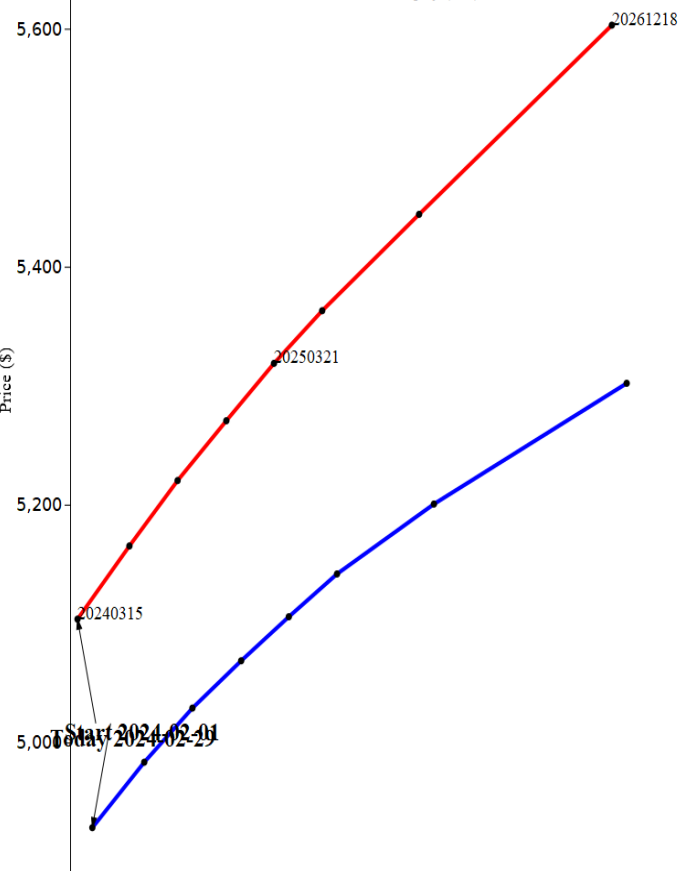
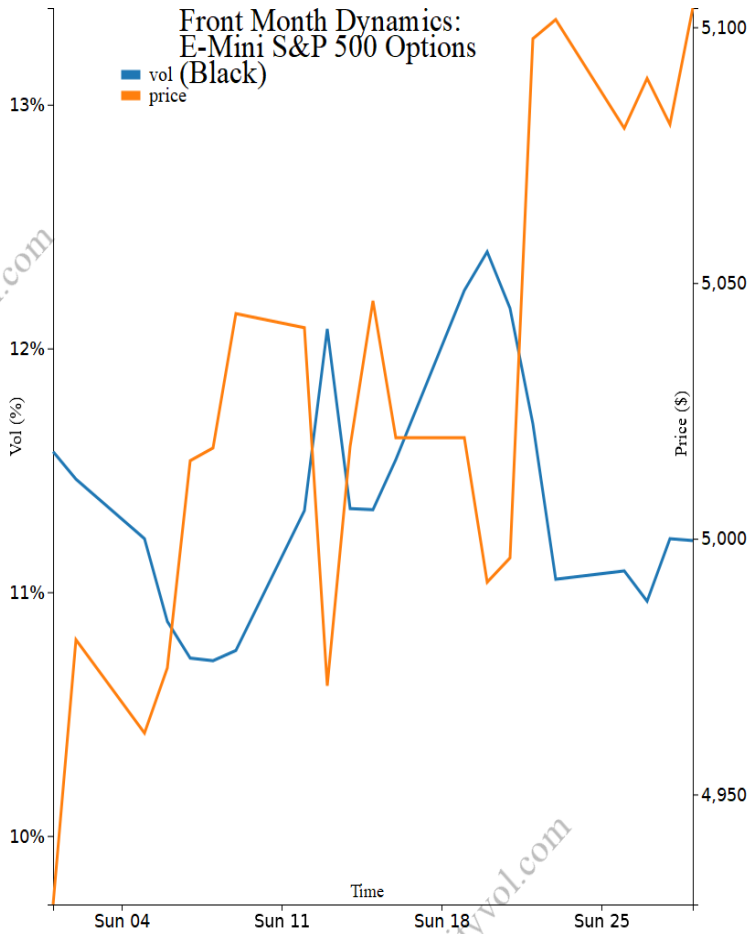
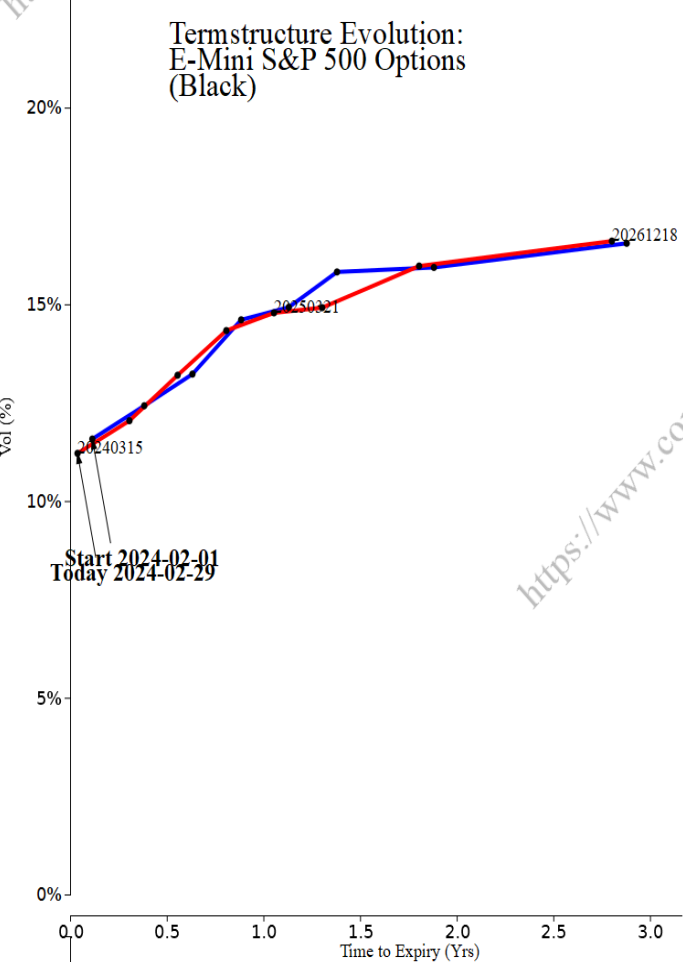
Energy: Natural Gas

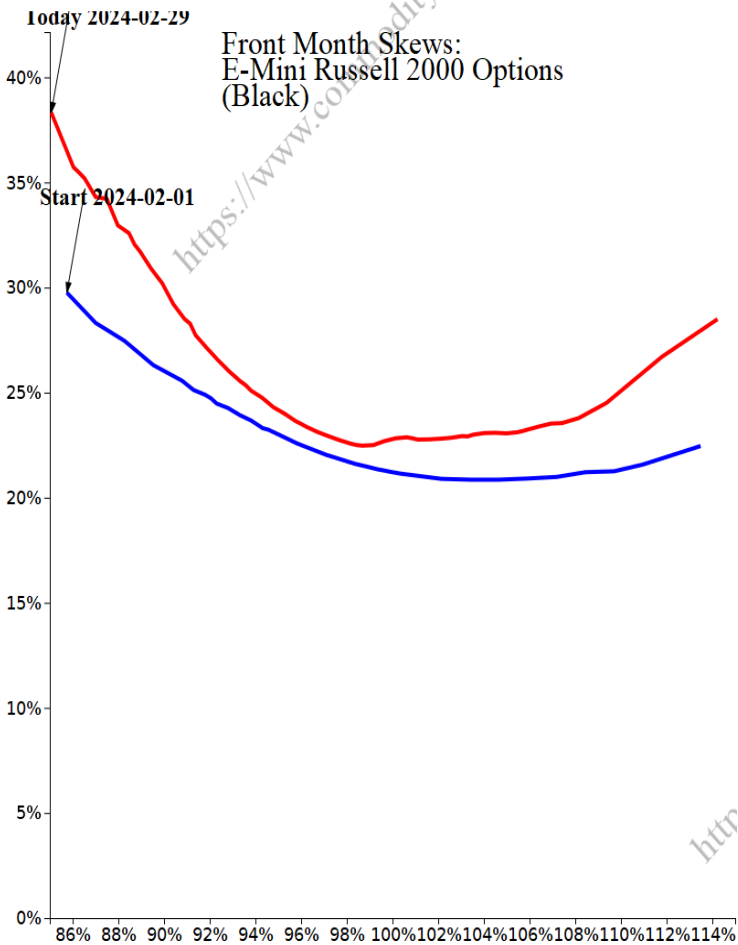
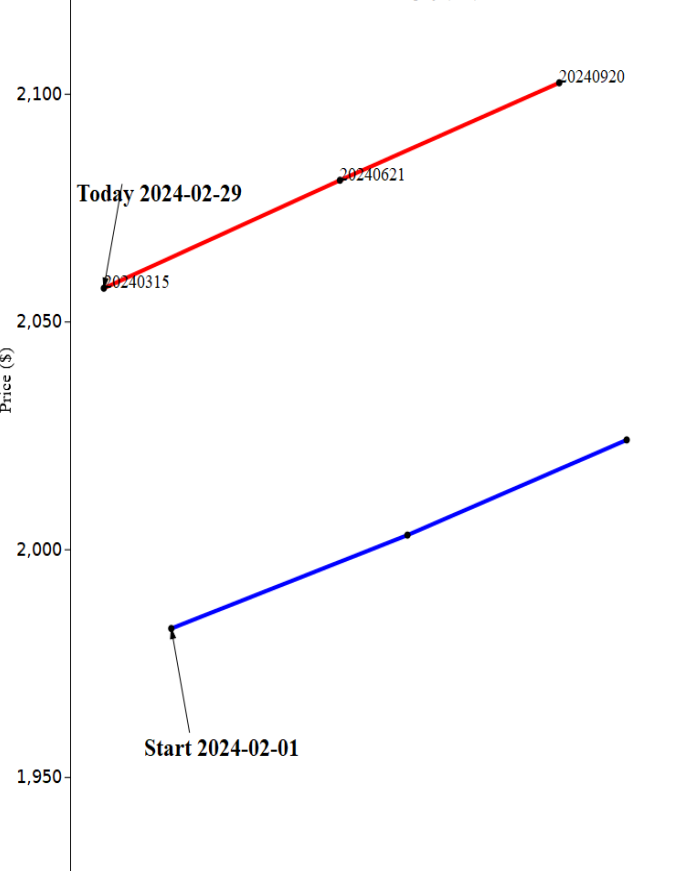
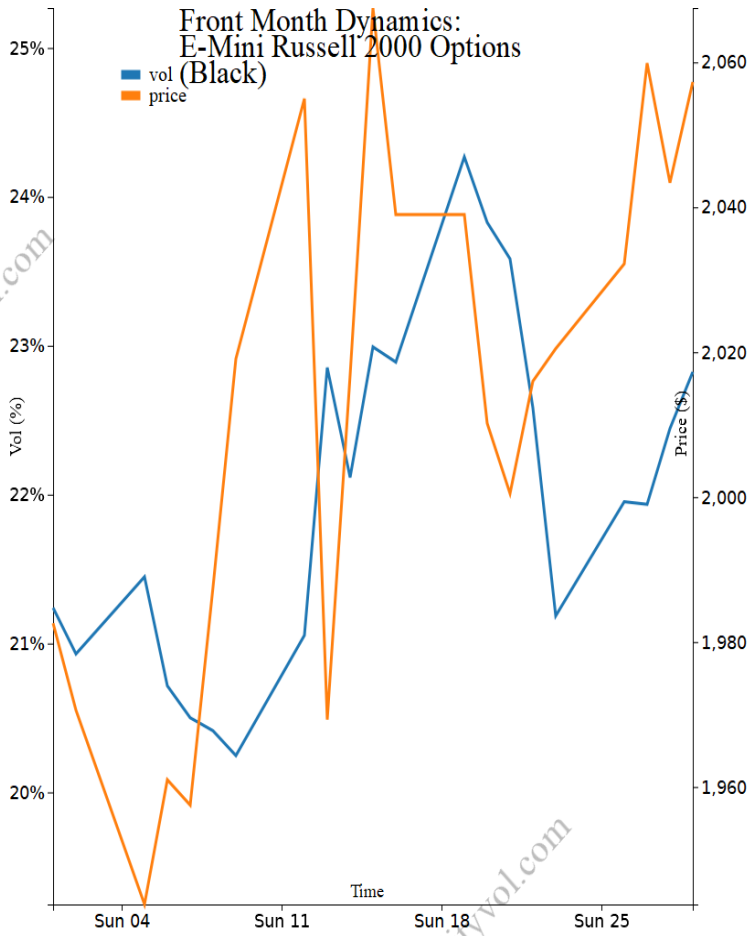
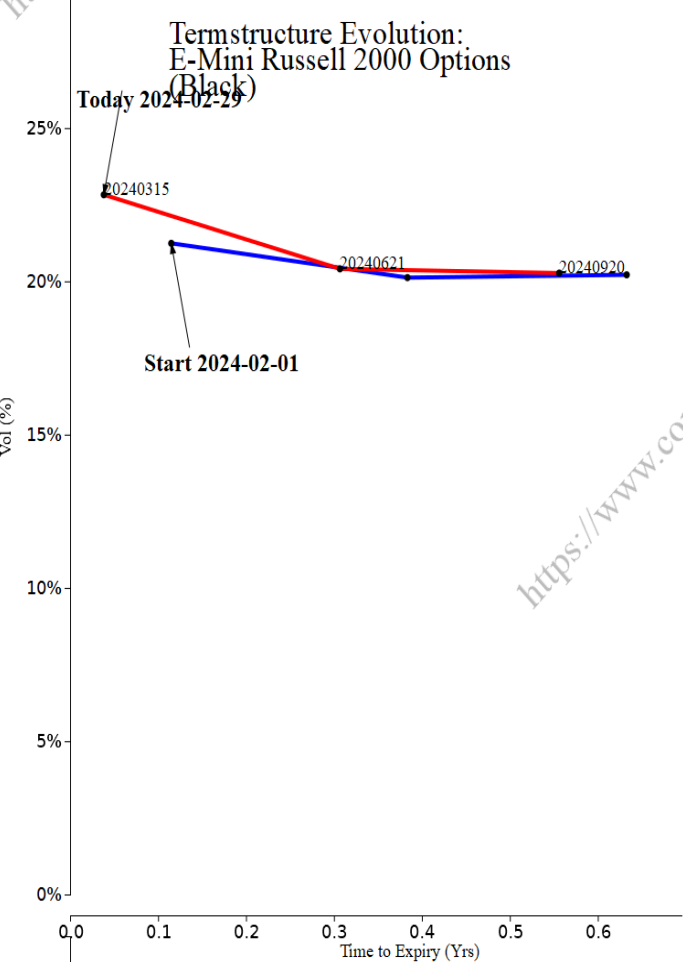


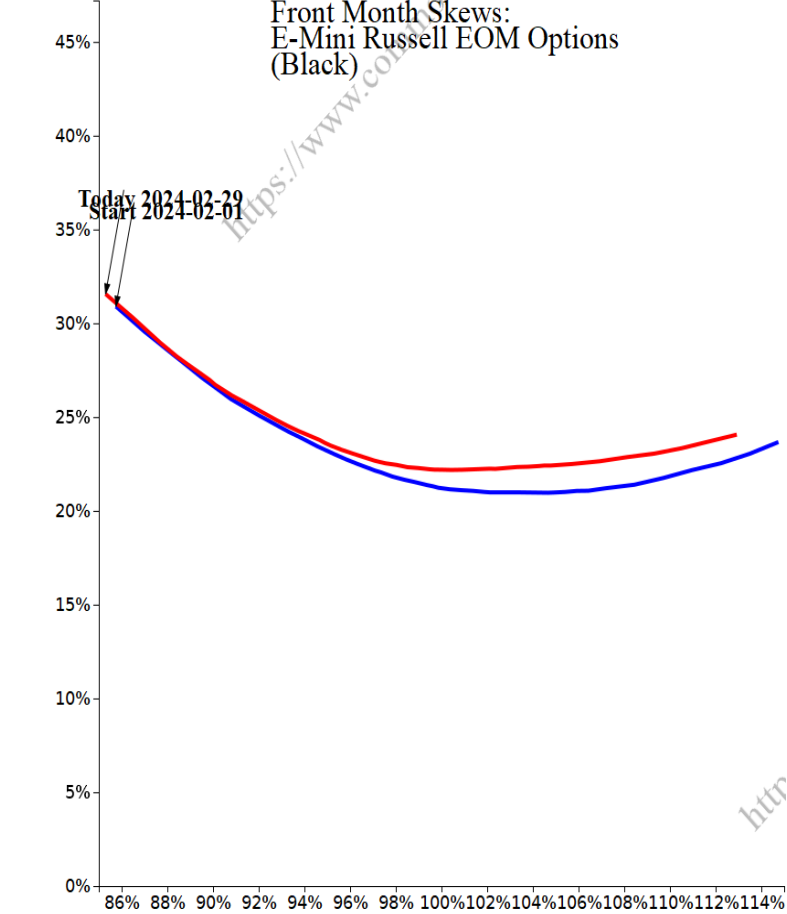
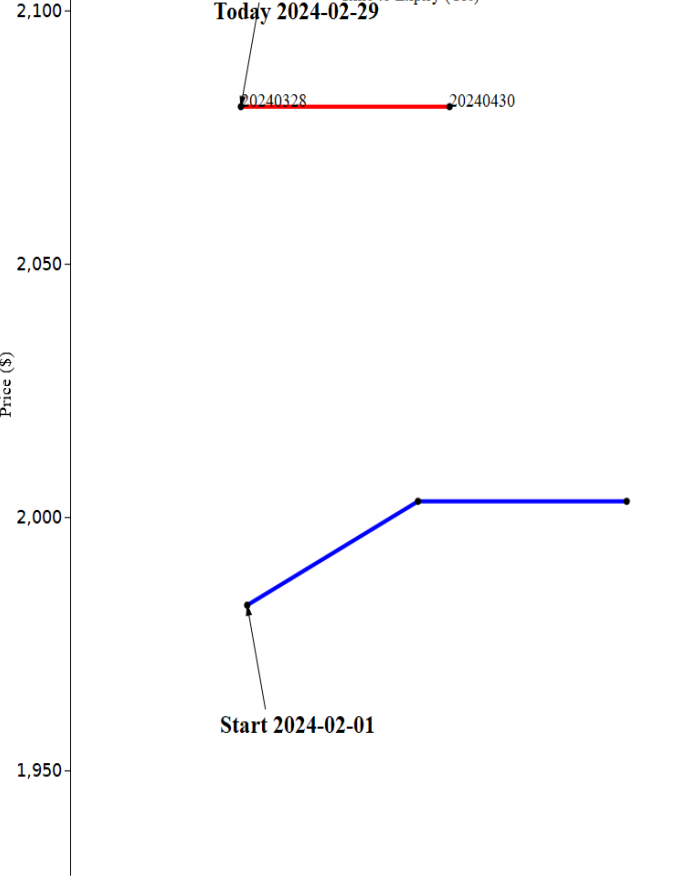
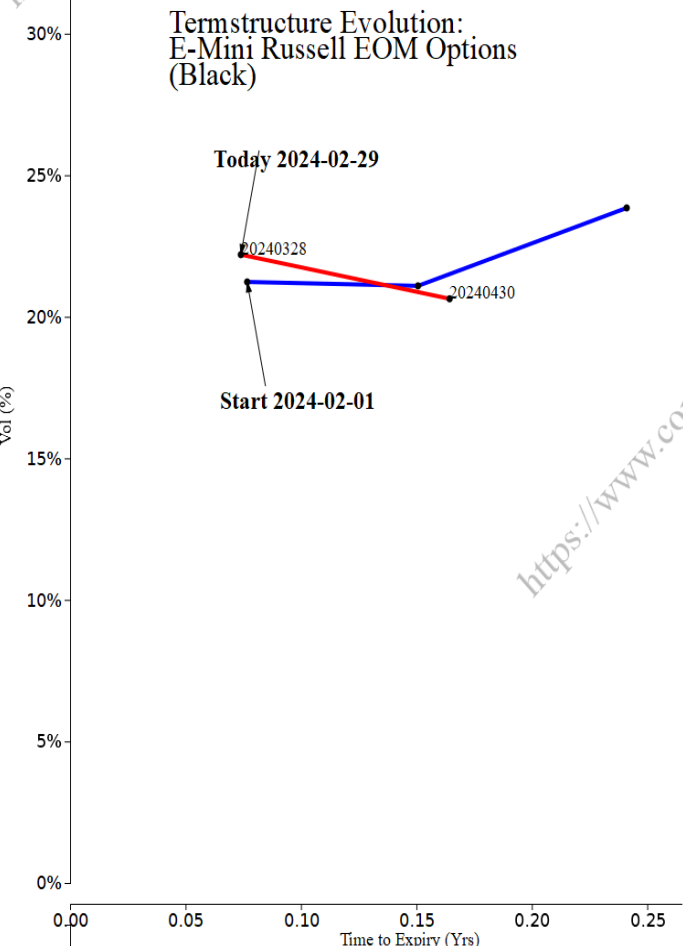


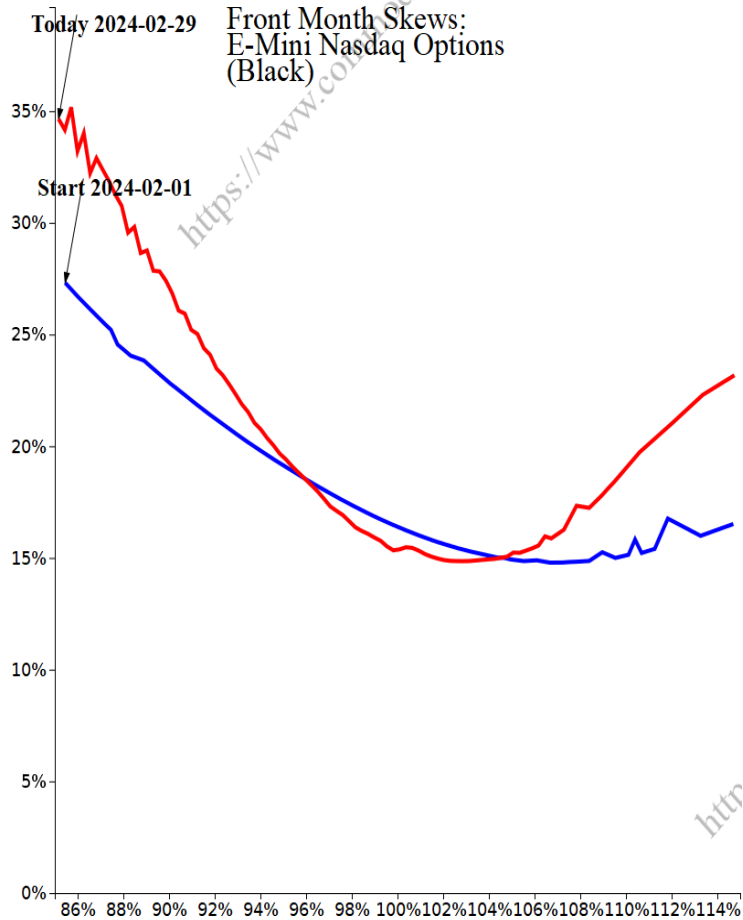
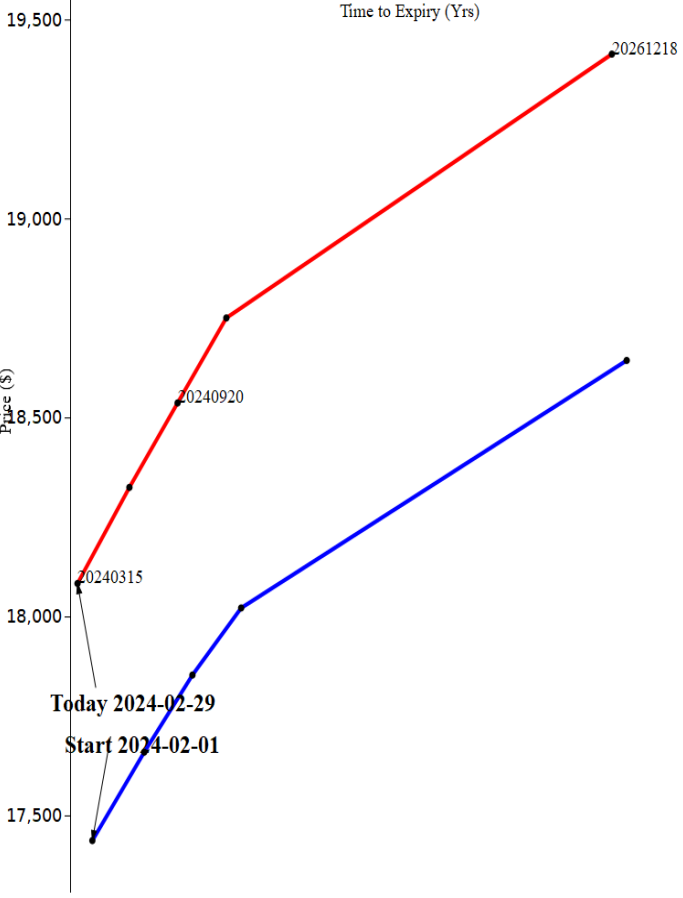
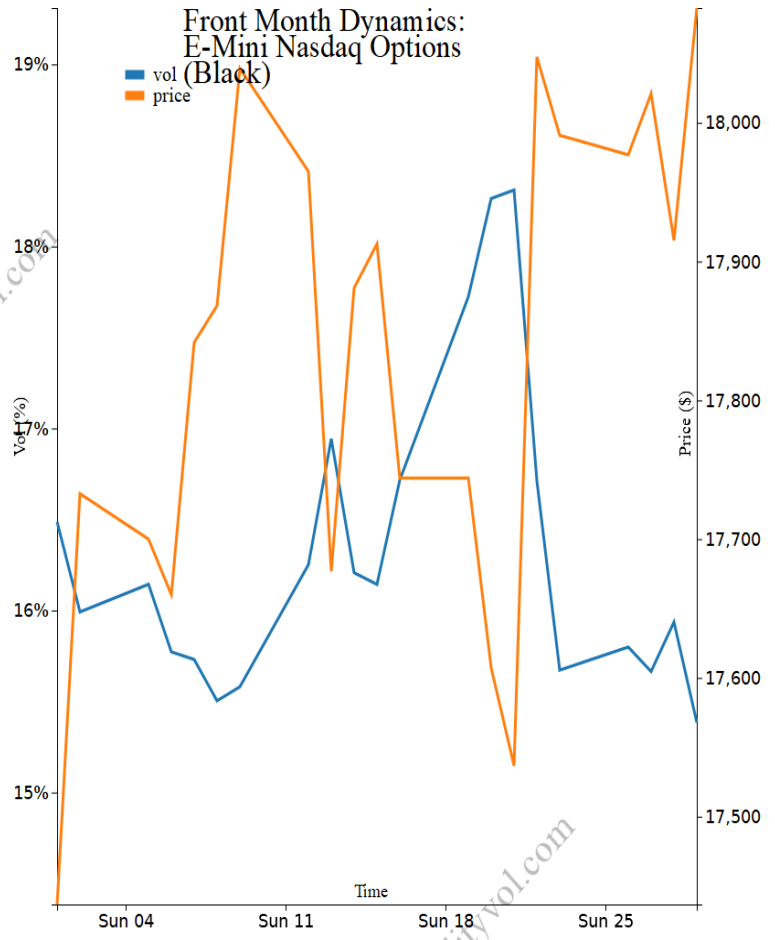
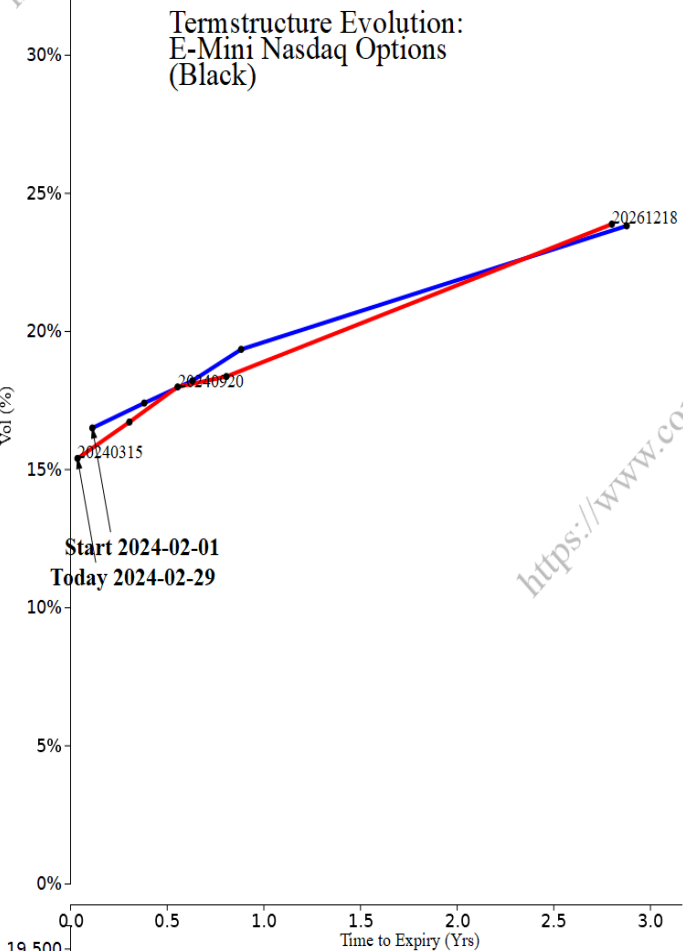


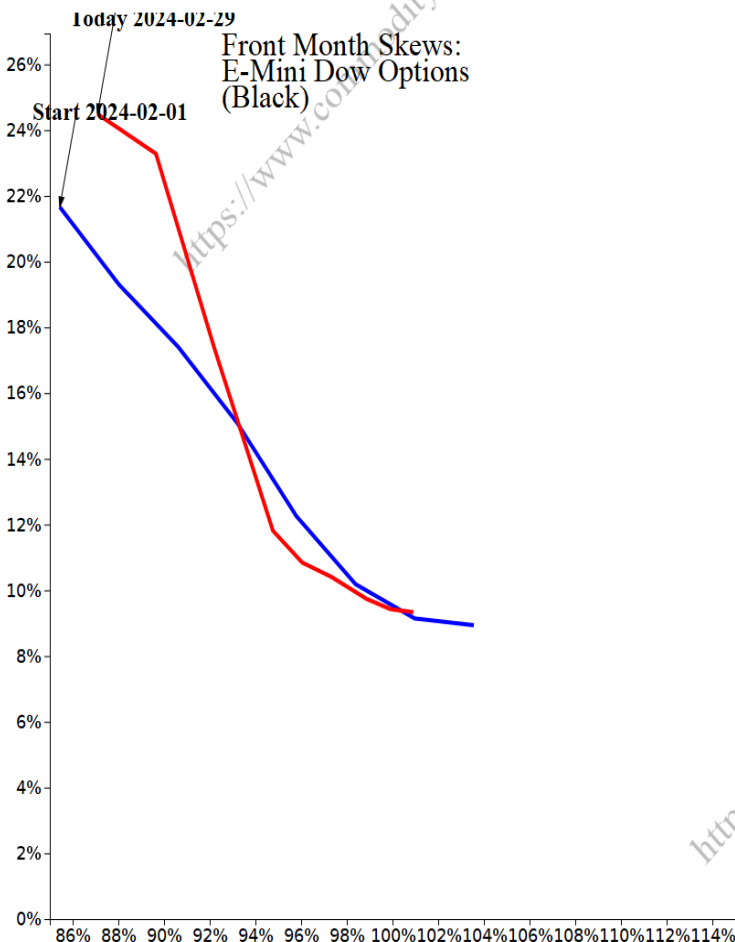
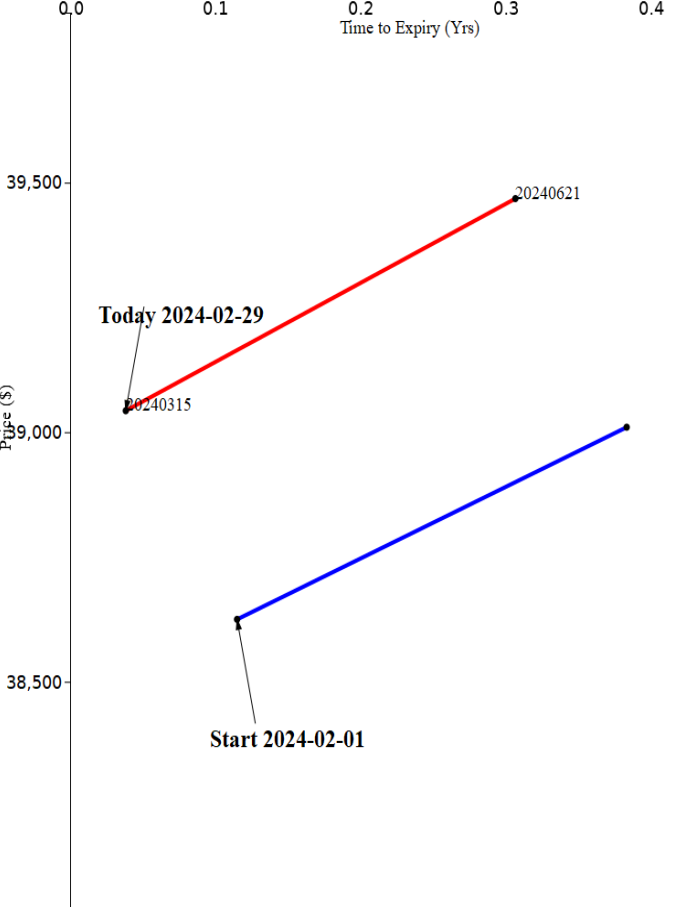
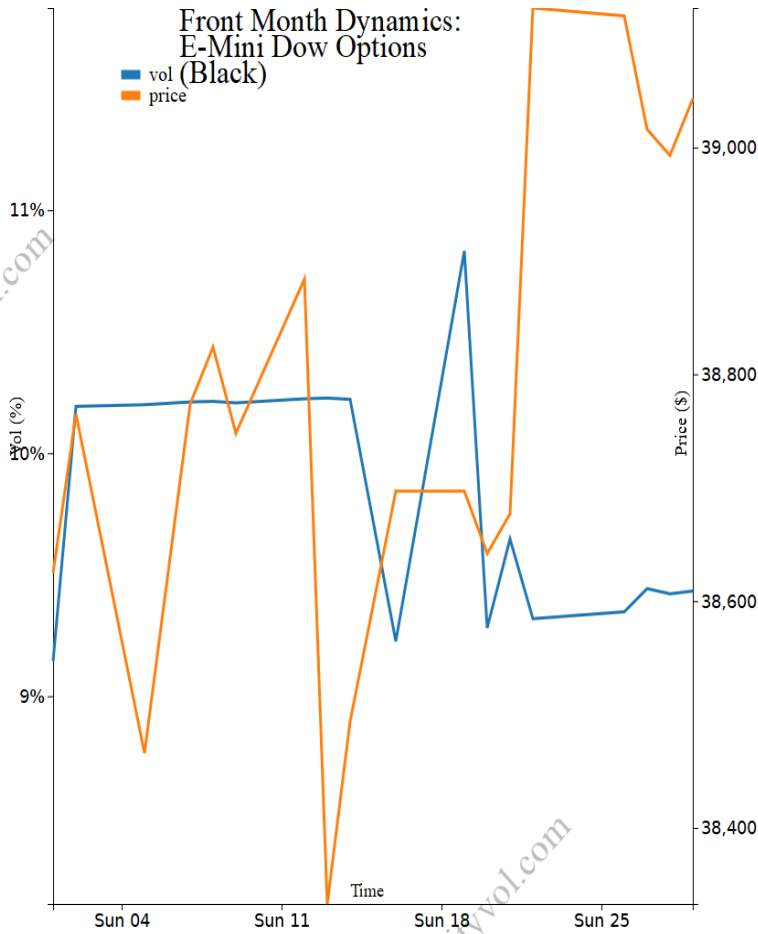
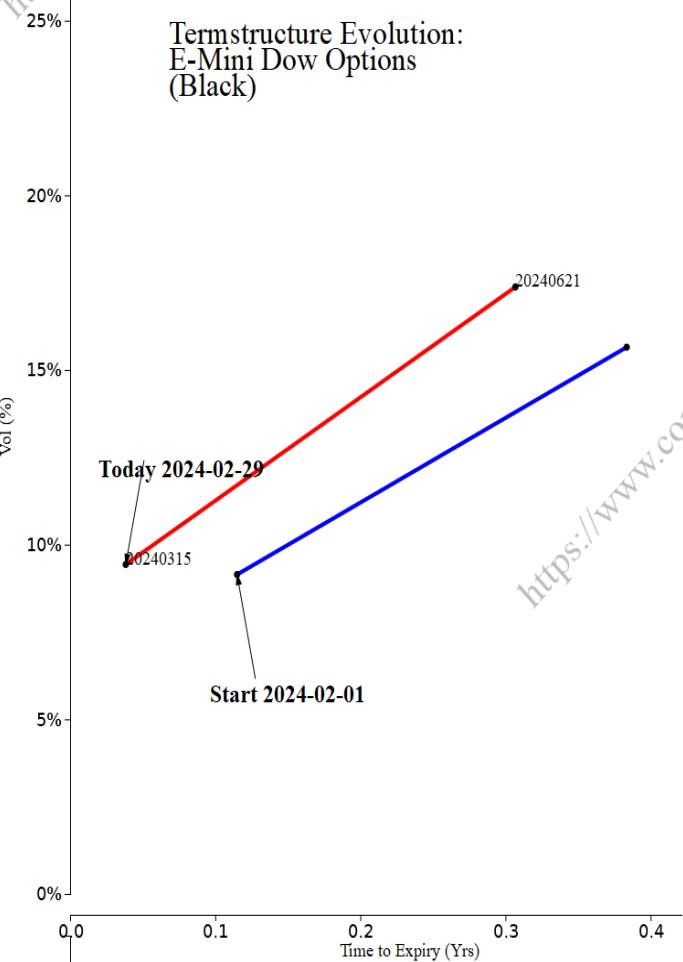
EquityIndex

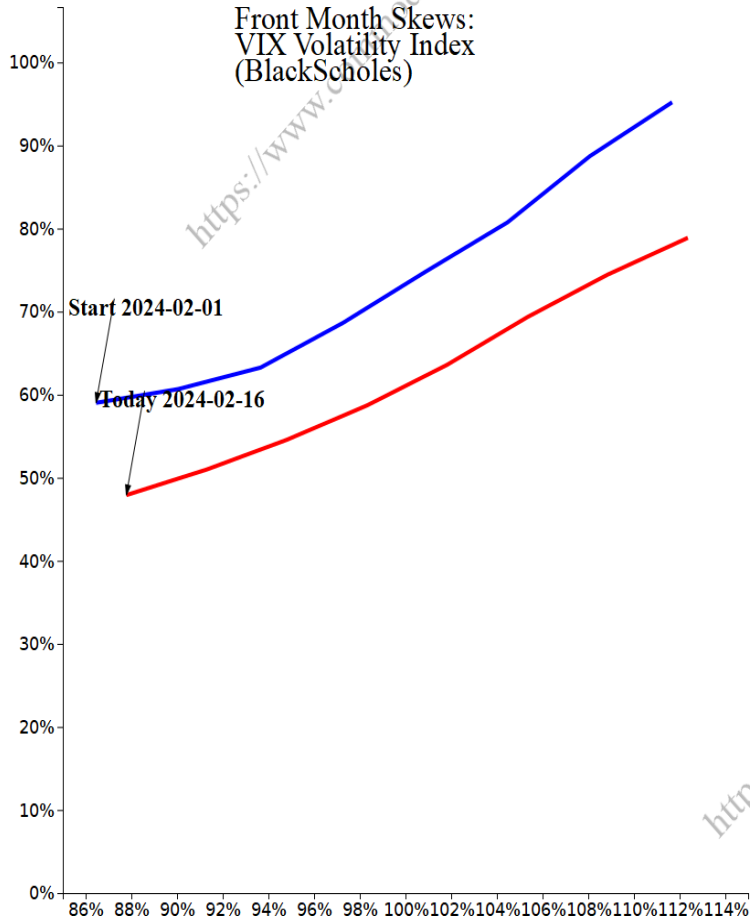
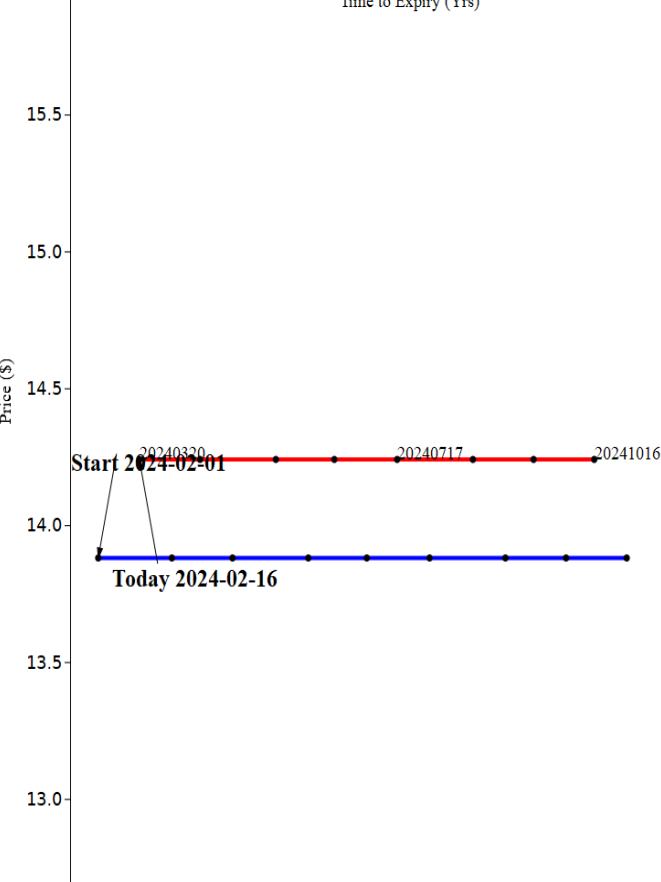
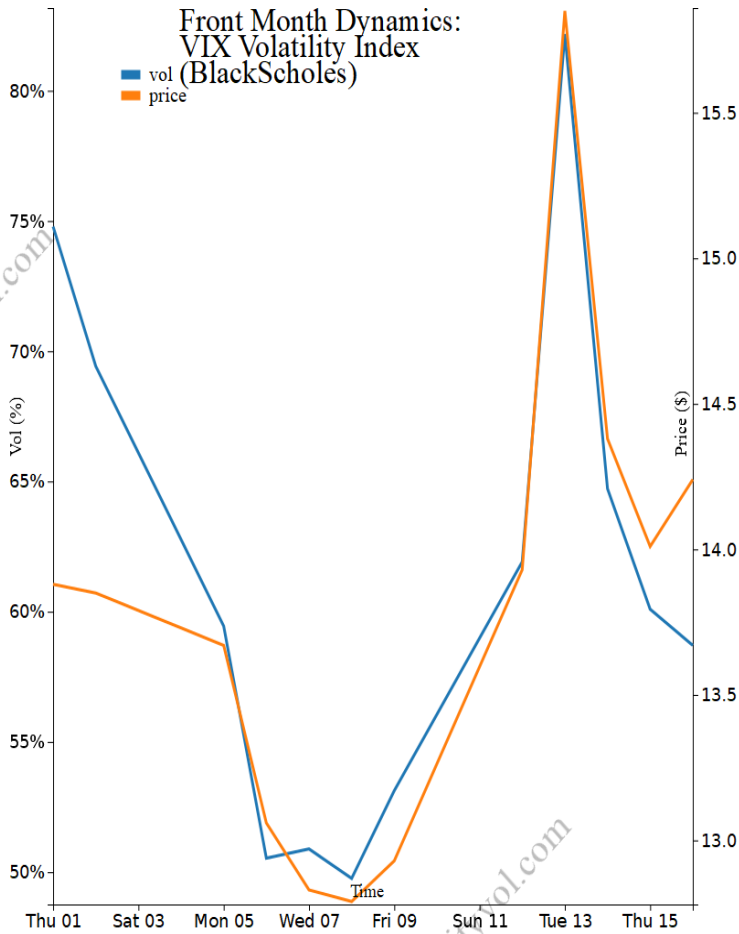
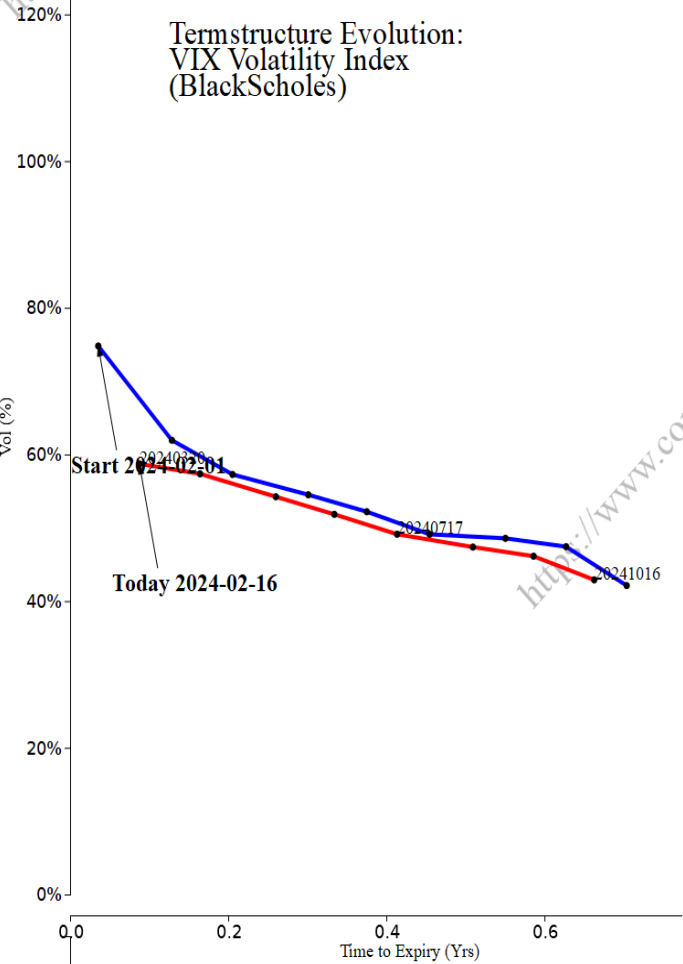




