Welcome to our January 2024 Recap:

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

The financial press is in full tilt earnings mode. The cacophony of who made earnings and who missed is hard to escape. The effect on equity index skew has been to depress (it would seem) puts, or, more correctly, relatively depress puts to calls. Skew is flat. The interest rate picture is again a sea of tranquility. How long it remains this way in light of the looming commercial mortgage debacle and the US government's profligate spending is anyone's guess. They've been kicking the can down the road for the past 40 years. It is hard to bet against the can going down the road for a little bit longer, though we all know reality steps in when you least want it or expect it.

The ags picture is again relative calm and quietude. It is wrong to say that there are no overhangs here. The Russian-Ukrainian-NATO war is still rolling on. The fall of the Black Sea into complete Russian control would concentrate a lot of the grain and corn trade into Russian hands. It is remarkable that they have gone from massive grain importers to massive grain and seeds exporters. There is always some spoiling action that Ukrainian or NATO forces can mount on shipping in the Black Sea and through the Dardanelles. Either outcome should be driving some fear going forward. Again, though inflation has slowed down, price levels are up. One would think that there might be a bit more hedging of raw materials for the food sector.

The ever alluring metals complex is a fast train to nowhere.

Unlike the fire and brimstone of early last year, the fx markets are quiet. The exception continues to be crypto which is a wild ride. First we had the purported FTX liquidations and forced selling into the future market. Then we had the rebound after that subsided. Vol had been bid up and then came off.

Energy is probably the most enigmatic part of this hard to understand puzzle. On the one hand, there are claims that the US economy is blossoming through a great period of economic activity (best economy in 40 years!). On the other hand, we have the long shadow of the war in Europe and the real possibility of a major war in the Middle East closing off very important straits. The response in crude oil has been a big yawn. Vol is not bothered. This could be the fortuitous effect of the shale oil. We believe that participation in the market is astonishingly light. Outside of the WTI Crude market, the trade in other options (heating oil, rbob, etc) is light to almost non-existent. Risk management never seems like a good bet until you are bitten by the market. It will take a big bite and outsized trading profits to lure people back in. The prevailing trend of last year was sell vol.

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

Forex

Both ETH and BTC futures were up 2 and 3%, respectively on the 30th. As we finish this up on the 31st, BTC ended up 0.8% while ETH was negative. More importantly, vol was destroyed in both. It was down 27 vol points (2700 bps) in ETH and slightly more in BTC. The FTX overhang is gone, it would seem. Vol was uniformly offered in conventional currencies as well, except the New Zealand Dollar. The Dollar has rallied against everything outside of cryptos. Perhaps it is the vaunted flight to safety-both militarily and economically. The Yen was the most down against the Dollar. Asking Google's Bard (https://bard.google.com/) about economic activity in Japan gives the expected answer, more services and less manufacturing coupled with global recessionary pressures. The other prevailing wisdom is that the Fed is being more careful and hawkish with policy, thus driving the Dollar up. We continue to believe this is a sideshow. Inflation is the government's friend.

Foreign Exchange ATM
Bitcoin Detail
Ethereum Detail
Yen Detail
Pound Detail

Rates

The interest rate picture got a smallish dose of cold water thrown at it on the last day of the month. Fed Chairman Powell dashed hopes for quick rate cuts. This sent equities down, but resulted in some relief in the US government futures markets (yesterday). Over the past month in total, it looks like futures declined more or less with the tenor of the underlying-perhaps driven by convexity. The spastic expectation changes for rate policy might cause you to believe implied vol is spiking. That would be incorrect. Implied vol is offered across the board. Perhaps the relief rally of the tail end of last year was all the flash the market needed, or economic conditions are not as rosy as believed and the real money's expectations are unchanged.

Interest Rates ATM
30 Year Detail
Ultrabond Detail

Equity Indexes

Benjamin Graham and his most widely recognized acolyte, Warren Buffett, often make the case that in the short run, equity markets are popularity contests, while in the long run they are scales which measure economic value. A youngster who entered equity markets after 2008 should be wondering when this long run kicks in. As even a bird on the wire can attest, equity markets were up again this month. The only remarkable observation to be made is that vol did not completely crumple. It was mostly unchanged. The ATM E-Mini SP500 vol was unchanged, but somehow VIX ended up by 1.2%. The

earnings that are rolling in are good so far, on average. It does seem like the AI/GPU craze hit its crescendo sometime last year. Corporate layoffs are increasing, which is not typically a good omen. The general consensus is that the soft landing is behind the economy and it is upwards and onwards (except for what energy and metal markets are saying).
EquityIndex ATM
SP500 Detail
Russell Detail
VIX Detail

Metals
In our end of year missive, we called this sector the zombie sector. January felt like the zombie movement continued. Copper was up slightly. Gold was down slightly. Platinum and palladium, which should be affected by Russian sanctions, were down sharply. There were many hashtags referencing a silver squeeze, and, just like all the subsequent ones, the squeeze ended with a splat. Vol was down in everything. Again, there are definite economic slowdown concerns. There are also rumblings of more Chinese tariffs if Mr. Trump is elected. In general, the interruption of trade patterns from the initial Trump presidency as well as COVID is probably still being felt. The restriction of traffic via the Suez is also not helping things.
Metals ATM
Gold Detail
Palladium Detail
Copper Detail

Ags
Looking at the agricultural commodity complex, the meats were the winners this month. This isn't unusual. They were the winners last year. There is news that the US cattle herd is the smallest it has been in decades. This likely explains the rally in prices, but it doesn't explain the plummeting vol. With the exception of Rough Rice, the other seeds (wheat, corn, the bean complex, rapeseed and so on) were down. A good deal of the blame is placed on the atmospheric condition known as el Nino. However, the overhang from the Ukrainian War is largely absent. It is hardly a good thing for consumers if more grain and corn are concentrated in a few hands. As in all of the commodities and raw materials, Chinese demand is a huge factor and it seems like China is not yet past what ails her. Corn and beans were the only two markets that showed any appreciable interest in vol. Everything was varying degrees of falling.
Ags ATM
Feeder Cattle Detail
Live Cattle Detail
Corn Detail
Soybean Detail
Ags Details

Energy
What to say about energy? This sector is acting more and more aimlessly (ala our

zombie metals). There is an ongoing war in Europe with pipeline sabotage and bombing of refiners and terminals. There is a major military operation in the Middle East. There are closures of the Bab El Mandeb. Finally, we have the wildcard of US action in response to the attack on US bases in the region (some legal, some less so). The net result of this a pop in futures prices of 4-6%, but no follow through in vol. The situation feels as if vol would selloff on anything less than a full US war on Iran. Vol has come off for almost the entirety of the energy complex-a hasty retreat for a set of products which thrive on discontent. We hinted in our previous missives that volumes are down in the option products. While this is broadly true across the entirety of the futures options space, it is most noticeable in energies. There is chatter that banks are marketing vol strategies to pensions, endowments, widows and orphans. Either those strategies are driven by OTC products or they are in credit, not in any of the sectors we follow. One wonders if the capital requirements post the negative oil price episode have crippled the product permanently. Natural gas took a solid drubbing as the storms were more manageable than expected and the Biden administration put the brakes on plans to export US natural gas to Europe. In past missives we have posited the theory that the US will extract every bit of surplus from trade with Europe. Shipping natural gas to Europe was one way that could happen. The curtailment in US deliveries could be a spark which ignites more European manufacturing in the US, taking advantage of lower energy costs and the greater efficiency in shipping finished goods across the oceans.

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!

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info@commodityvol.com

At The Money Roundup of Products

Forex

exch/prod	desc	futures chng [%]	vol chng [%]
CME/ADU	AUDUSD 2pmfix	-0.023 [-3.3%]	-0.023 [-18.9%]
CME/BTC	Bitcoin	+330.000 [+0.8%]	-0.212 [-33.0%]
CME/CAU	CADUSD 2pmfix	-0.010 [-1.3%]	-0.022 [-28.1%]
CME/CHU	CHFUSD 2pmfix	-0.030 [-2.5%]	-0.044 [-35.0%]
CME/ETH	Ethereum	-39.000 [-1.7%]	-0.269 [-38.1%]
CME/EUU	EURUSD 2pmfix	-0.021 [-1.9%]	-0.021 [-22.7%]
CME/GBU	GBPUSD 2pmfix	-0.004 [-0.3%]	-0.014 [-15.7%]
CME/JPU	JPYUSD 2pmfix	-0.000 [-4.1%]	-0.019 [-16.6%]
CME/MP	Mexican Peso	-0.000 [-0.2%]	-0.010 [-9.2%]
CME/NE	New Zealand	-0.011 [-1.7%]	+0.004 [+4.0%]

Ags

exch/prod	desc	futures chng [%]	vol chng [%]
CME/DK	Class IV Milk	-0.240 [-1.2%]	-0.090 [-43.5%]
CBT/C	Corn	-0.230 [-4.9%]	+0.007 [+4.0%]
CME/62	Feeder Cattle	+17.850 [+8.0%]	-0.021 [-13.7%]
CBT/KW	KC HRW Wheat	-0.200 [-3.1%]	-0.008 [-3.2%]
CME/LN	Lean Hog	+8.375 [+12.3%]	-0.128 [-52.5%]
CME/48	Live Cattle	+12.200 [+7.2%]	-0.079 [-42.6%]
CME/NF	Nonfat Dry Milk	+0.775 [+0.6%]	-0.043 [-35.6%]
CBT/O	Oats	-0.032 [-0.8%]	-0.108 [-23.8%]
ENXT_COM/OCO	Rapeseed	-7.250 [-1.7%]	-0.027 [-12.4%]
CBT/14	Rough Rice	+0.345 [+2.0%]	-0.002 [-1.3%]
CBT/S	Soybean	-0.758 [-5.8%]	+0.025 [+16.3%]
CBT/06	Soybean Meal	-17.700 [-4.6%]	-0.020 [-7.7%]
CBT/07	Soybean Oil	-2.160 [-4.5%]	-0.026 [-9.4%]
CBT/W	Wheat	-0.328 [-5.2%]	-0.012 [-4.6%]

Energy

exch/prod	desc	futures chng [%]	vol chng [%]
NYMEX/BZO	Brent Crude Oil Margin	+3.510 [+4.6%]	-0.040 [-11.7%]
NYMEX/CVR	Chicago Ethanol(platts) Average Price	+0.058 [+3.6%]	-0.026 [-13.9%]
NYMEX/LO	Crude Oil	+4.200 [+5.9%]	-0.023 [-6.4%]
NYMEX/LN	European Natural Gas	-0.414 [-16.5%]	-0.140 [-18.4%]
NYMEX/E7	Henry Hub Financial Last Day	-0.414 [-16.5%]	-0.202 [-24.5%]
NYMEX/ON	Natural Gas	-0.414 [-16.5%]	-0.139 [-18.2%]
NYMEX/OH	NY Harbor ULSD	+0.256 [+10.1%]	-0.046 [-12.2%]
NYMEX/OB	RBOB	+0.136 [+6.5%]	-0.075 [-20.0%]

EquityIndex

exch/prod	desc	futures chng [%]	vol chng [%]
CBT/YM	E-Mini Dow	+287.000 [+0.8%]	-0.013 [-11.0%]
CME/NQ	E-Mini Nasdaq	+218.750 [+1.3%]	+0.004 [+2.7%]
CME/RTO	E-Mini Russell 2000	-91.800 [-4.5%]	+0.002 [+1.1%]
CME/RTM	E-Mini Russell EOM	-91.800 [-4.5%]	+0.003 [+1.4%]
CME/ES	E-Mini S&P 500	+50.500 [+1.0%]	+0.001 [+0.7%]
CBOE/VIX	VIX Volatility Index	+1.150 [+8.7%]	+0.160 [+23.9%]

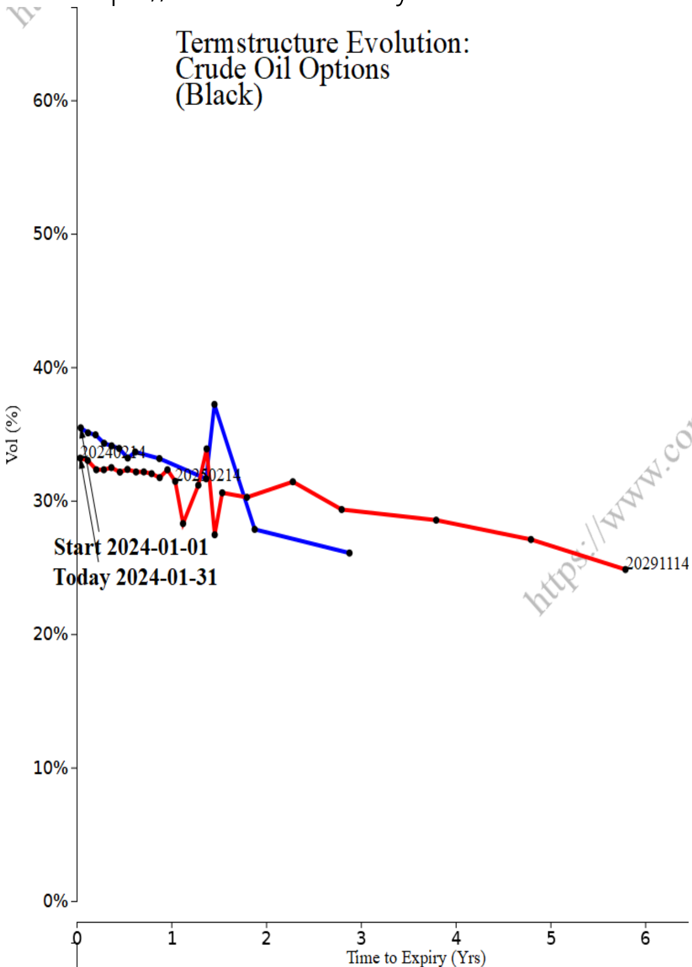
Metals

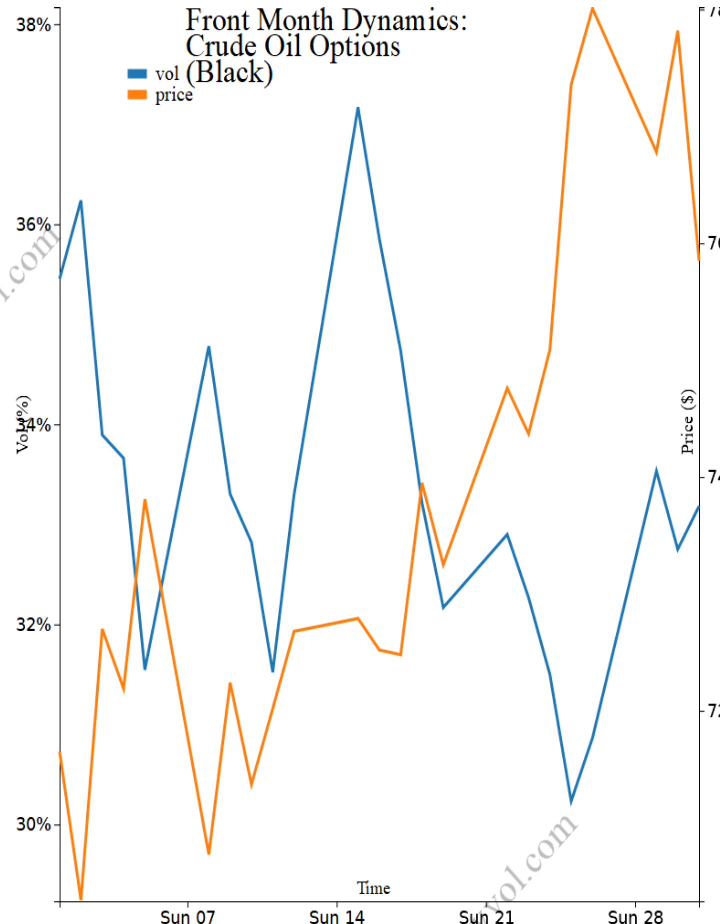
exch/prod	desc	futures chng [%]	vol chng [%]
COMEX/HX	Copper	+0.016 [+0.4%]	-0.027 [-13.9%]
COMEX/OG	Gold	-4.400 [-0.2%]	-0.025 [-17.9%]
NYMEX/PAO	Palladium	-112.500 [-10.1%]	-0.030 [-7.2%]
NYMEX/PO	Platinum	-76.600 [-7.6%]	-0.002 [-0.8%]
COMEX/SO	Silver	-0.917 [-3.8%]	-0.024 [-9.8%]

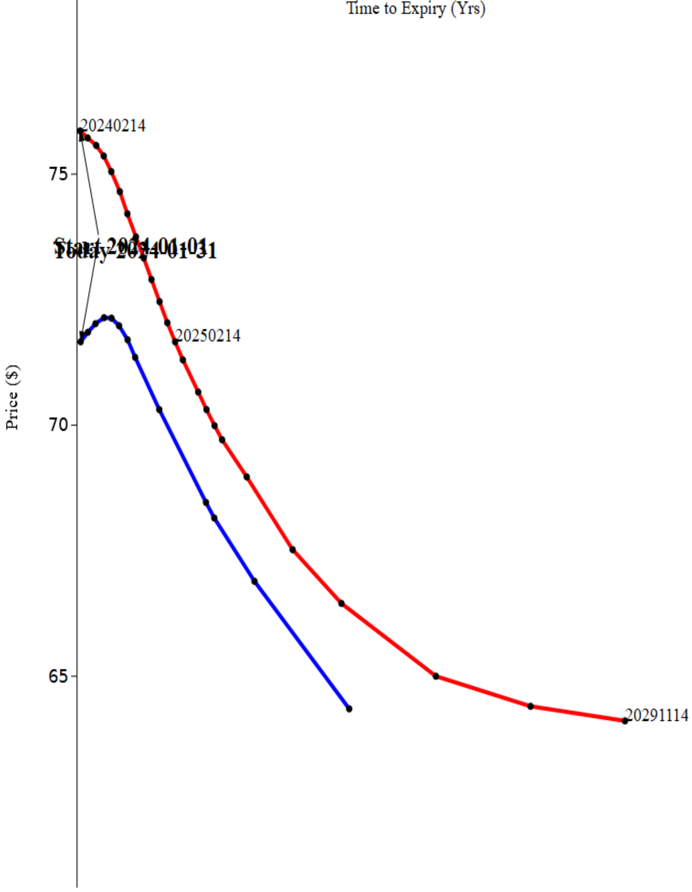
exch/prod	desc	futures chng [%]	vol chng [%]
CBT/26	2 YR US Treasury Note	-0.129 [-0.1%]	-0.003 [-12.2%]
CBT/25	5 YR US Treasury Note	-0.383 [-0.4%]	-0.007 [-12.9%]
CBT/21	10 YR US Treasury Note	-0.563 [-0.5%]	-0.013 [-16.7%]
CBT/17	30 YR US Treasury Bond	-2.594 [-2.1%]	-0.021 [-15.0%]
CBT/UBE	Long Term US Treasury Bond	-4.375 [-3.3%]	-0.019 [-11.4%]
CME/S0	One-year Mid-curve Three-month SOFR	-0.120 [-0.1%]	-0.003 [-15.6%]
CME/SR3	Three-month SOFR	-0.100 [-0.1%]	-0.003 [-29.8%]
CME/S3	Three-year Mid-curve Three-month SOFR	-0.160 [-0.2%]	-0.002 [-14.4%]
CME/S2	Two-year Mid-curve Three-month SOFR	-0.145 [-0.1%]	+0.001 [+4.6%]

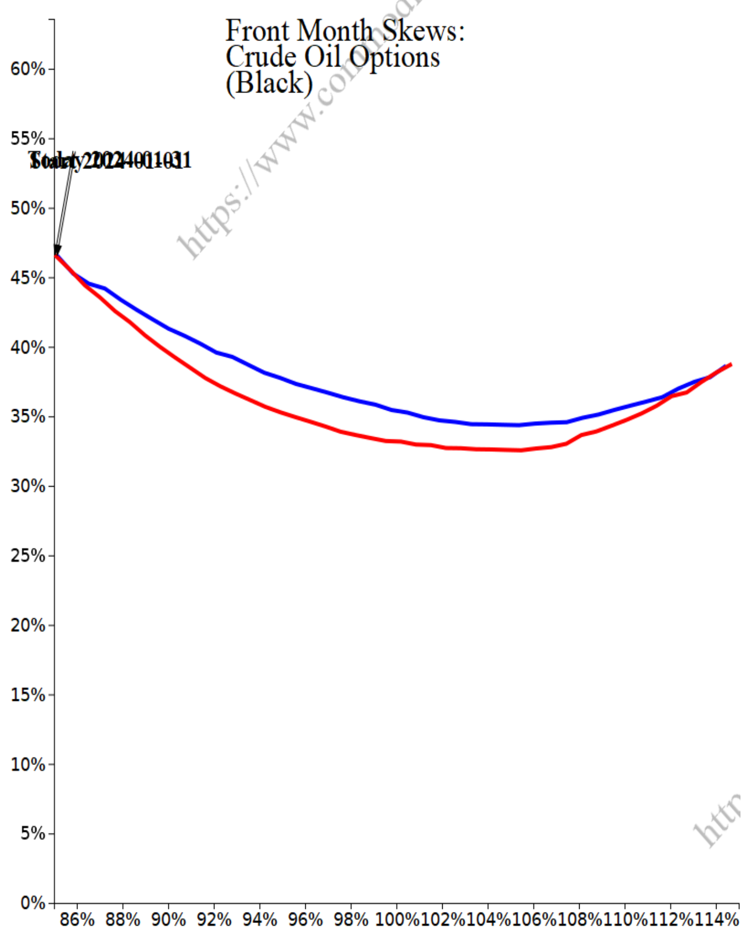
Skews, Termstructures and more

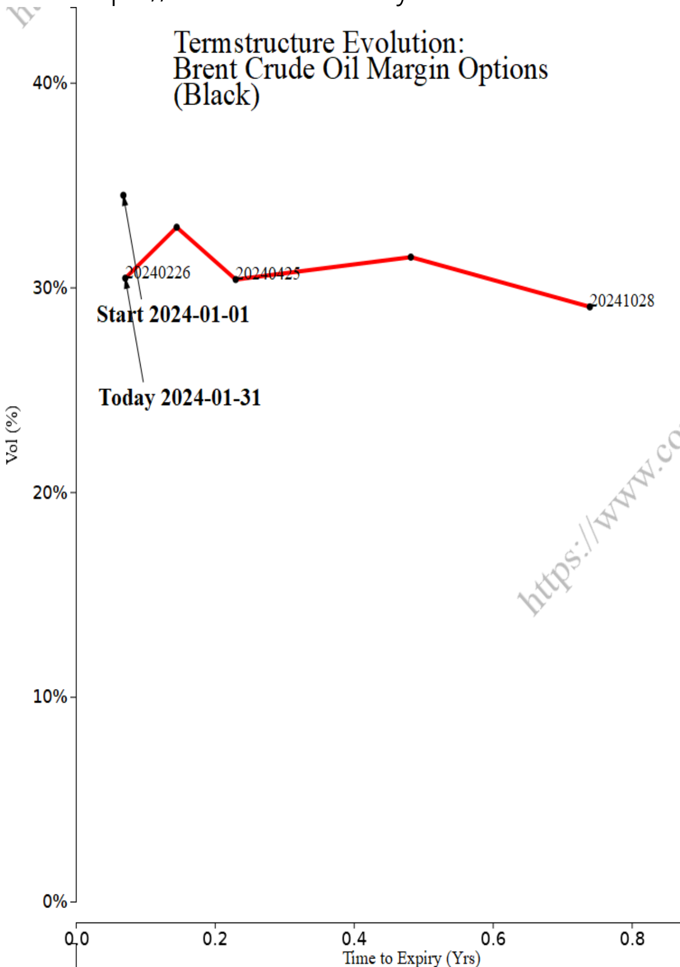
Energy: Crude and Derivatives

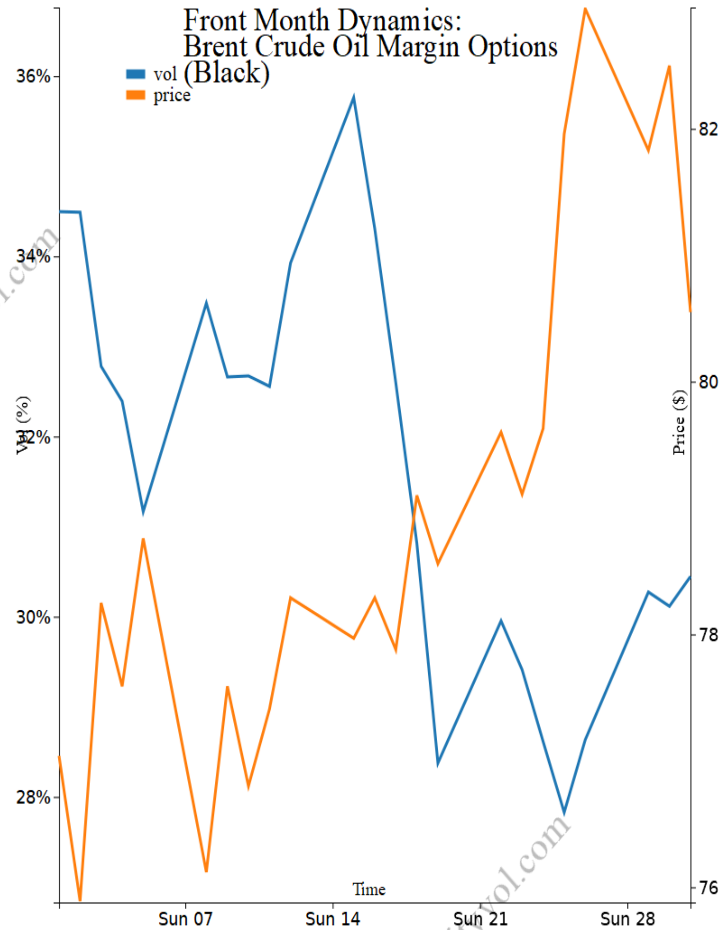

Termstructure Evolution:
Crude Oil Options
(Black)
Vol (%)
0%
10%
20%
30%
40%
50%
60%
20240214
20250214
Start 2024-01-01
Today 2024-01-31
20291114
0
1
2
3
4
5
6
Time to Expiry (Yrs)

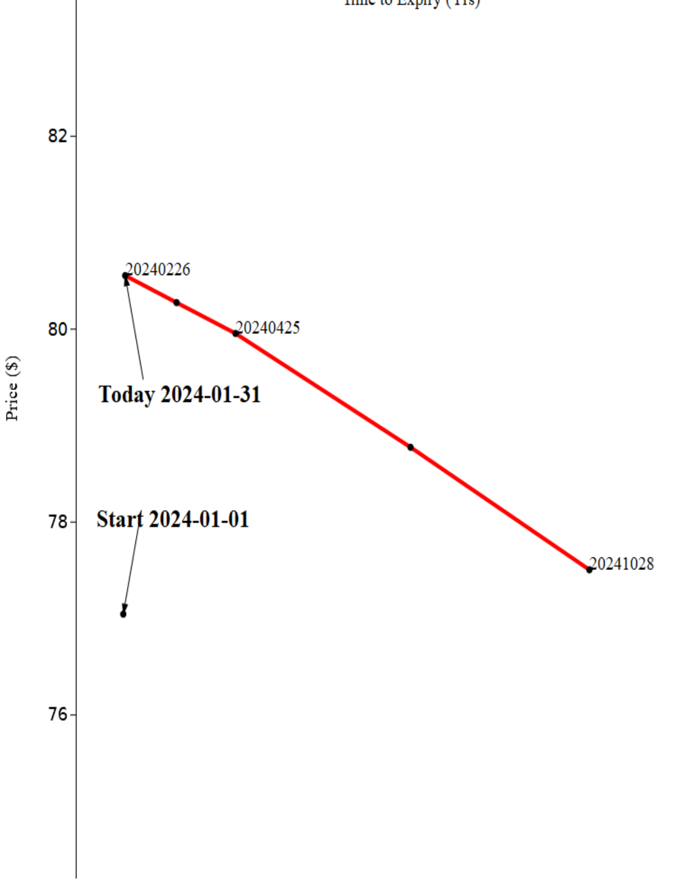

Front Month Dynamics:
Crude Oil Options
(Black)
vol
price
Vol (%)
30%
32%
34%
36%
38%
Price ($)
72
74
76
78
Time
Sun 07
Sun 14
Sun 21
Sun 28

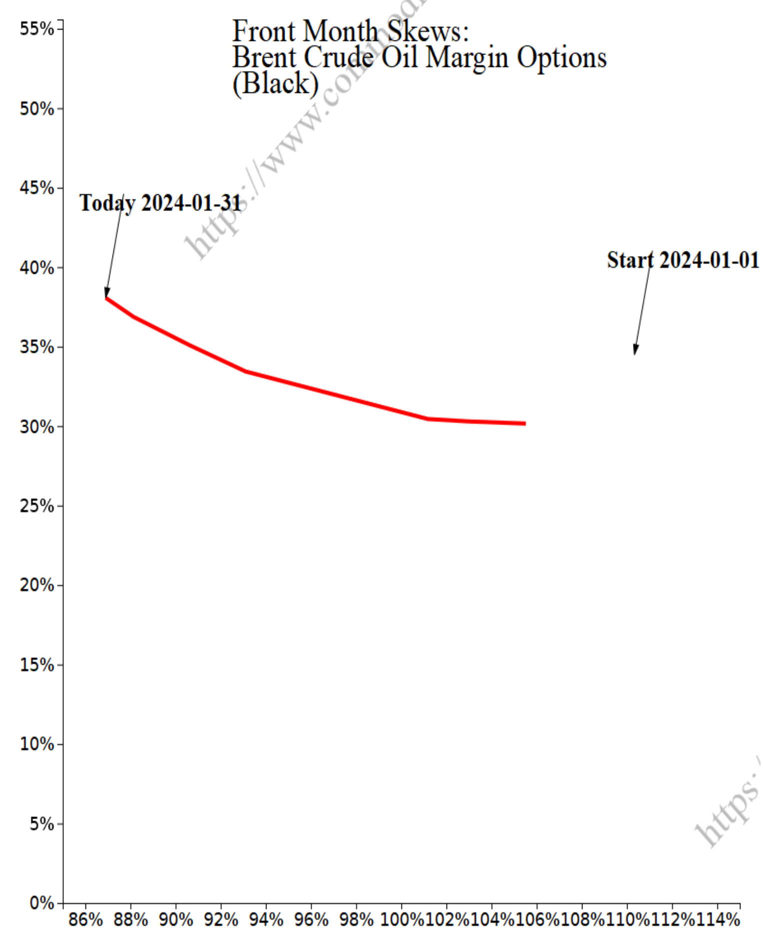

Price ($)
65
70
75
20240214
Start 2024-01-01
Today 2024-01-31
20250214
20291114

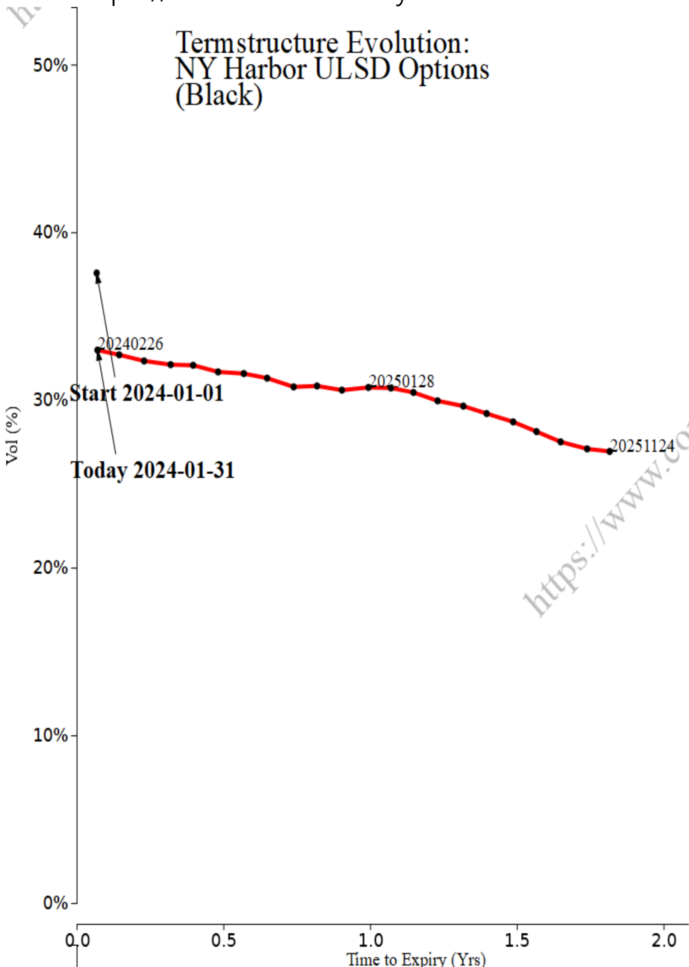

Front Month Skews:
Crude Oil Options
(Black)
Start 2024-01-01
Today 2024-01-31
0%
5%
10%
15%
20%
25%
30%
35%
40%
45%
50%
55%
60%
86%
88%
90%
92%
94%
96%
98%
100%
102%
104%
106%
108%
110%
112%
114%

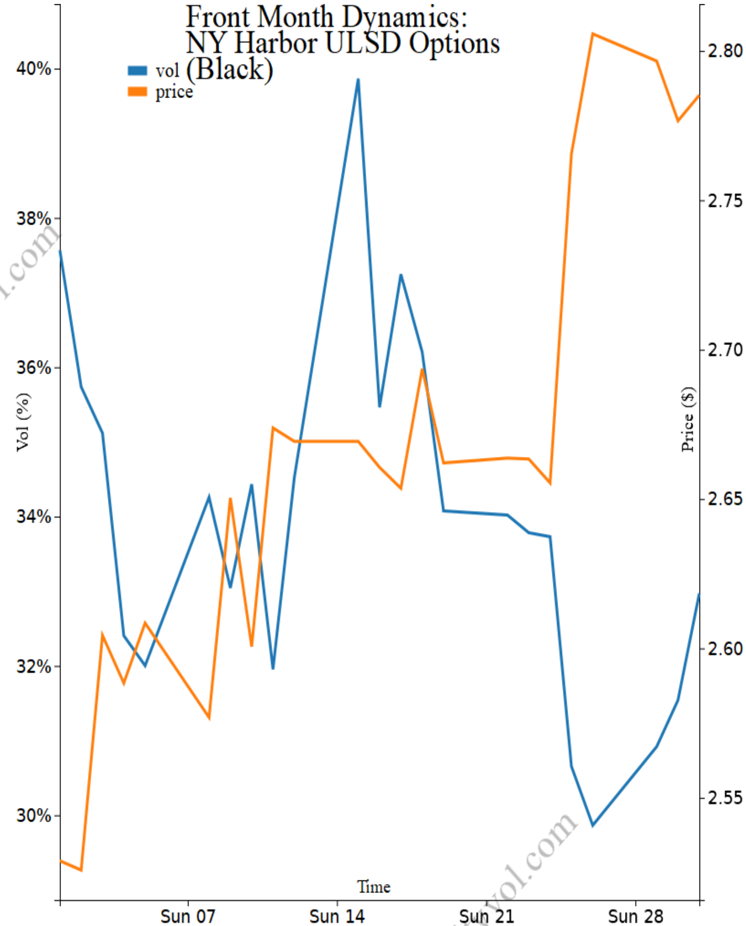

Termstructure Evolution:
Brent Crude Oil Margin Options
(Black)
Vol (%)
Time to Expiry (Yrs)
20240226
20240425
20241028
Start 2024-01-01
Today 2024-01-31
https://www.commodityvol.com

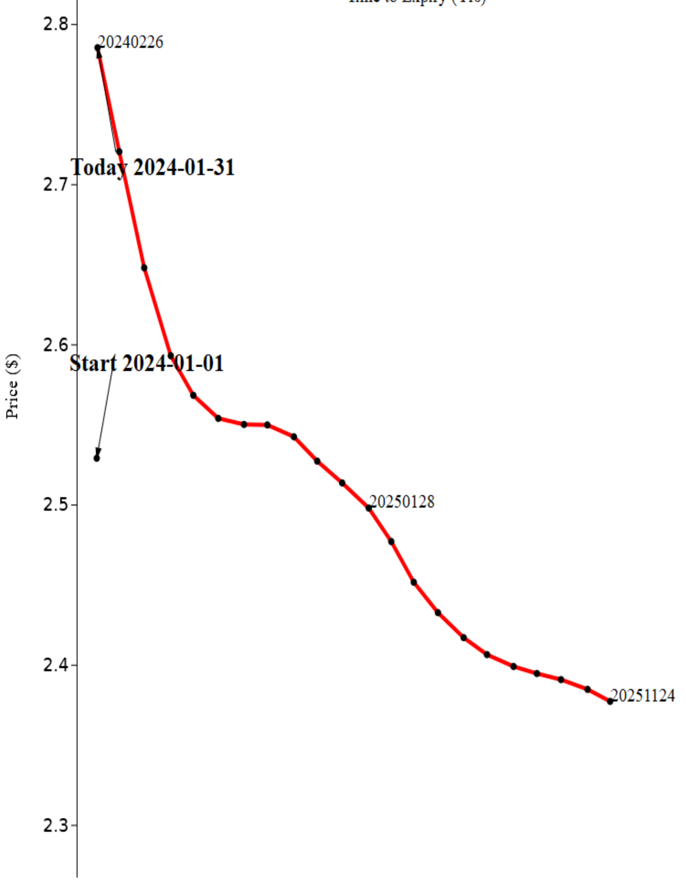

Front Month Dynamics:
Brent Crude Oil Margin Options
(Black)
vol
price
Vol (%)
Price ($)
Time
Sun 07
Sun 14
Sun 21
Sun 28

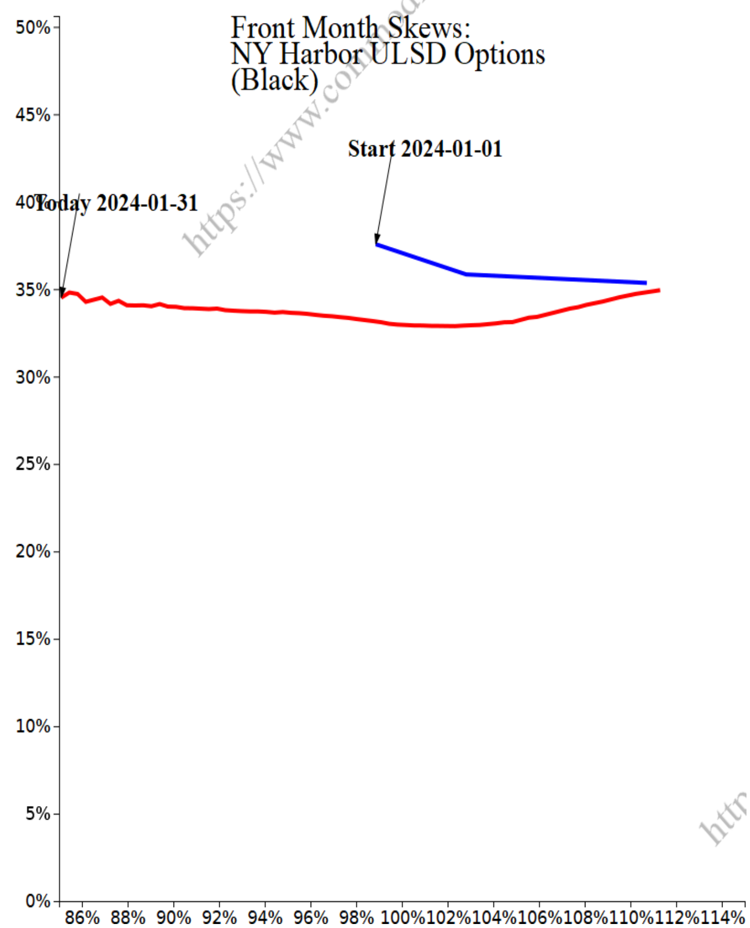

Price ($)
20240226
20240425
20241028
Today 2024-01-31
Start 2024-01-01


Front Month Skews:
Brent Crude Oil Margin Options
(Black)
Today 2024-01-31
Start 2024-01-01
https://www.commodityvol.com


Termstructure Evolution:
NY Harbor ULSD Options
(Black)
50%
40%
30%
20%
10%
0%
Vol (%)
20240226
20250128
20251124
Start 2024-01-01
Today 2024-01-31
0.0
0.5
1.0
1.5
2.0
Time to Expiry (Yrs)


Front Month Dynamics:
NY Harbor ULSD Options
(Black)
vol
price
40%
38%
36%
34%
32%
30%
Vol (%)
2.80
2.75
2.70
2.65
2.60
2.55
Price ($)
Time
Sun 07
Sun 14
Sun 21
Sun 28


2.8
2.7
2.6
2.5
2.4
2.3
Price ($)
20240226
Today 2024-01-31
Start 2024-01-01
20250128
20251124


Front Month Skews:
NY Harbor ULSD Options
(Black)
Start 2024-01-01
Today 2024-01-31
50%
45%
40%
35%
30%
25%
20%
15%
10%
5%
0%
86%
88%
90%
92%
94%
96%
98%
100%
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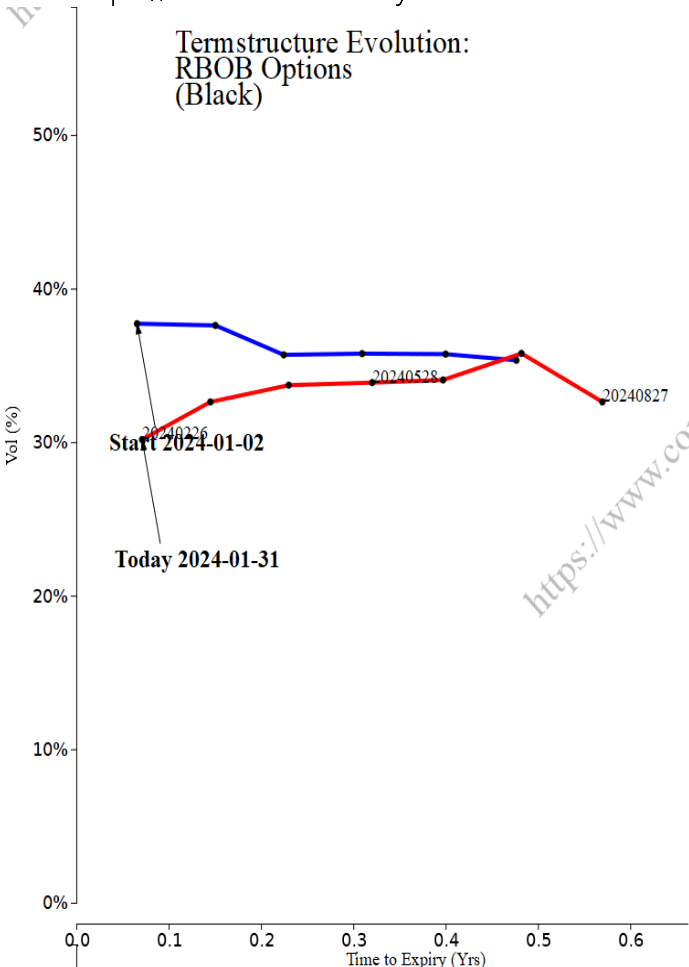
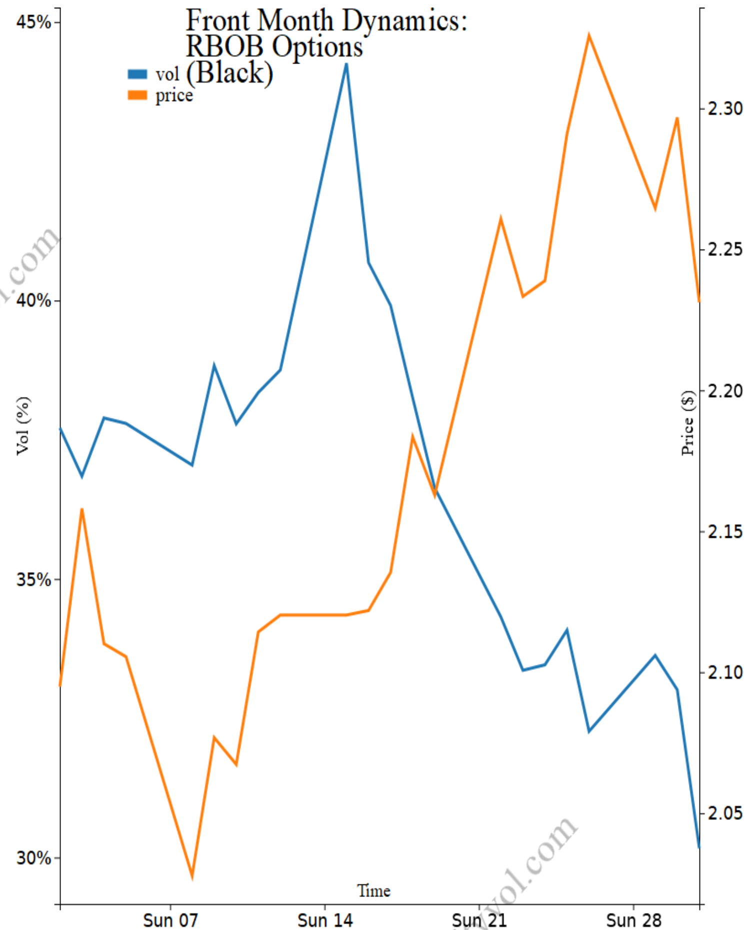
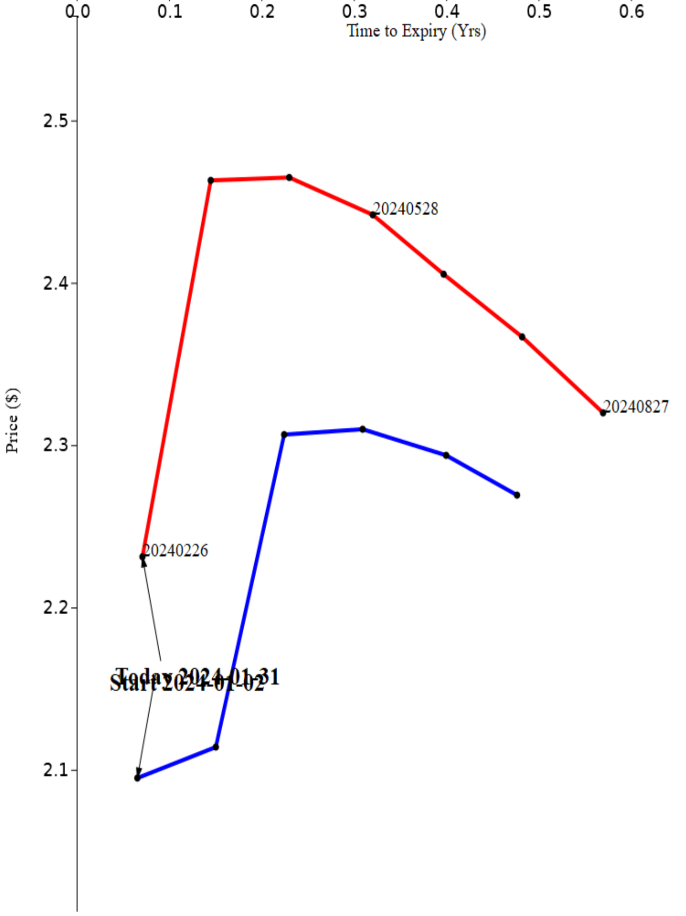
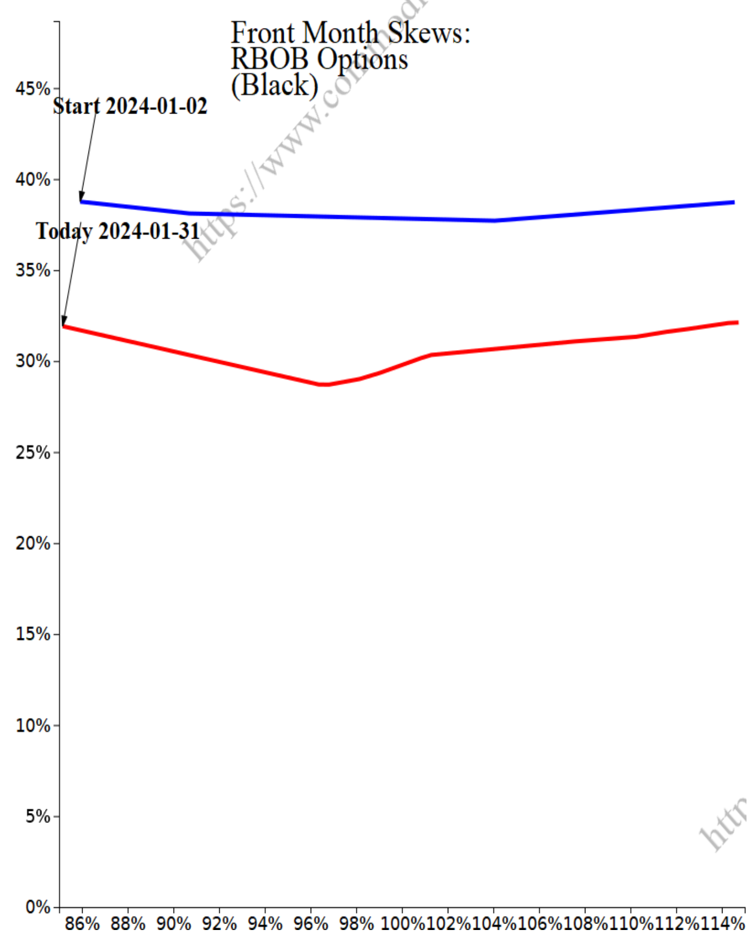
104%
106%
108%
110%
112%
114%


Termstructure Evolution:
RBOB Options
(Black)
Vol (%)
50%
40%
30%
20%
10%
0%
20240226
20240528
20240827
Start 2024-01-02
Today 2024-01-31
0.0
0.1
0.2
0.3
0.4
0.5
0.6
Time to Expiry (Yrs)


Front Month Dynamics:
RBOB Options
(Black)
vol
price
Vol (%)
45%
40%
35%
30%
Price ($)
2.30
2.25
2.20
2.15
2.10
2.05
Time
Sun 07
Sun 14
Sun 21
Sun 28


Price ($)
2.5
2.4
2.3
2.2
2.1
20240226
20240528
20240827
Today 2024-01-31
Start 2024-01-02


Front Month Skews:
RBOB Options
(Black)
Start 2024-01-02
Today 2024-01-31
45%
40%
35%
30%
25%
20%
15%
10%
5%
0%
86%
88%
90%
92%
94%
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98%
100%
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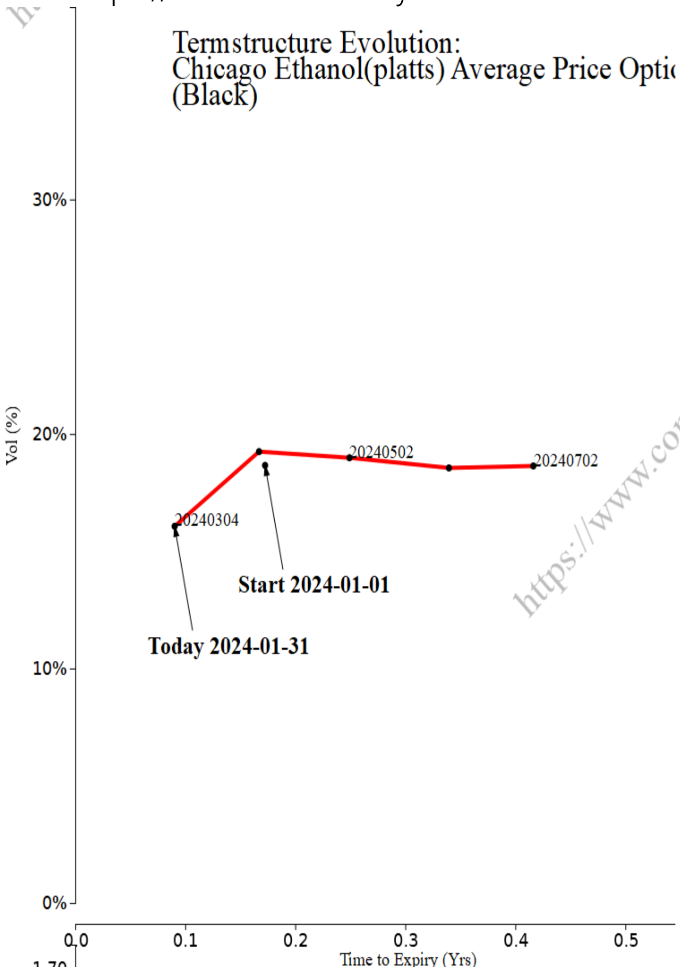
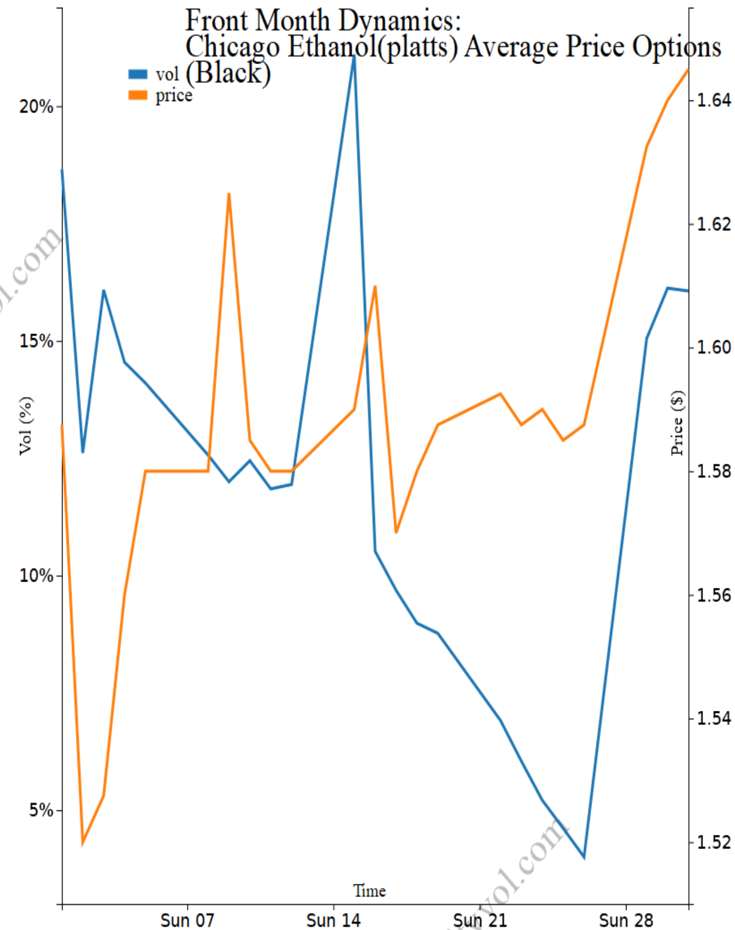
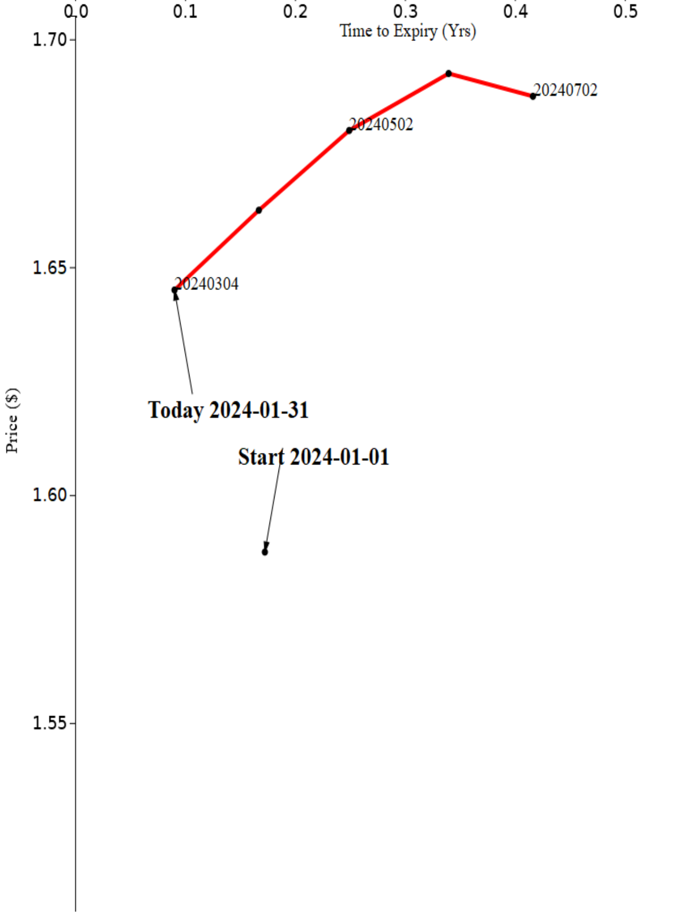
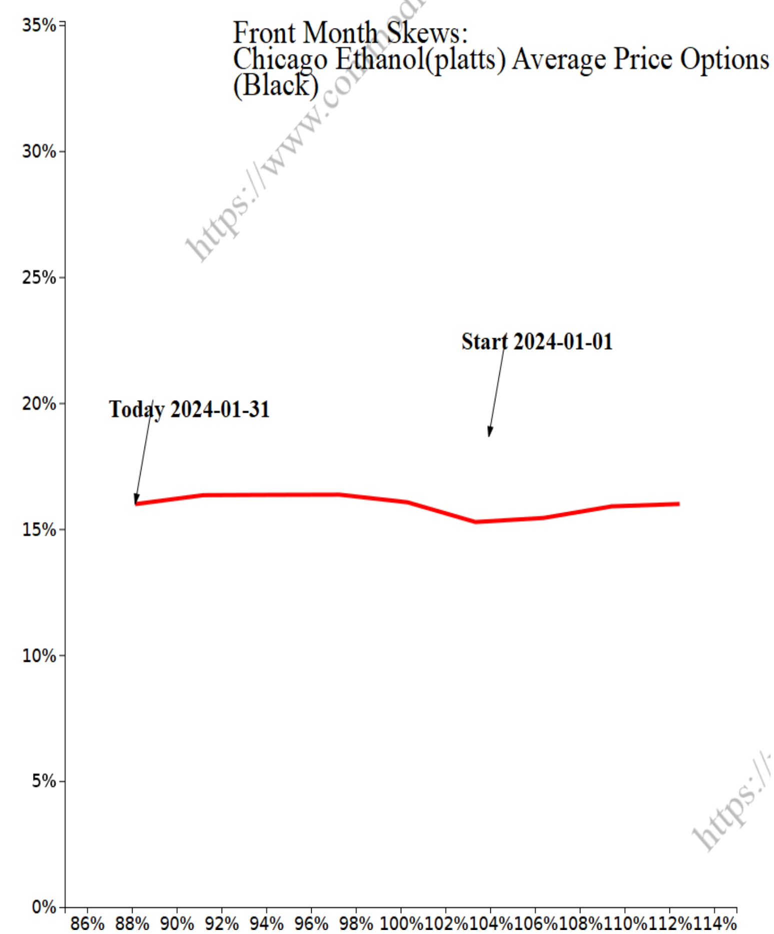
106%
108%
110%
112%
114%