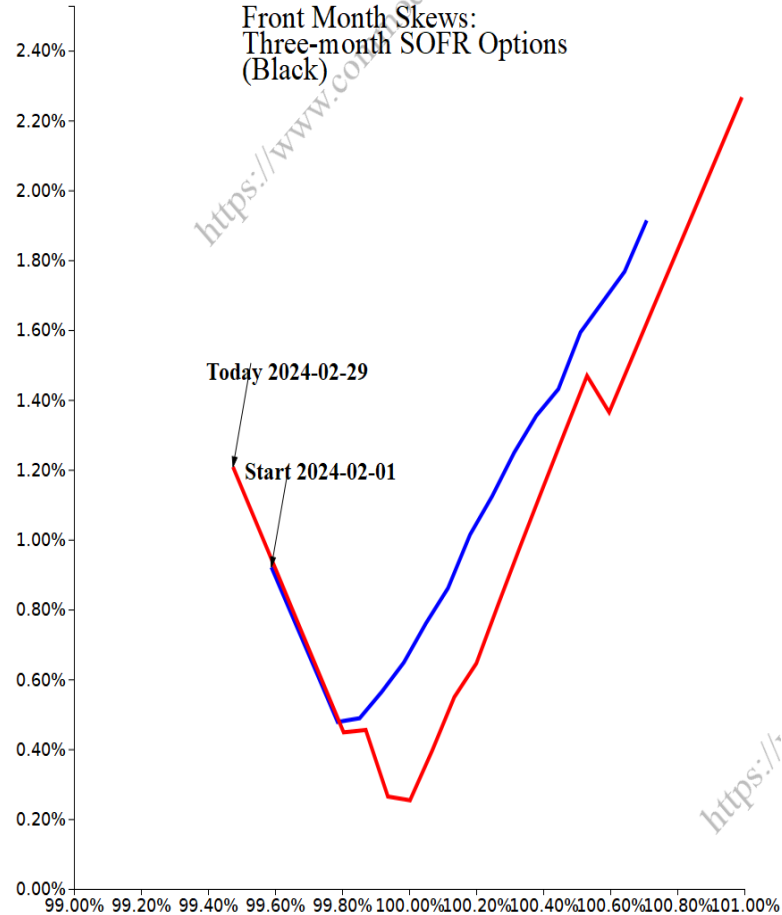
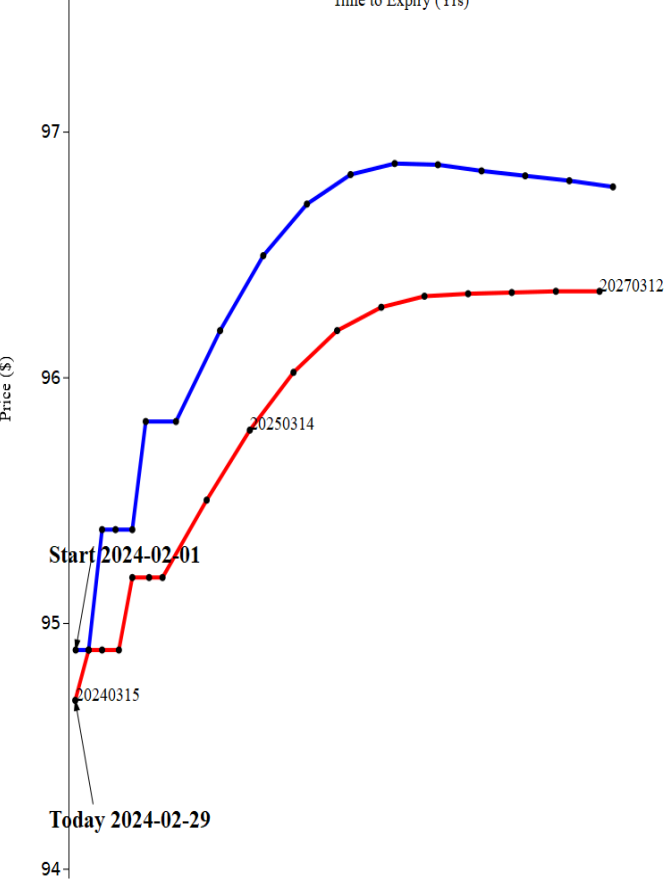
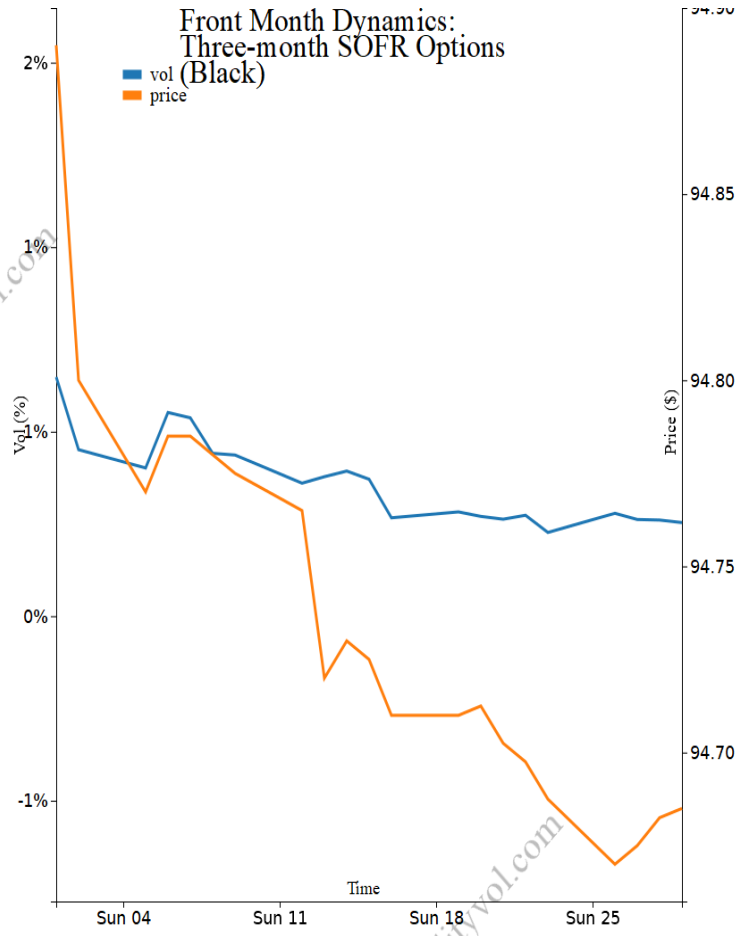
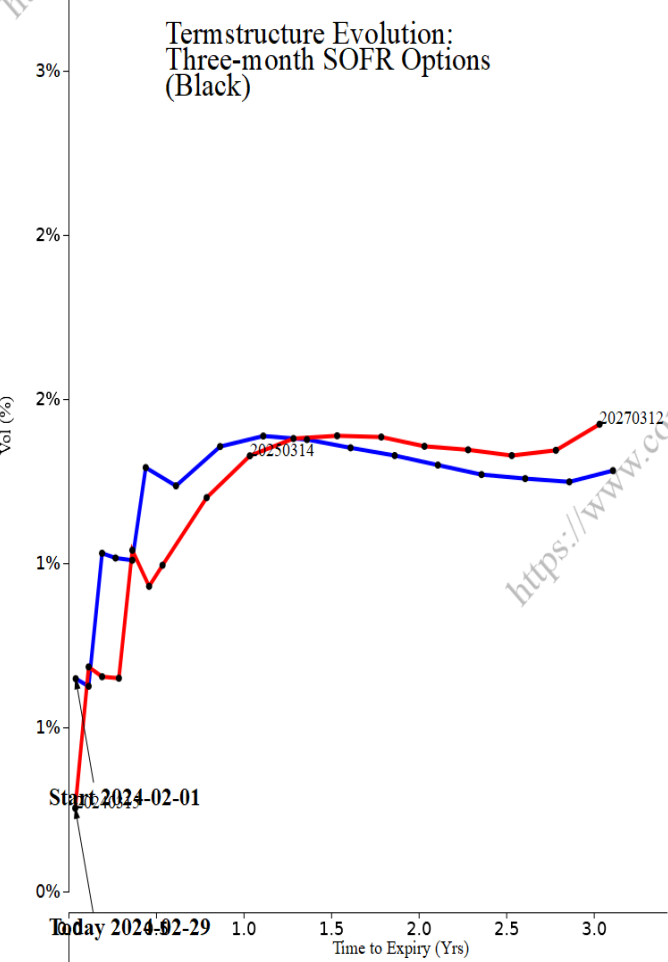


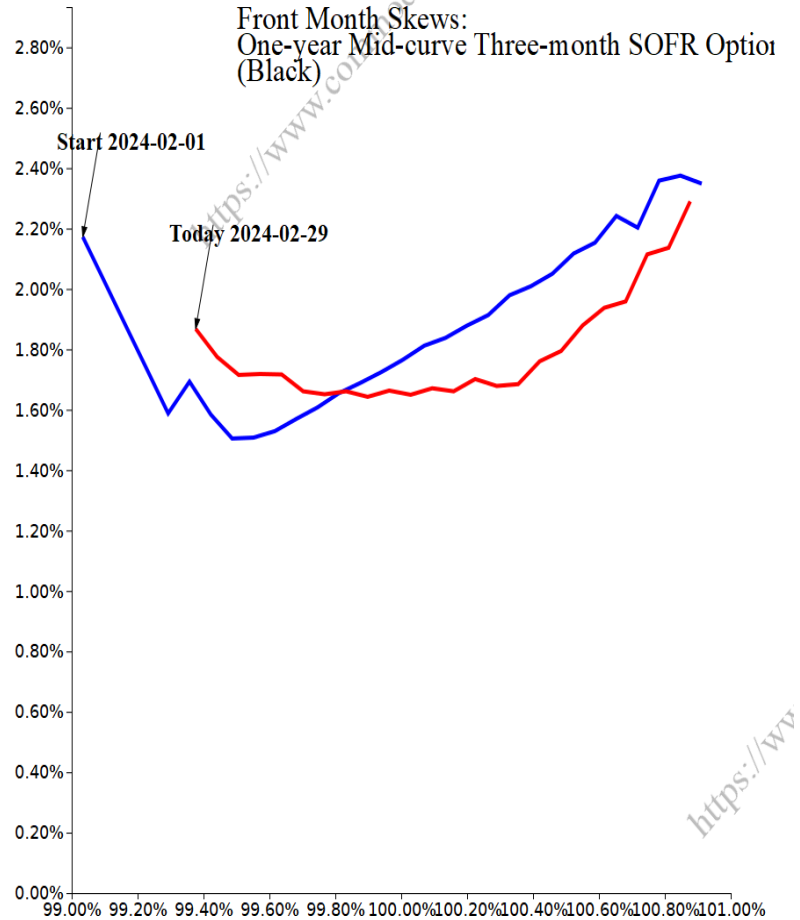
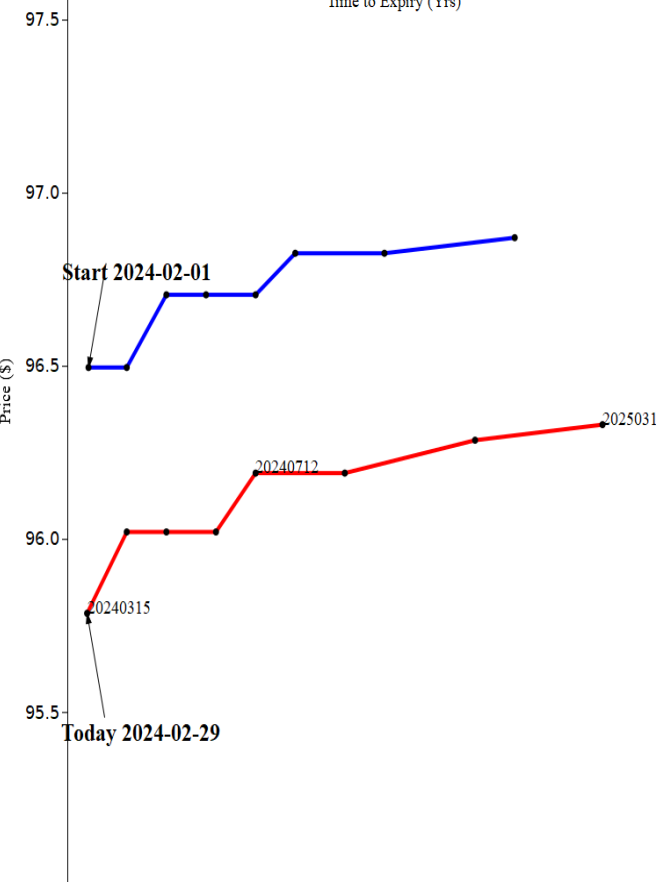
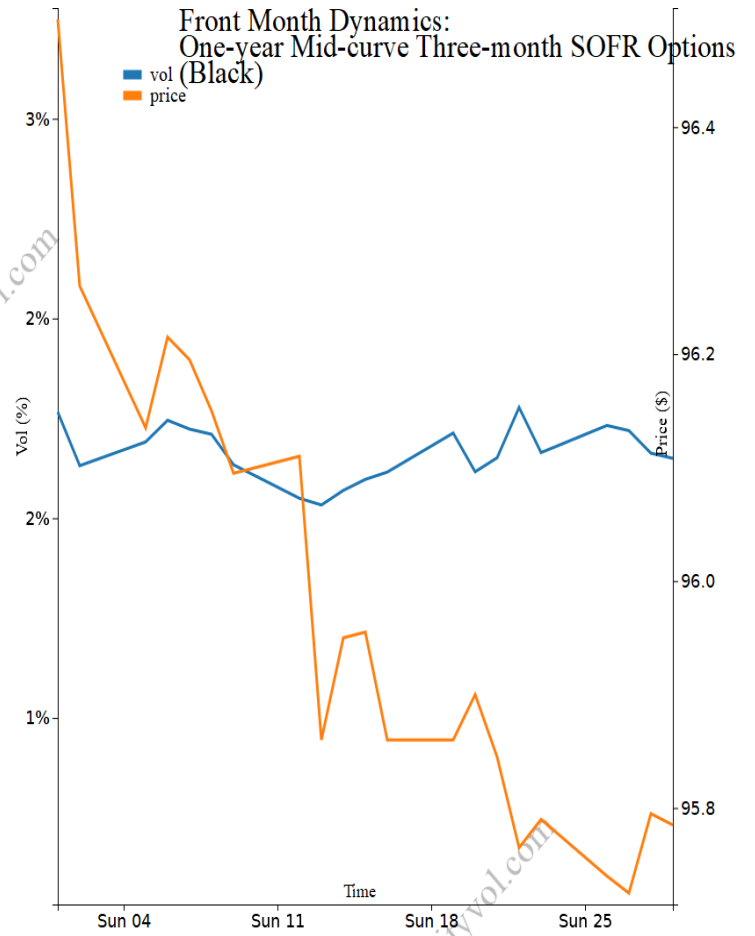
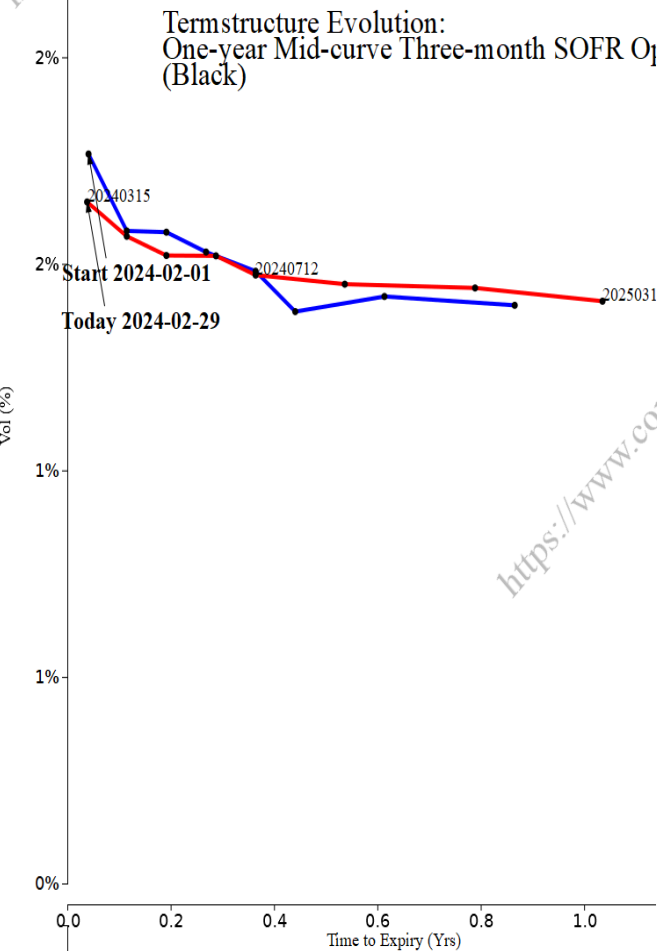


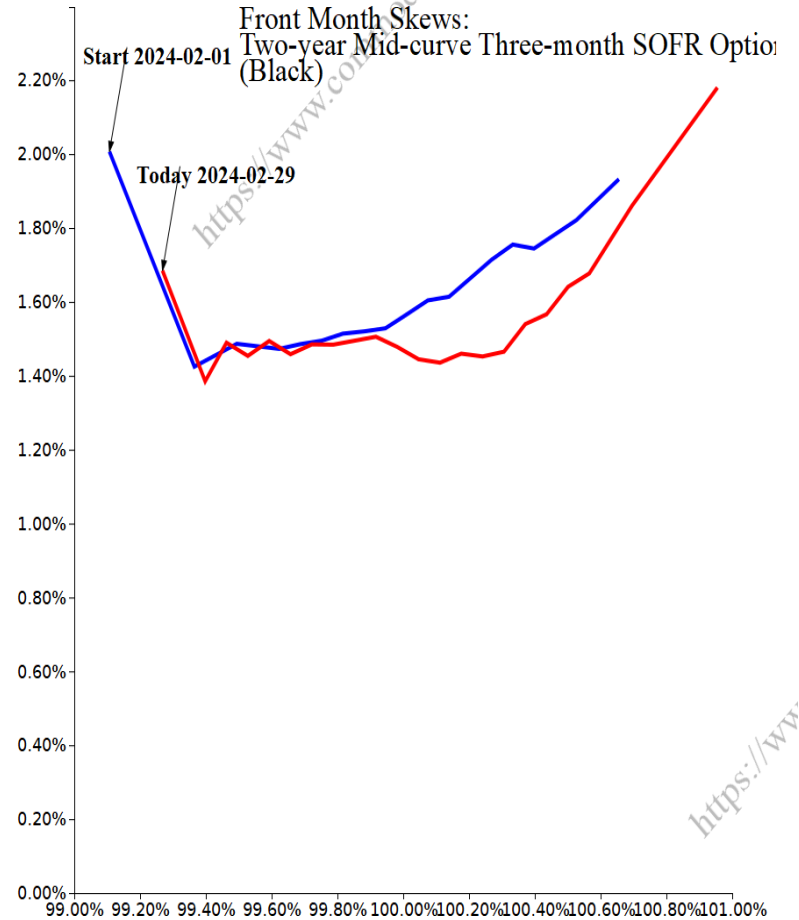
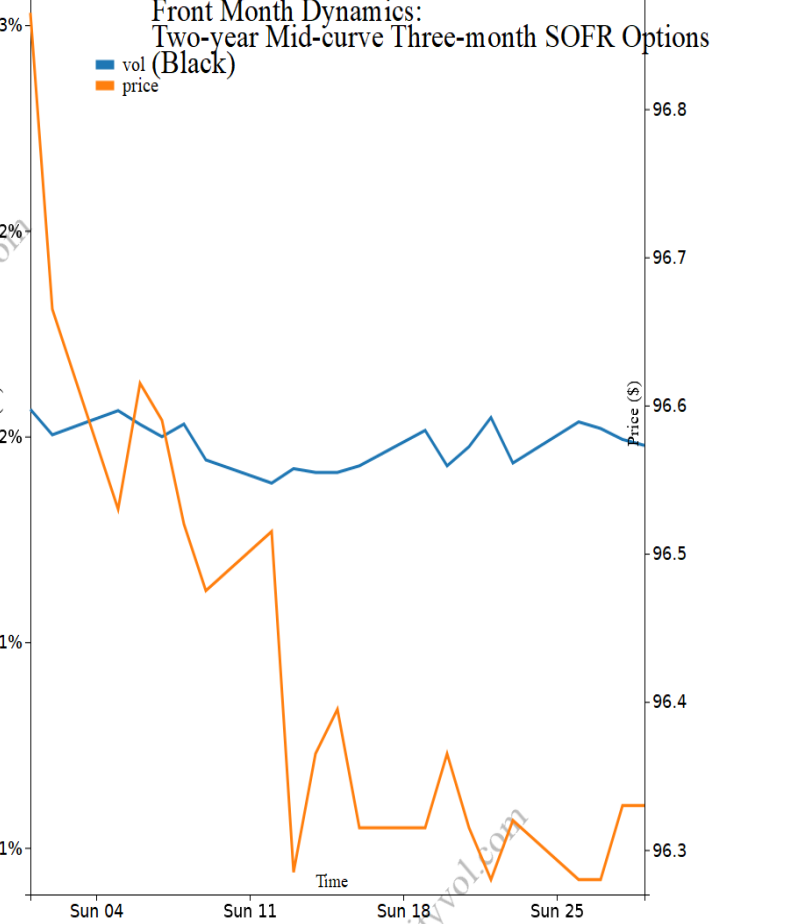
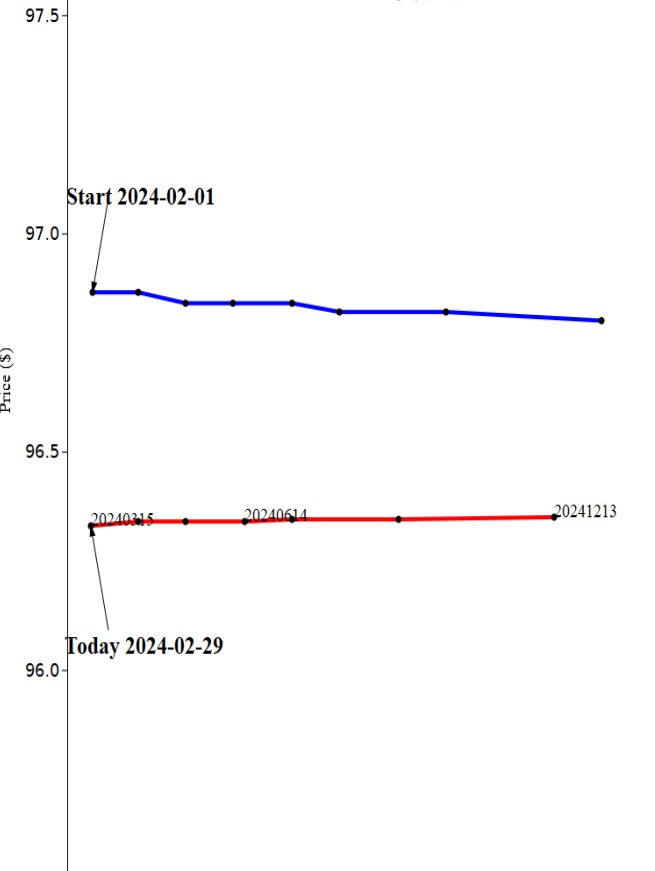
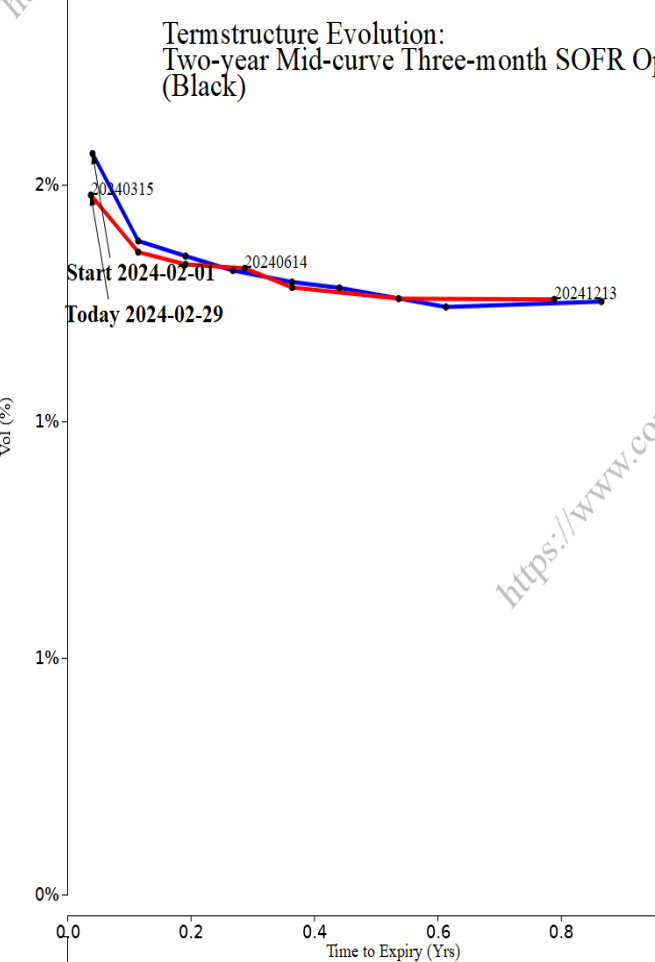


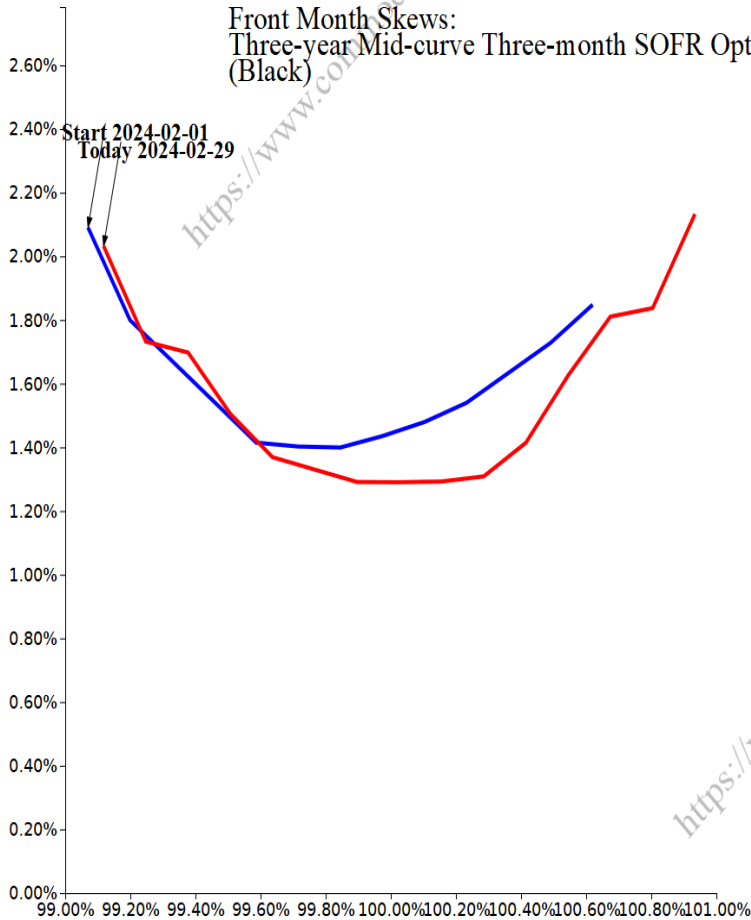
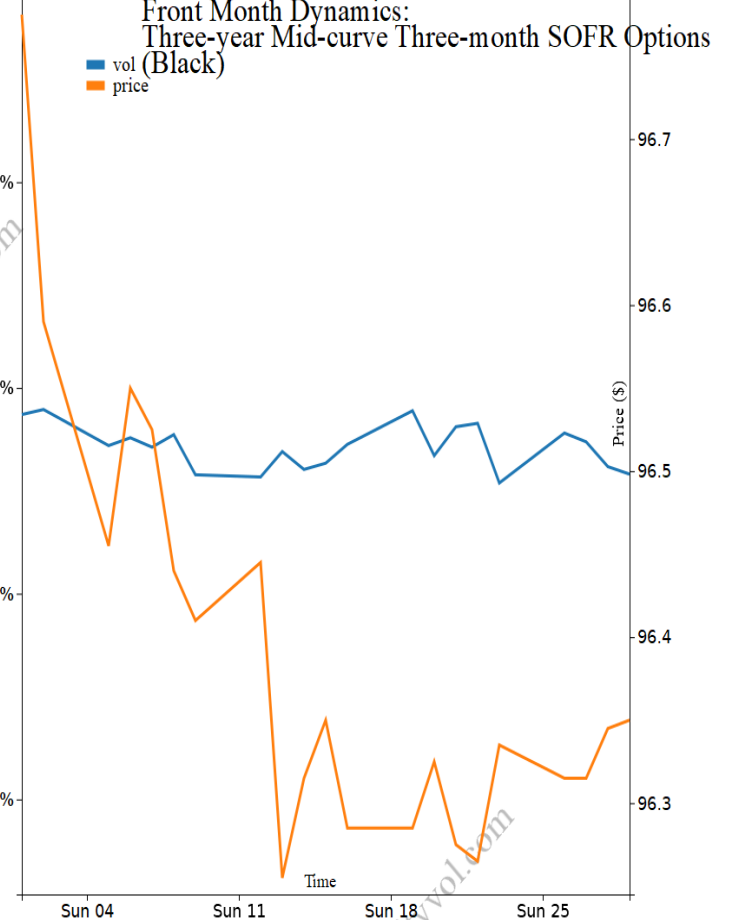
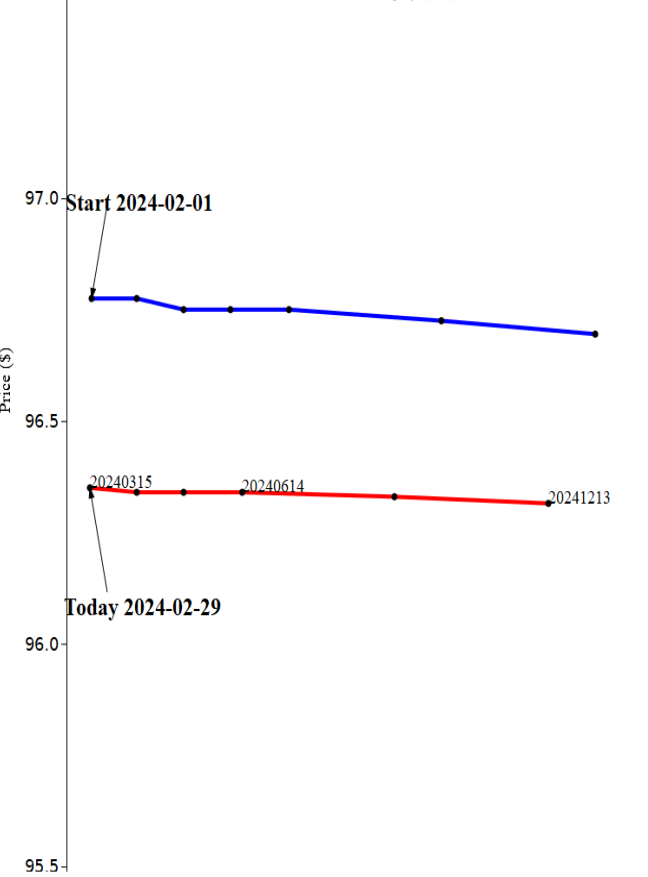
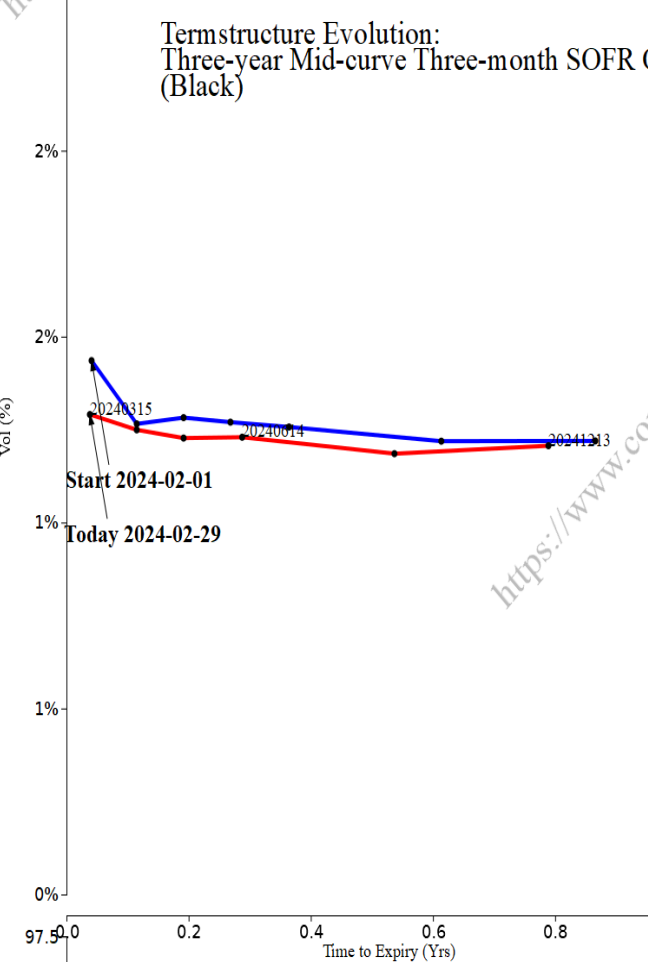


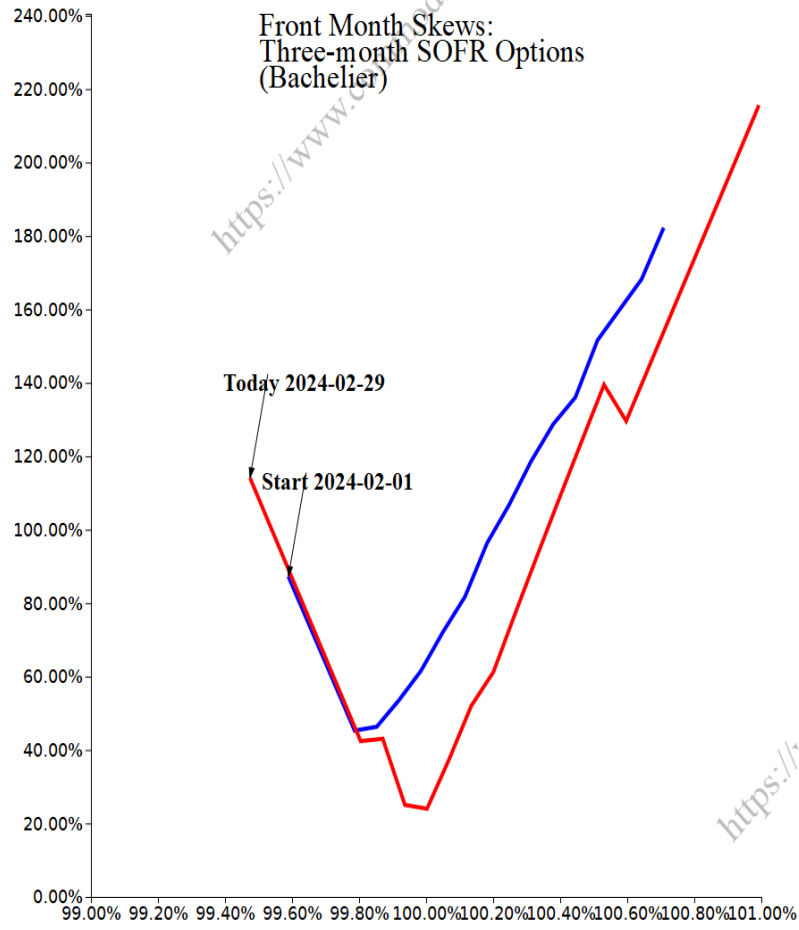
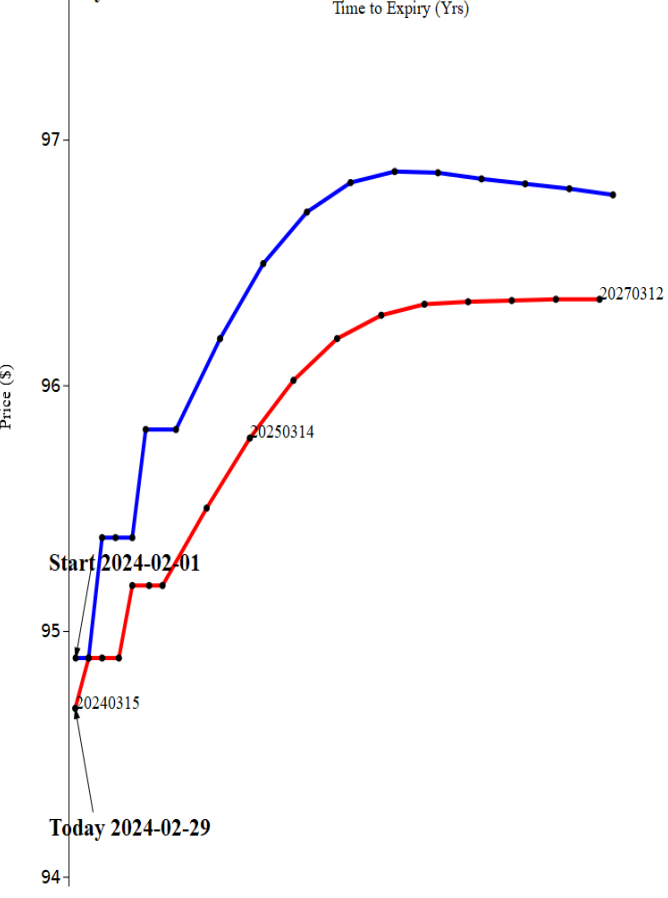
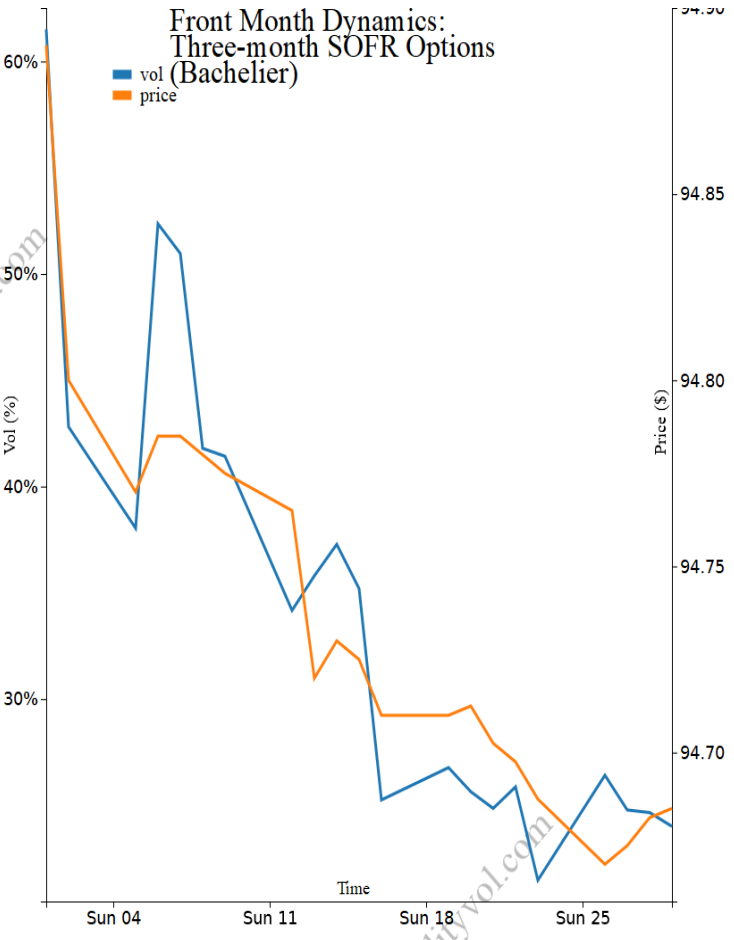
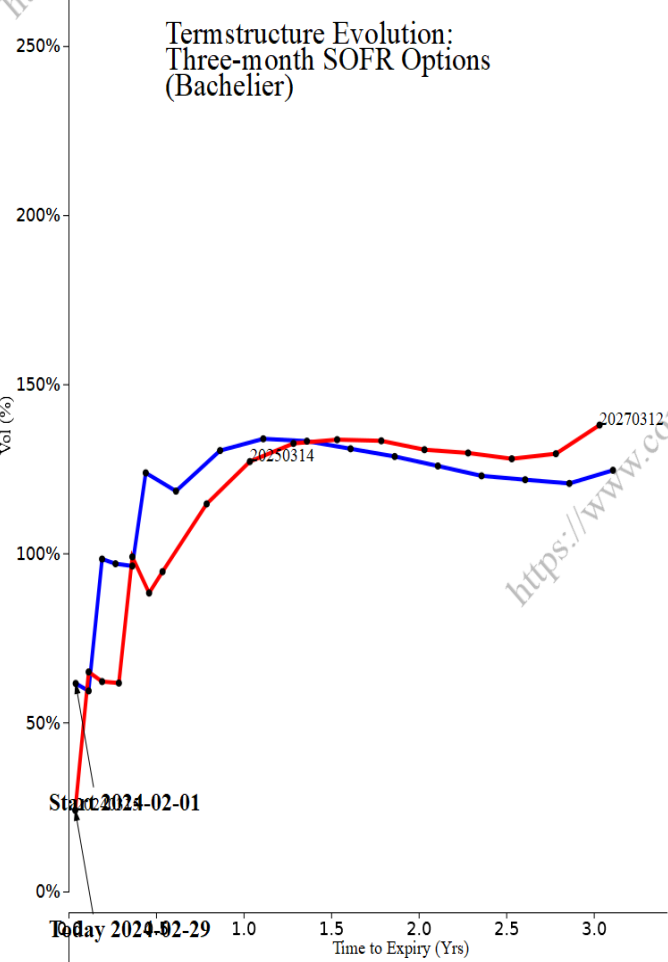
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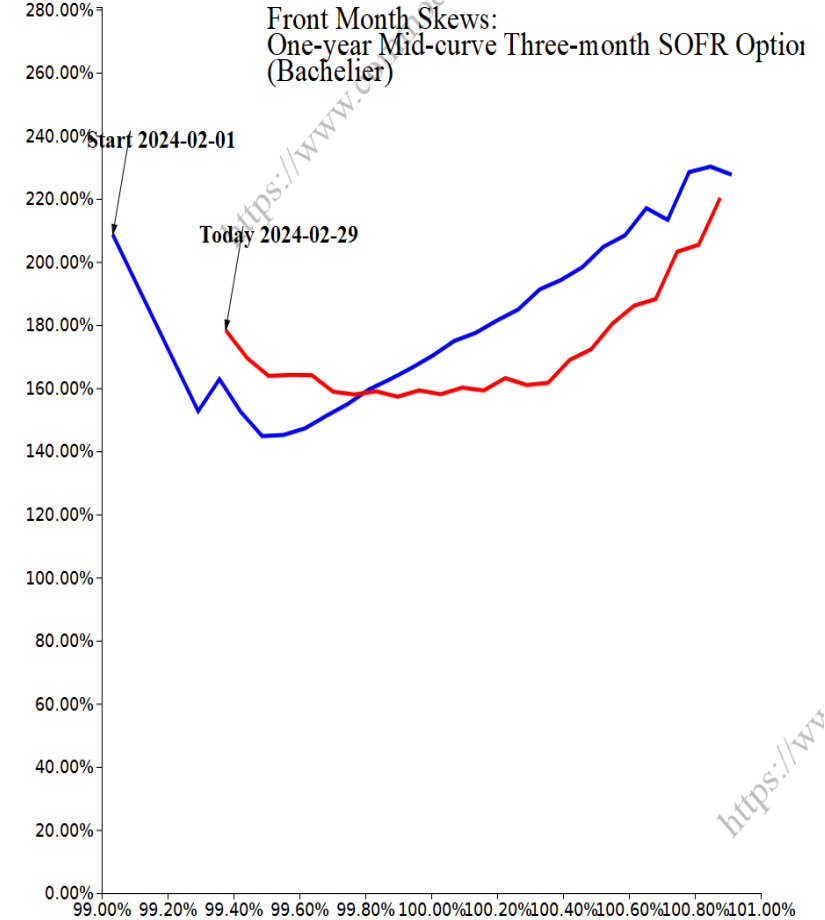
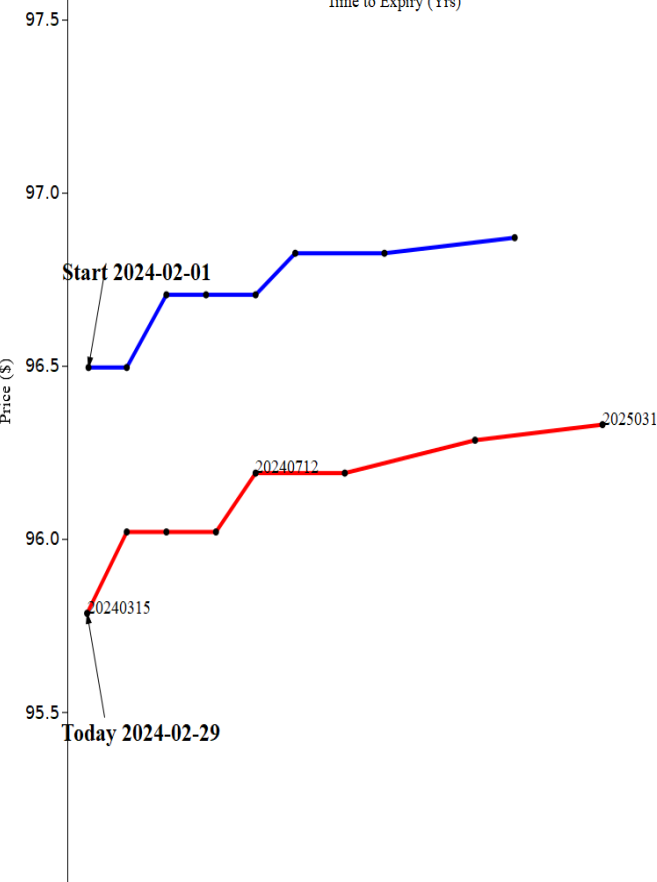
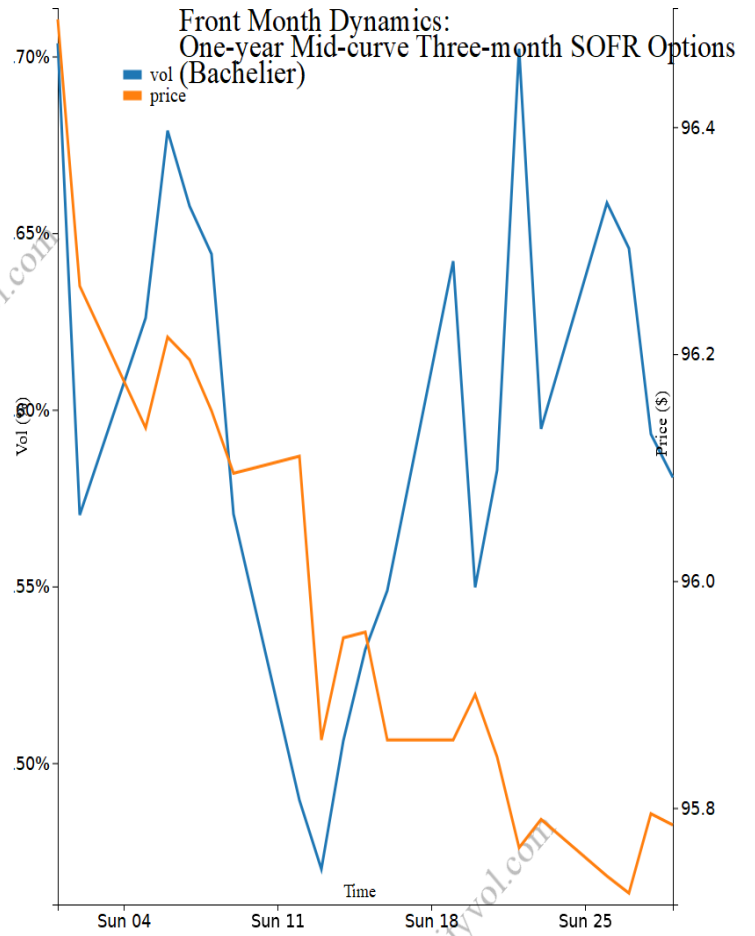
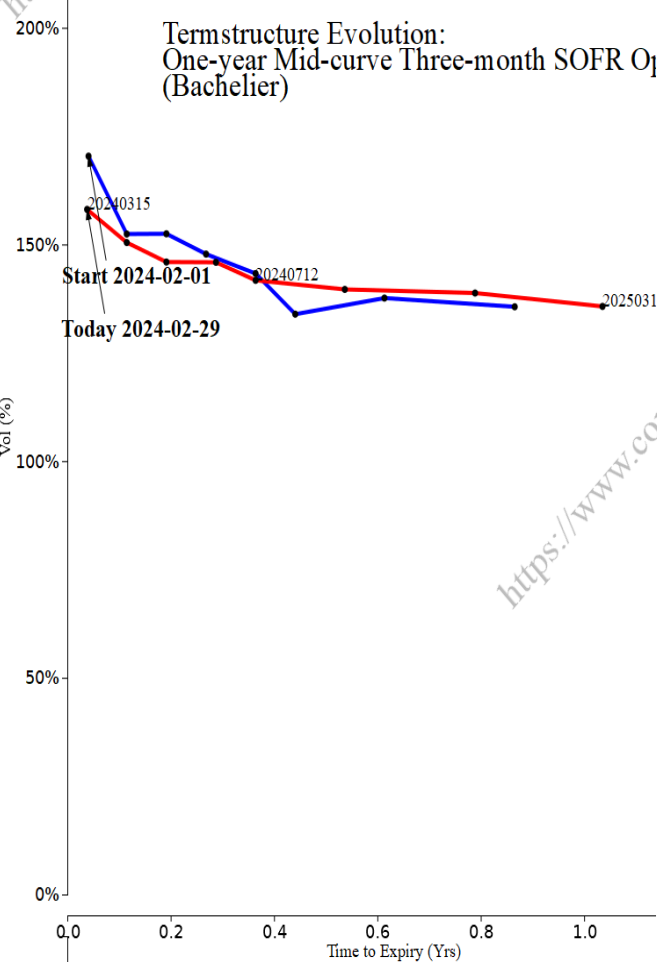


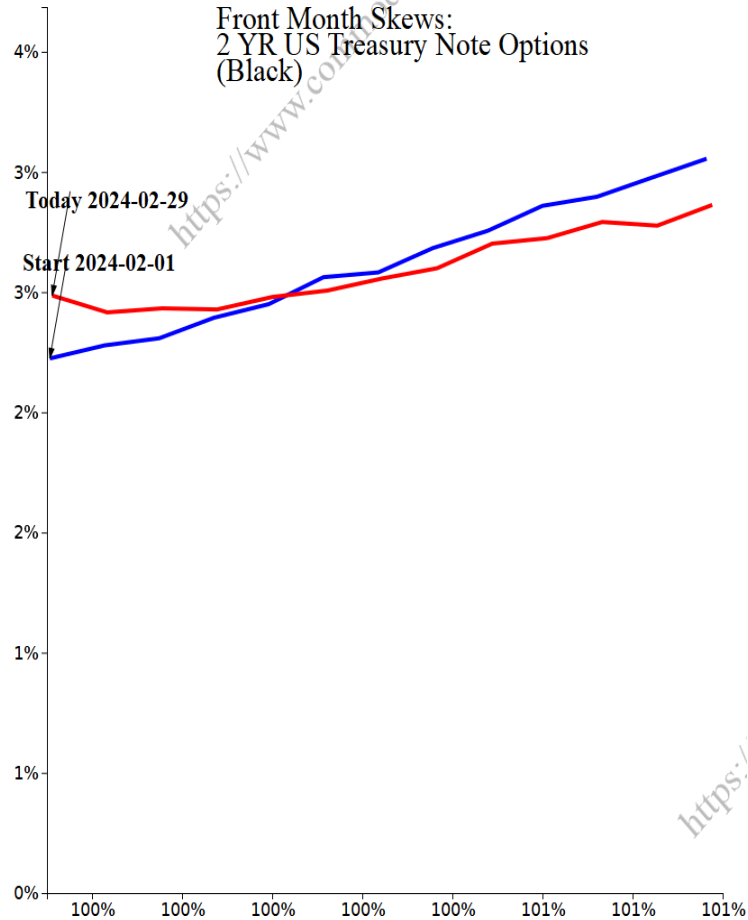
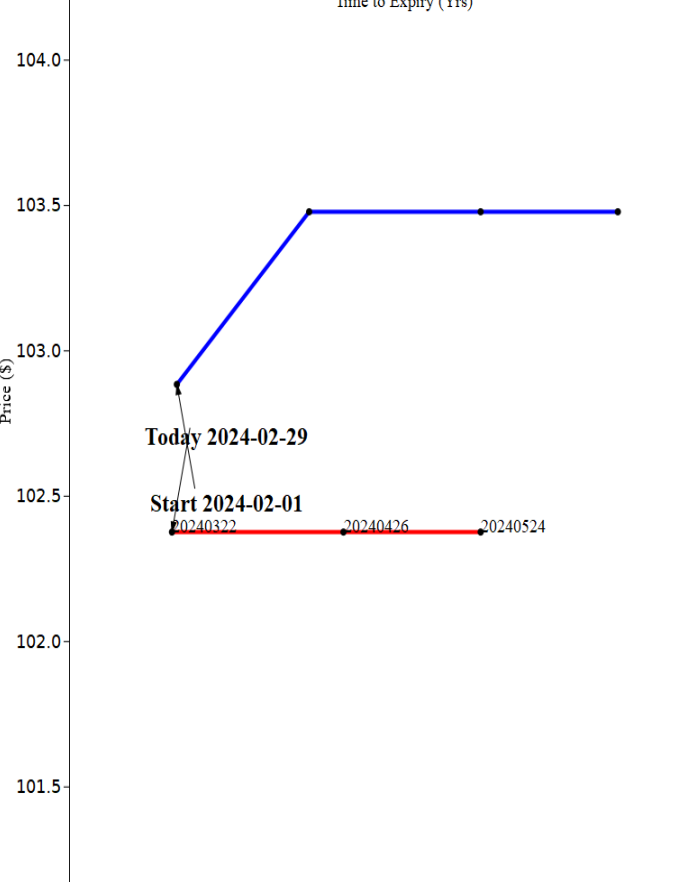
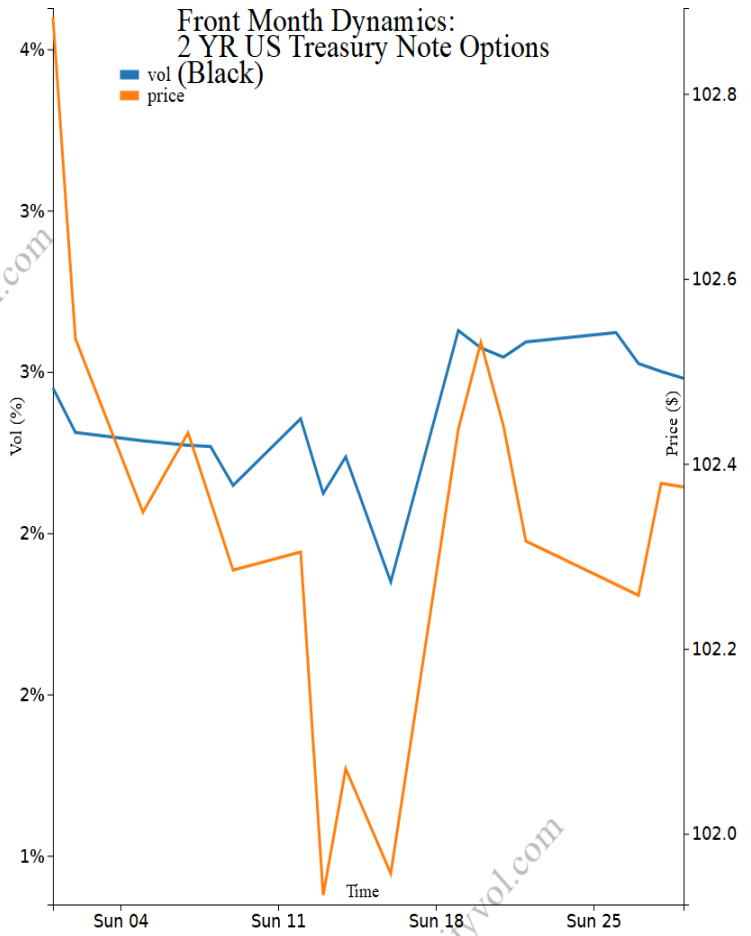
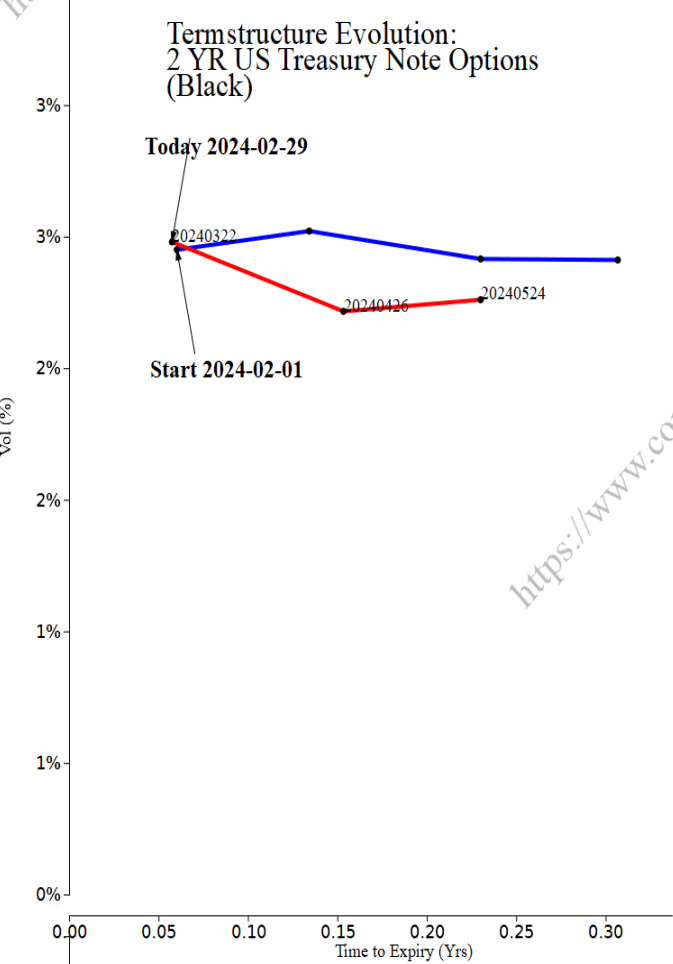


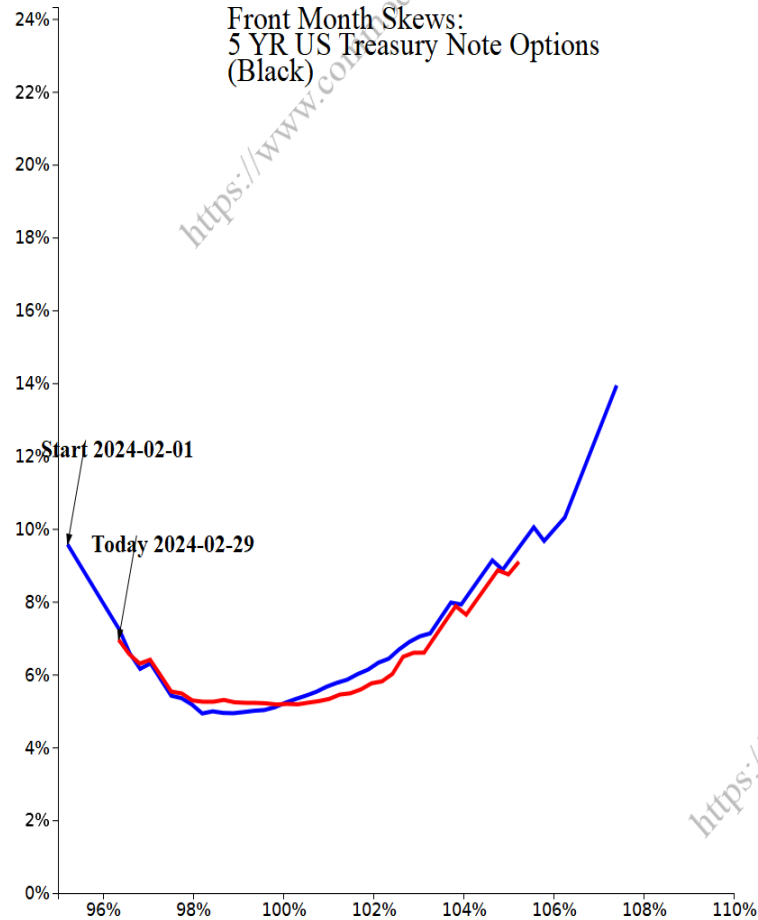
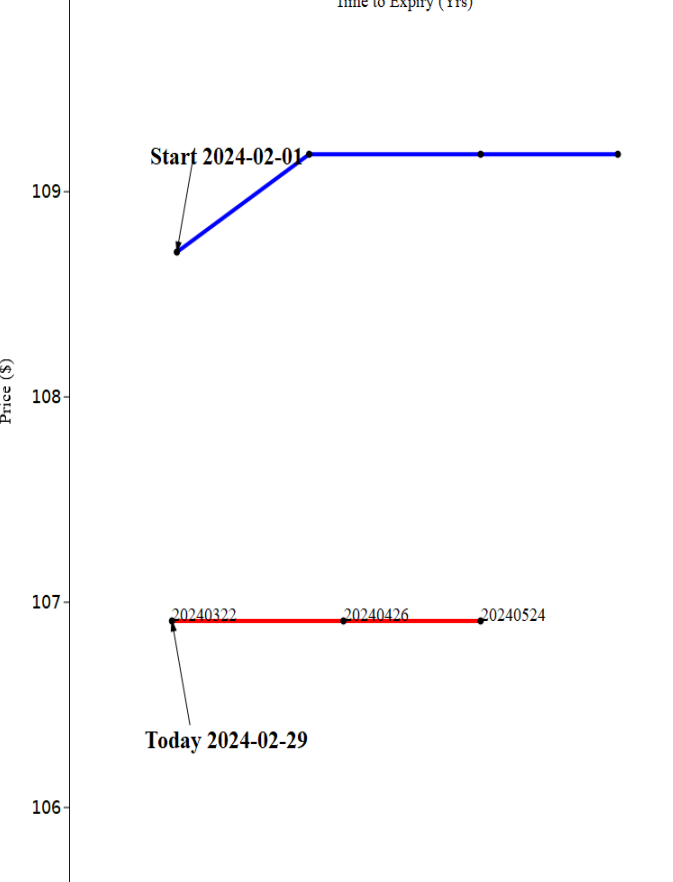
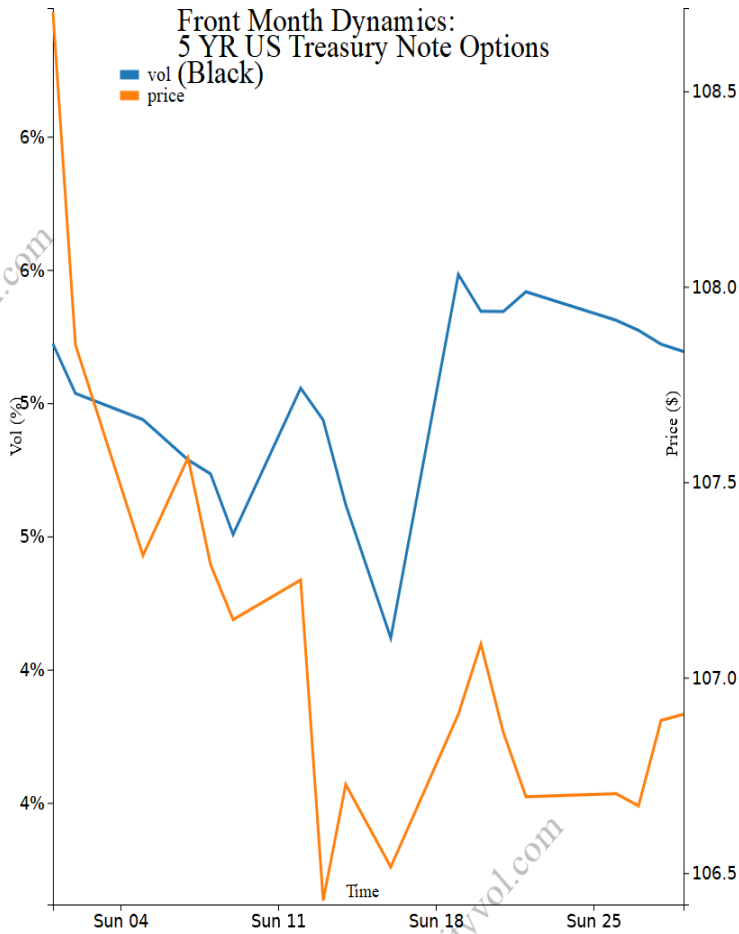
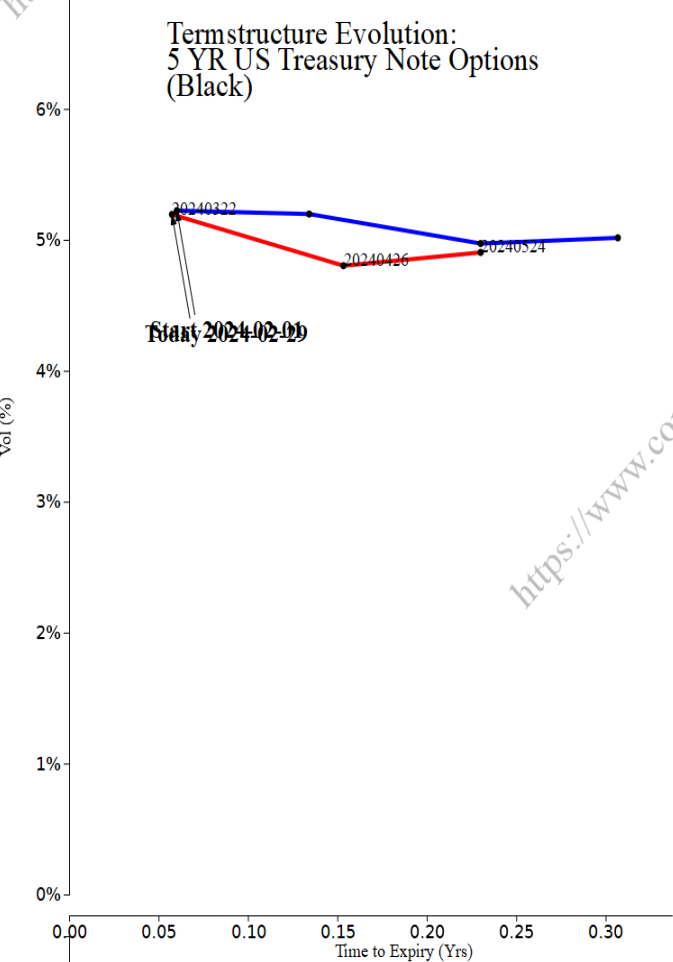


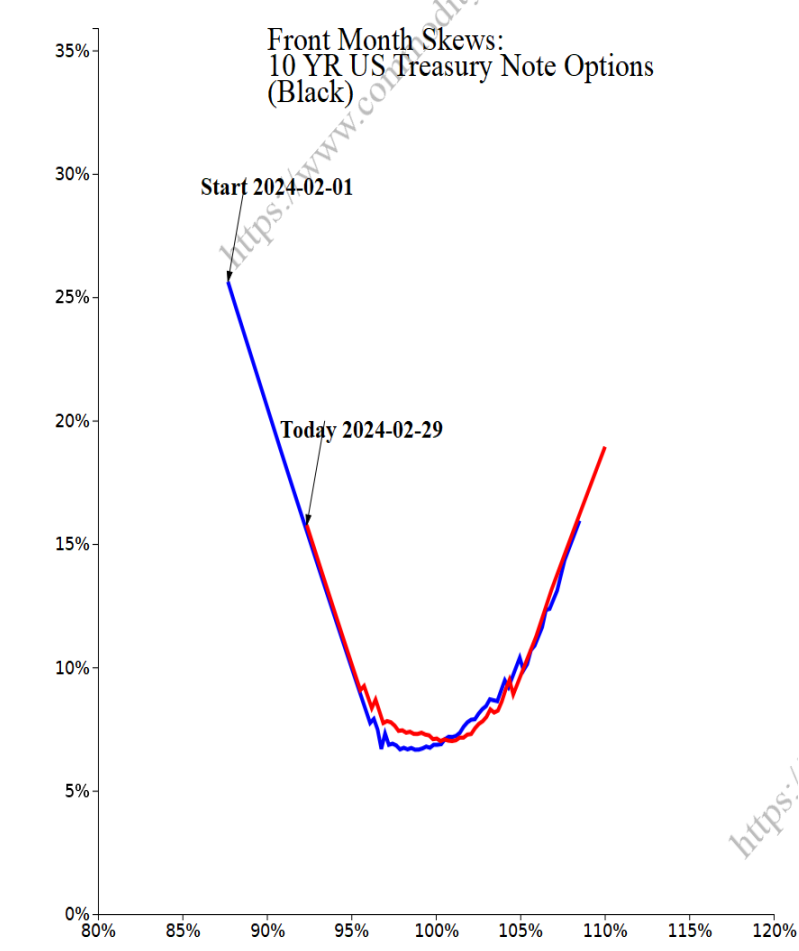
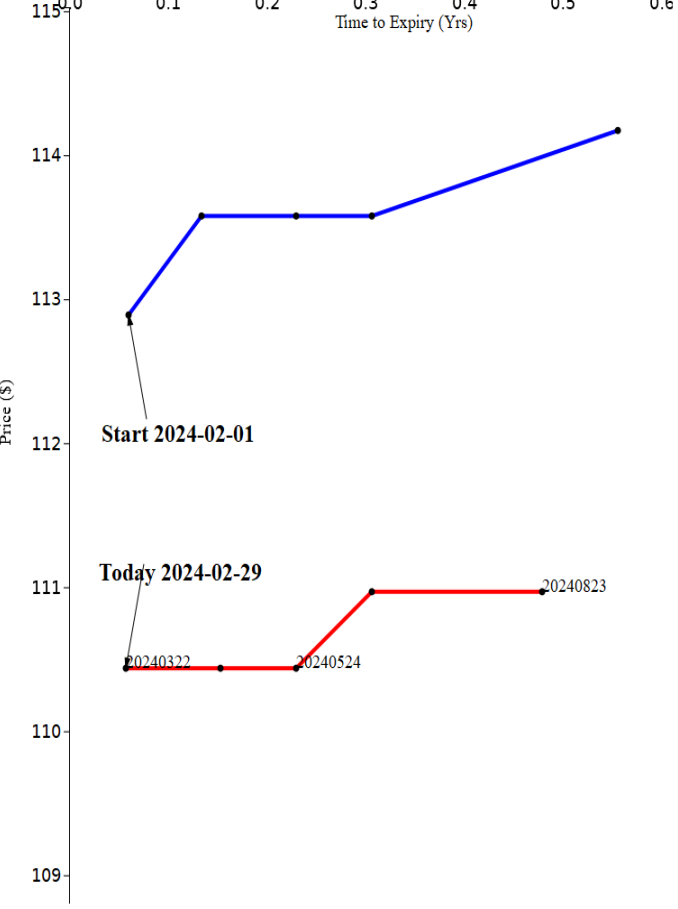
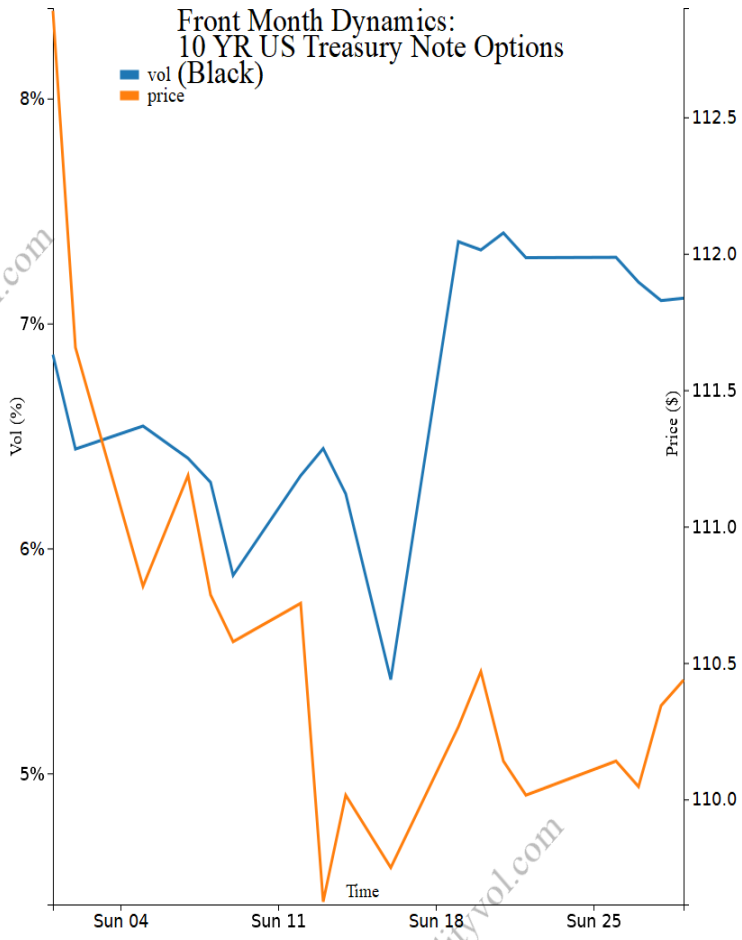
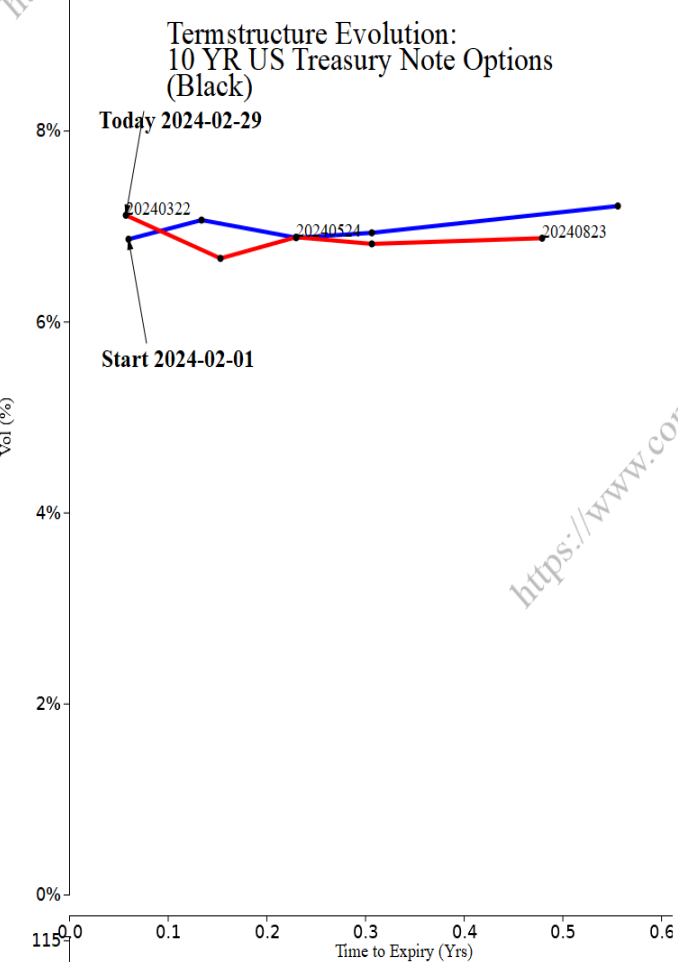


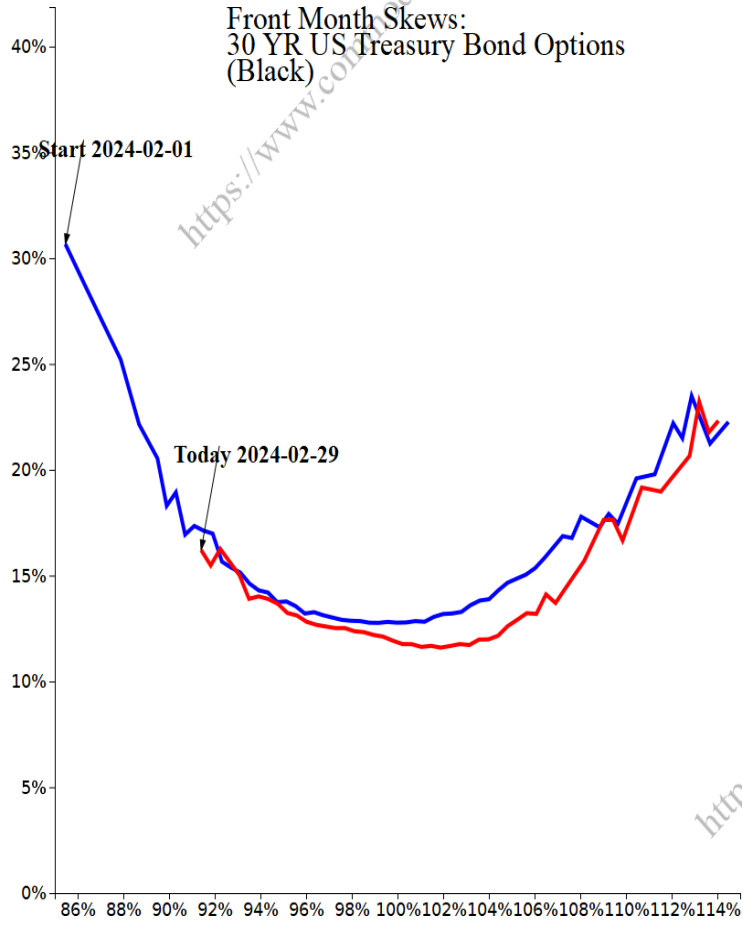
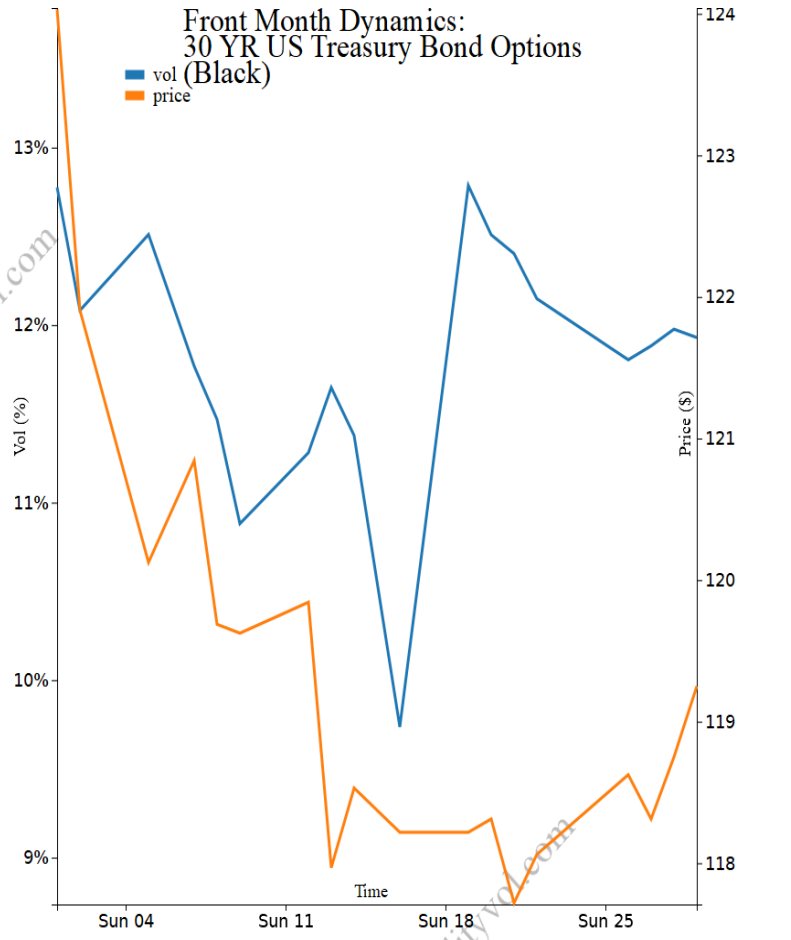
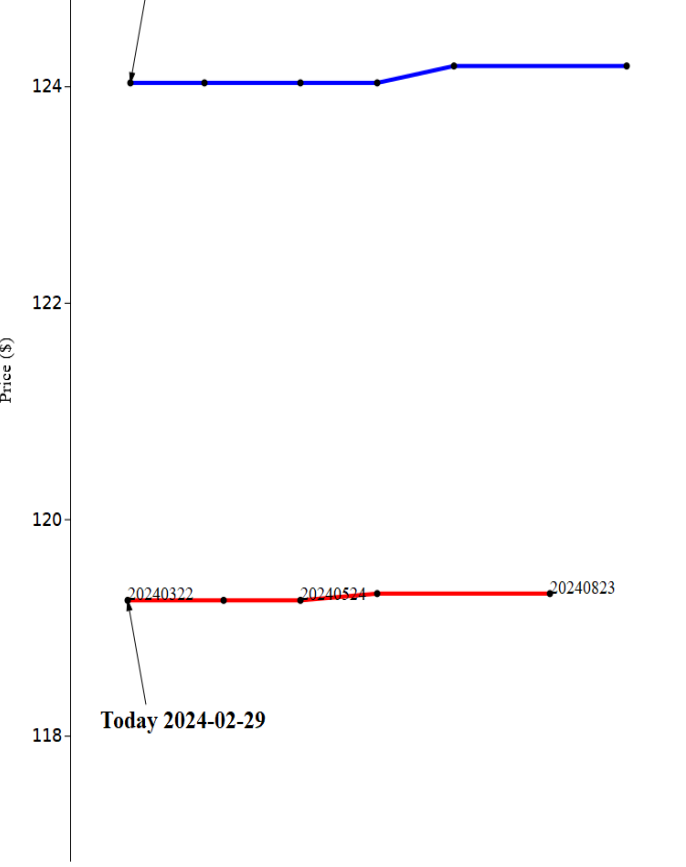
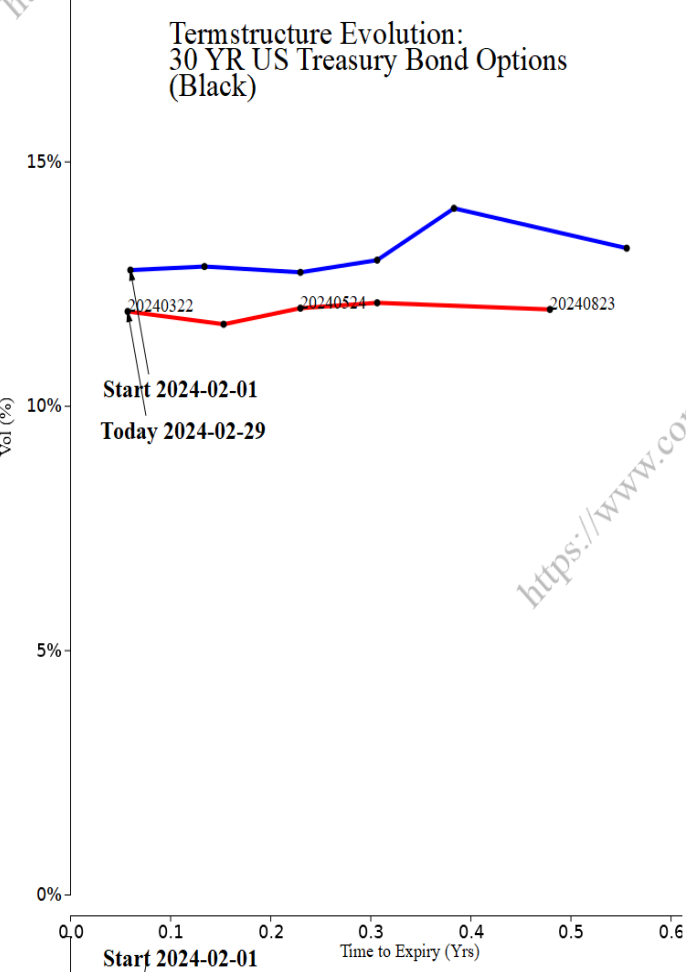


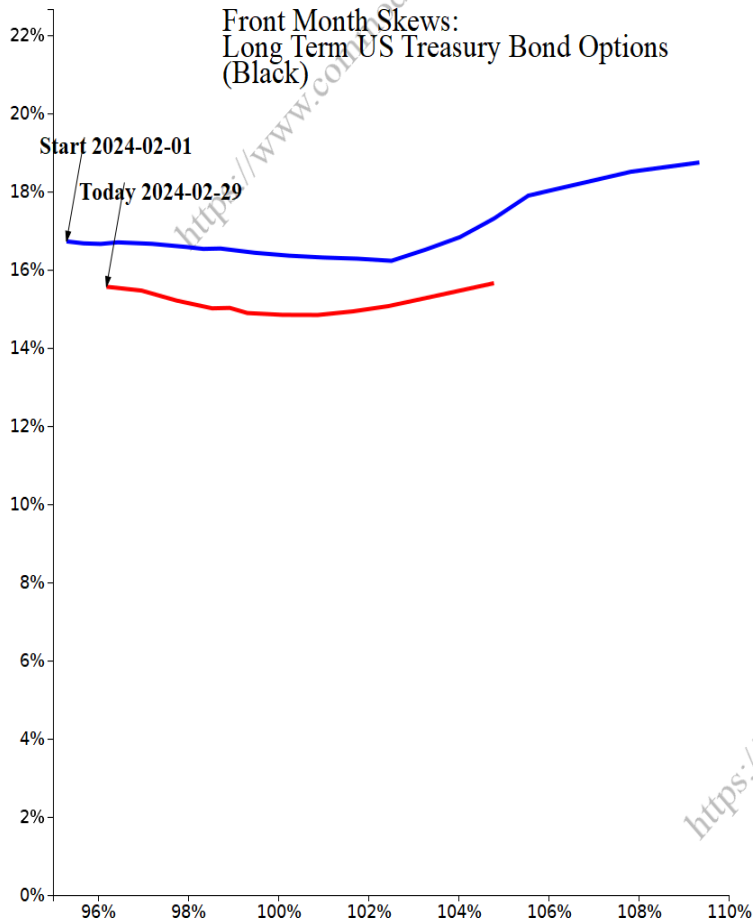
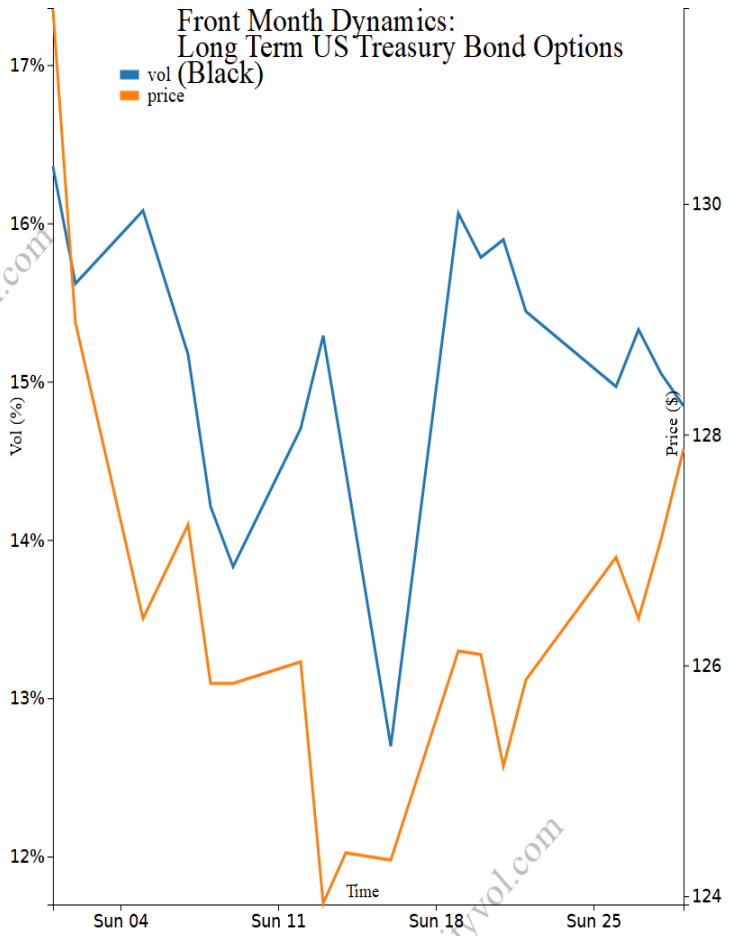
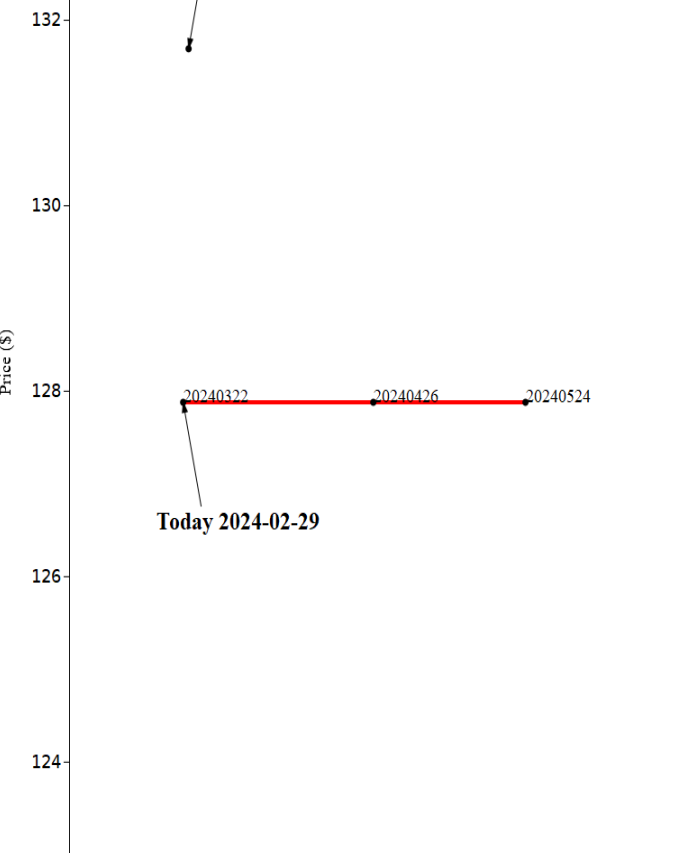
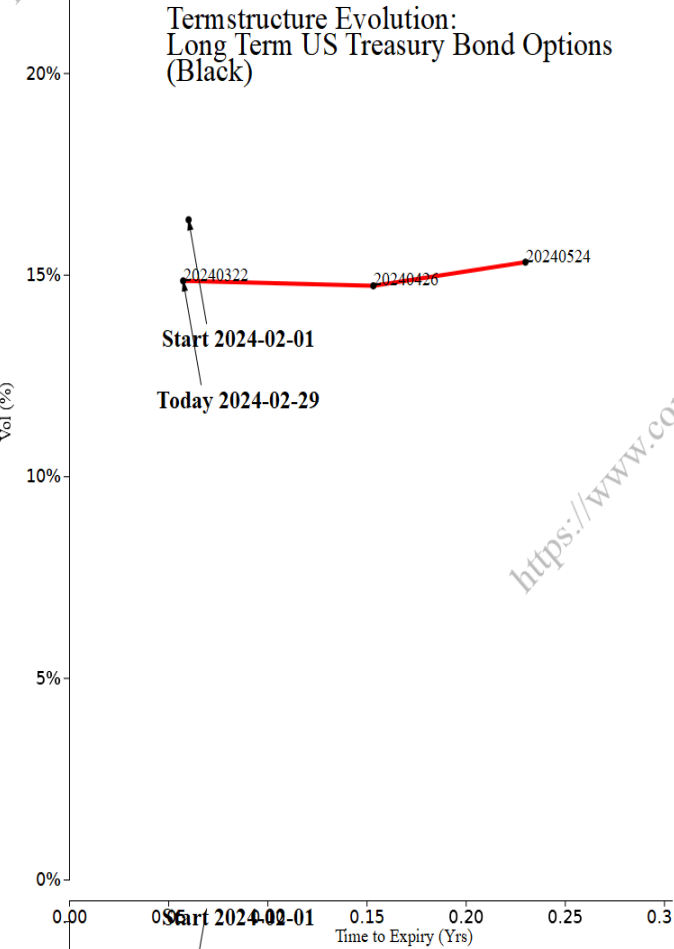