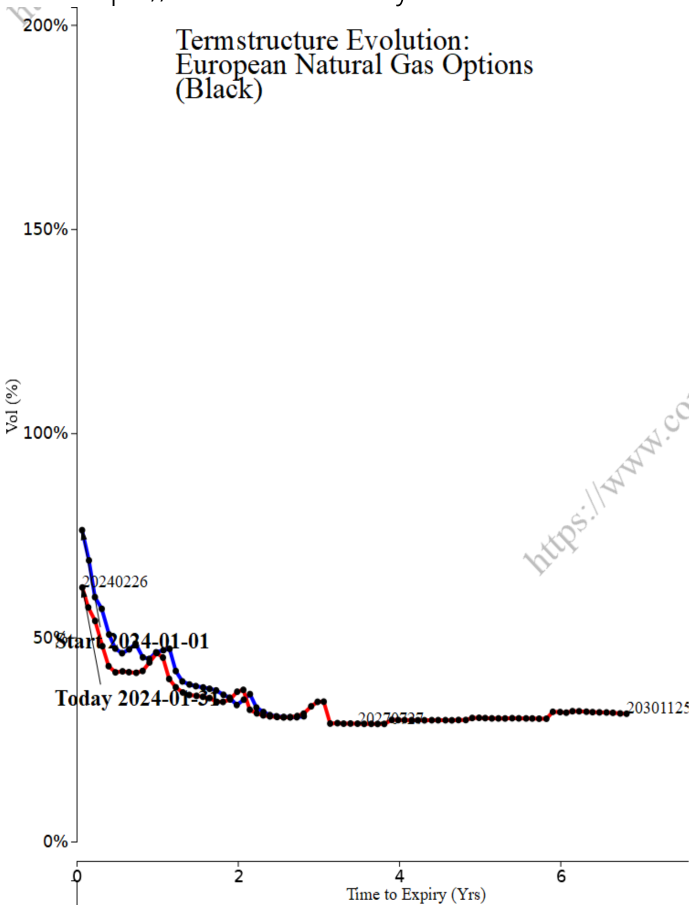

Termstructure Evolution:
Chicago Ethanol(platts) Average Price Optic
(Black)
Vol (%)
30%
20%
10%
0%
20240304
20240502
20240702
Start 2024-01-01
Today 2024-01-31
0.0
0.1
0.2
0.3
0.4
0.5
Time to Expiry (Yrs)

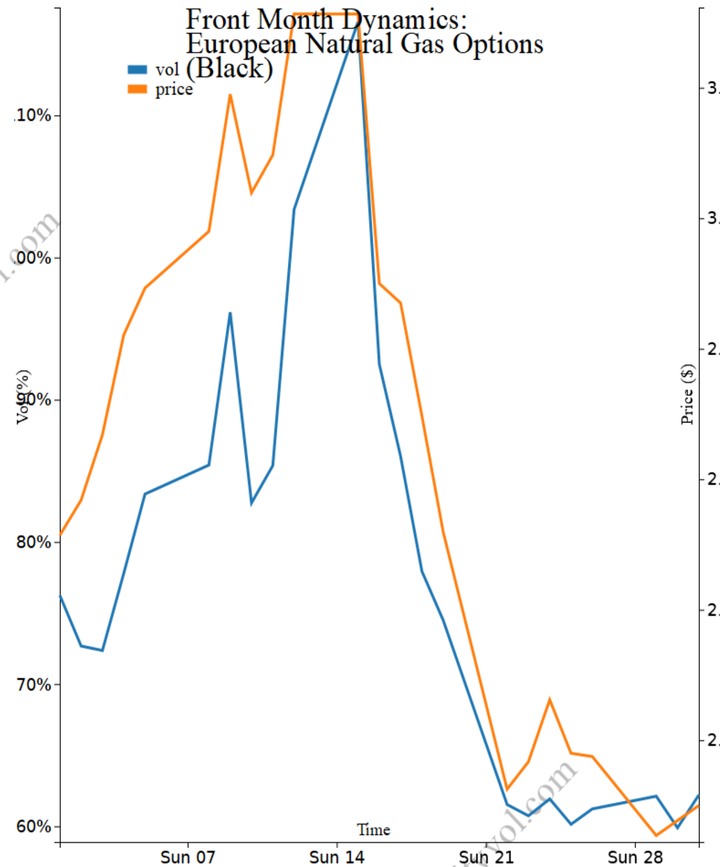

Front Month Dynamics:
Chicago Ethanol(platts) Average Price Options
(Black)
vol
price
Vol (%)
20%
15%
10%
5%
Price ($)
1.64
1.62
1.60
1.58
1.56
1.54
1.52
Time
Sun 07
Sun 14
Sun 21
Sun 28

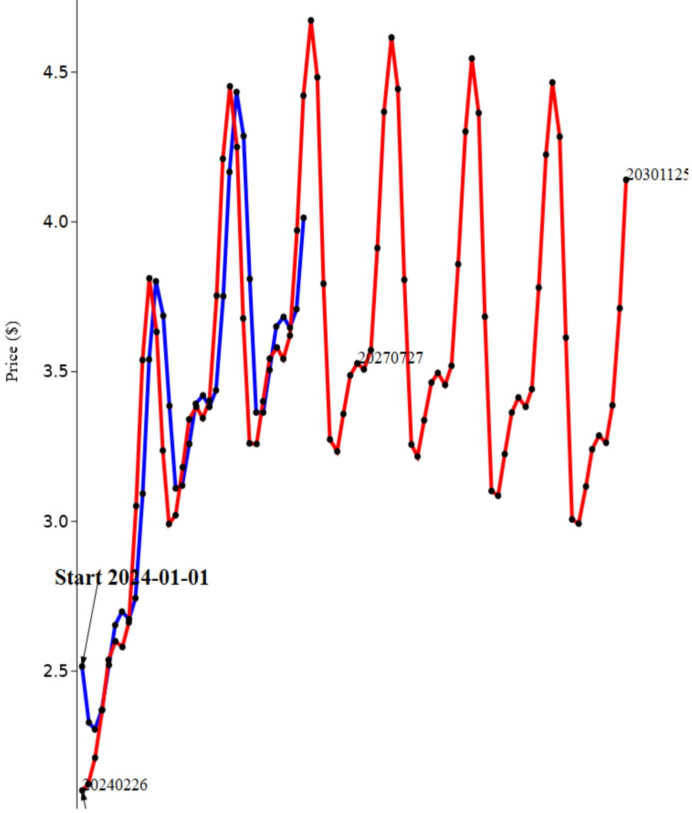

Price ($)
1.70
1.65
1.60
1.55
20240304
20240502
20240702
Today 2024-01-31
Start 2024-01-01

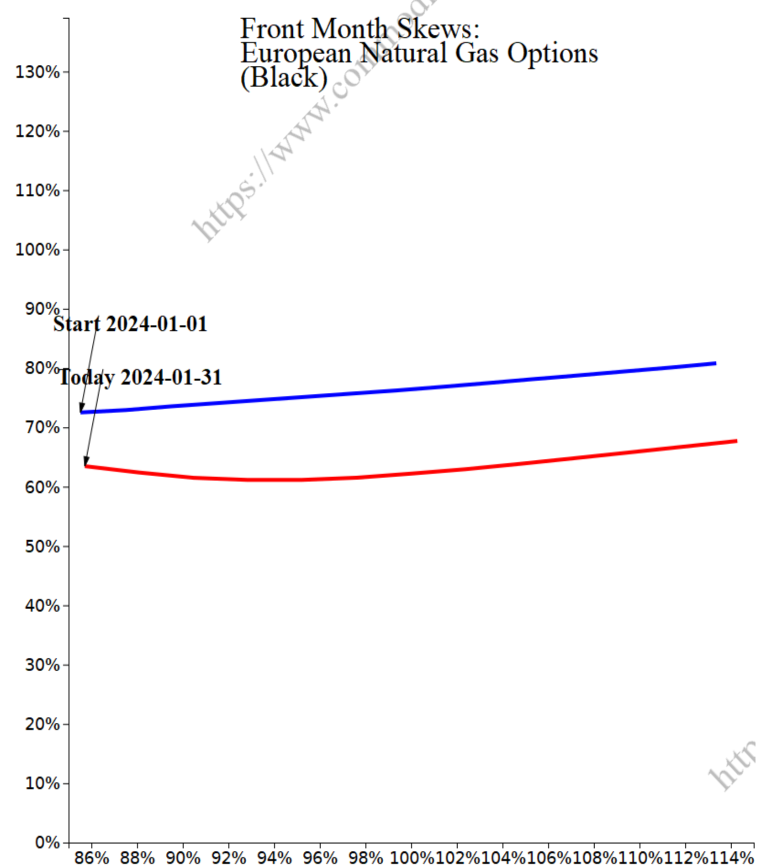

Front Month Skews:
Chicago Ethanol(platts) Average Price Options
(Black)
35%
30%
25%
20%
15%
10%
5%
0%
Start 2024-01-01
Today 2024-01-31
86%
88%
90%
92%
94%
96%
98%
100%
102%
104%
106%
108%
110%
112%
114%

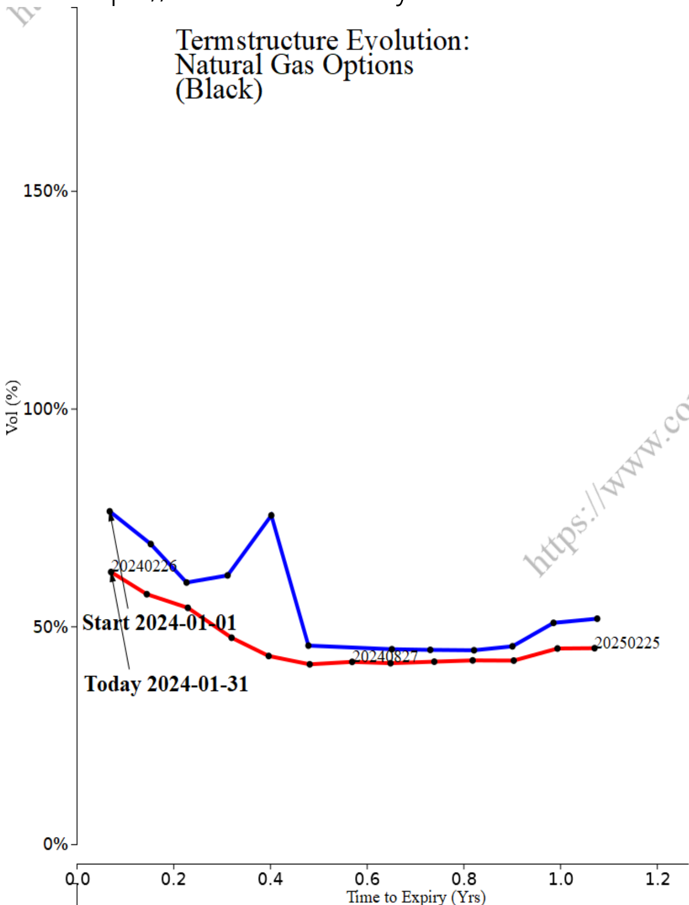
Energy: Natural Gas

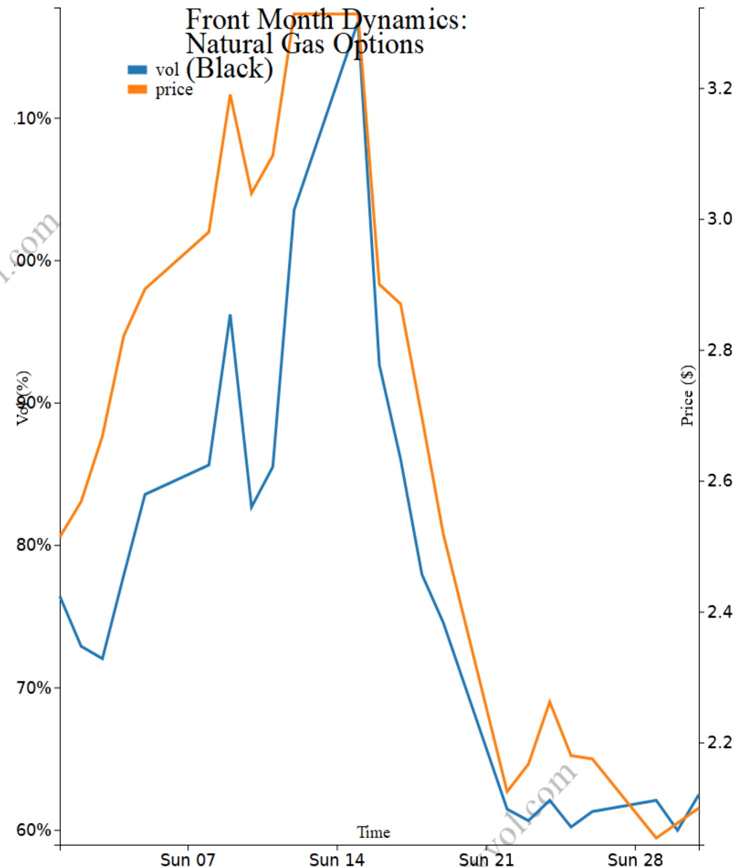

Termstructure Evolution:
European Natural Gas Options
(Black)
Vol (%)
Time to Expiry (Yrs)
Start 2024-01-01
Today 2024-01-31
20240226
20270727
20301125

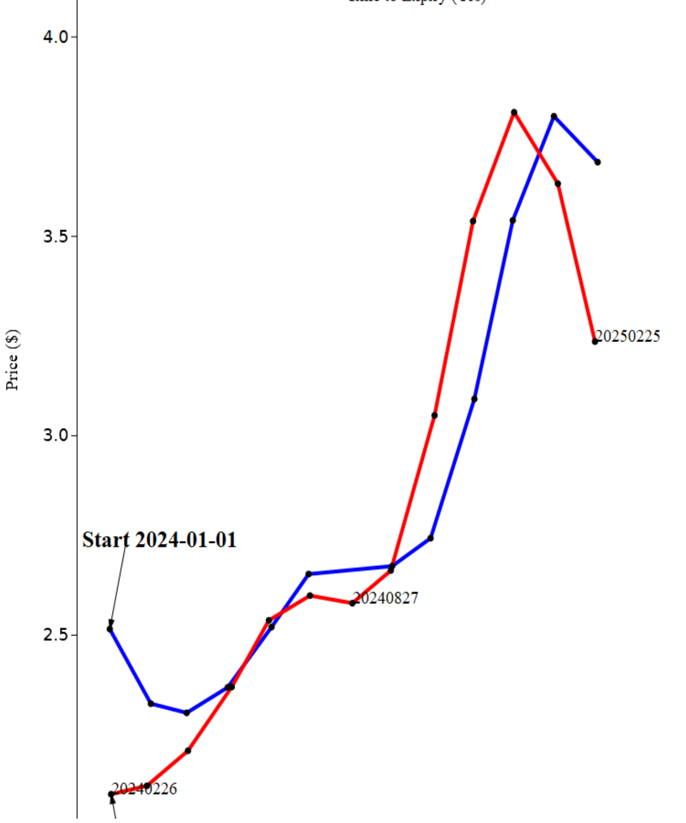

Front Month Dynamics:
European Natural Gas Options
(Black)
vol
price
Vol (%)
Price ($)
Time
Sun 07
Sun 14
Sun 21
Sun 28

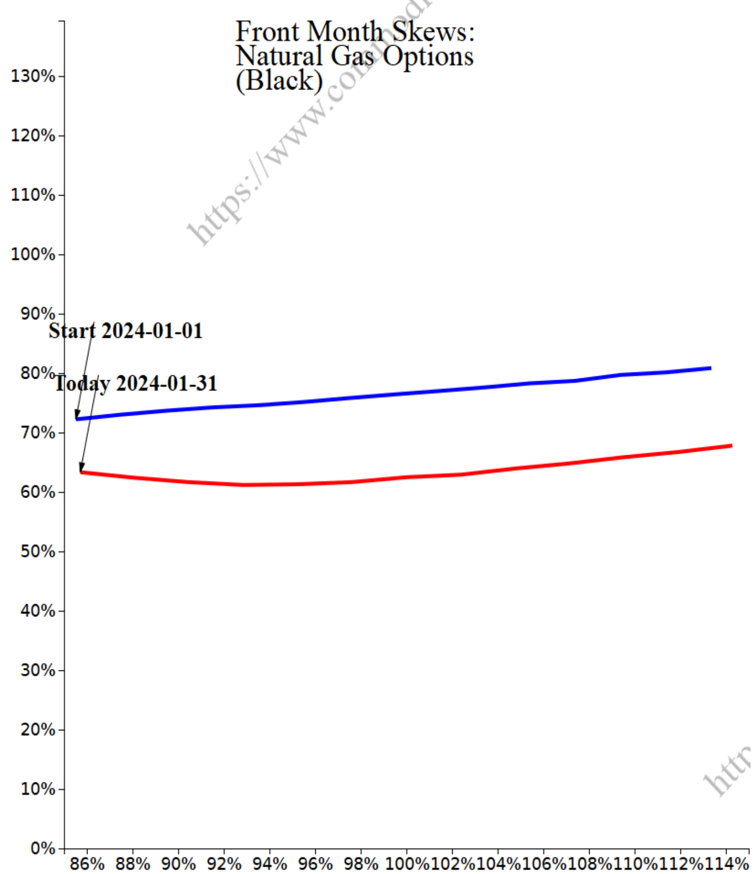

Price ($)
Start 2024-01-01
20240226
20270727
20301125

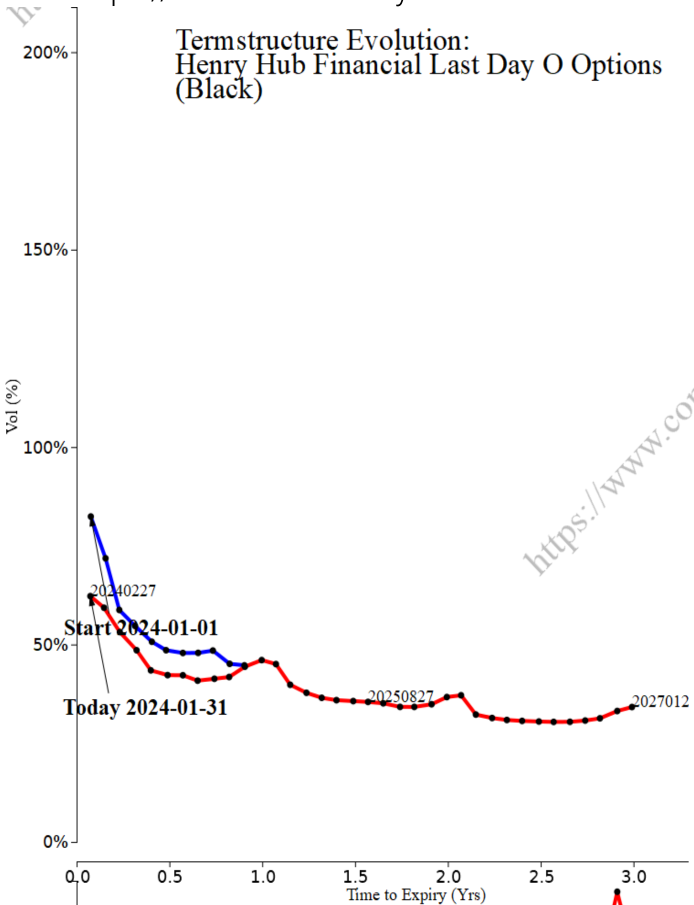

Front Month Skews:
European Natural Gas Options
(Black)
Start 2024-01-01
Today 2024-01-31

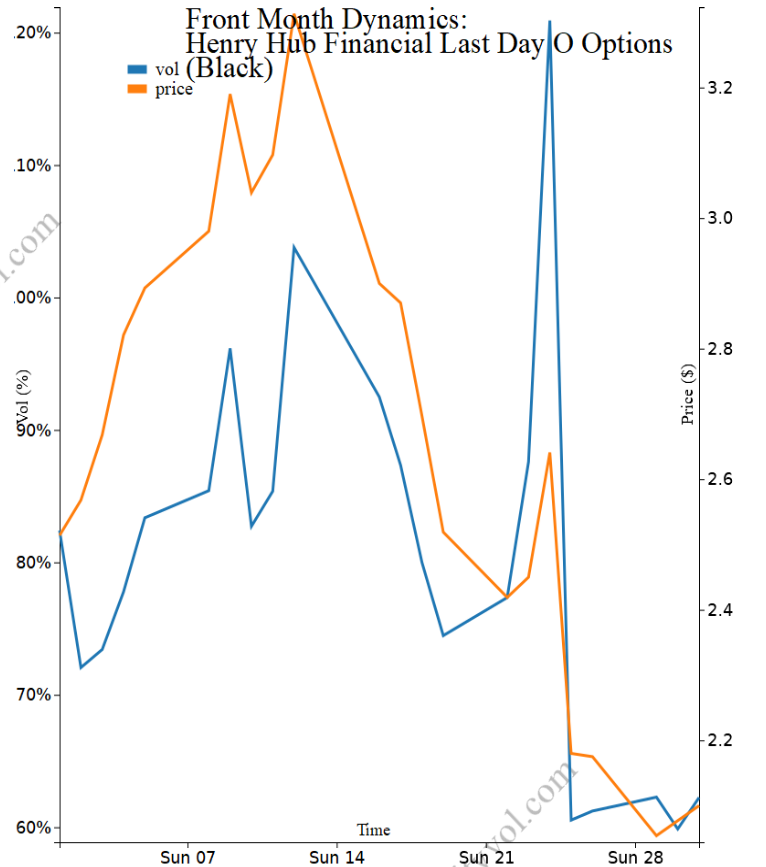

Termstructure Evolution:
Natural Gas Options
(Black)
Vol (%)
150%
100%
50%
0%
20240226
Start 2024-01-01
20240827
20250225
Today 2024-01-31
0.0
0.2
0.4
0.6
0.8
1.0
1.2
Time to Expiry (Yrs)

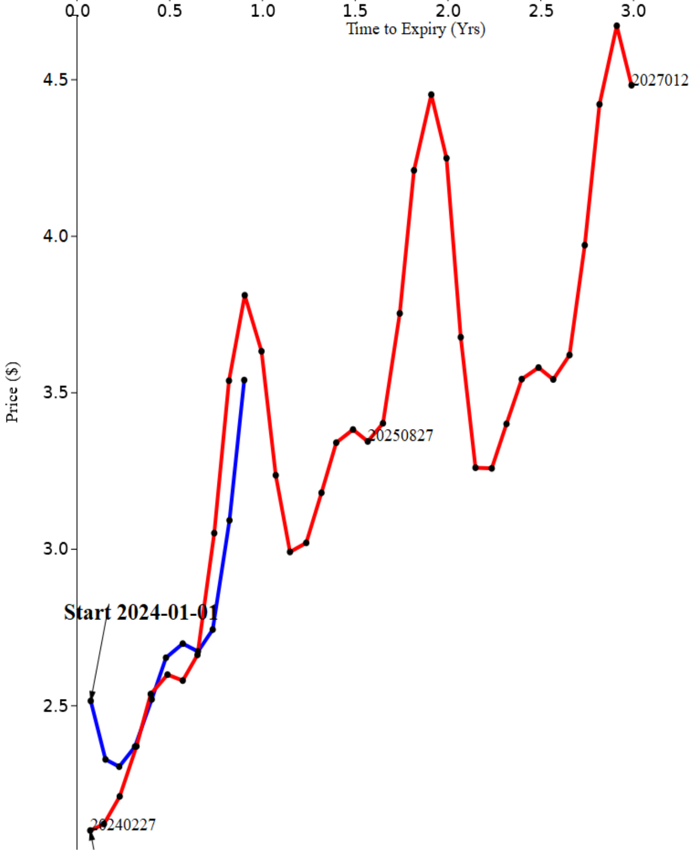

Front Month Dynamics:
Natural Gas Options
(Black)
vol
price
Vol (%)
Price ($)
3.2
3.0
2.8
2.6
2.4
2.2
80%
70%
60%
Time
Sun 07
Sun 14
Sun 21
Sun 28

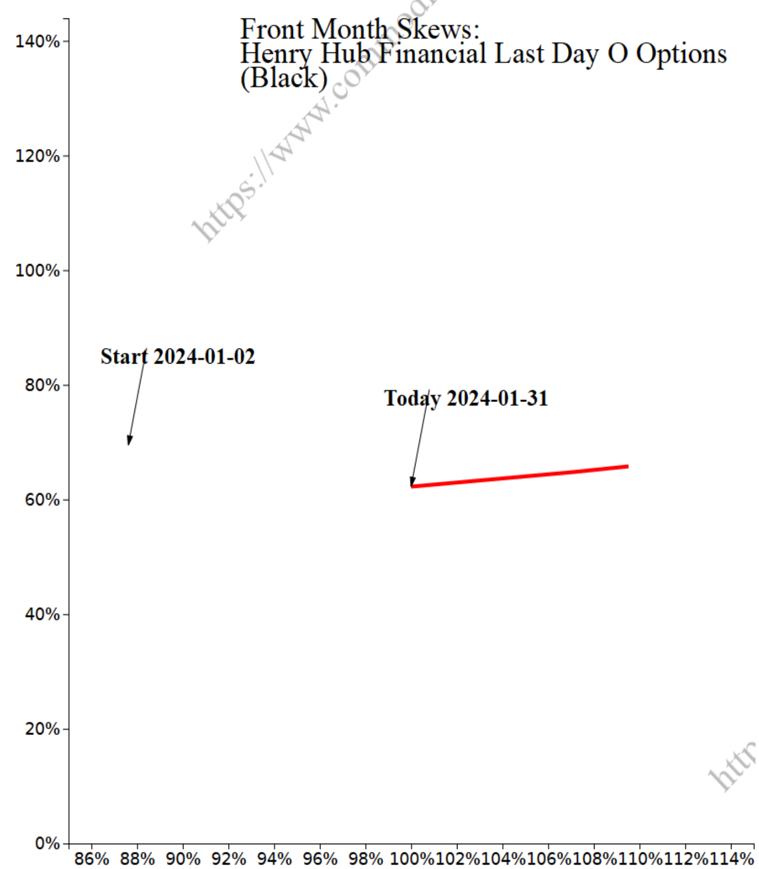

Price ($)
4.0
3.5
3.0
2.5
Start 2024-01-01
20240827
20250225
20240226


Front Month Skews:
Natural Gas Options
(Black)
130%
120%
110%
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
Start 2024-01-01
Today 2024-01-31
86%
88%
90%
92%
94%
96%
98%
100%
102%
104%
106%
108%
110%
112%
114%

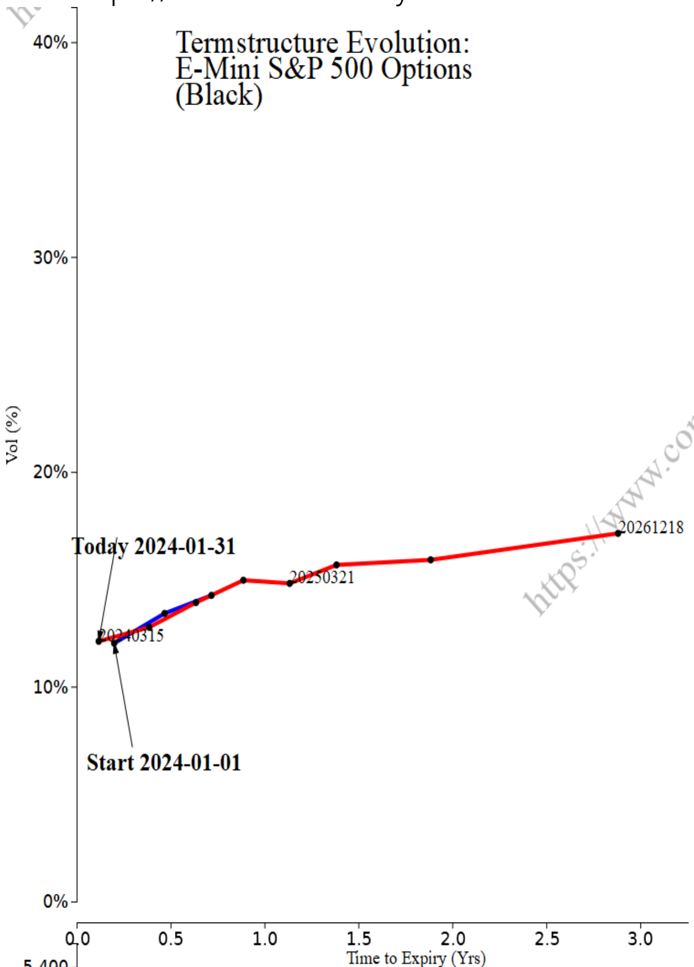

Termstructure Evolution:
Henry Hub Financial Last Day O Options
(Black)
Vol (%)
200%
150%
100%
50%
0%
20240227
Start 2024-01-01
Today 2024-01-31
20250827
2027012
0.0
0.5
1.0
1.5
2.0
2.5
3.0
Time to Expiry (Yrs)


Front Month Dynamics:
Henry Hub Financial Last Day O Options
(Black)
vol
price
Vol (%)
Price ($)
60%
70%
80%
90%
100%
110%
120%
3.2
3.0
2.8
2.6
2.4
2.2
Sun 07
Sun 14
Sun 21
Sun 28
Time

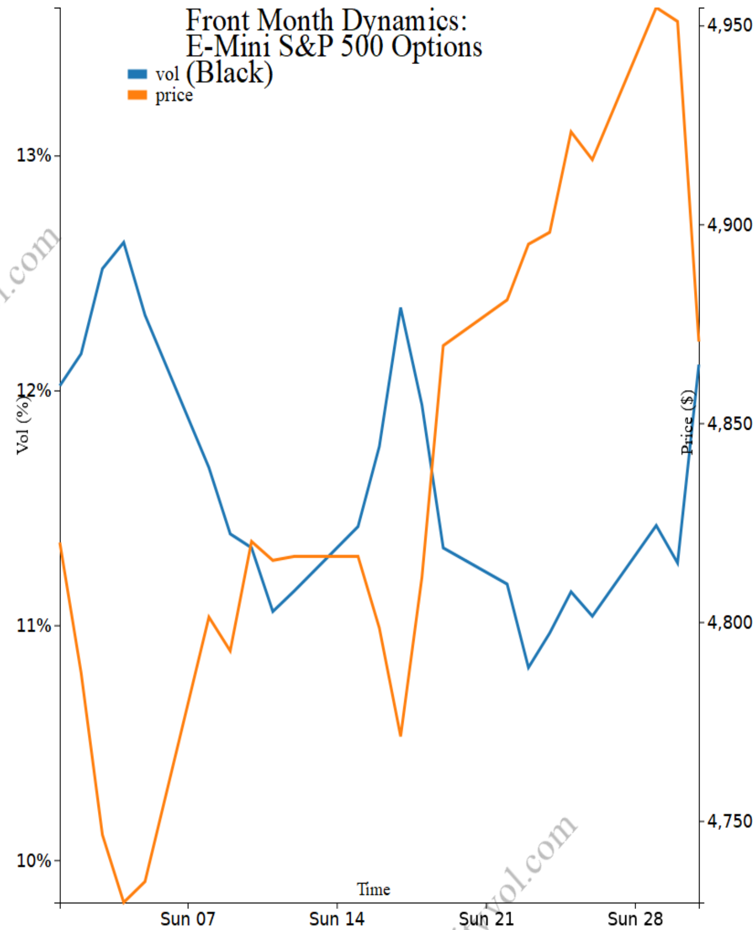

Price ($)
4.5
4.0
3.5
3.0
2.5
2027012
20250827
Start 2024-01-01
20240227


Front Month Skews:
Henry Hub Financial Last Day O Options
(Black)
140%
120%
100%
80%
60%
40%
20%
0%
Start 2024-01-02
Today 2024-01-31
86%
88%
90%
92%
94%
96%
98%
100%
102%
104%
106%
108%
110%
112%
114%

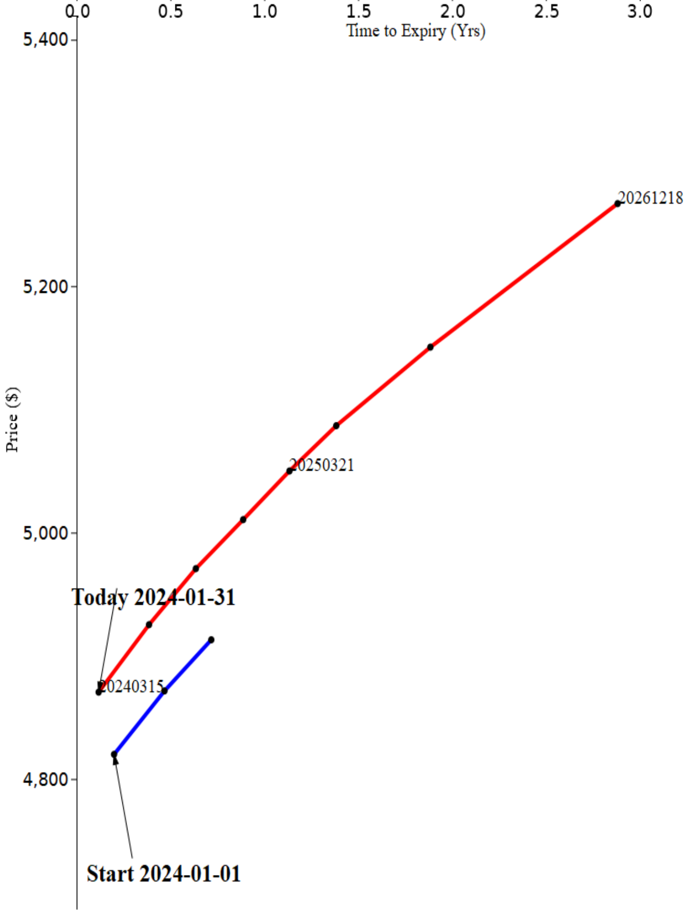
EquityIndex



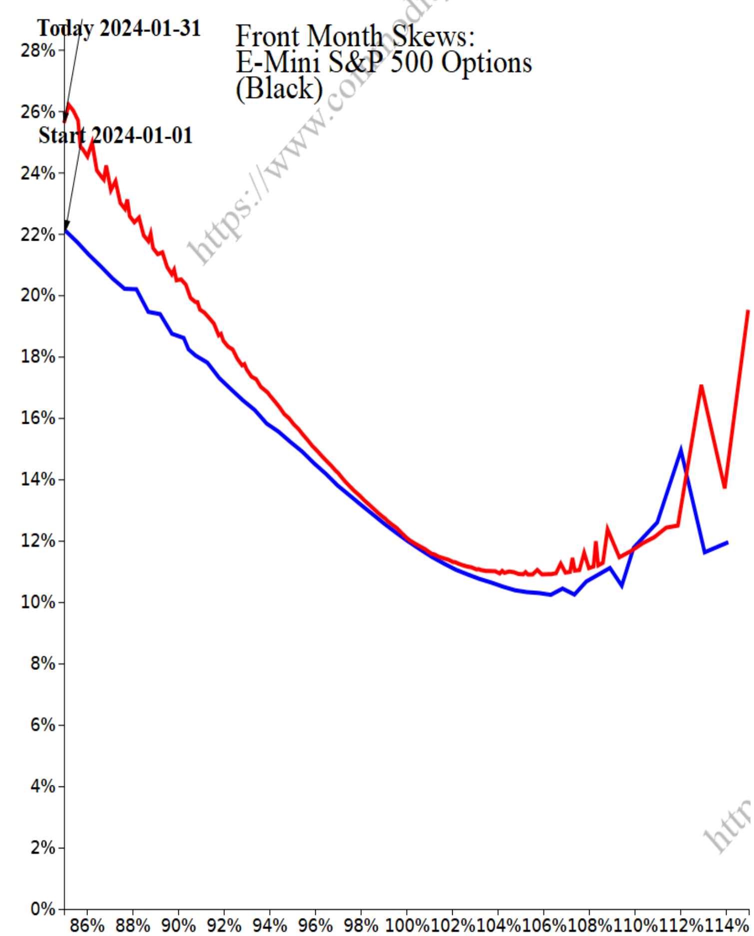
Termstructure Evolution:
E-Mini S&P 500 Options
(Black)
Vol (%)
Time to Expiry (Yrs)
Today 2024-01-31
Start 2024-01-01
20240315
20250321
20261218



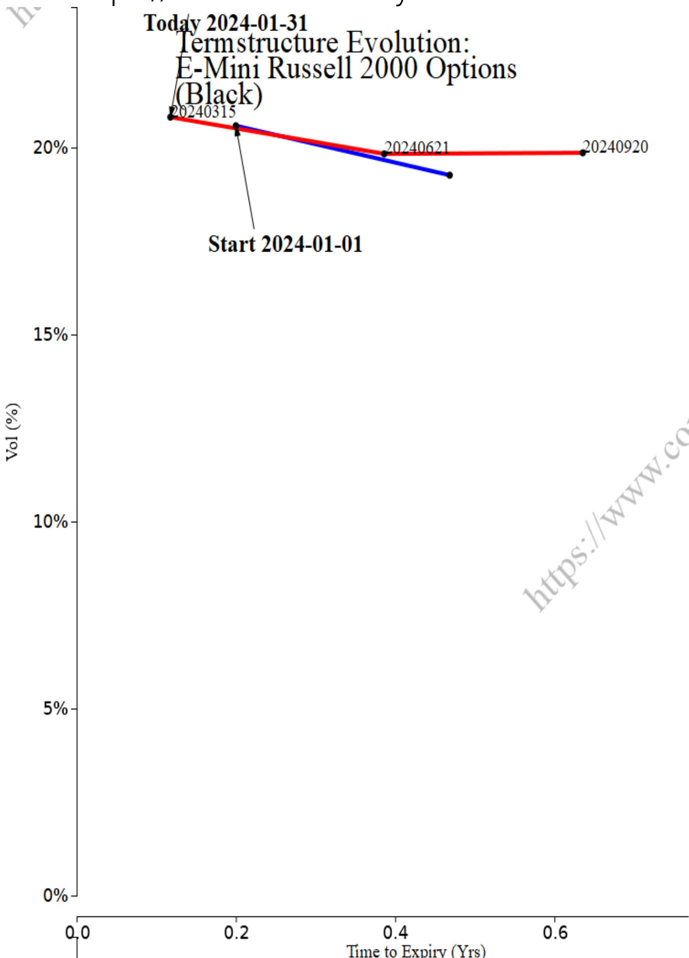
Front Month Dynamics:
E-Mini S&P 500 Options
(Black)
vol
price
Vol (%)
Price ($)
Time
Sun 07
Sun 14
Sun 21
Sun 28

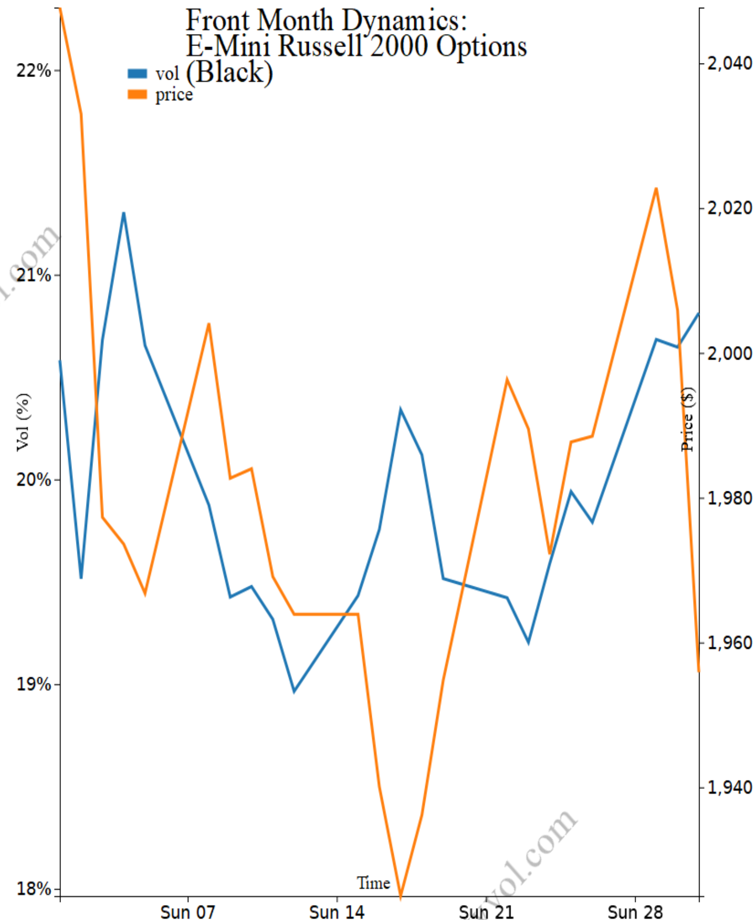


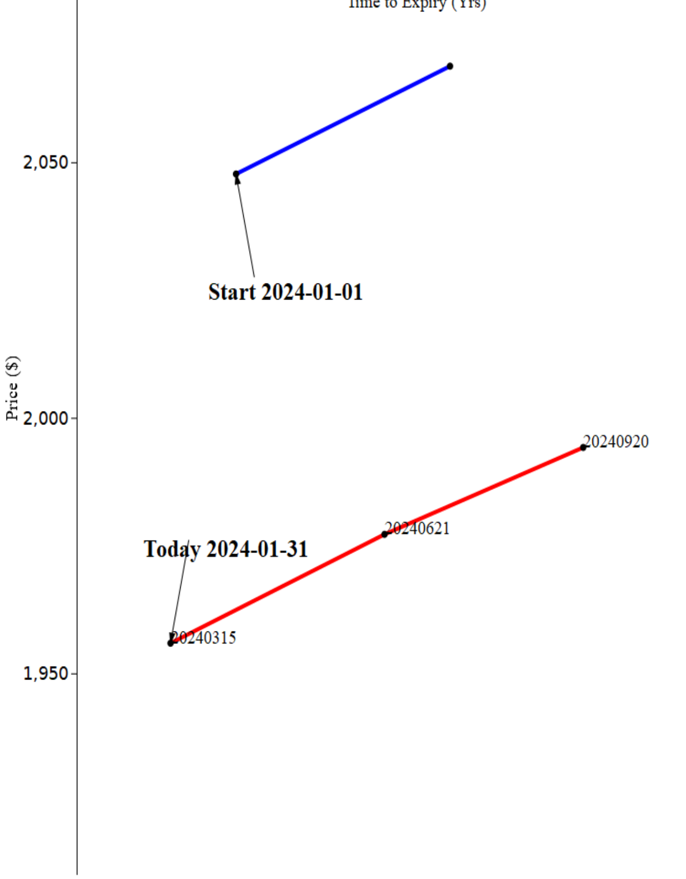
Price ($)
Today 2024-01-31
Start 2024-01-01
20240315
20250321
20261218

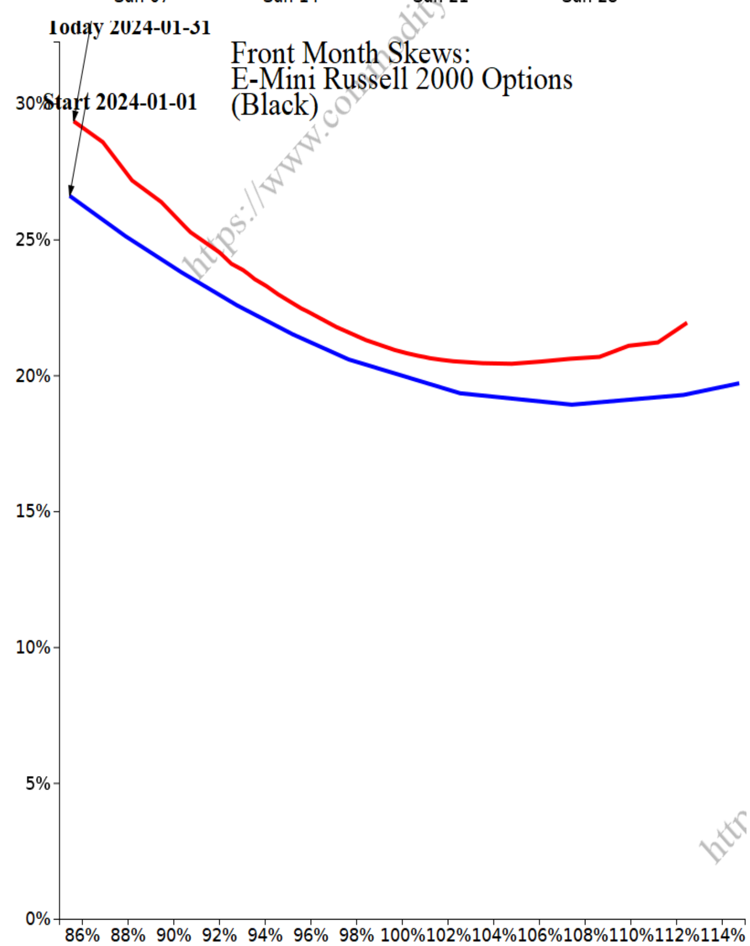


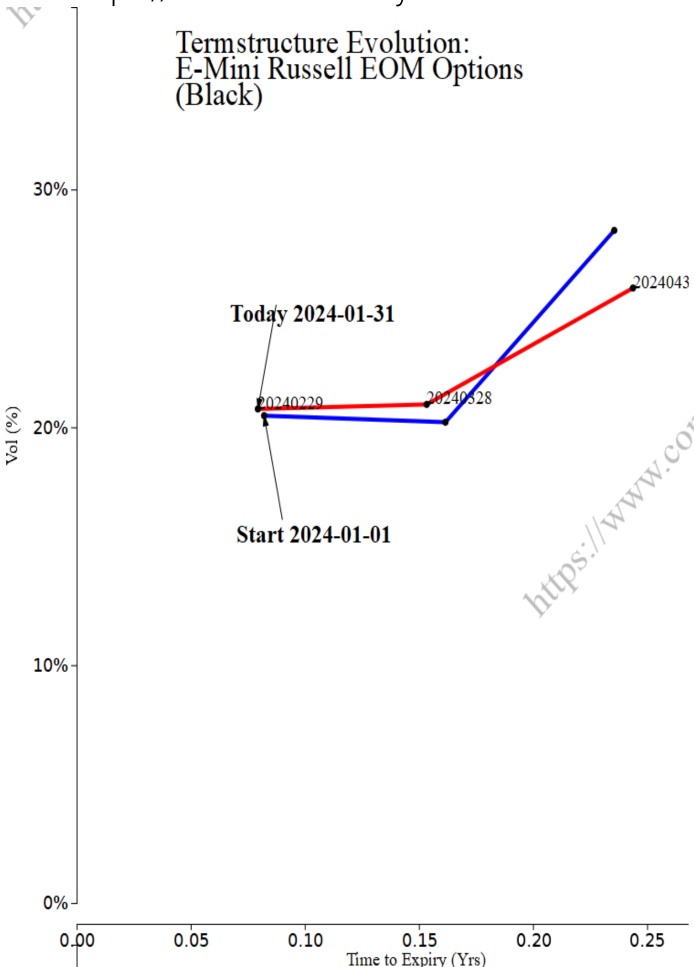
Front Month Skews:
E-Mini S&P 500 Options
(Black)
Today 2024-01-31
Start 2024-01-01

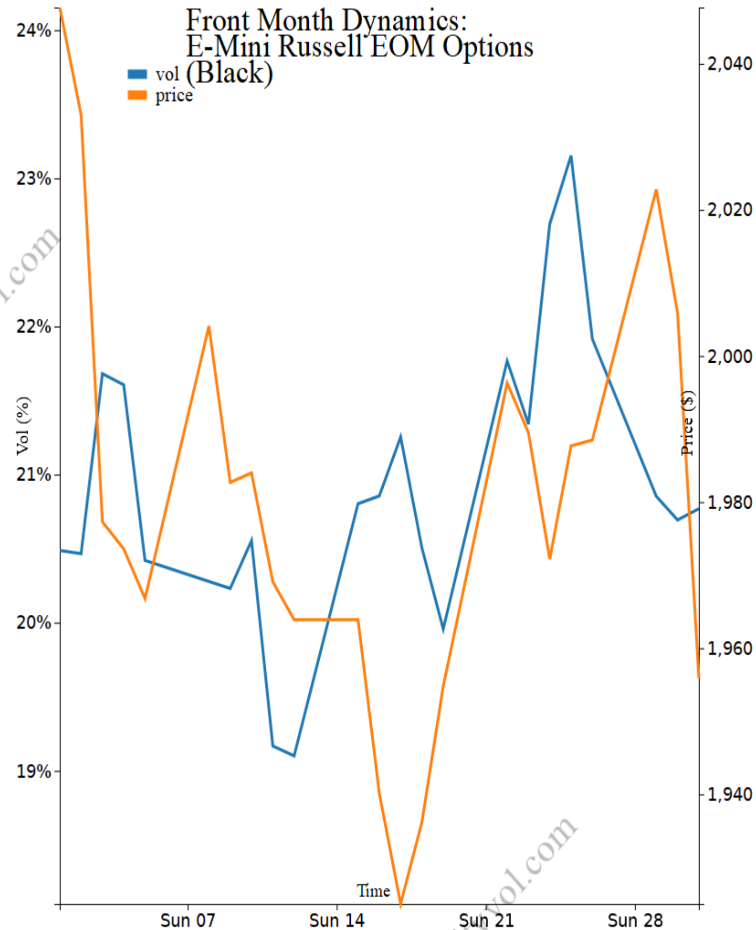

Termstructure Evolution:
E-Mini Russell 2000 Options
(Black)
Today 2024-01-31
Start 2024-01-01
20240315
20240621
20240920
Vol (%)
Time to Expiry (Yrs)

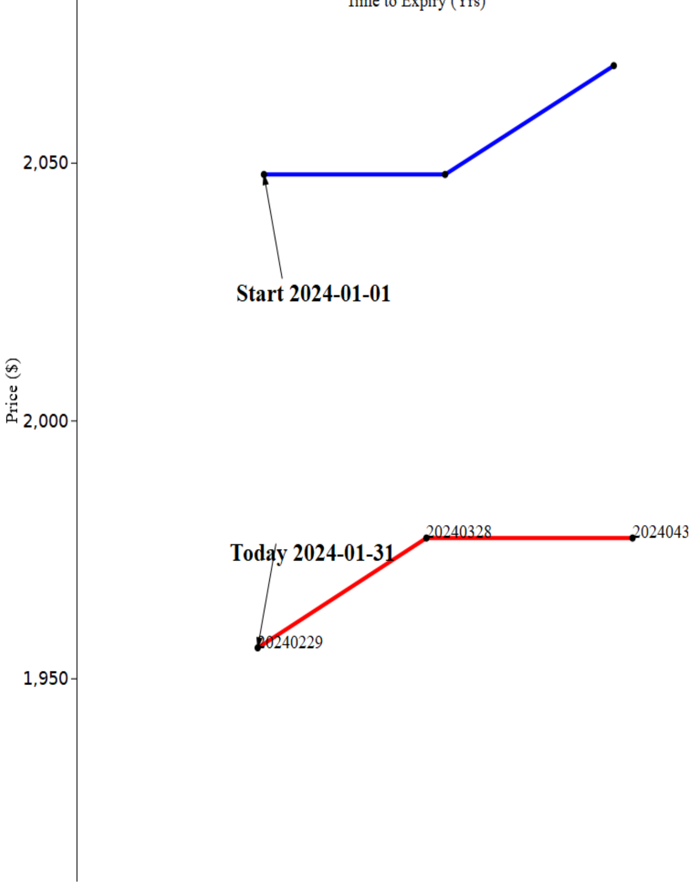

Front Month Dynamics:
E-Mini Russell 2000 Options
(Black)
vol
price
Vol (%)
Price ($)
Time
Sun 07
Sun 14
Sun 21
Sun 28

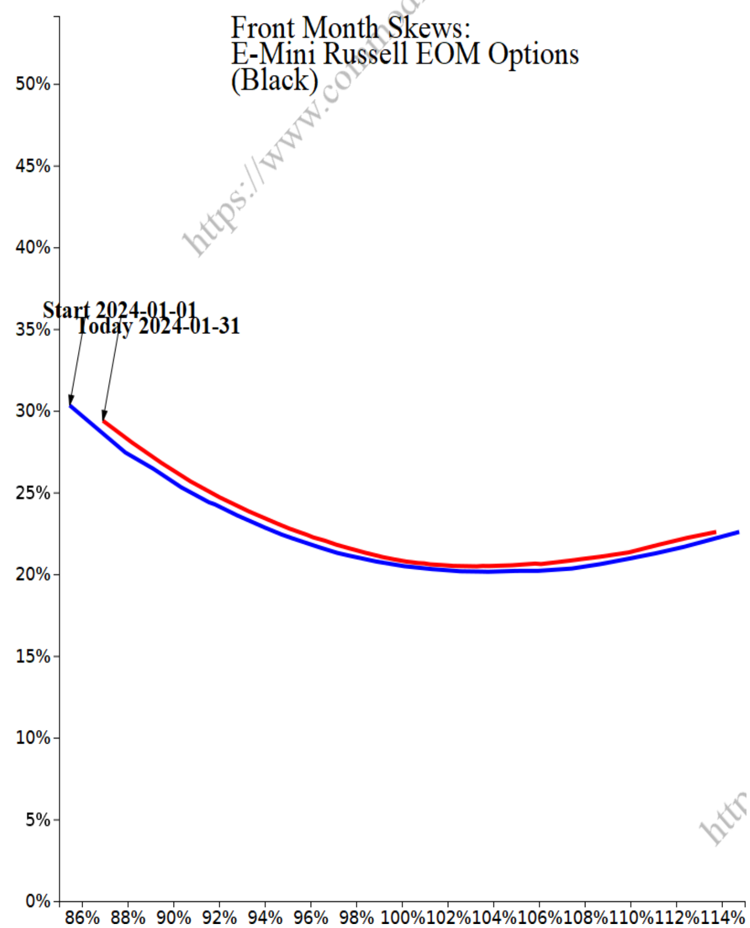

Start 2024-01-01
Today 2024-01-31
20240315
20240621
20240920
Price ($)

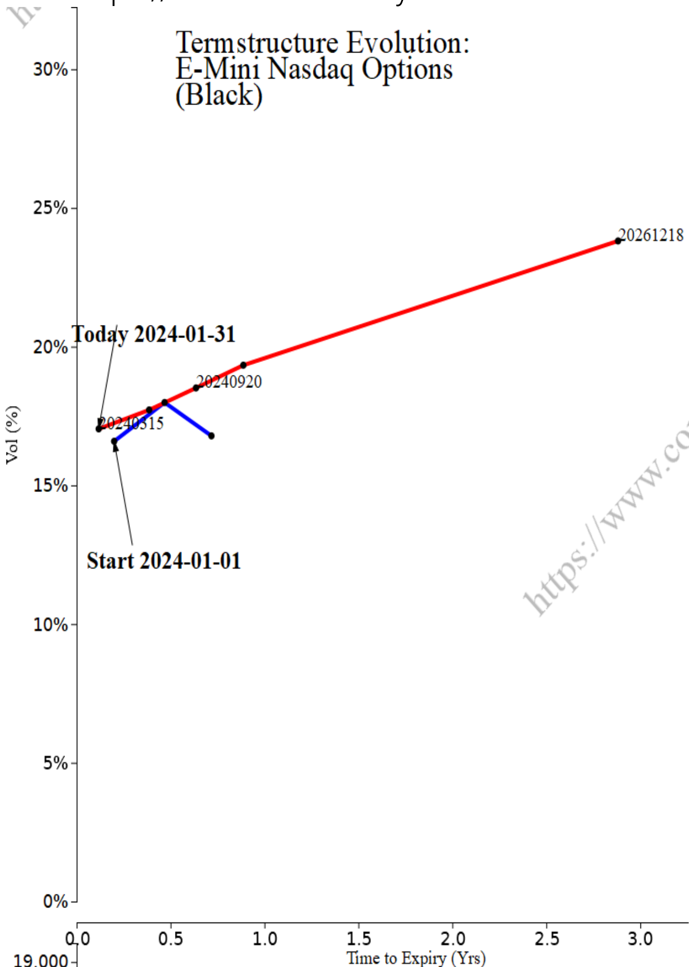

Front Month Skews:
E-Mini Russell 2000 Options
(Black)
Today 2024-01-31
Start 2024-01-01

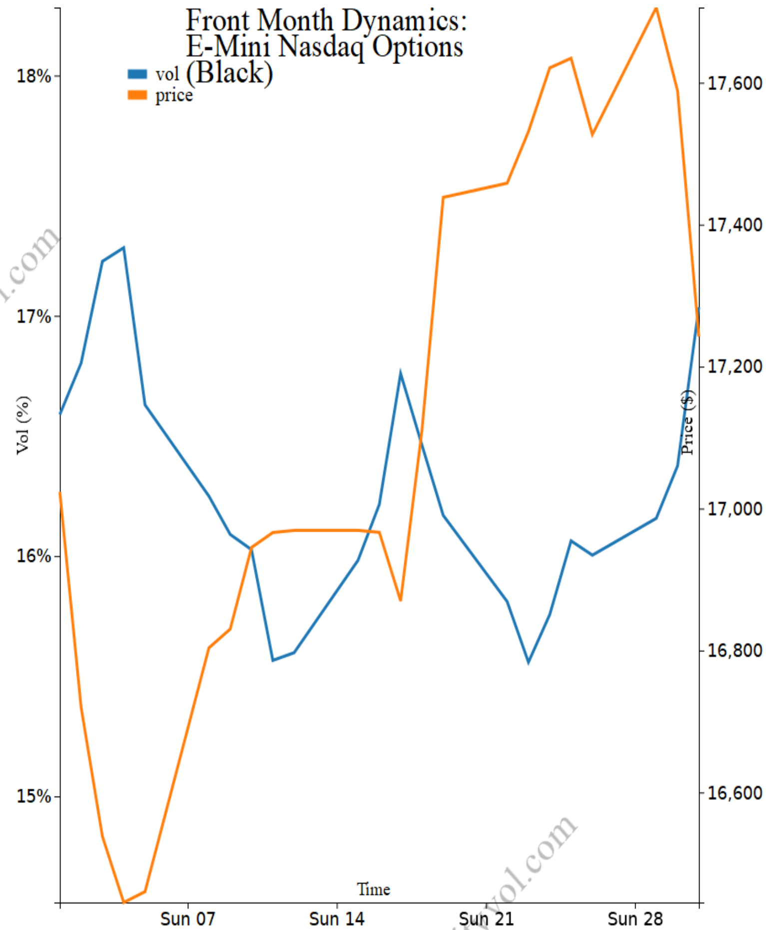

Termstructure Evolution:
E-Mini Russell EOM Options
(Black)
Today 2024-01-31
Start 2024-01-01
20240229
20240328
2024043
Vol (%)
30%
20%
10%
0%
0.00
0.05
0.10
0.15
0.20
0.25
Time to Expiry (Yrs)

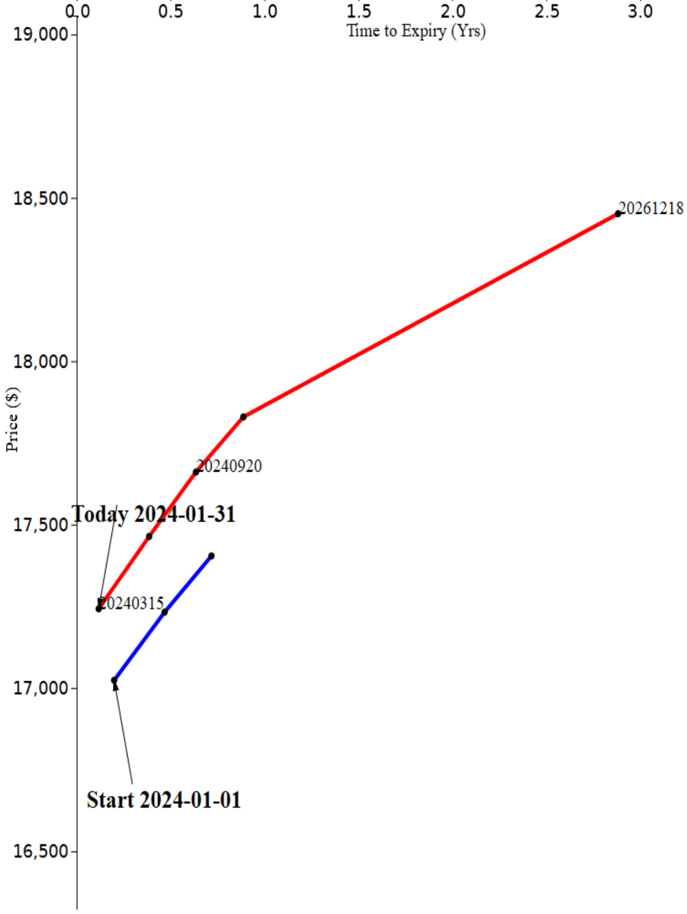

Front Month Dynamics:
E-Mini Russell EOM Options
(Black)
vol
price
Vol (%)
Price ($)
24%
23%
22%
21%
20%
19%
2,040
2,020
2,000
1,980
1,960
1,940
Time
Sun 07
Sun 14
Sun 21
Sun 28

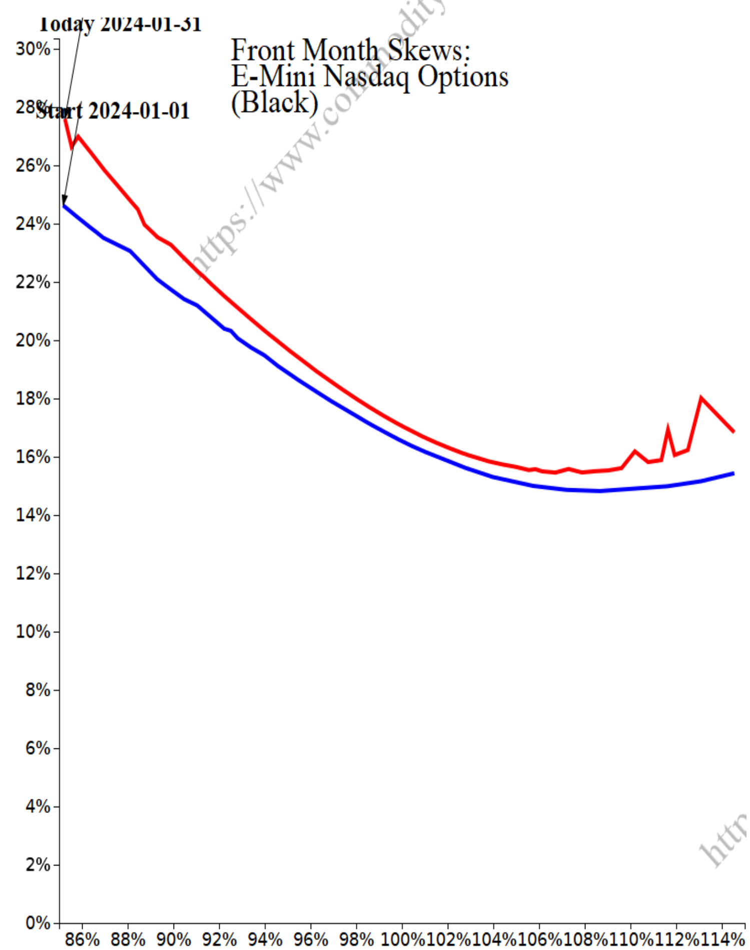

Start 2024-01-01
Today 2024-01-31
20240328
2024043
20240229
Price ($)
2,050
2,000
1,950

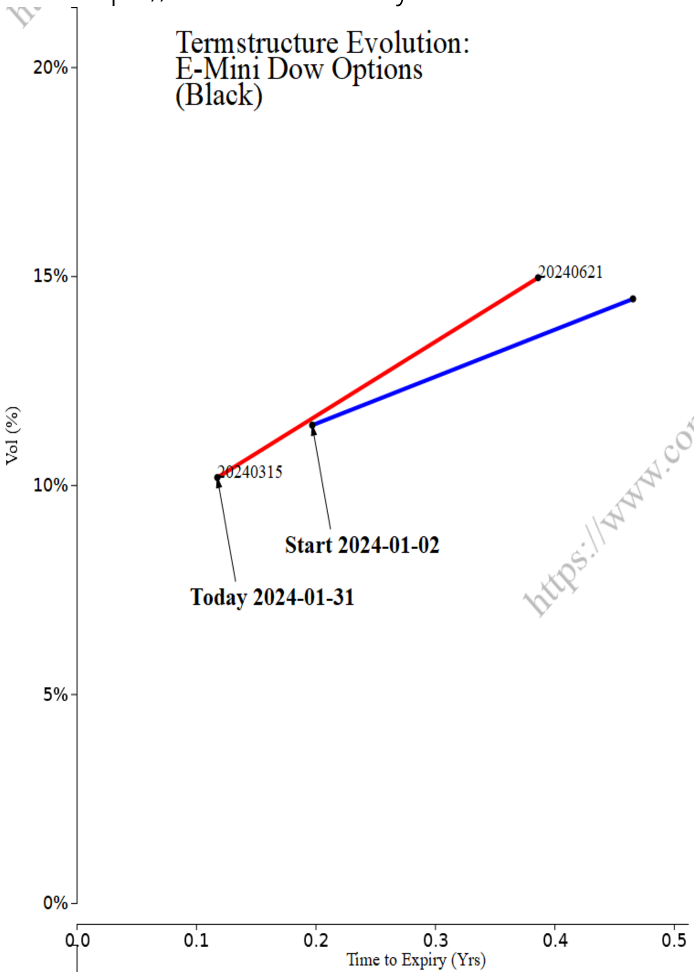

Front Month Skews:
E-Mini Russell EOM Options
(Black)
Start 2024-01-01
Today 2024-01-31
50%
45%
40%
35%
30%
25%
20%
15%
10%
5%
0%
86%
88%
90%
92%
94%
96%
98%
100%
102%
104%
106%
108%
110%
112%
114%

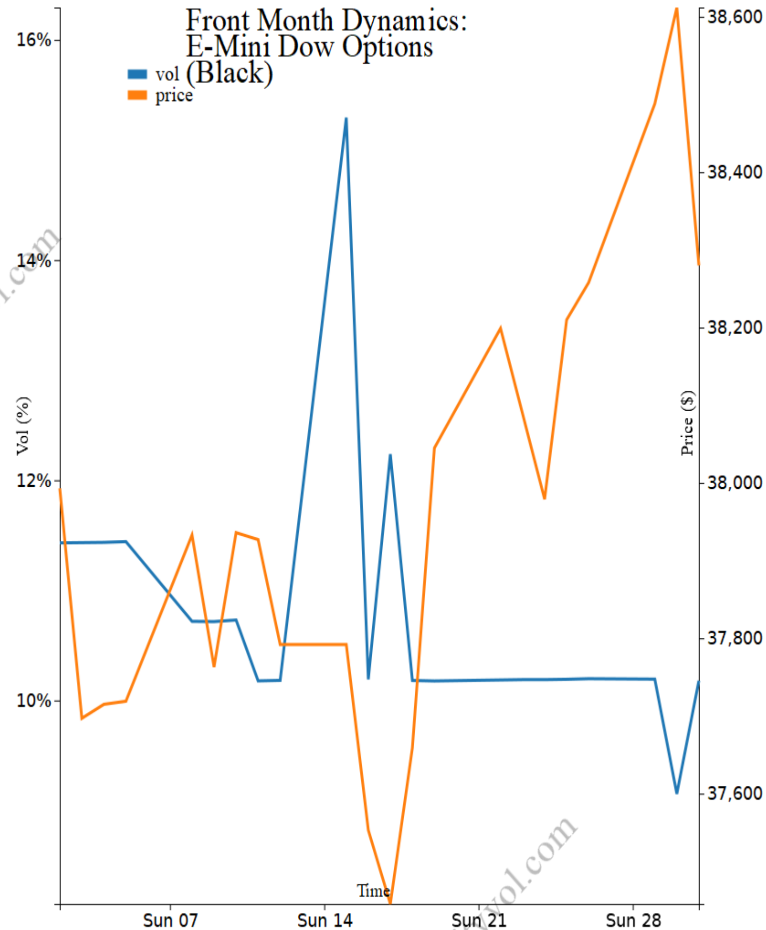

Termstructure Evolution:
E-Mini Nasdaq Options
(Black)
Vol (%)
Time to Expiry (Yrs)
Today 2024-01-31
Start 2024-01-01
20261218
20240920
20240315

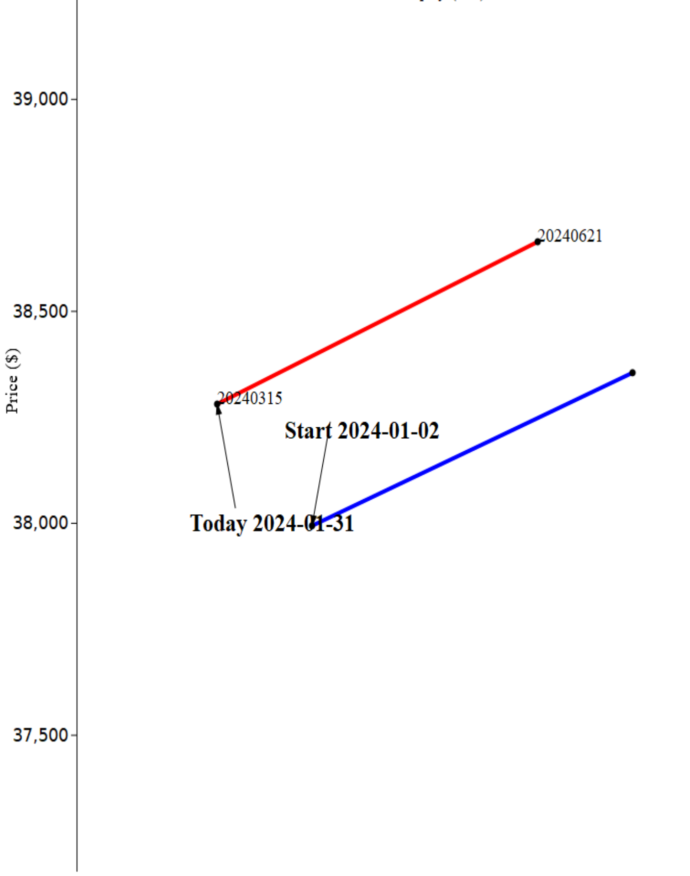

Front Month Dynamics:
E-Mini Nasdaq Options
(Black)
vol
price
Vol (%)
Price ($)
Time
Sun 07
Sun 14
Sun 21
Sun 28

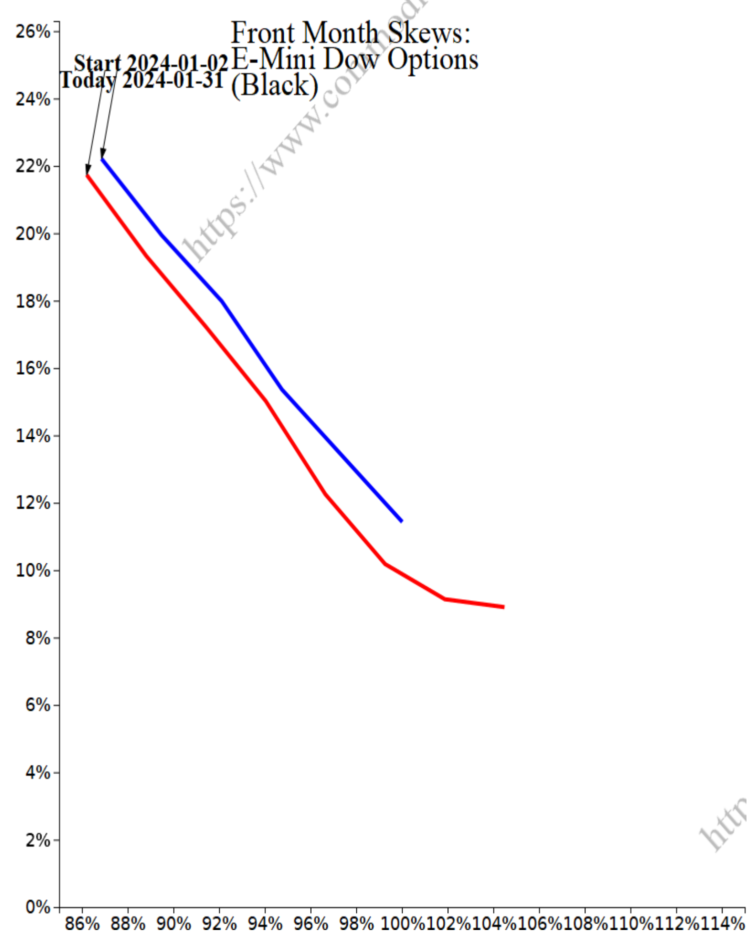

Price ($)
Today 2024-01-31
Start 2024-01-01
20261218
20240920
20240315

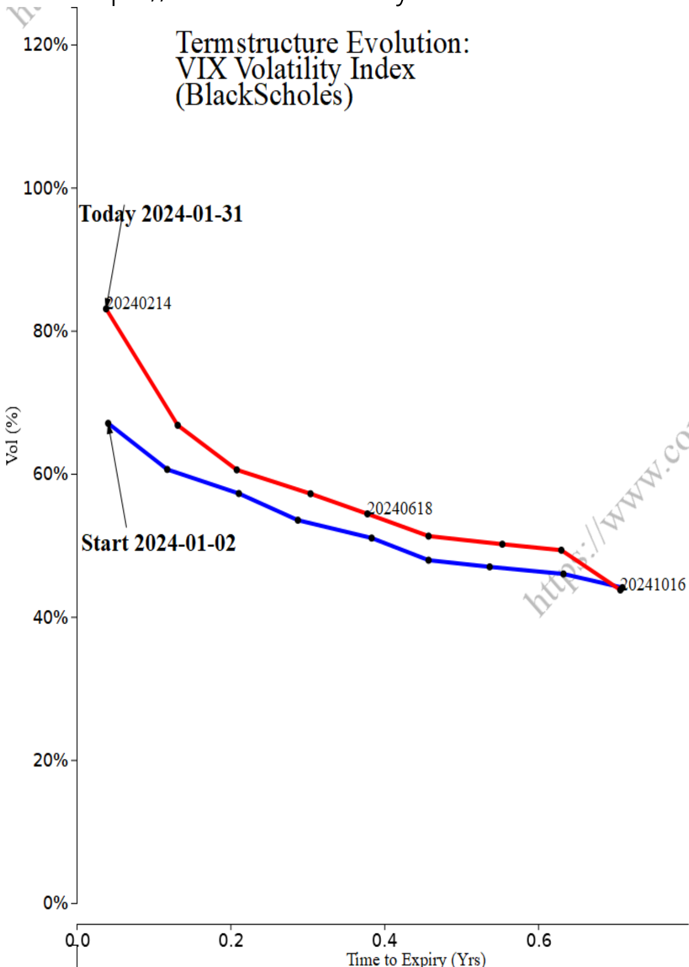

Today 2024-01-31
Start 2024-01-01
Front Month Skews:
E-Mini Nasdaq Options
(Black)

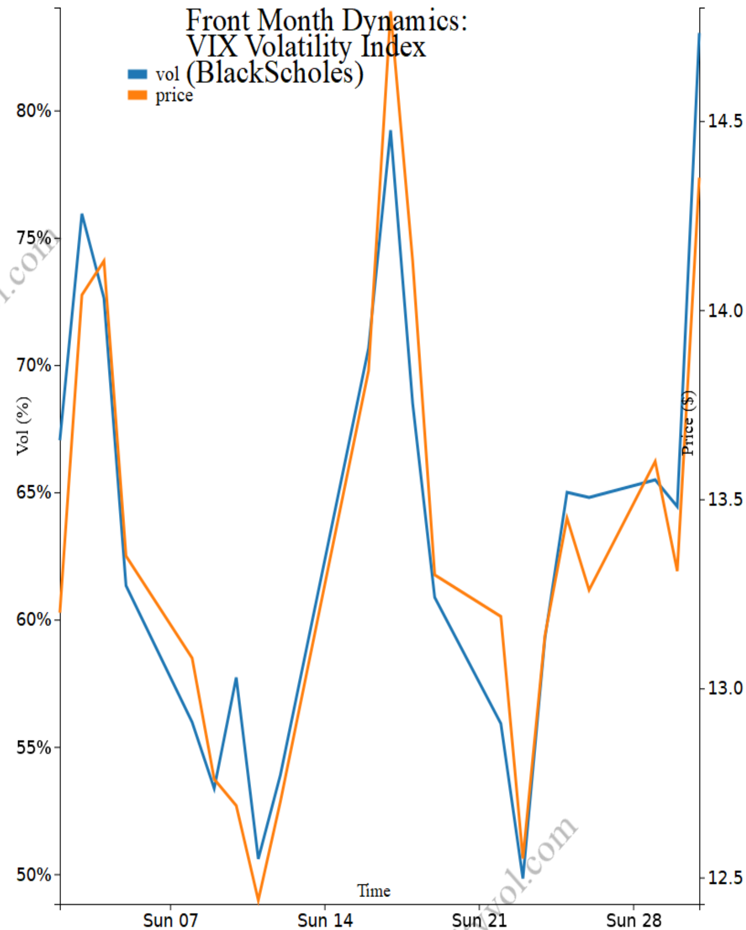

Termstructure Evolution:
E-Mini Dow Options
(Black)
20%
15%
10%
5%
0%
Vol (%)
20240621
20240315
Start 2024-01-02
Today 2024-01-31
0.0
0.1
0.2
0.3
0.4
0.5
Time to Expiry (Yrs)

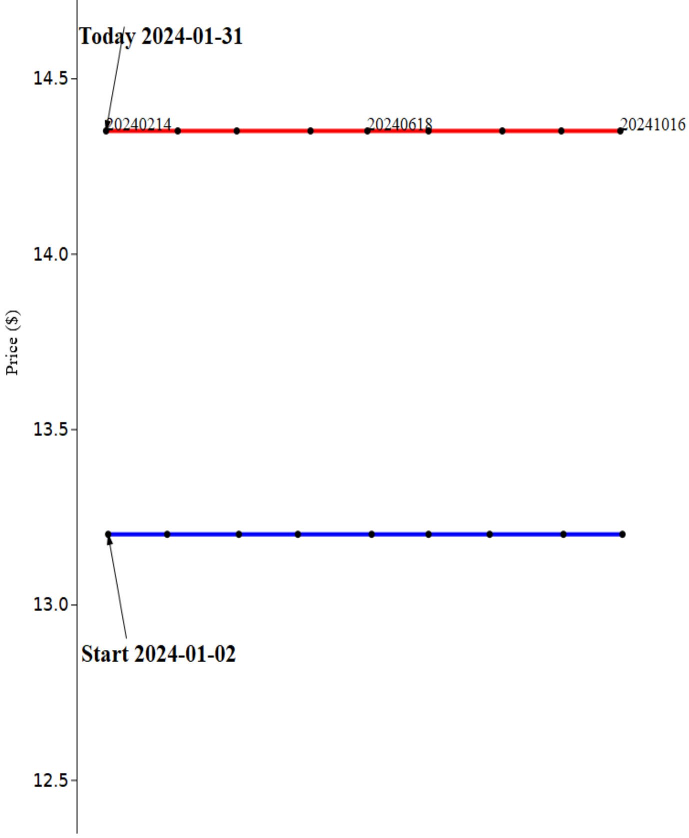

Front Month Dynamics:
E-Mini Dow Options
(Black)
vol
price
16%
14%
12%
10%
Vol (%)
38,600
38,400
38,200
38,000
37,800
37,600
Price ($)
Time
Sun 07
Sun 14
Sun 21
Sun 28

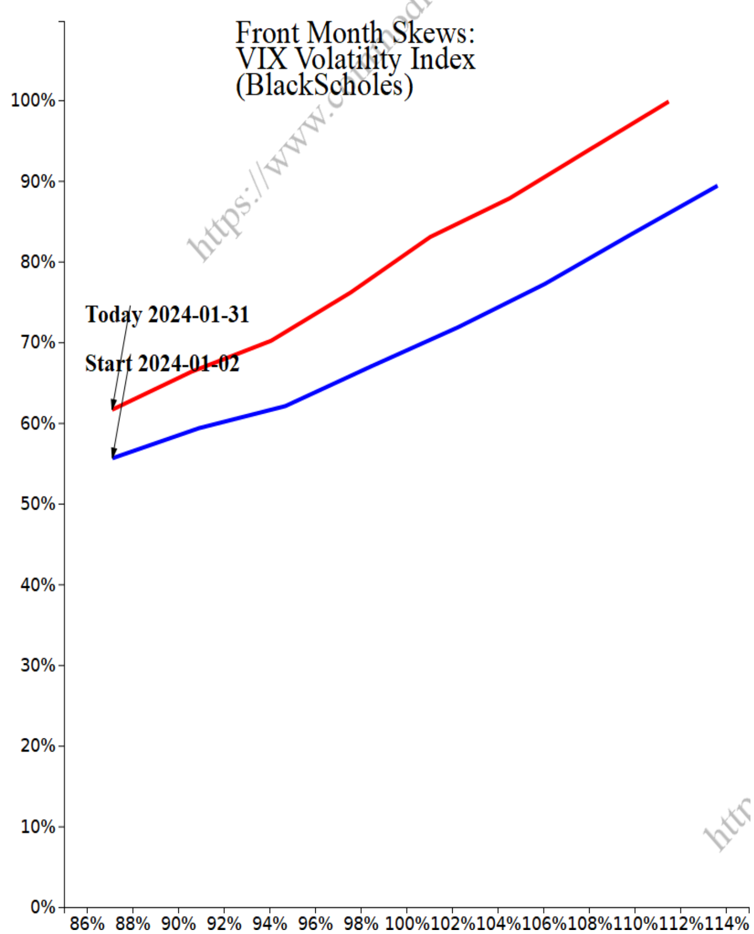

39,000
38,500
38,000
37,500
Price ($)
20240621
20240315
Start 2024-01-02
Today 2024-01-31


Front Month Skews:
E-Mini Dow Options
(Black)
Start 2024-01-02
Today 2024-01-31
26%
24%
22%
20%
18%
16%
14%
12%
10%
8%
6%
4%
2%
0%
86%
88%
90%
92%
94%
96%
98%
100%
102%
104%
106%
108%
110%
112%
114%

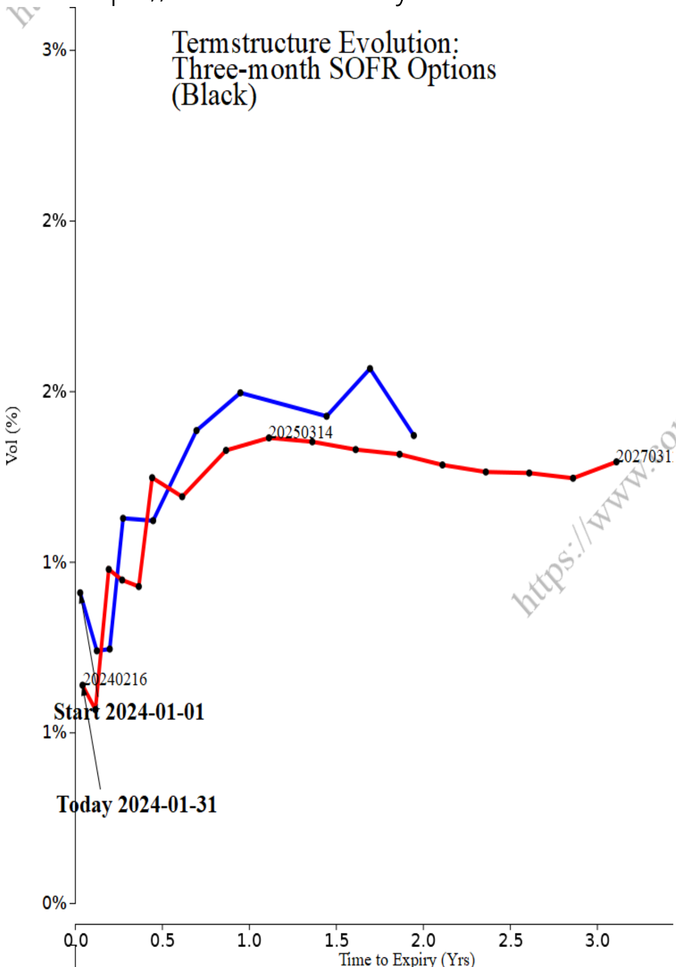

Termstructure Evolution:
VIX Volatility Index
(BlackScholes)
Today 2024-01-31
Start 2024-01-02
20240214
20240618
20241016
Vol (%)
Time to Expiry (Yrs)
0%
20%
40%
60%
80%
100%
120%
0.0
0.2
0.4
0.6

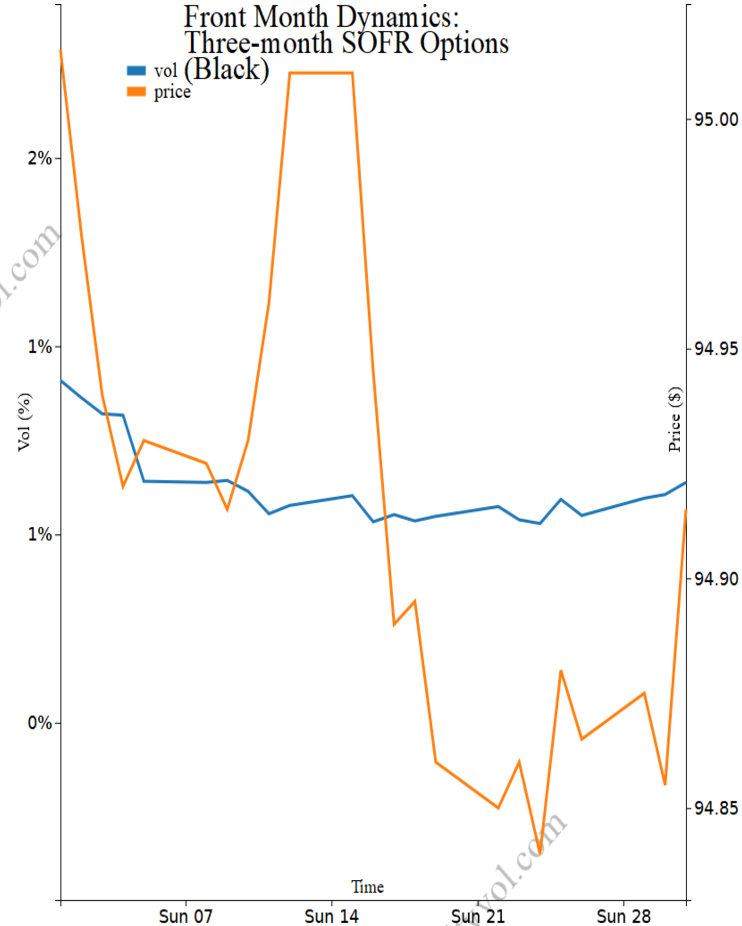

Front Month Dynamics:
VIX Volatility Index
(BlackScholes)
vol
price
Vol (%)
Price ($)
Time
Sun 07
Sun 14
Sun 21
Sun 28
50%
55%
60%
65%
70%
75%
80%
12.5
13.0
13.5
14.0
14.5

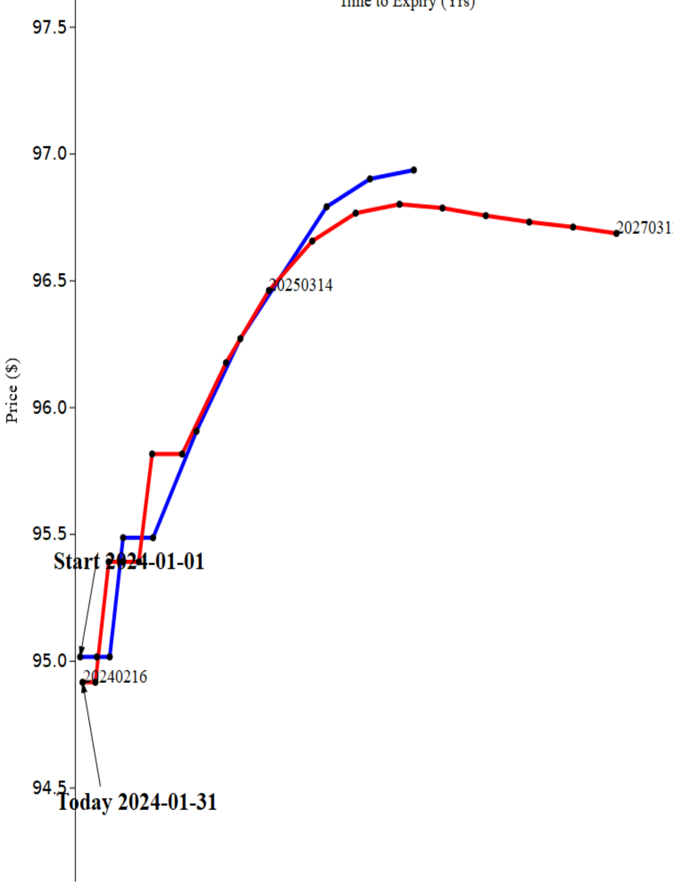

Today 2024-01-31
Start 2024-01-02
20240214
20240618
20241016
Price ($)
12.5
13.0
13.5
14.0
14.5

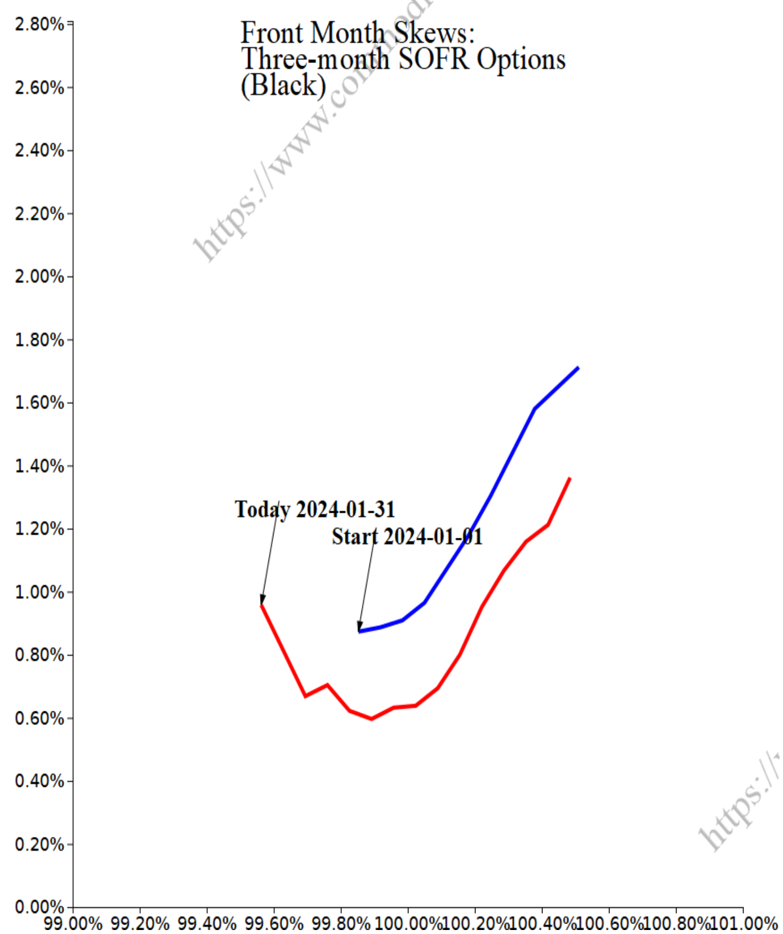

Front Month Skews:
VIX Volatility Index
(BlackScholes)
Today 2024-01-31
Start 2024-01-02
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
86%
88%
90%
92%
94%
96%
98%
100%
102%
104%
106%
108%
110%
112%
114%

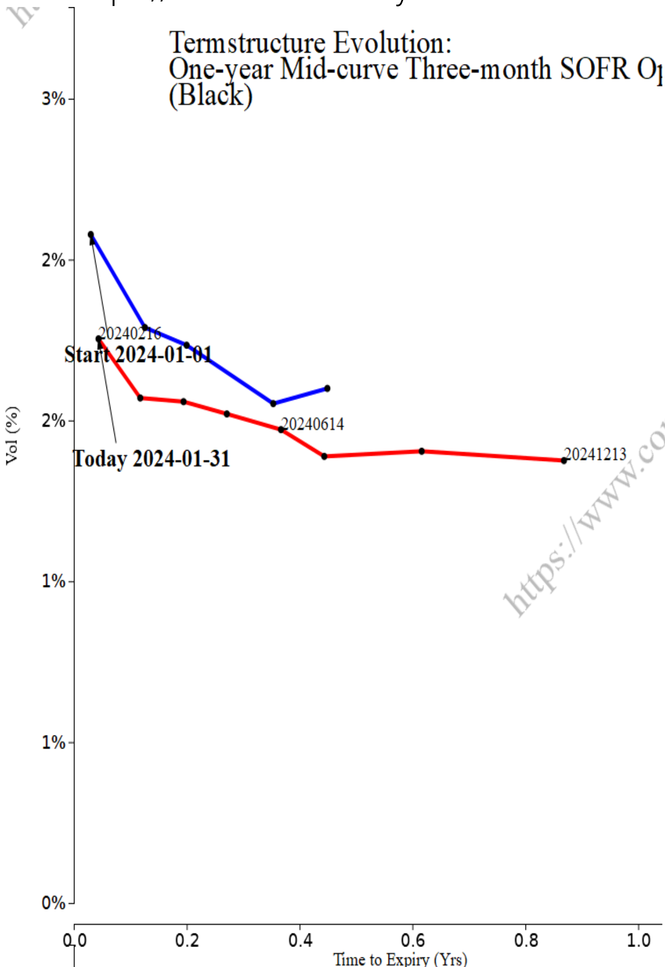
InterestRates: Fixed Income and STIRS

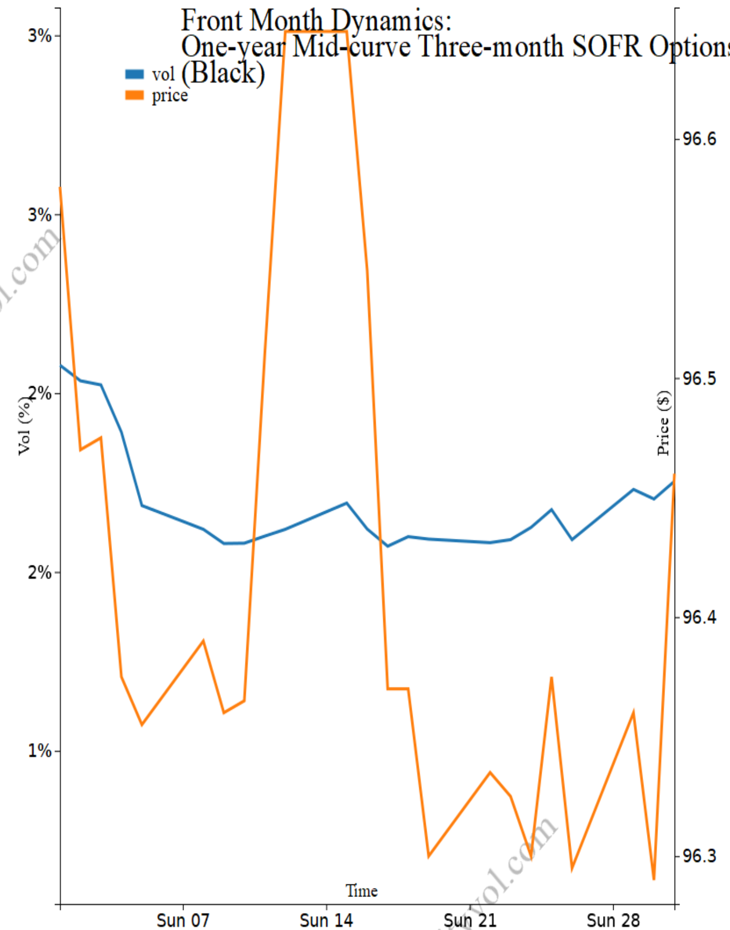

Termstructure Evolution:
Three-month SOFR Options
(Black)
Vol (%)
Time to Expiry (Yrs)
20250314
2027031
20240216
Start 2024-01-01
Today 2024-01-31

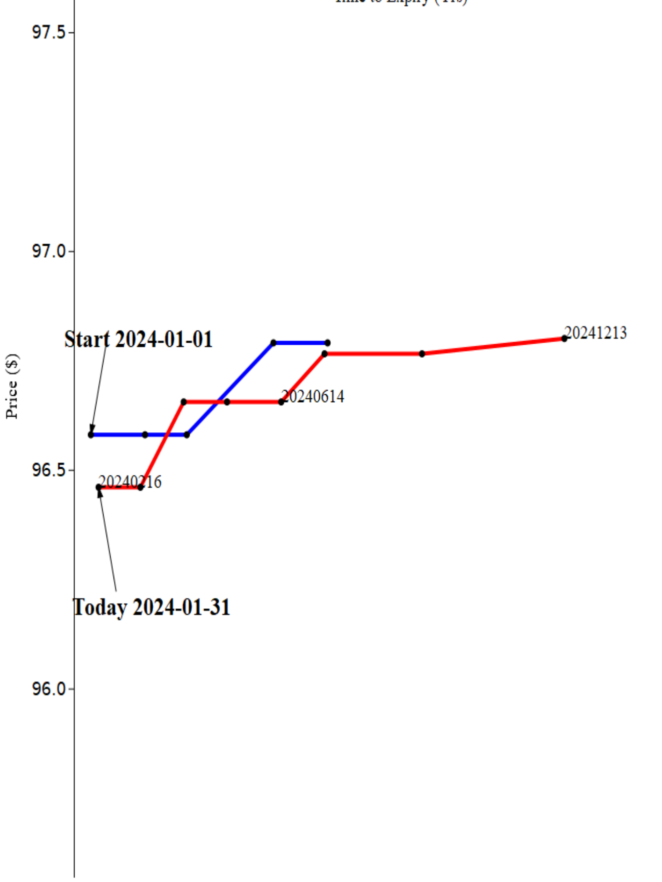

Front Month Dynamics:
Three-month SOFR Options
(Black)
vol
price
Vol (%)
Price ($)
Time
Sun 07
Sun 14
Sun 21
Sun 28

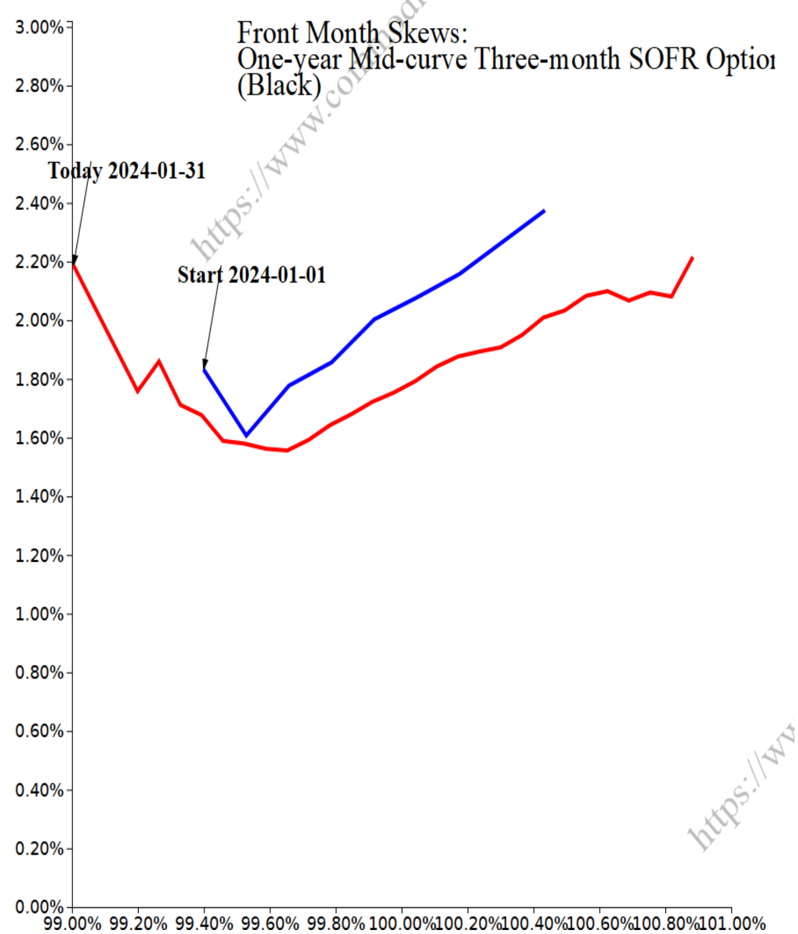

Price ($)
20250314
2027031
20240216
Start 2024-01-01
Today 2024-01-31

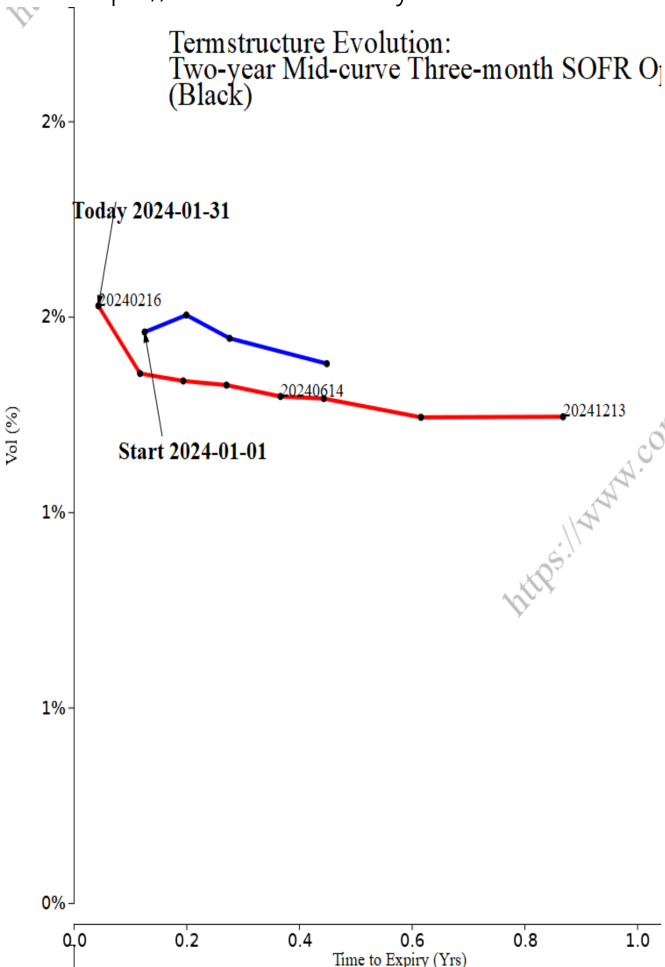

Front Month Skews:
Three-month SOFR Options
(Black)
Today 2024-01-31
Start 2024-01-01

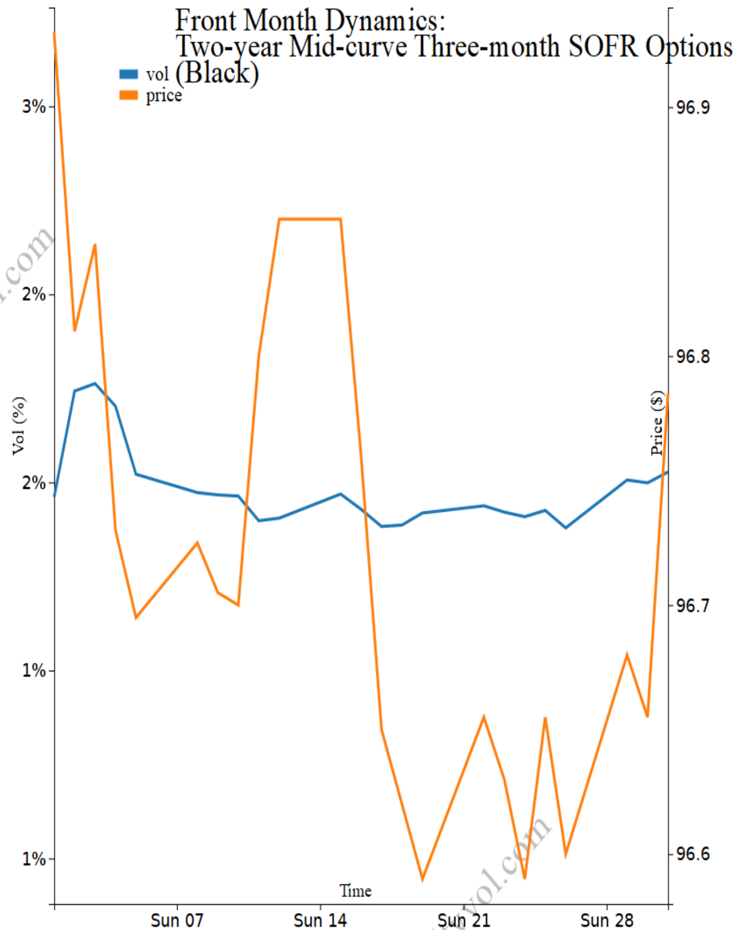

Termstructure Evolution:
One-year Mid-curve Three-month SOFR O
(Black)
Vol (%)
Time to Expiry (Yrs)
Start 2024-01-01
Today 2024-01-31
20240216
20240614
20241213
3%
2%
1%
0%
0.0
0.2
0.4
0.6
0.8
1.0

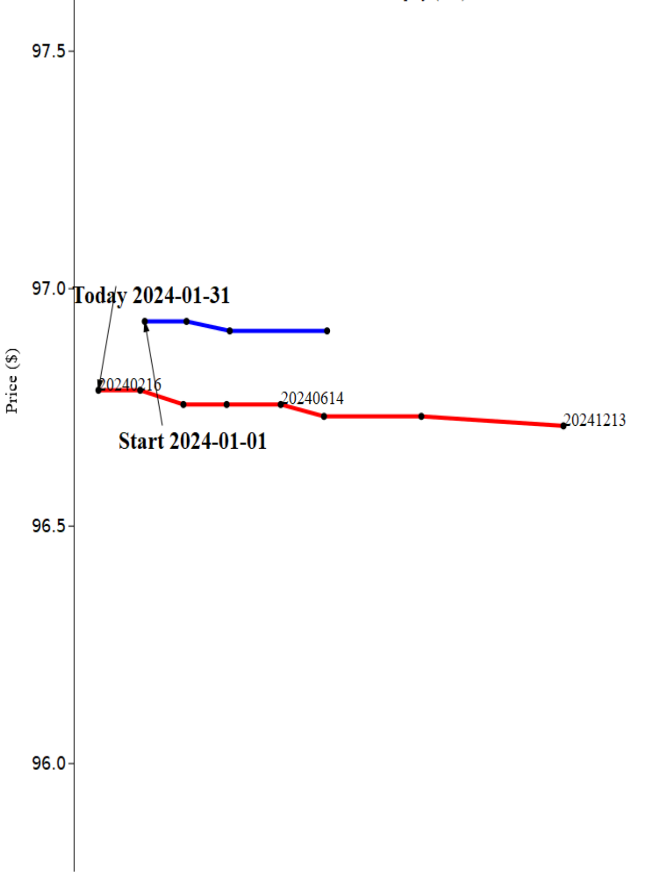

Front Month Dynamics:
One-year Mid-curve Three-month SOFR Options
(Black)
vol
price
Vol (%)
Price ($)
Time
Sun 07
Sun 14
Sun 21
Sun 28
96.6
96.5
96.4
96.3

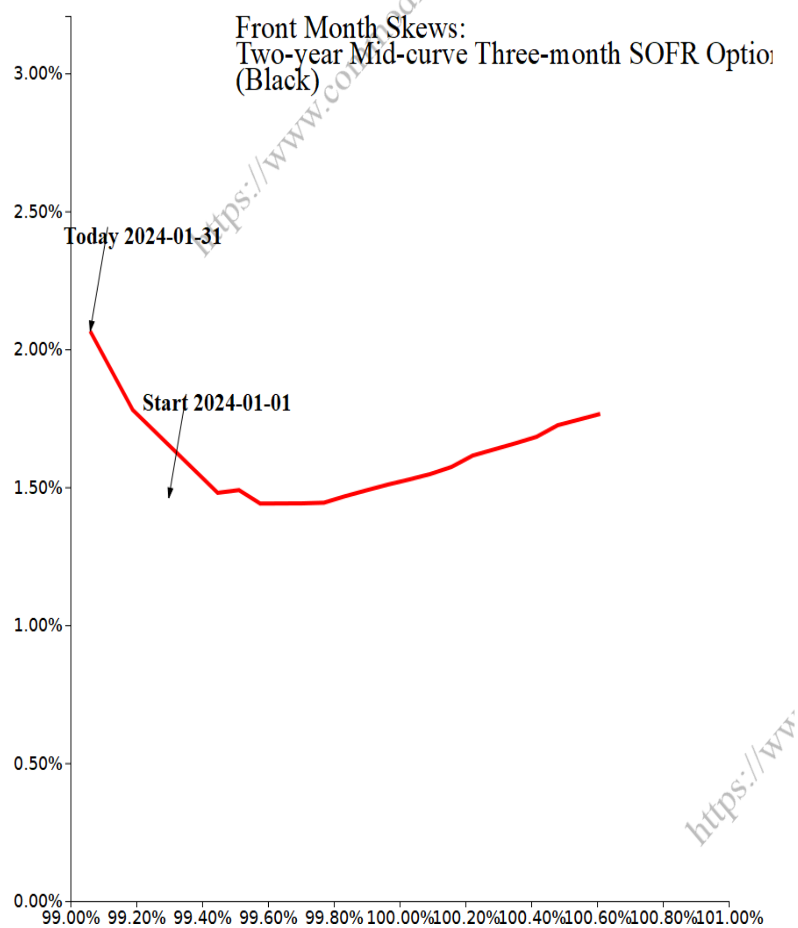

Price ($)
Start 2024-01-01
Today 2024-01-31
20240216
20240614
20241213
97.5
97.0
96.5
96.0

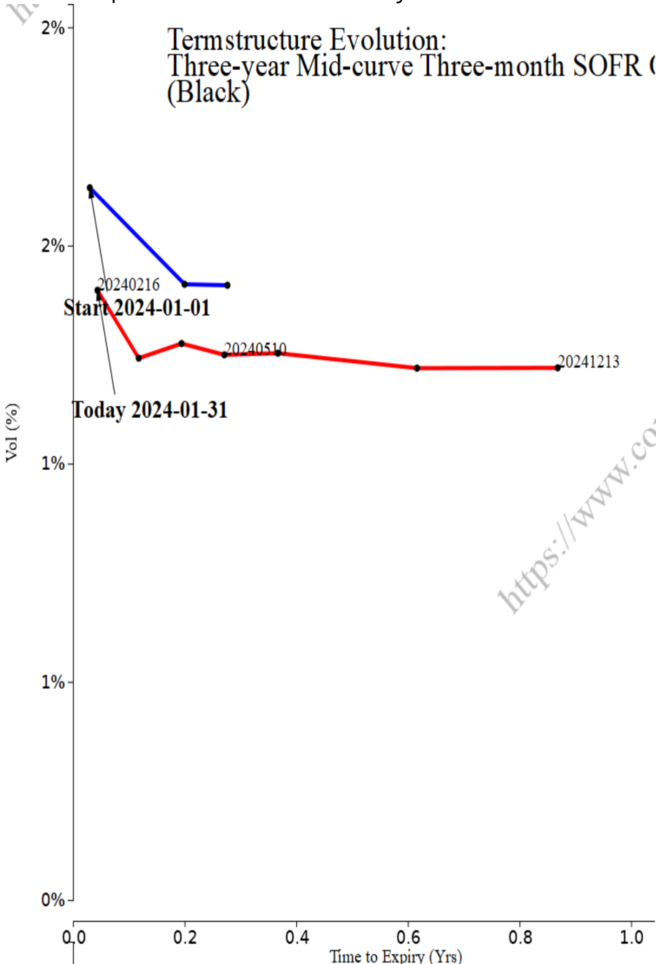

Front Month Skews:
One-year Mid-curve Three-month SOFR Optio
(Black)
Today 2024-01-31
Start 2024-01-01
3.00%
2.80%
2.60%
2.40%
2.20%
2.00%
1.80%
1.60%
1.40%
1.20%
1.00%
0.80%
0.60%
0.40%
0.20%
0.00%
99.00%
99.20%
99.40%
99.60%
99.80%
100.00%
100.20%
100.40%
100.60%
100.80%
101.00%

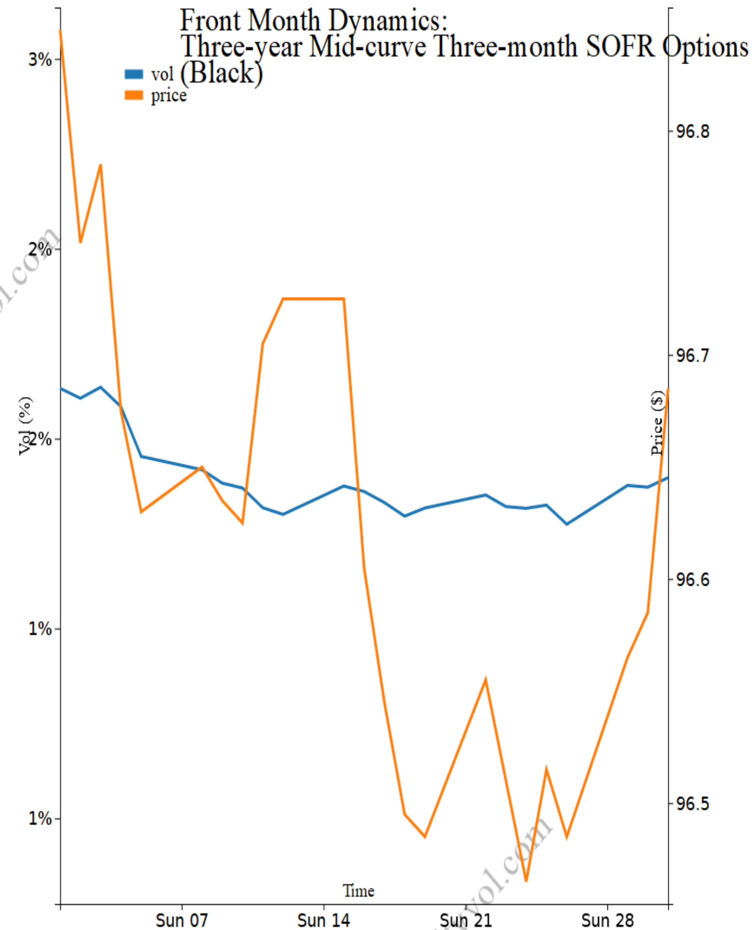

Termstructure Evolution:
Two-year Mid-curve Three-month SOFR O
(Black)
Today 2024-01-31
Start 2024-01-01
20240216
20240614
20241213
Vol (%)
2%
2%
1%
1%
0%
0.0
0.2
0.4
0.6
0.8
1.0
Time to Expiry (Yrs)