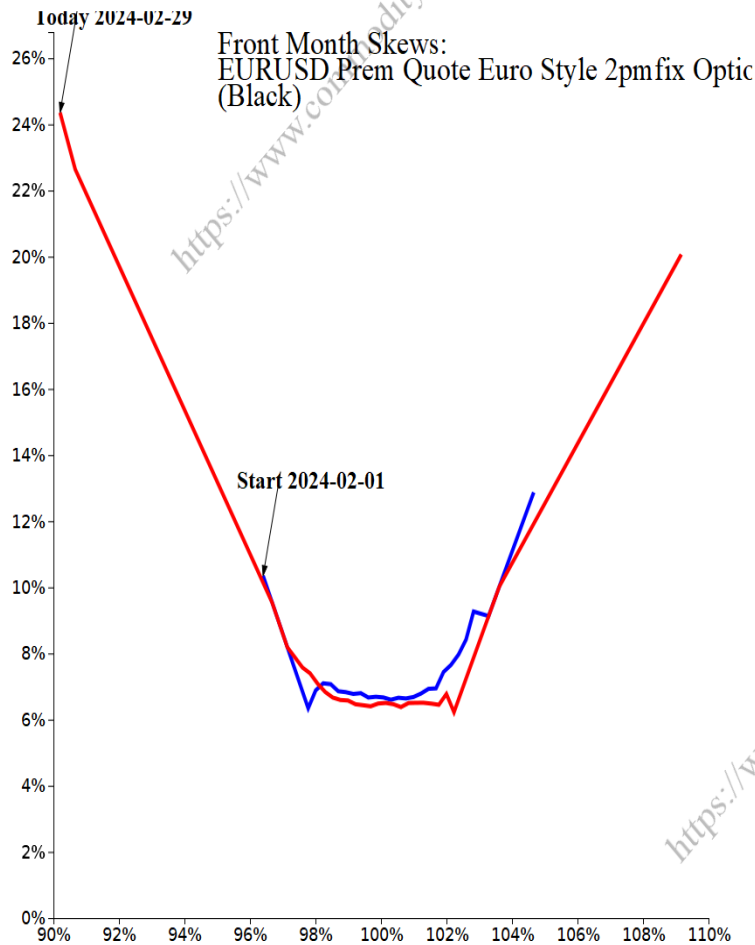
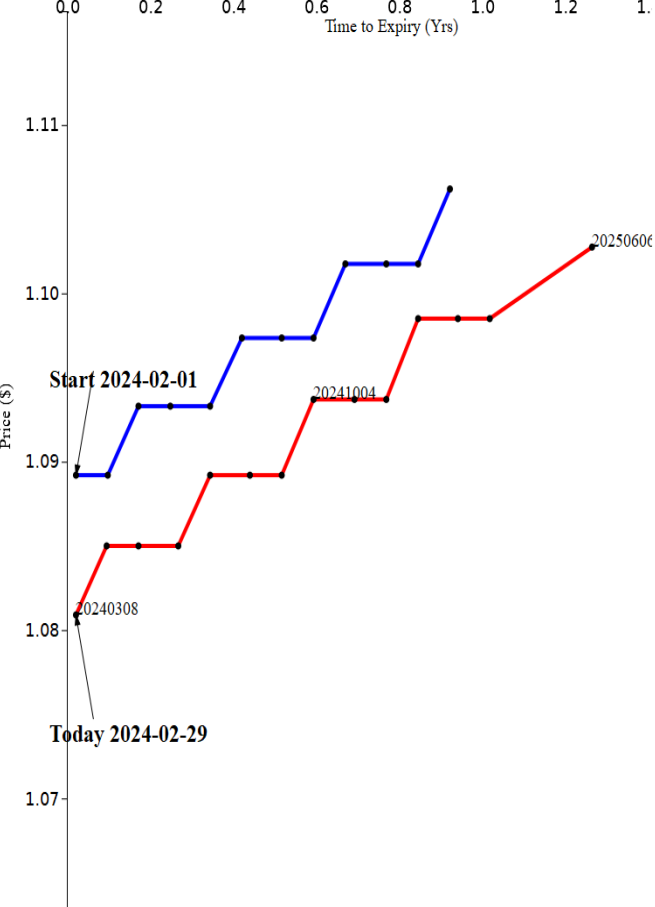
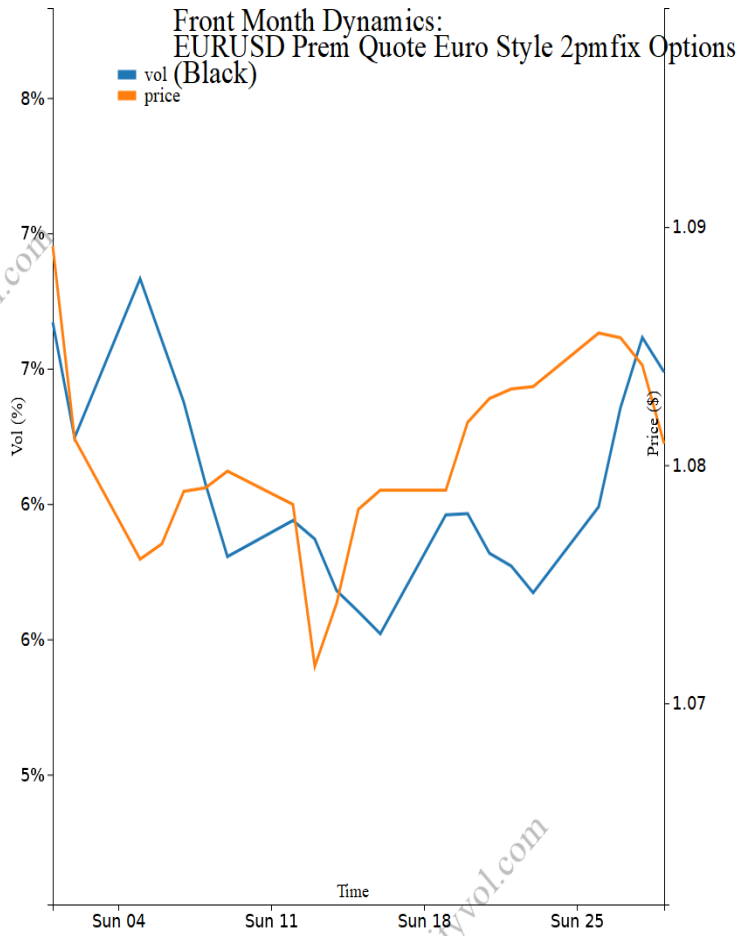
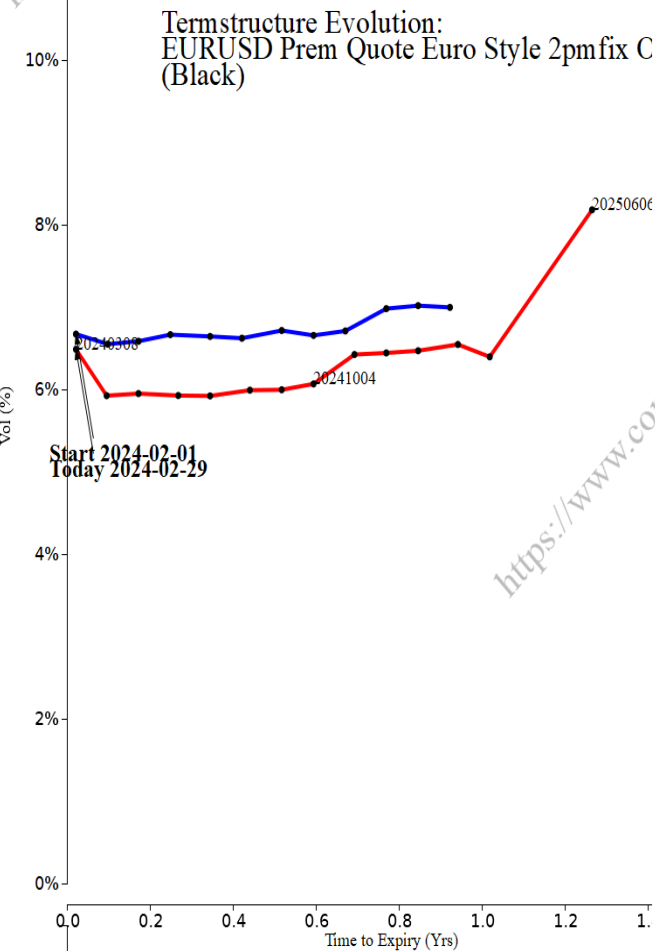


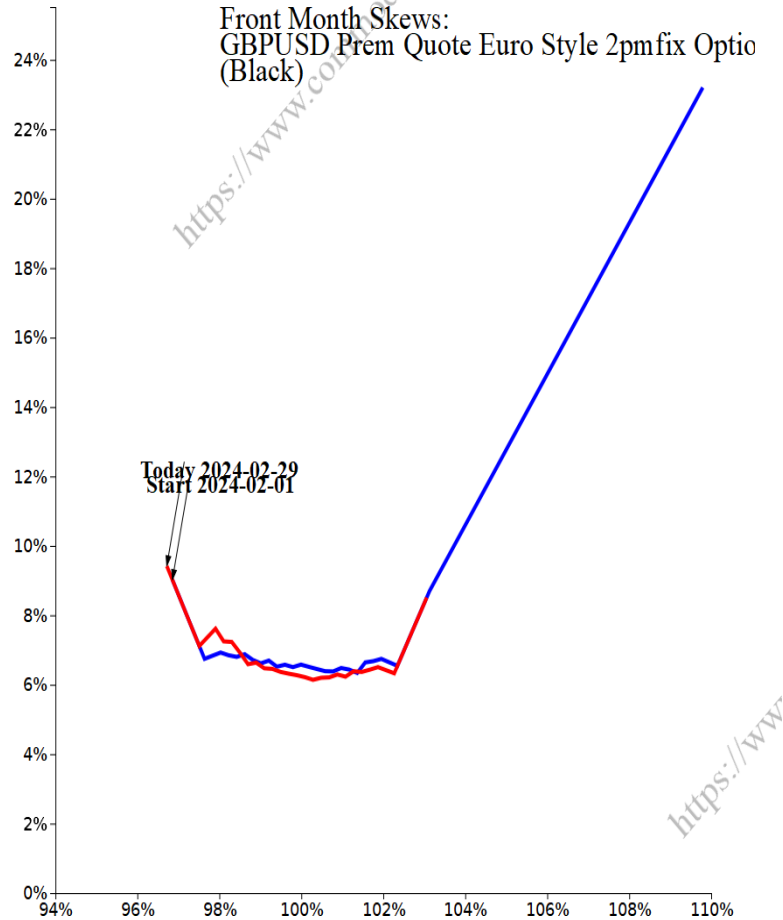
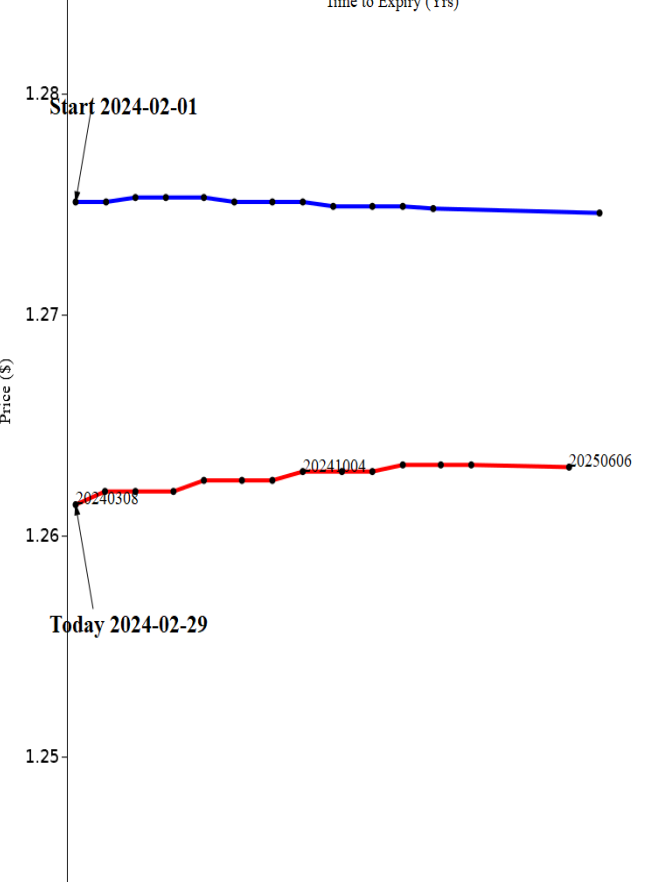
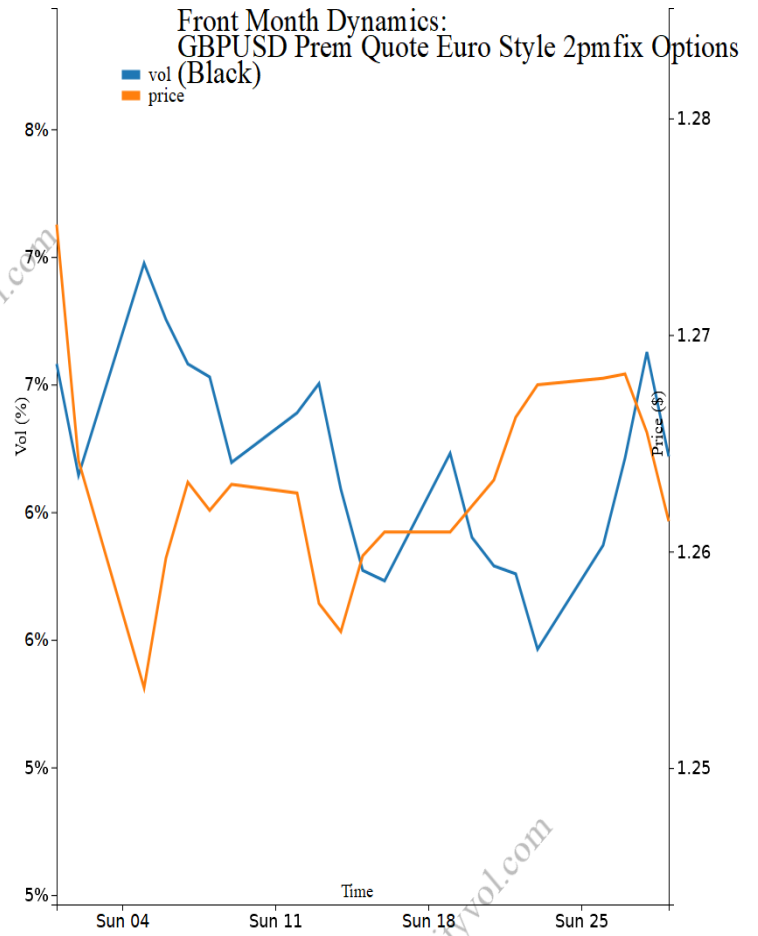
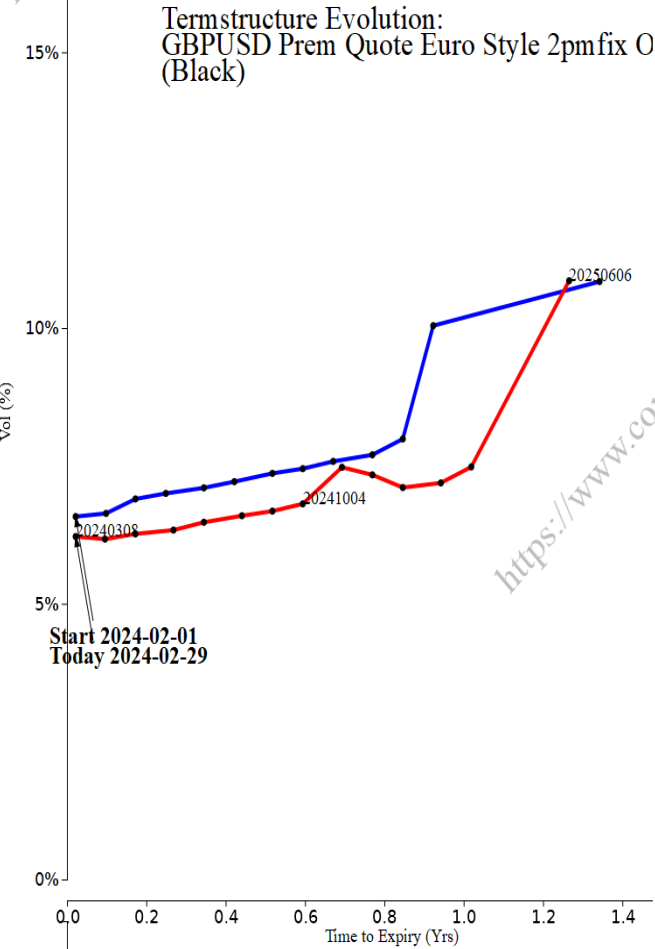


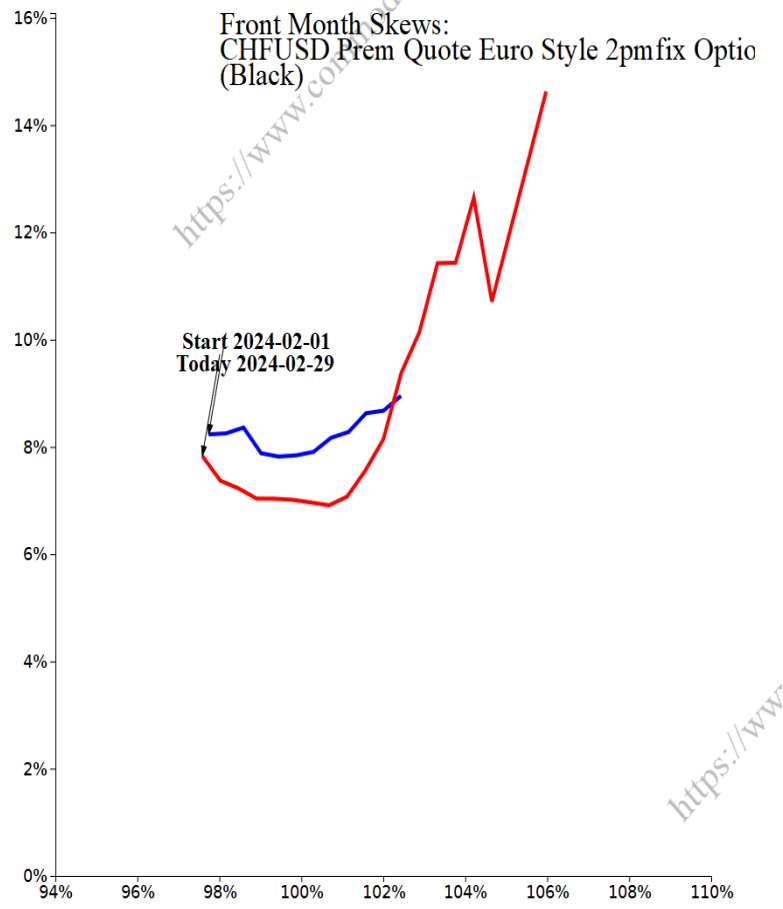
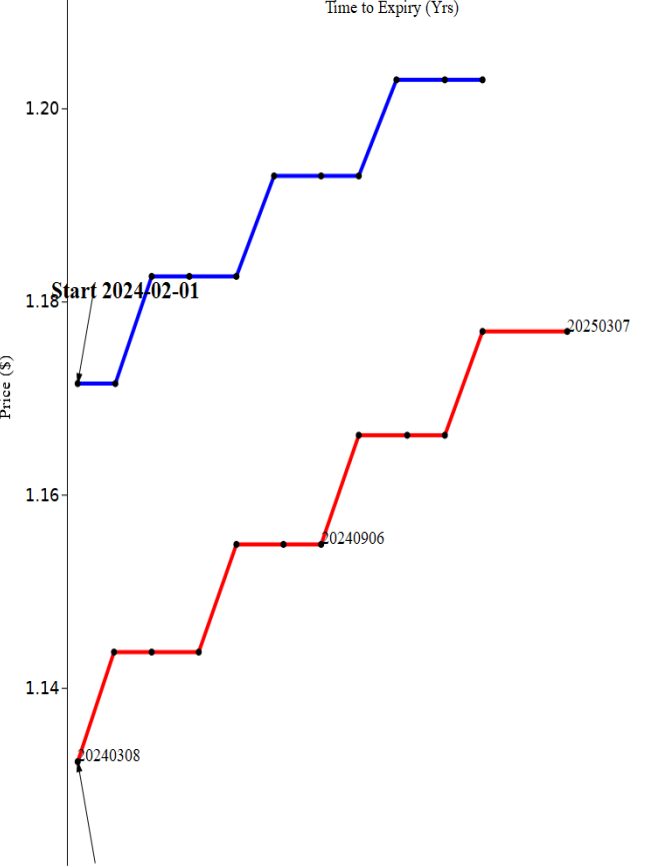
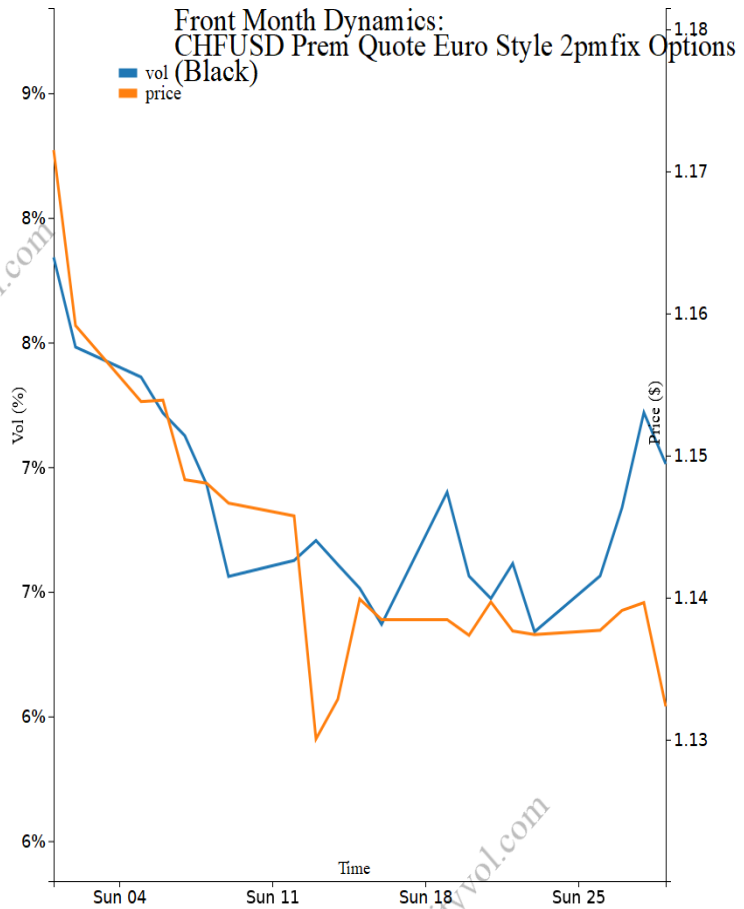
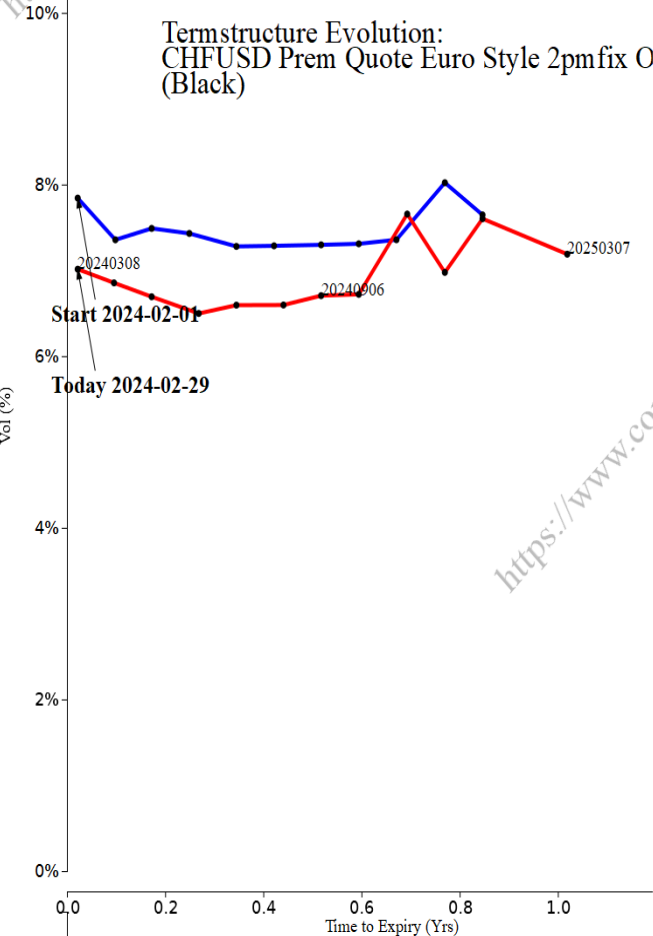


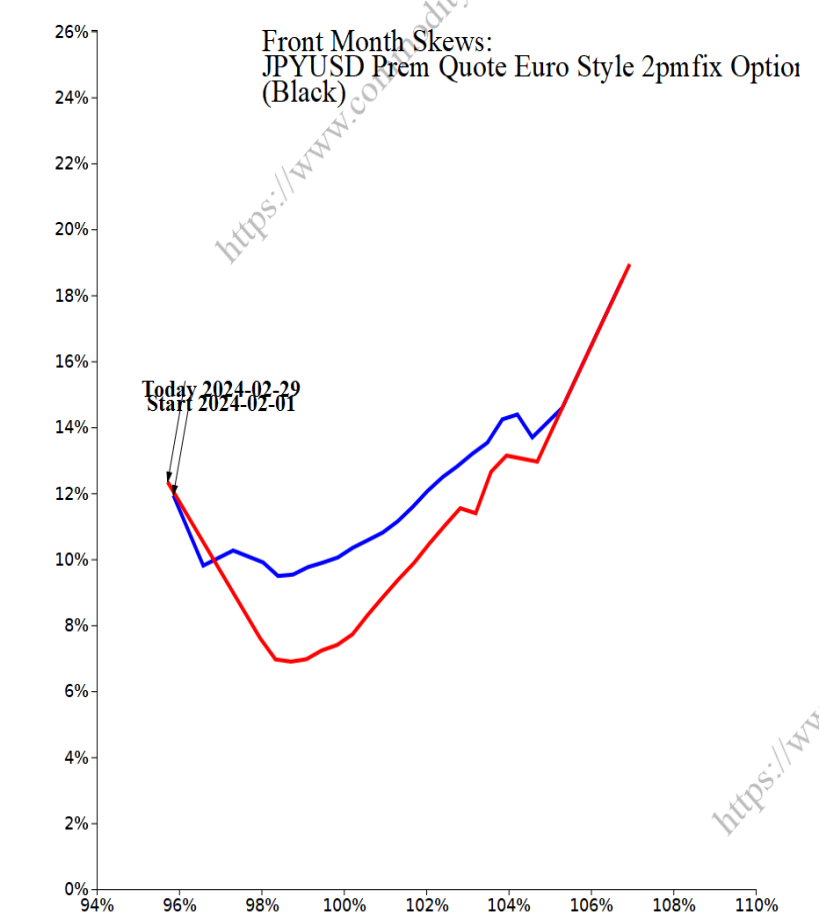
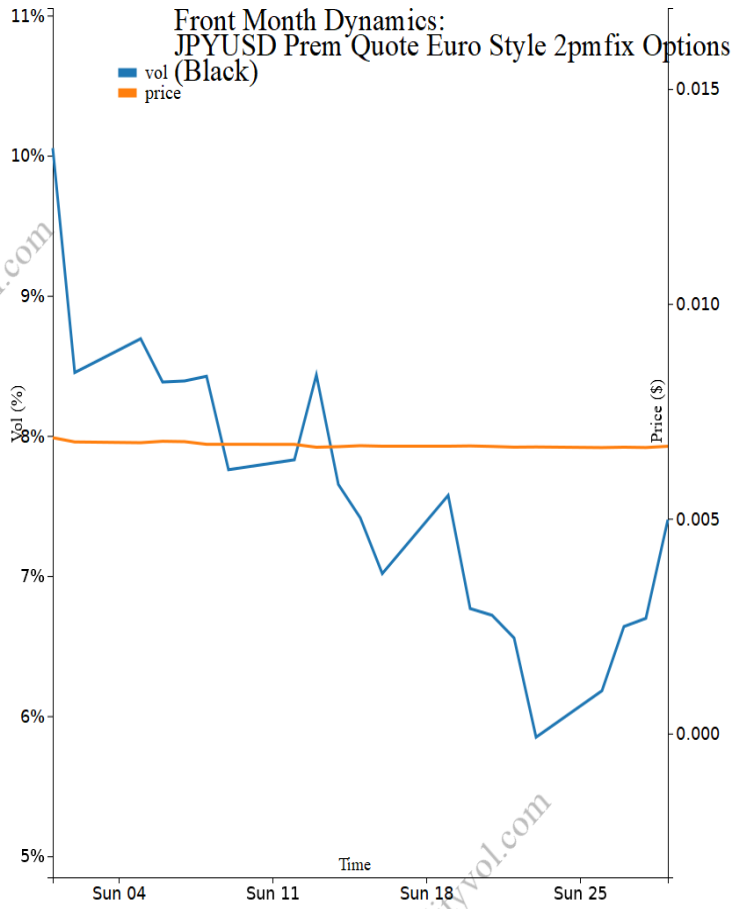
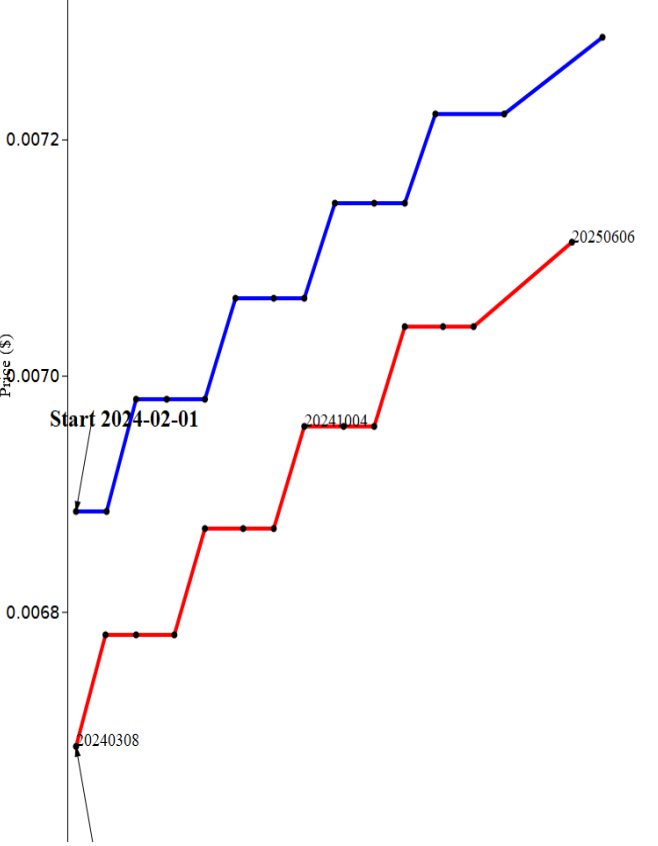
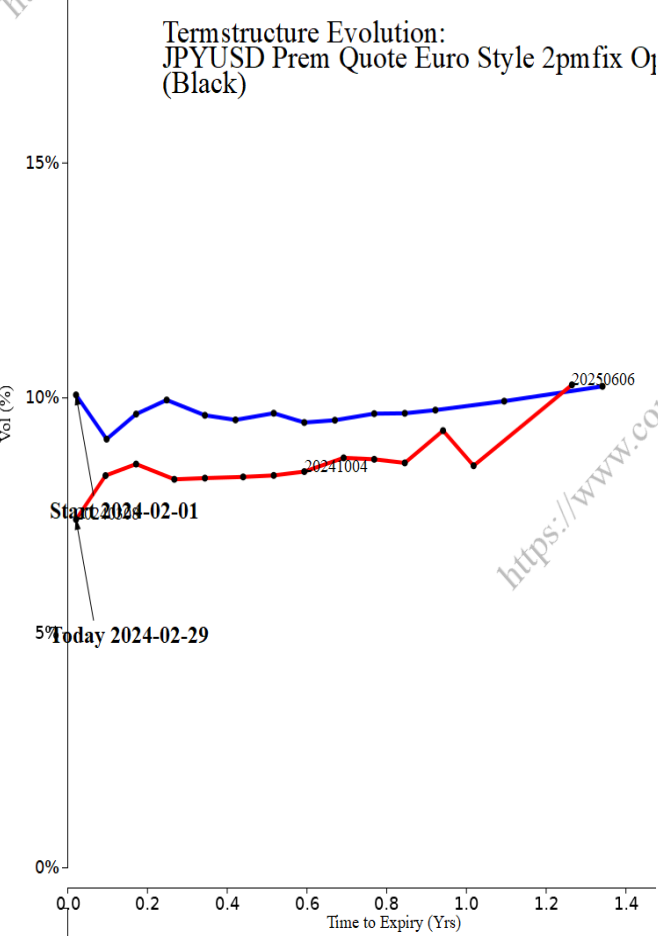


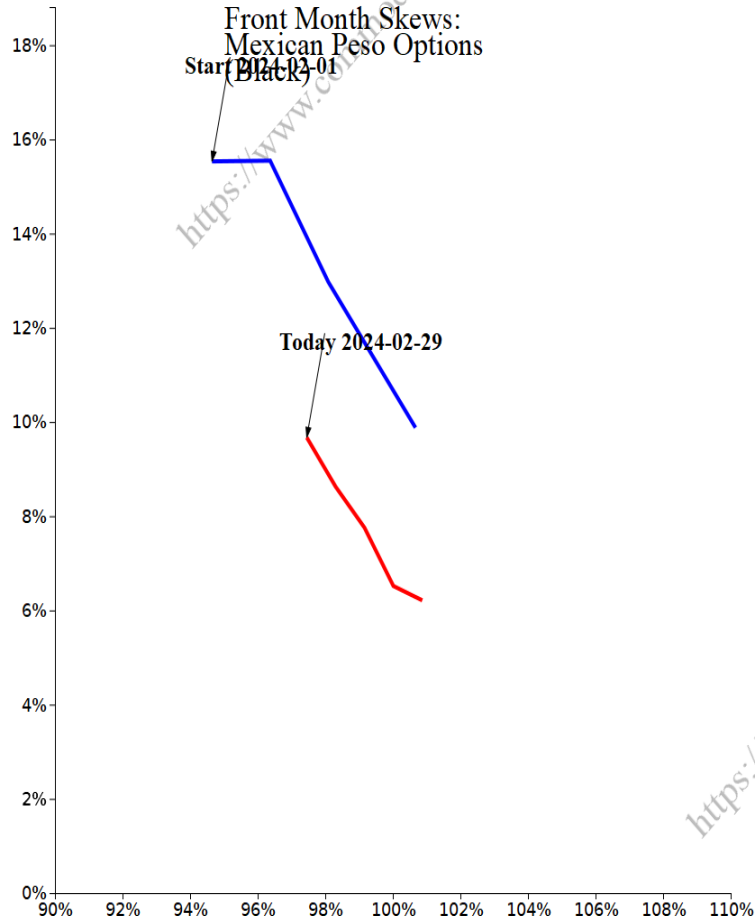
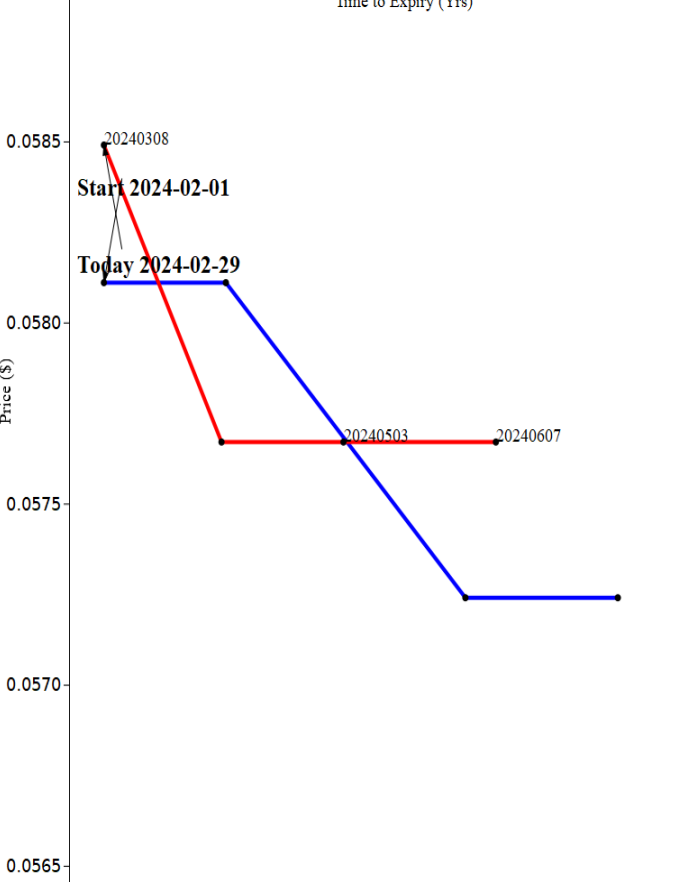
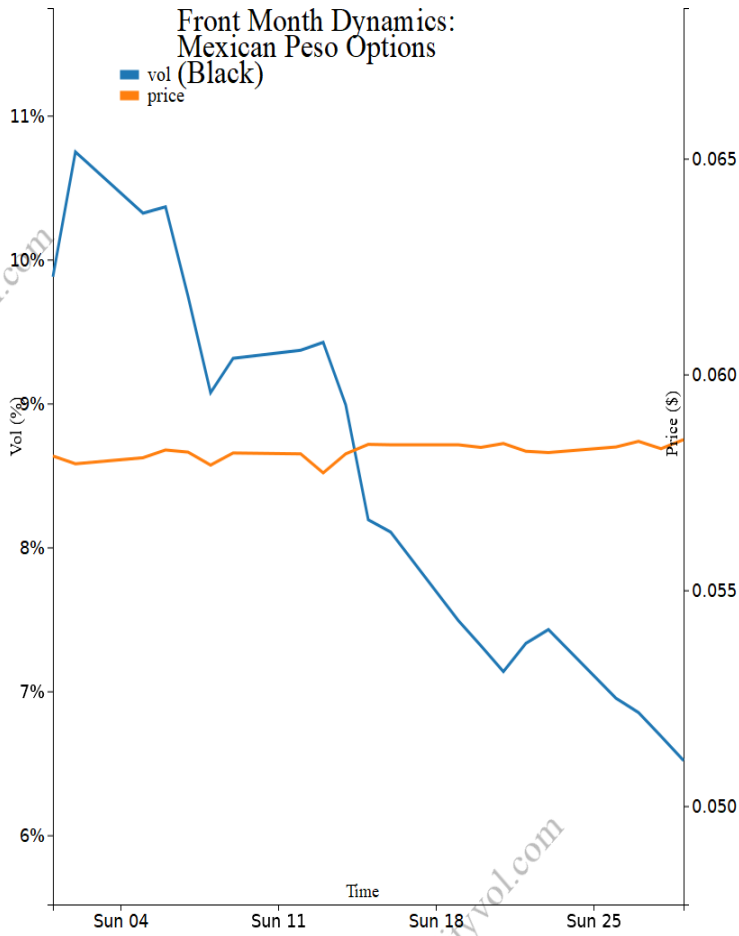
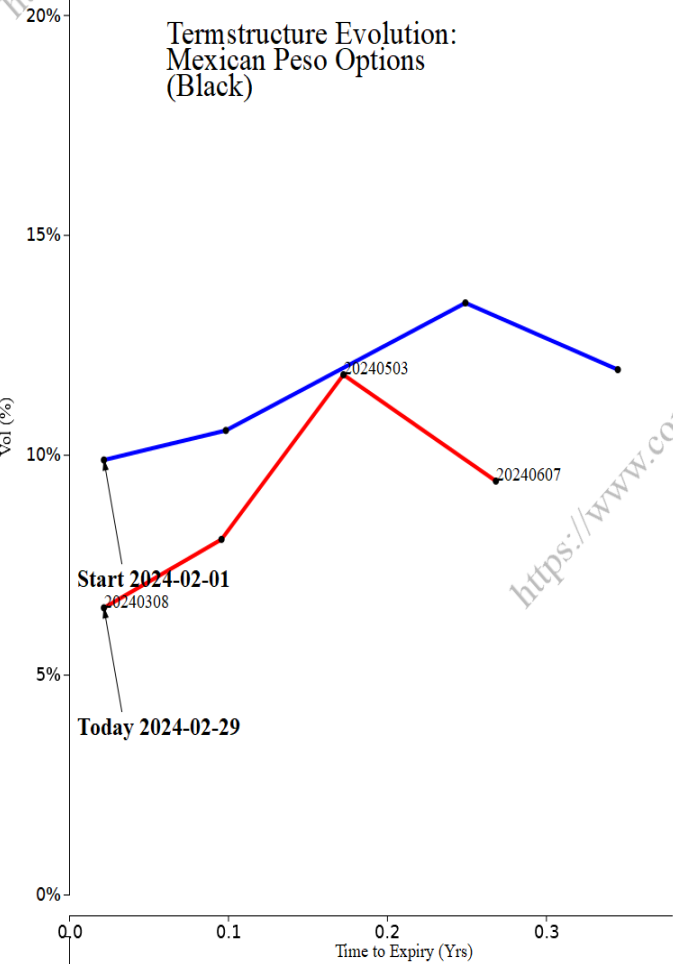
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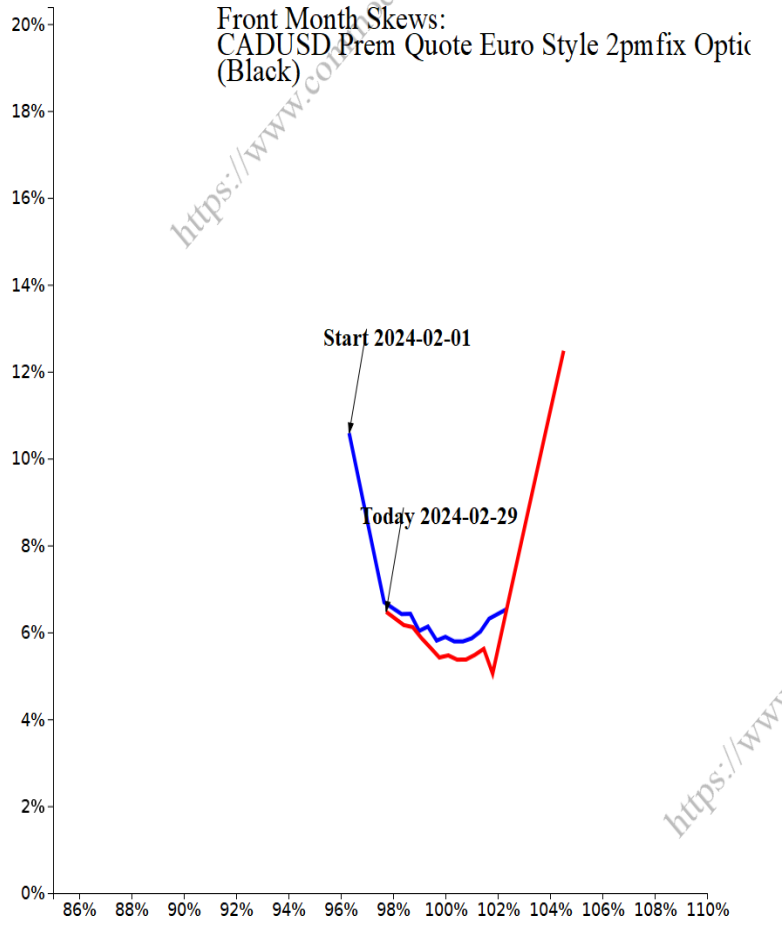
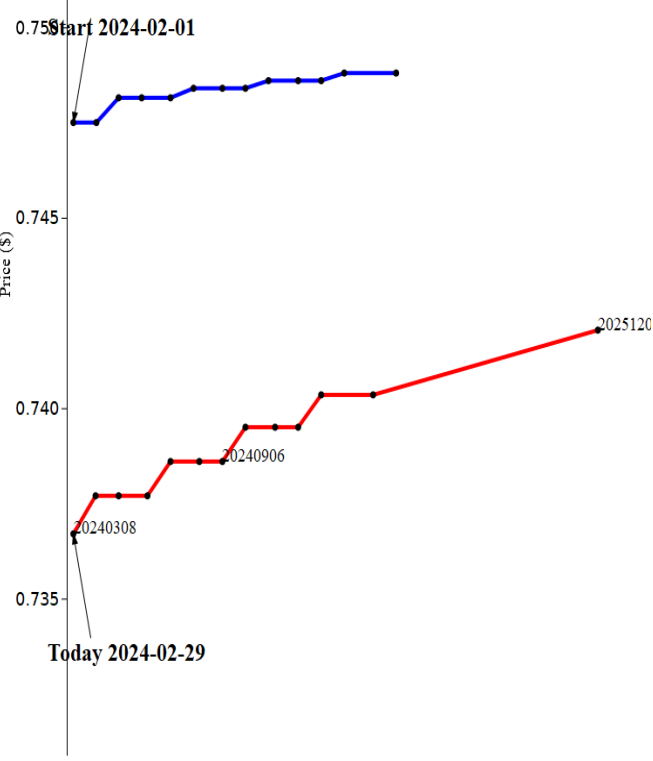
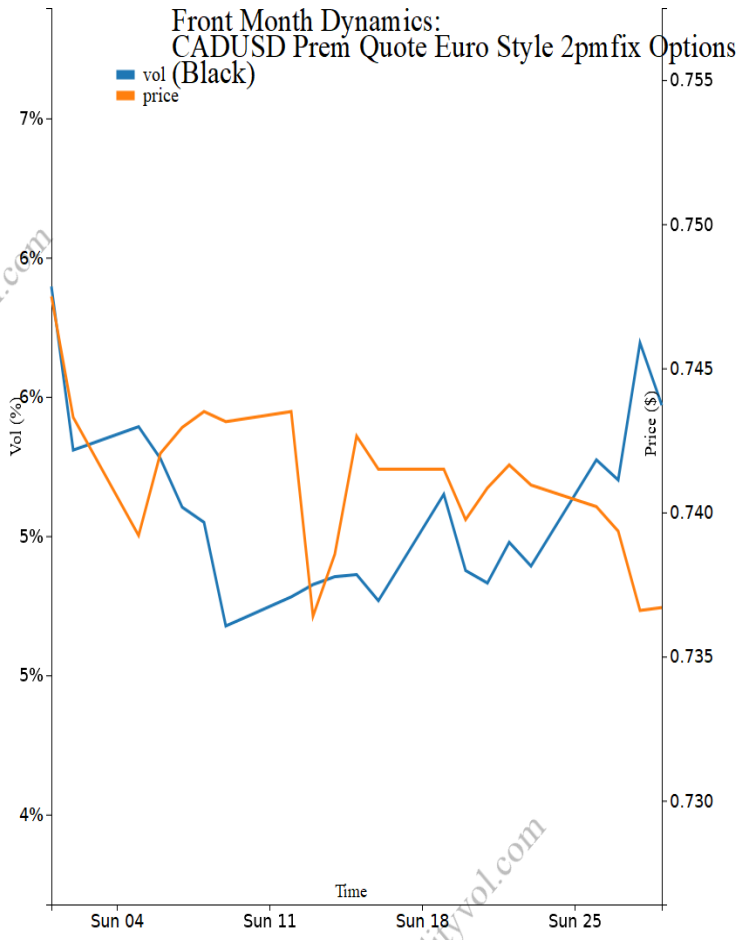
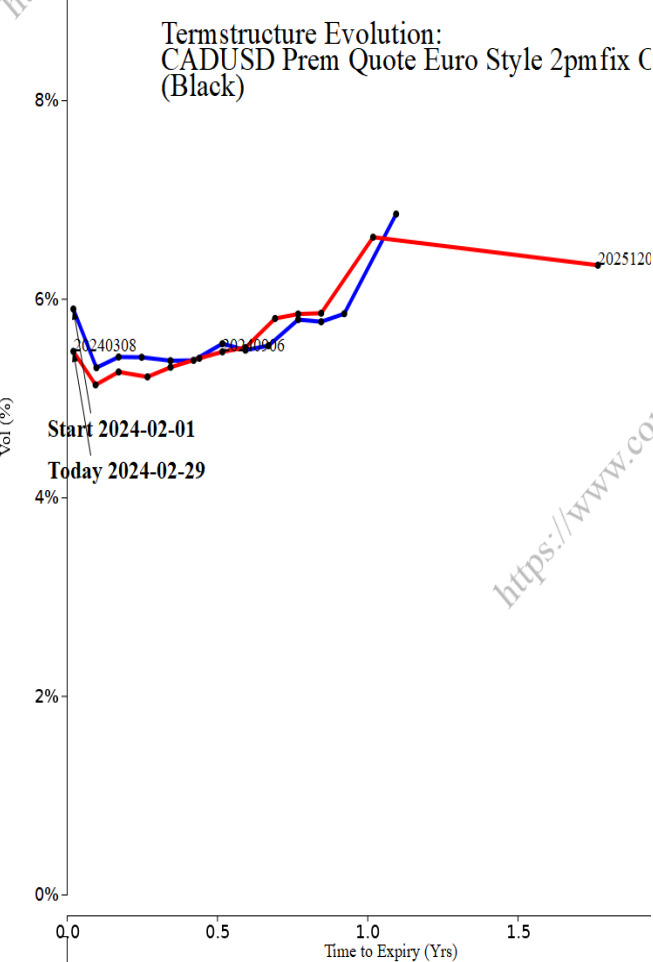