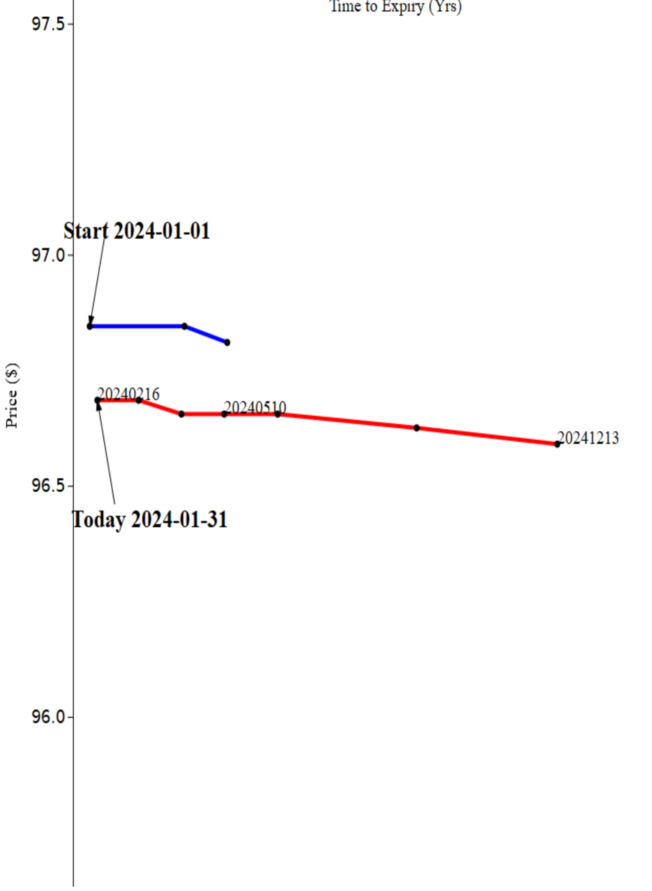

Front Month Dynamics:
Two-year Mid-curve Three-month SOFR Options
(Black)
vol
price
Vol (%)
Price ($)
3%
2%
2%
1%
1%
96.9
96.8
96.7
96.6
Time
Sun 07
Sun 14
Sun 21
Sun 28

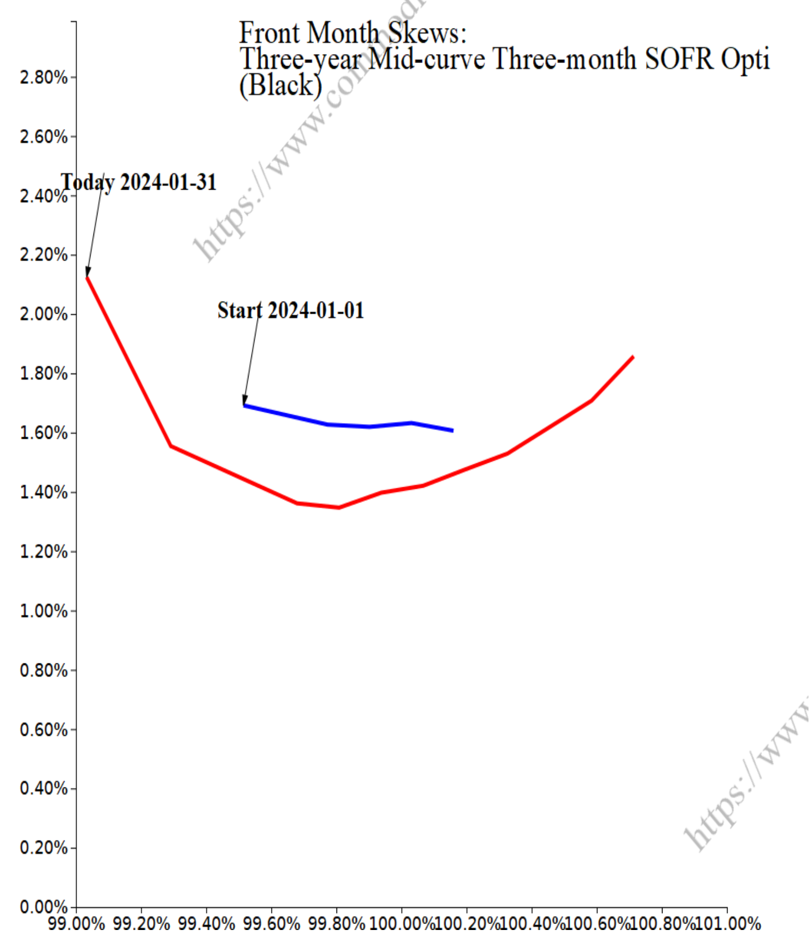

Today 2024-01-31
Start 2024-01-01
20240216
20240614
20241213
Price ($)
97.5
97.0
96.5
96.0

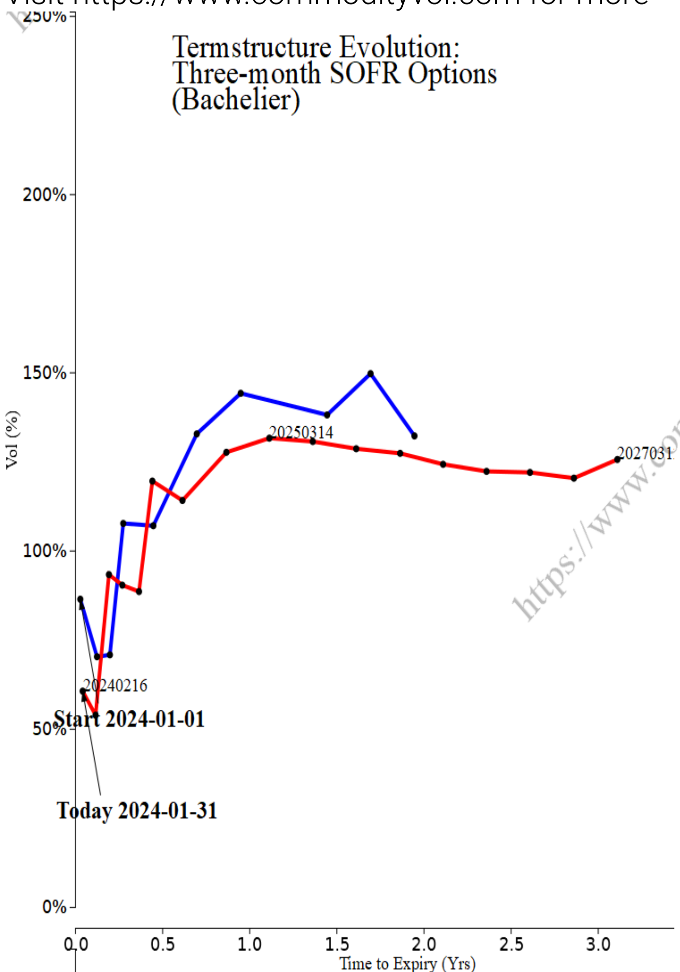

Front Month Skews:
Two-year Mid-curve Three-month SOFR Optio
(Black)
Today 2024-01-31
Start 2024-01-01
3.00%
2.50%
2.00%
1.50%
1.00%
0.50%
0.00%
99.00%
99.20%
99.40%
99.60%
99.80%
100.00%
100.20%
100.40%
100.60%
100.80%
101.00%

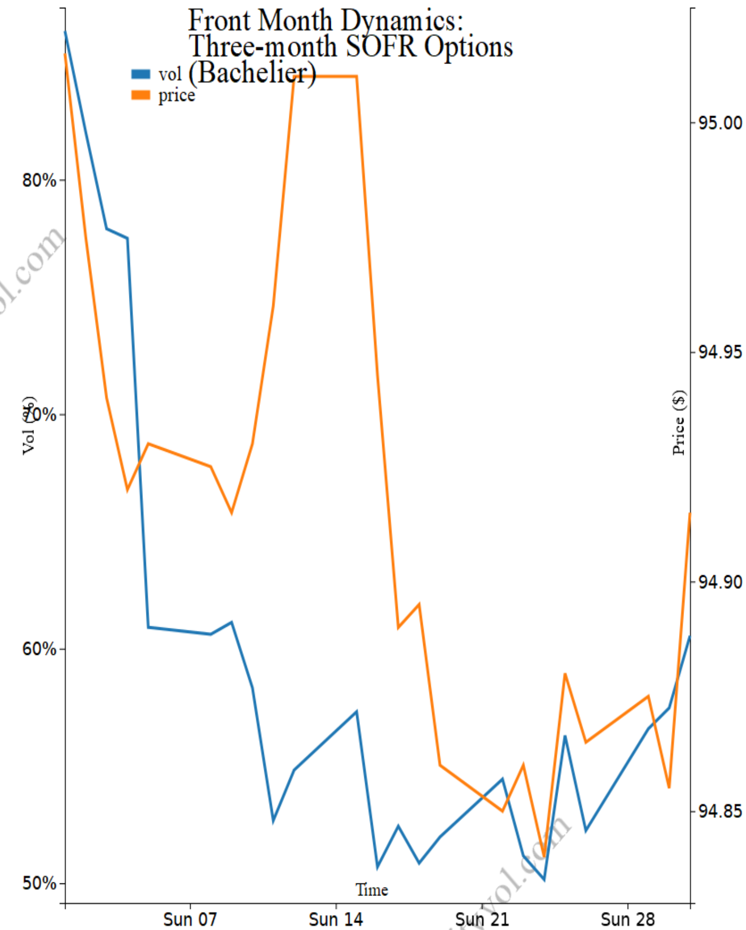

Termstructure Evolution:
Three-year Mid-curve Three-month SOFR (
(Black)
Start 2024-01-01
Today 2024-01-31
20240216
20240510
20241213
Vol (%)
Time to Expiry (Yrs)

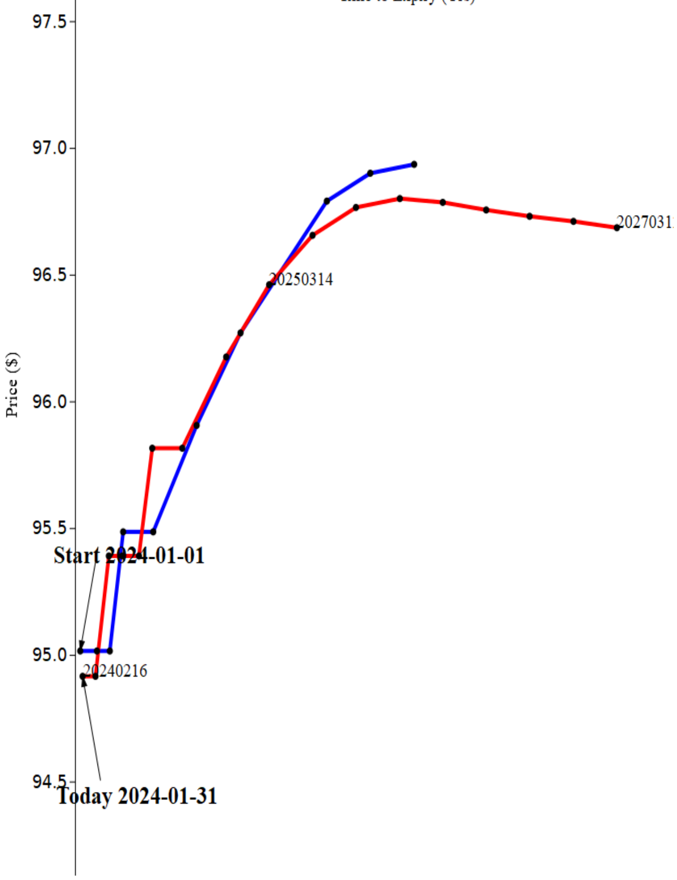

Front Month Dynamics:
Three-year Mid-curve Three-month SOFR Options
(Black)
vol
price
Vol (%)
Price ($)
Time
Sun 07
Sun 14
Sun 21
Sun 28

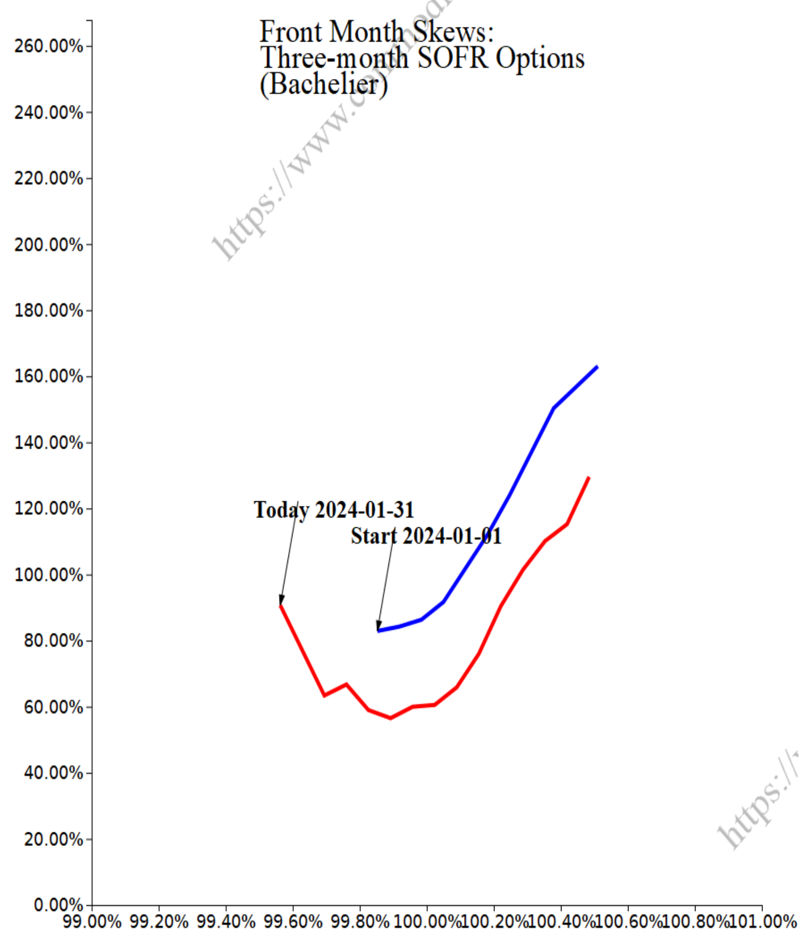

Start 2024-01-01
Today 2024-01-31
20240216
20240510
20241213
Price ($)

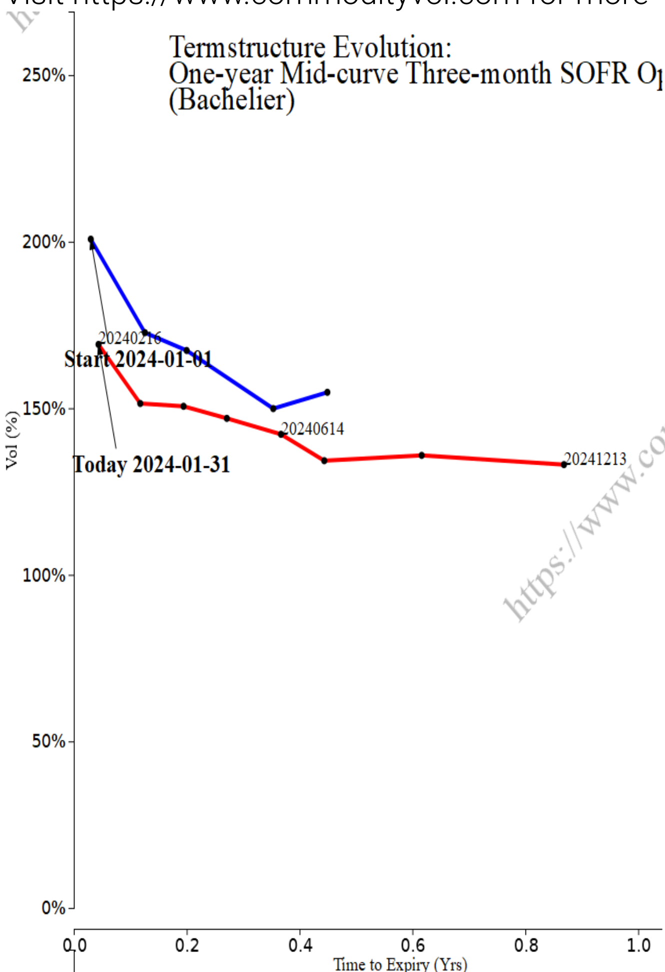

Front Month Skews:
Three-year Mid-curve Three-month SOFR Opti
(Black)
Today 2024-01-31
Start 2024-01-01

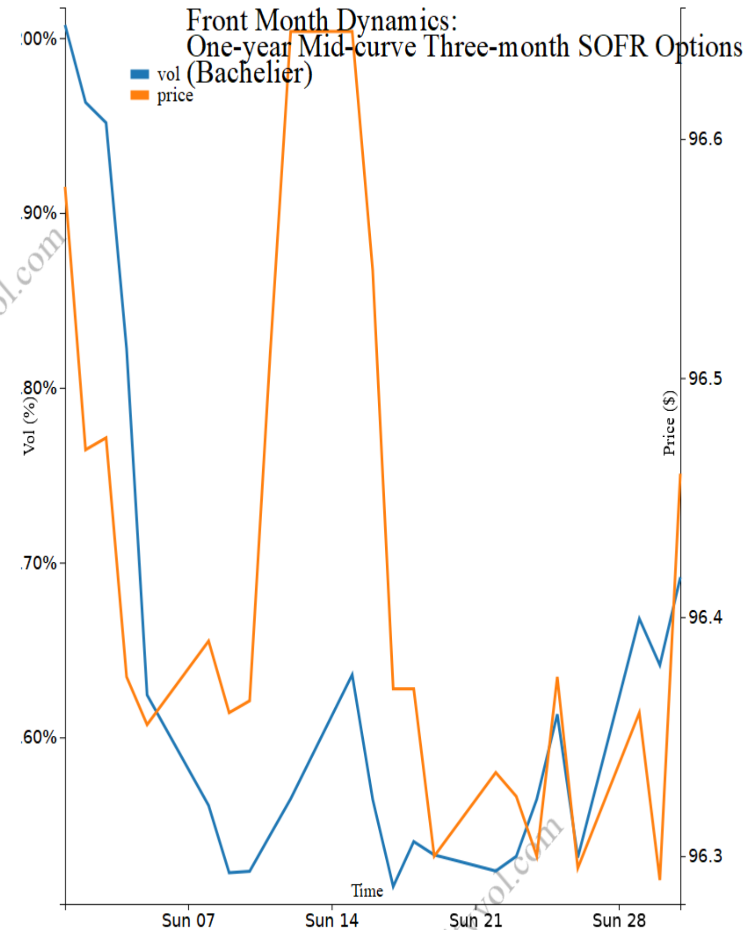

Termstructure Evolution:
Three-month SOFR Options
(Bachelier)
Vol (%)
Time to Expiry (Yrs)
20250314
2027031
20240216
Start 2024-01-01
Today 2024-01-31

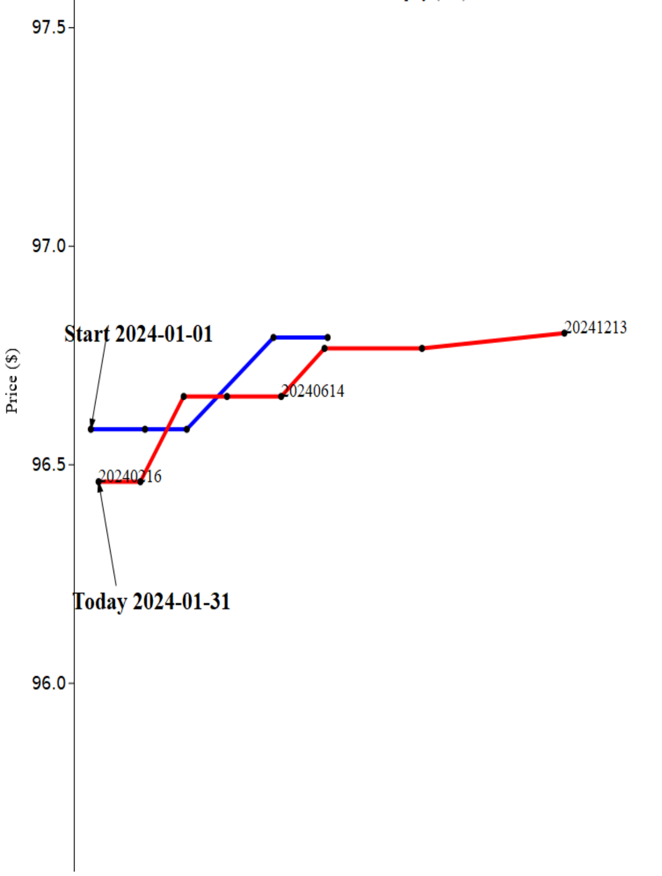

Front Month Dynamics:
Three-month SOFR Options
(Bachelier)
vol
price
Vol (%)
Price ($)
Time
Sun 07
Sun 14
Sun 21
Sun 28

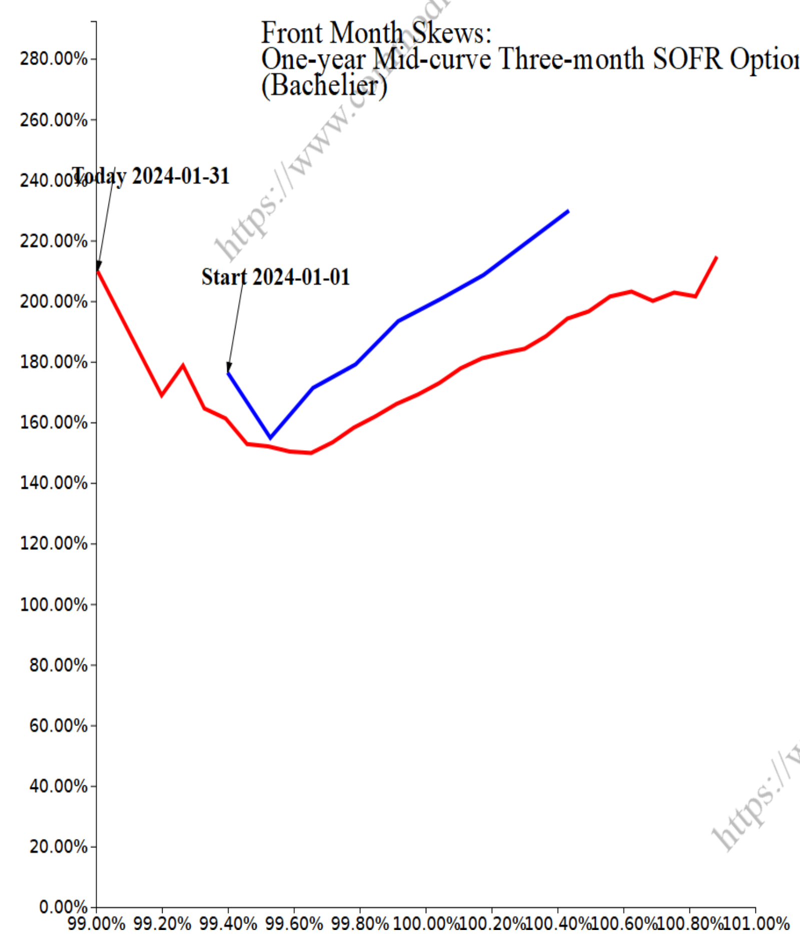

Price ($)
20250314
2027031
20240216
Start 2024-01-01
Today 2024-01-31

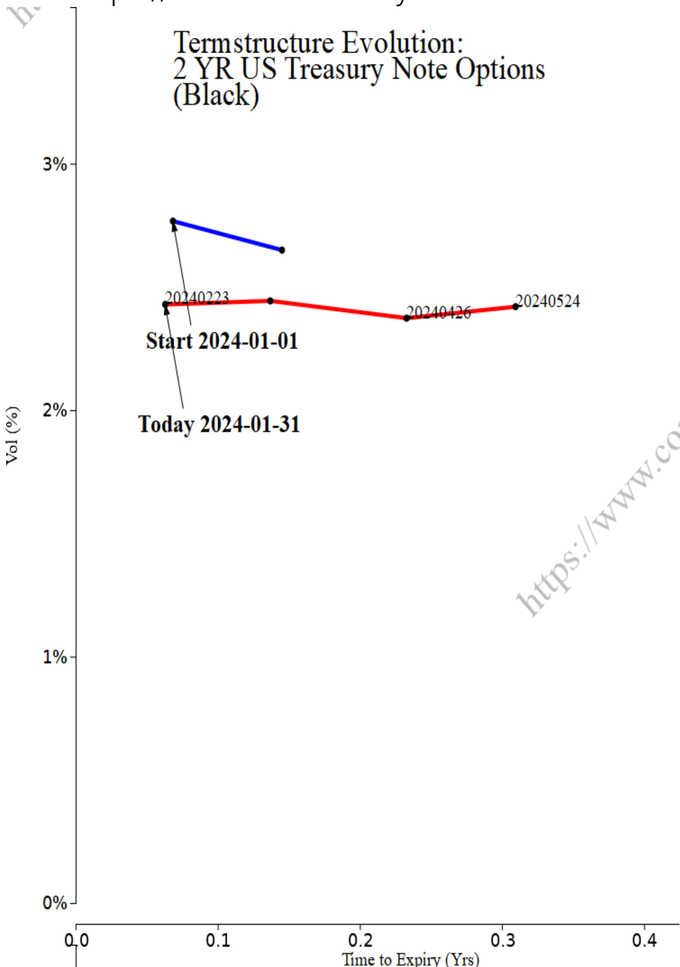

Front Month Skews:
Three-month SOFR Options
(Bachelier)
Today 2024-01-31
Start 2024-01-01


Termstructure Evolution:
One-year Mid-curve Three-month SOFR O
(Bachelier)
250%
200%
150%
100%
50%
0%
Vol (%)
20240216
Start 2024-01-01
20240614
Today 2024-01-31
20241213
0.0
0.2
0.4
0.6
0.8
1.0
Time to Expiry (Yrs)

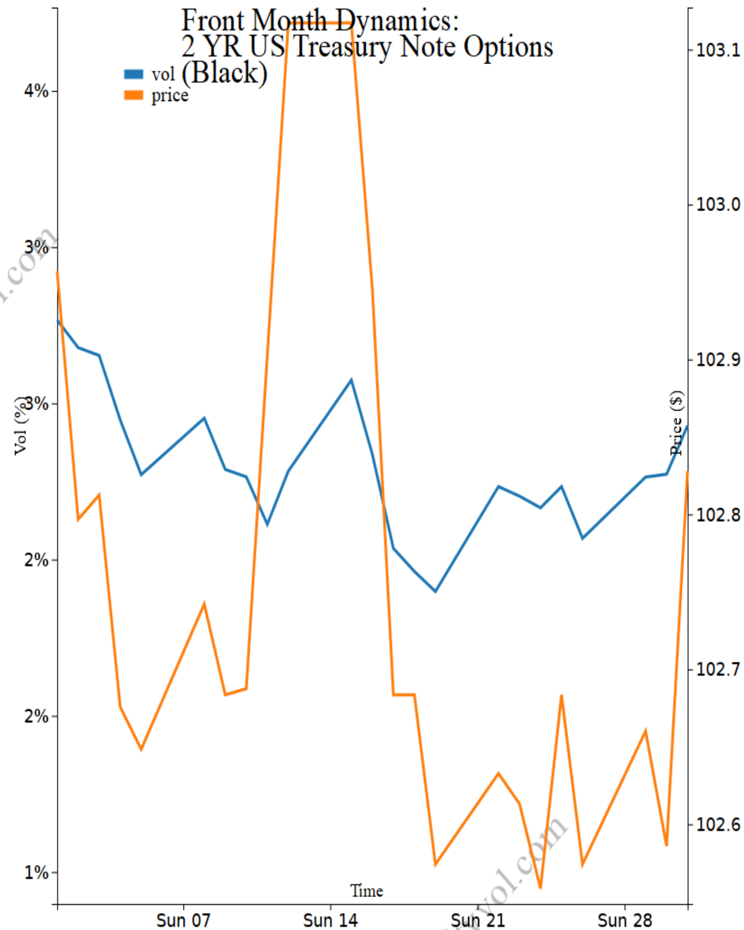

Front Month Dynamics:
One-year Mid-curve Three-month SOFR Options
(Bachelier)
vol
price
Vol (%)
Price ($)
96.6
96.5
96.4
96.3
Time
Sun 07
Sun 14
Sun 21
Sun 28


97.5
97.0
96.5
96.0
Price ($)
Start 2024-01-01
20241213
20240614
20240216
Today 2024-01-31

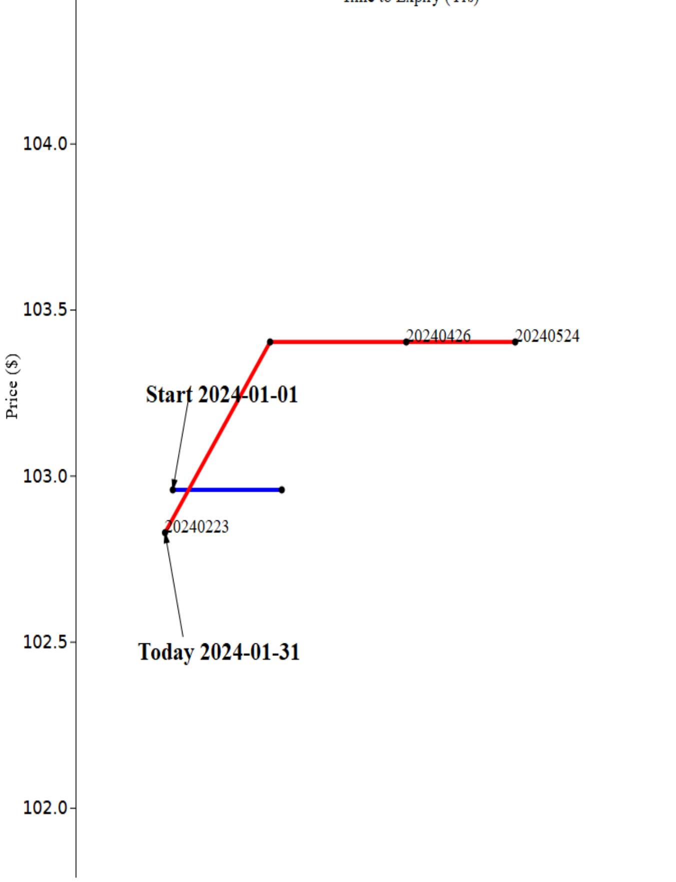

Front Month Skews:
One-year Mid-curve Three-month SOFR Optio
(Bachelier)
280.00%
260.00%
240.00%
220.00%
200.00%
180.00%
160.00%
140.00%
120.00%
100.00%
80.00%
60.00%
40.00%
20.00%
0.00%
Today 2024-01-31
Start 2024-01-01
99.00%
99.20%
99.40%
99.60%
99.80%
100.00%
100.20%
100.40%
100.60%
100.80%
101.00%



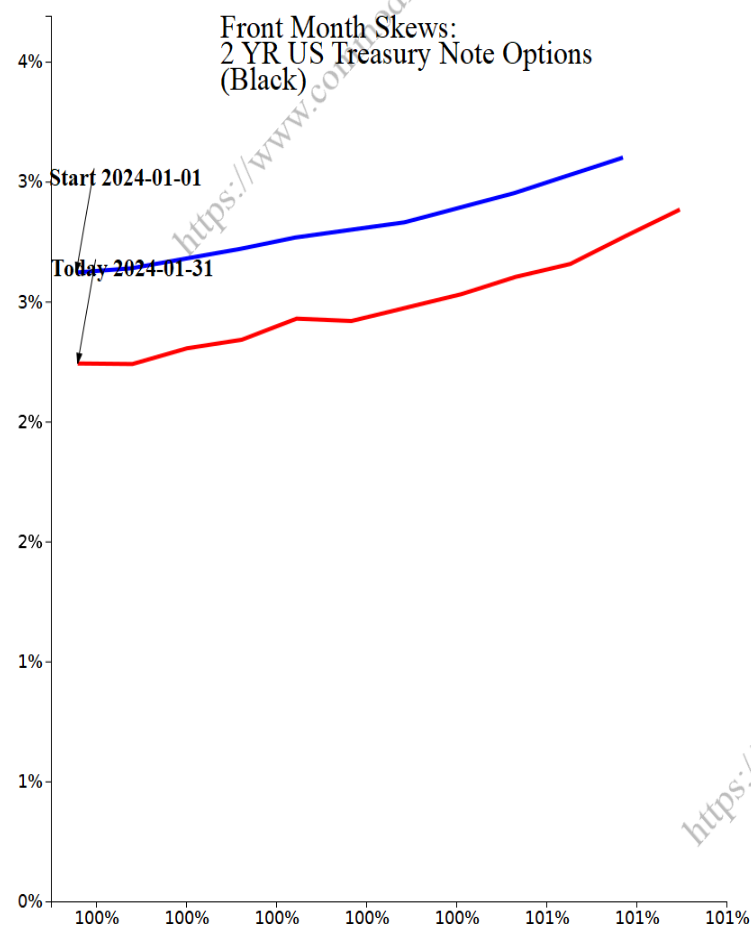
Termstructure Evolution:
2 YR US Treasury Note Options
(Black)
3%
2%
1%
0%
Vol (%)
20240223
20240426
20240524
Start 2024-01-01
Today 2024-01-31
0.0
0.1
0.2
0.3
0.4
Time to Expiry (Yrs)



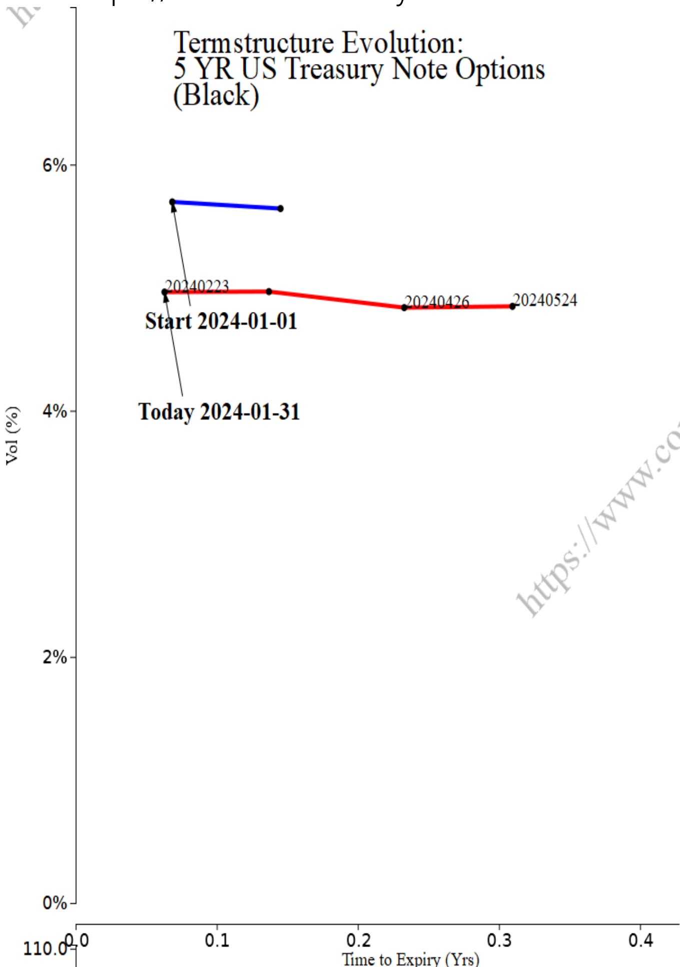
Front Month Dynamics:
2 YR US Treasury Note Options
(Black)
vol
price
4%
3%
3%
2%
2%
1%
Vol (%)
103.1
103.0
102.9
102.8
102.7
102.6
Price ($)
Time
Sun 07
Sun 14
Sun 21
Sun 28

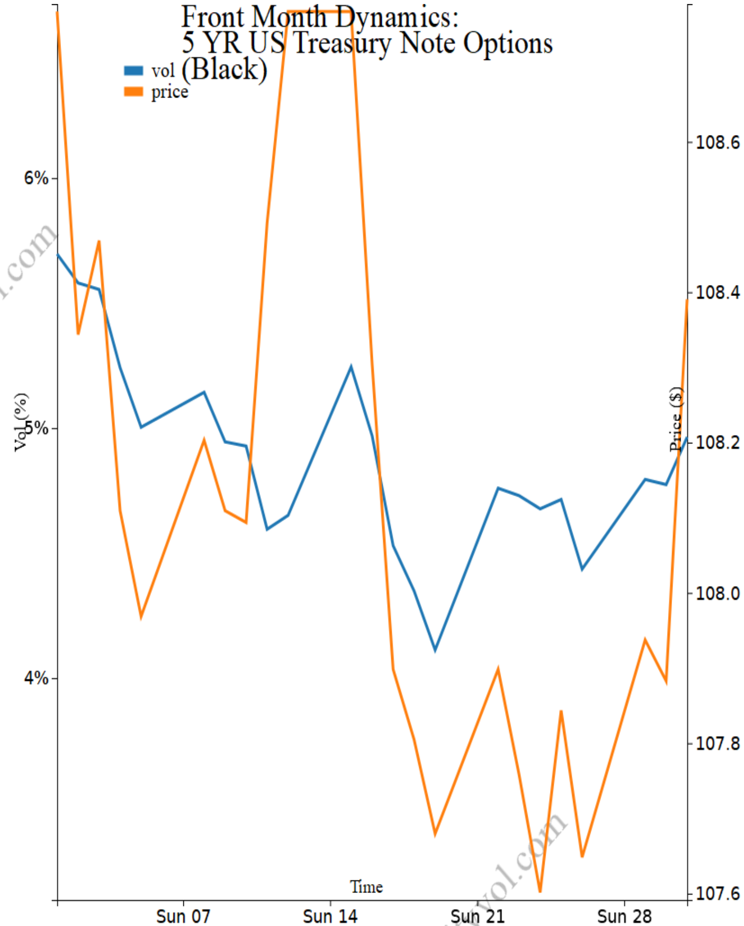


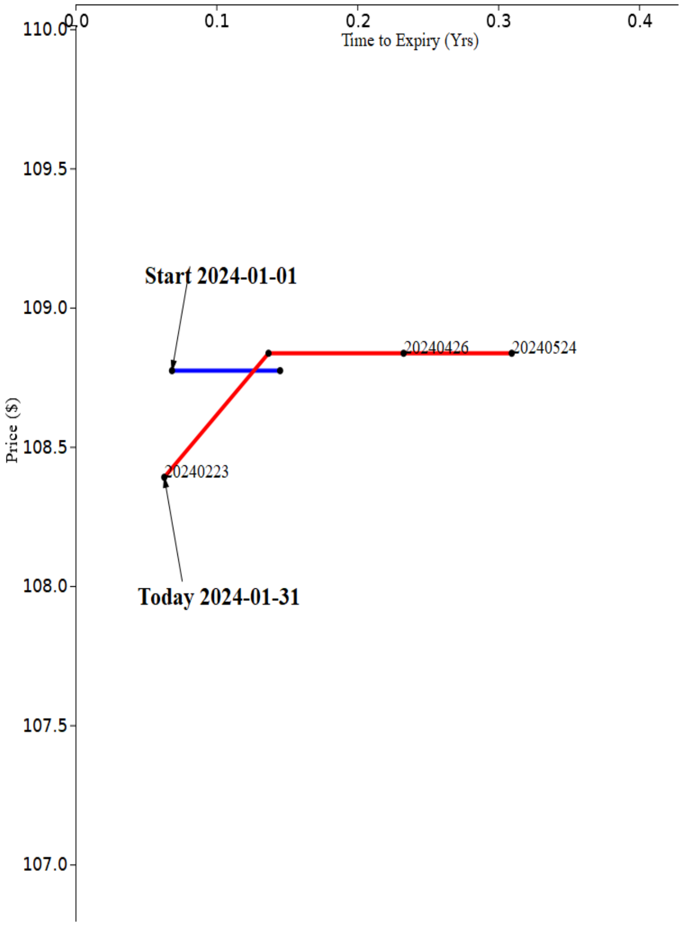
104.0
103.5
103.0
102.5
102.0
Price ($)
20240426
20240524
20240223
Start 2024-01-01
Today 2024-01-31

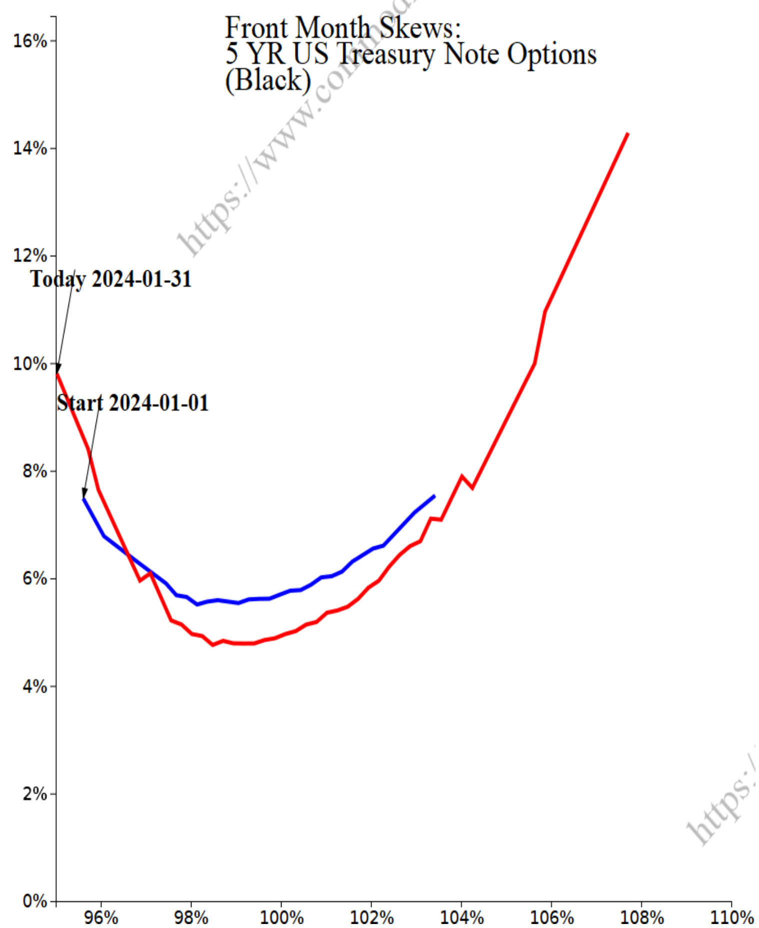


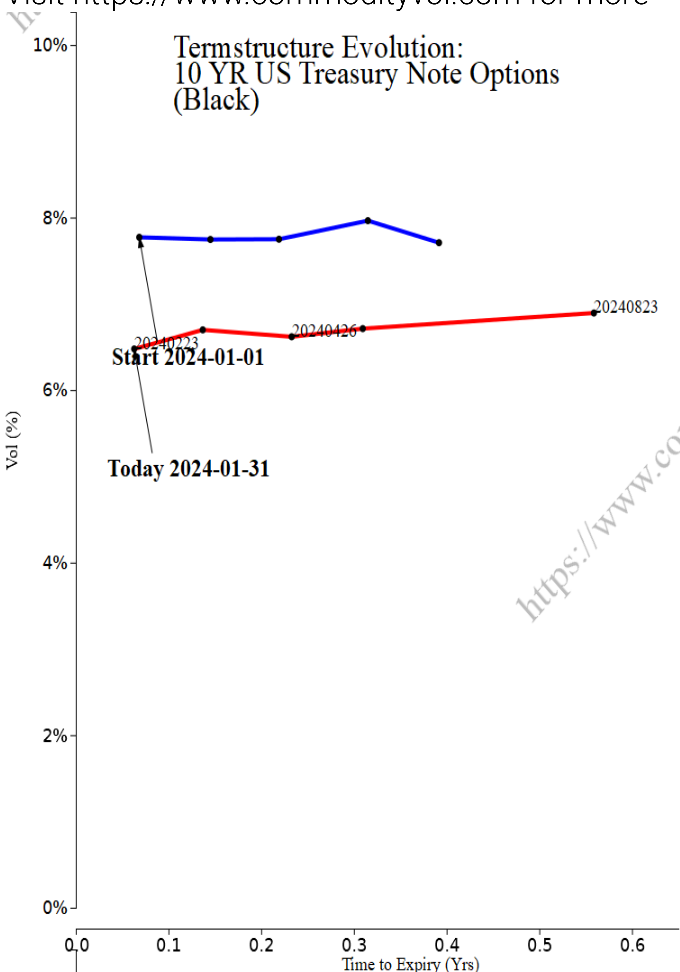
Front Month Skews:
2 YR US Treasury Note Options
(Black)
4%
3%
3%
2%
2%
1%
1%
0%
Start 2024-01-01
Today 2024-01-31
100%
100%
100%
100%
100%
101%
101%
101%

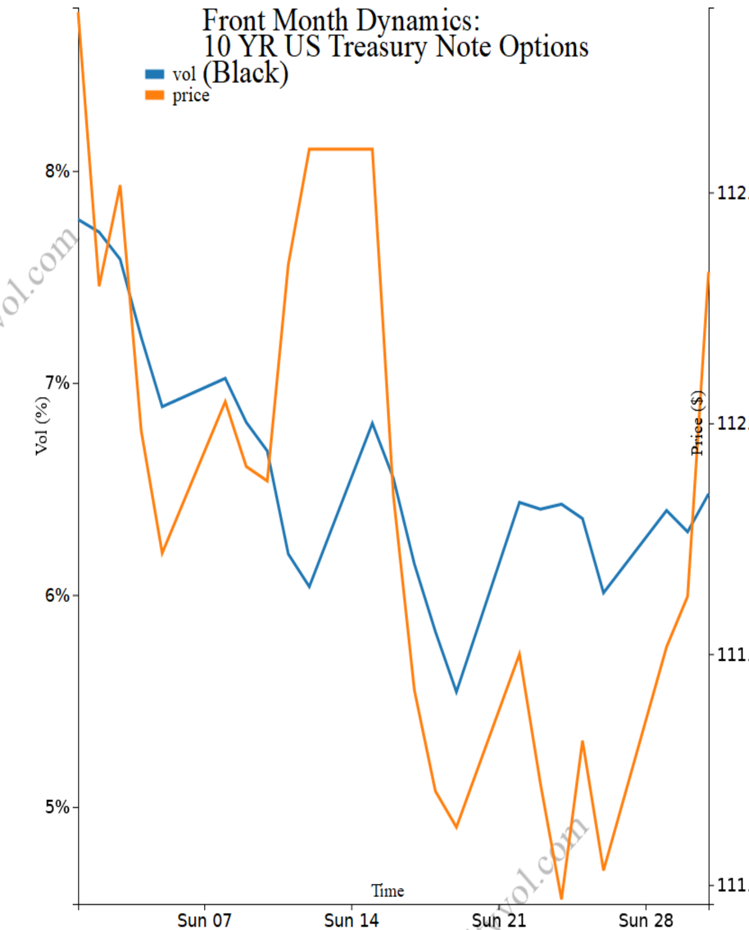

Termstructure Evolution:
5 YR US Treasury Note Options
(Black)
6%
4%
2%
0%
Vol (%)
20240223
20240426
20240524
Start 2024-01-01
Today 2024-01-31
0.0
0.1
0.2
0.3
0.4
Time to Expiry (Yrs)

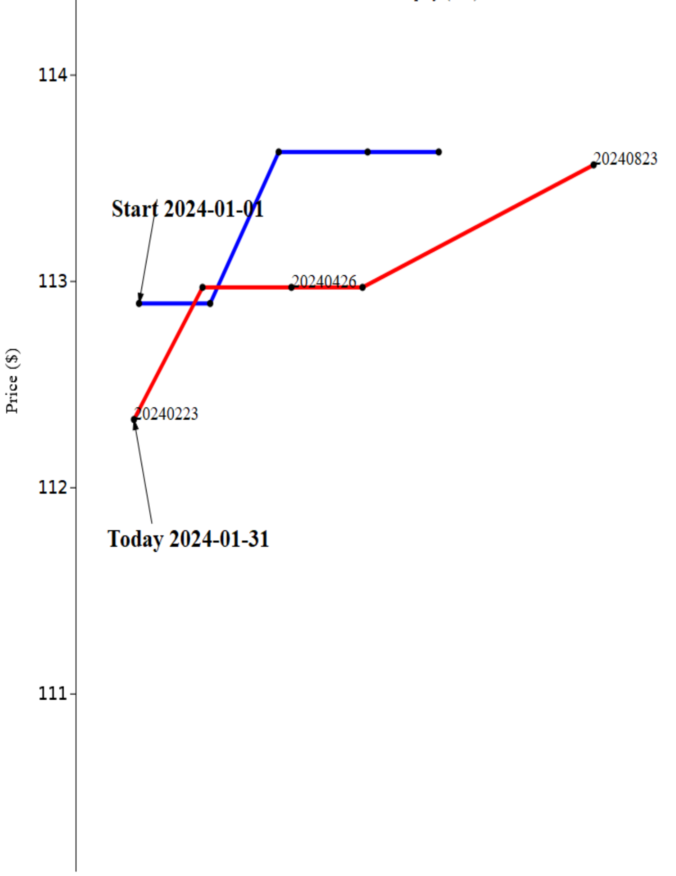

Front Month Dynamics:
5 YR US Treasury Note Options
(Black)
vol
price
6%
5%
4%
Vol (%)
108.6
108.4
108.2
108.0
107.8
107.6
Price ($)
Time
Sun 07
Sun 14
Sun 21
Sun 28

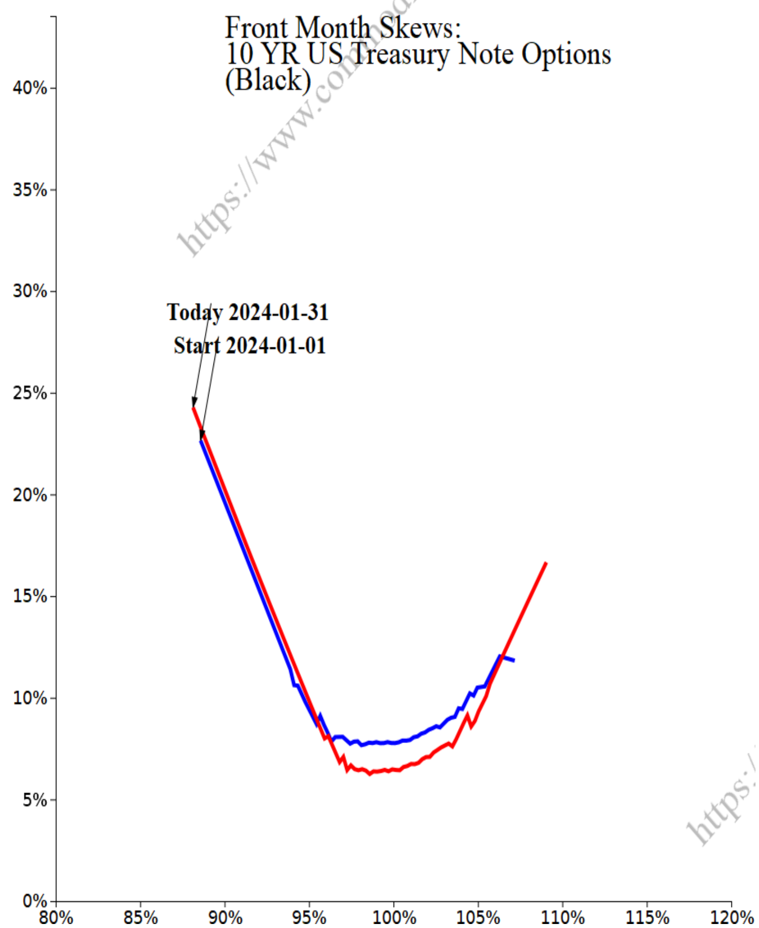

110.0
109.5
109.0
108.5
108.0
107.5
107.0
Price ($)
Start 2024-01-01
20240426
20240524
20240223
Today 2024-01-31

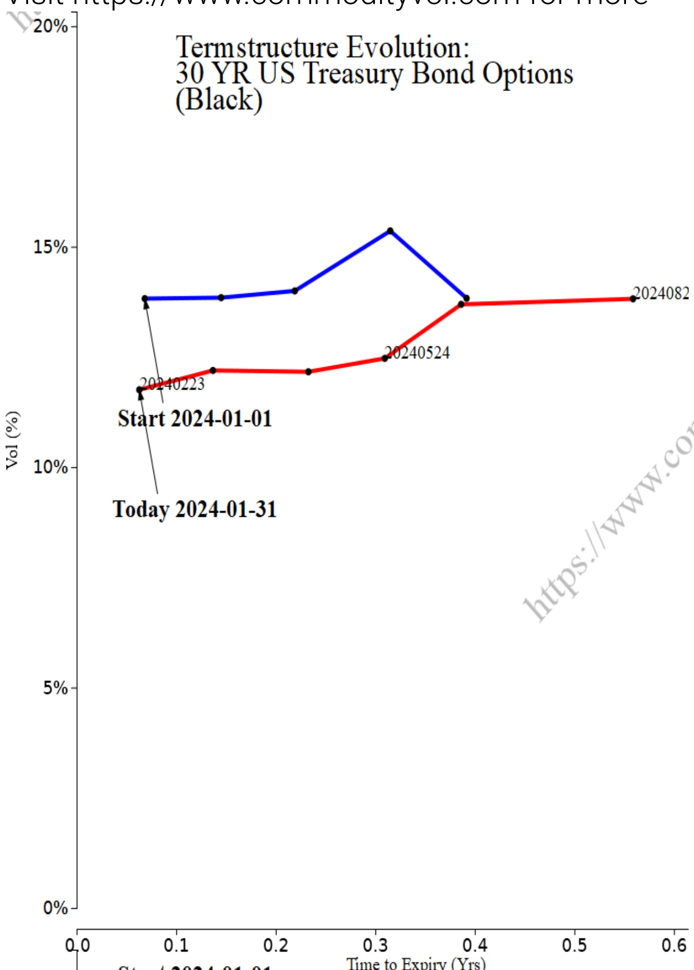

Front Month Skews:
5 YR US Treasury Note Options
(Black)
16%
14%
12%
10%
8%
6%
4%
2%
0%
Today 2024-01-31
Start 2024-01-01
96%
98%
100%
102%
104%
106%
108%
110%

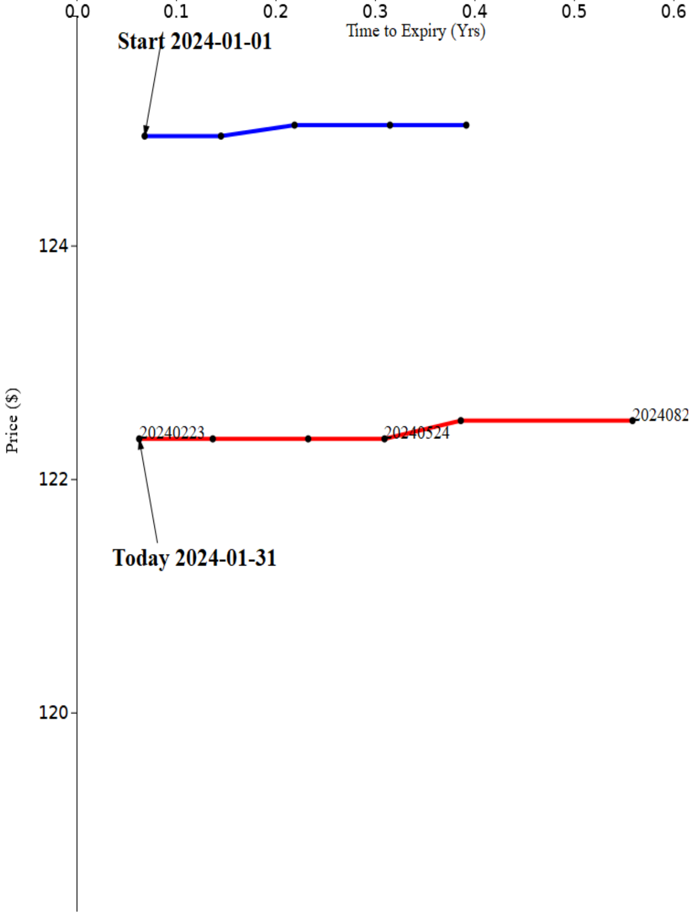

Termstructure Evolution:
10 YR US Treasury Note Options
(Black)
Vol (%)
10%
8%
6%
4%
2%
0%
20240223
20240426
20240823
Start 2024-01-01
Today 2024-01-31
0.0
0.1
0.2
0.3
0.4
0.5
0.6
Time to Expiry (Yrs)

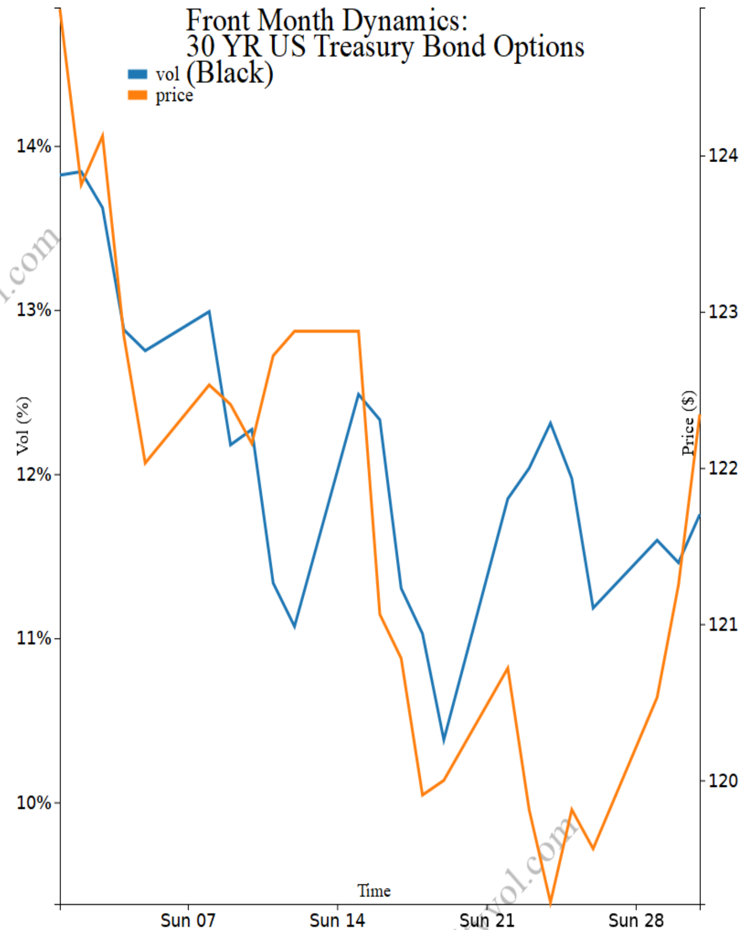

Front Month Dynamics:
10 YR US Treasury Note Options
(Black)
vol
price
Vol (%)
8%
7%
6%
5%
Price ($)
112.5
112.0
111.5
111.0
Time
Sun 07
Sun 14
Sun 21
Sun 28

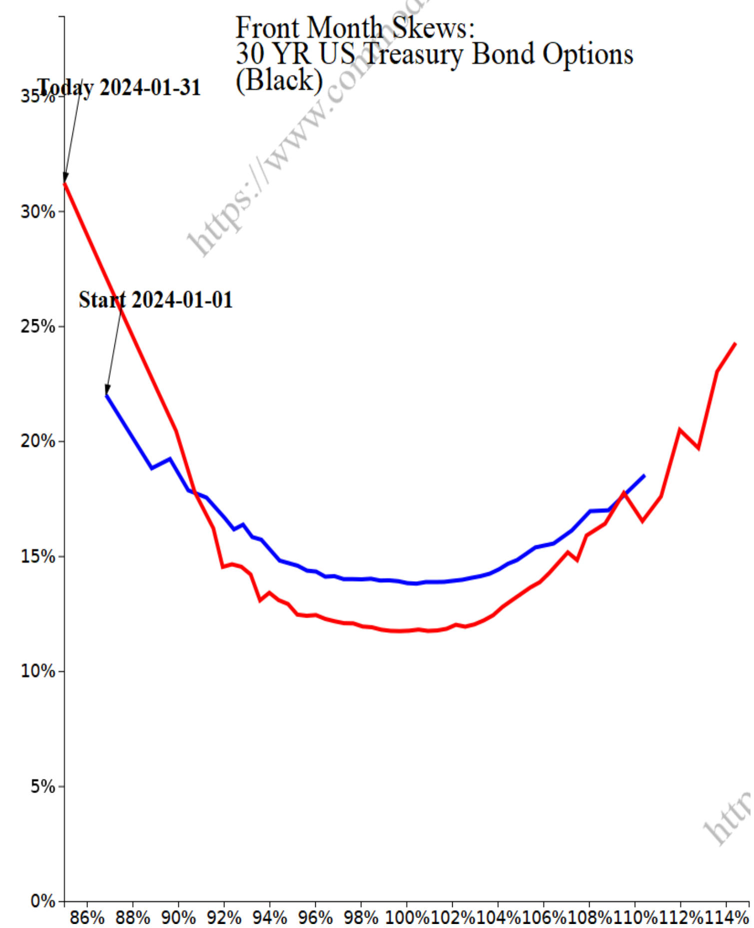

Price ($)
114
113
112
111
Start 2024-01-01
Today 2024-01-31
20240223
20240426
20240823

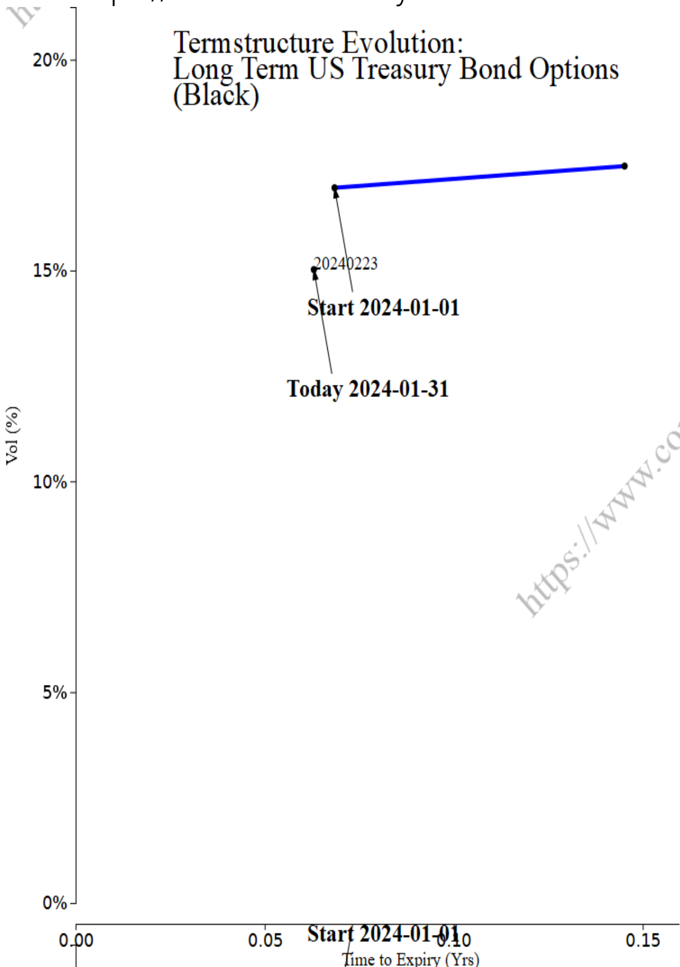

Front Month Skews:
10 YR US Treasury Note Options
(Black)
40%
35%
30%
25%
20%
15%
10%
5%
0%
Today 2024-01-31
Start 2024-01-01
80%
85%
90%
95%
100%
105%
110%
115%
120%

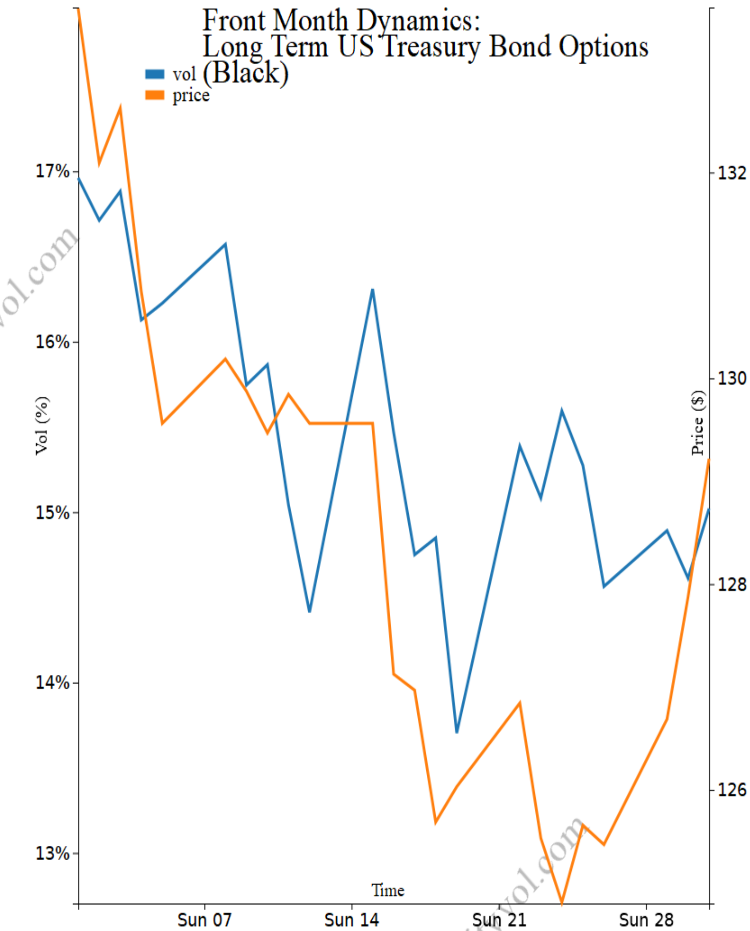

Termstructure Evolution:
30 YR US Treasury Bond Options
(Black)
Vol (%)
Time to Expiry (Yrs)
20240223
20240524
2024082
Start 2024-01-01
Today 2024-01-31

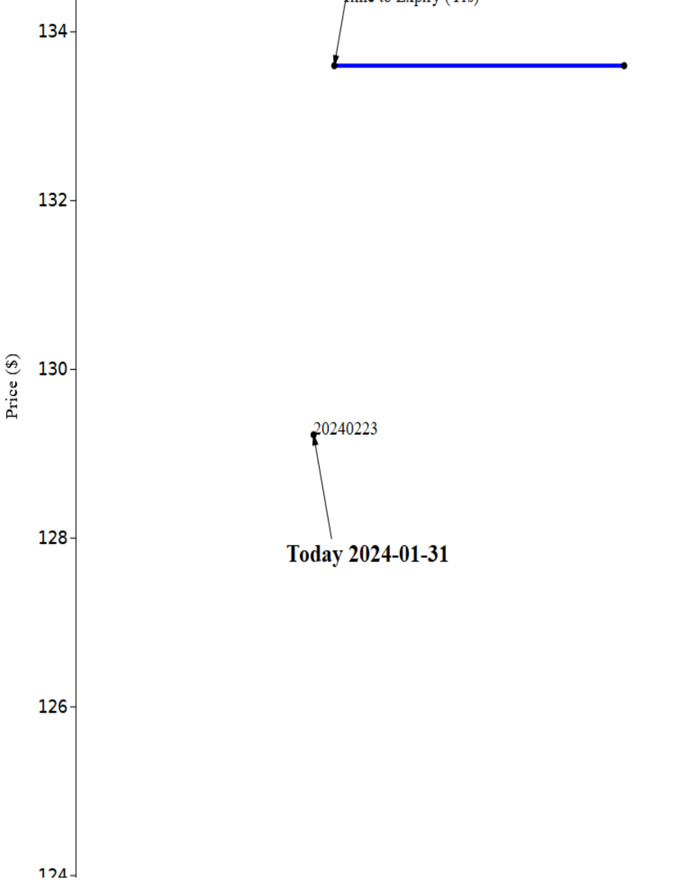

Price ($)
20240223
20240524
2024082
Start 2024-01-01
Today 2024-01-31

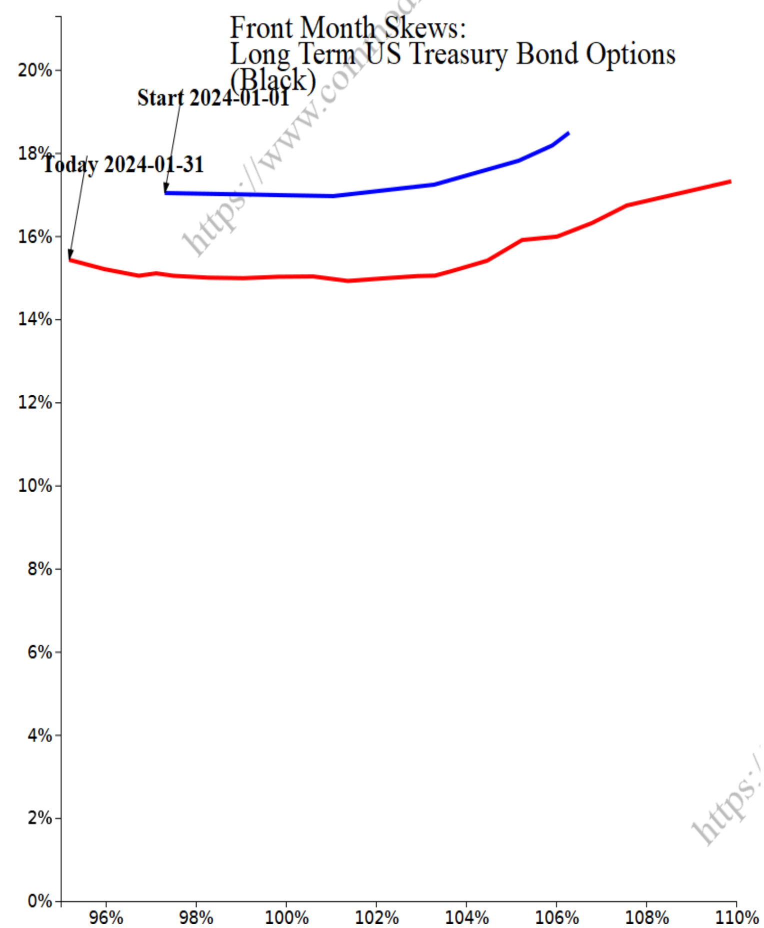

Front Month Dynamics:
30 YR US Treasury Bond Options
(Black)
vol
price
Vol (%)
Price ($)
Time
Sun 07
Sun 14
Sun 21
Sun 28


Front Month Skews:
30 YR US Treasury Bond Options
(Black)
Today 2024-01-31
Start 2024-01-01

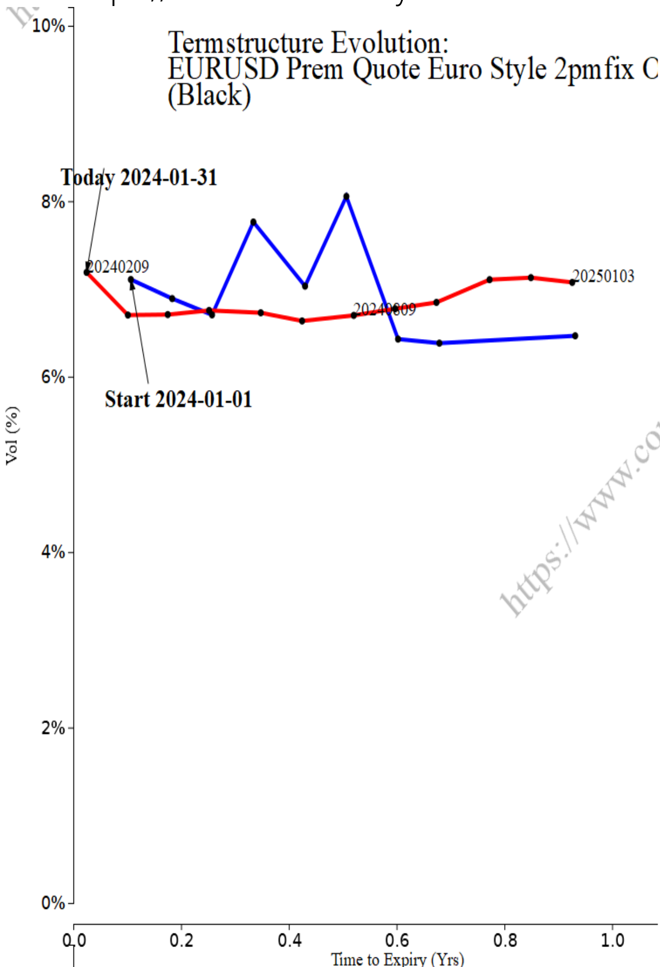

Termstructure Evolution:
Long Term US Treasury Bond Options
(Black)
20%
15%
10%
5%
0%
Vol (%)
20240223
Start 2024-01-01
Today 2024-01-31
0.00
0.05
0.10
0.15
Time to Expiry (Yrs)

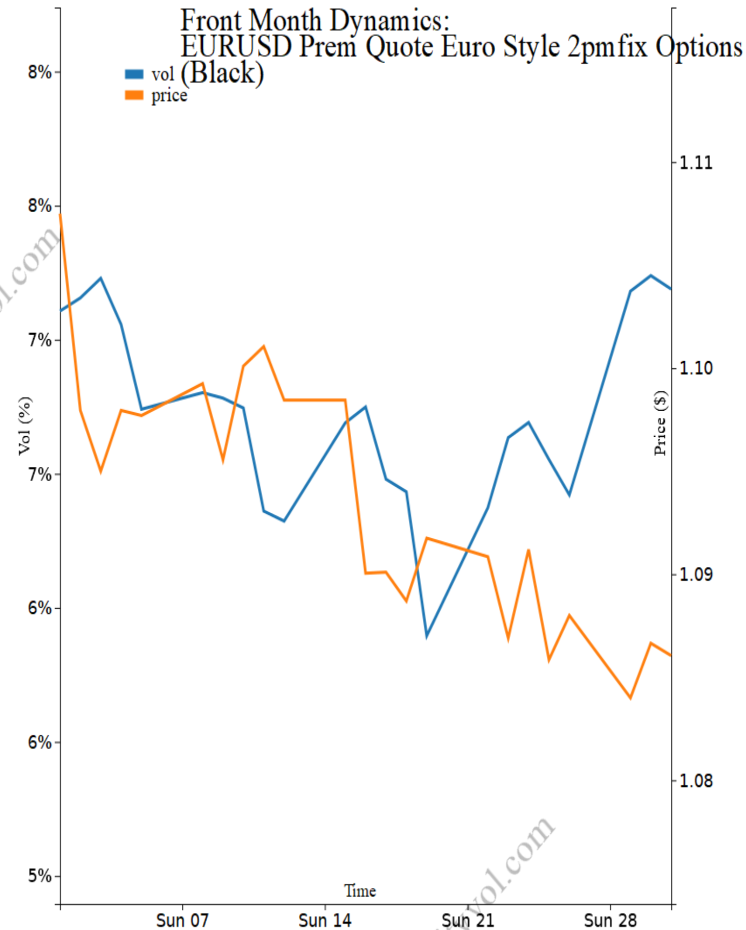

Front Month Dynamics:
Long Term US Treasury Bond Options
(Black)
vol
price
17%
16%
15%
14%
13%
Vol (%)
132
130
128
126
Price ($)
Time
Sun 07
Sun 14
Sun 21
Sun 28

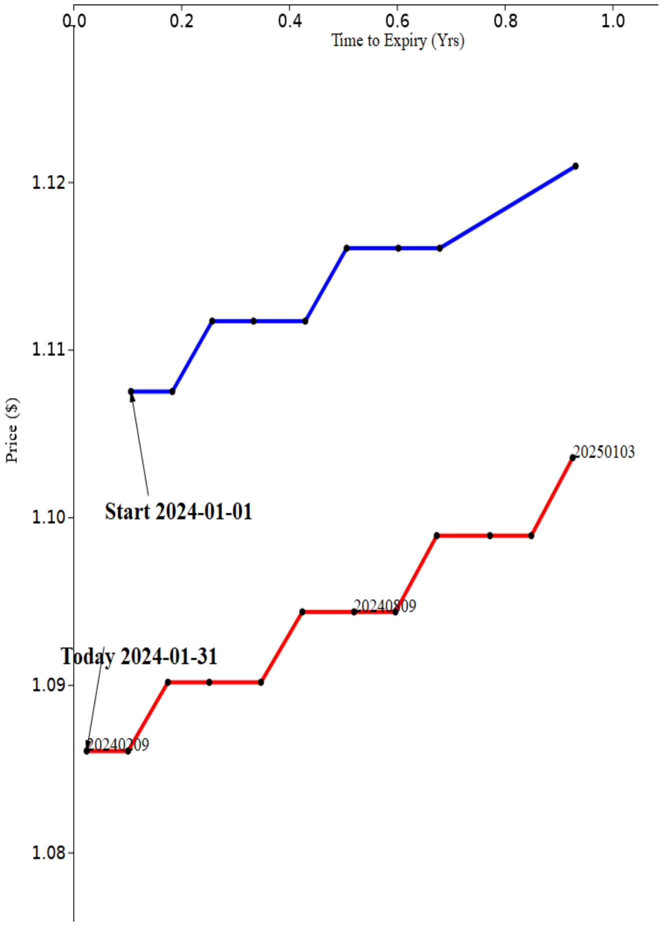

Start 2024-01-01
134
132
130
128
126
124
Price ($)
20240223
Today 2024-01-31

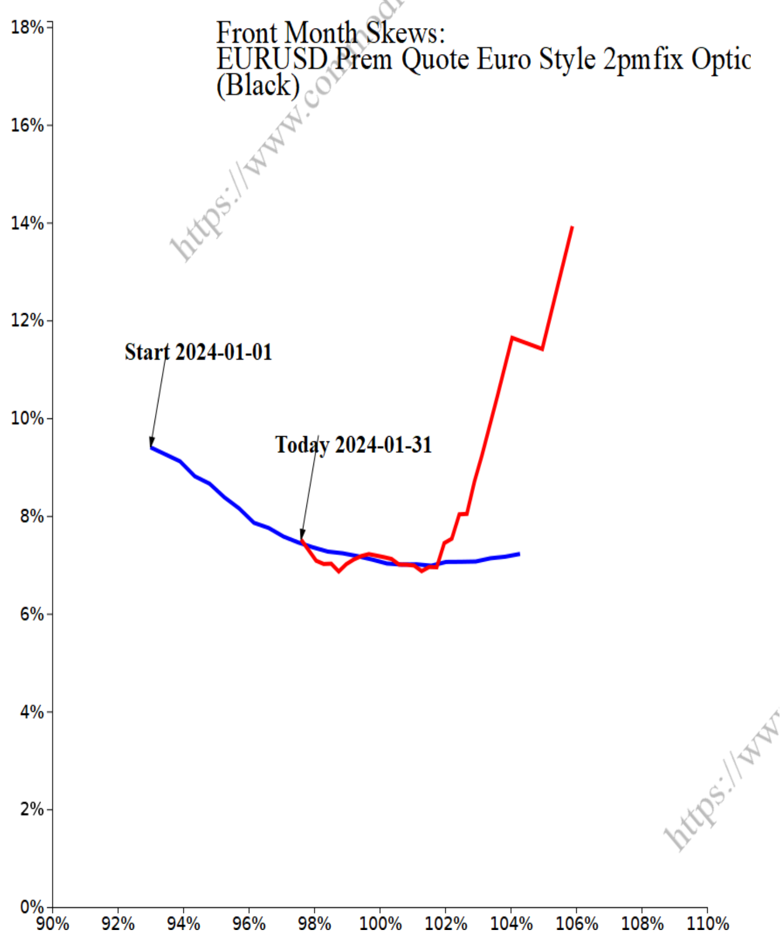

Front Month Skews:
Long Term US Treasury Bond Options
(Black)
Start 2024-01-01
Today 2024-01-31
20%
18%
16%
14%
12%
10%
8%
6%
4%
2%
0%
96%
98%
100%
102%
104%
106%
108%
110%

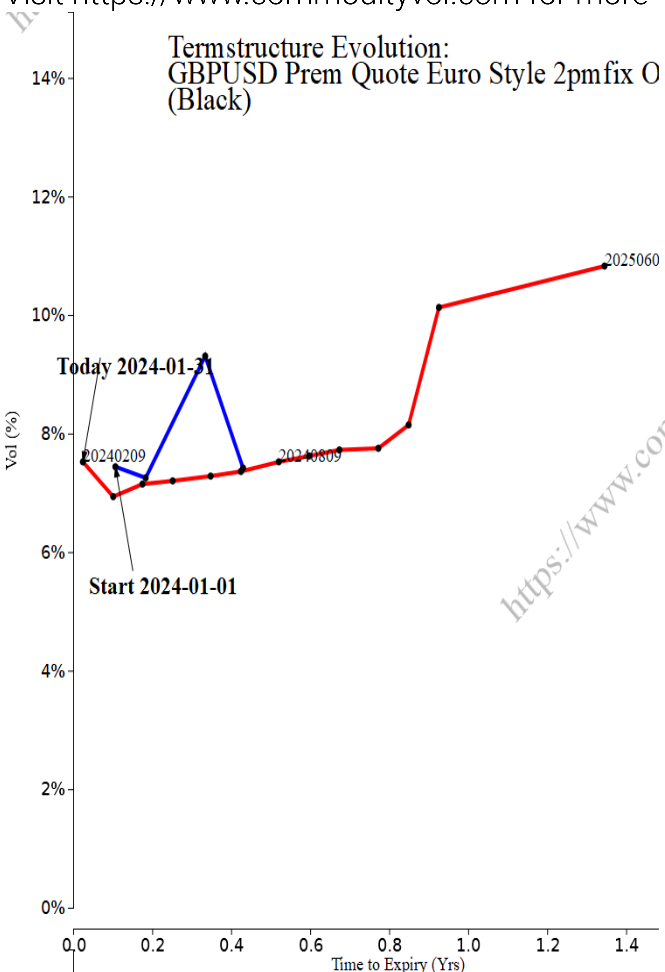
Forex

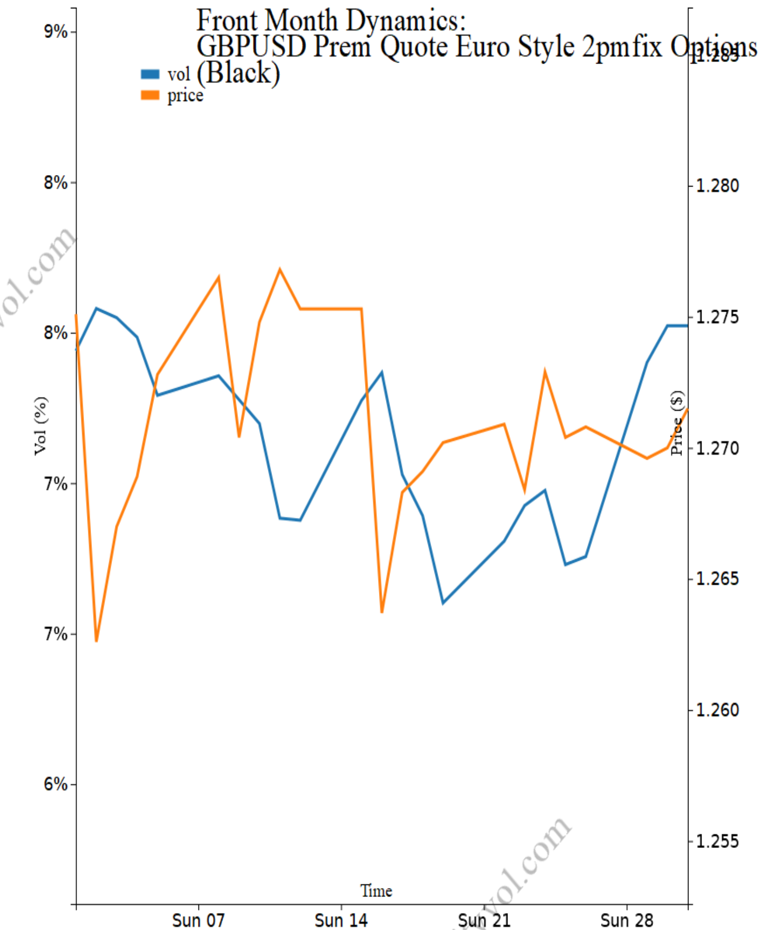

Termstructure Evolution:
EURUSD Prem Quote Euro Style 2pmfix C
(Black)
Today 2024-01-31
Start 2024-01-01
20240209
20240809
20250103
Vol (%)
Time to Expiry (Yrs)
10%
8%
6%
4%
2%
0%
0.0
0.2
0.4
0.6
0.8
1.0

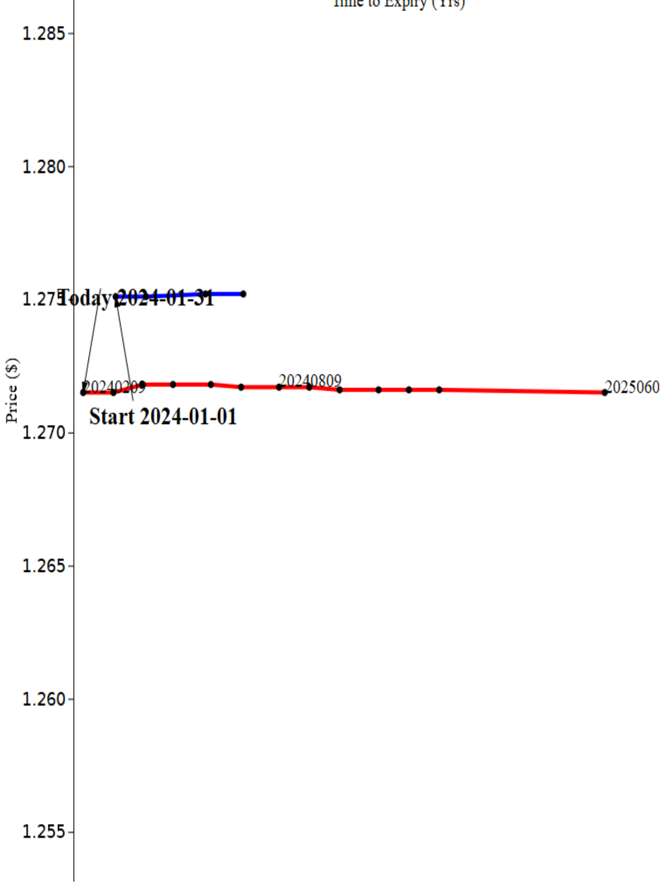

Front Month Dynamics:
EURUSD Prem Quote Euro Style 2pmfix Options
(Black)
vol
price
Vol (%)
Price ($)
Time
Sun 07
Sun 14
Sun 21
Sun 28
8%
8%
7%
7%
6%
6%
5%
1.11
1.10
1.09
1.08

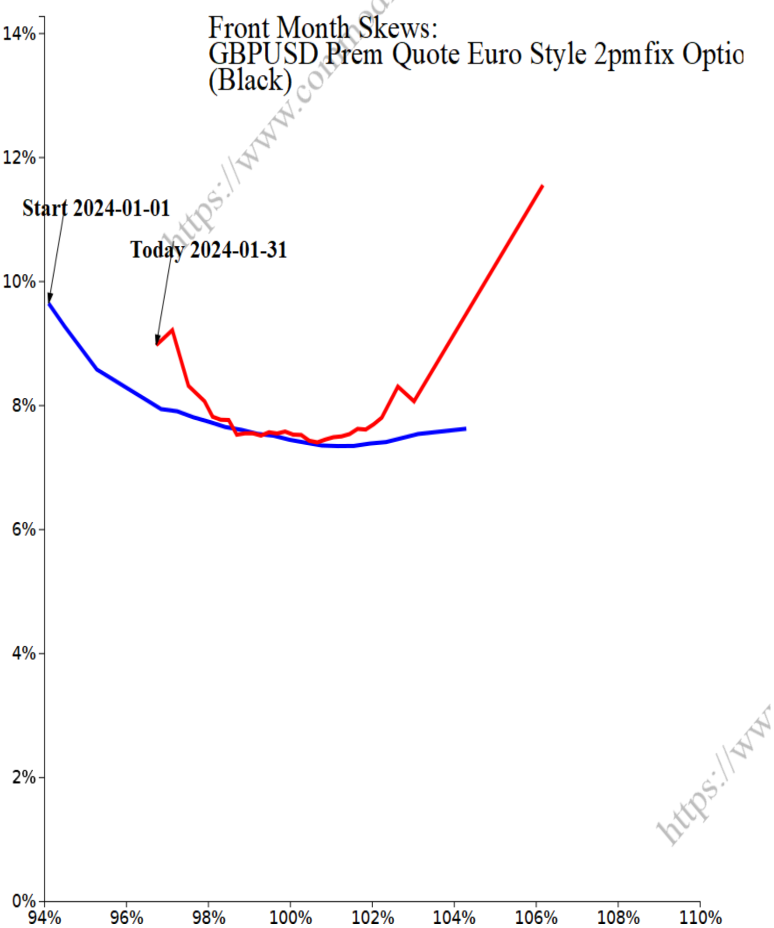

Price ($)
Start 2024-01-01
Today 2024-01-31
20240209
20240809
20250103
1.12
1.11
1.10
1.09
1.08

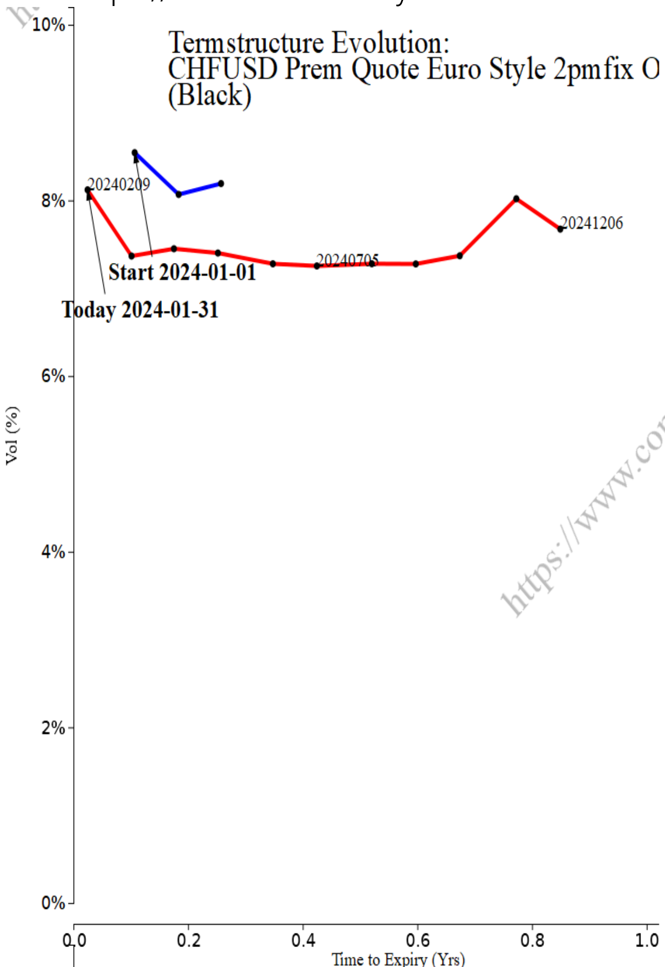

Front Month Skews:
EURUSD Prem Quote Euro Style 2pmfix Optic
(Black)
Start 2024-01-01
Today 2024-01-31
18%
16%
14%
12%
10%
8%
6%
4%
2%
0%
90%
92%
94%
96%
98%
100%
102%
104%
106%
108%
110%

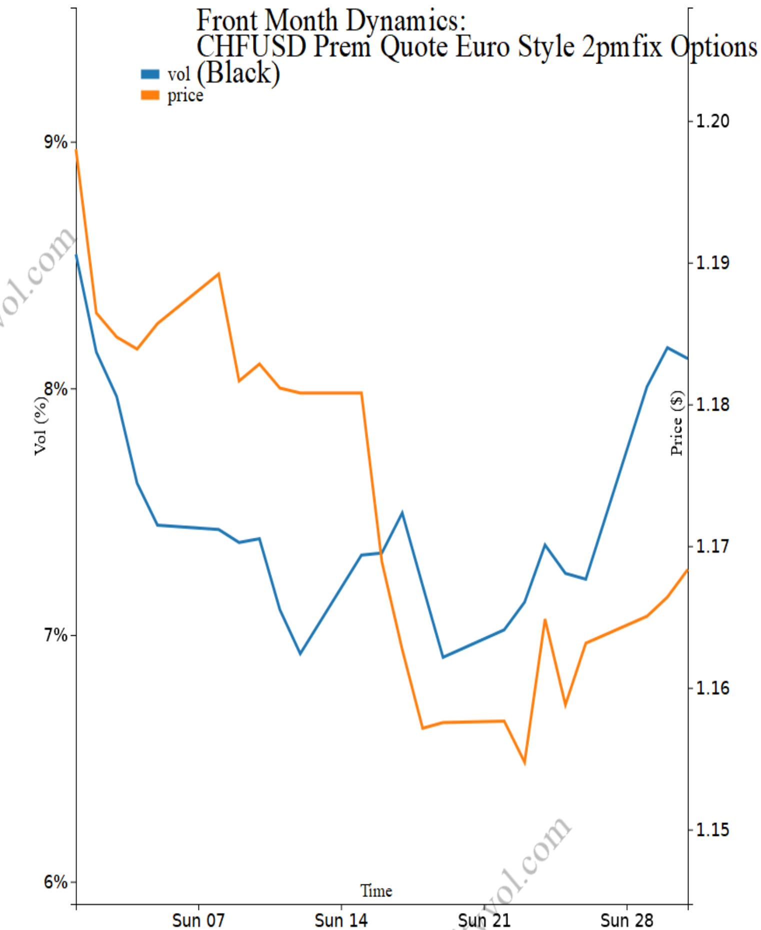

Termstructure Evolution:
GBPUSD Prem Quote Euro Style 2pmfix O
(Black)
Today 2024-01-31
Start 2024-01-01
20240209
20240809
2025060
Vol (%)
Time to Expiry (Yrs)
0%
2%
4%
6%
8%
10%
12%
14%
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4

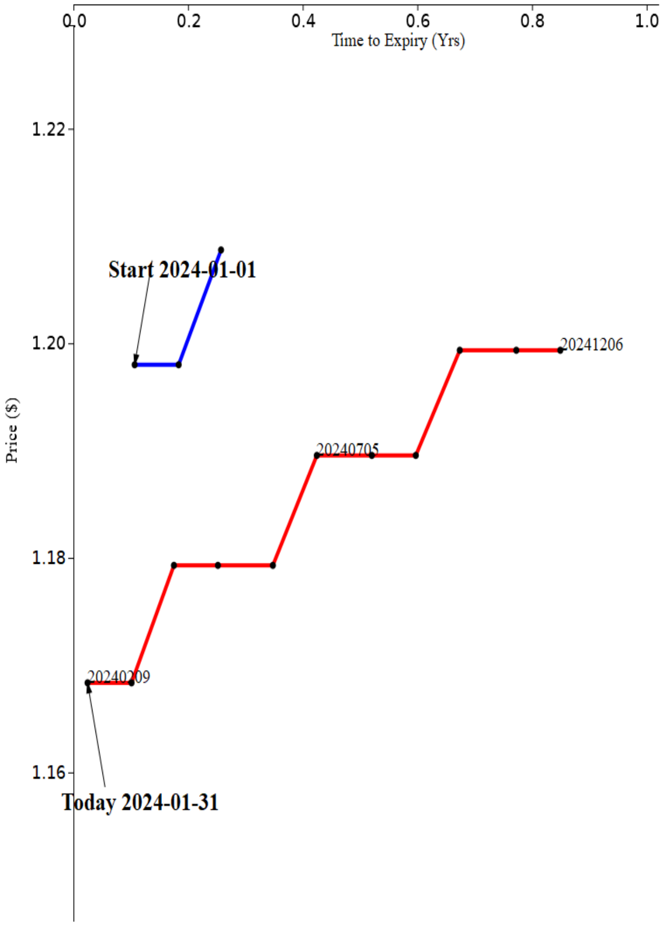

Front Month Dynamics:
GBPUSD Prem Quote Euro Style 2pmfix Options
(Black)
vol
price
Vol (%)
Price ($)
Time
9%
8%
8%
7%
7%
6%
1.285
1.280
1.275
1.270
1.265
1.260
1.255
Sun 07
Sun 14
Sun 21
Sun 28

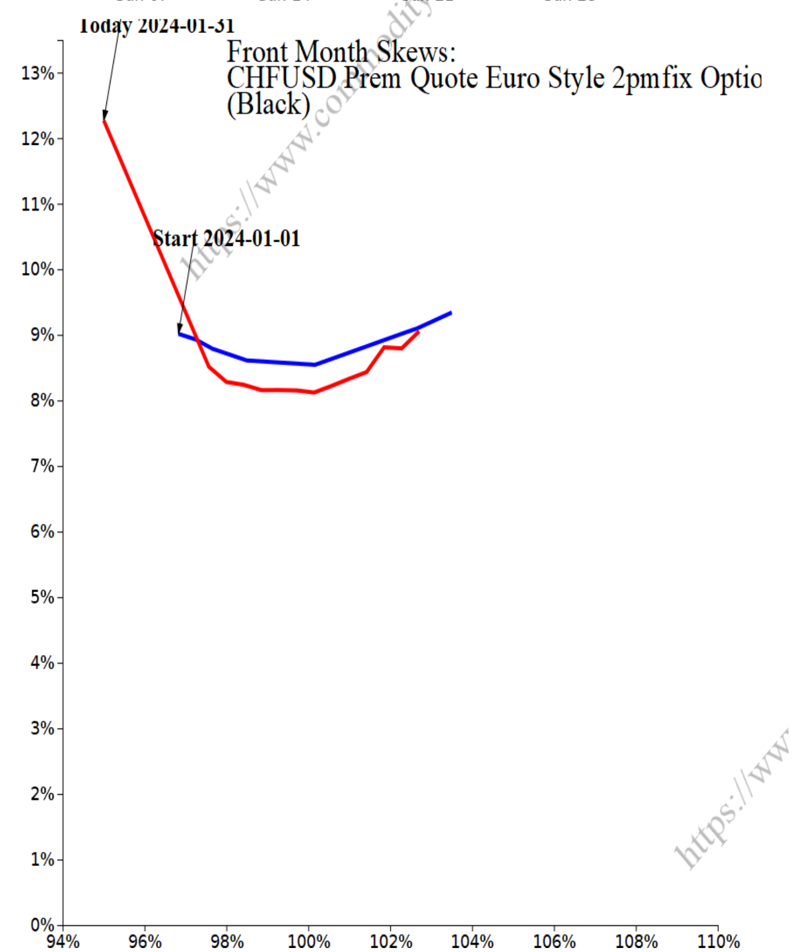

Today 2024-01-31
Start 2024-01-01
20240209
20240809
2025060
Price ($)
1.285
1.280
1.275
1.270
1.265
1.260
1.255

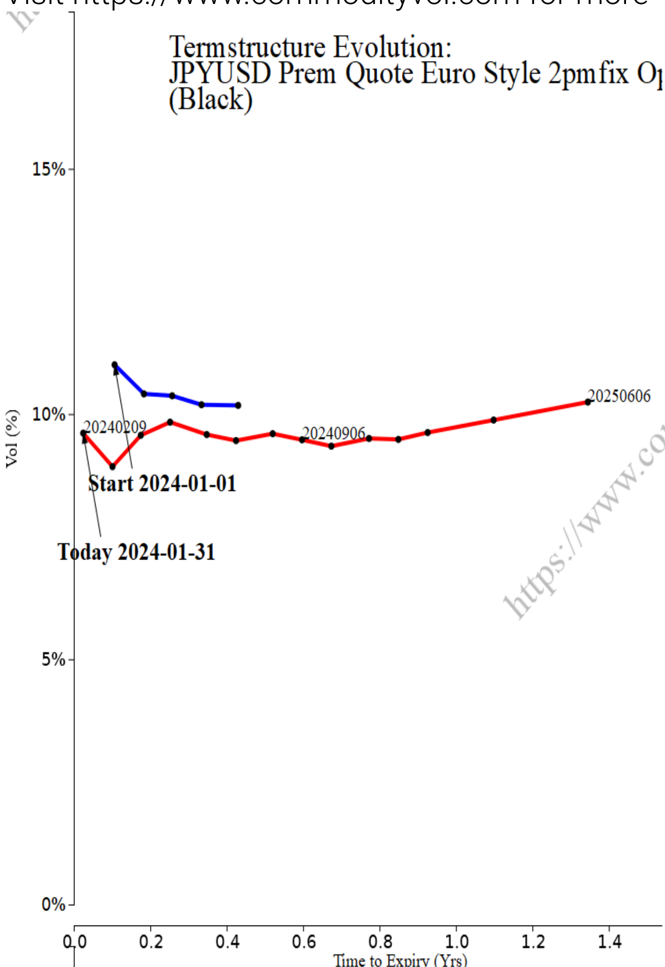

Front Month Skews:
GBPUSD Prem Quote Euro Style 2pmfix Optio
(Black)
Start 2024-01-01
Today 2024-01-31
0%
2%
4%
6%
8%
10%
12%
14%
94%
96%
98%
100%
102%
104%
106%
108%
110%

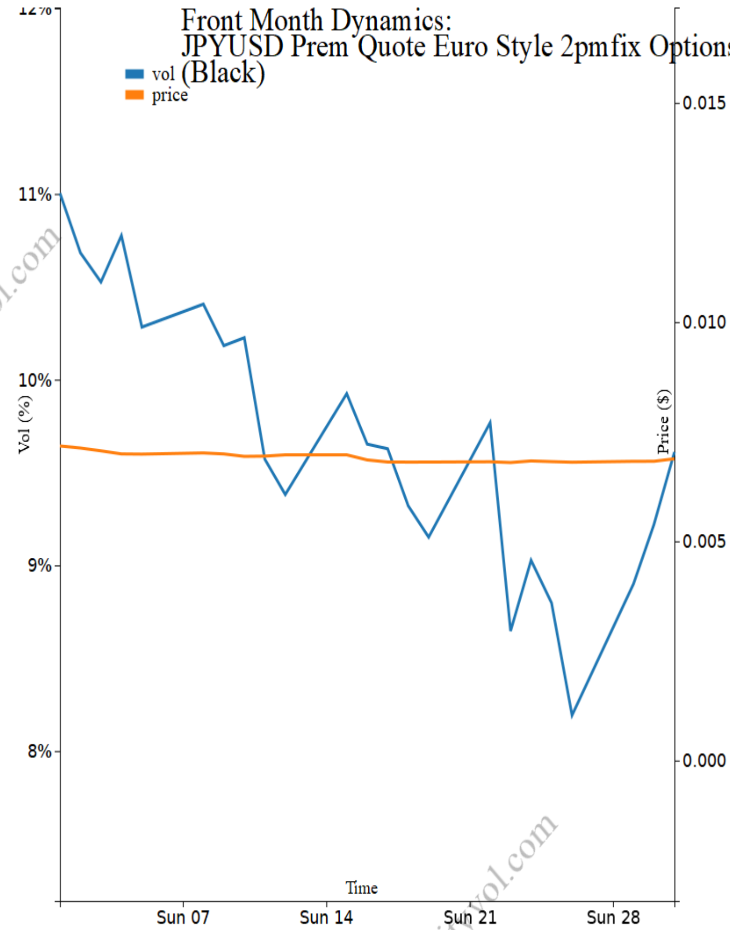

Termstructure Evolution:
CHFUSD Prem Quote Euro Style 2pmfix O
(Black)
Vol (%)
Time to Expiry (Yrs)
20240209
20240705
20241206
Start 2024-01-01
Today 2024-01-31

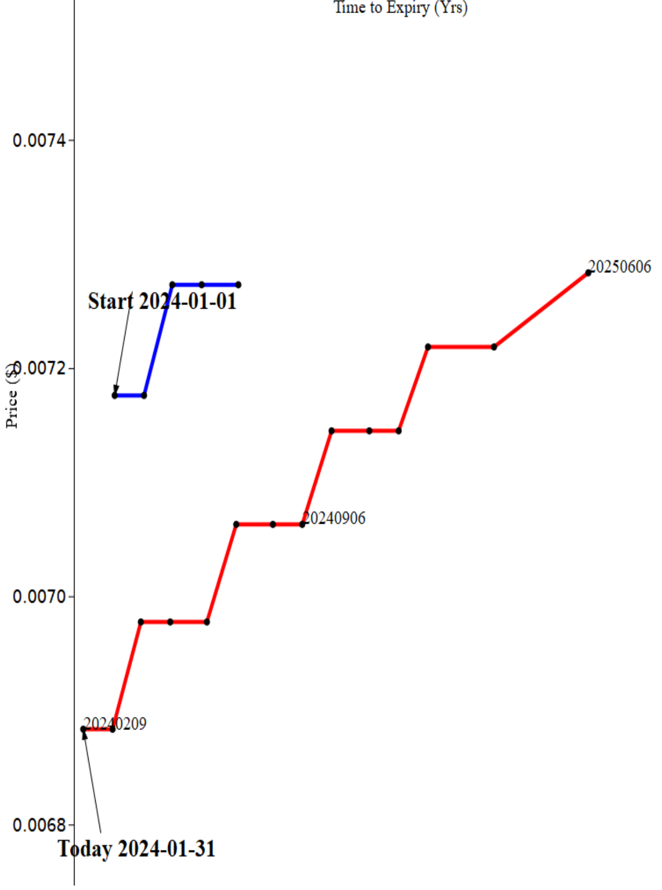

Front Month Dynamics:
CHFUSD Prem Quote Euro Style 2pmfix Options
(Black)
vol
price
Vol (%)
Price ($)
Time
Sun 07
Sun 14
Sun 21
Sun 28

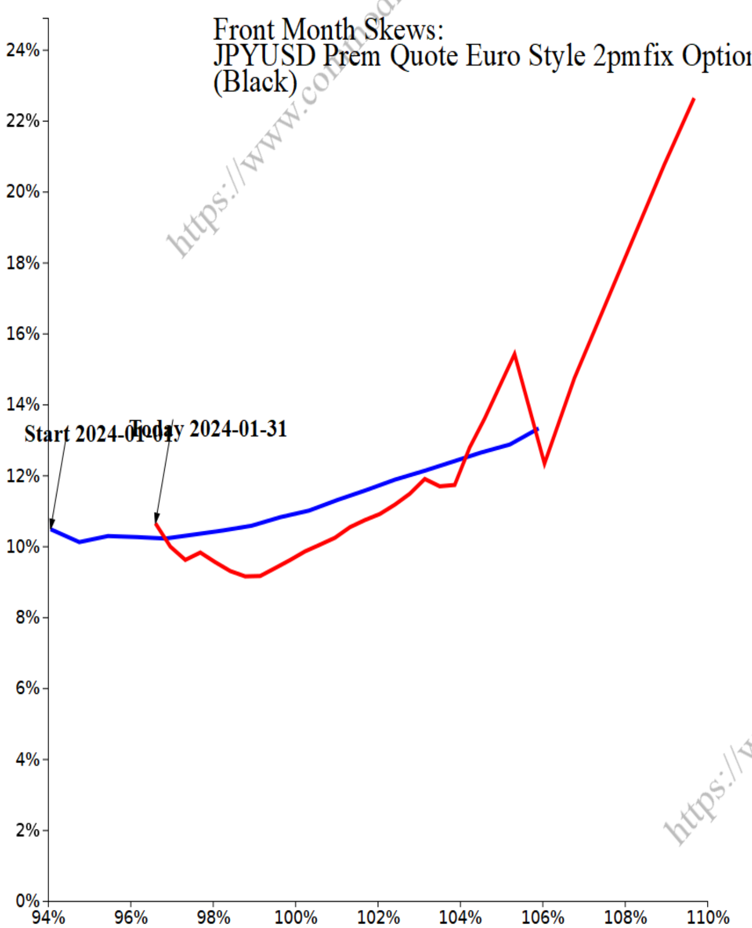

Price ($)
Start 2024-01-01
Today 2024-01-31
20240209
20240705
20241206

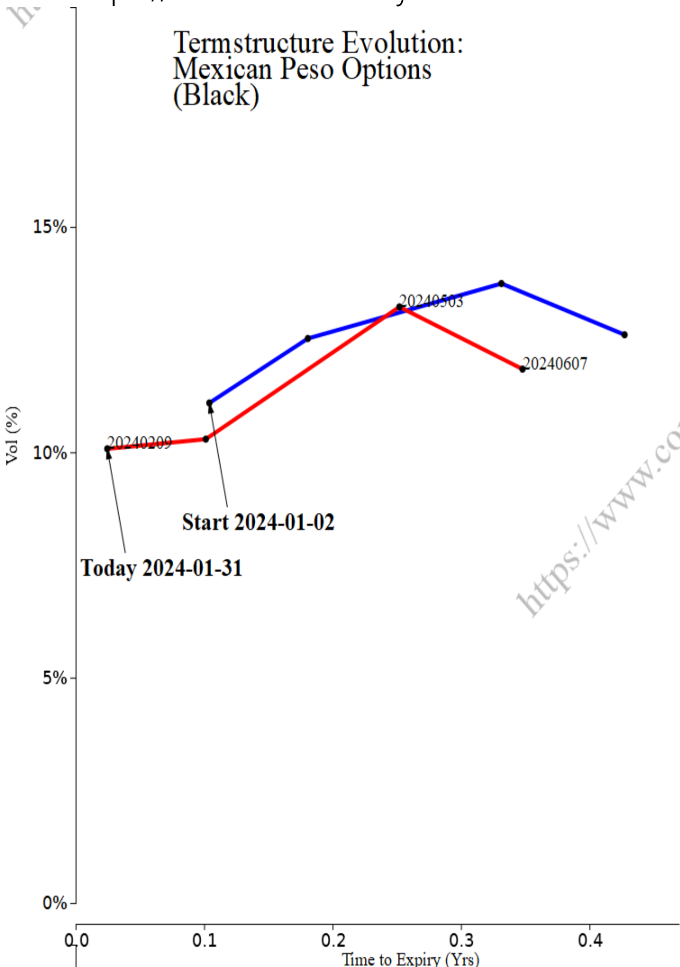

Front Month Skews:
CHFUSD Prem Quote Euro Style 2pmfix Optio
(Black)
Today 2024-01-31
Start 2024-01-01

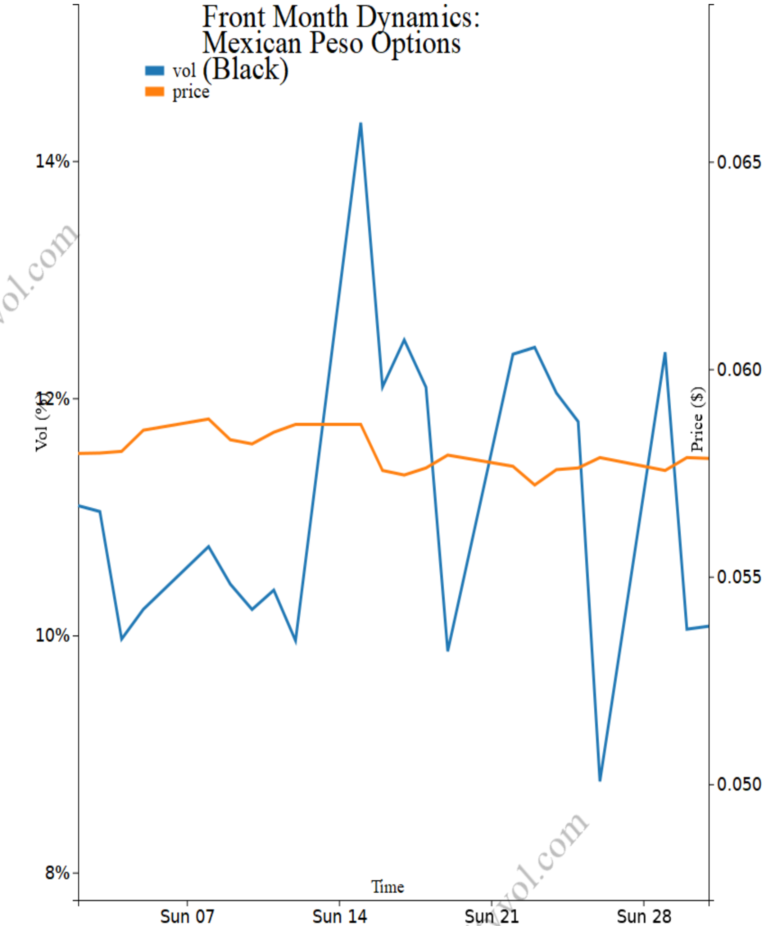

Termstructure Evolution:
JPYUSD Prem Quote Euro Style 2pmfix O
(Black)
15%
10%
5%
0%
Vol (%)
20240209
20240906
20250606
Start 2024-01-01
Today 2024-01-31
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4
Time to Expiry (Yrs)

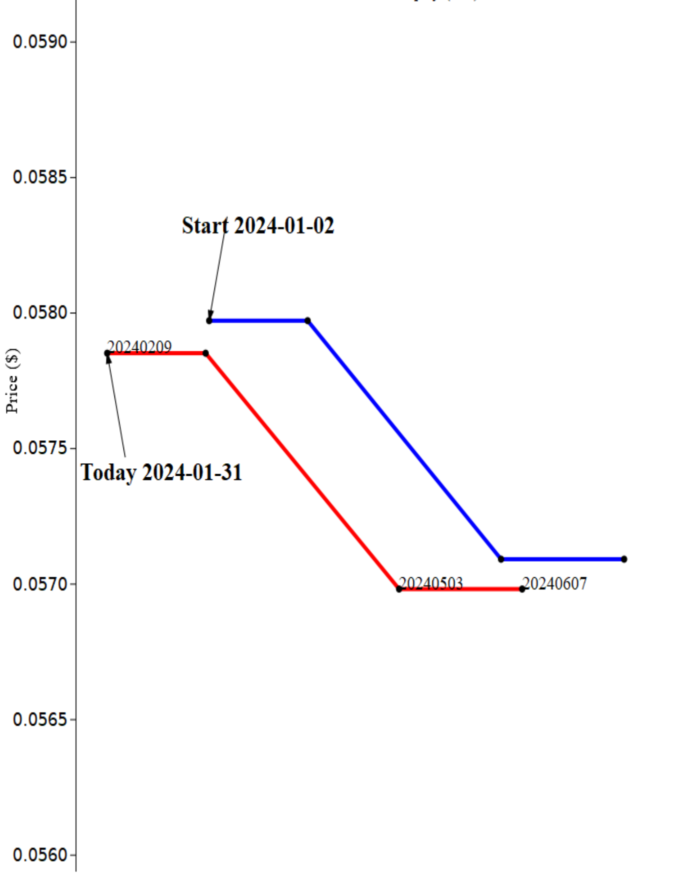

Front Month Dynamics:
JPYUSD Prem Quote Euro Style 2pmfix Options
(Black)
vol
price
11%
10%
9%
8%
Vol (%)
0.015
0.010
0.005
0.000
Price ($)
Time
Sun 07
Sun 14
Sun 21
Sun 28