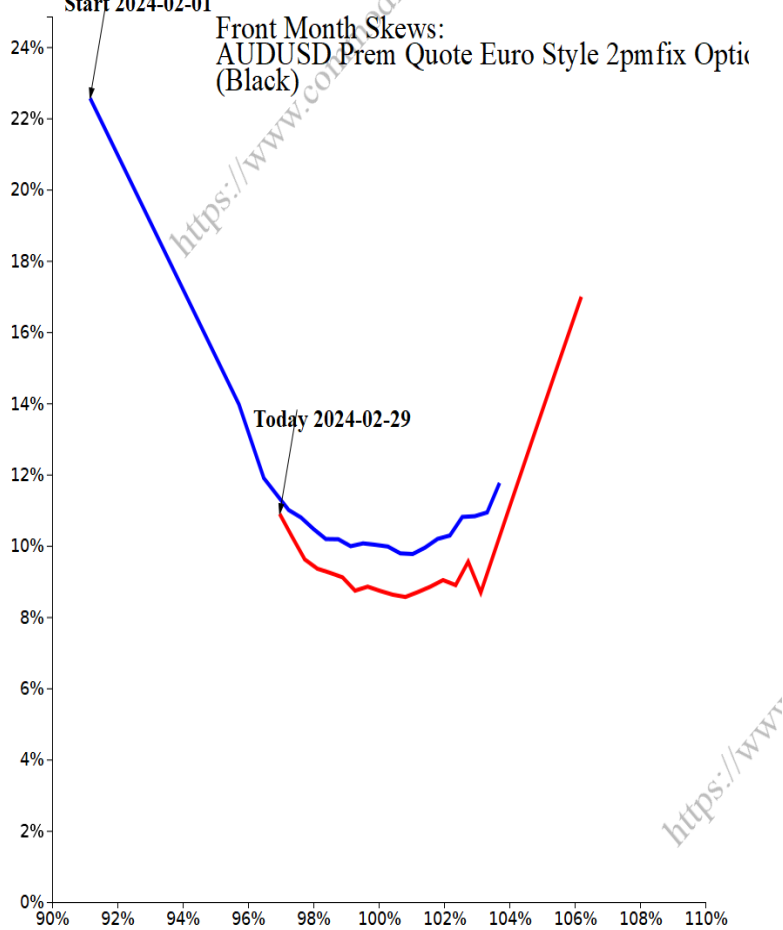
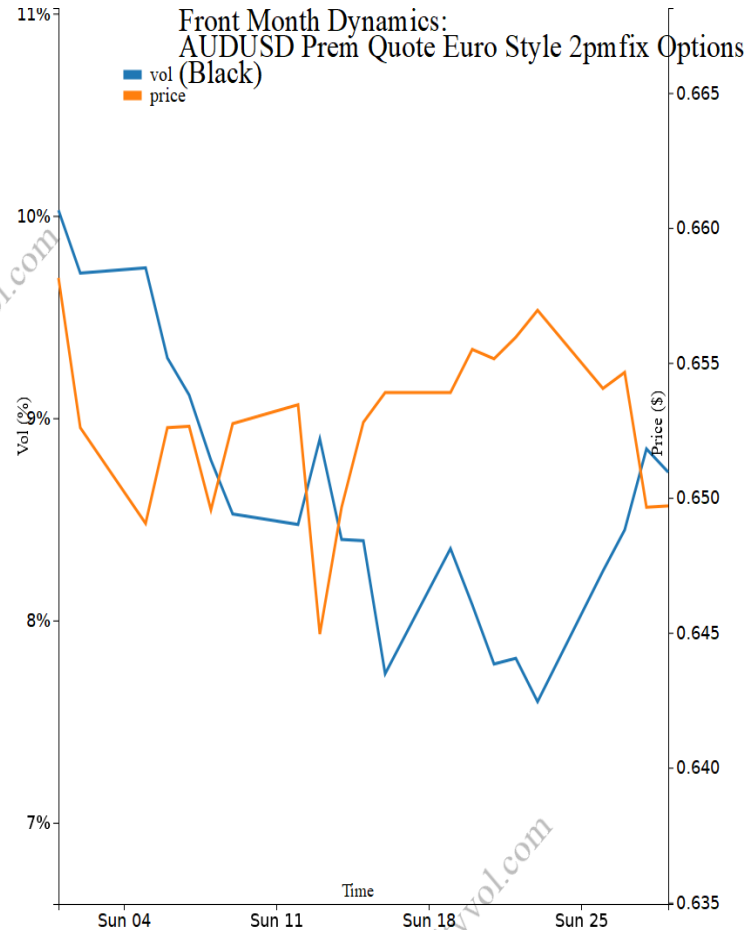
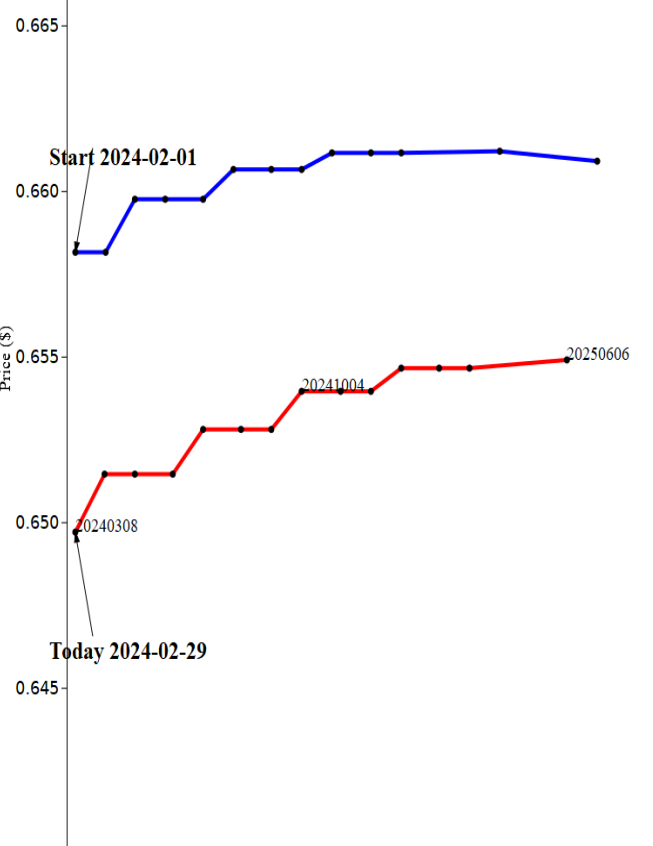
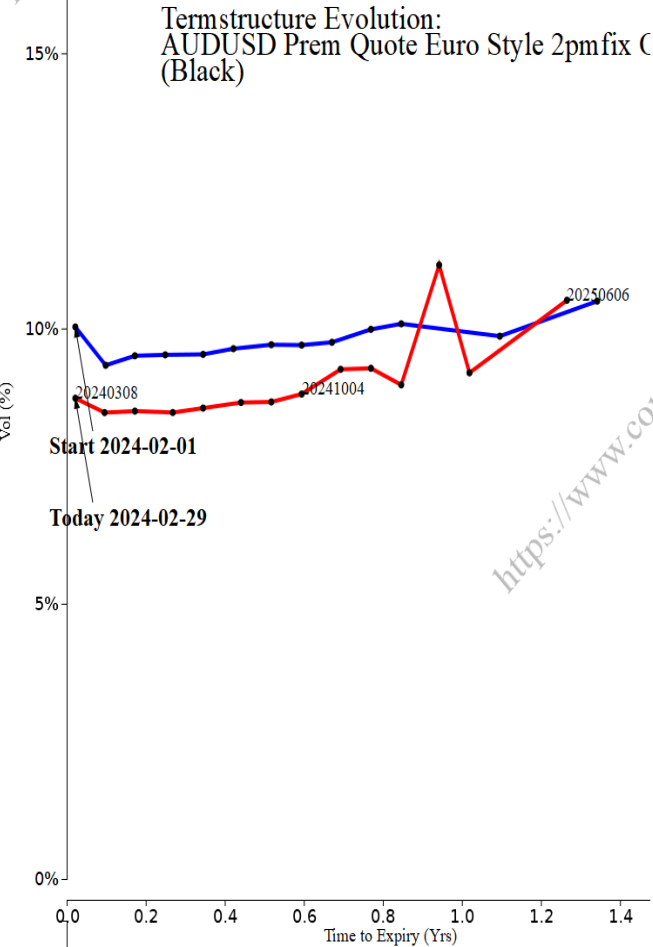


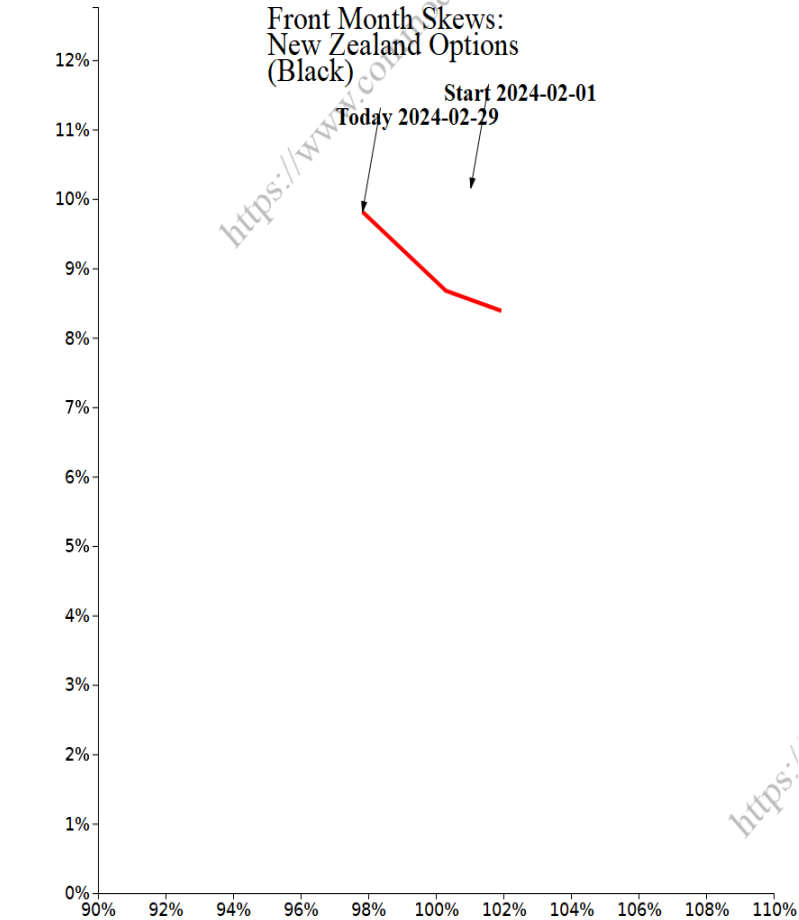
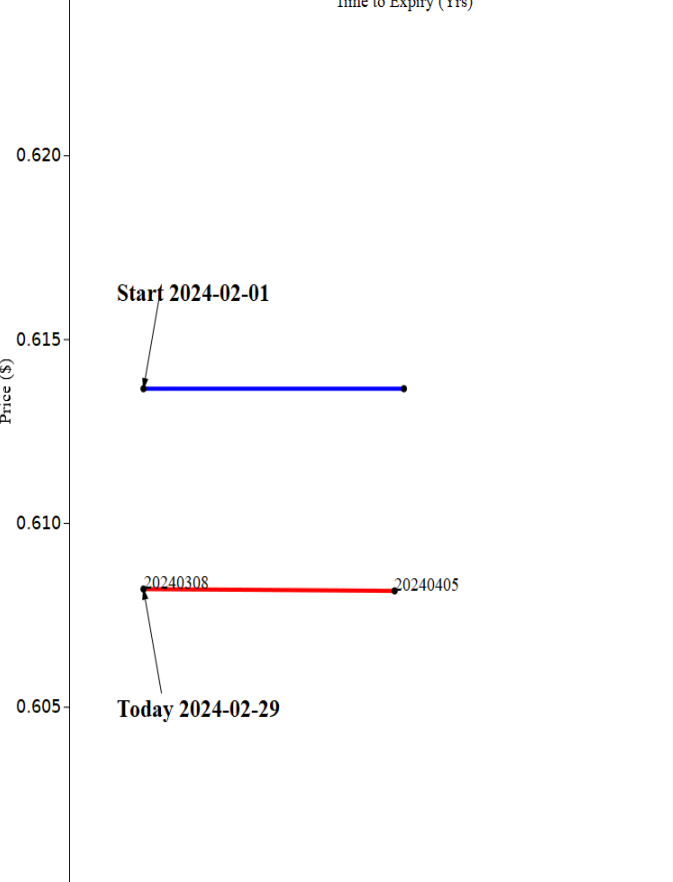
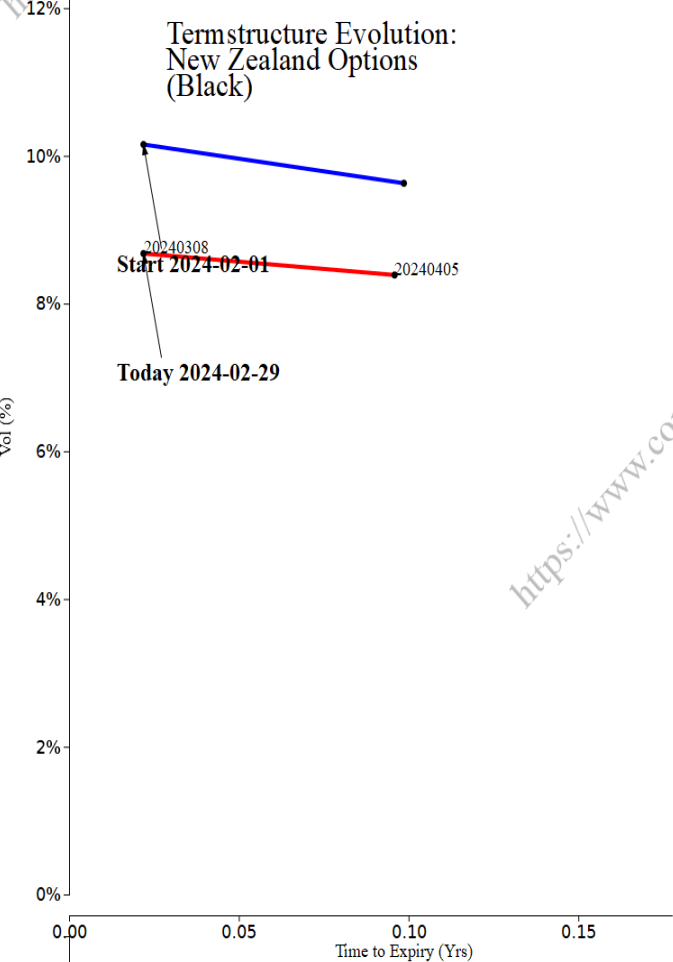


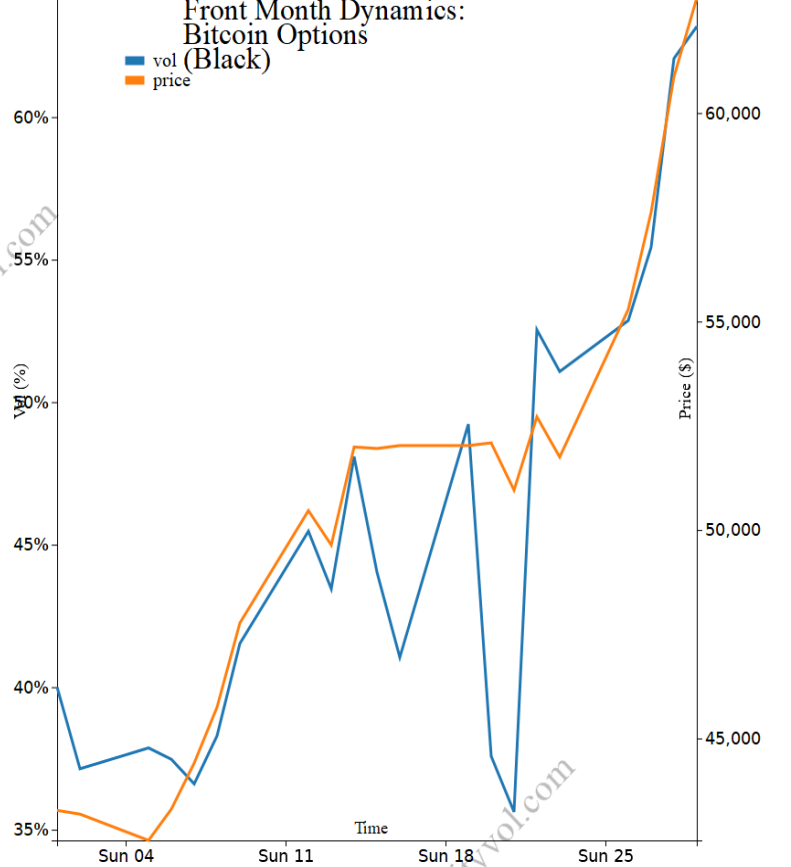
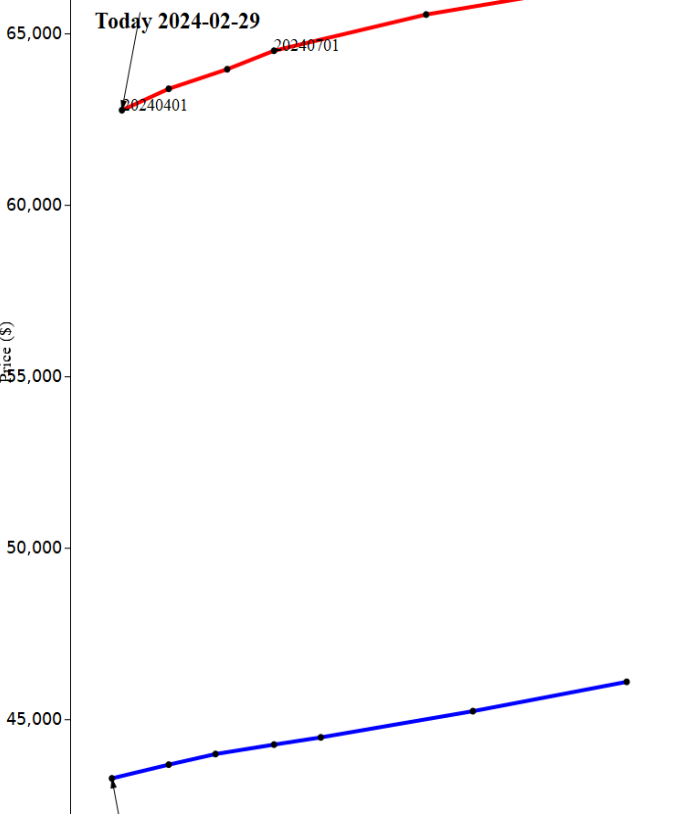
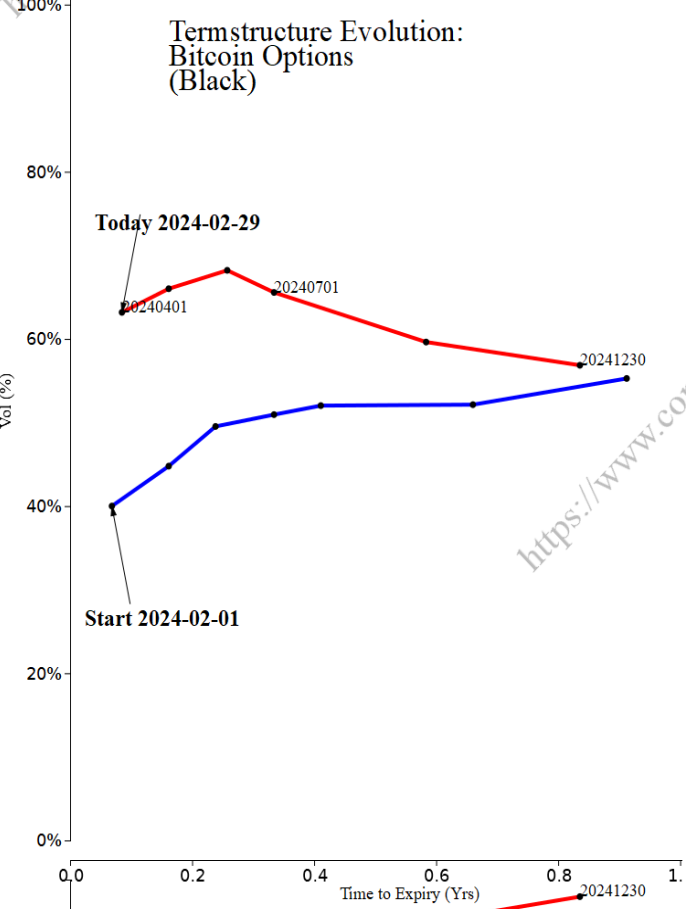


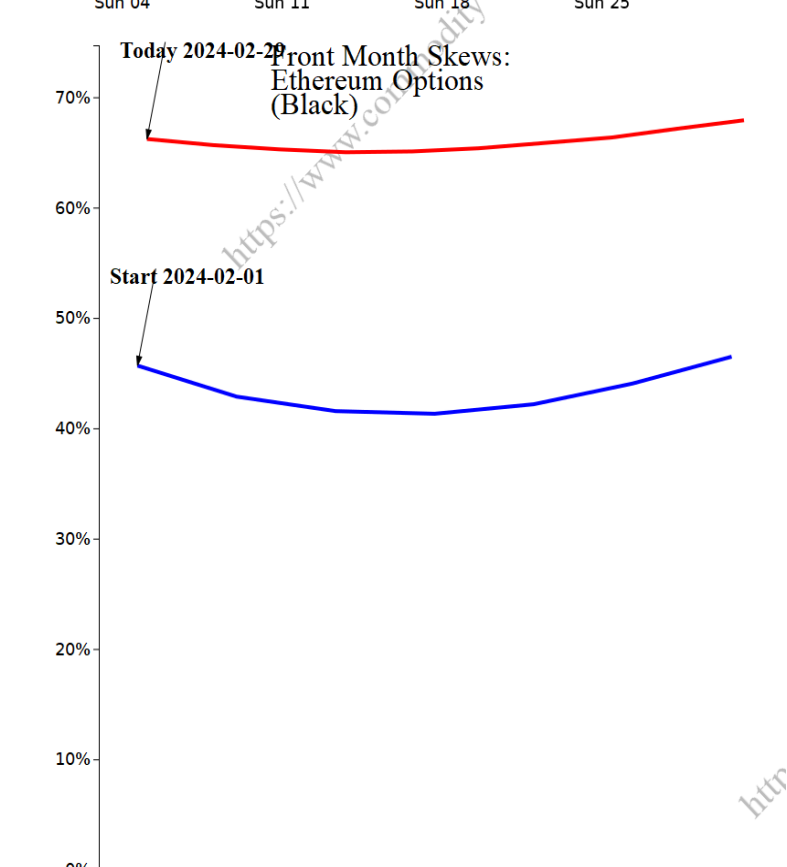
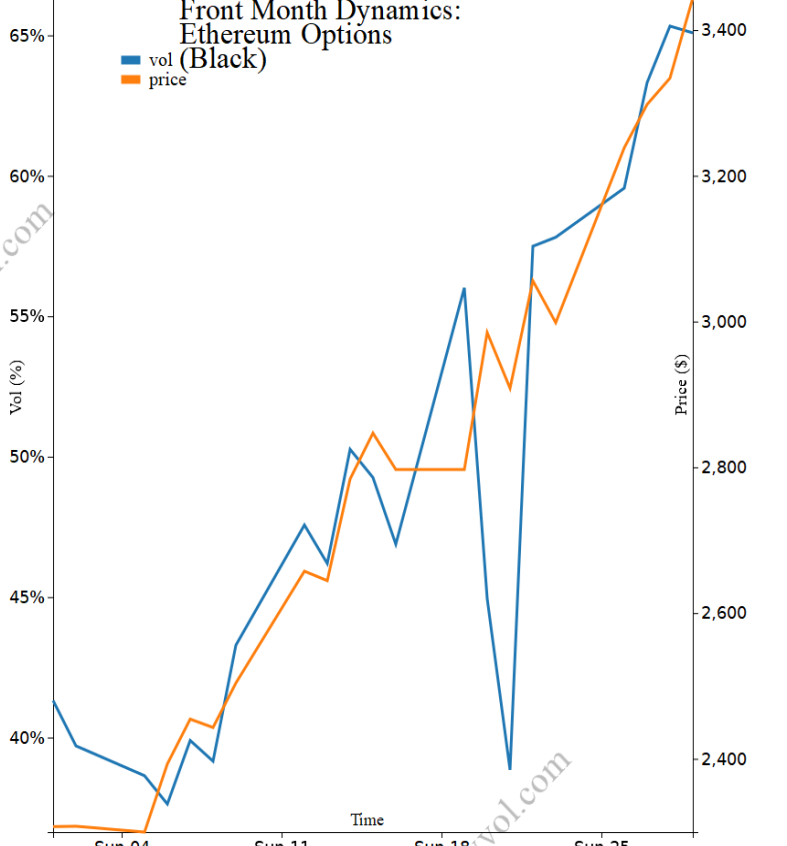
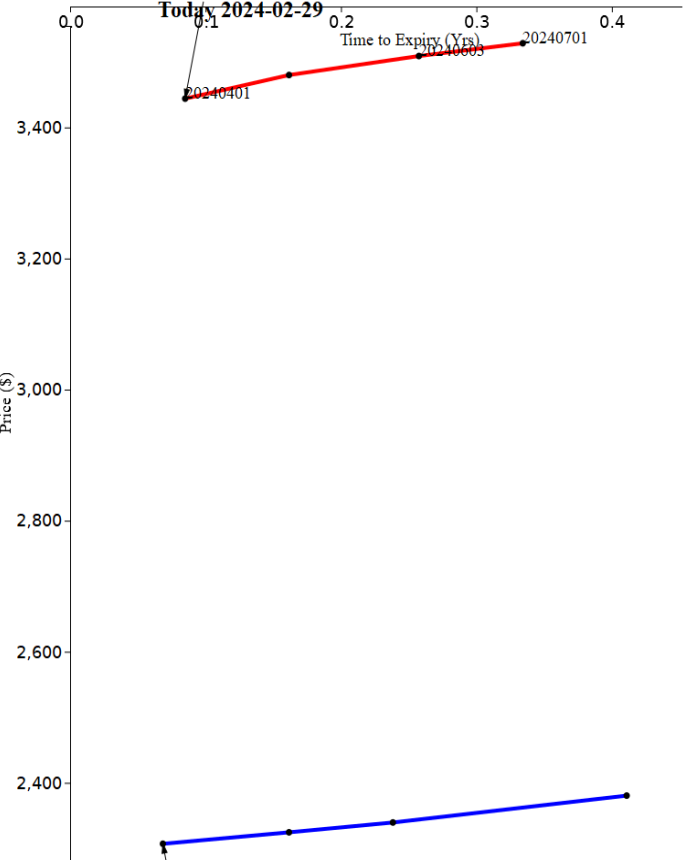
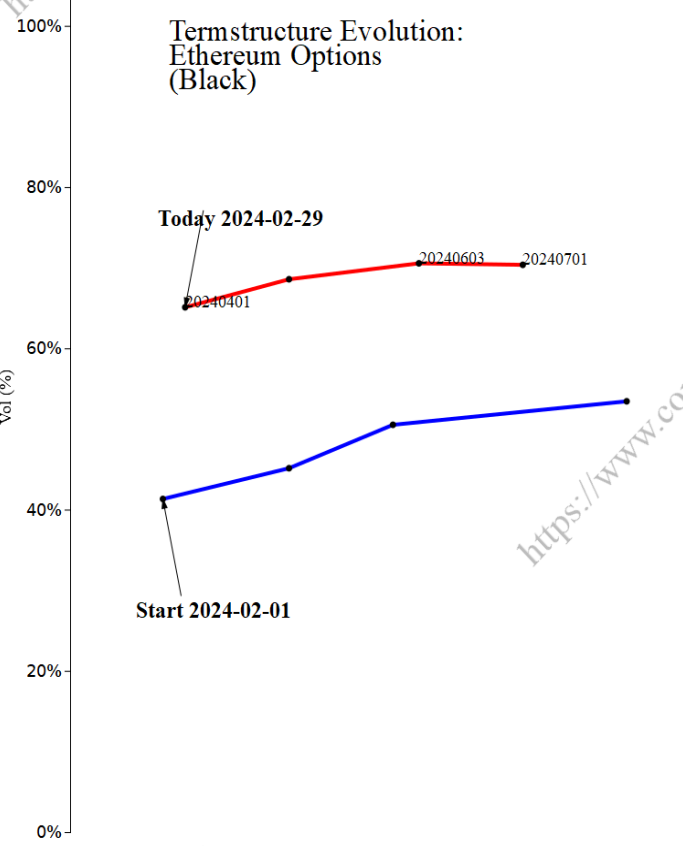




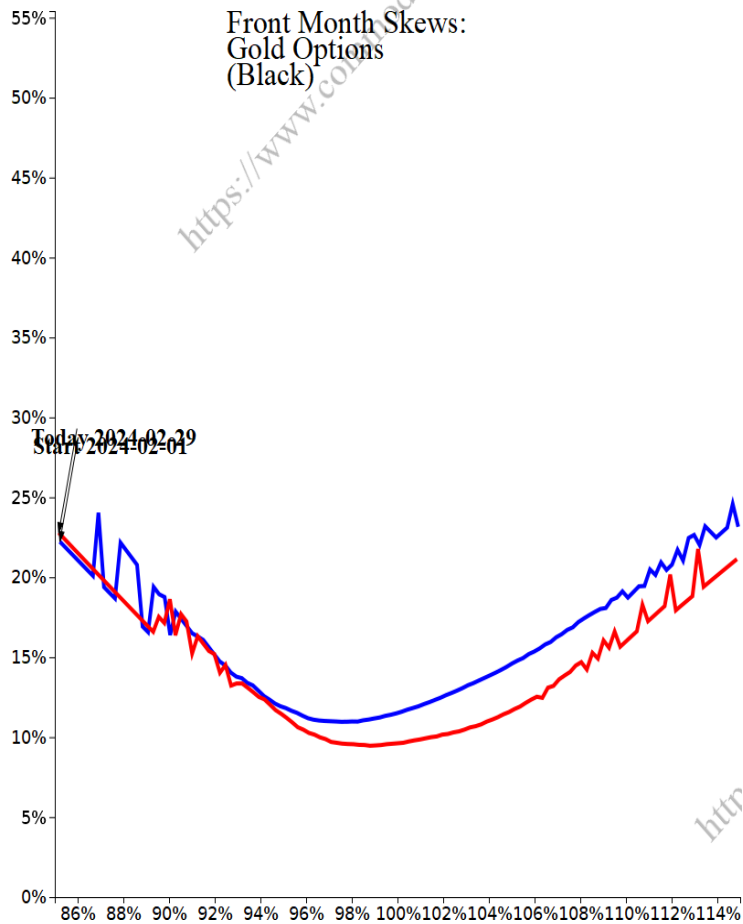
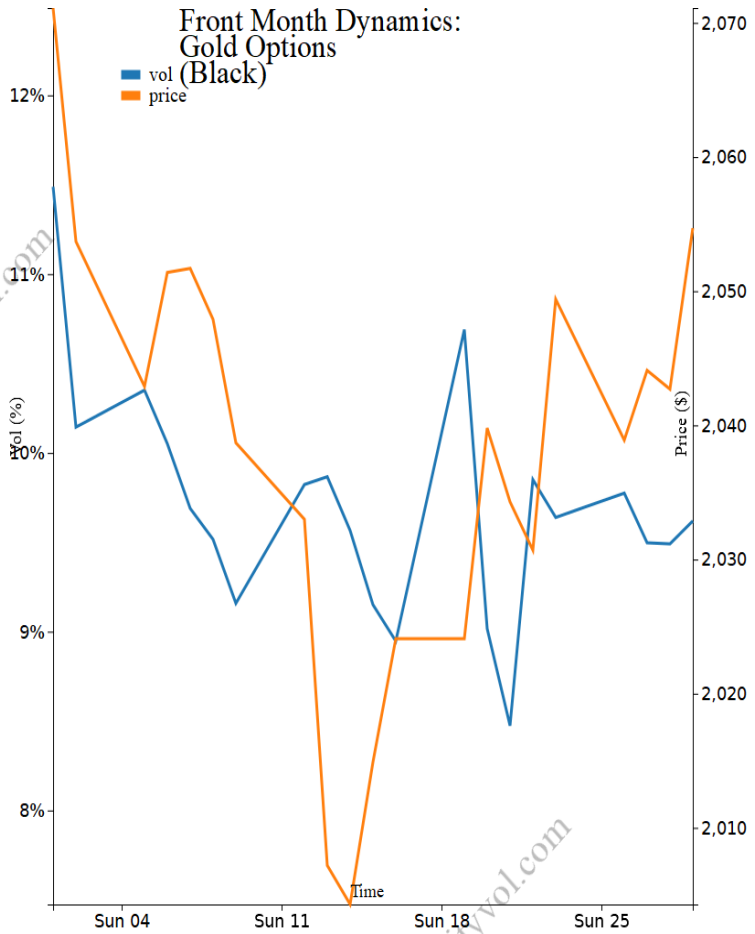
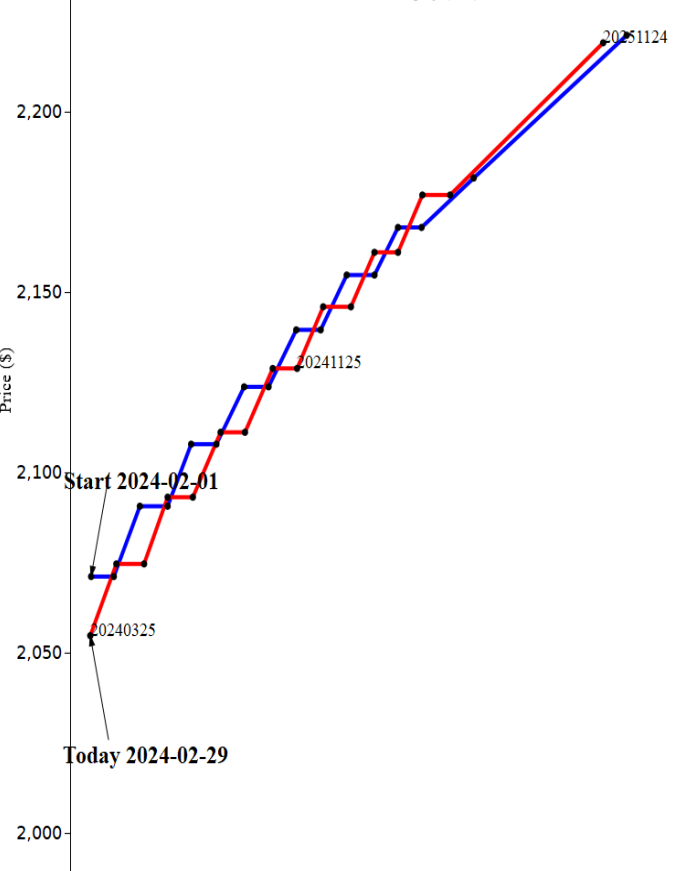
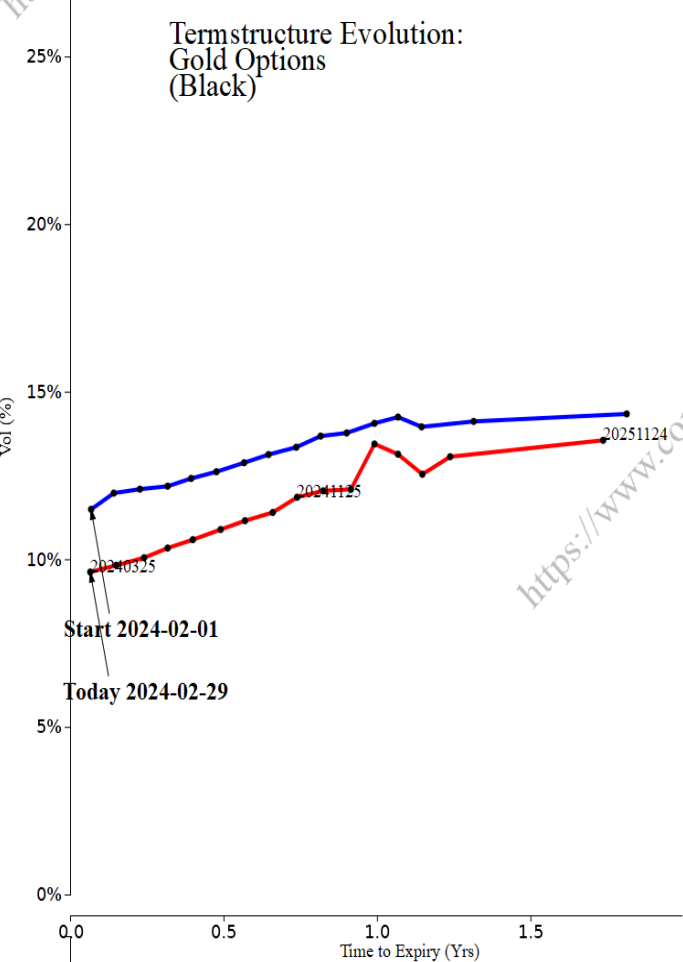


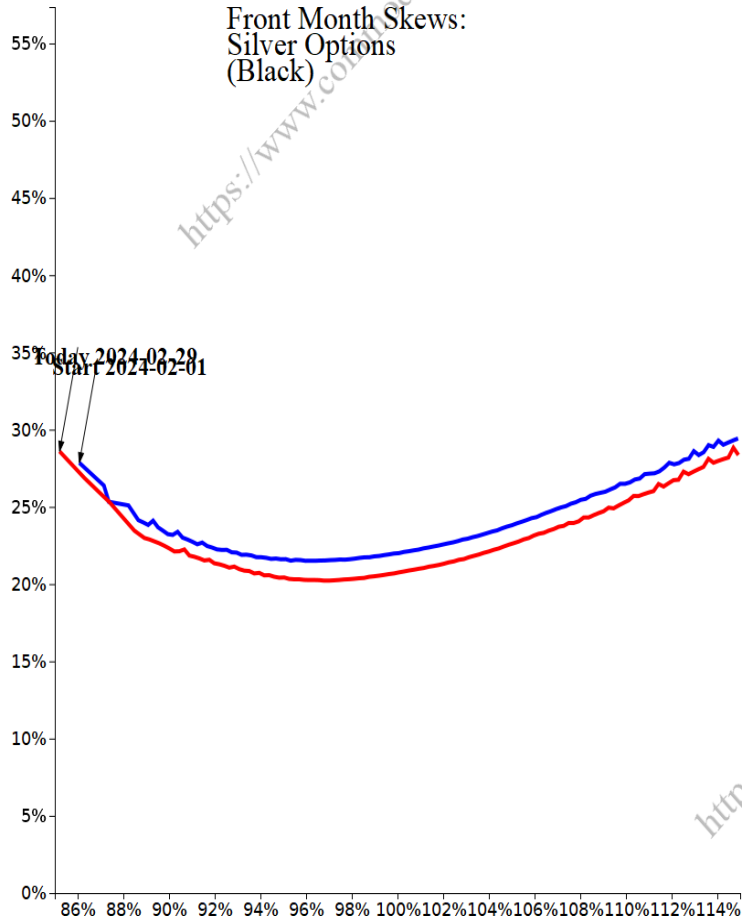
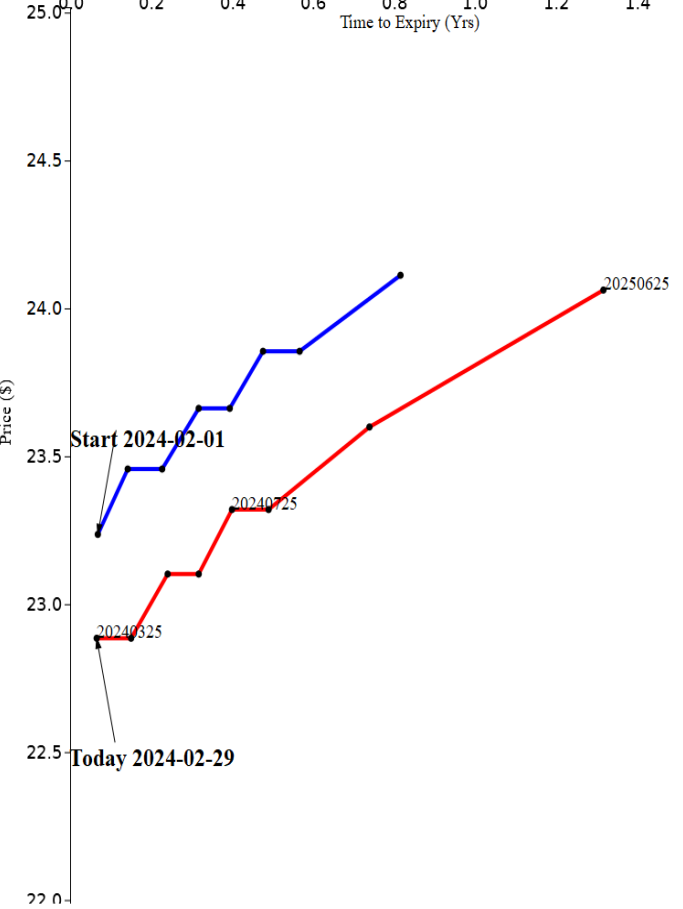
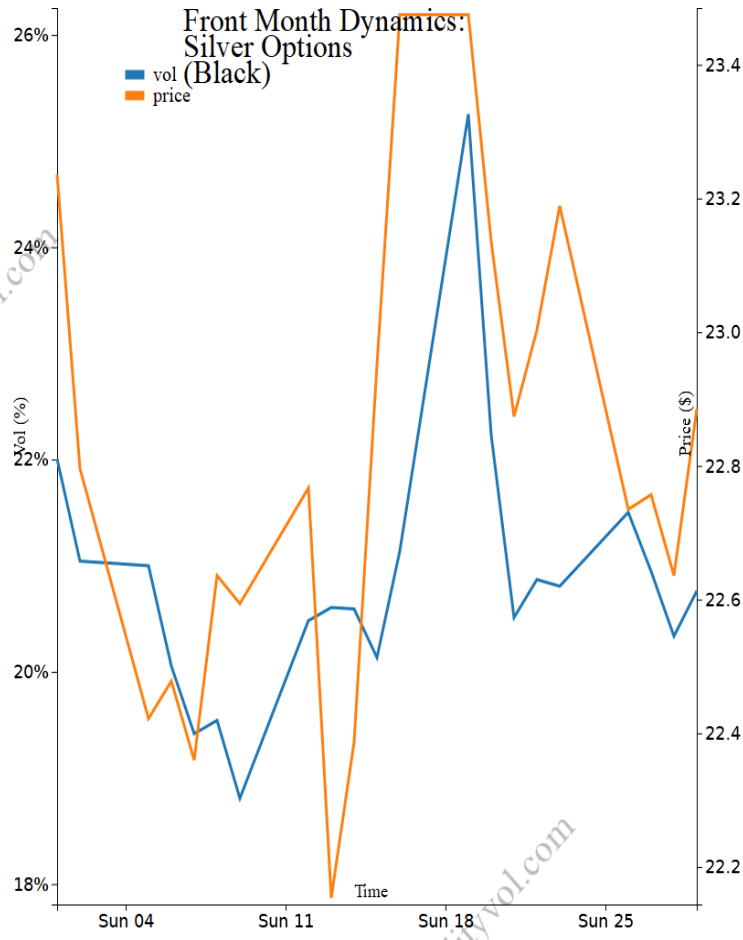
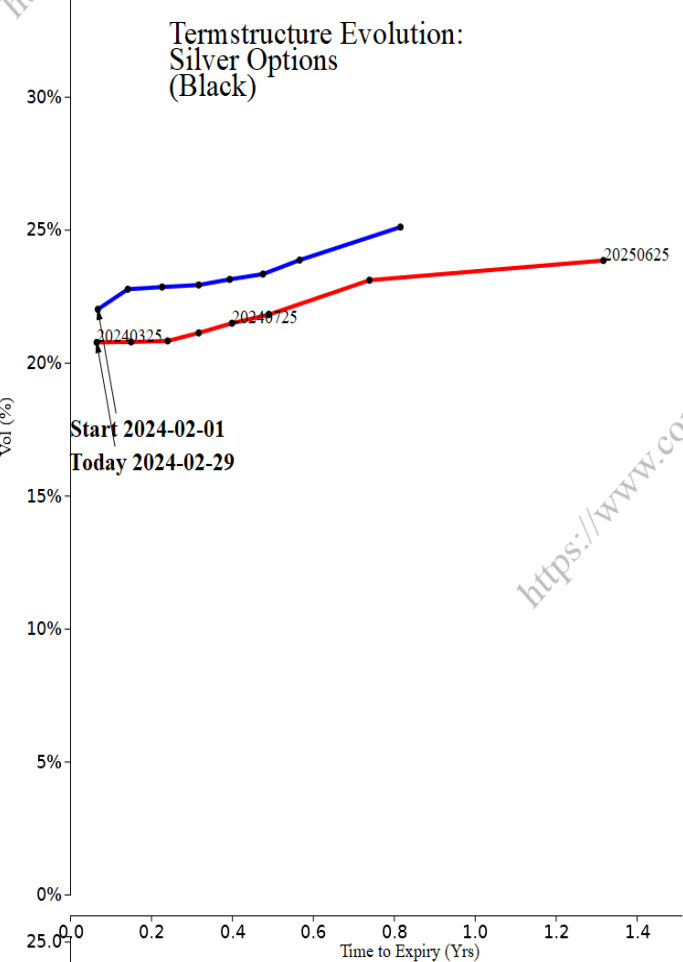