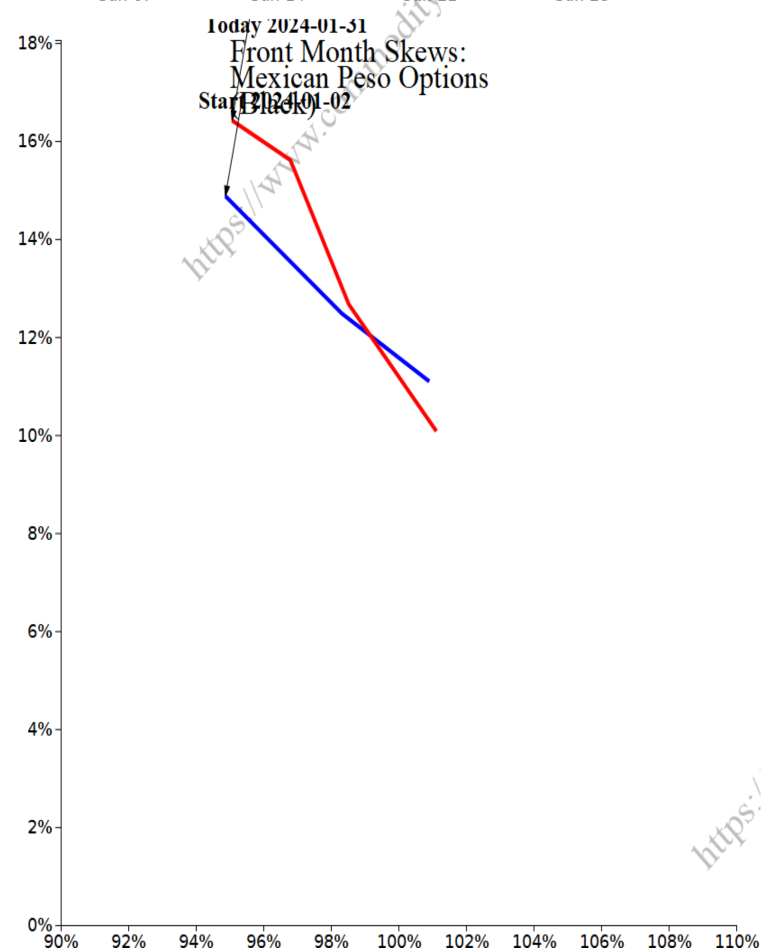

0.0074
0.0072
0.0070
0.0068
Price ($)
Start 2024-01-01
Today 2024-01-31
20240209
20240906
20250606

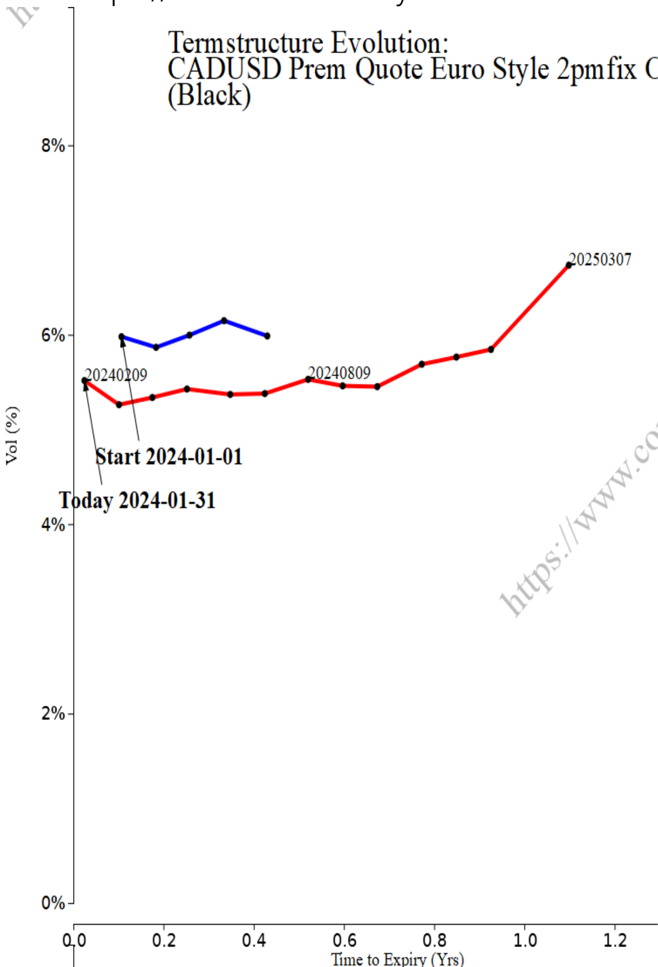

Front Month Skews:
JPYUSD Prem Quote Euro Style 2pmfix Optio
(Black)
24%
22%
20%
18%
16%
14%
12%
10%
8%
6%
4%
2%
0%
Start 2024-01-01
Today 2024-01-31
94%
96%
98%
100%
102%
104%
106%
108%
110%


Termstructure Evolution:
Mexican Peso Options
(Black)
Vol (%)
15%
10%
5%
0%
20240209
20240503
20240607
Start 2024-01-02
Today 2024-01-31
0.0
0.1
0.2
0.3
0.4
Time to Expiry (Yrs)
https://www.commodityvol.com

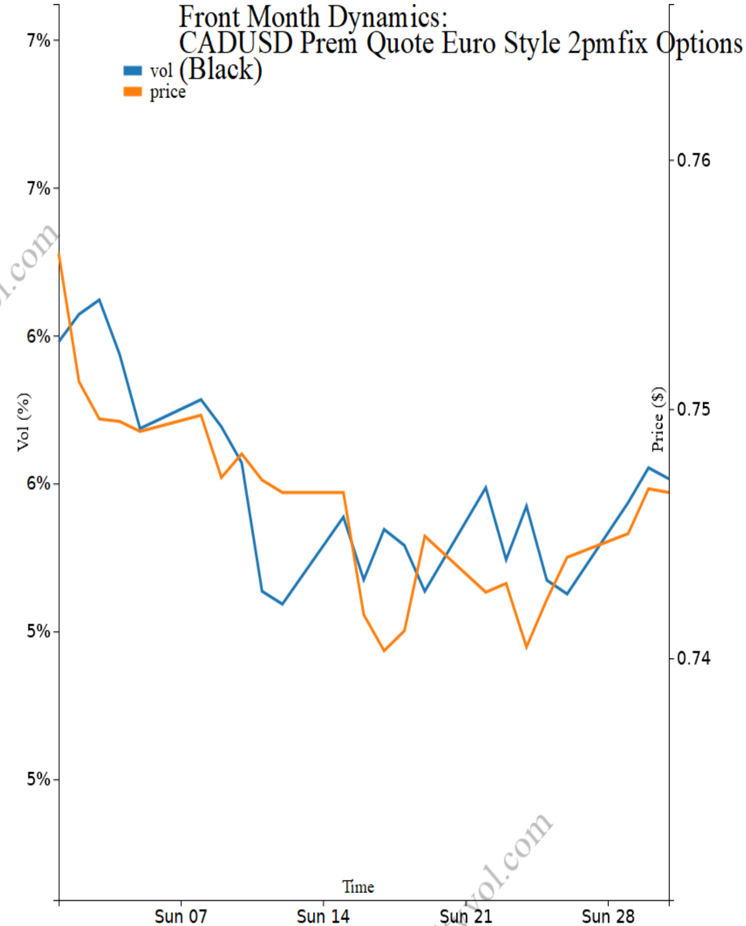

Front Month Dynamics:
Mexican Peso Options
(Black)
vol
price
Vol (%)
14%
12%
10%
8%
Price ($)
0.065
0.060
0.055
0.050
Time
Sun 07
Sun 14
Sun 21
Sun 28
https://www.commodityvol.com


Price ($)
0.0590
0.0585
0.0580
0.0575
0.0570
0.0565
0.0560
Start 2024-01-02
20240209
Today 2024-01-31
20240503
20240607

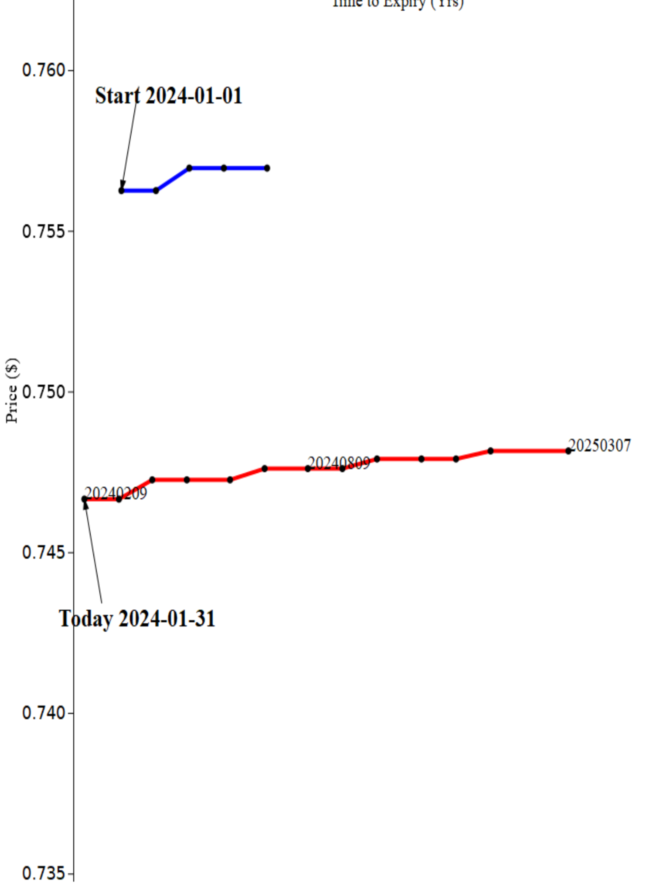

Today 2024-01-31
Front Month Skews:
Mexican Peso Options
(Black)
Start 2024-01-02
18%
16%
14%
12%
10%
8%
6%
4%
2%
0%
90%
92%
94%
96%
98%
100%
102%
104%
106%
108%
110%
https://www.commodityvol.com



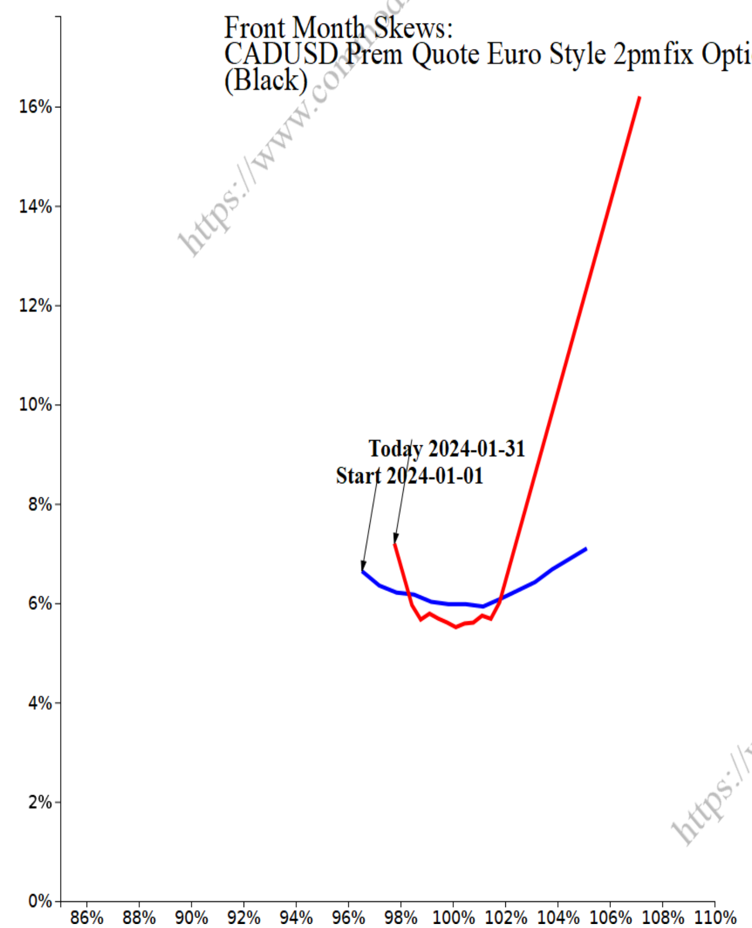
Termstructure Evolution:
CADUSD Prem Quote Euro Style 2pmfix C
(Black)
8%
6%
4%
2%
0%
Vol (%)
20240209
20240809
20250307
Start 2024-01-01
Today 2024-01-31
0.0
0.2
0.4
0.6
0.8
1.0
1.2
Time to Expiry (Yrs)



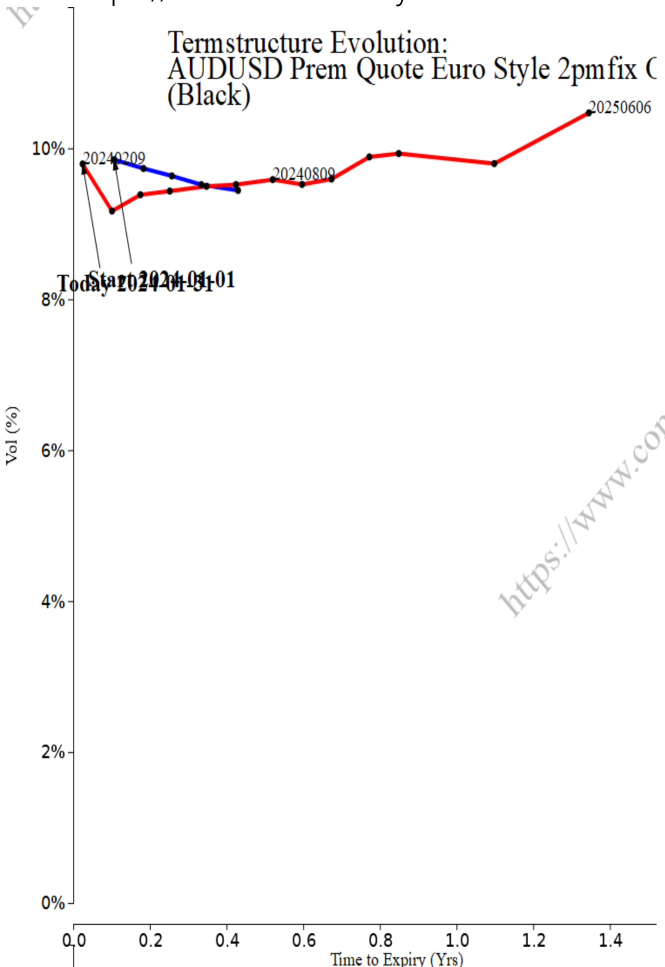
Front Month Dynamics:
CADUSD Prem Quote Euro Style 2pmfix Options
(Black)
vol
price
7%
7%
6%
6%
5%
5%
Vol (%)
0.76
0.75
0.74
Price ($)
Time
Sun 07
Sun 14
Sun 21
Sun 28

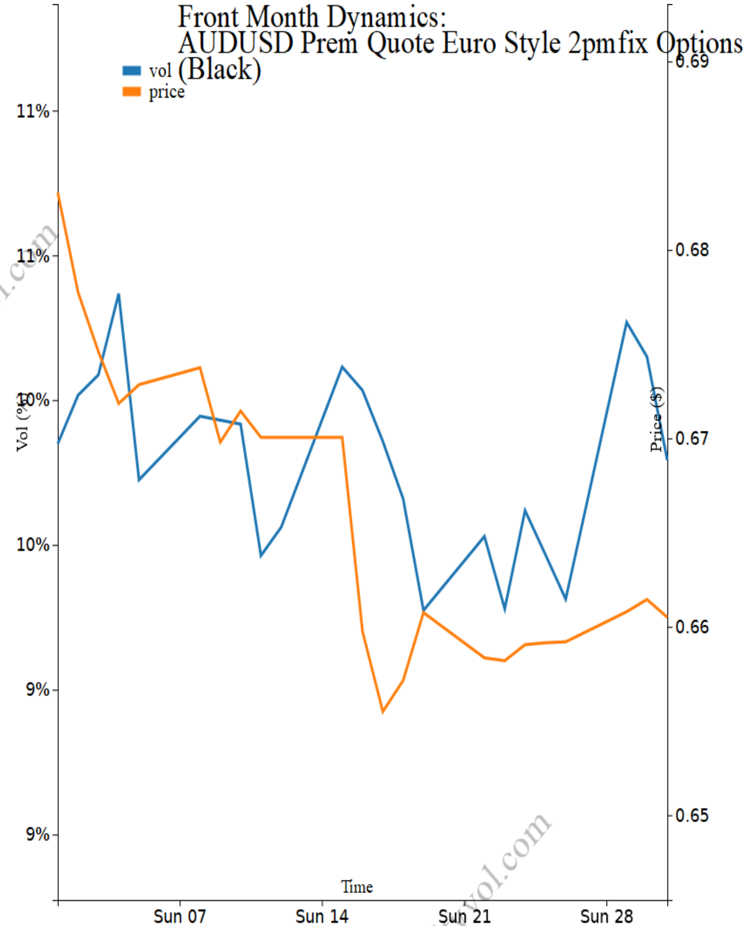


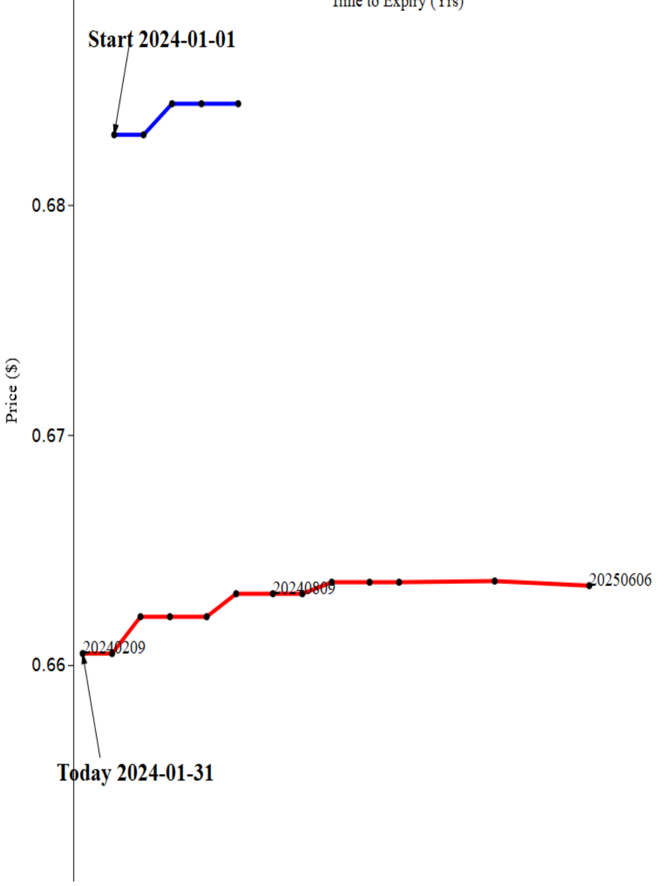
0.760
0.755
0.750
0.745
0.740
0.735
Price ($)
Start 2024-01-01
Today 2024-01-31
20240209
20240809
20250307

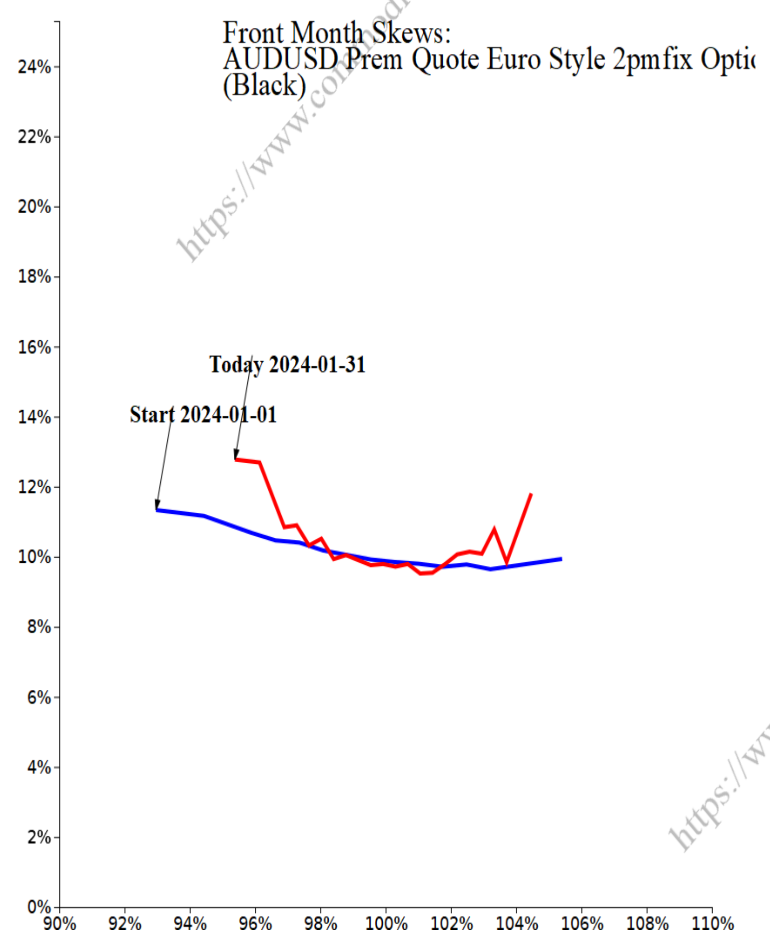


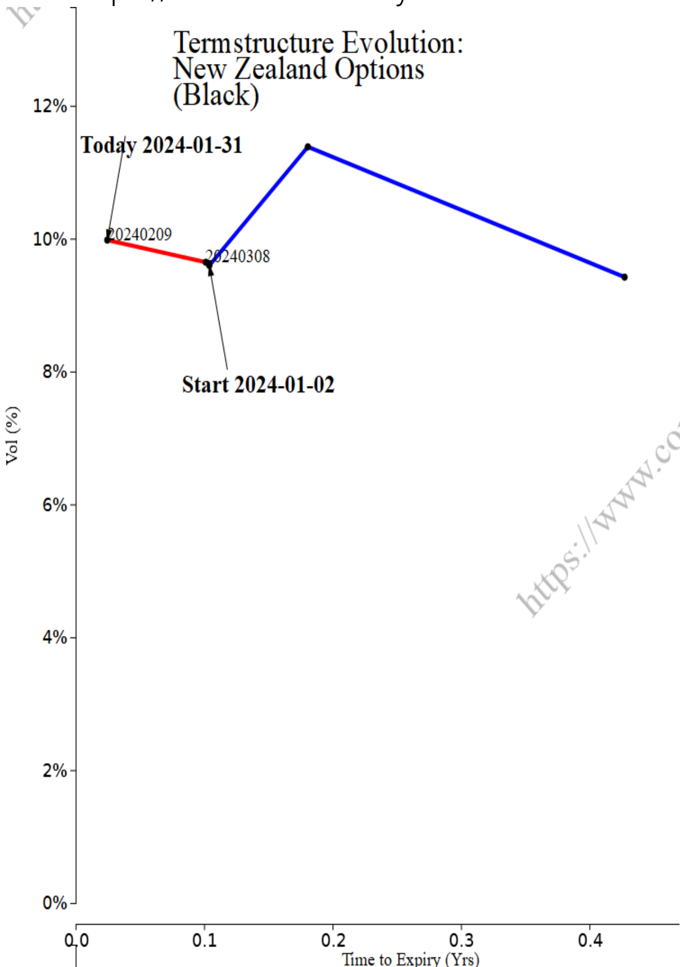
Front Month Skews:
CADUSD Prem Quote Euro Style 2pmfix Optic
(Black)
16%
14%
12%
10%
8%
6%
4%
2%
0%
Today 2024-01-31
Start 2024-01-01
86%
88%
90%
92%
94%
96%
98%
100%
102%
104%
106%
108%
110%

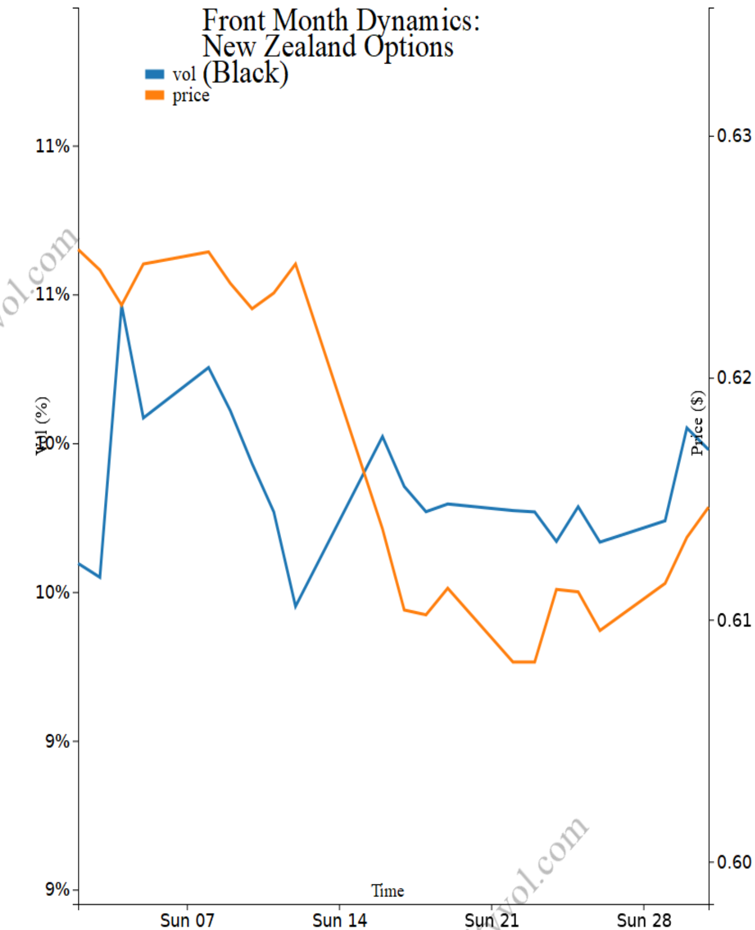

Termstructure Evolution:
AUDUSD Prem Quote Euro Style 2pmfix C
(Black)
Vol (%)
Time to Expiry (Yrs)
20240209
20240809
20250606
Start 2024-01-01
Today 2024-01-31

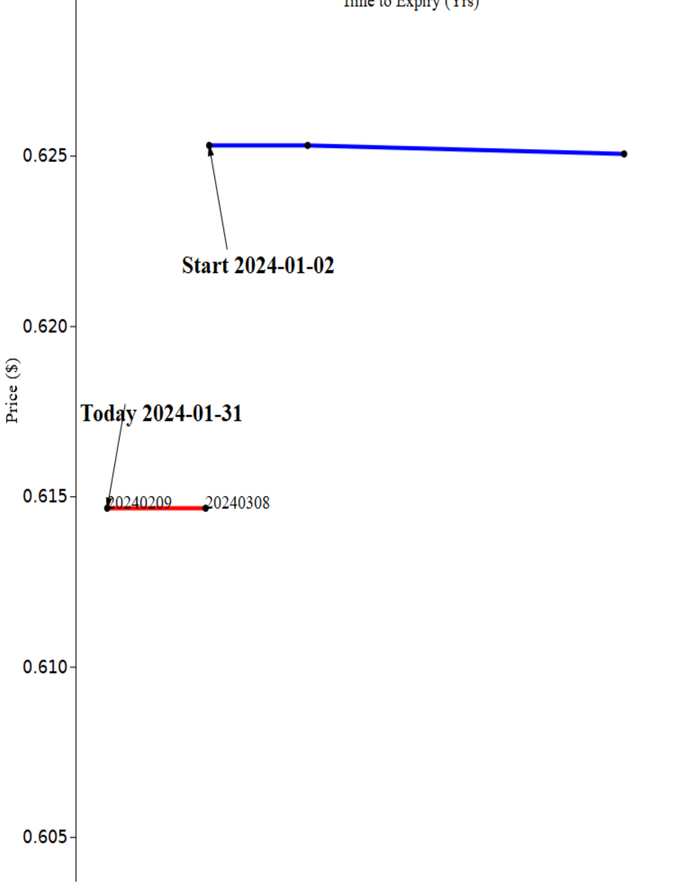

Front Month Dynamics:
AUDUSD Prem Quote Euro Style 2pmfix Options
(Black)
vol
price
Vol (%)
Price ($)
Time
Sun 07
Sun 14
Sun 21
Sun 28

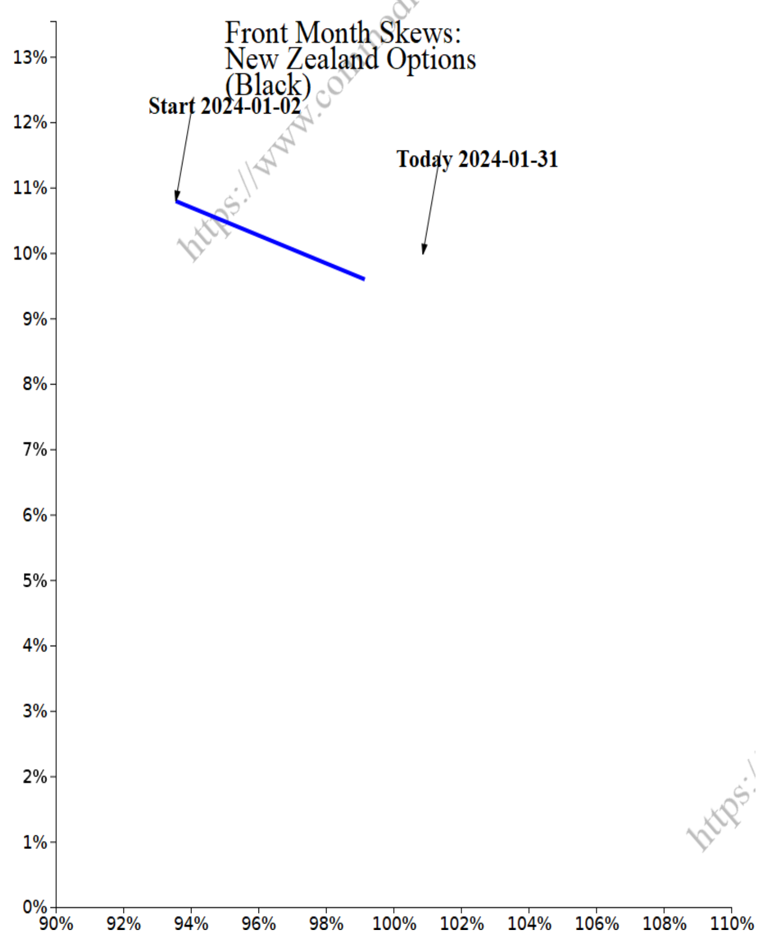

Price ($)
Start 2024-01-01
Today 2024-01-31
20240209
20240809
20250606

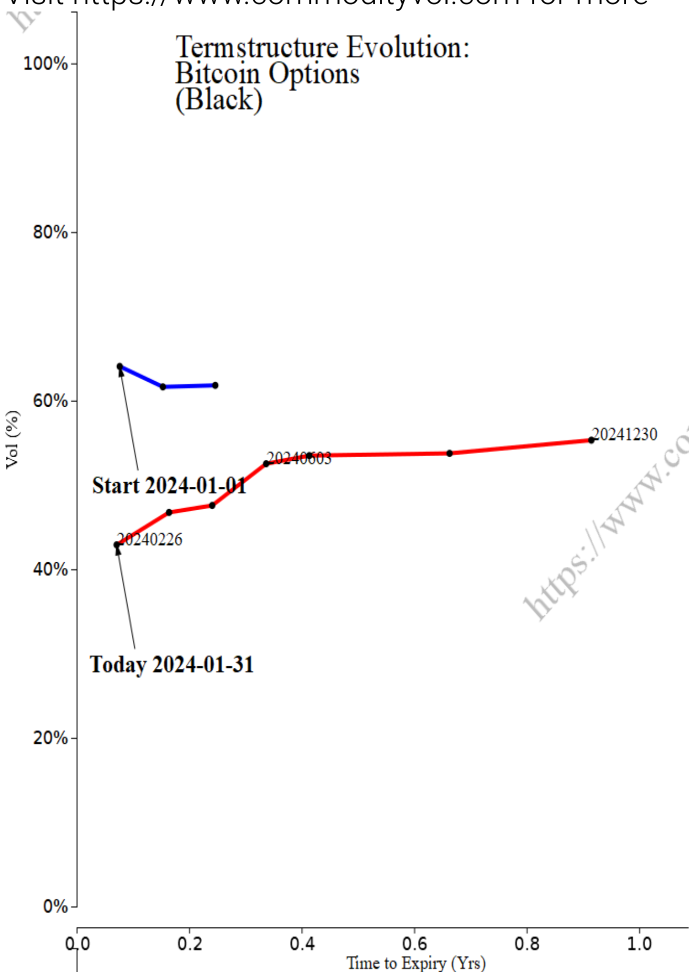

Front Month Skews:
AUDUSD Prem Quote Euro Style 2pmfix Optio
(Black)
Today 2024-01-31
Start 2024-01-01


Termstructure Evolution:
New Zealand Options
(Black)
Today 2024-01-31
20240209
20240308
Start 2024-01-02
Vol (%)
12%
10%
8%
6%
4%
2%
0%
0.0
0.1
0.2
0.3
0.4
Time to Expiry (Yrs)

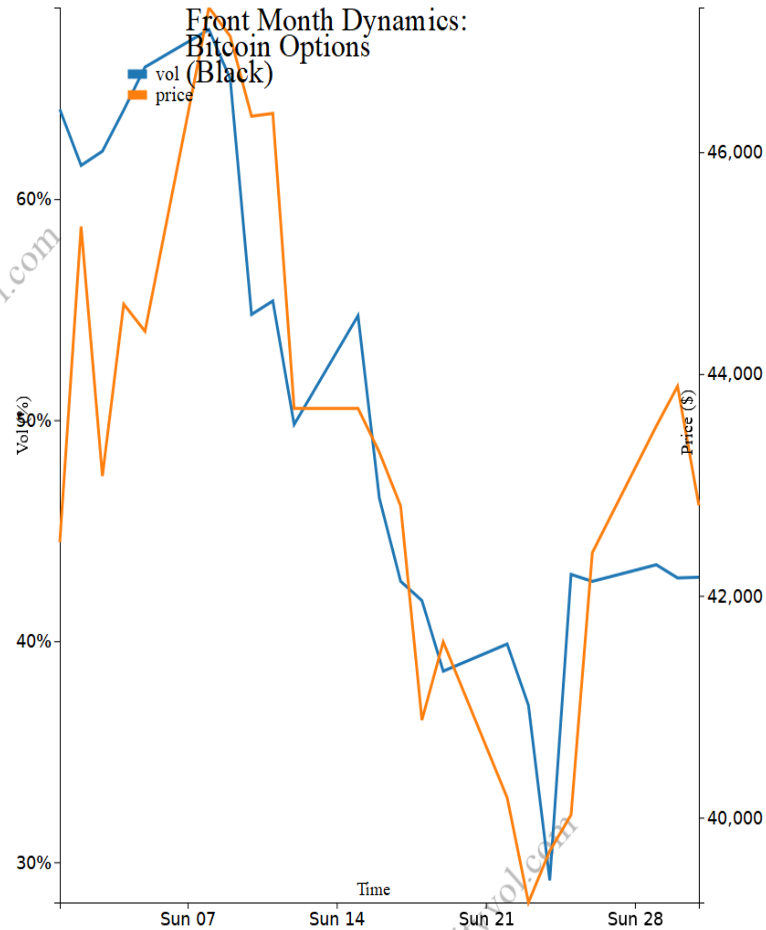

Front Month Dynamics:
New Zealand Options
(Black)
vol
price
Vol (%)
Price ($)
11%
11%
10%
10%
9%
9%
0.63
0.62
0.61
0.60
Time
Sun 07
Sun 14
Sun 21
Sun 28


Start 2024-01-02
Today 2024-01-31
20240209
20240308
Price ($)
0.625
0.620
0.615
0.610
0.605

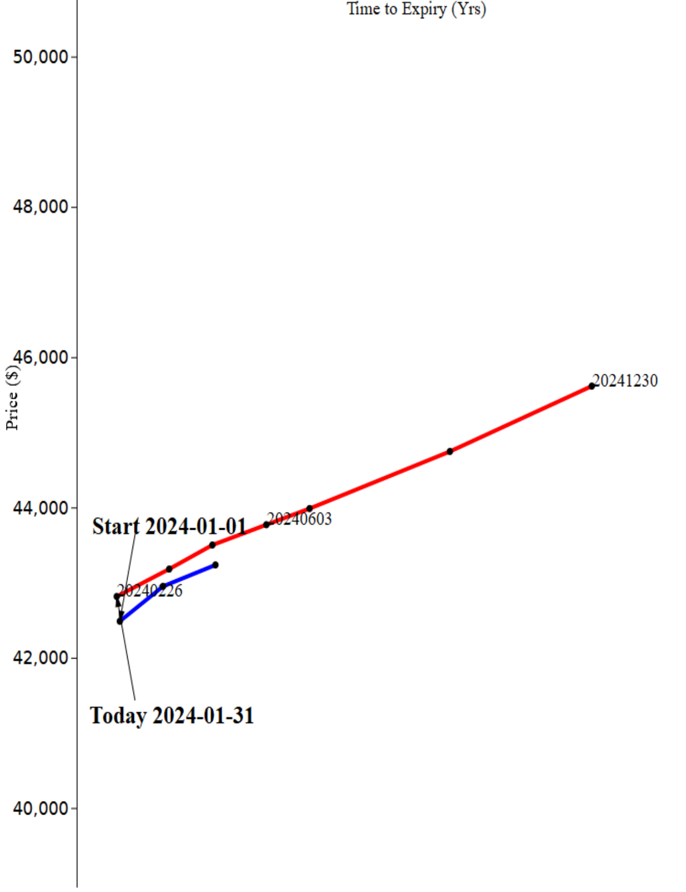

Front Month Skews:
New Zealand Options
(Black)
Start 2024-01-02
Today 2024-01-31
13%
12%
11%
10%
9%
8%
7%
6%
5%
4%
3%
2%
1%
0%
90%
92%
94%
96%
98%
100%
102%
104%
106%
108%
110%



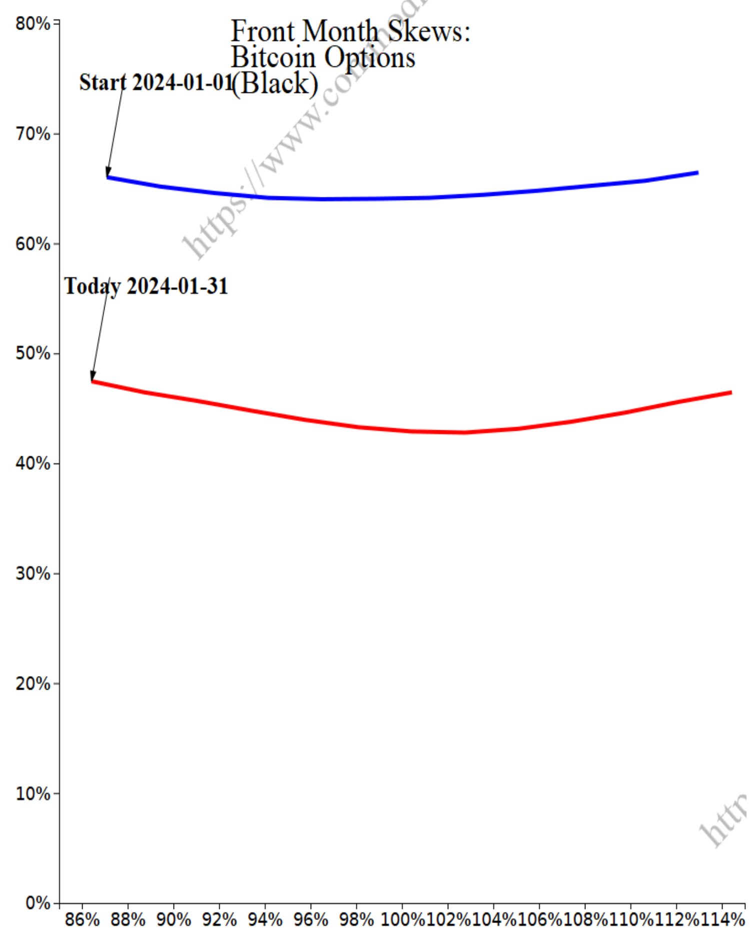
Termstructure Evolution:
Bitcoin Options
(Black)
Vol (%)
Time to Expiry (Yrs)
Start 2024-01-01
Today 2024-01-31
20240226
20240603
20241230
https://www.commodityvol.com



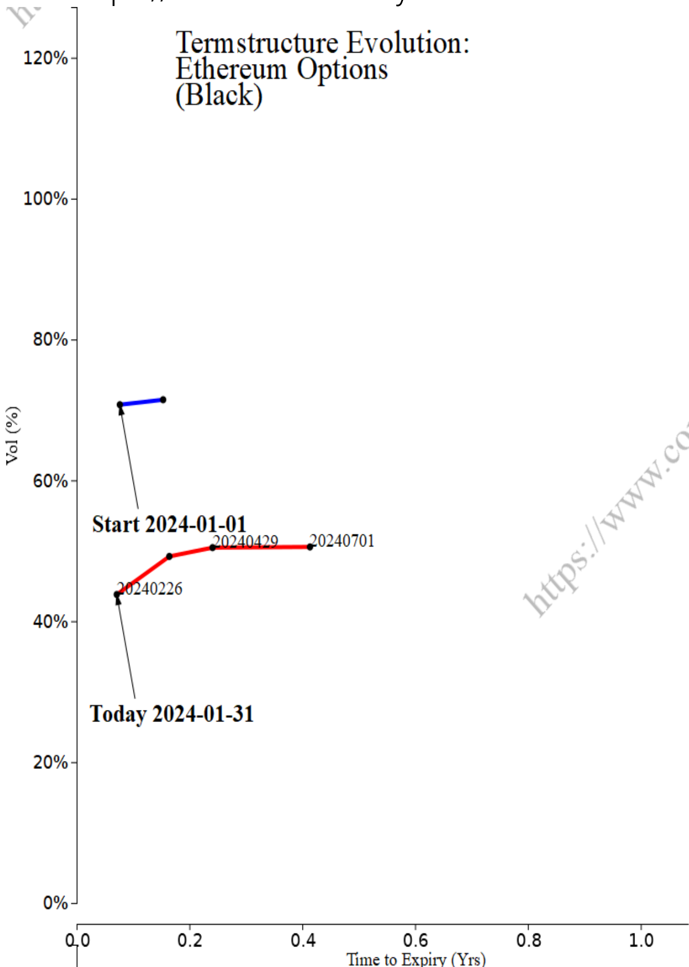
Front Month Dynamics:
Bitcoin Options
(Black)
vol
price
Vol (%)
Price ($)
Time
Sun 07
Sun 14
Sun 21
Sun 28

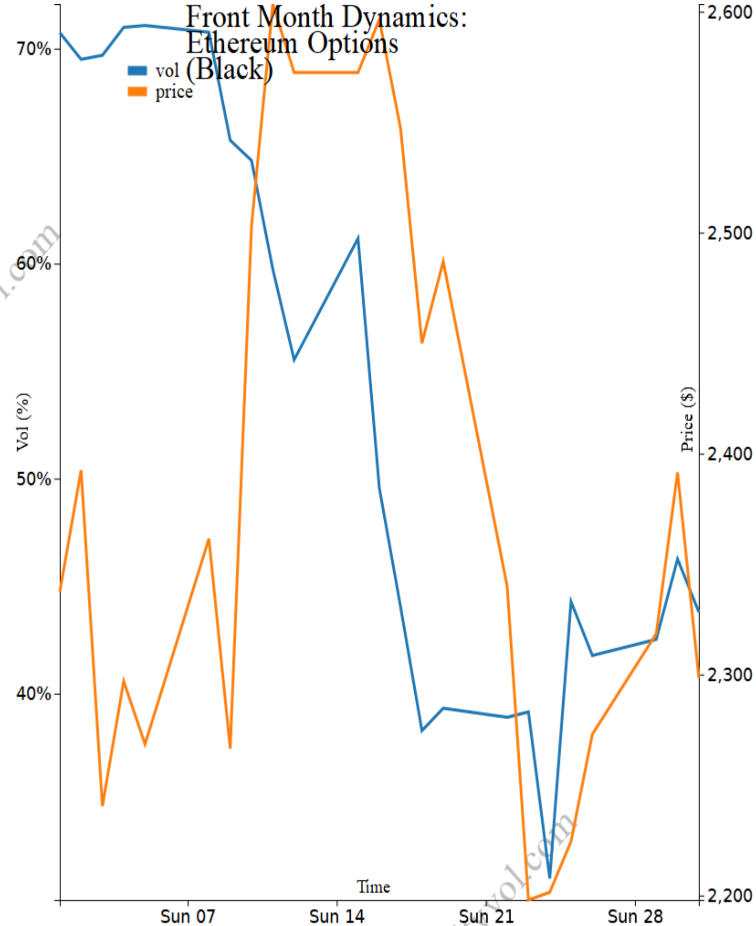


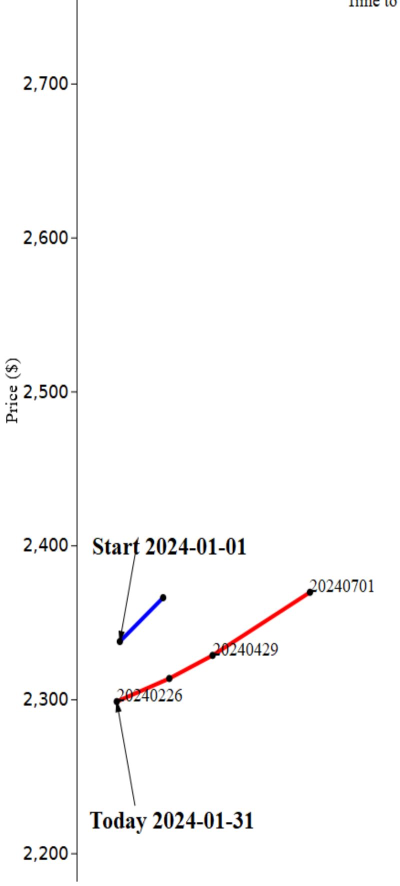
Price ($)
Start 2024-01-01
Today 2024-01-31
20240226
20240603
20241230

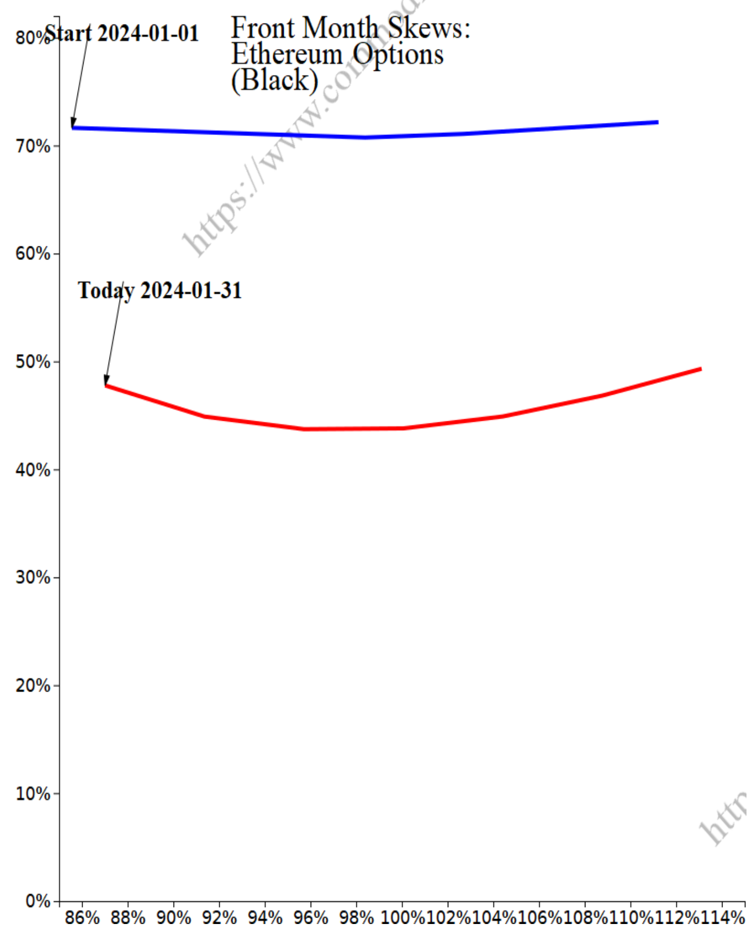


Front Month Skews:
Bitcoin Options
(Black)
Start 2024-01-01
Today 2024-01-31
https://www.commodityvol.com

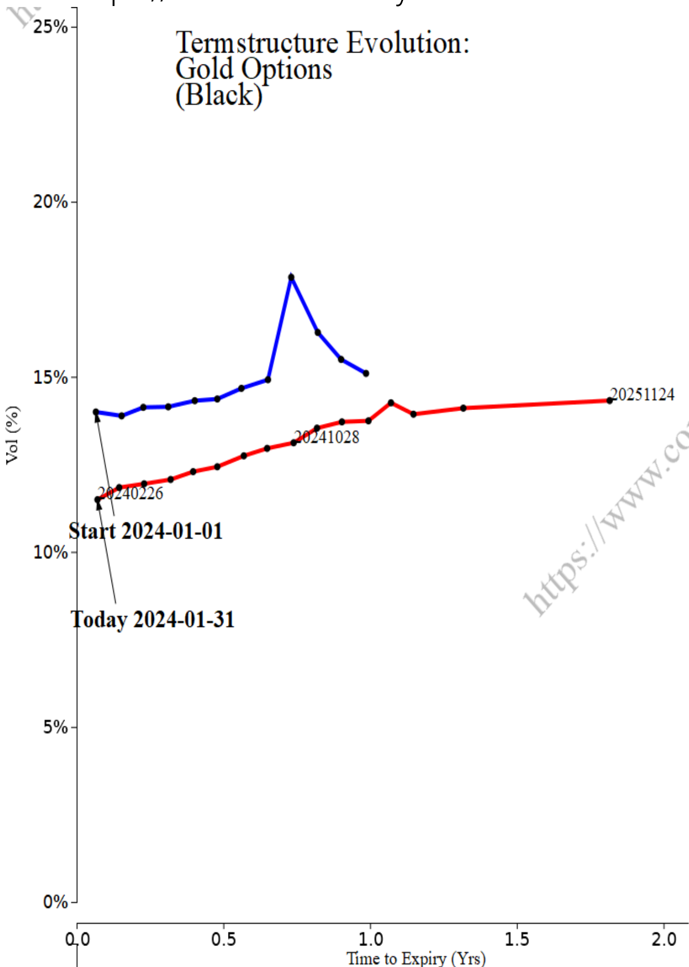

Termstructure Evolution:
Ethereum Options
(Black)
120%
100%
80%
60%
40%
20%
0%
Vol (%)
Start 2024-01-01
Today 2024-01-31
20240226
20240429
20240701
0.0
0.2
0.4
0.6
0.8
1.0
Time to Expiry (Yrs)

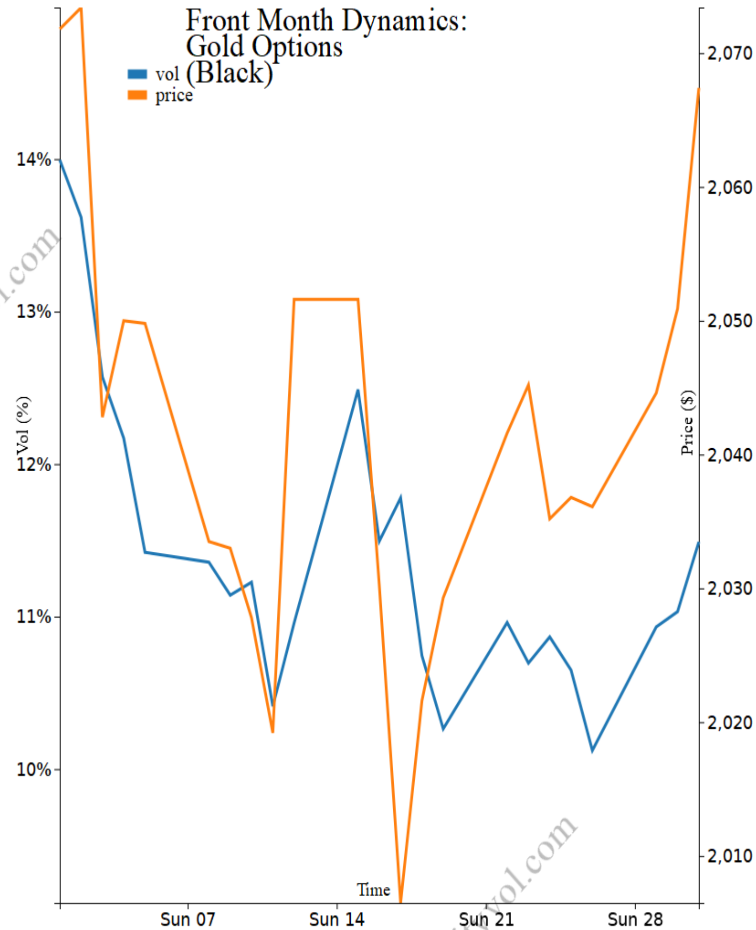

Front Month Dynamics:
Ethereum Options
(Black)
vol
price
70%
60%
50%
40%
Vol (%)
2,600
2,500
2,400
2,300
2,200
Price ($)
Time
Sun 07
Sun 14
Sun 21
Sun 28

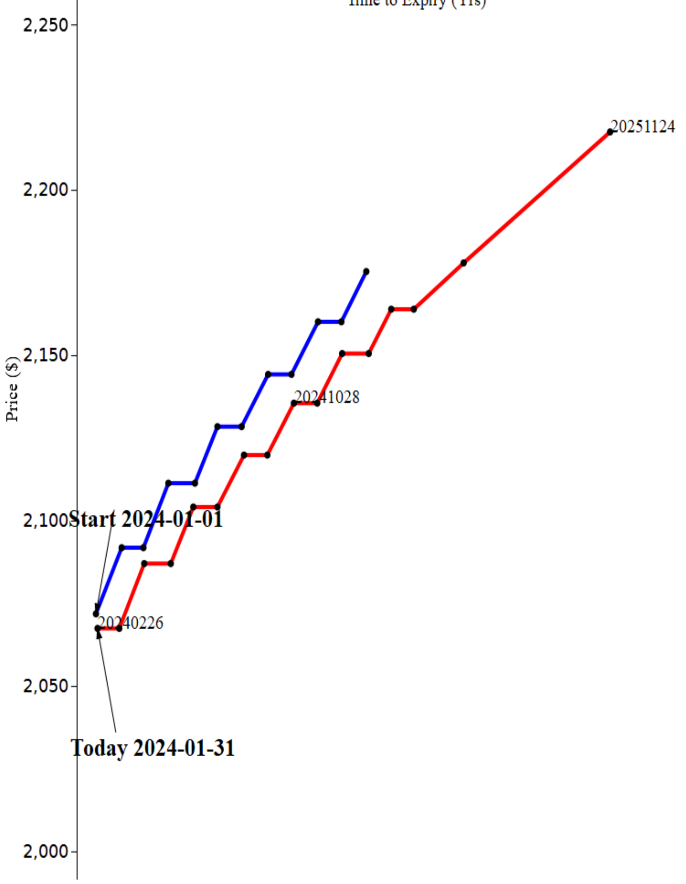

2,700
2,600
2,500
2,400
2,300
2,200
Price ($)
Start 2024-01-01
Today 2024-01-31
20240226
20240429
20240701

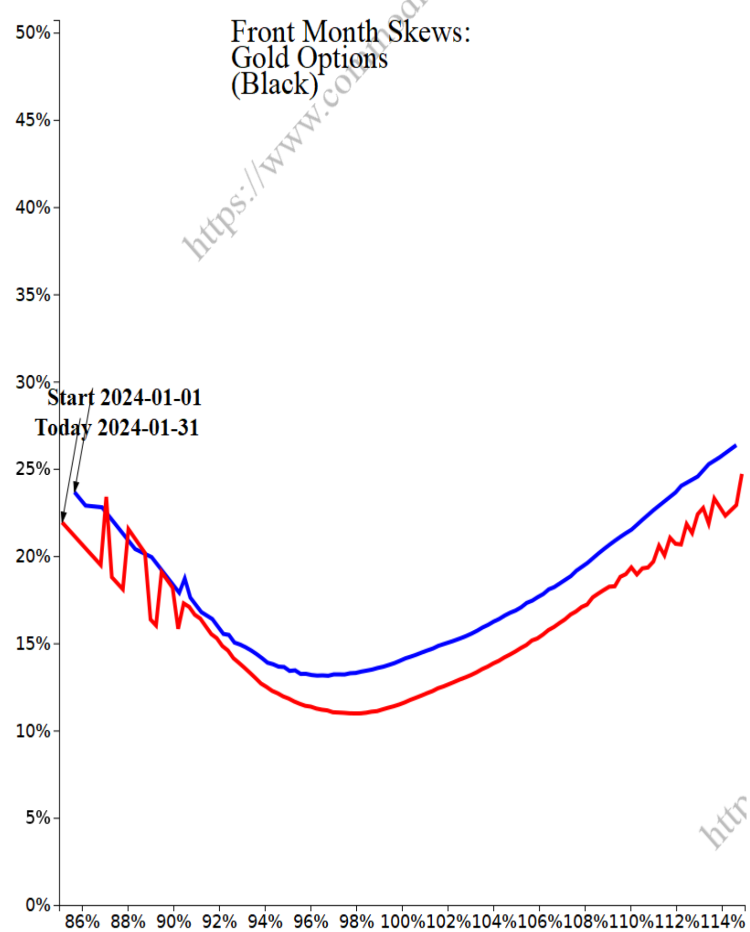

Front Month Skews:
Ethereum Options
(Black)
Start 2024-01-01
Today 2024-01-31
80%
70%
60%
50%
40%
30%
20%
10%
0%
86%
88%
90%
92%
94%
96%
98%
100%
102%
104%
106%
108%
110%
112%
114%

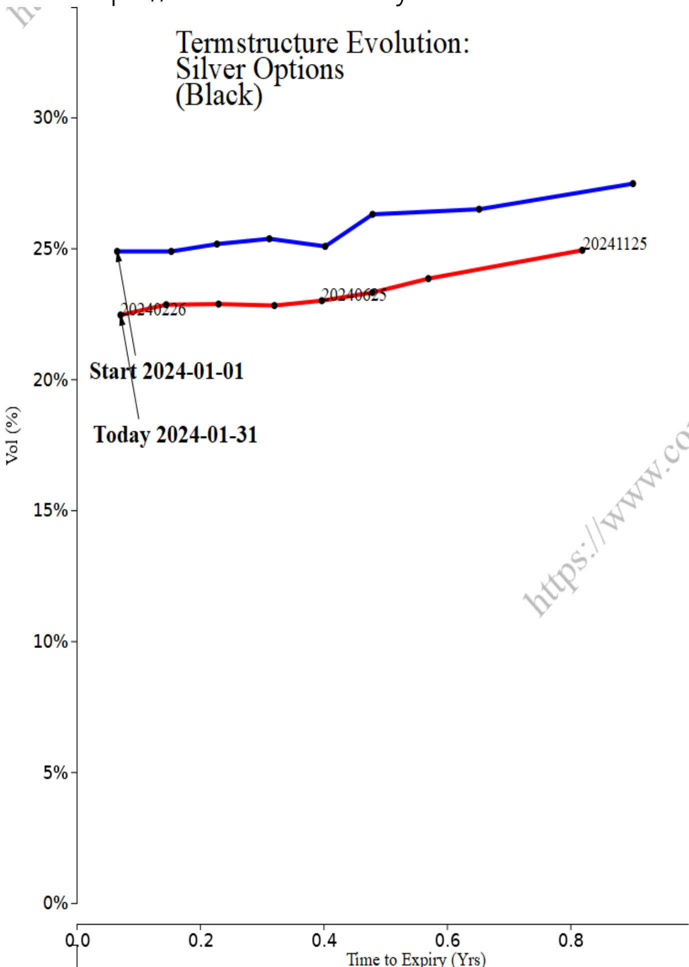
Metals

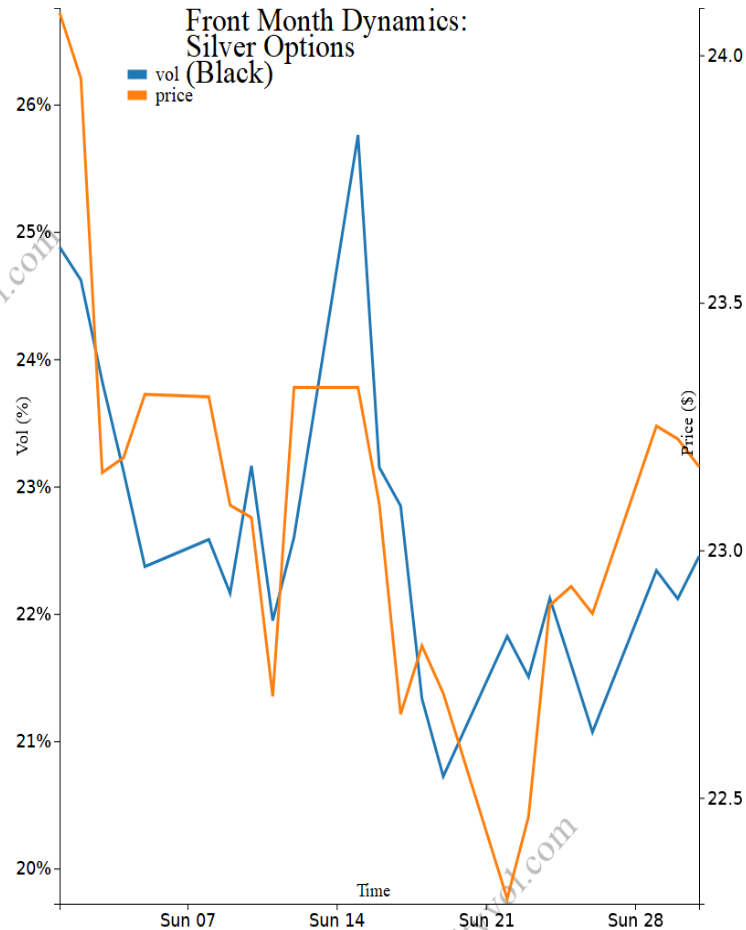

Termstructure Evolution:
Gold Options
(Black)
25%
20%
15%
10%
5%
0%
Vol (%)
20251124
20241028
20240226
Start 2024-01-01
Today 2024-01-31
0.0
0.5
1.0
1.5
2.0
Time to Expiry (Yrs)

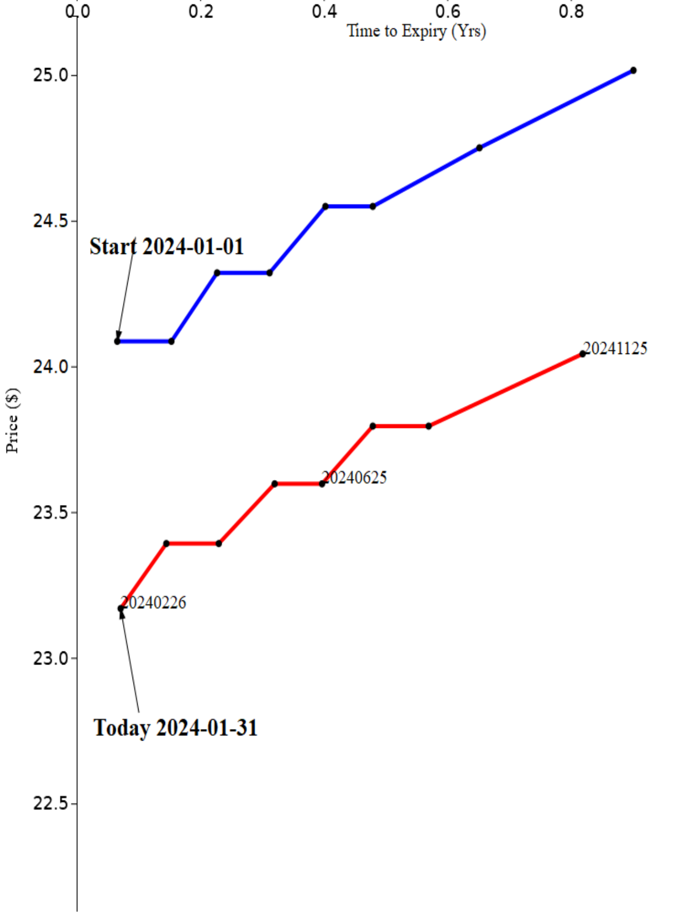

Front Month Dynamics:
Gold Options
(Black)
vol
price
14%
13%
12%
11%
10%
Vol (%)
2,070
2,060
2,050
2,040
2,030
2,020
2,010
Price ($)
Time
Sun 07
Sun 14
Sun 21
Sun 28

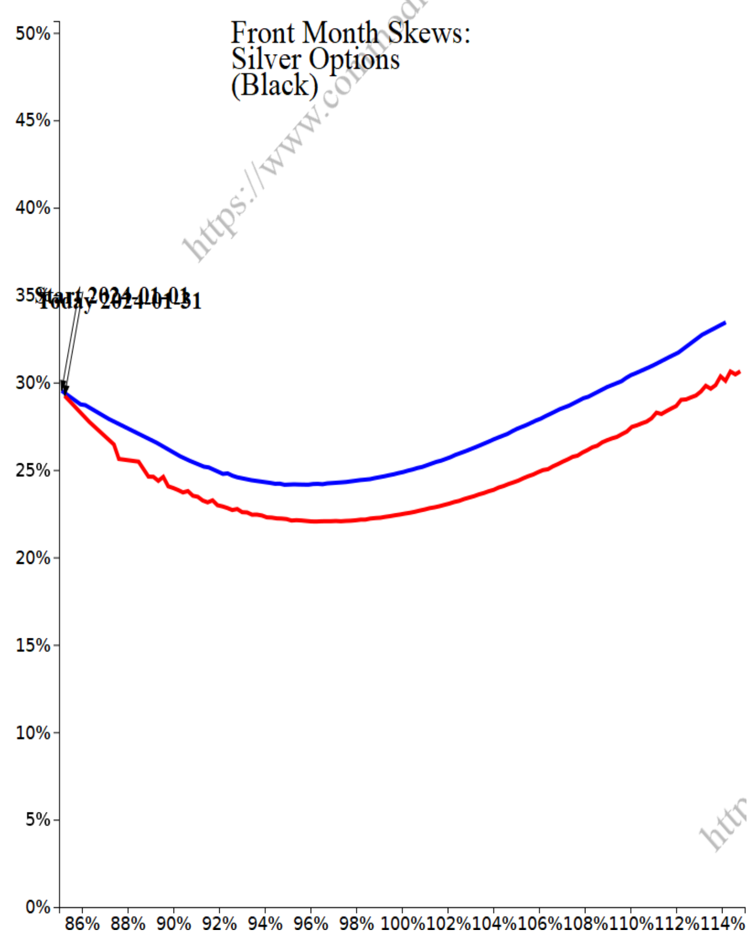

2,250
2,200
2,150
2,100
2,050
2,000
Price ($)
20251124
20241028
Start 2024-01-01
20240226
Today 2024-01-31

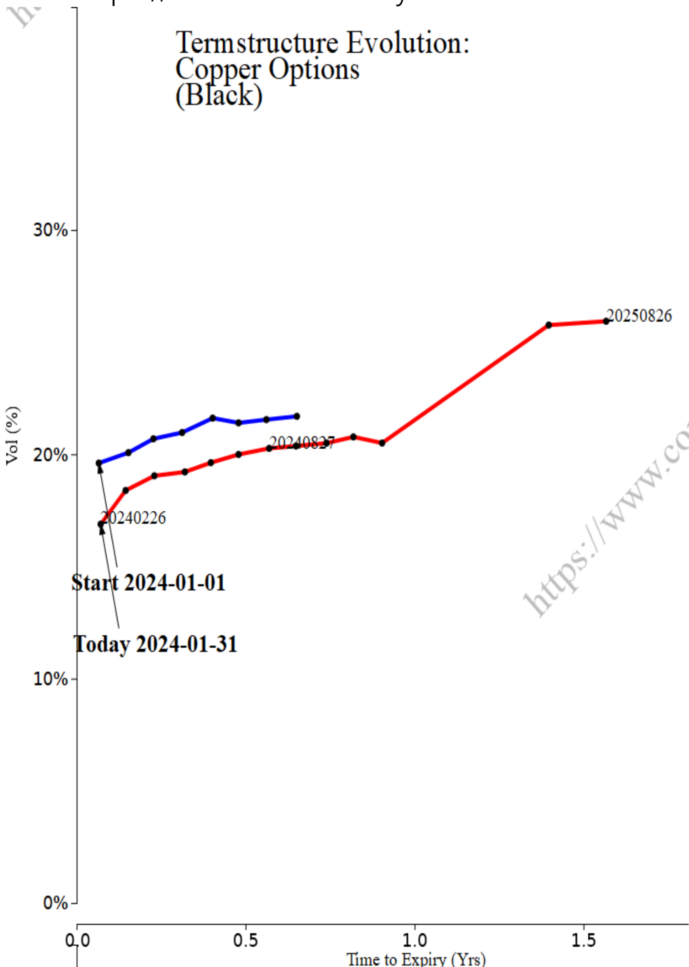

Front Month Skews:
Gold Options
(Black)
50%
45%
40%
35%
30%
25%
20%
15%
10%
5%
0%
Start 2024-01-01
Today 2024-01-31
86%
88%
90%
92%
94%
96%
98%
100%
102%
104%
106%
108%
110%
112%
114%

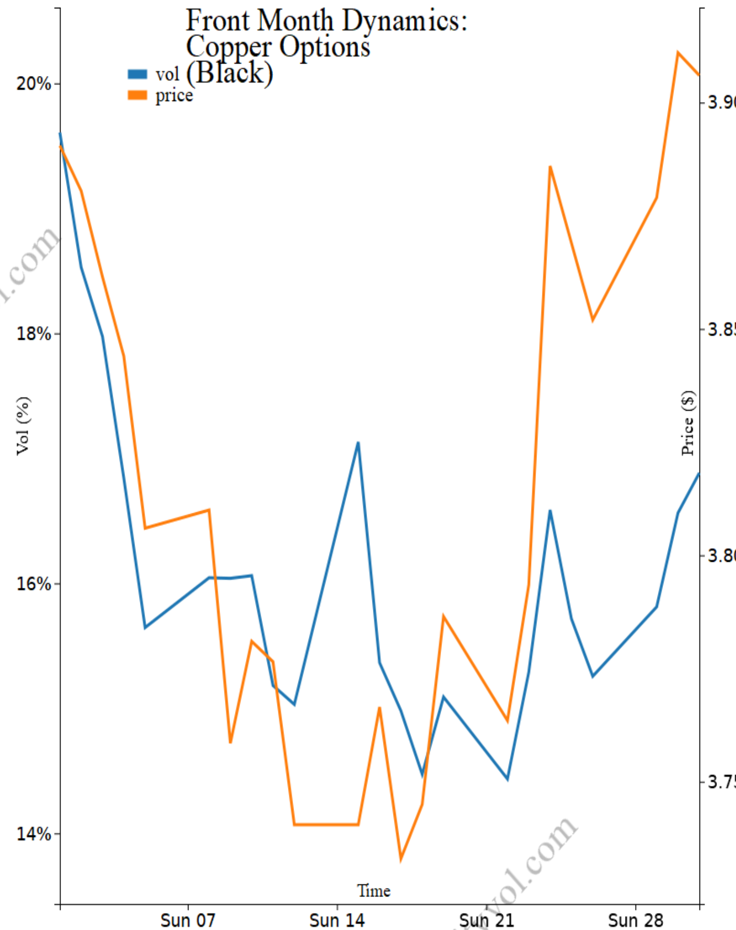

Termstructure Evolution:
Silver Options
(Black)
Vol (%)
Time to Expiry (Yrs)
Start 2024-01-01
Today 2024-01-31
20240226
20240625
20241125

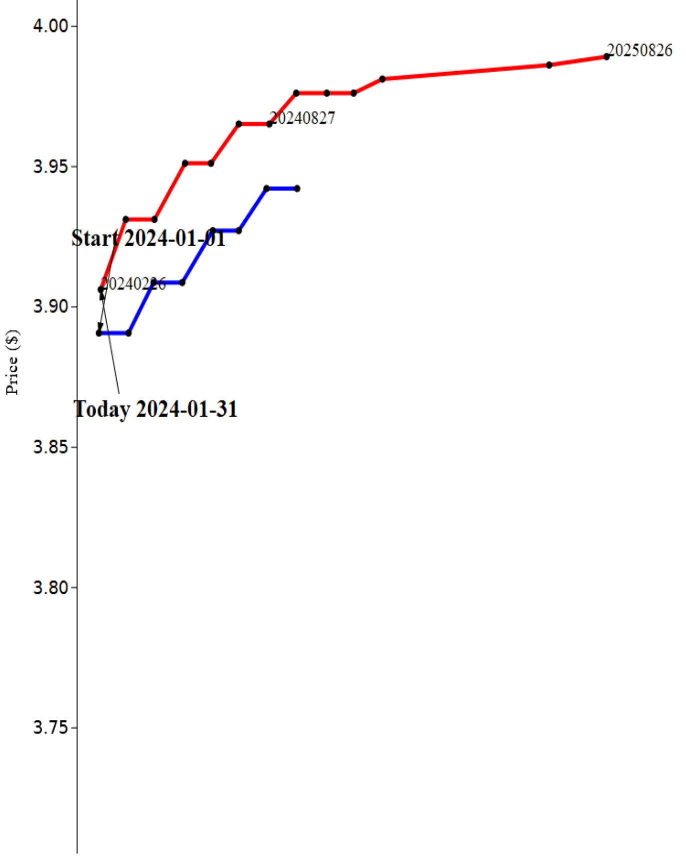

Front Month Dynamics:
Silver Options
(Black)
vol
price
Vol (%)
Price ($)
Time
Sun 07
Sun 14
Sun 21
Sun 28

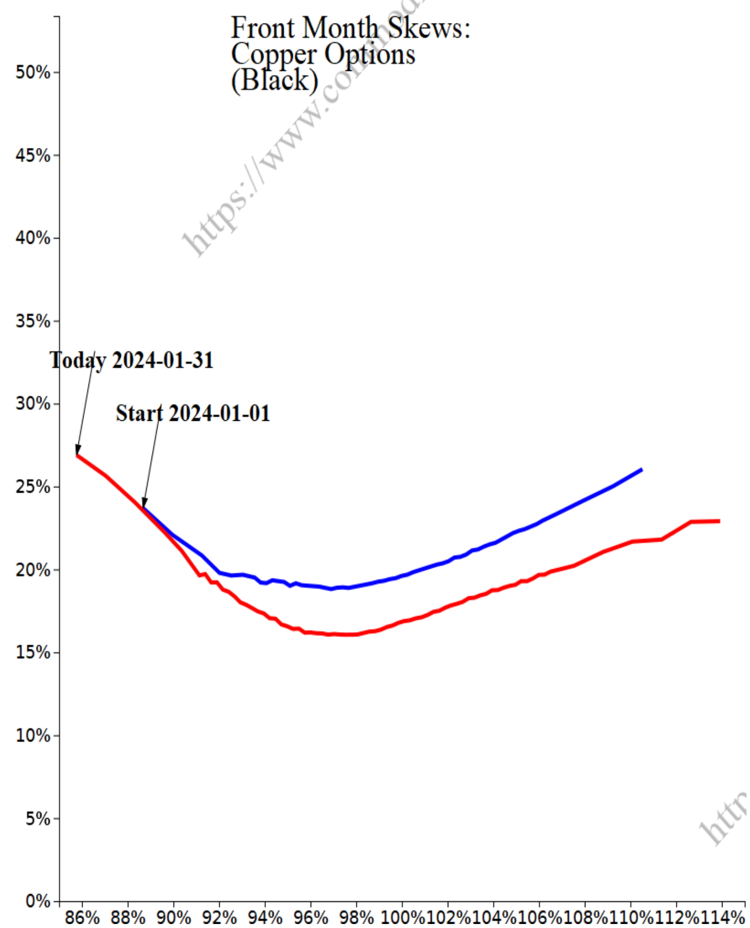

Price ($)
Start 2024-01-01
Today 2024-01-31
20240226
20240625
20241125

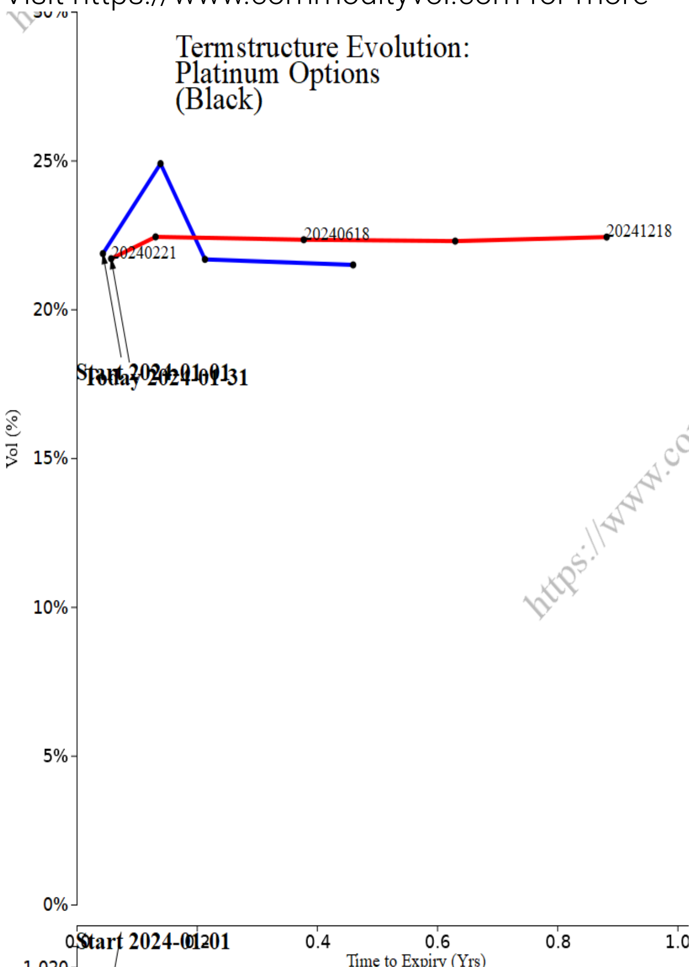

Front Month Skews:
Silver Options
(Black)
Start 2024-01-01
Today 2024-01-31

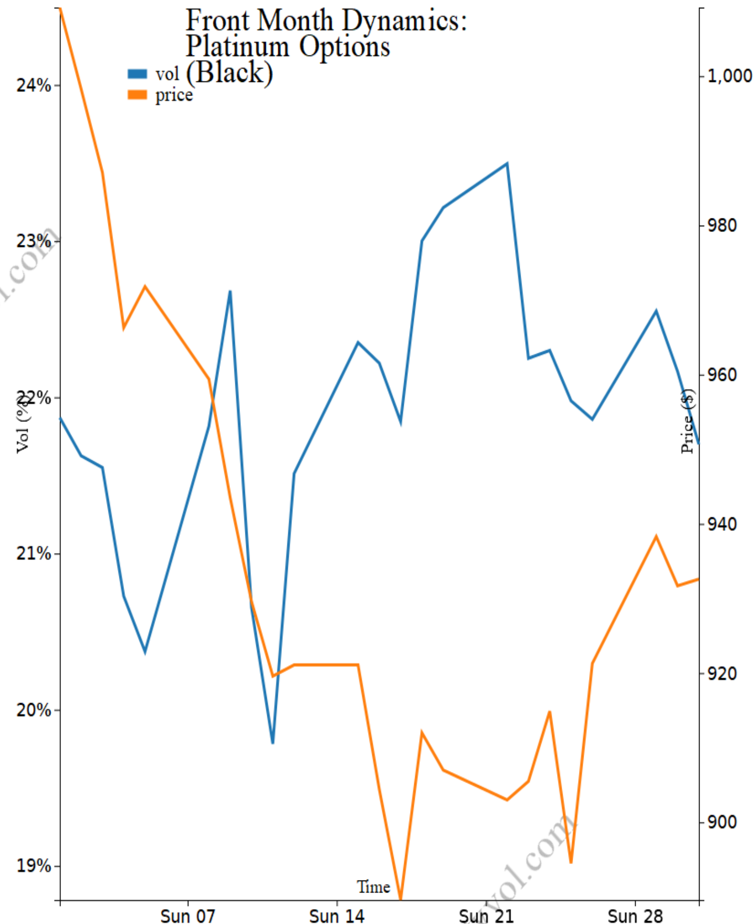

Termstructure Evolution:
Copper Options
(Black)
Vol (%)
Time to Expiry (Yrs)
20250826
20240827
20240226
Start 2024-01-01
Today 2024-01-31

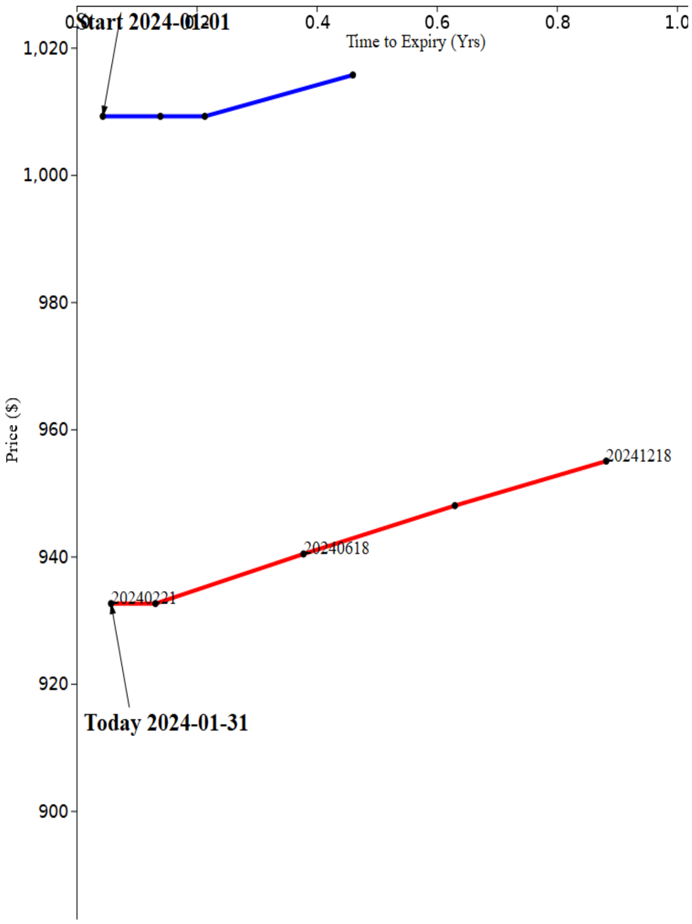

Front Month Dynamics:
Copper Options
(Black)
vol
price
Vol (%)
Price ($)
Time
Sun 07
Sun 14
Sun 21
Sun 28

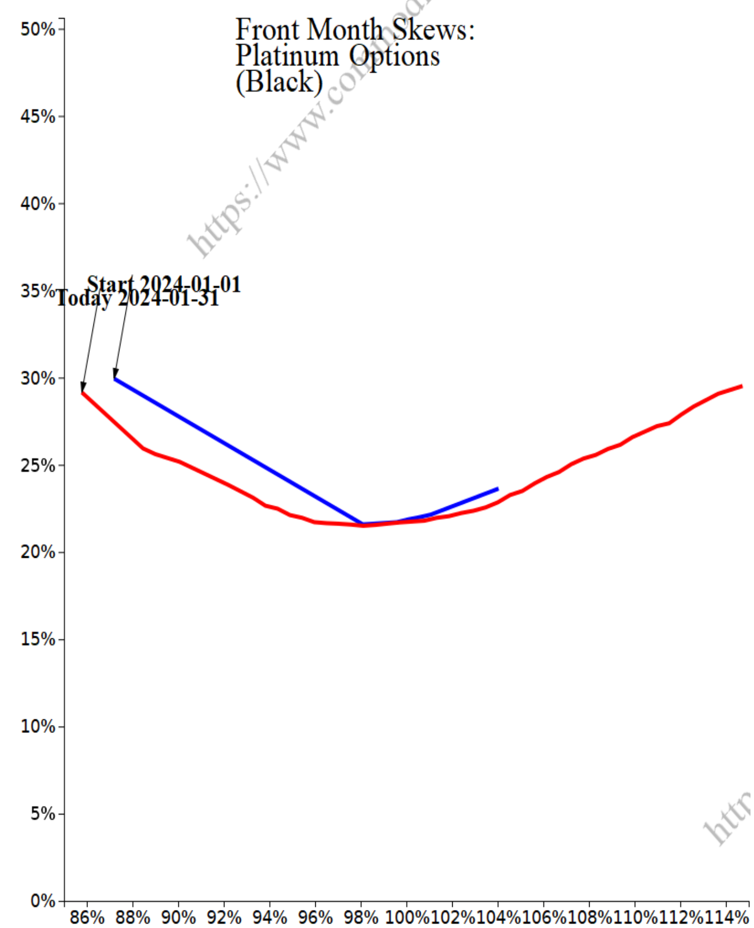

Price ($)
20250826
20240827
20240226
Start 2024-01-01
Today 2024-01-31

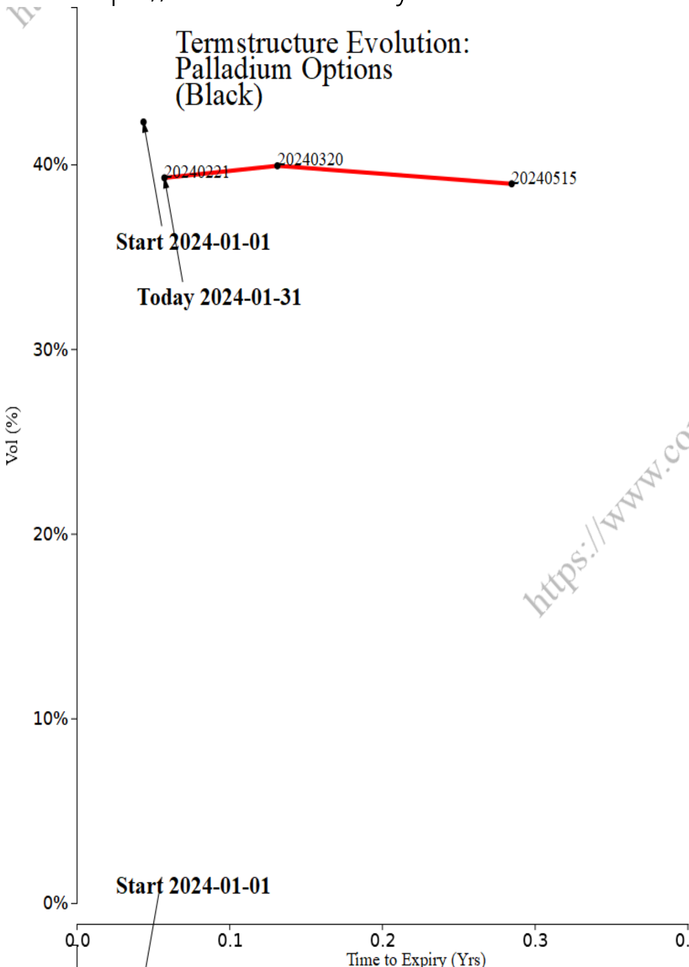

Front Month Skews:
Copper Options
(Black)
Today 2024-01-31
Start 2024-01-01

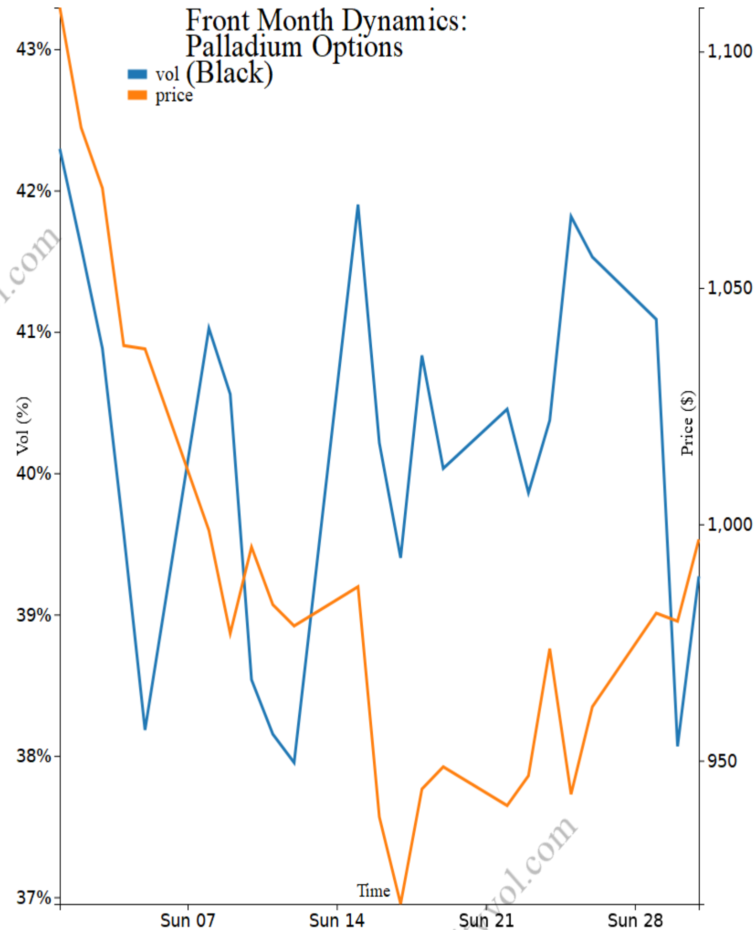

Termstructure Evolution:
Platinum Options
(Black)
20240221
20240618
20241218
Start 2024-01-01
Today 2024-01-31
Vol (%)
Time to Expiry (Yrs)

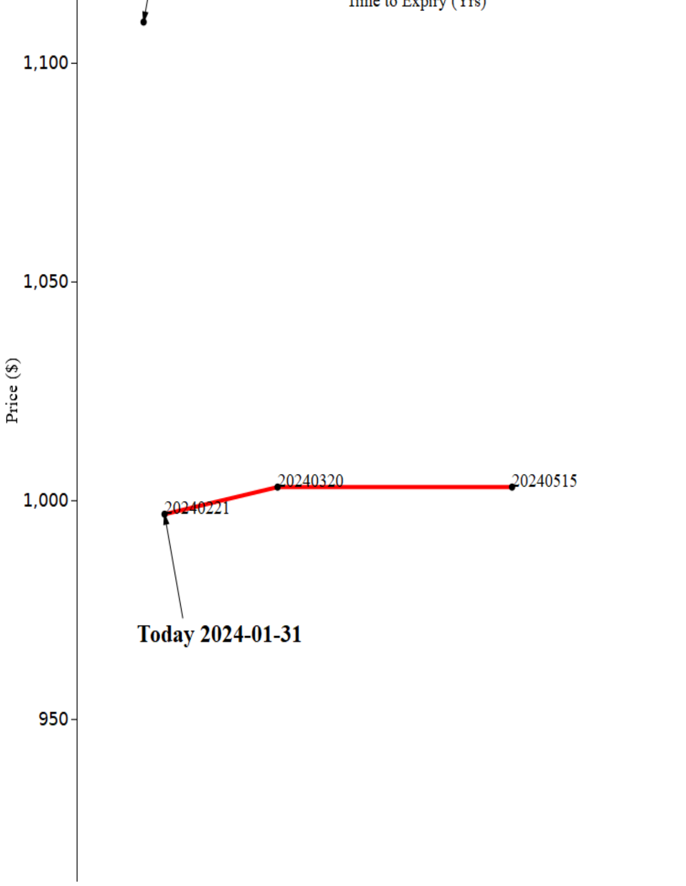

Front Month Dynamics:
Platinum Options
(Black)
vol
price
Vol (%)
Price ($)
Time
Sun 07
Sun 14
Sun 21
Sun 28

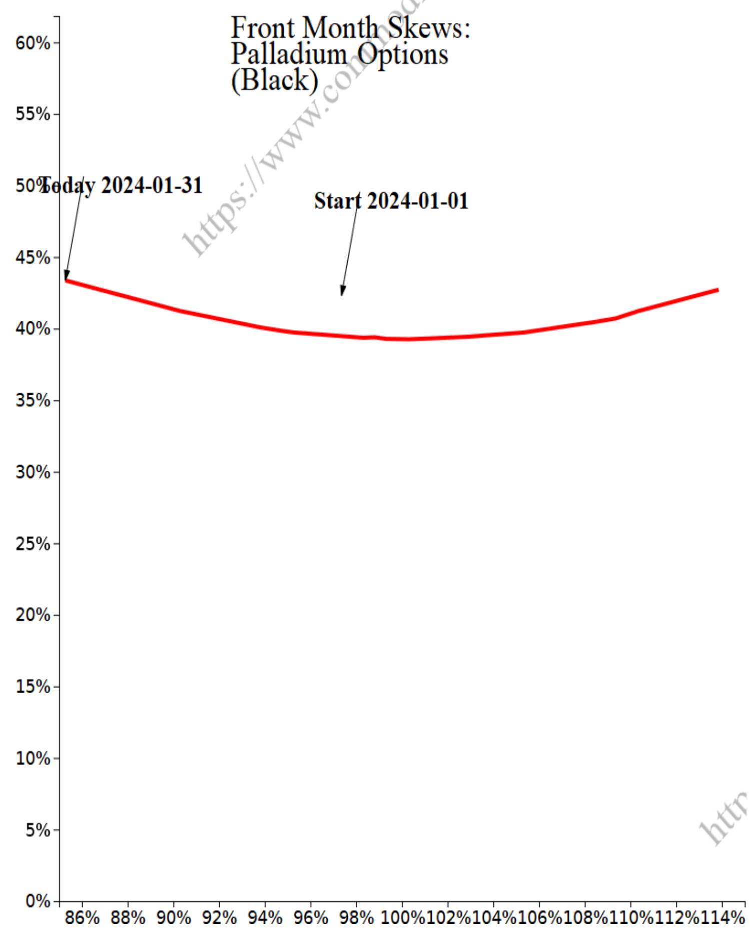

Start 2024-01-01
20240221
20240618
20241218
Today 2024-01-31
Price ($)


Front Month Skews:
Platinum Options
(Black)
Start 2024-01-01
Today 2024-01-31

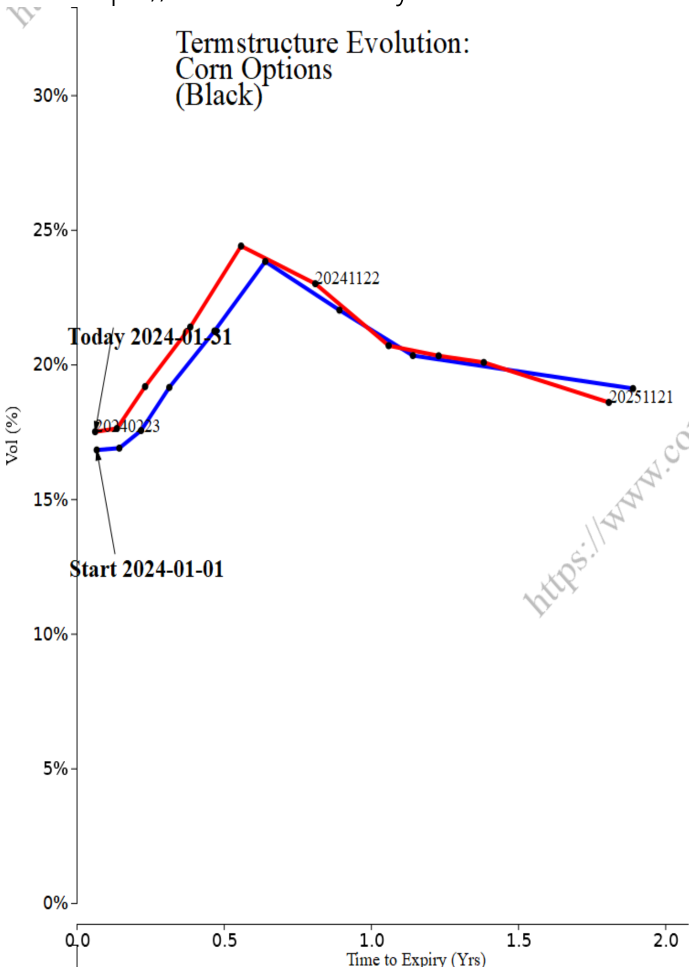

Termstructure Evolution:
Palladium Options
(Black)
Vol (%)
40%
30%
20%
10%
0%
20240221
20240320
20240515
Start 2024-01-01
Today 2024-01-31
0.0
0.1
0.2
0.3
Time to Expiry (Yrs)

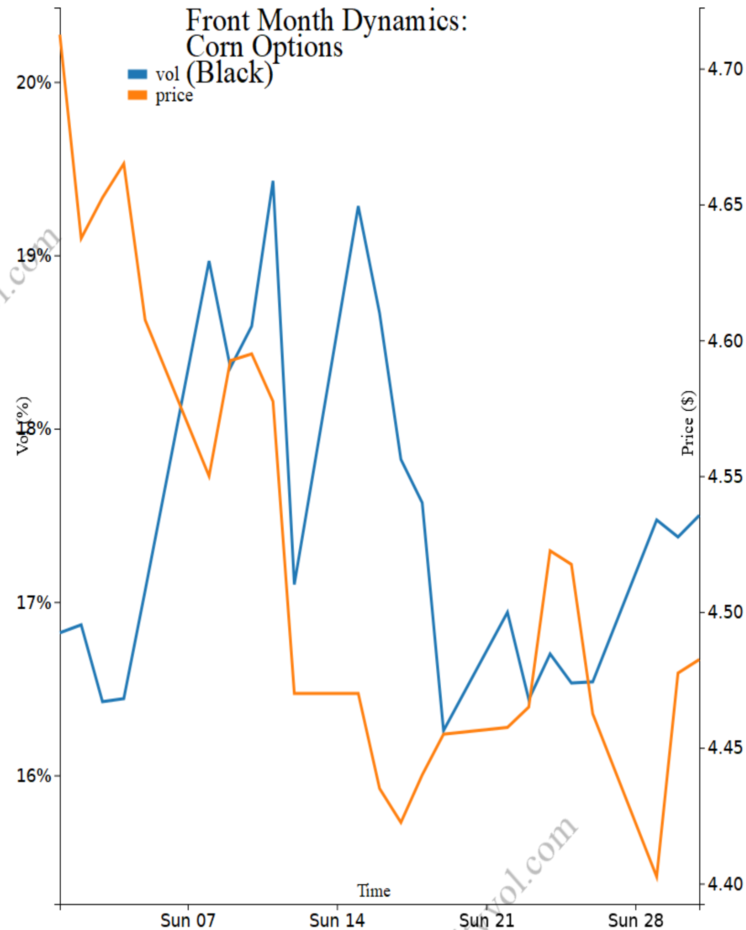

Front Month Dynamics:
Palladium Options
(Black)
vol
price
Vol (%)
Price ($)
43%
42%
41%
40%
39%
38%
37%
1,100
1,050
1,000
950
Time
Sun 07
Sun 14
Sun 21
Sun 28

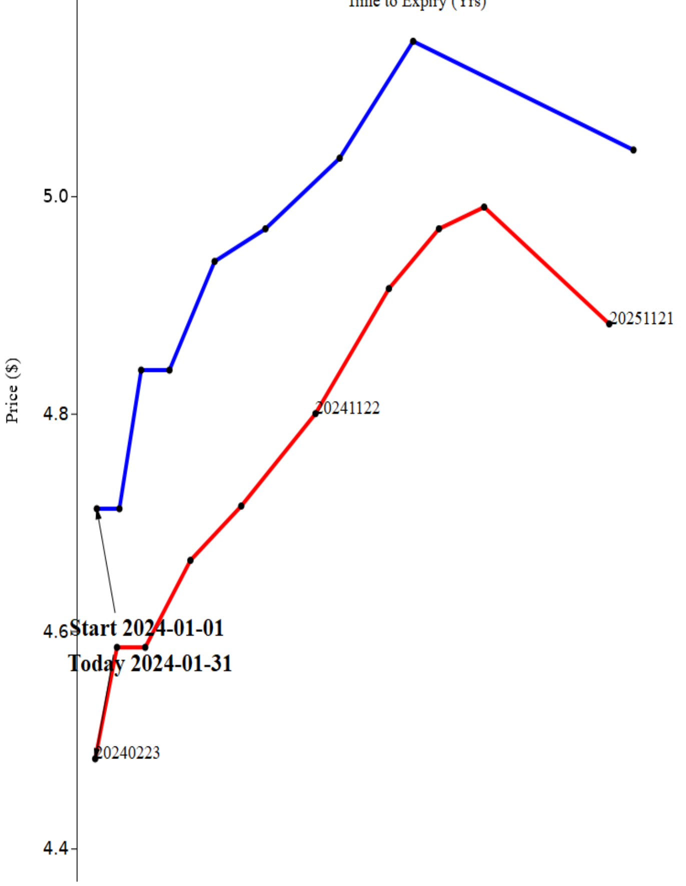

Start 2024-01-01
Price ($)
1,100
1,050
1,000
950
20240221
20240320
20240515
Today 2024-01-31

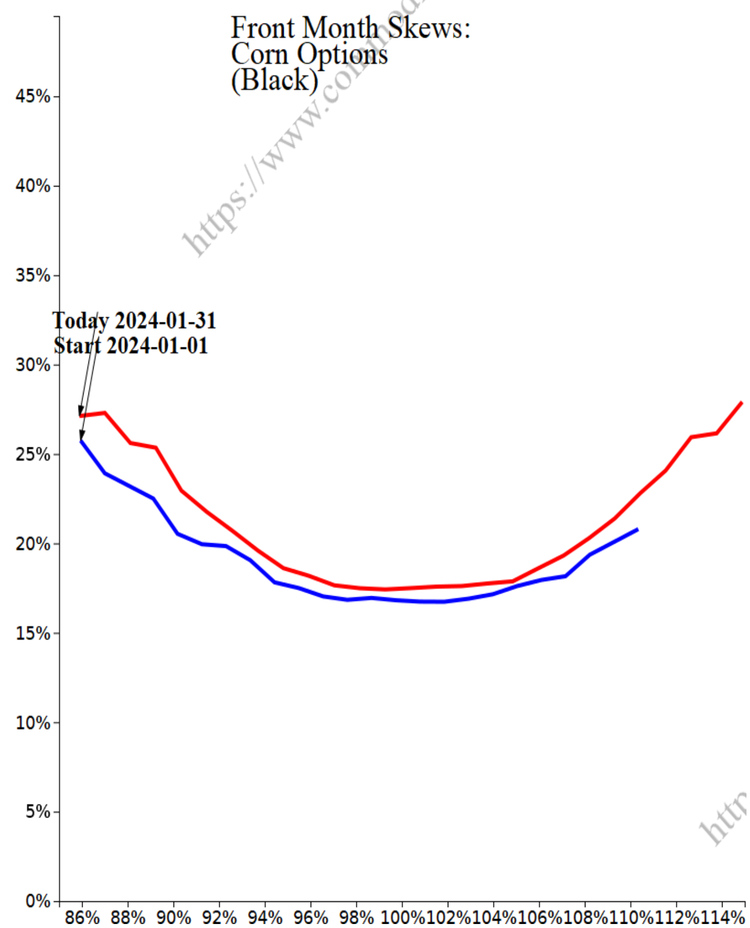

Front Month Skews:
Palladium Options
(Black)
Today 2024-01-31
Start 2024-01-01
60%
55%
50%
45%
40%
35%
30%
25%
20%
15%
10%
5%
0%
86%
88%
90%
92%
94%
96%
98%
100%
102%
104%
106%
108%
110%
112%
114%

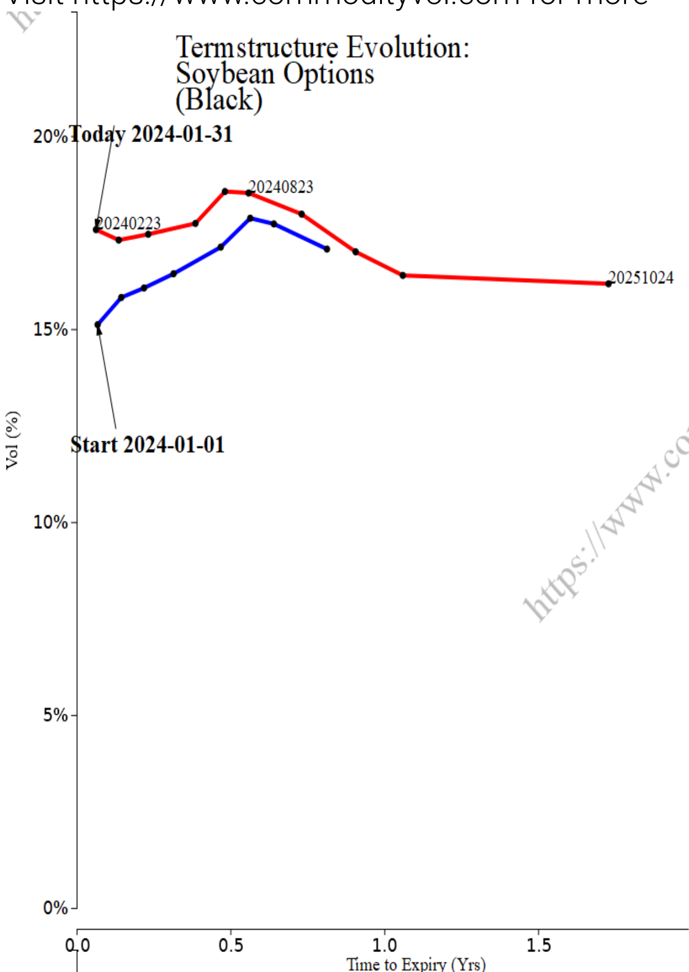
Ags: Grains, Oilseeds, and so forth

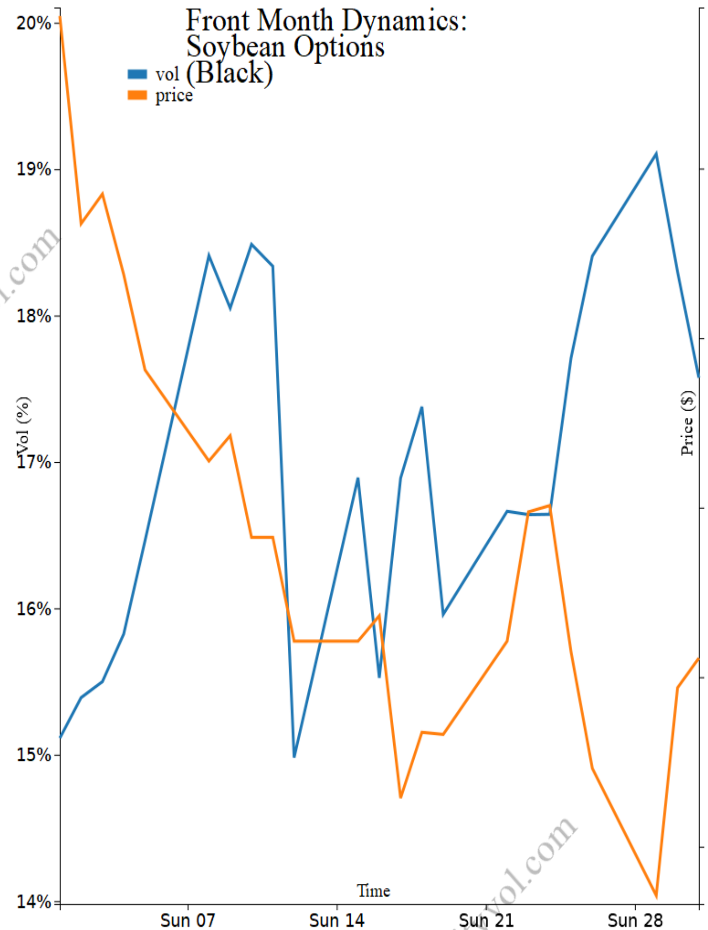

Termstructure Evolution:
Corn Options
(Black)
Vol (%)
30%
25%
20%
15%
10%
5%
0%
Today 2024-01-31
Start 2024-01-01
20240223
20241122
20251121
0.0
0.5
1.0
1.5
2.0
Time to Expiry (Yrs)

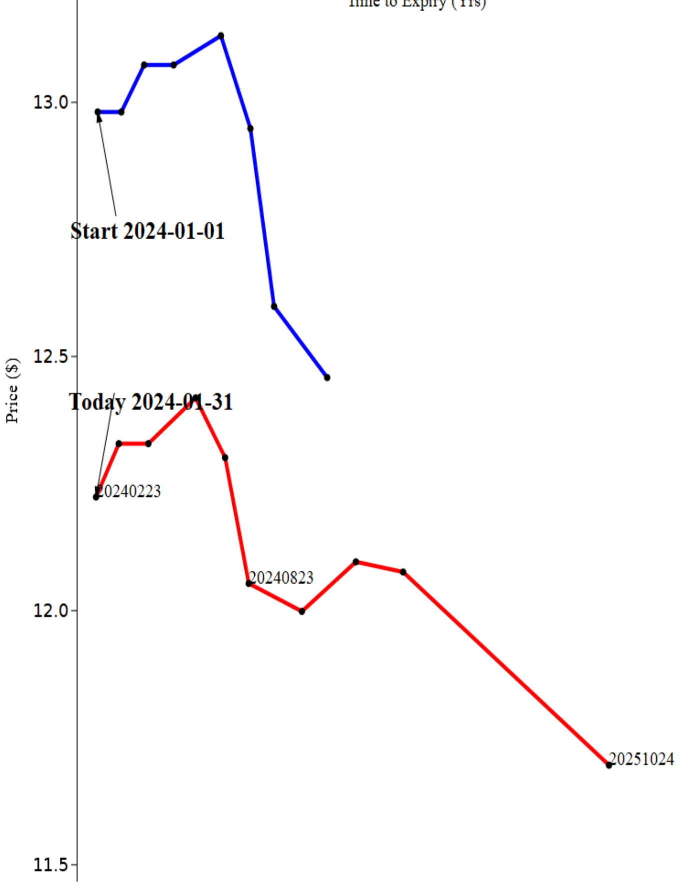

Front Month Dynamics:
Corn Options
(Black)
vol
price
Vol (%)
Price ($)
20%
19%
18%
17%
16%
4.70
4.65
4.60
4.55
4.50
4.45
4.40
Time
Sun 07
Sun 14
Sun 21
Sun 28

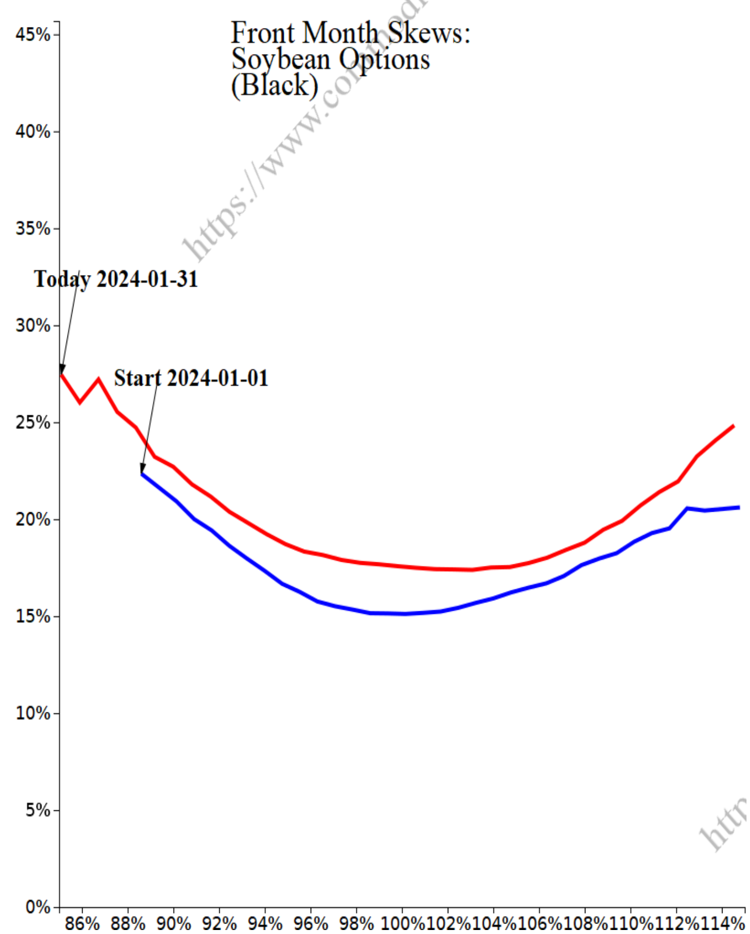

Price ($)
5.0
4.8
4.6
4.4
Start 2024-01-01
Today 2024-01-31
20240223
20241122
20251121

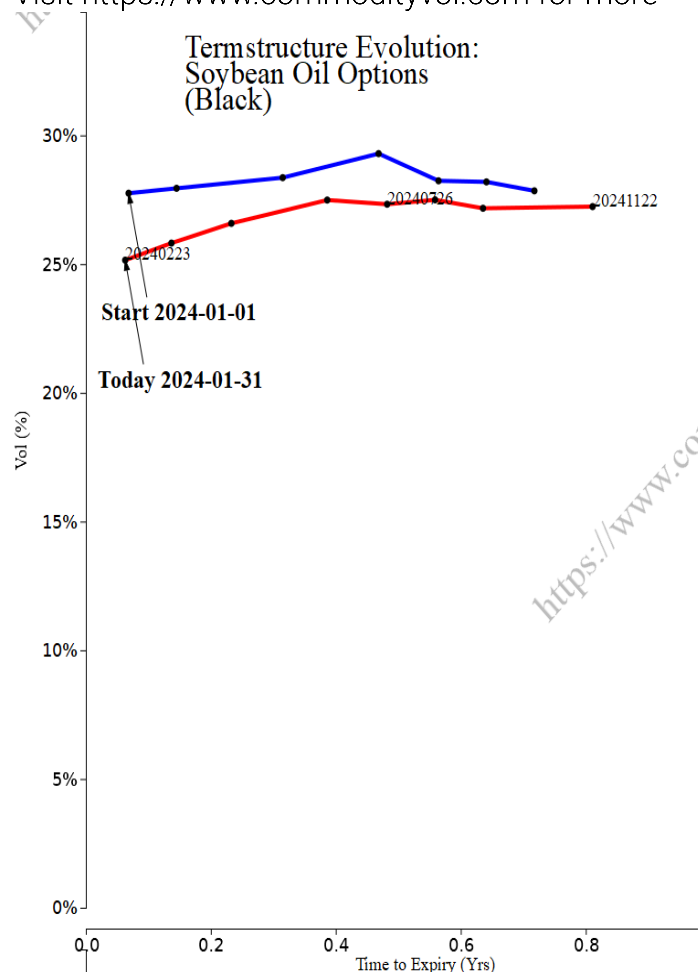

Front Month Skews:
Corn Options
(Black)
45%
40%
35%
30%
25%
20%
15%
10%
5%
0%
Today 2024-01-31
Start 2024-01-01
86%
88%
90%
92%
94%
96%
98%
100%
102%
104%
106%
108%
110%
112%
114%