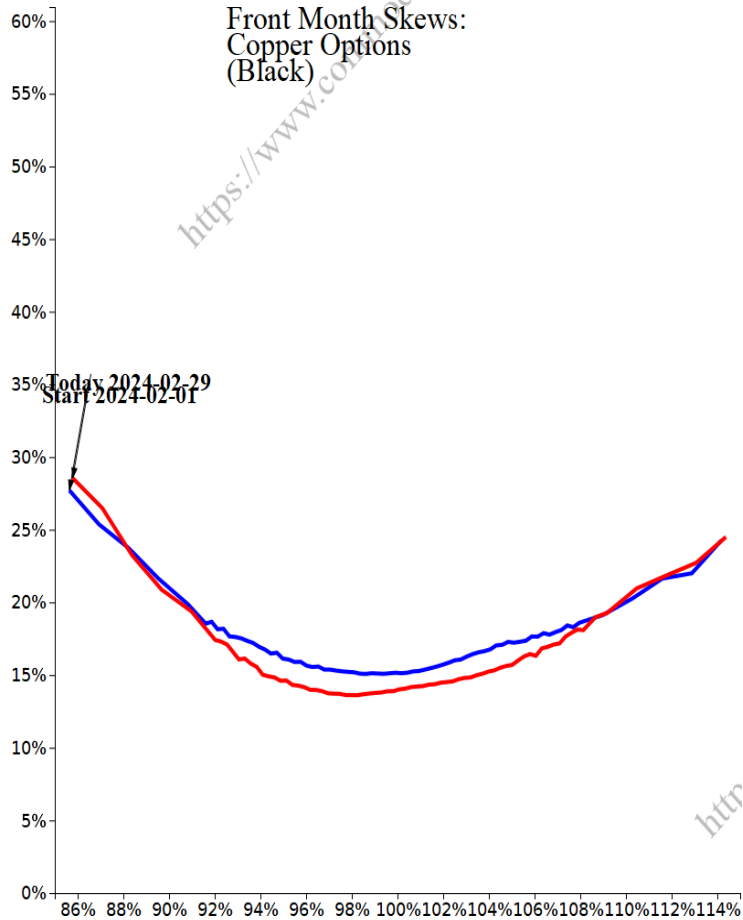
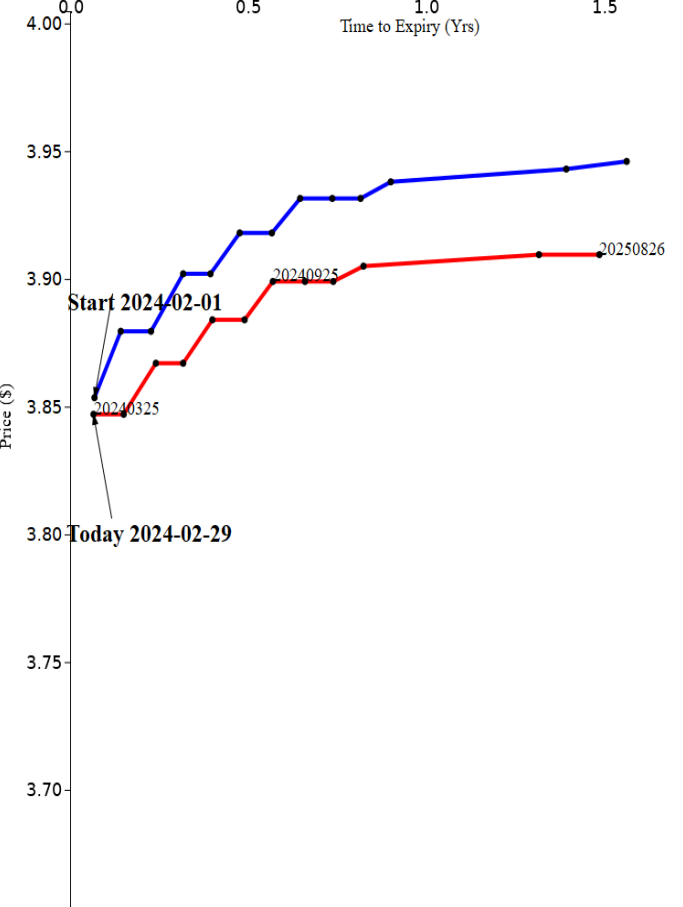
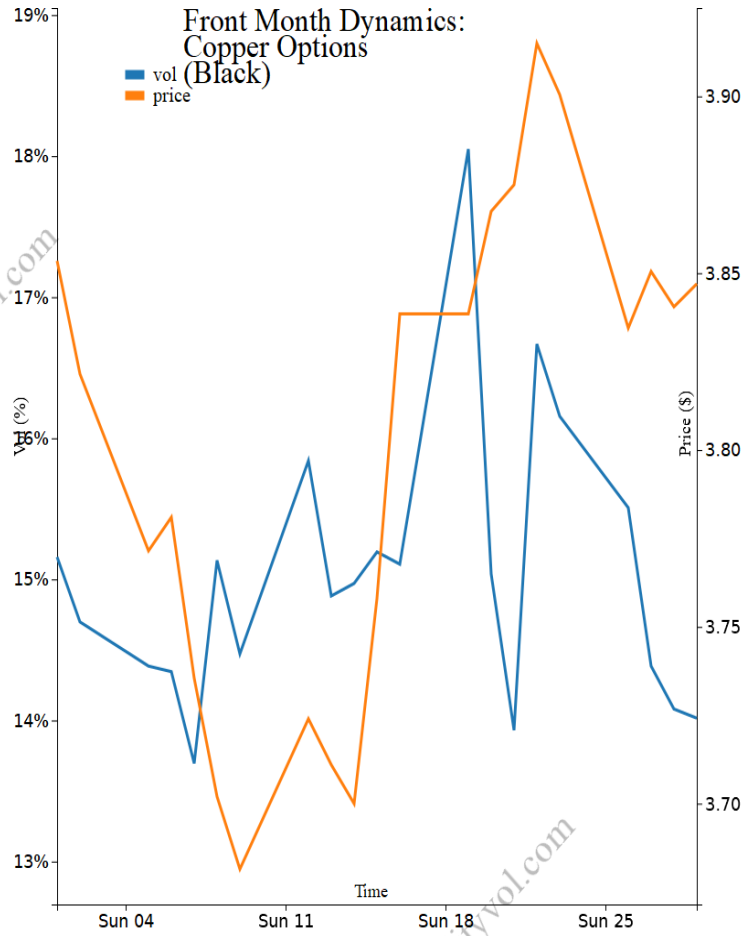
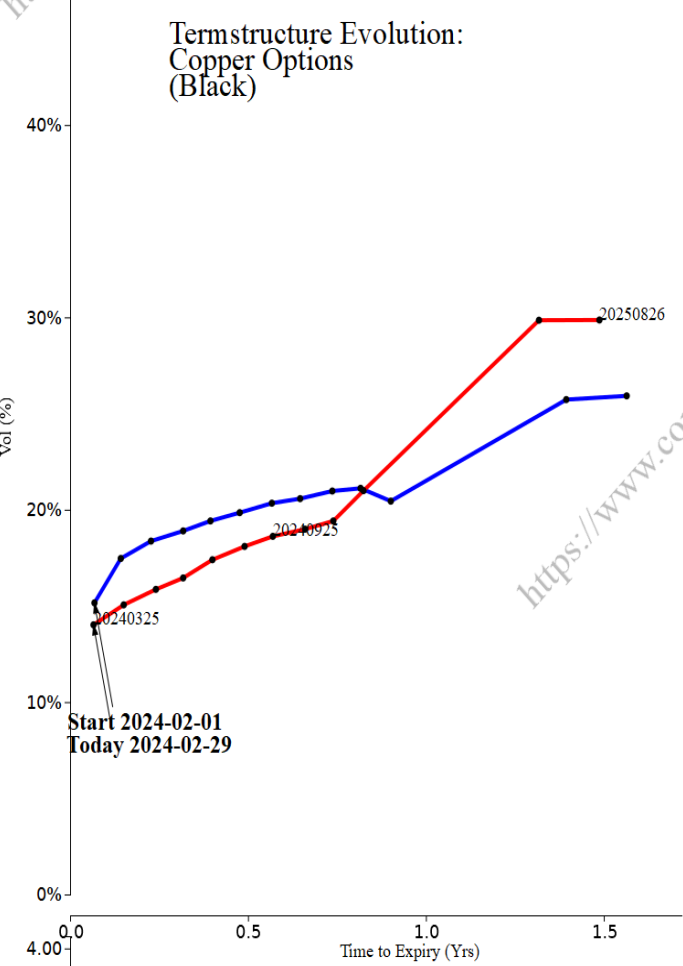


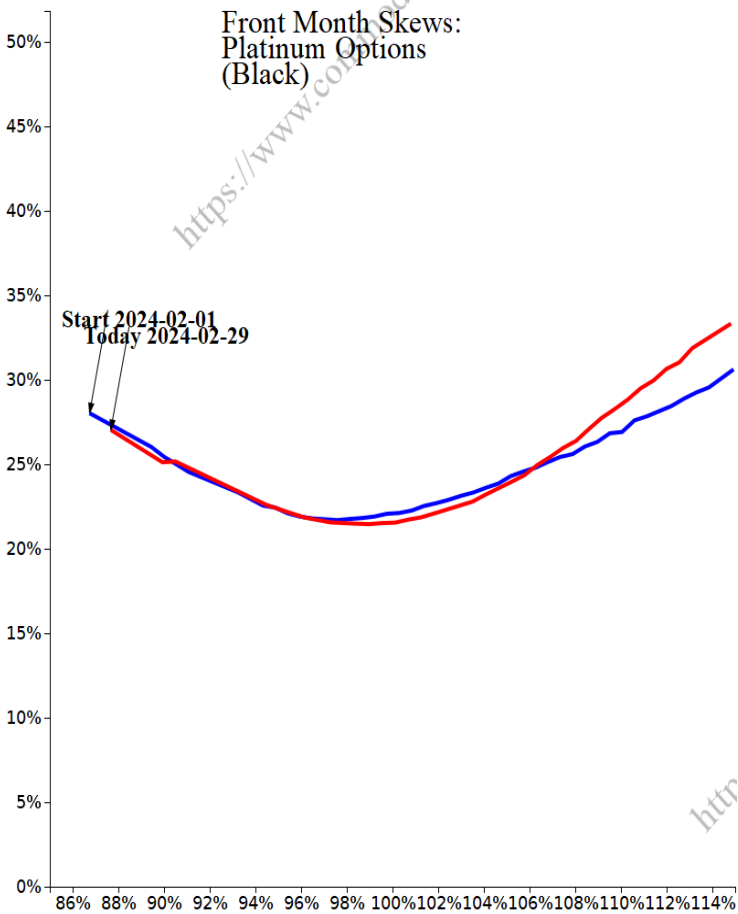
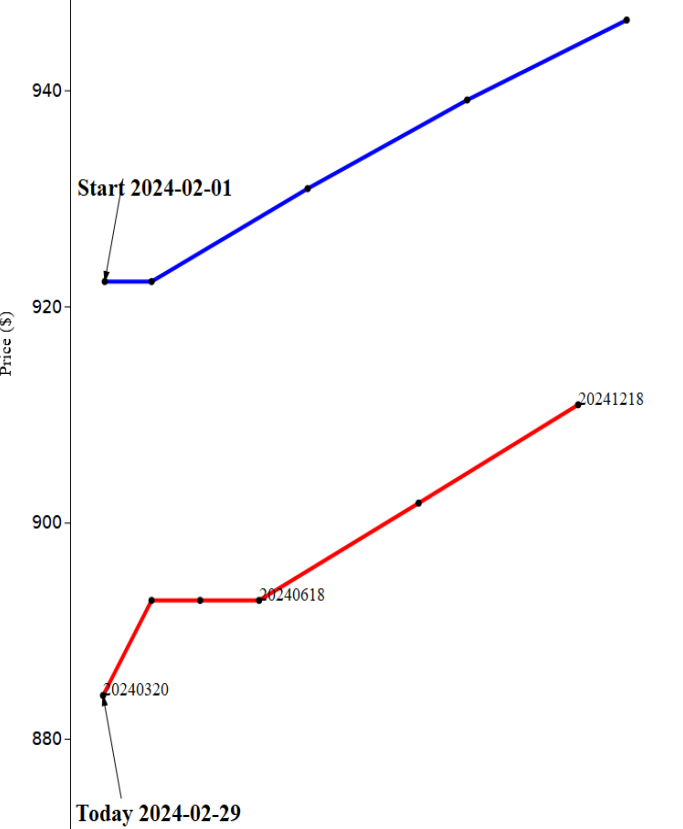
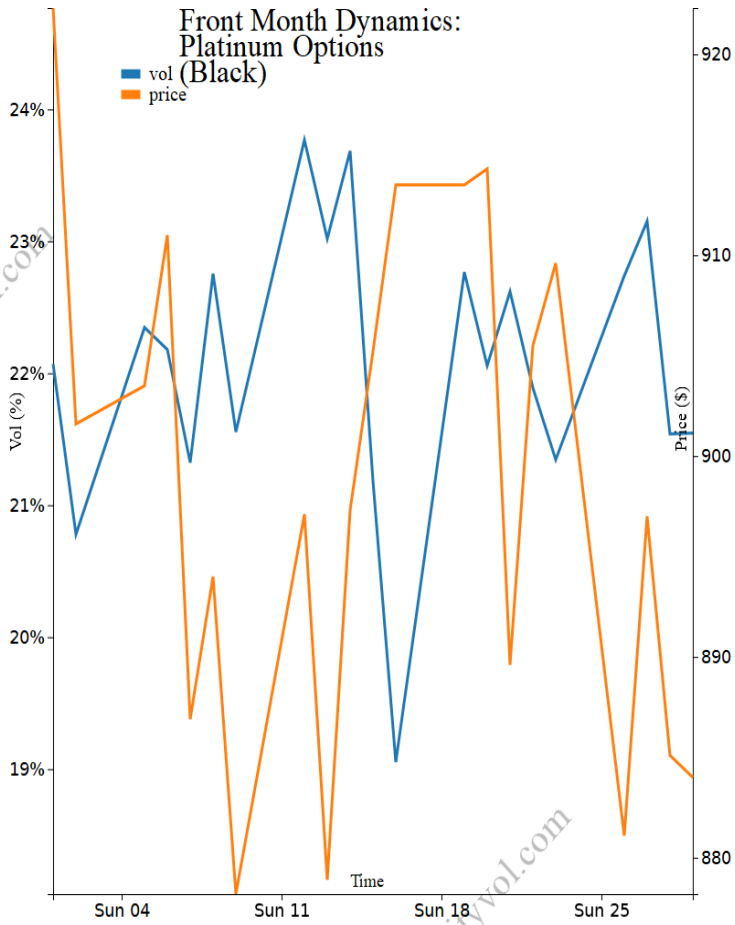
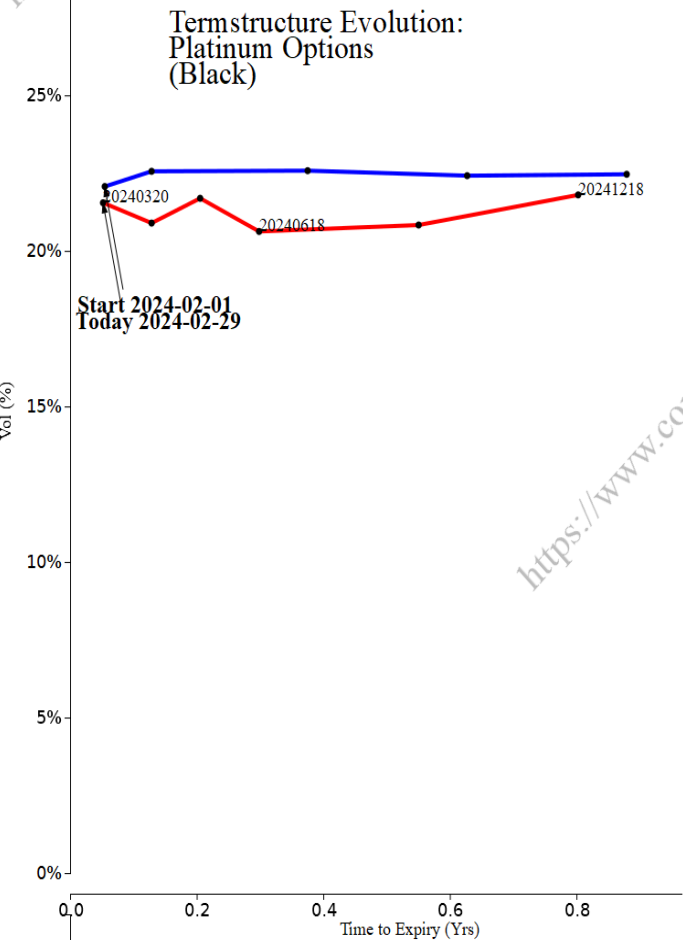


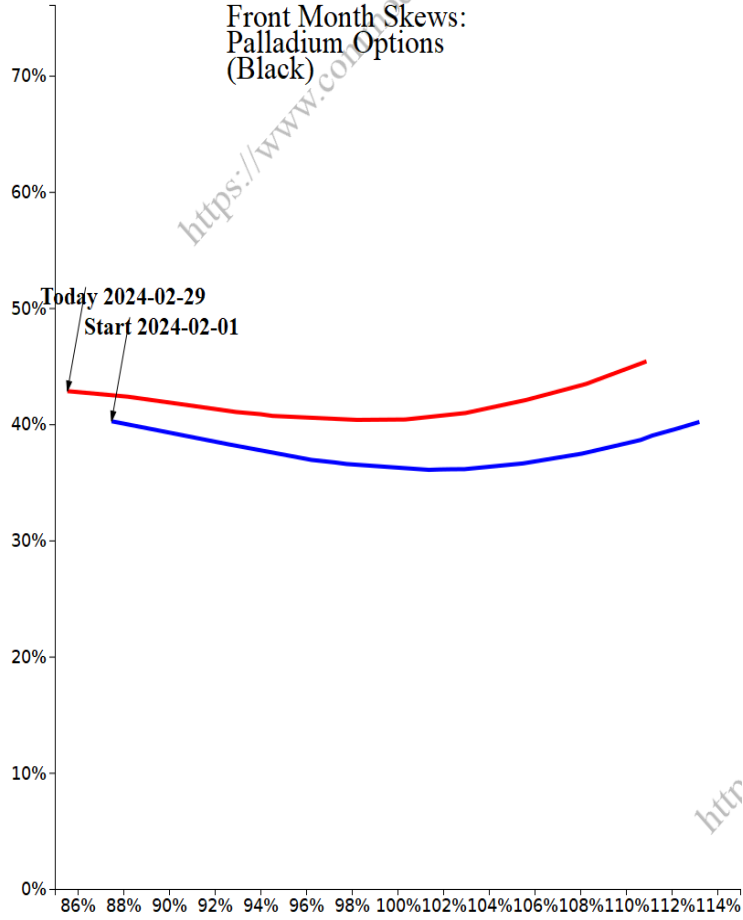
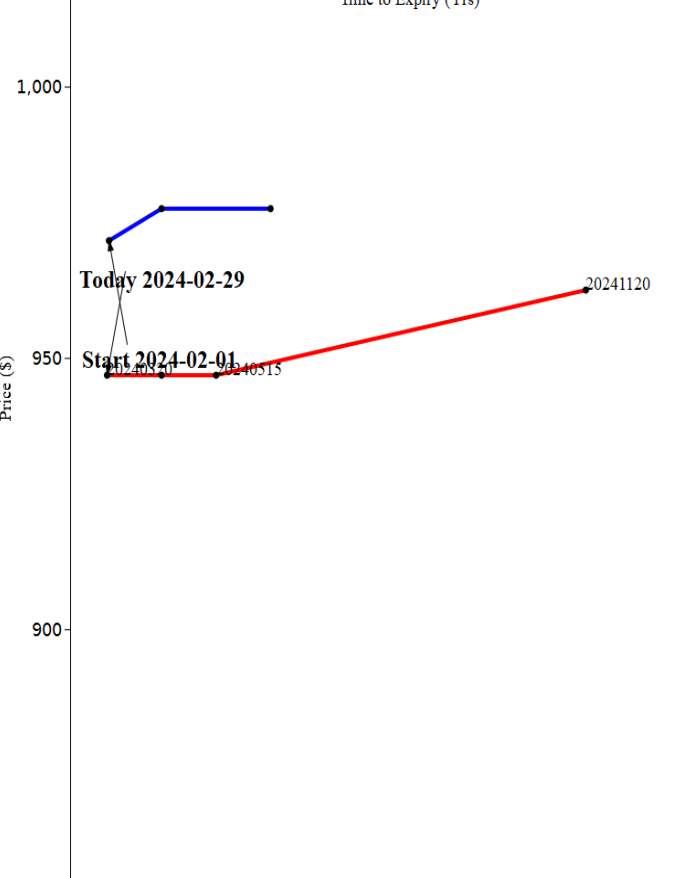
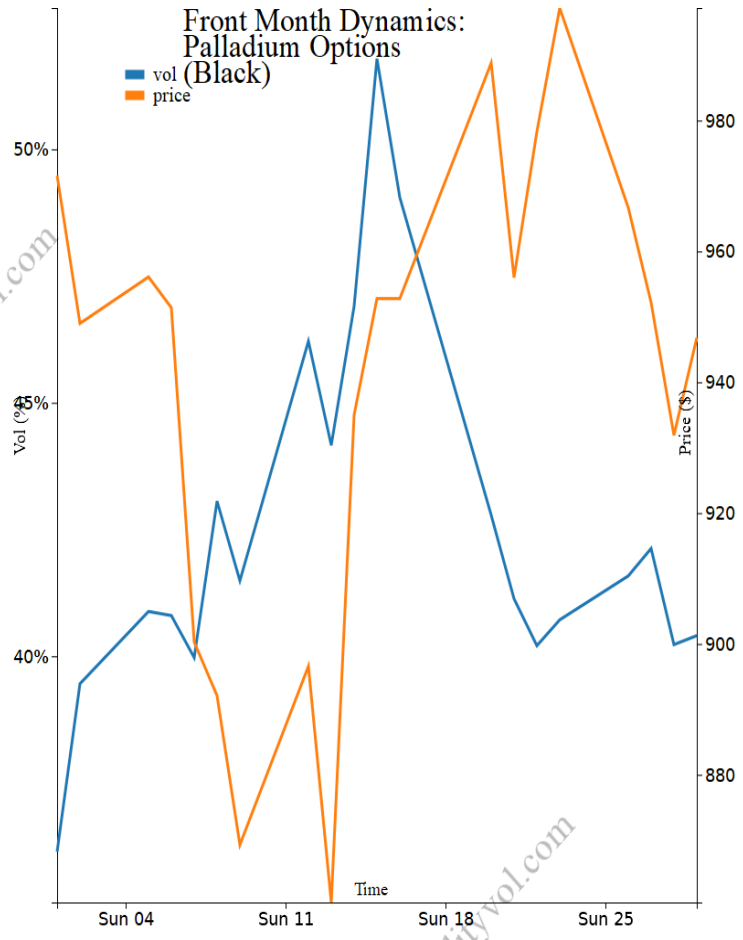
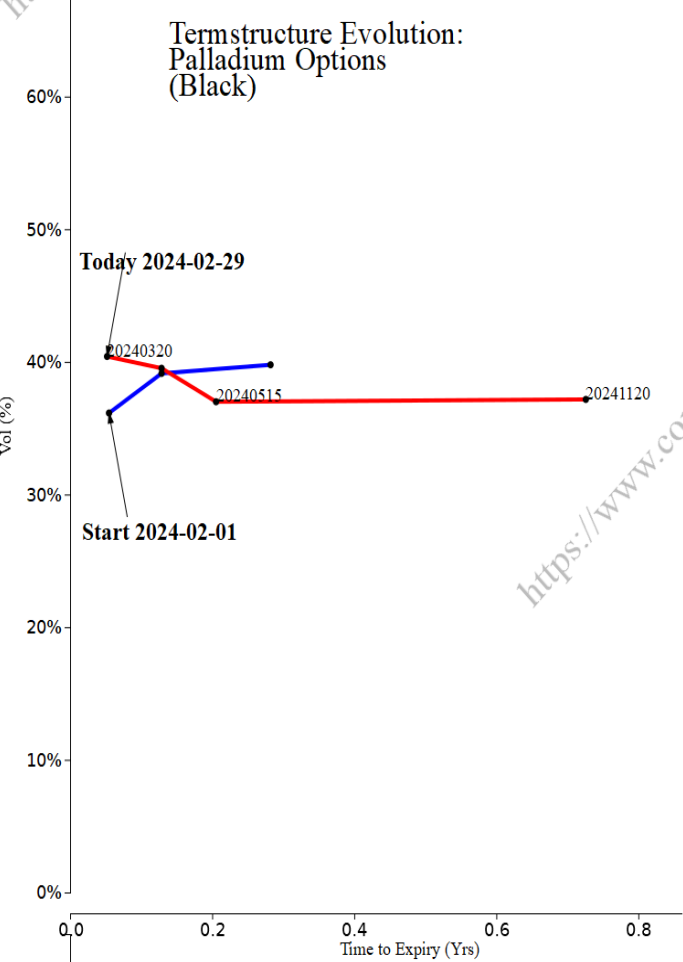
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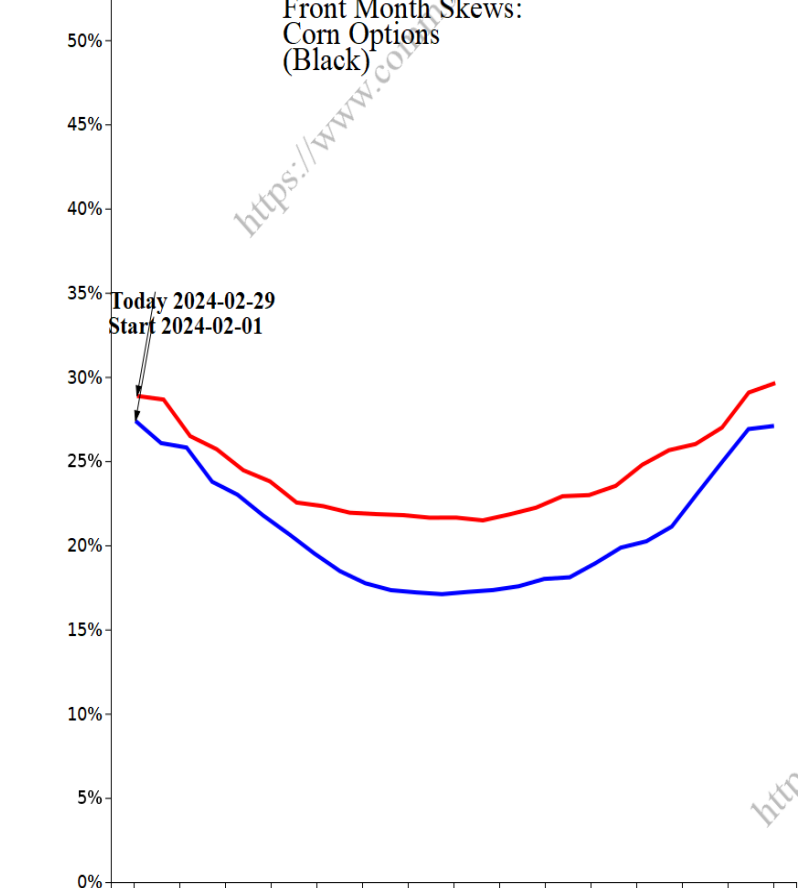
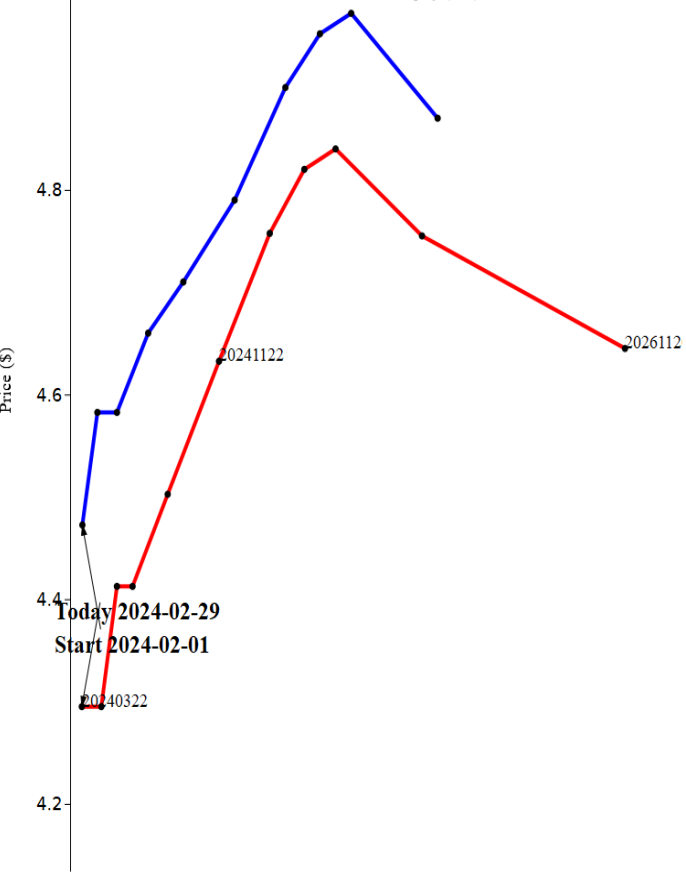
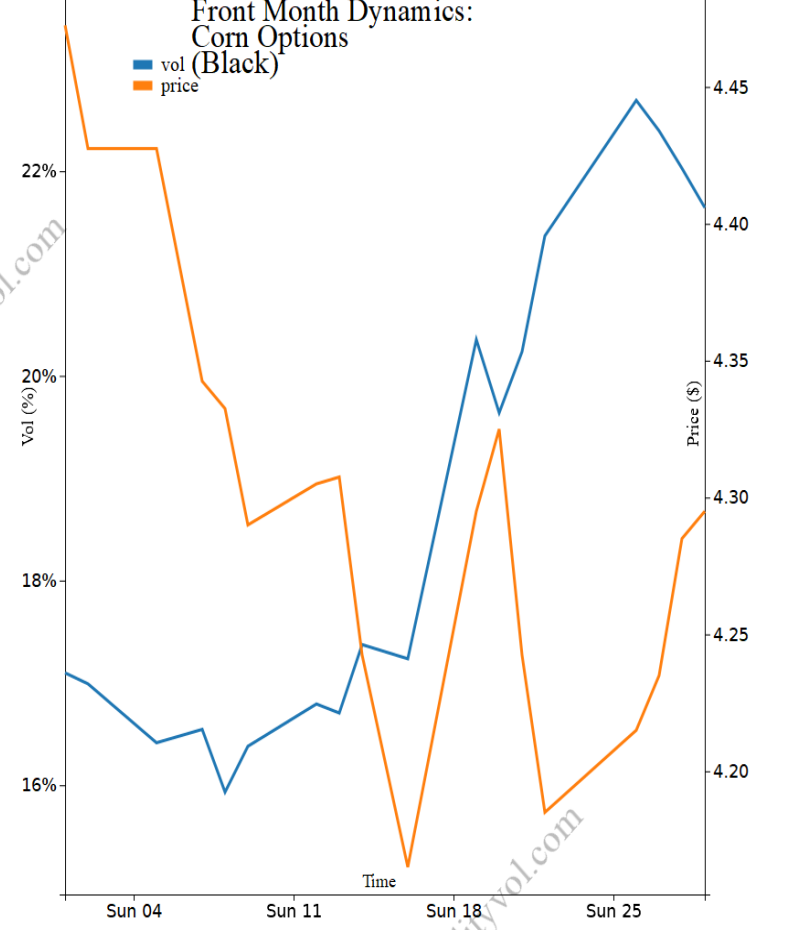
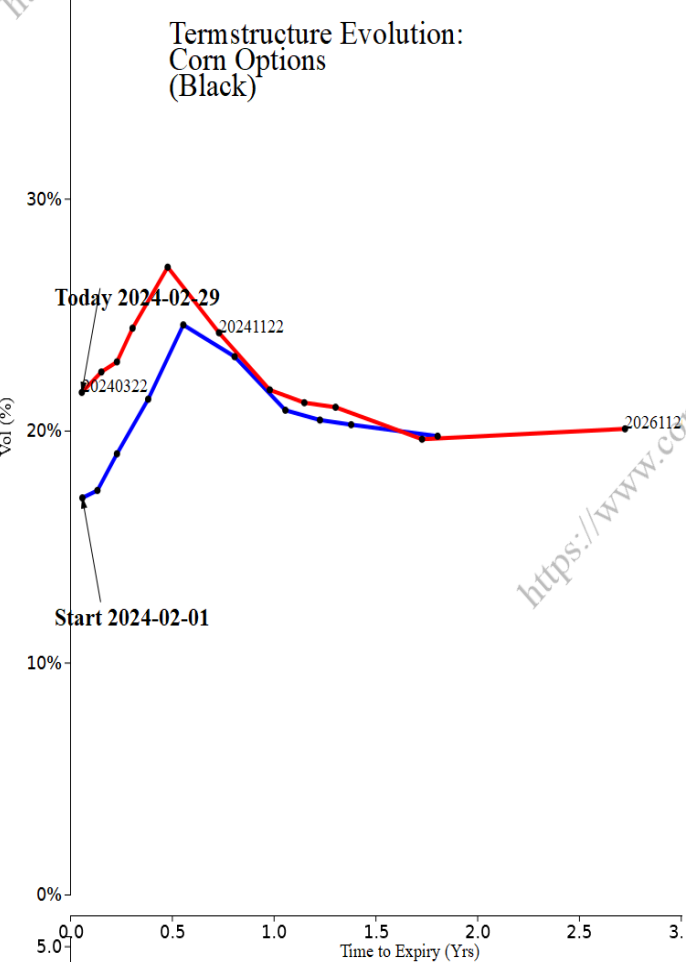


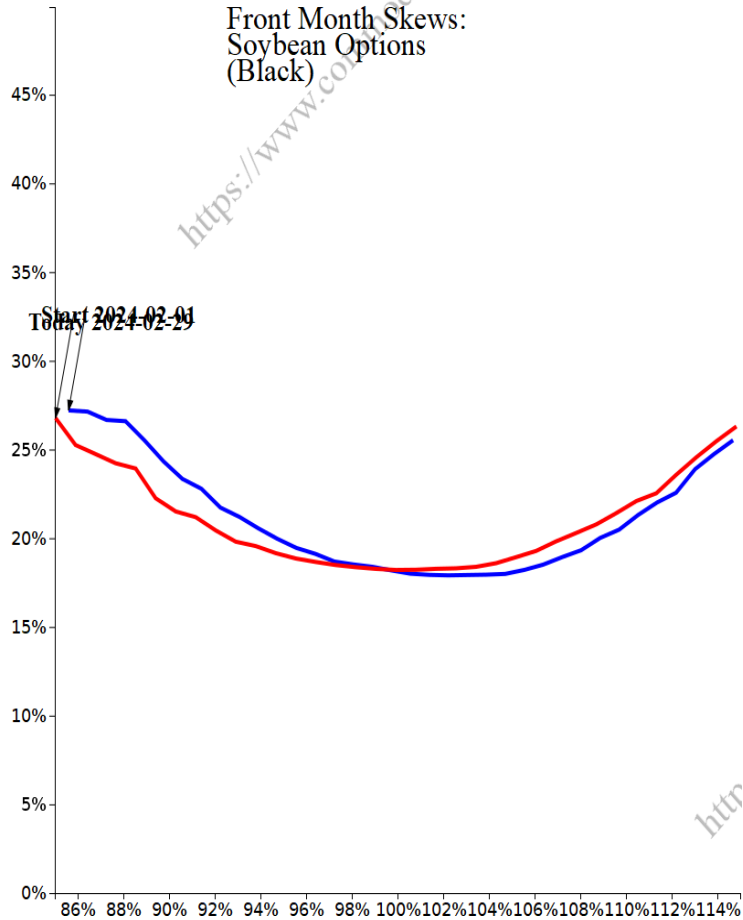
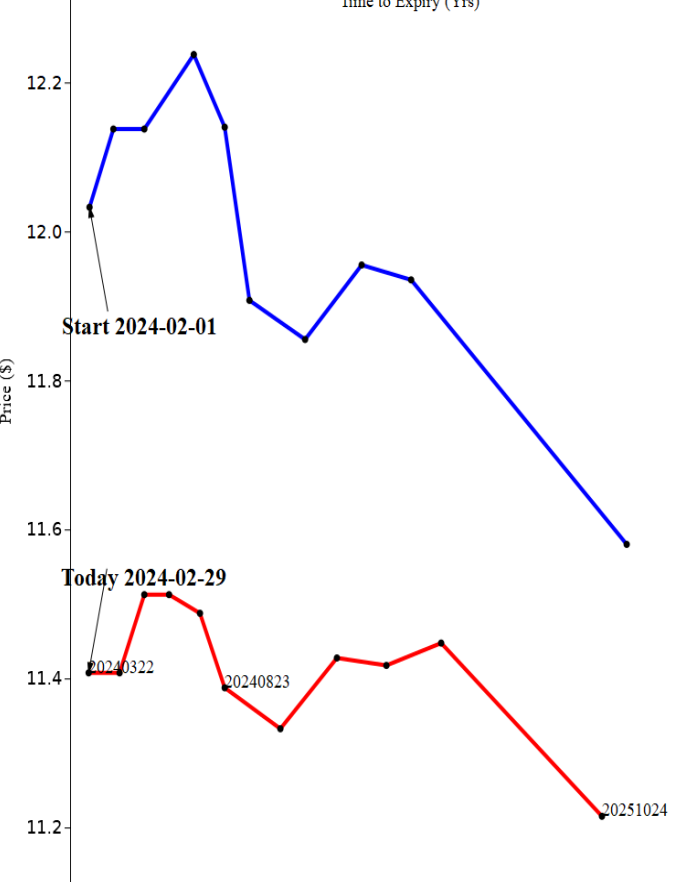
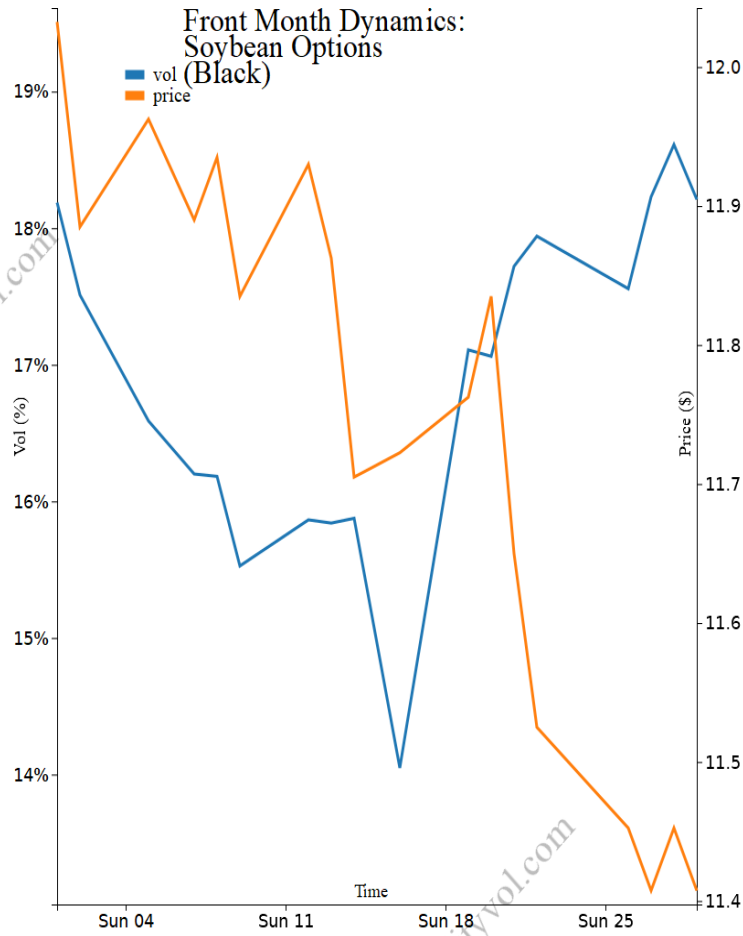
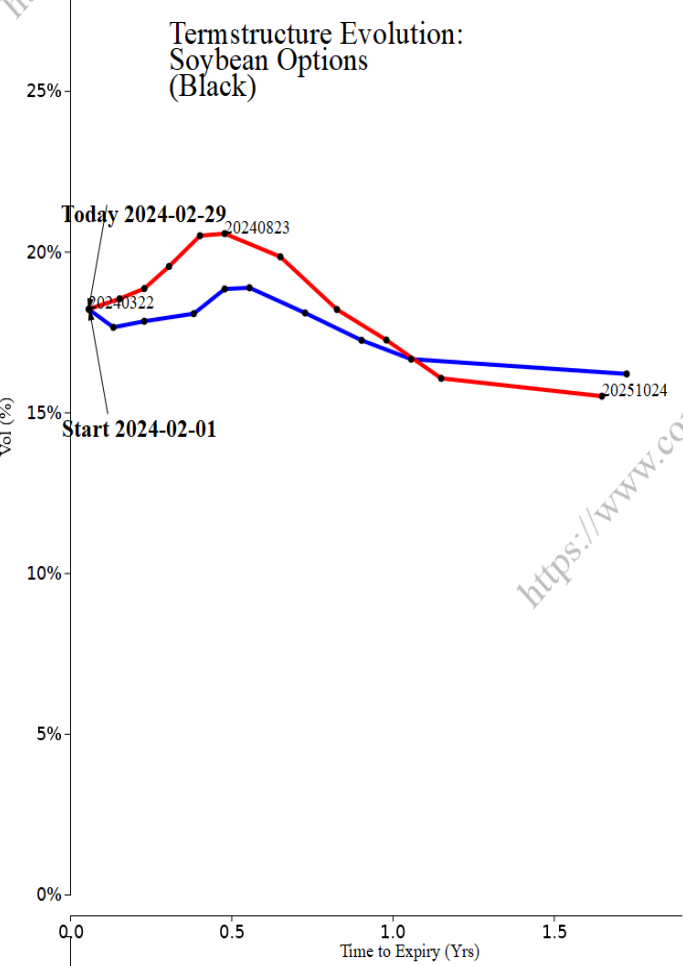


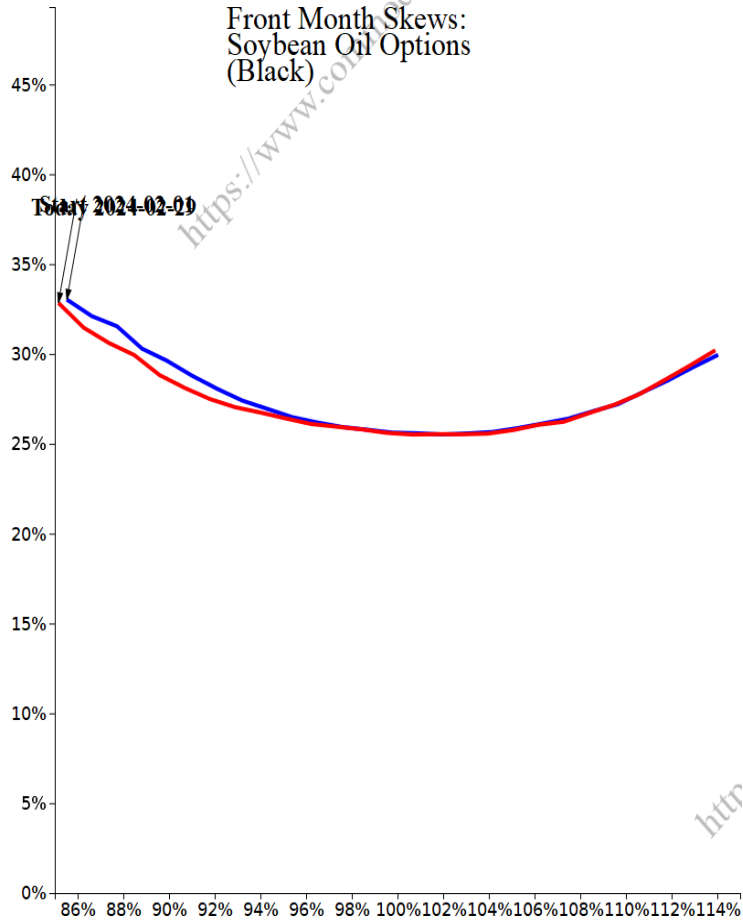
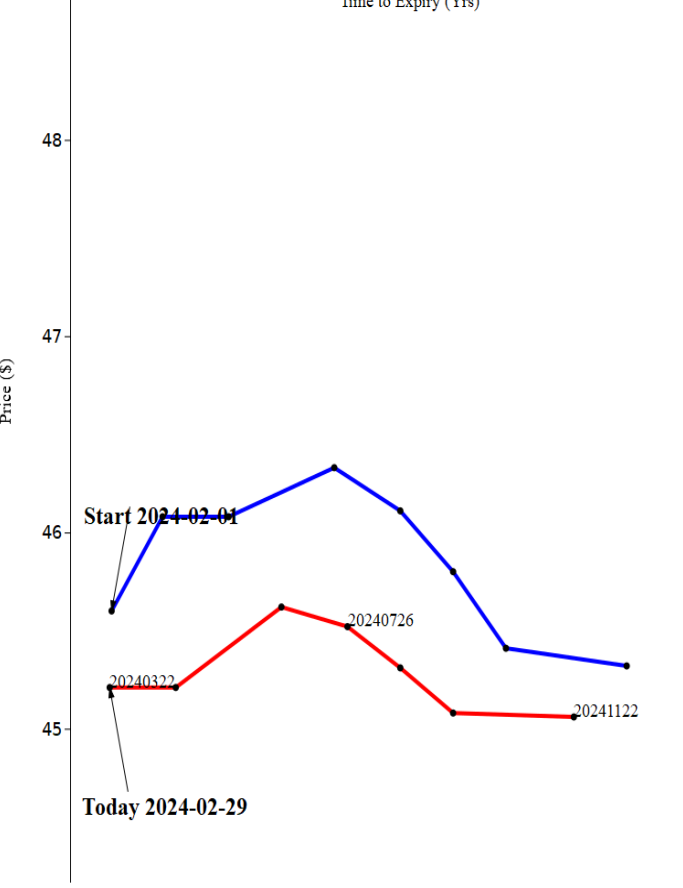
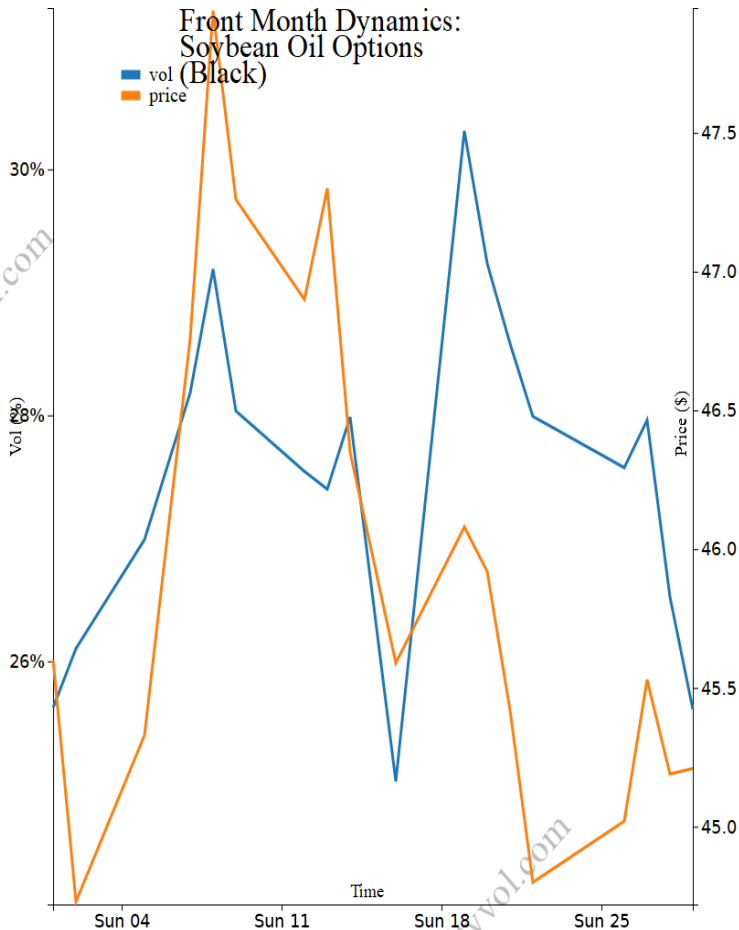
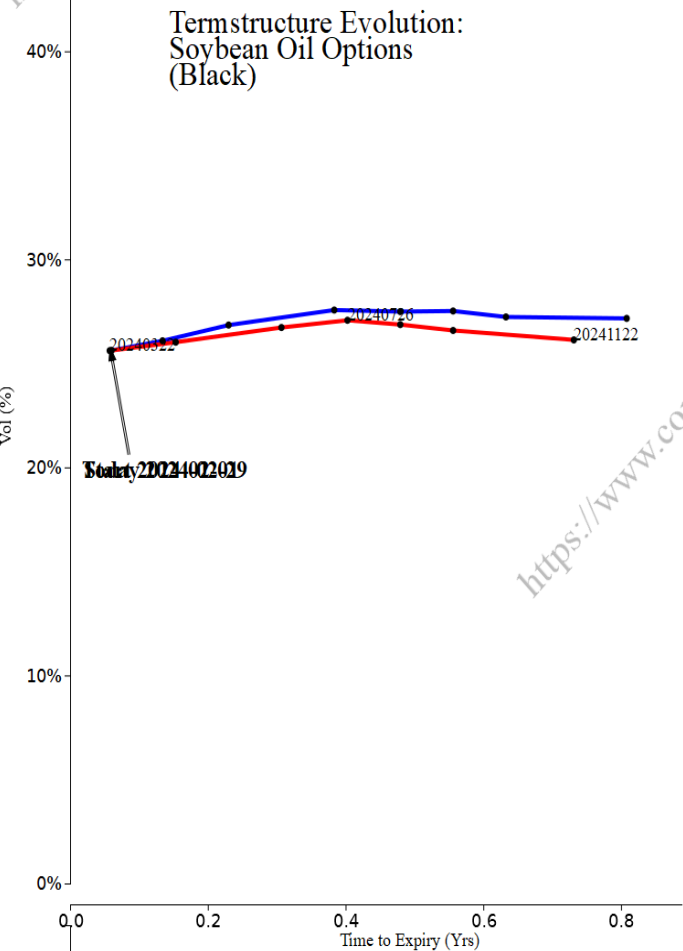


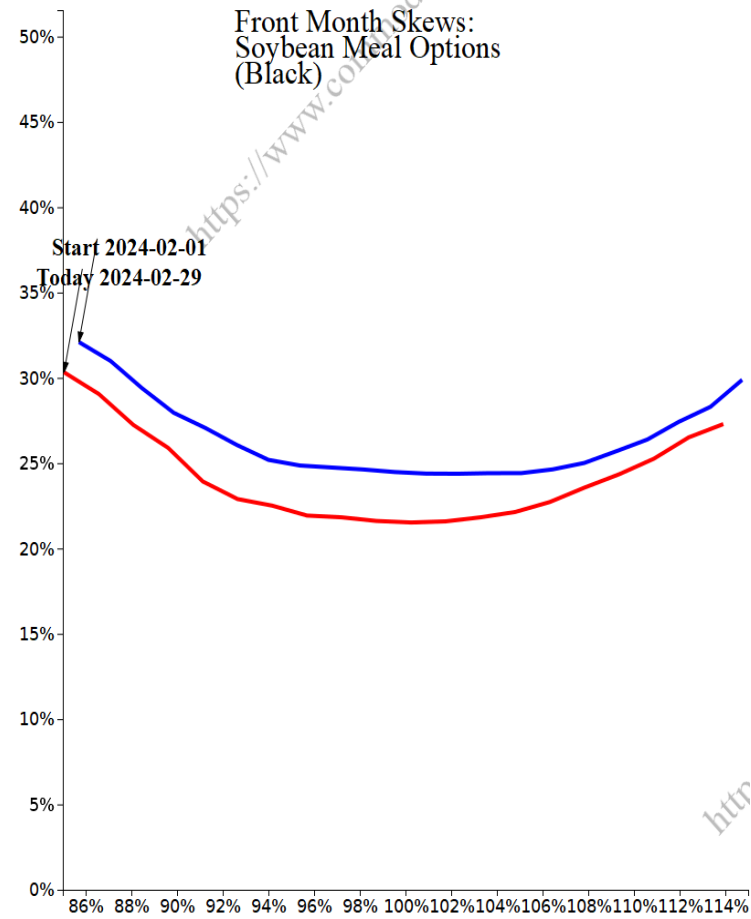
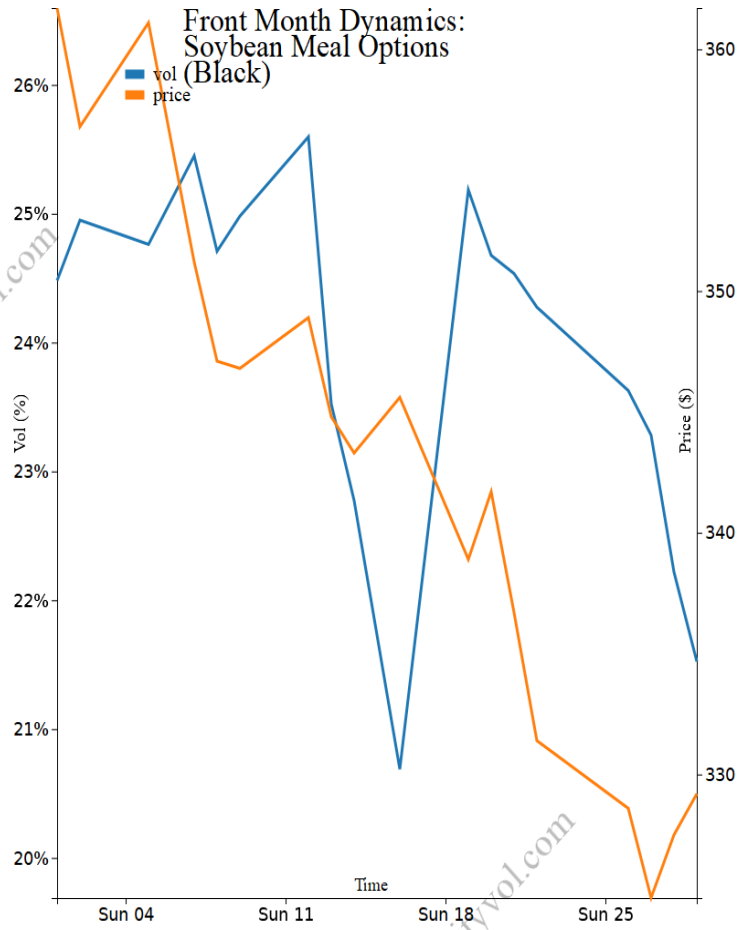
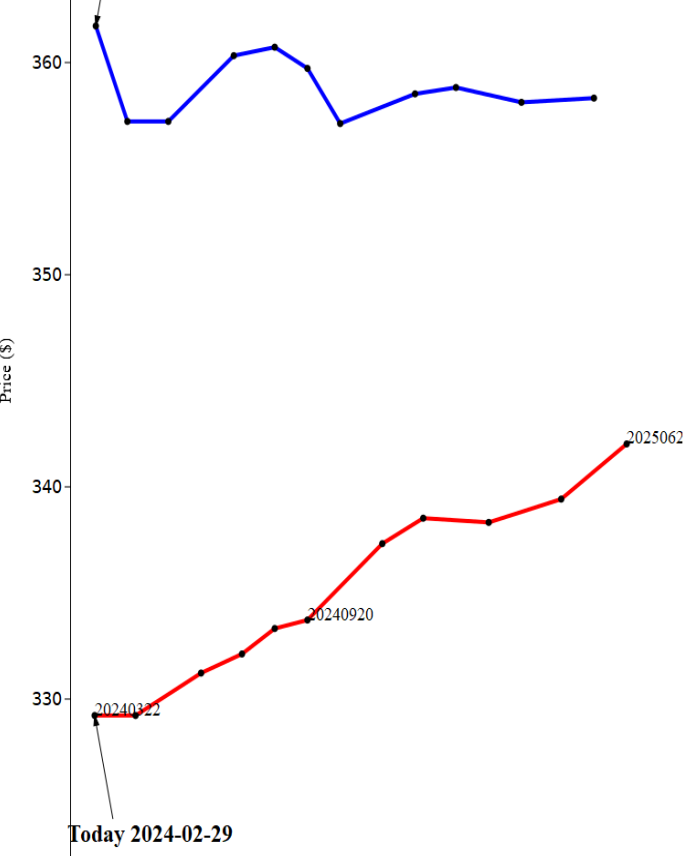
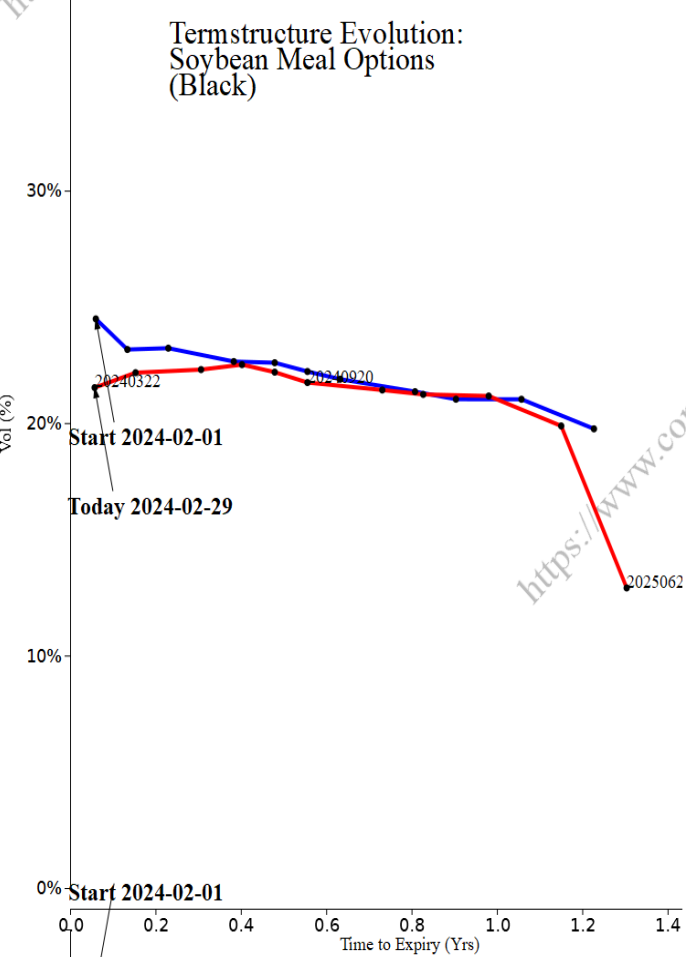


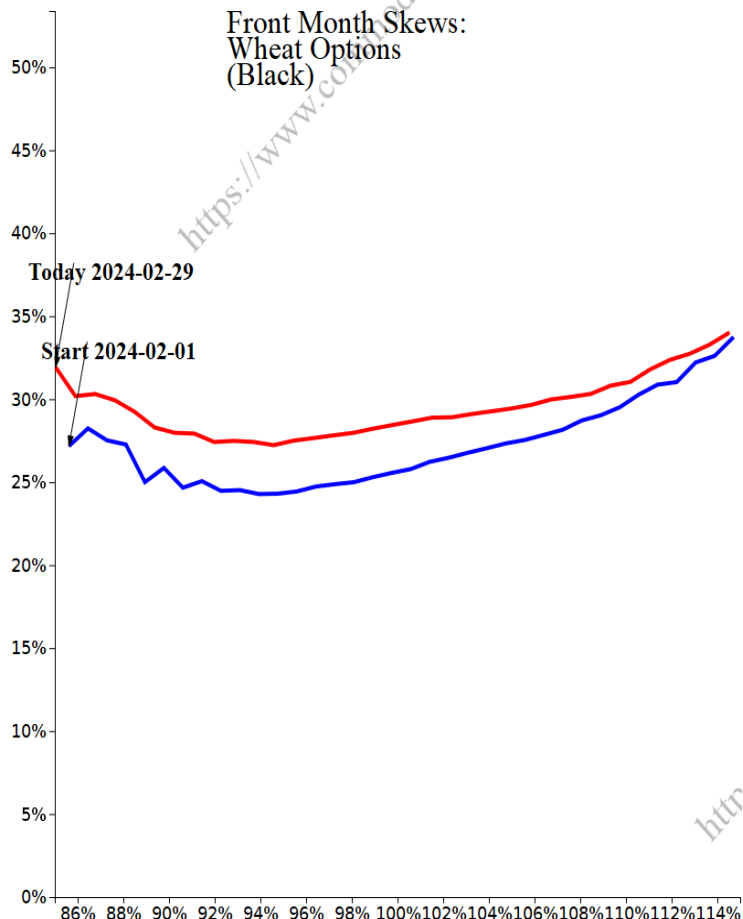
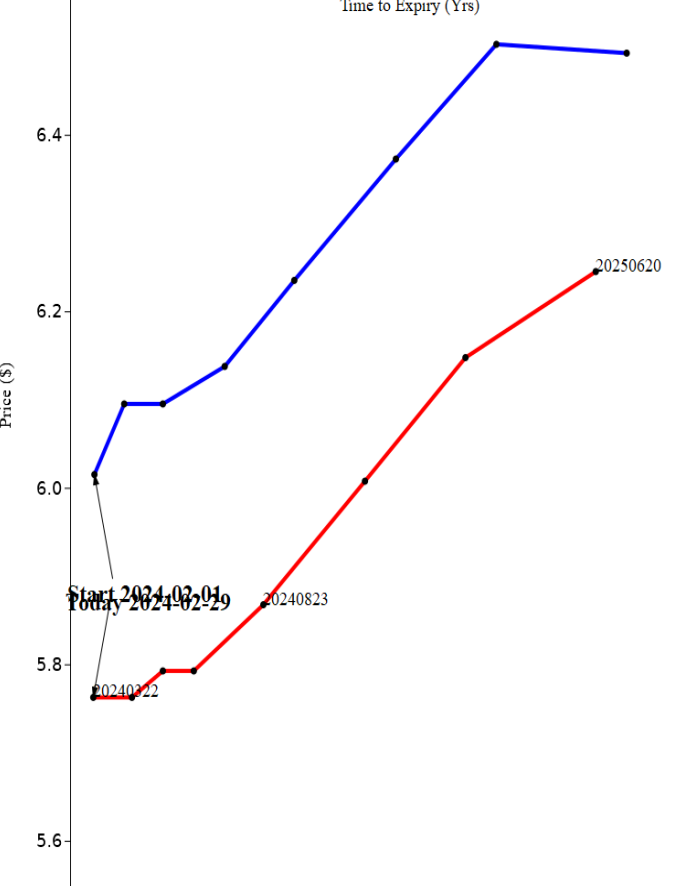
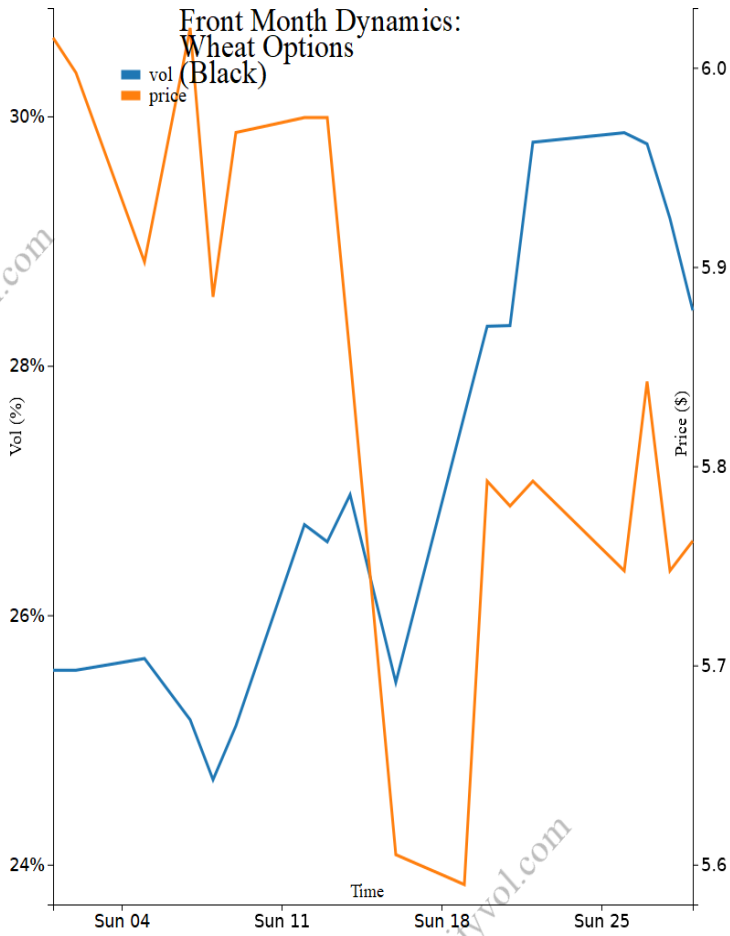
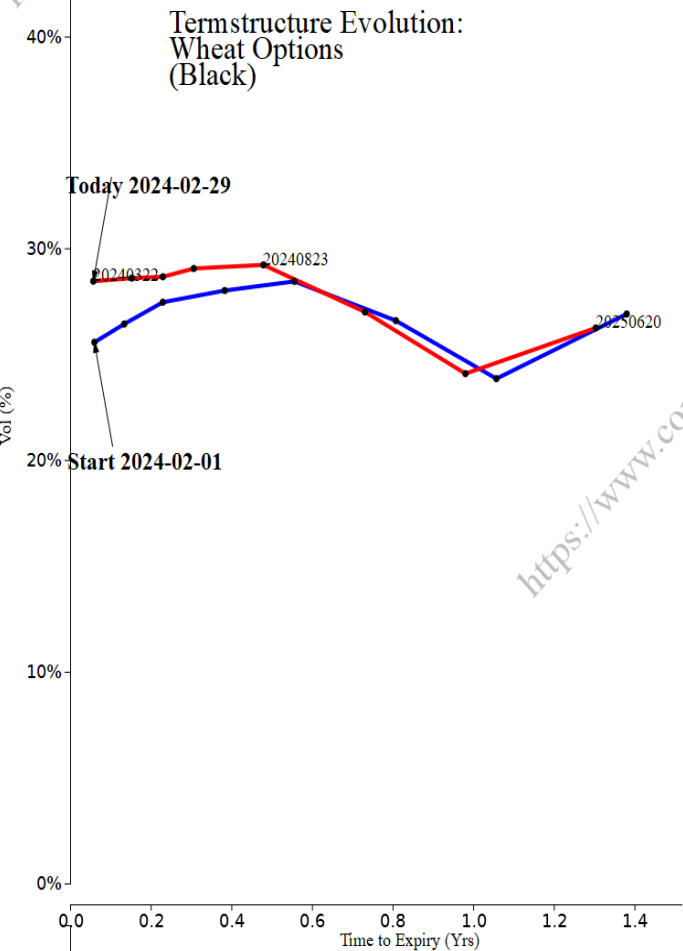
Ags: Grains, Oilseeds, and so forth

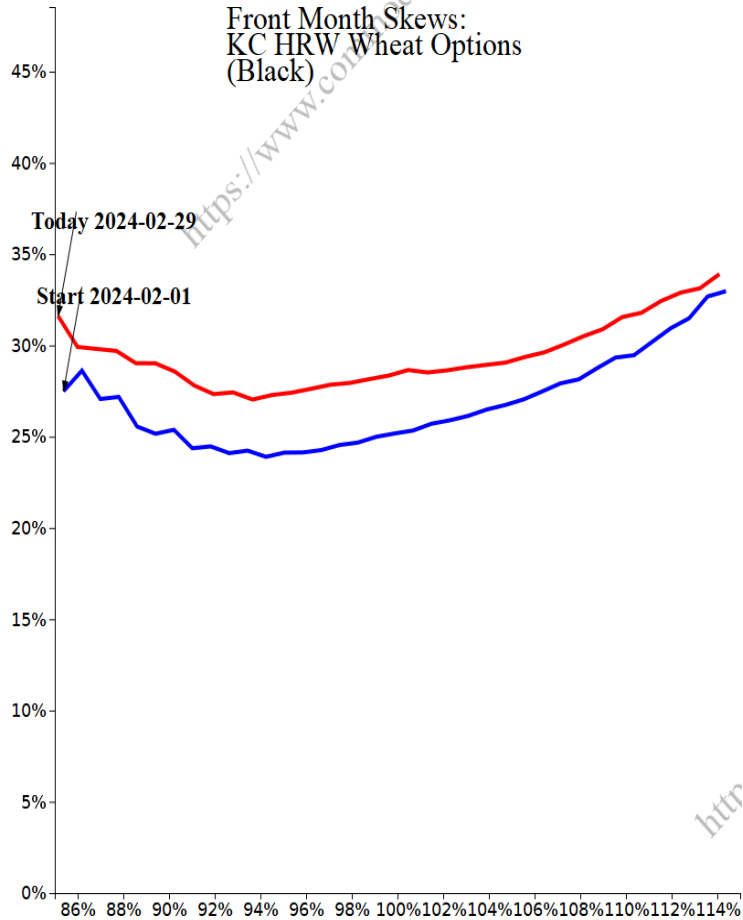
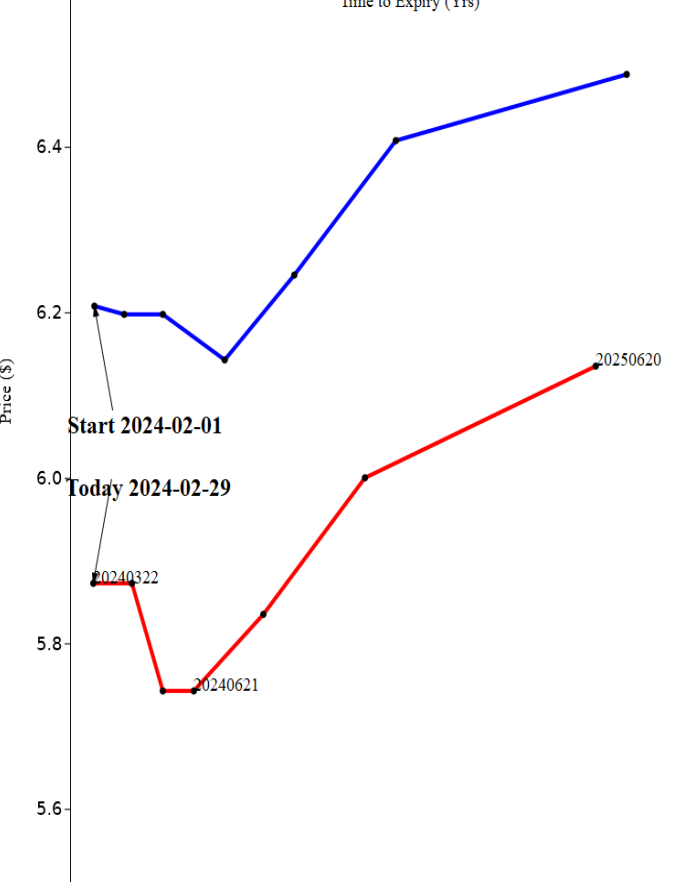
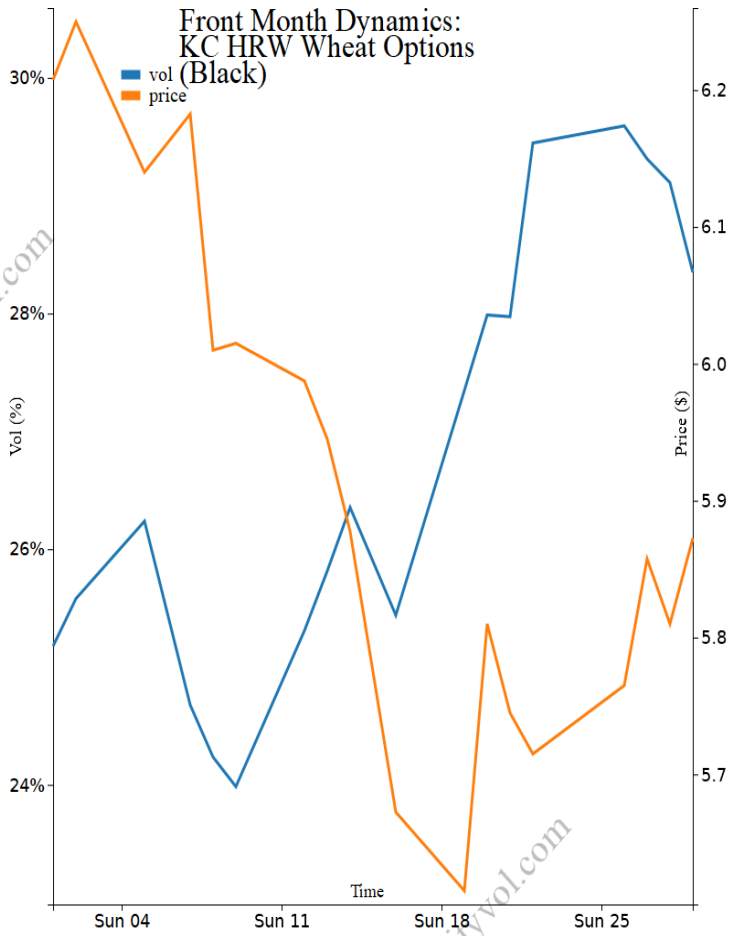
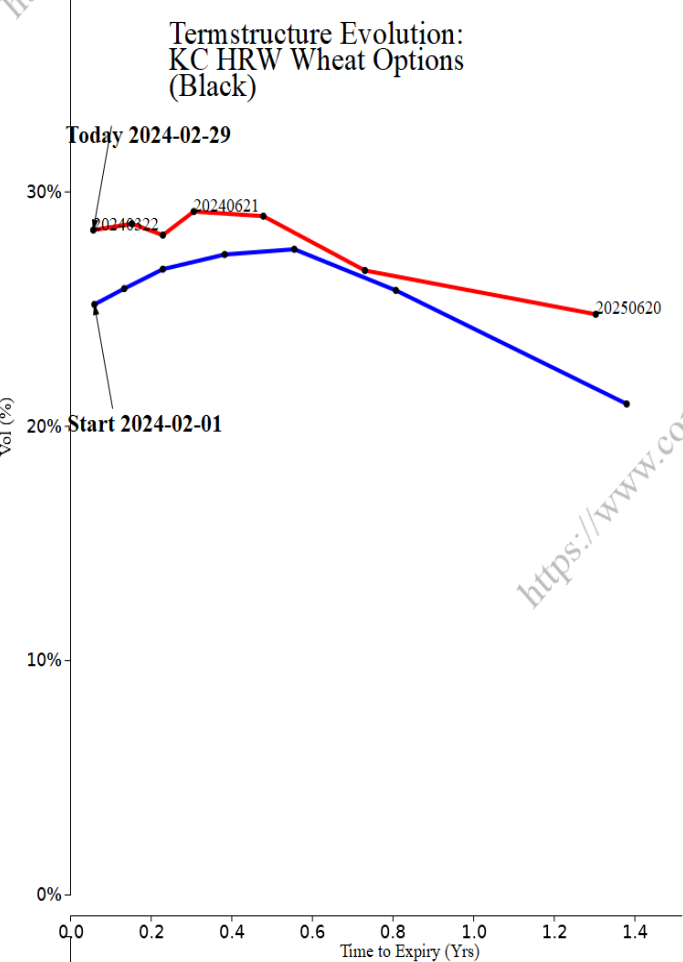


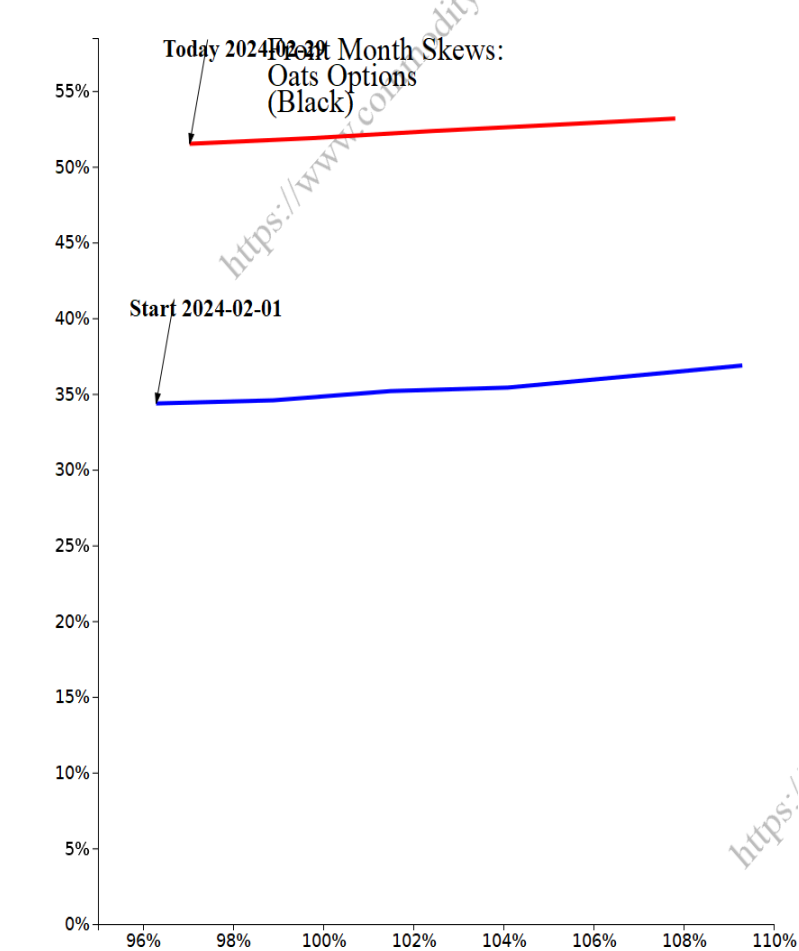
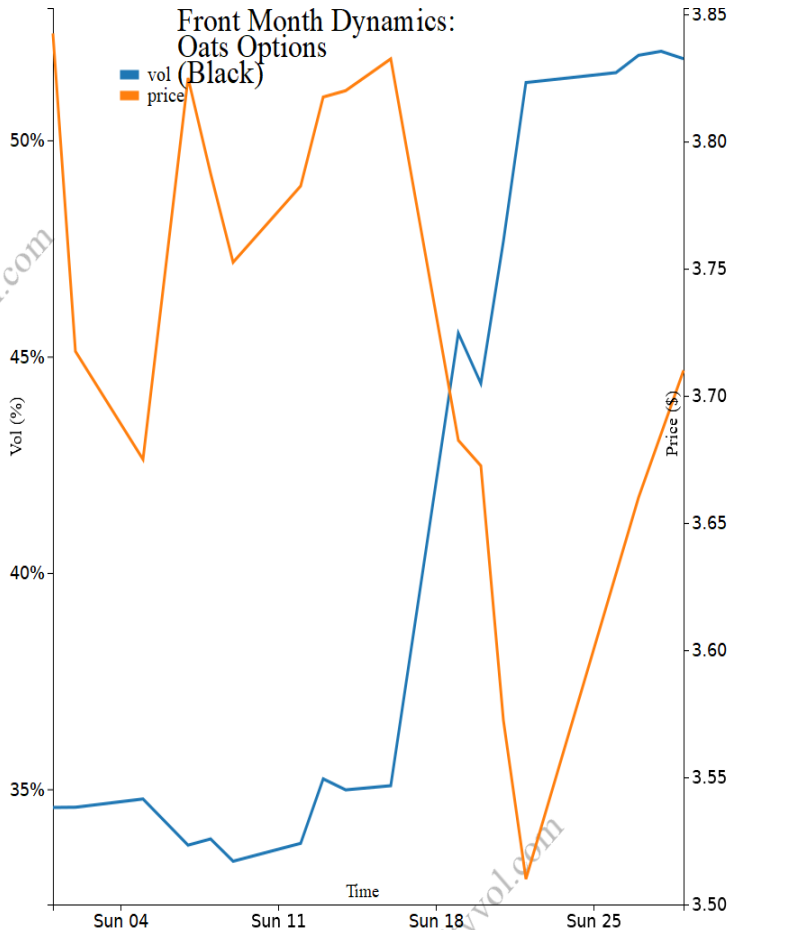
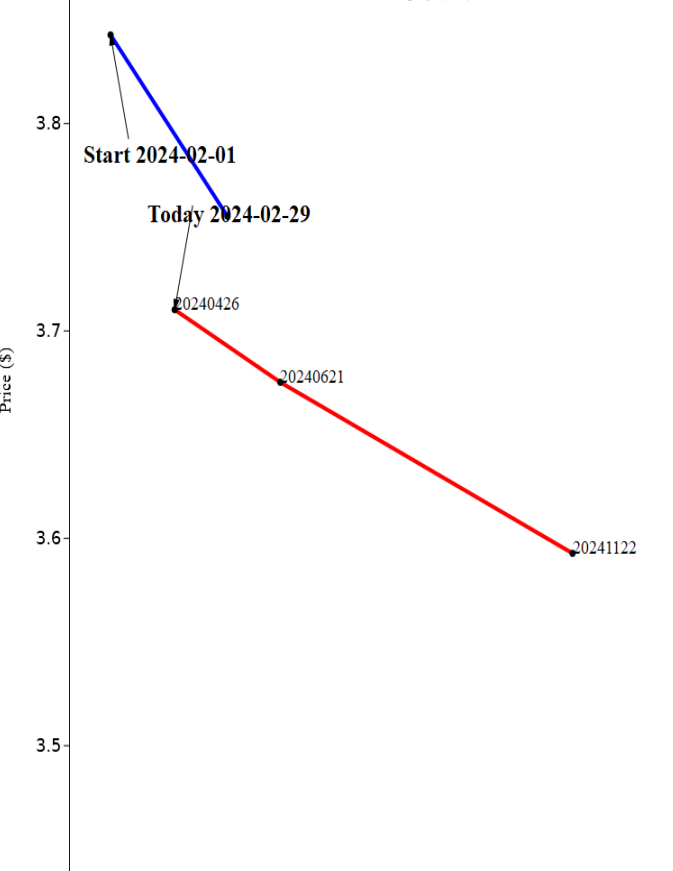
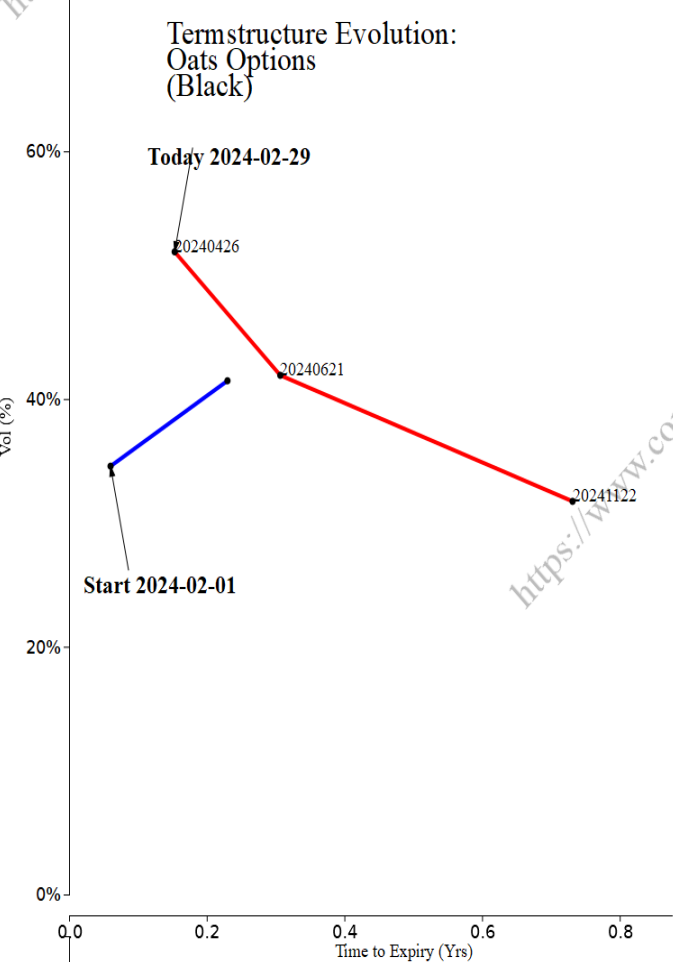


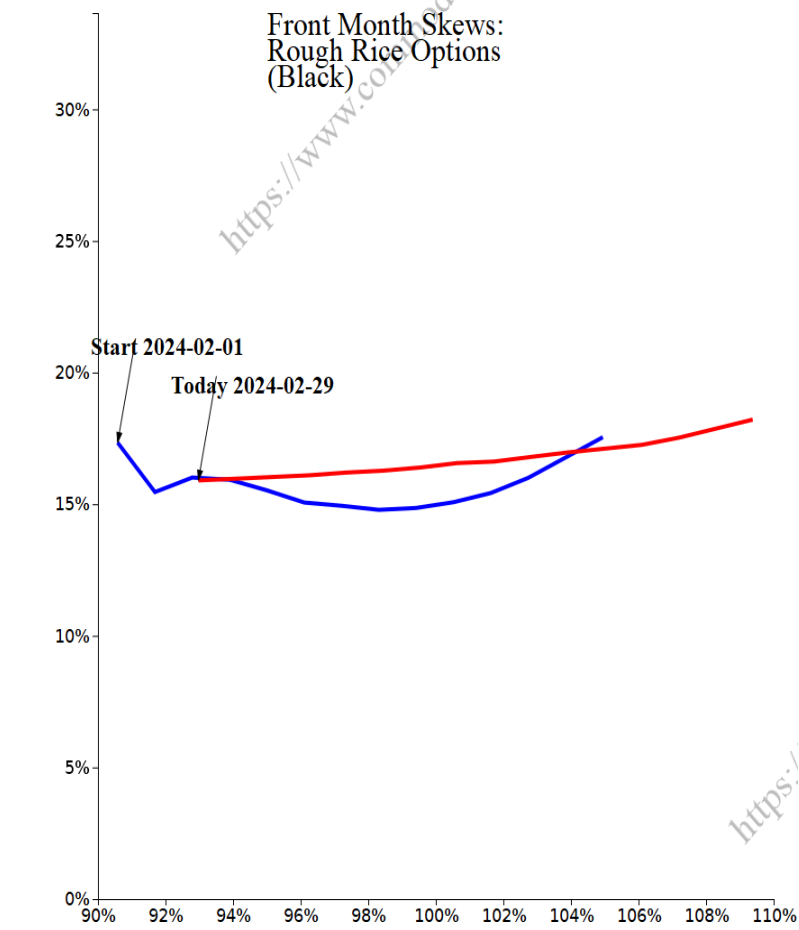
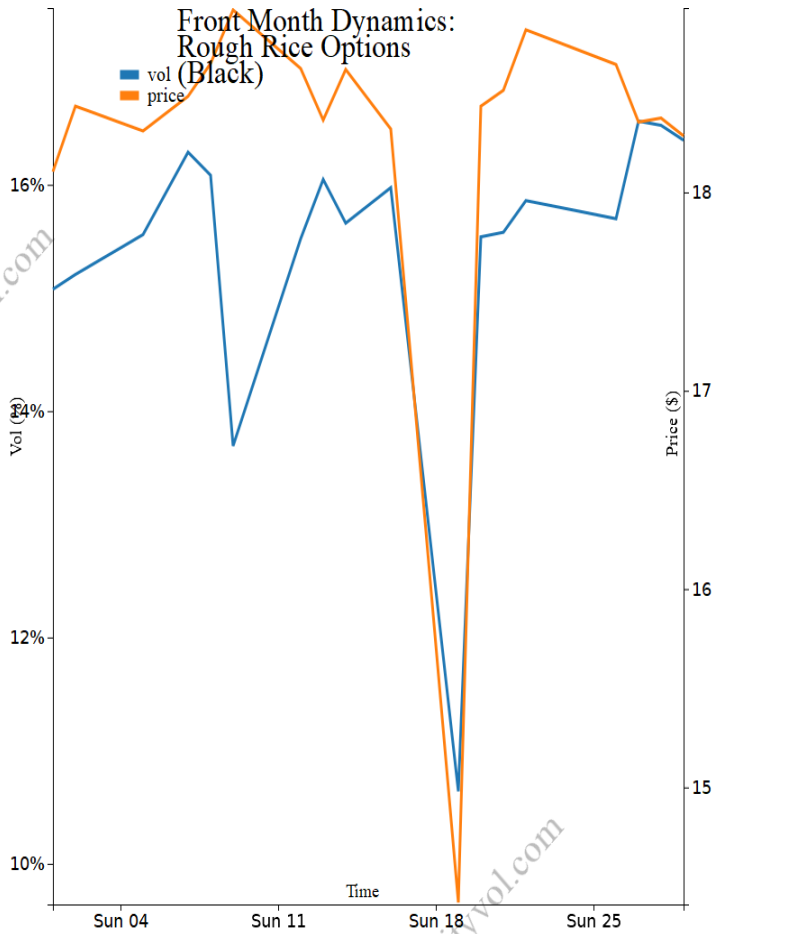
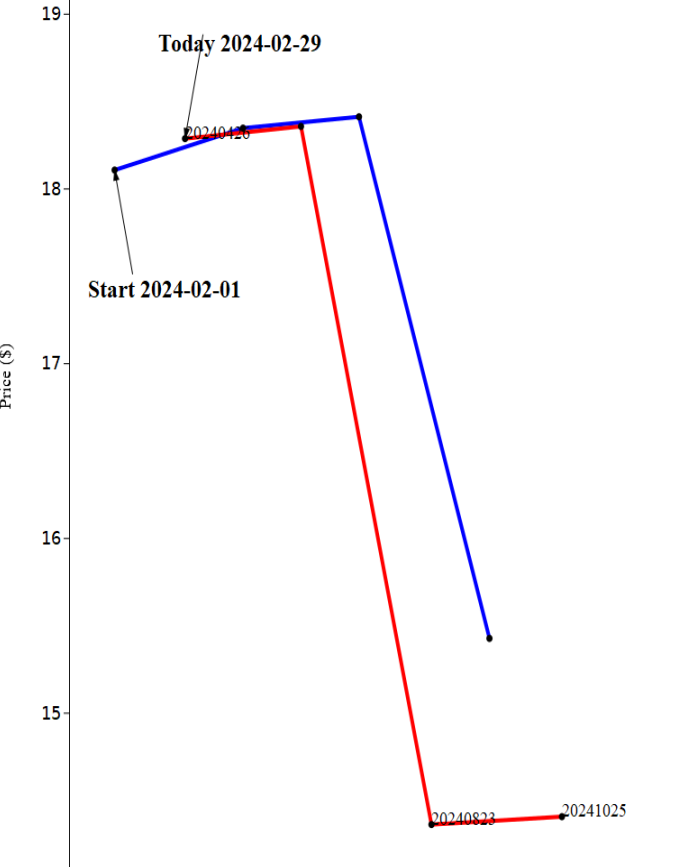
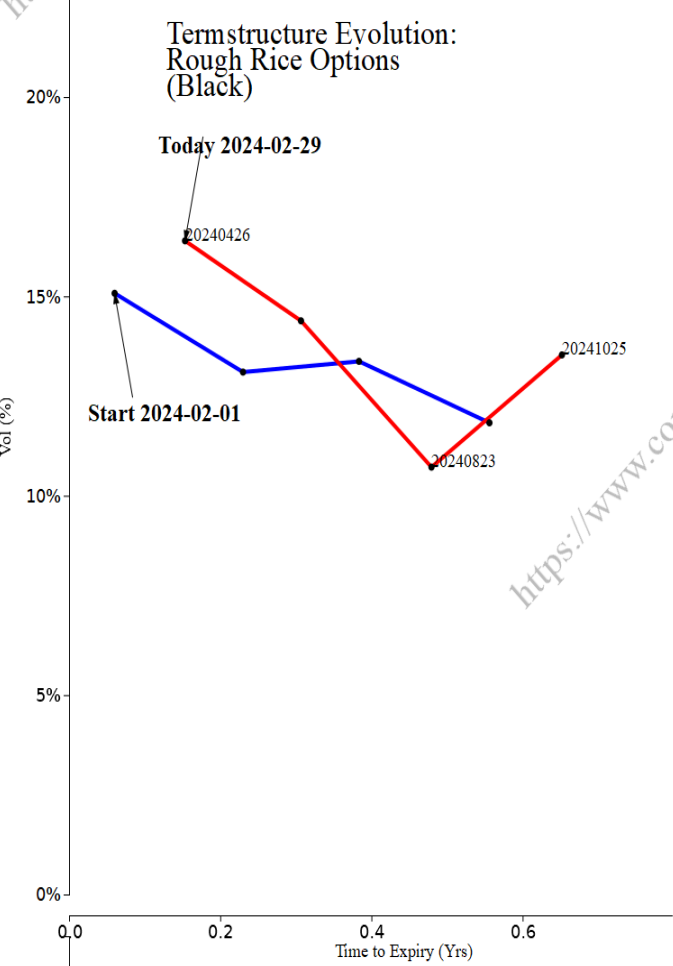




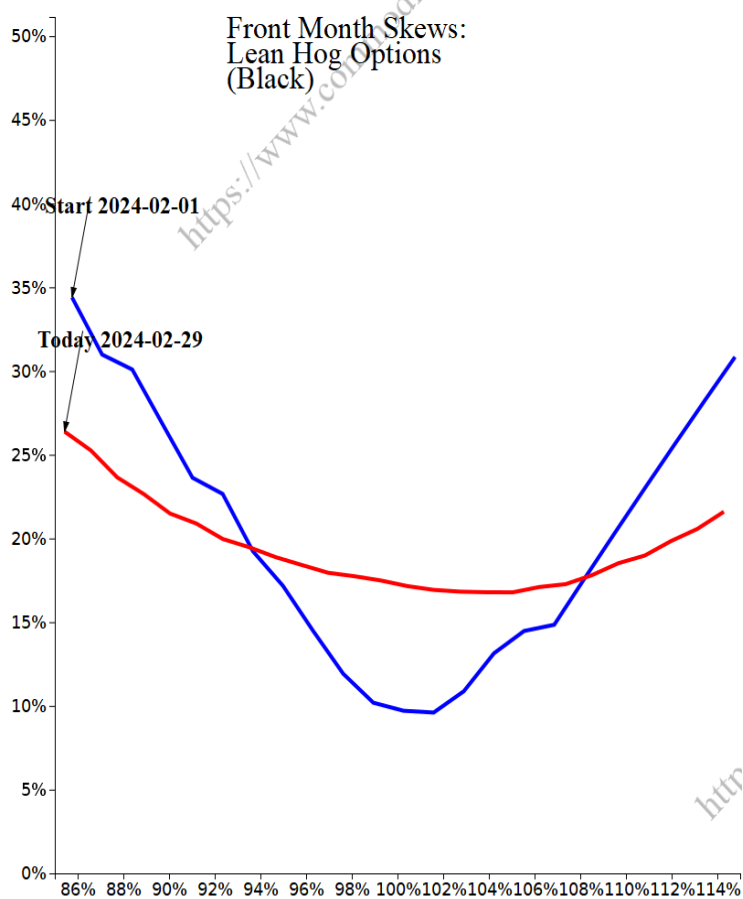
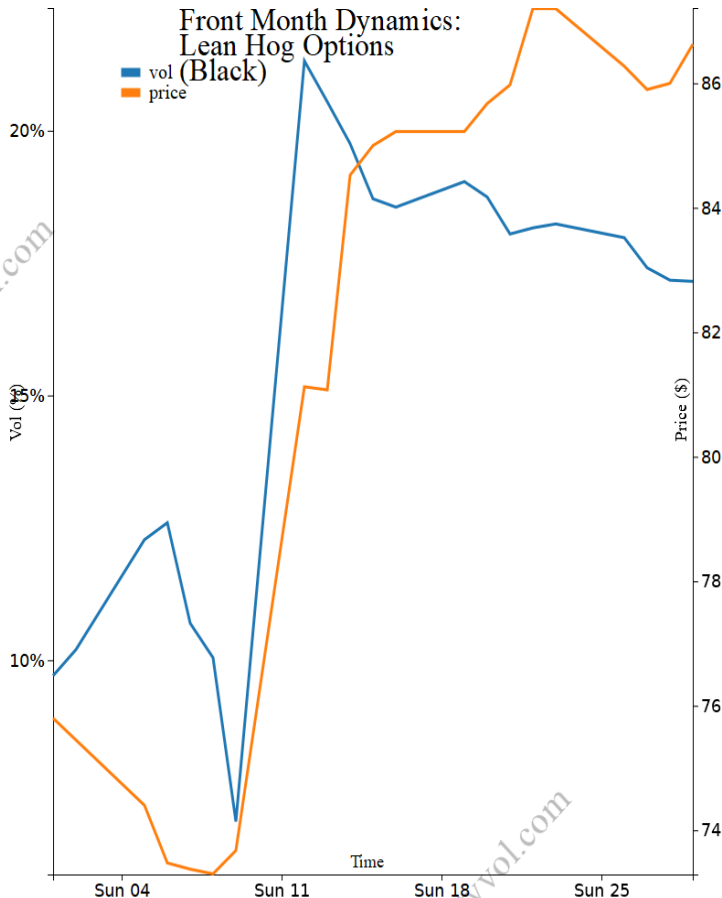
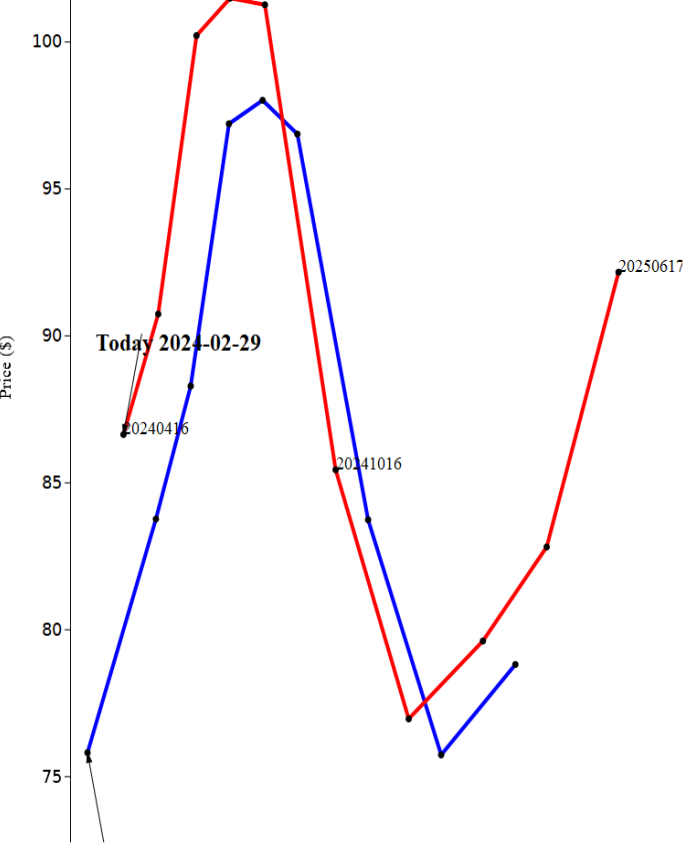
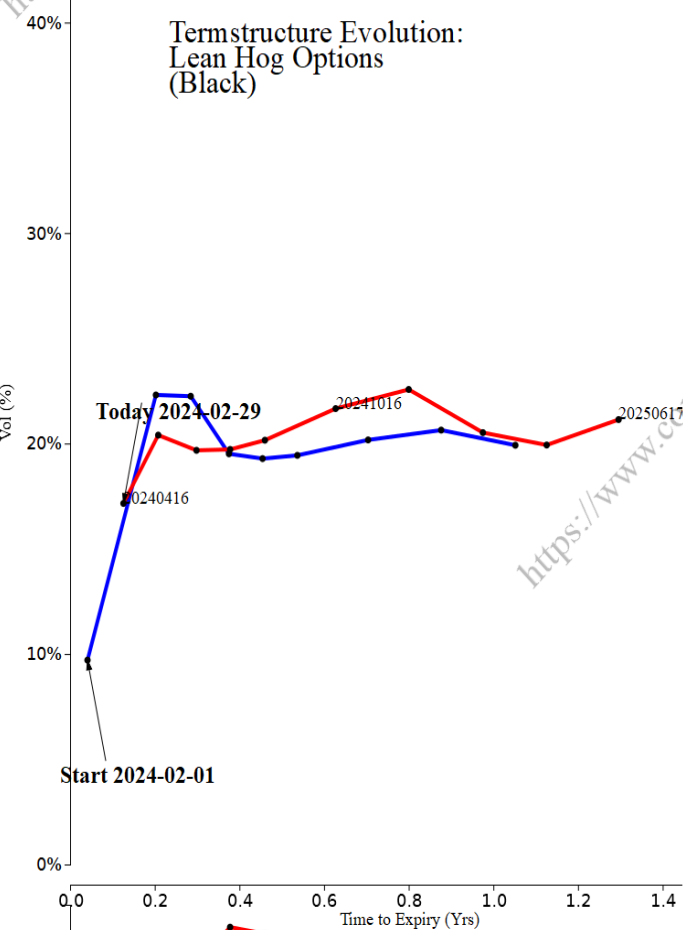


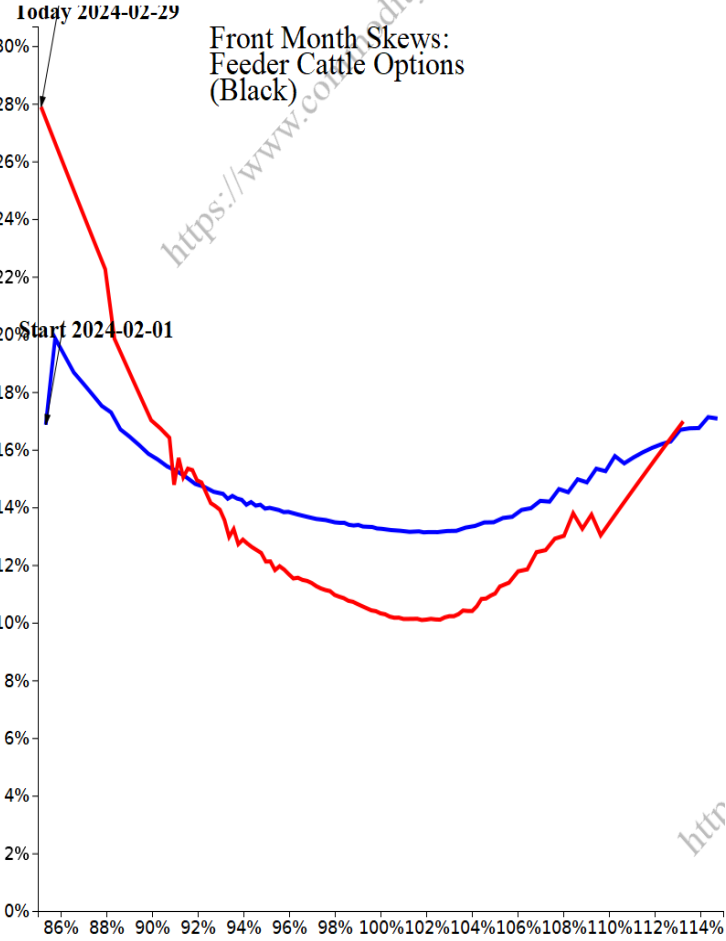
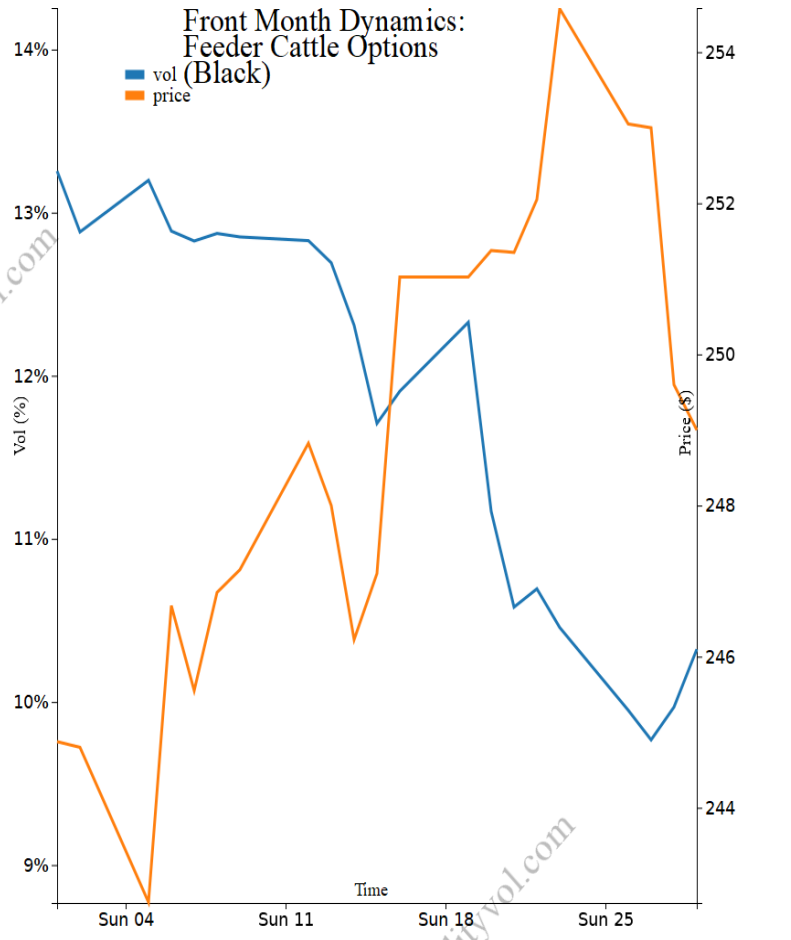
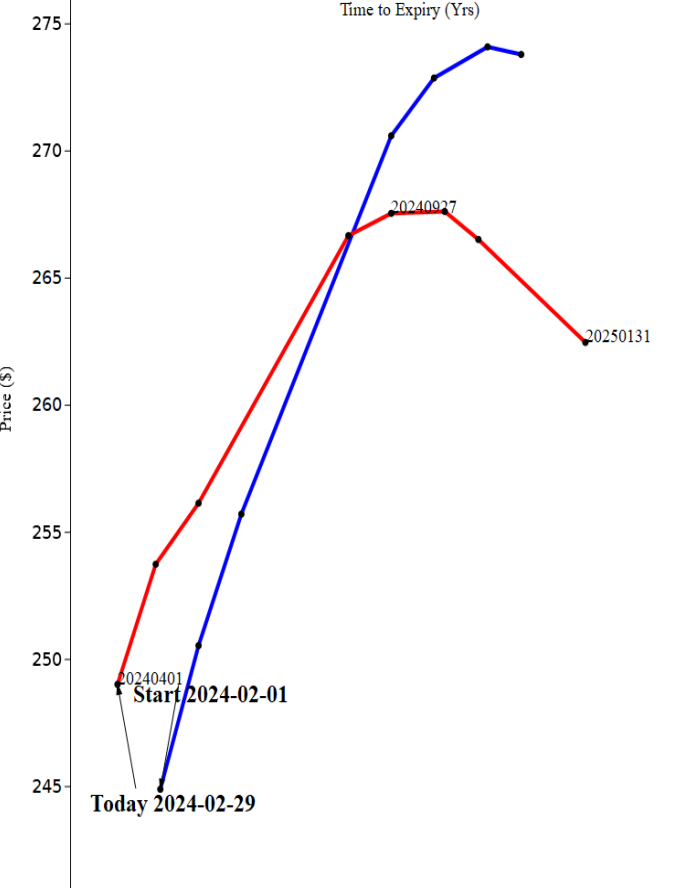
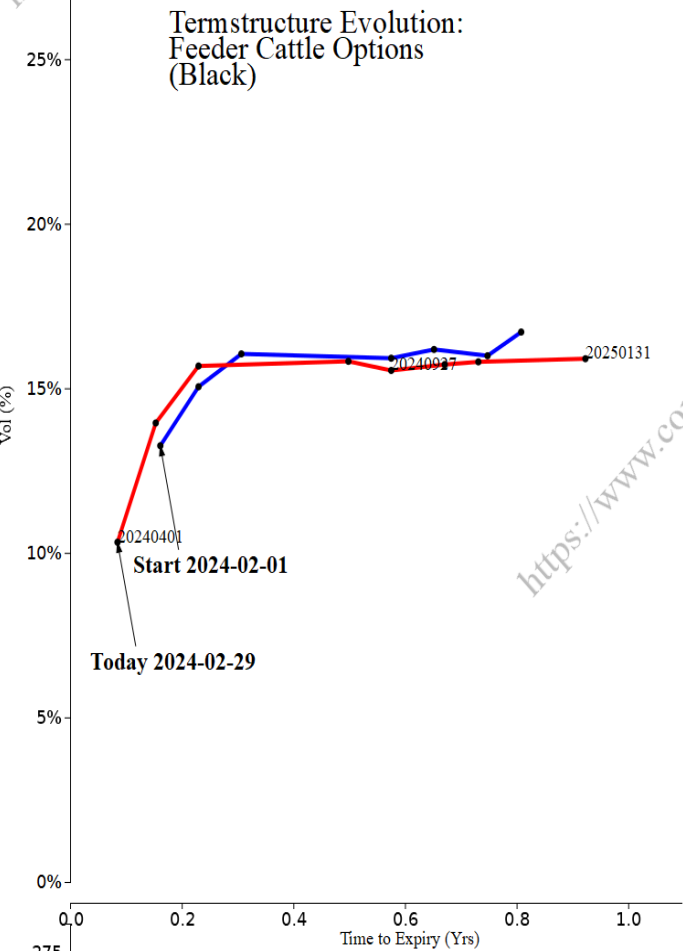


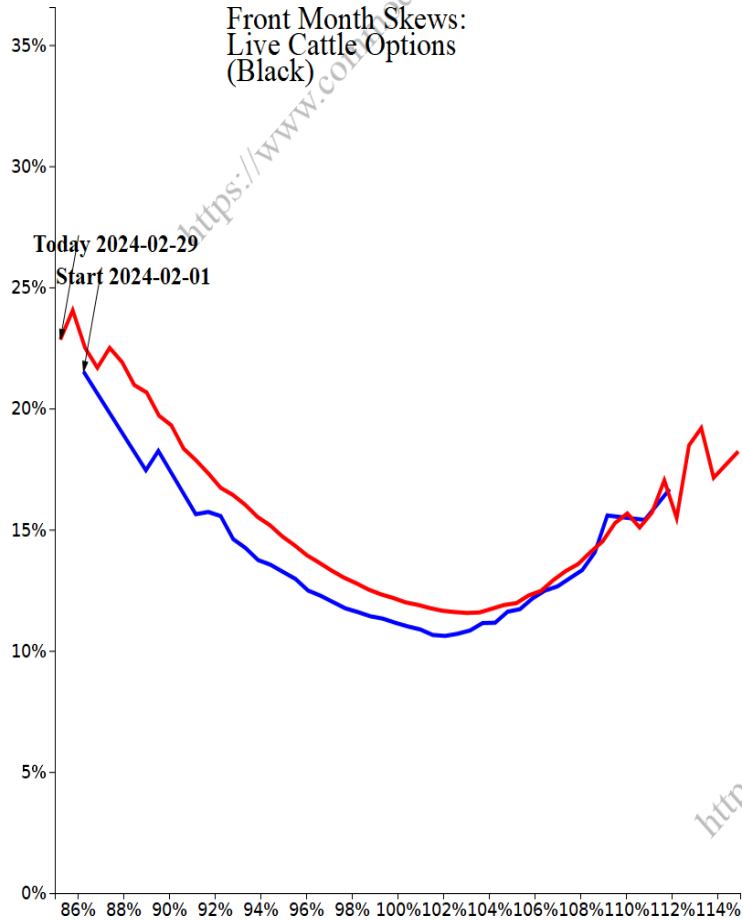
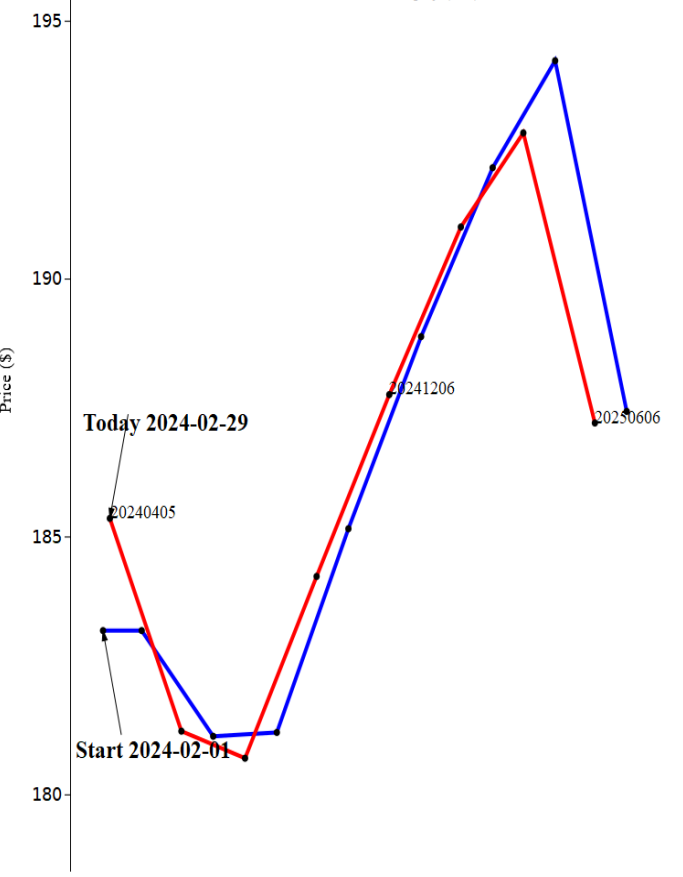
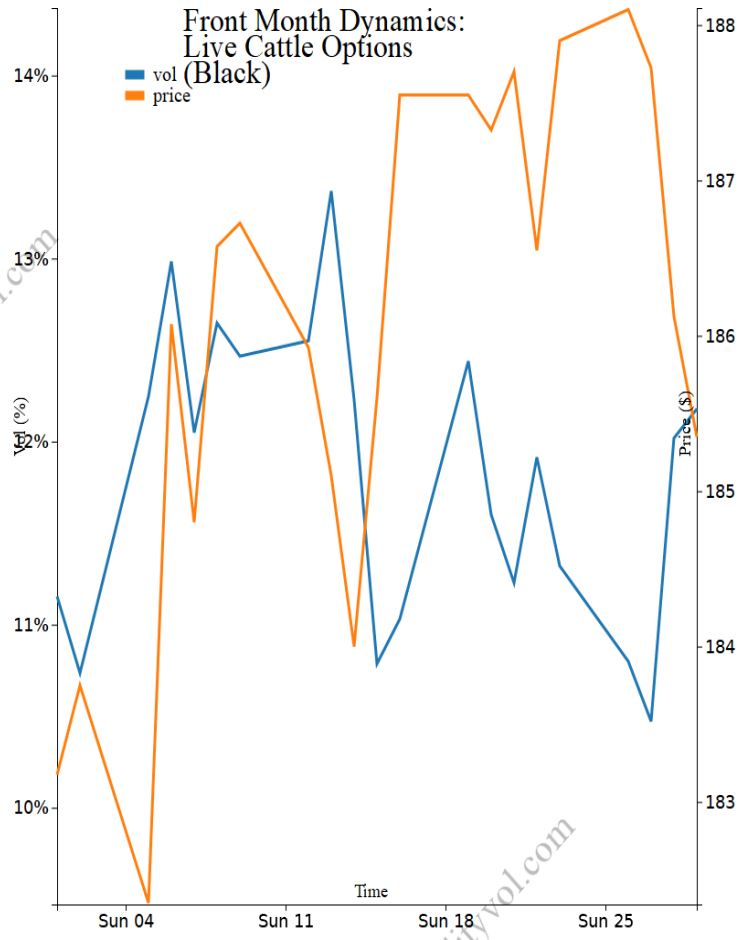
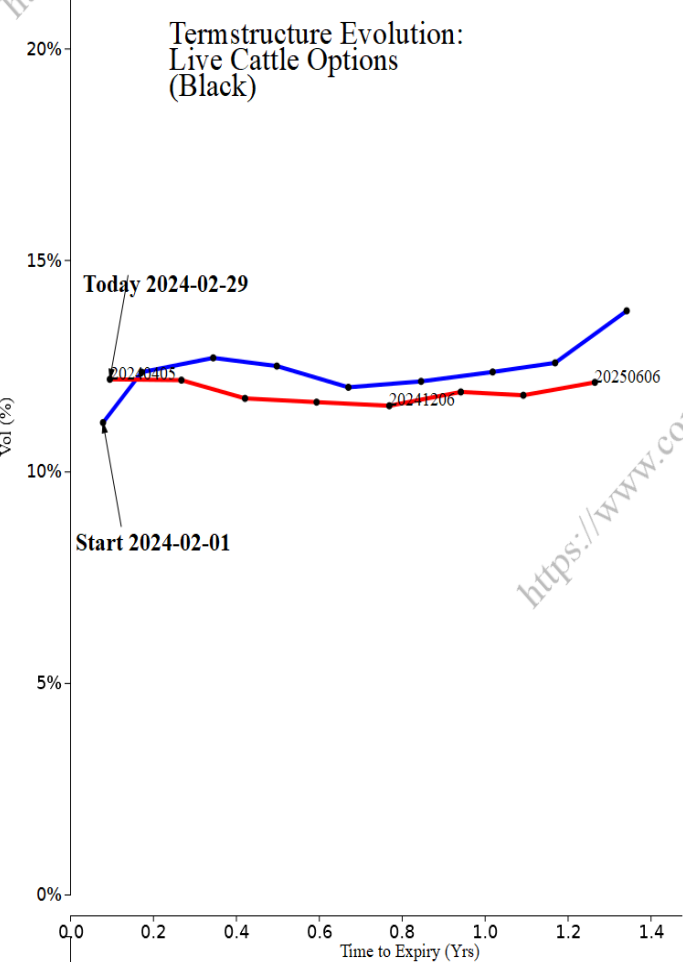


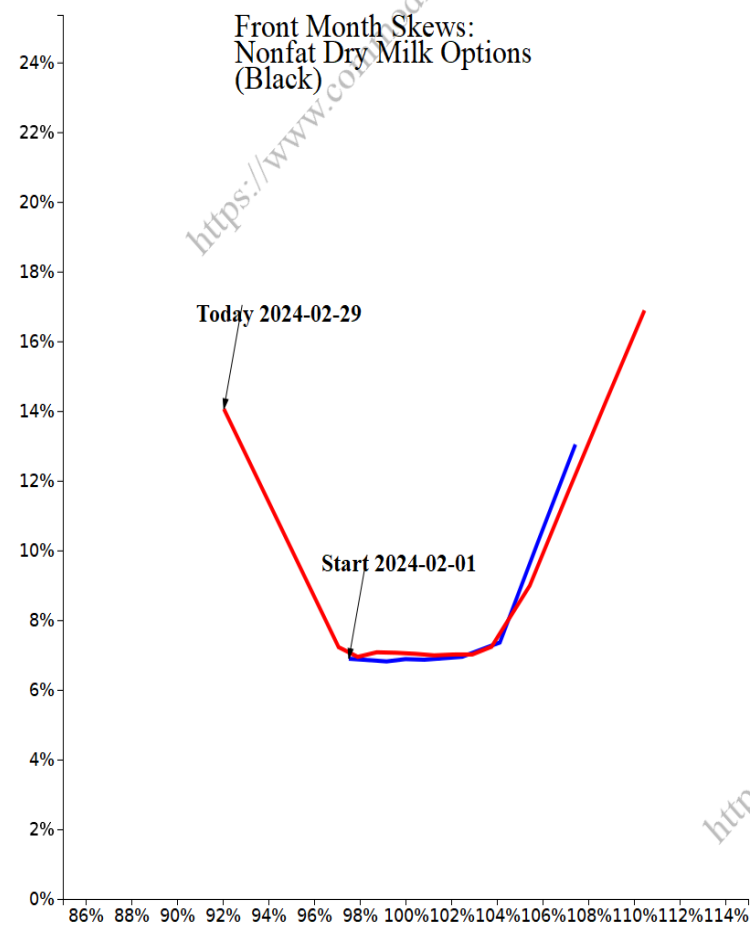
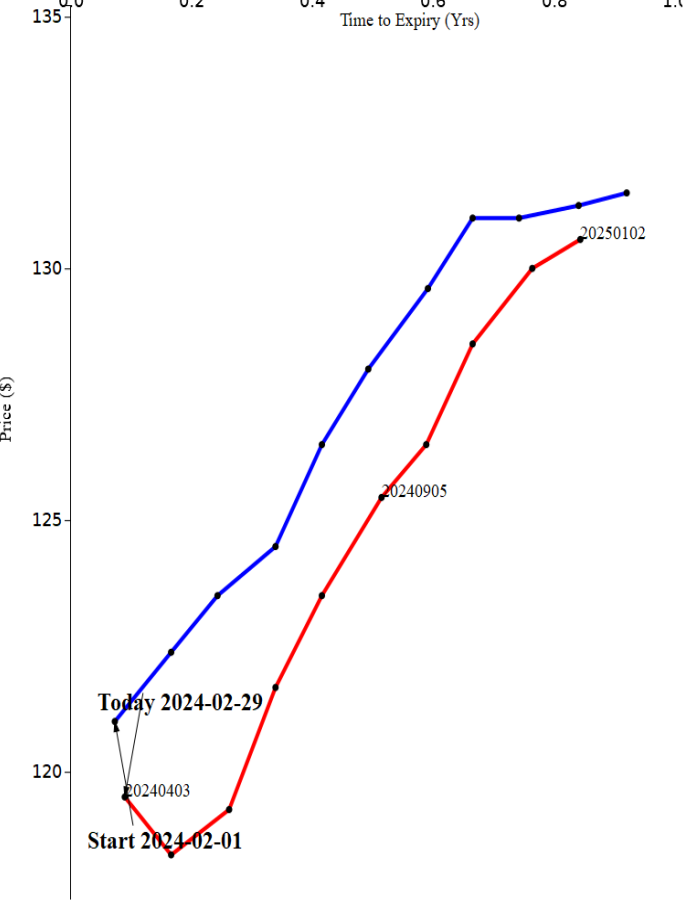
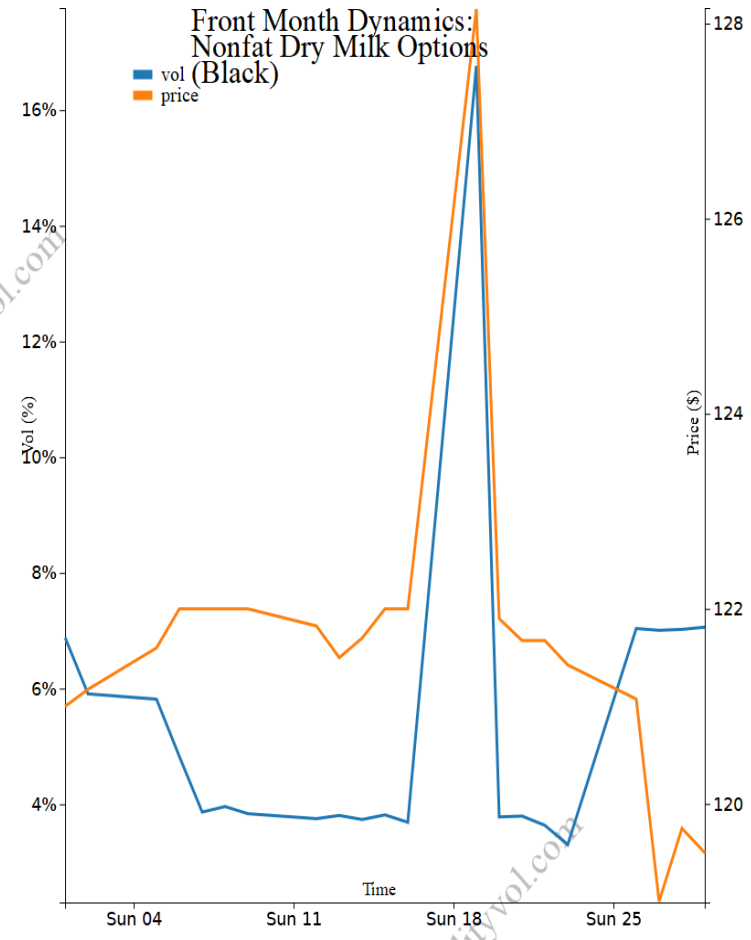
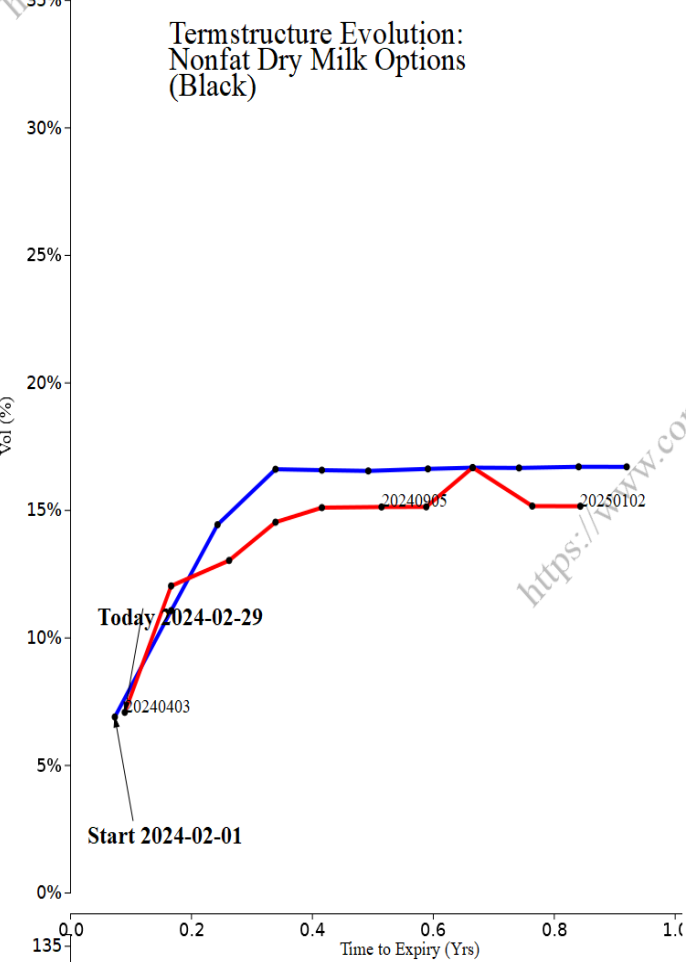


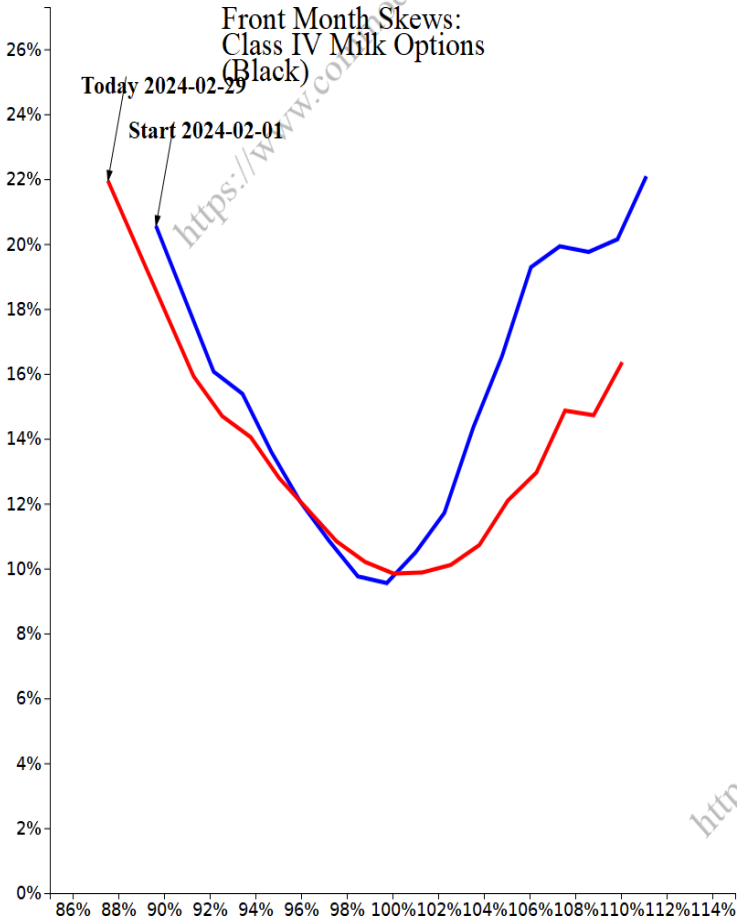
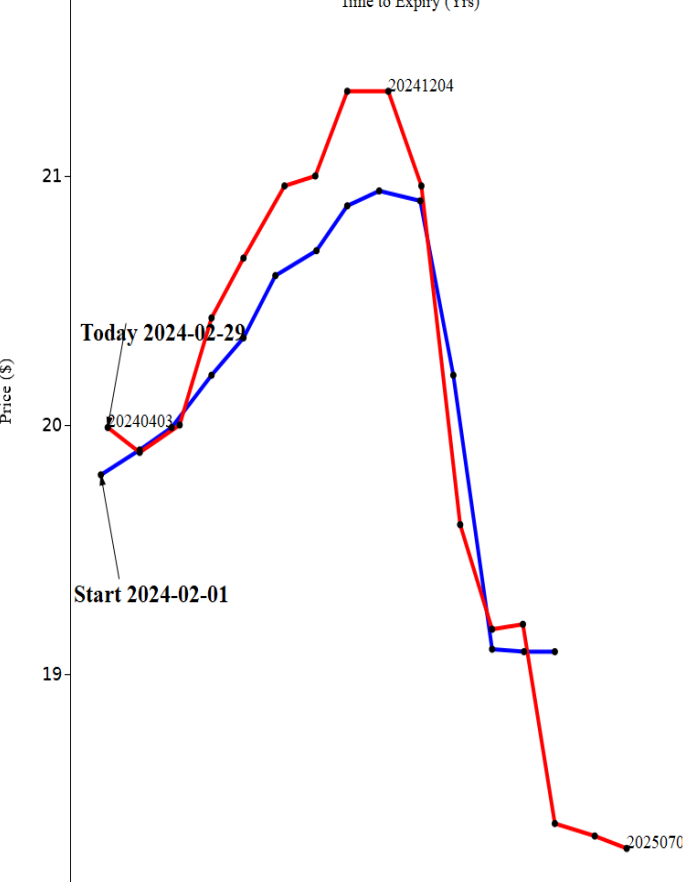
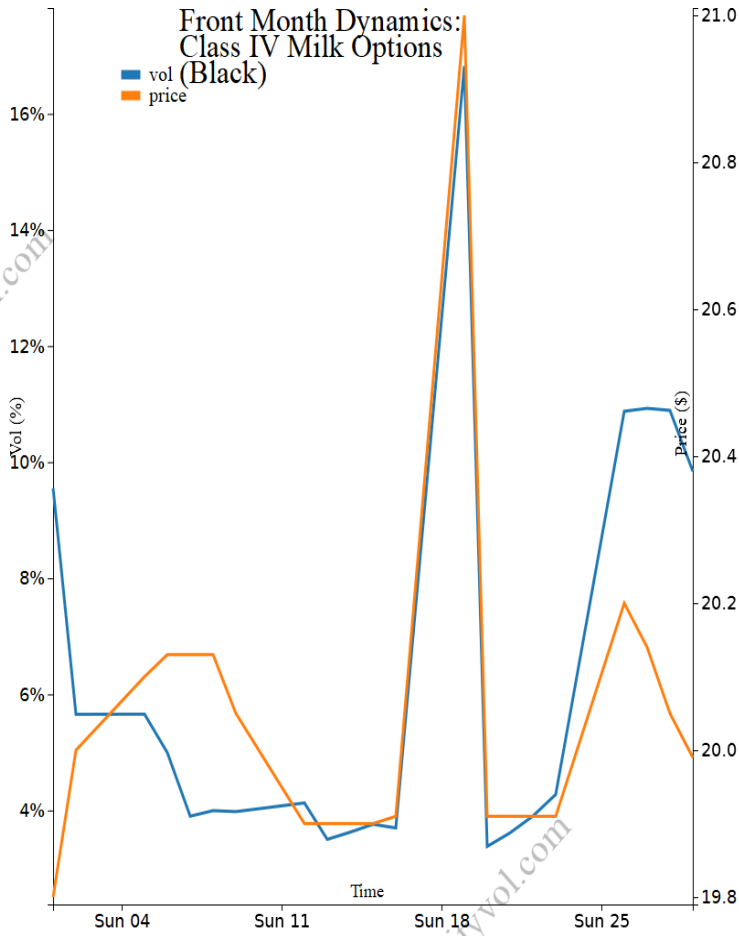
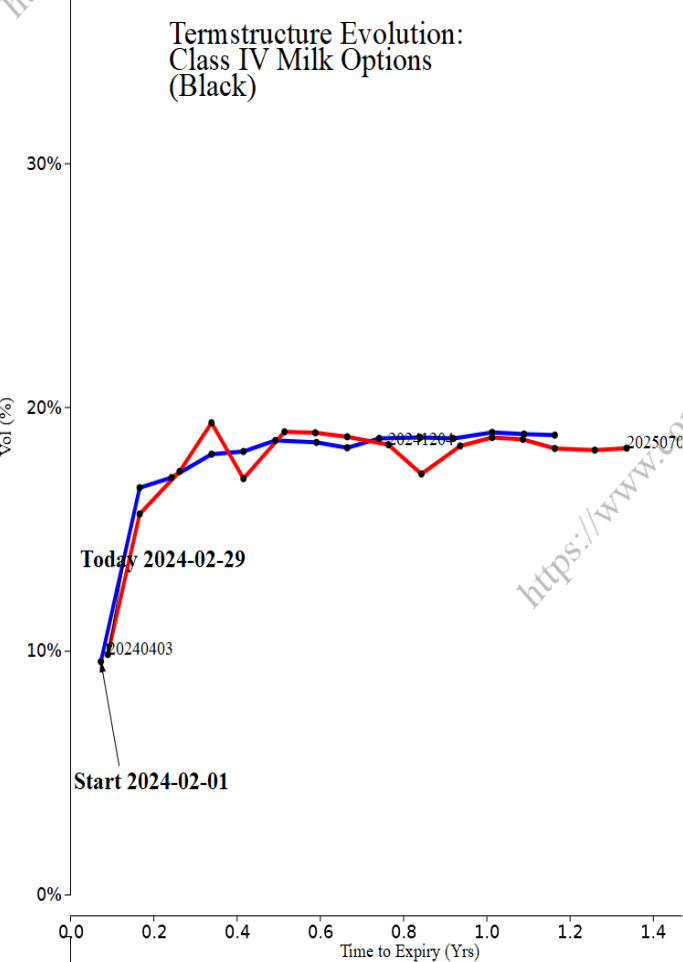
Ags: Proteins, Meats and so forth









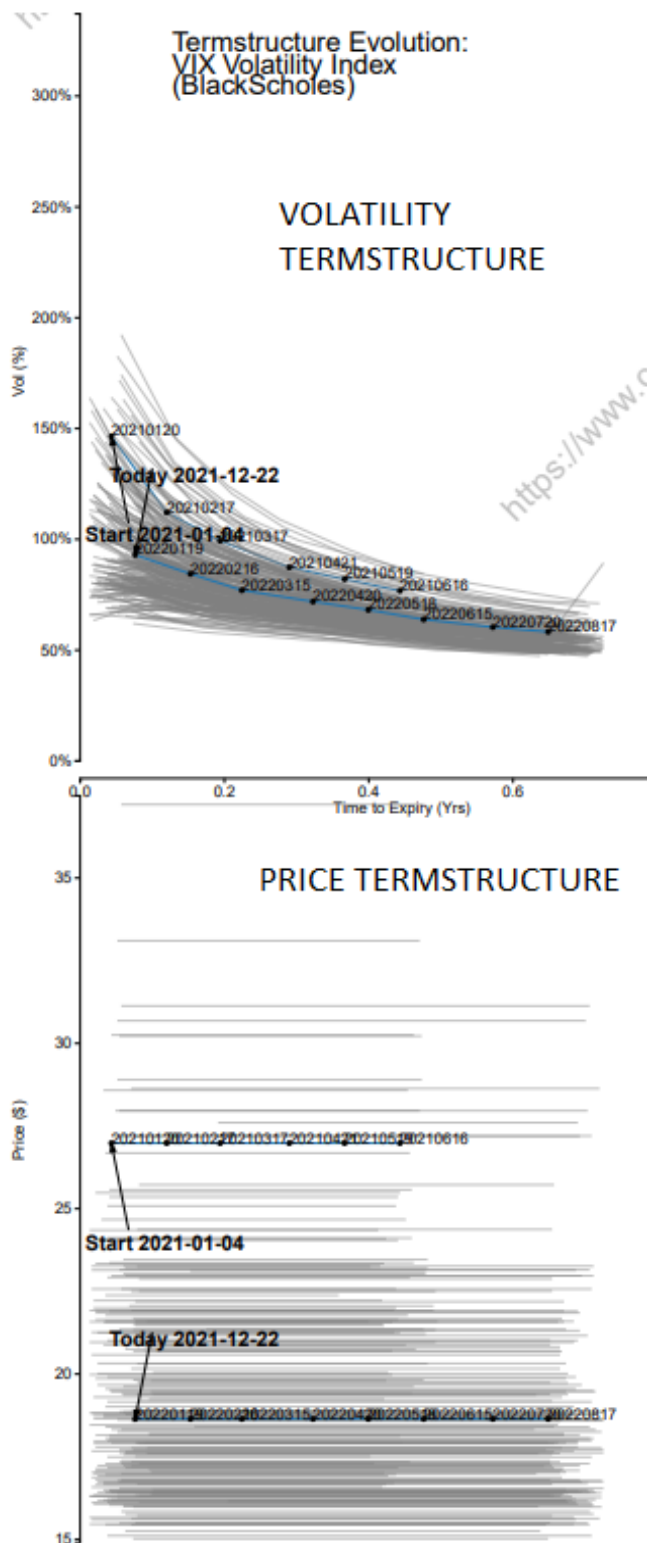


Explanation:

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:

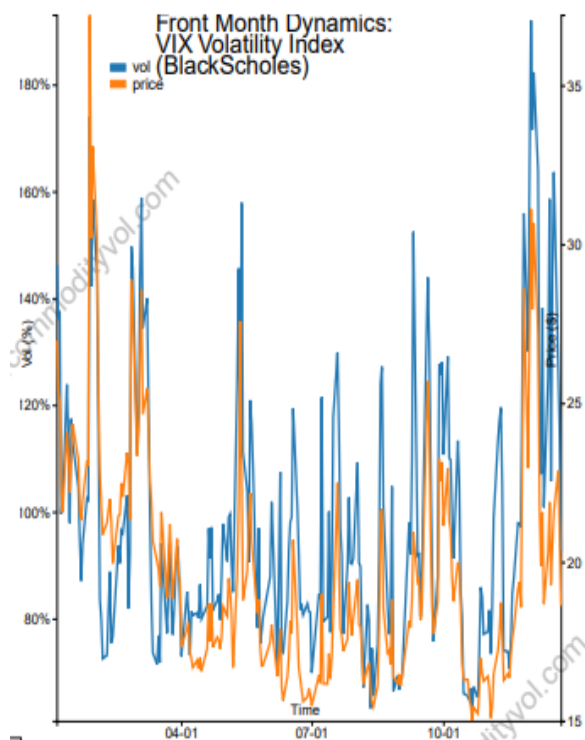
Stacked on top of the other on the left hand side, see the termstructures of vol and the (underlying) futures contract price.



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:

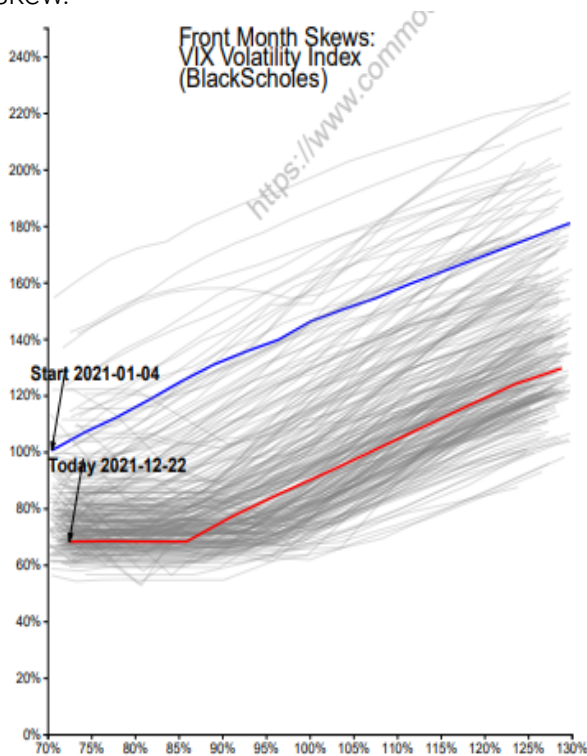
On the right hand panel we have the price and implied volatility of the front month contract.



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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