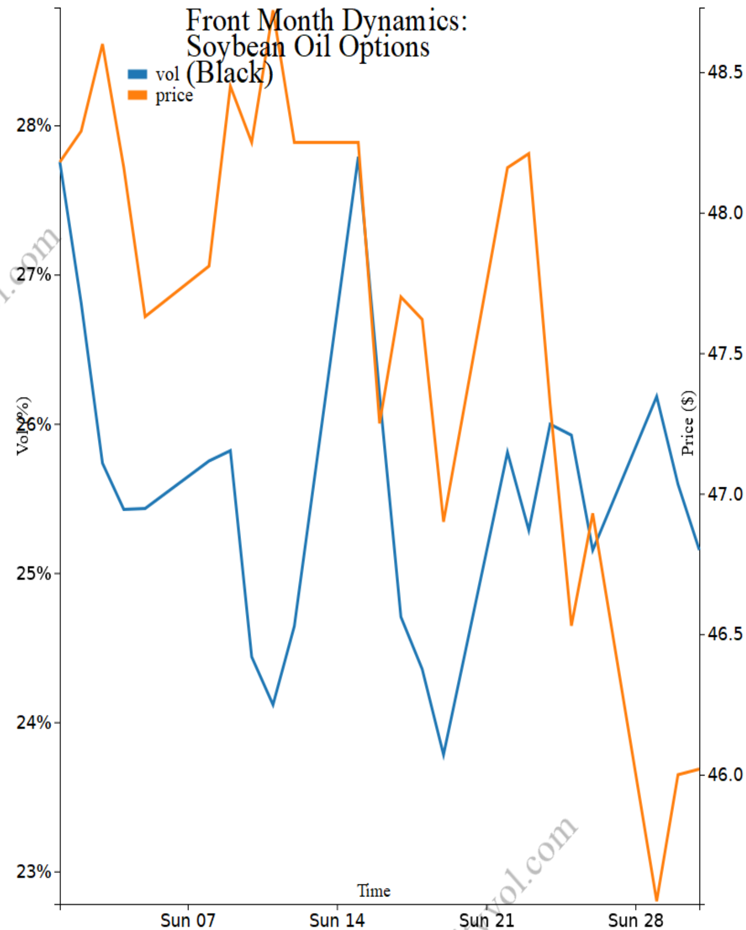

Termstructure Evolution:
Soybean Options
(Black)
Today 2024-01-31
Start 2024-01-01
20240223
20240823
20251024
20%
15%
10%
5%
0%
Vol (%)
0.0
0.5
1.0
1.5
Time to Expiry (Yrs)

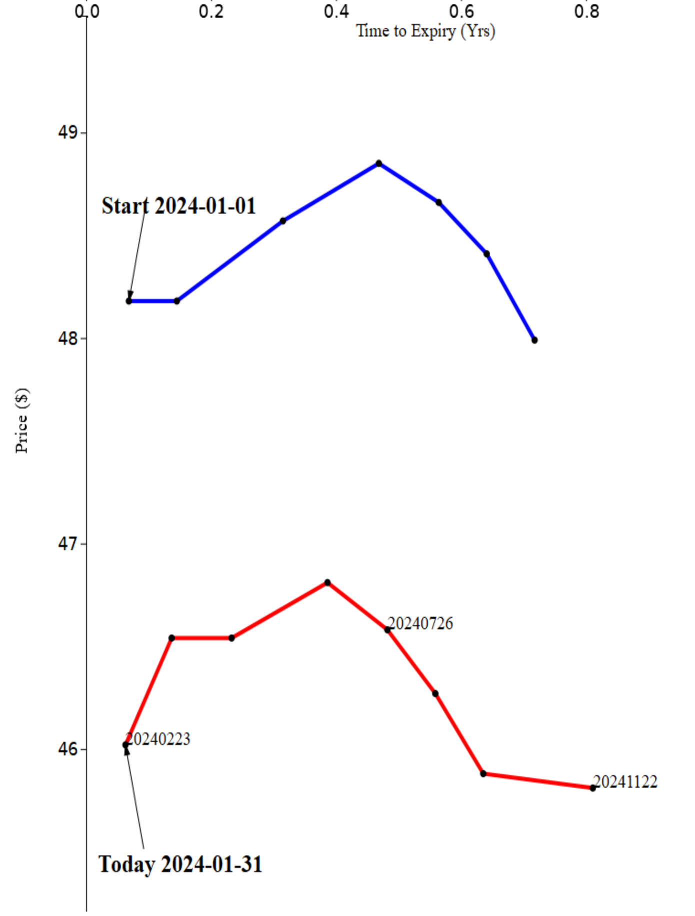

Front Month Dynamics:
Soybean Options
(Black)
vol
price
20%
19%
18%
17%
16%
15%
14%
Vol (%)
12.8
12.6
12.4
12.2
12.0
Price ($)
Time
Sun 07
Sun 14
Sun 21
Sun 28

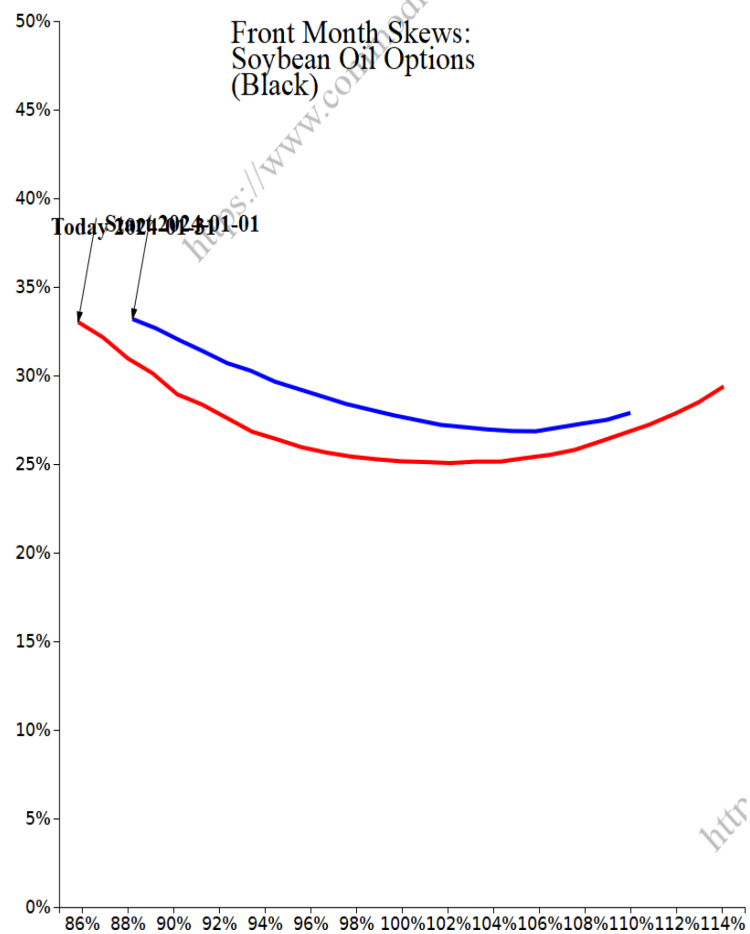

Start 2024-01-01
Today 2024-01-31
20240223
20240823
20251024
13.0
12.5
12.0
11.5
Price ($)

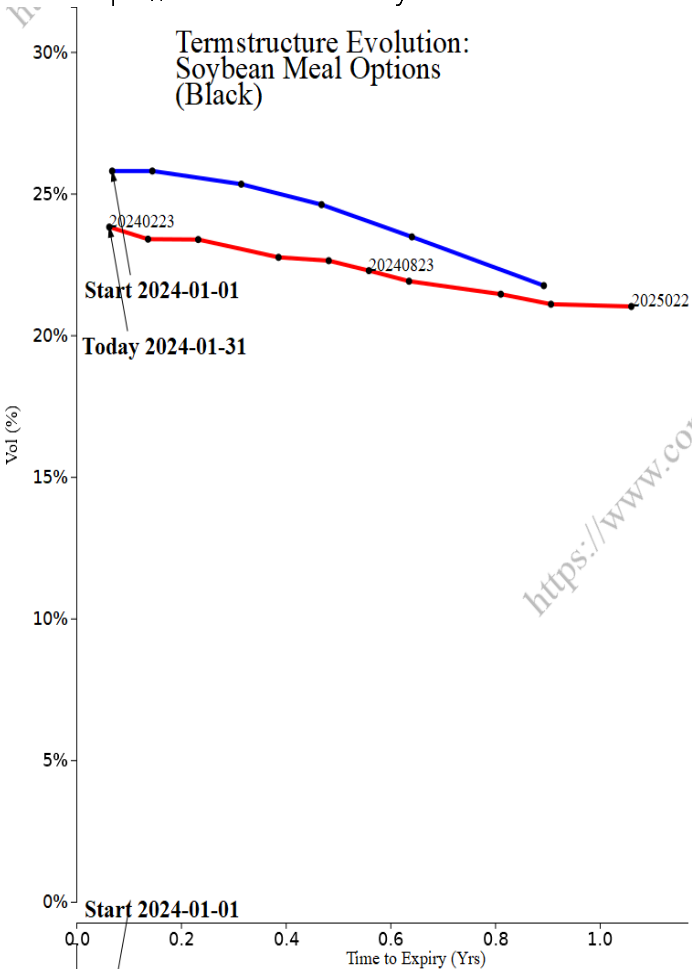

Front Month Skews:
Soybean Options
(Black)
Today 2024-01-31
Start 2024-01-01
45%
40%
35%
30%
25%
20%
15%
10%
5%
0%
86%
88%
90%
92%
94%
96%
98%
100%
102%
104%
106%
108%
110%
112%
114%

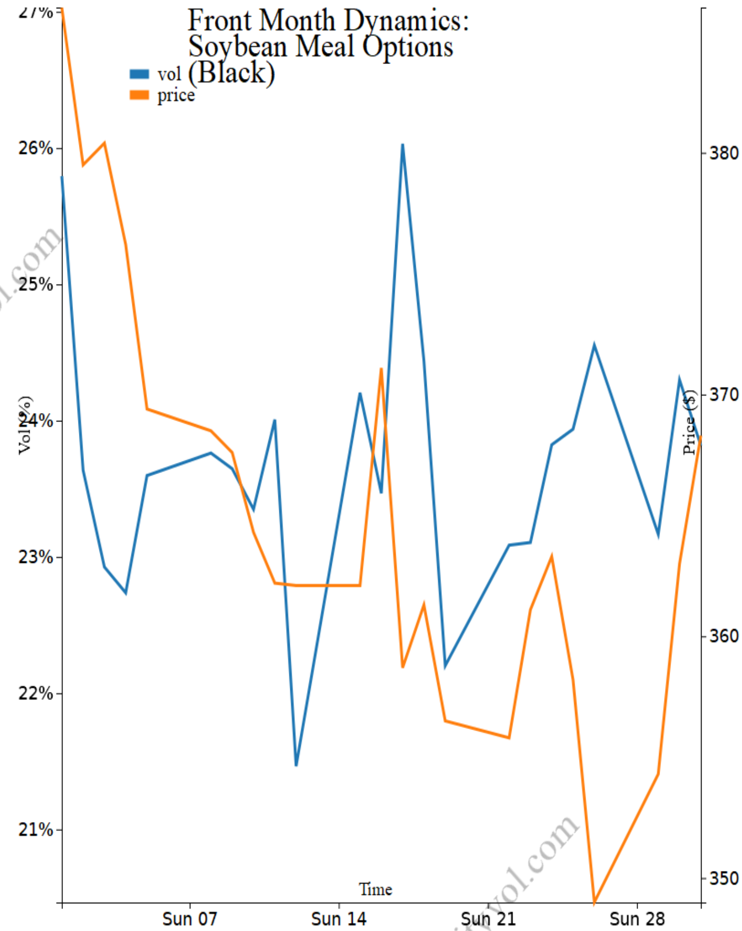

Termstructure Evolution:
Soybean Oil Options
(Black)
Vol (%)
Time to Expiry (Yrs)
Start 2024-01-01
Today 2024-01-31
20240223
20240726
20241122

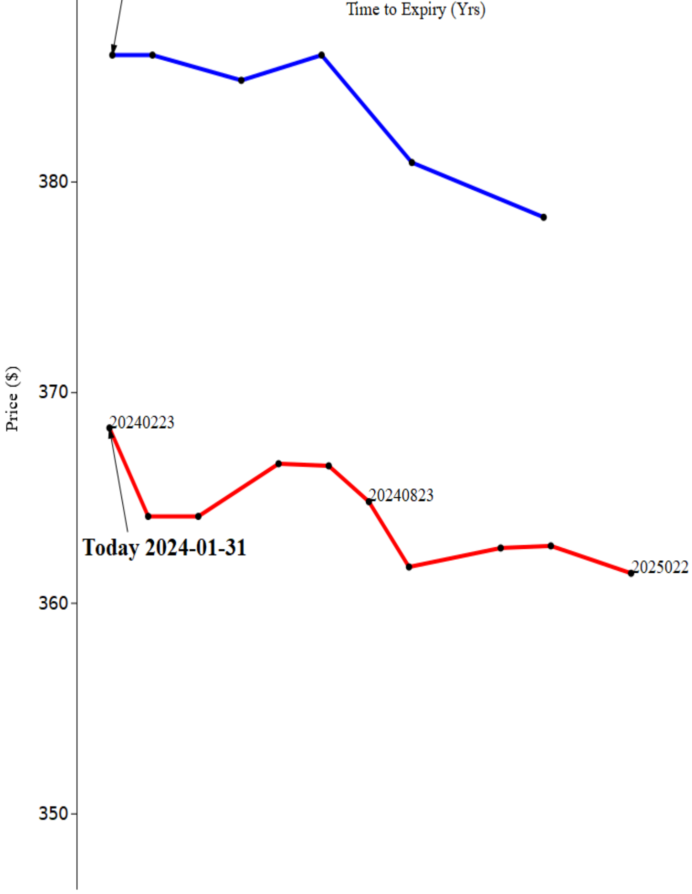

Front Month Dynamics:
Soybean Oil Options
(Black)
vol
price
Vol (%)
Price ($)
Time
Sun 07
Sun 14
Sun 21
Sun 28

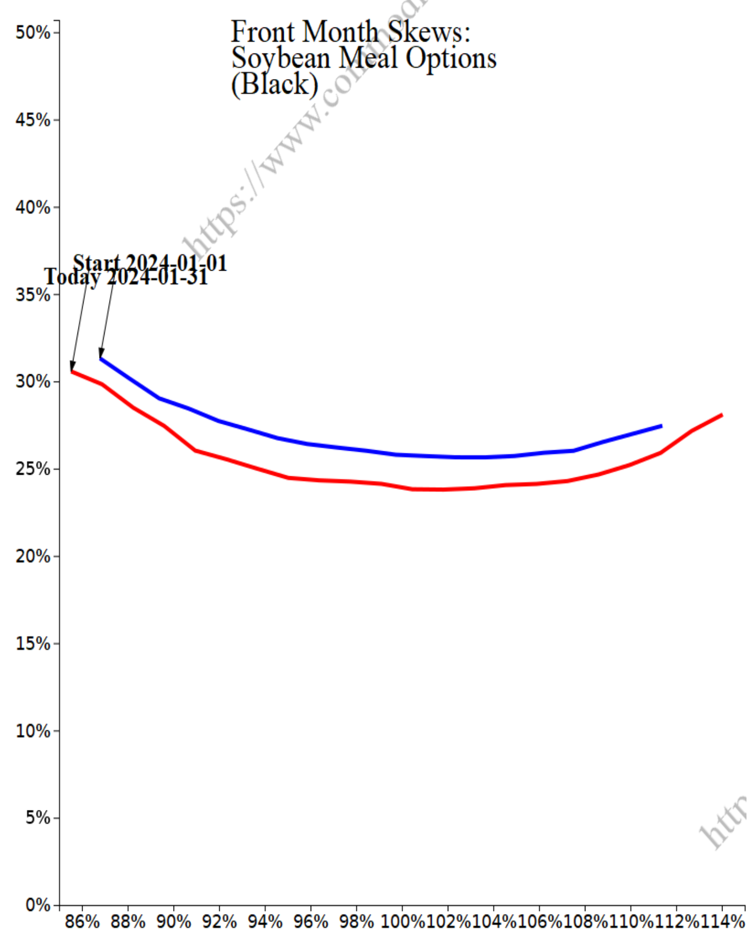

Price ($)
Start 2024-01-01
Today 2024-01-31
20240223
20240726
20241122

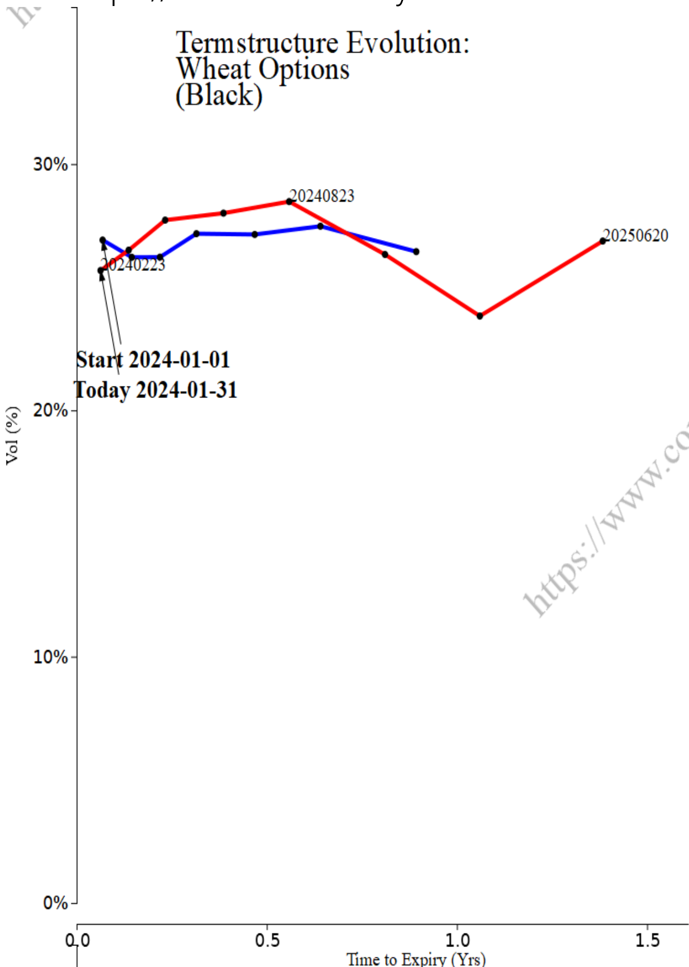

Front Month Skews:
Soybean Oil Options
(Black)
Today 2024-01-31
Start 2024-01-01


Termstructure Evolution:
Soybean Meal Options
(Black)
Vol (%)
30%
25%
20%
15%
10%
5%
0%
20240223
20240823
2025022
Start 2024-01-01
Today 2024-01-31
Time to Expiry (Yrs)
0.0
0.2
0.4
0.6
0.8
1.0

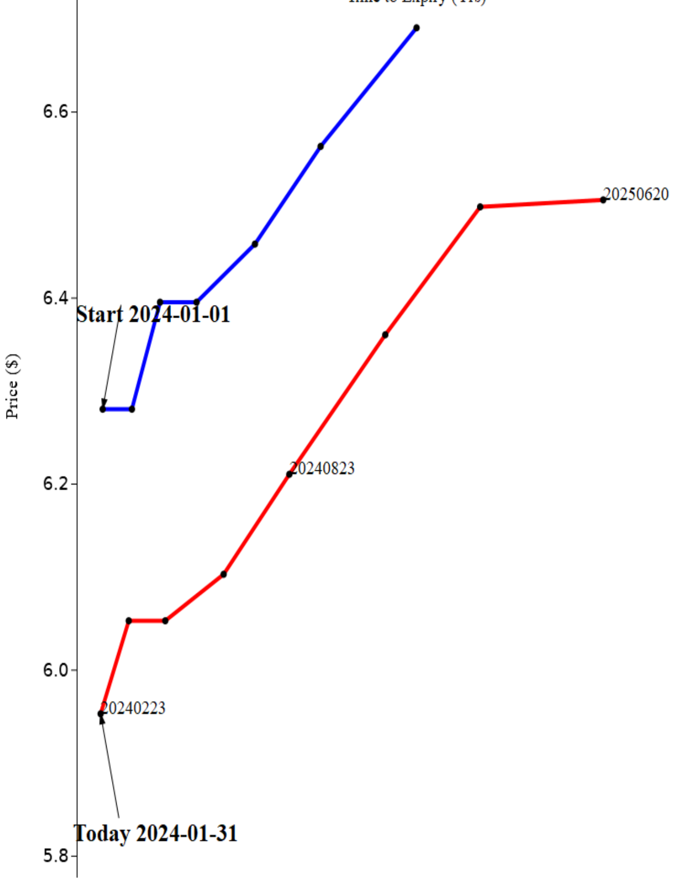

Front Month Dynamics:
Soybean Meal Options
(Black)
vol
price
Vol (%)
Price ($)
27%
26%
25%
24%
23%
22%
21%
380
370
360
350
Time
Sun 07
Sun 14
Sun 21
Sun 28

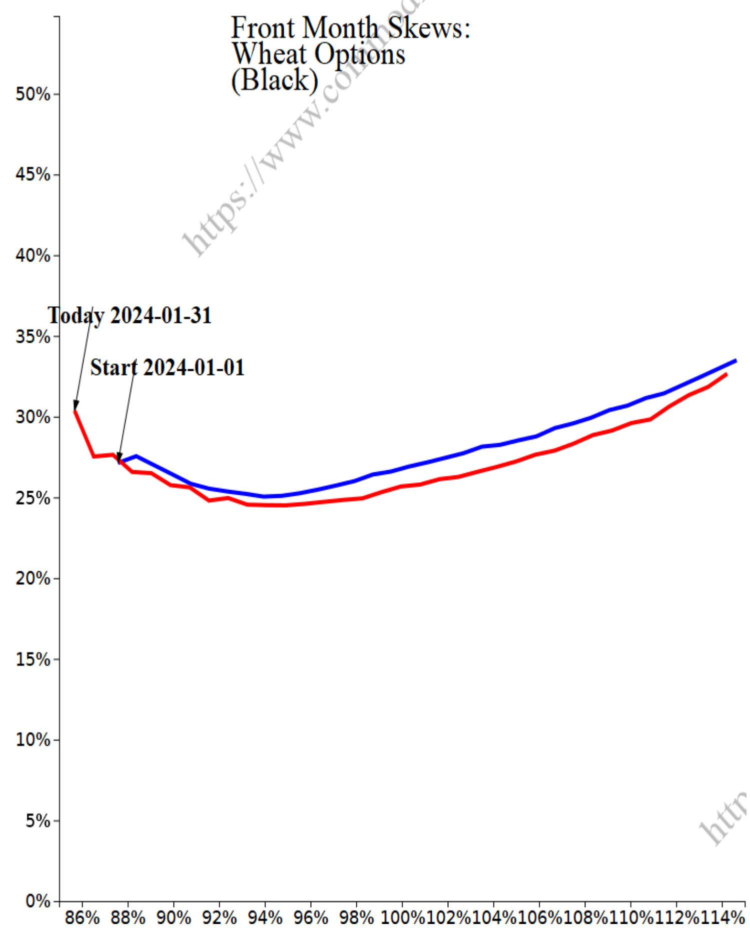

Start 2024-01-01
Price ($)
380
370
360
350
20240223
20240823
2025022
Today 2024-01-31

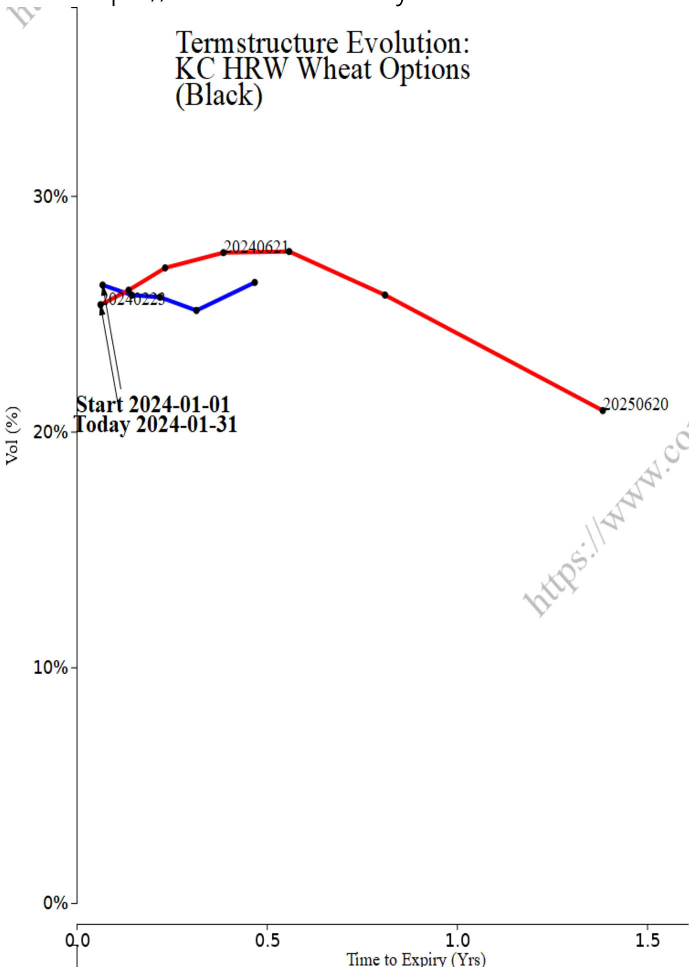

Front Month Skews:
Soybean Meal Options
(Black)
Start 2024-01-01
Today 2024-01-31
50%
45%
40%
35%
30%
25%
20%
15%
10%
5%
0%
86%
88%
90%
92%
94%
96%
98%
100%
102%
104%
106%
108%
110%
112%
114%


Termstructure Evolution:
Wheat Options
(Black)
30%
20%
10%
0%
Vol (%)
20240823
20250620
20240223
Start 2024-01-01
Today 2024-01-31
0.0
0.5
1.0
1.5
Time to Expiry (Yrs)

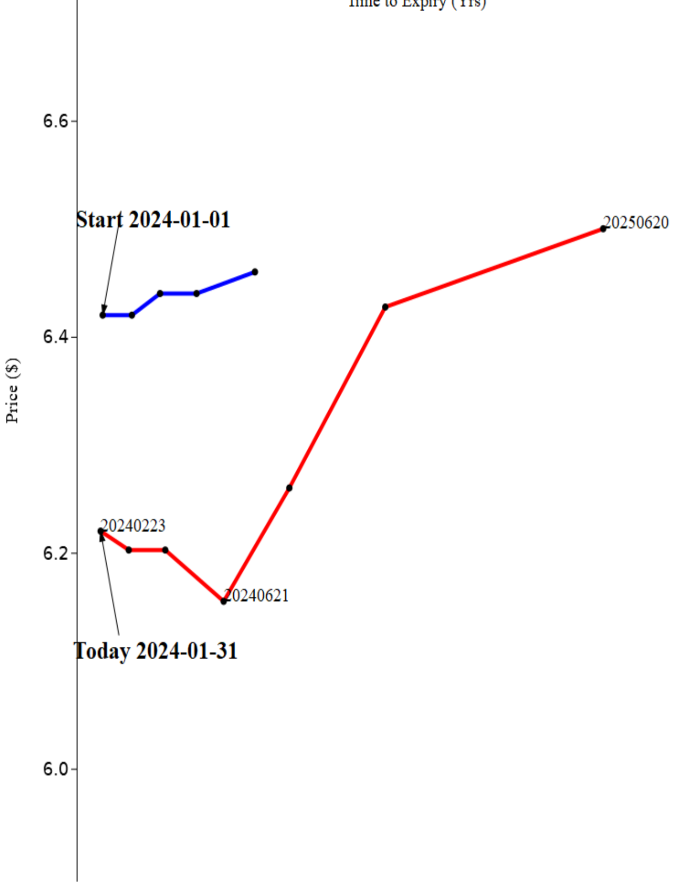

Front Month Dynamics:
Wheat Options
(Black)
vol
price
30%
28%
26%
24%
Vol (%)
6.2
6.1
6.0
5.9
Price ($)
Time
Sun 07
Sun 14
Sun 21
Sun 28

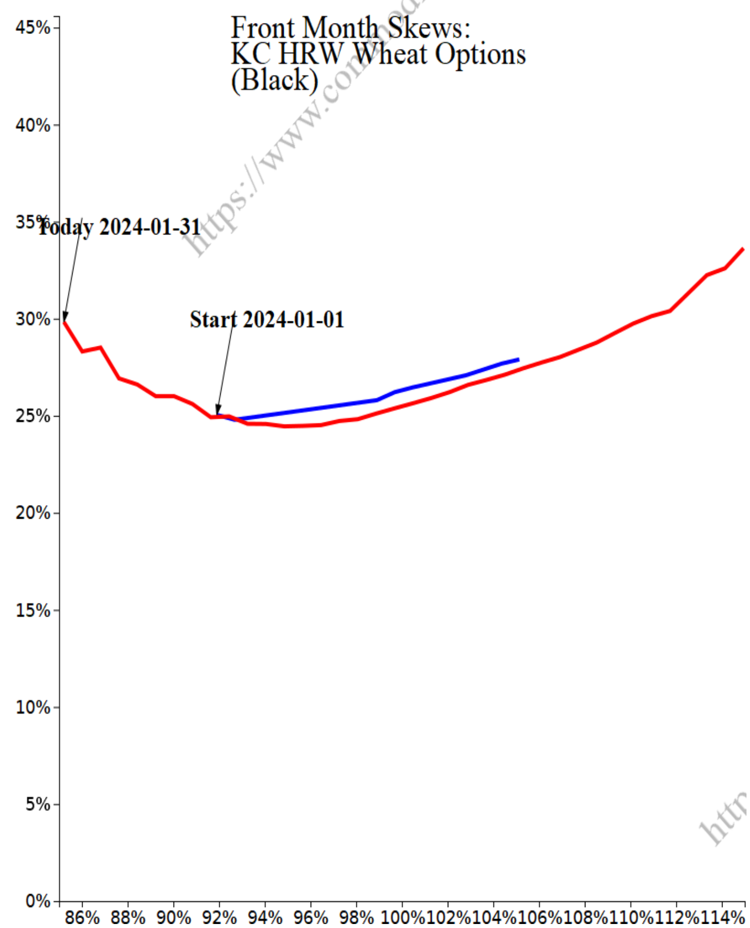

6.6
6.4
6.2
6.0
5.8
Price ($)
Start 2024-01-01
20250620
20240823
20240223
Today 2024-01-31

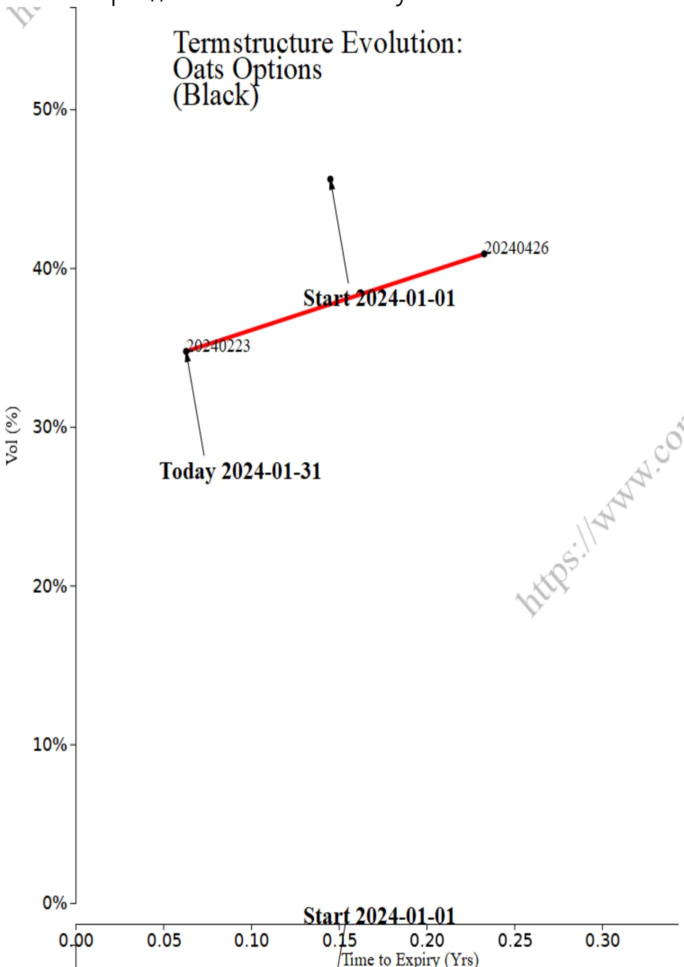

Front Month Skews:
Wheat Options
(Black)
50%
45%
40%
35%
30%
25%
20%
15%
10%
5%
0%
Today 2024-01-31
Start 2024-01-01
86%
88%
90%
92%
94%
96%
98%
100%
102%
104%
106%
108%
110%
112%
114%

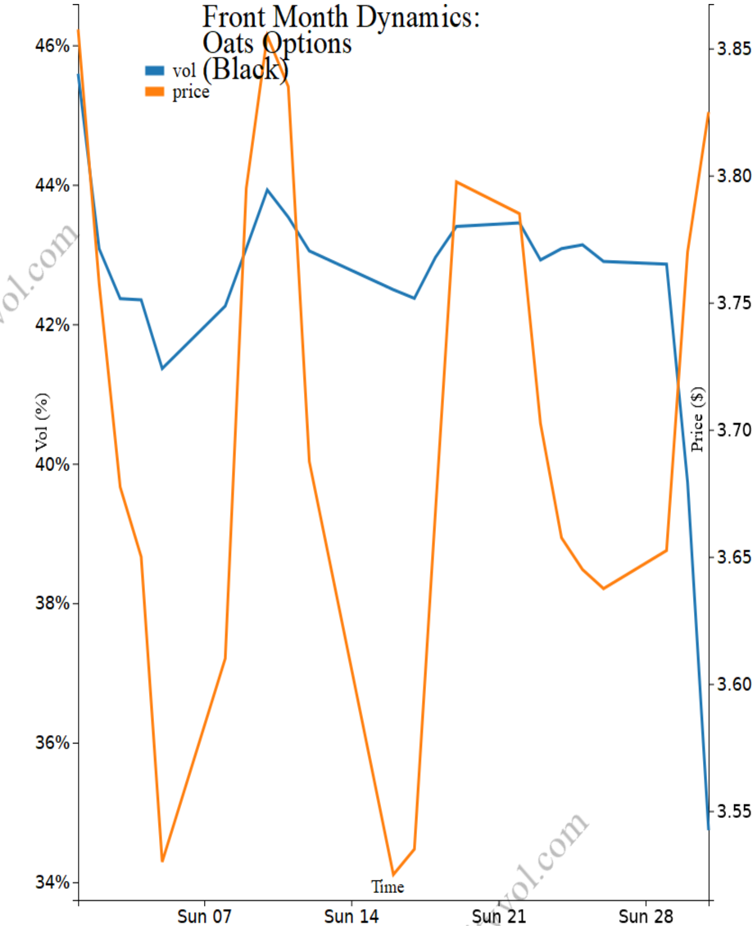

Termstructure Evolution:
KC HRW Wheat Options
(Black)
30%
20%
10%
0%
Vol (%)
20240621
20240223
Start 2024-01-01
Today 2024-01-31
20250620
0.0
0.5
1.0
1.5
Time to Expiry (Yrs)

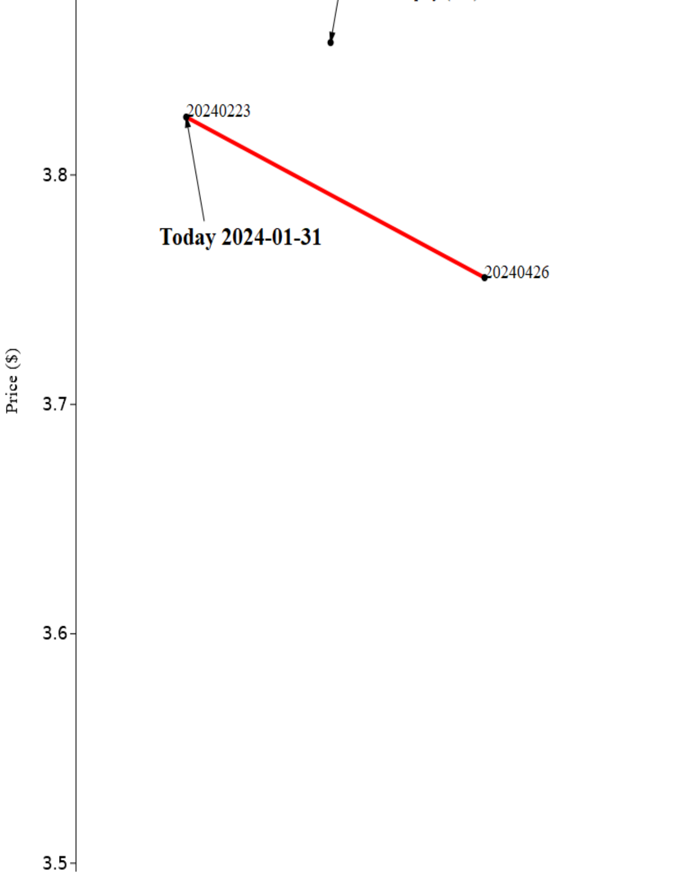

Front Month Dynamics:
KC HRW Wheat Options
(Black)
vol
price
30%
28%
26%
24%
22%
Vol (%)
6.4
6.3
6.2
6.1
6.0
Price ($)
Time
Sun 07
Sun 14
Sun 21
Sun 28

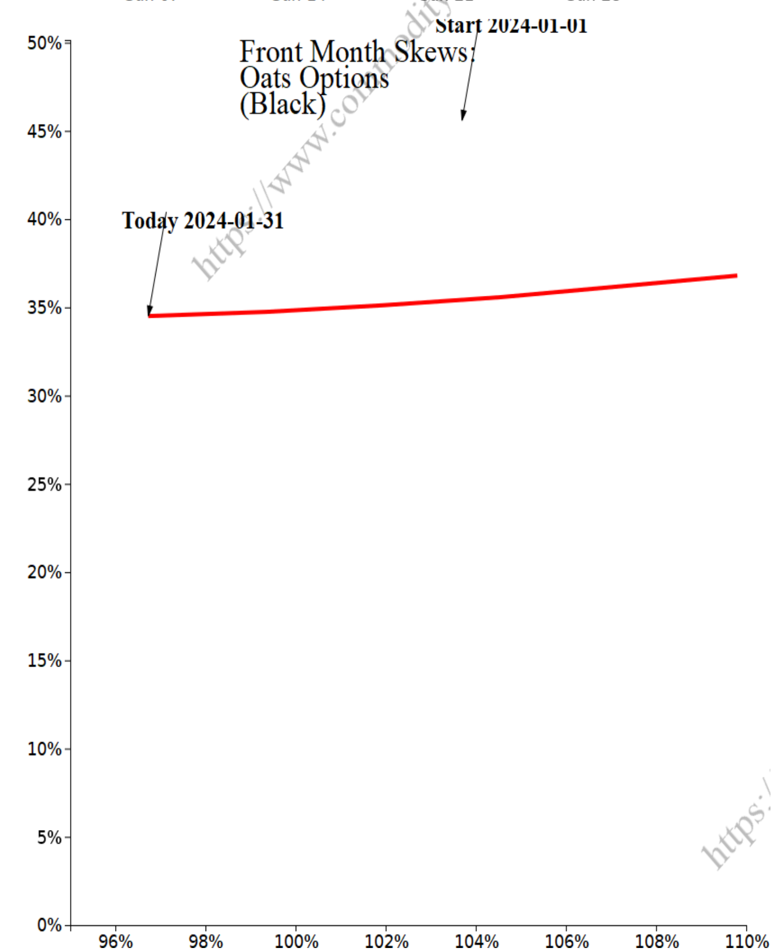

6.6
6.4
6.2
6.0
Price ($)
Start 2024-01-01
20250620
20240223
20240621
Today 2024-01-31

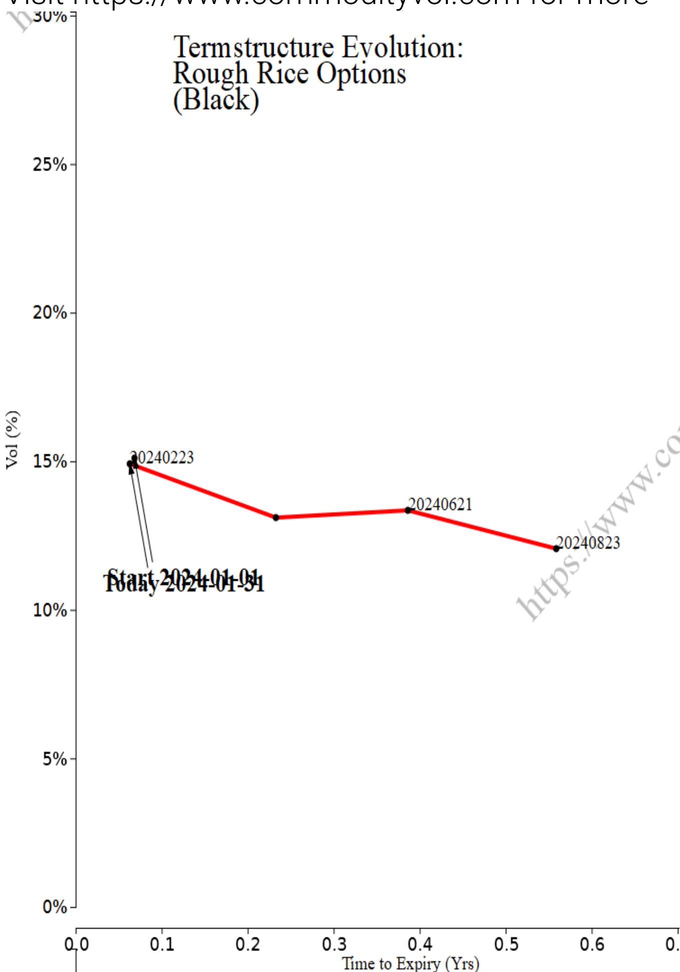

Front Month Skews:
KC HRW Wheat Options
(Black)
45%
40%
35%
30%
25%
20%
15%
10%
5%
0%
Today 2024-01-31
Start 2024-01-01
86%
88%
90%
92%
94%
96%
98%
100%
102%
104%
106%
108%
110%
112%
114%

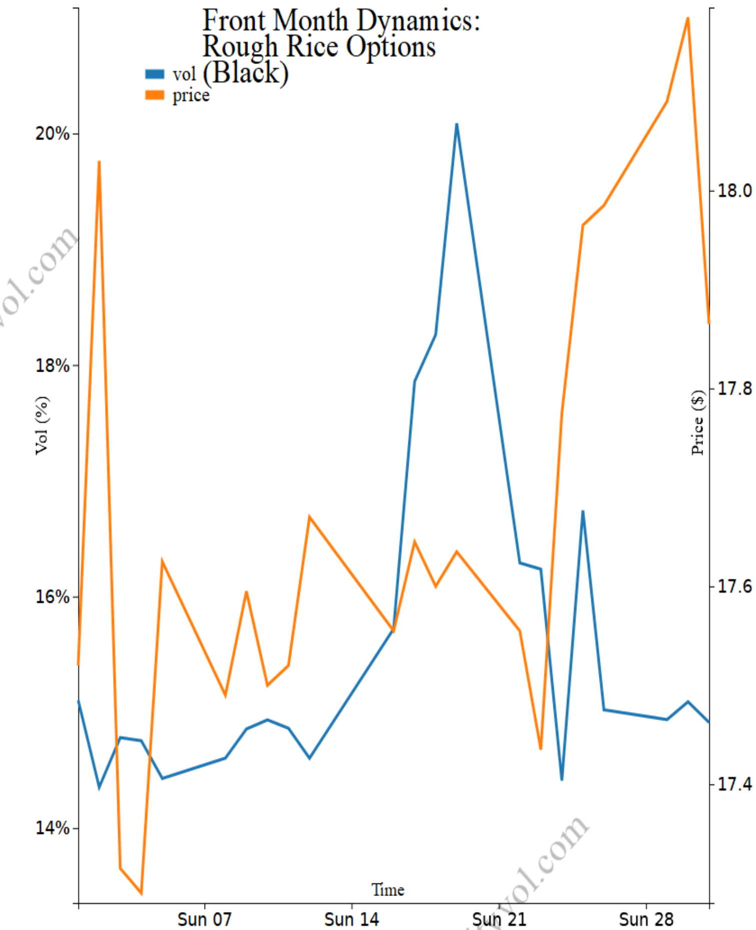

Termstructure Evolution:
Oats Options
(Black)
50%
40%
30%
20%
10%
0%
Vol (%)
20240426
Start 2024-01-01
20240223
Today 2024-01-31
0.00
0.05
0.10
0.15
0.20
0.25
0.30
Time to Expiry (Yrs)

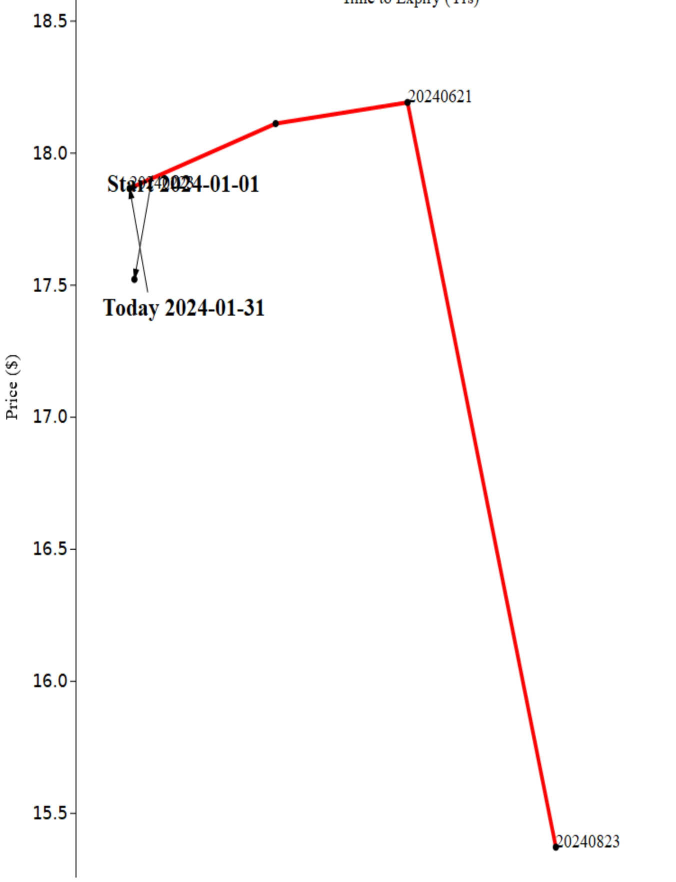

Front Month Dynamics:
Oats Options
(Black)
vol
price
46%
44%
42%
40%
38%
36%
34%
Vol (%)
3.85
3.80
3.75
3.70
3.65
3.60
3.55
Price ($)
Sun 07
Sun 14
Sun 21
Sun 28
Time

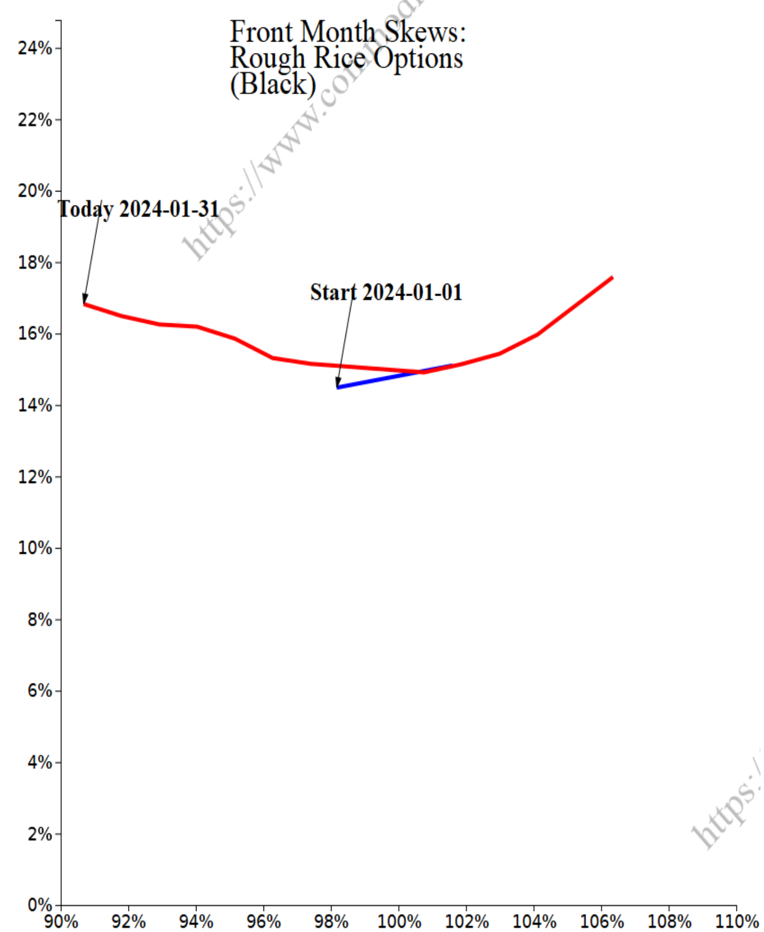

Start 2024-01-01
20240223
Today 2024-01-31
20240426
3.8
3.7
3.6
3.5
Price ($)

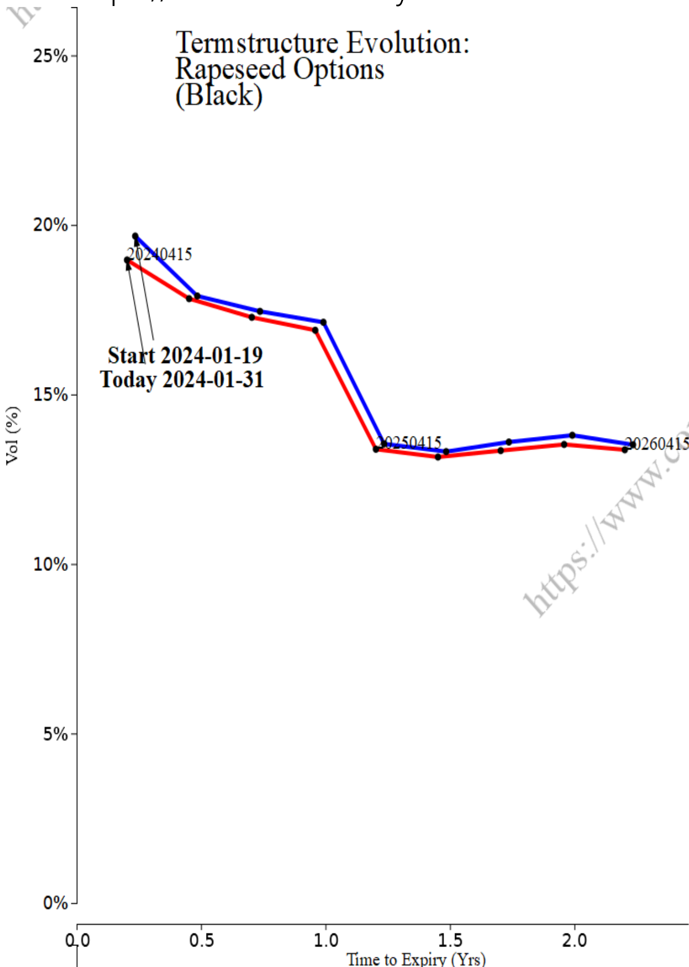

Start 2024-01-01
Front Month Skews:
Oats Options
(Black)
Today 2024-01-31
50%
45%
40%
35%
30%
25%
20%
15%
10%
5%
0%
96%
98%
100%
102%
104%
106%
108%
110%

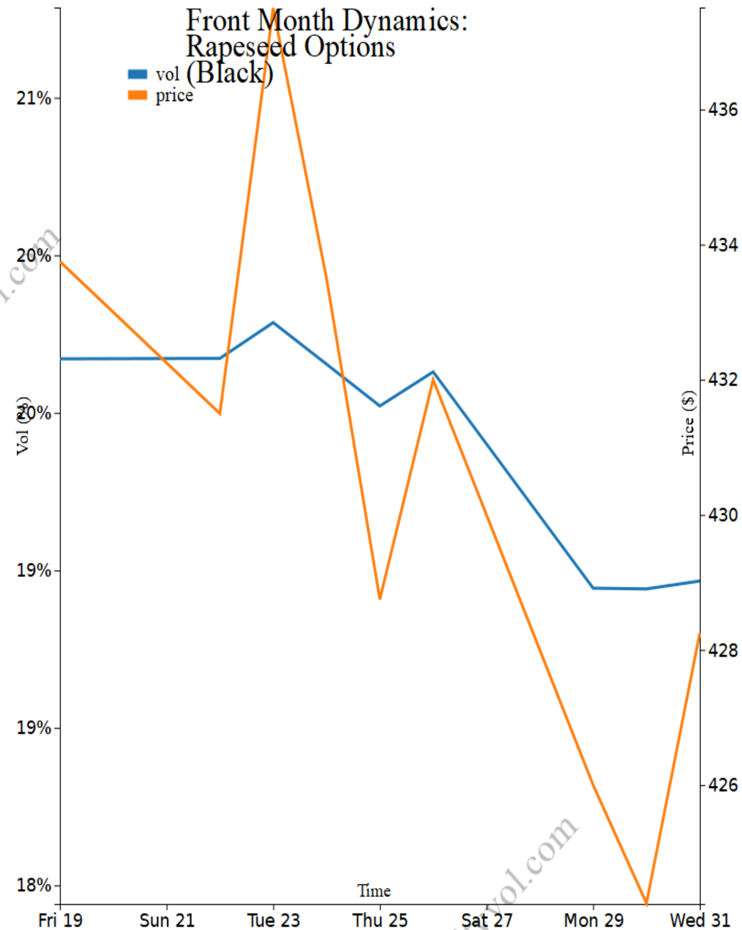

Termstructure Evolution:
Rough Rice Options
(Black)
Vol (%)
Time to Expiry (Yrs)
20240223
20240621
20240823
Start 2024-01-01
Today 2024-01-31

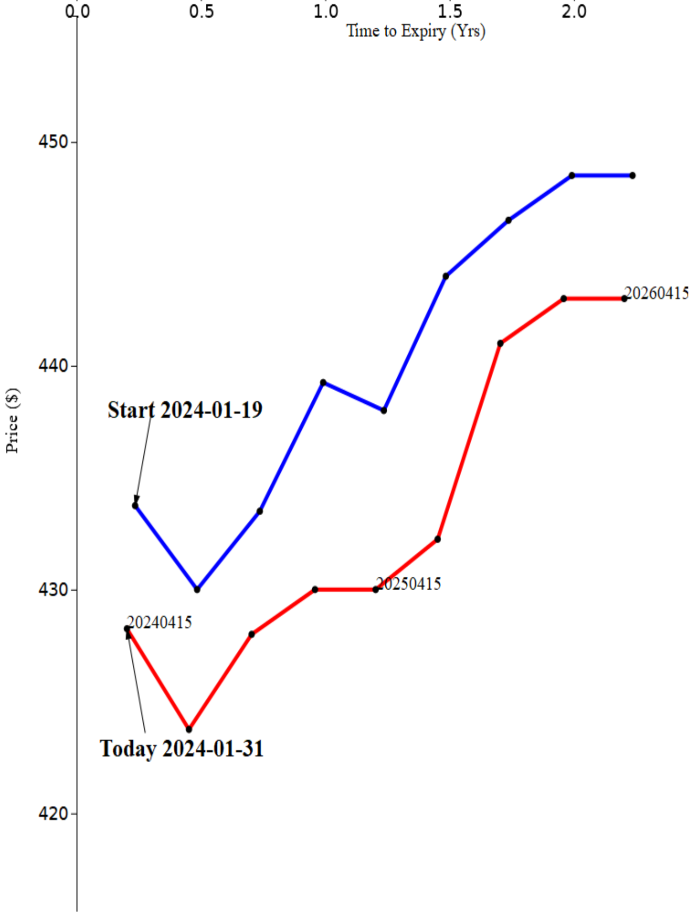

Front Month Dynamics:
Rough Rice Options
(Black)
vol
price
Vol (%)
Price ($)
Time
Sun 07
Sun 14
Sun 21
Sun 28

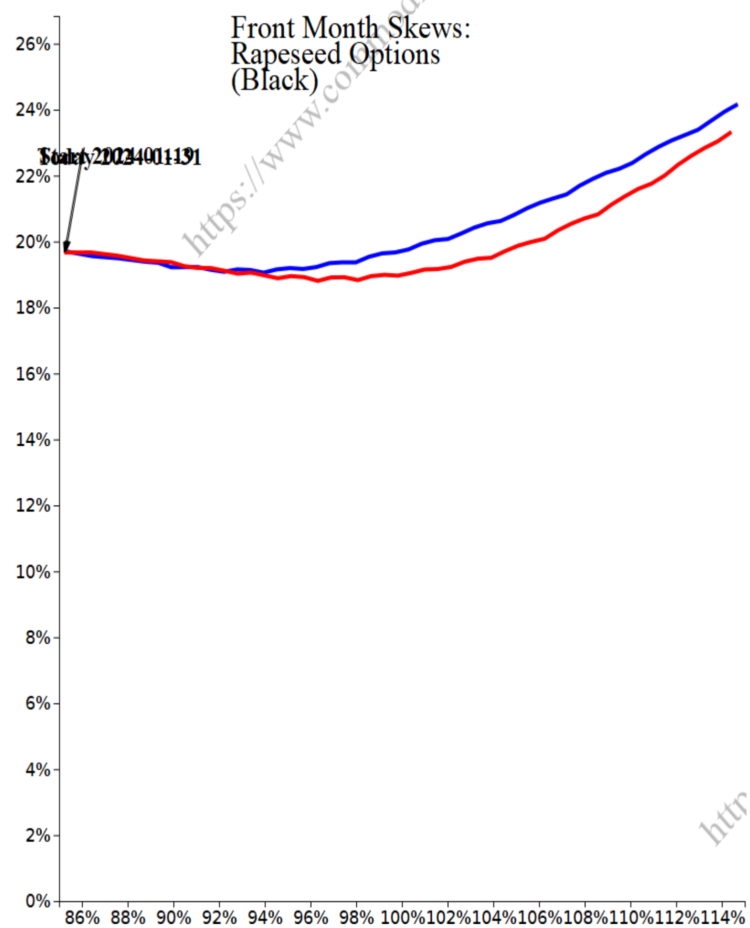

Price ($)
20240621
20240823
Start 2024-01-01
Today 2024-01-31


Front Month Skews:
Rough Rice Options
(Black)
Today 2024-01-31
Start 2024-01-01

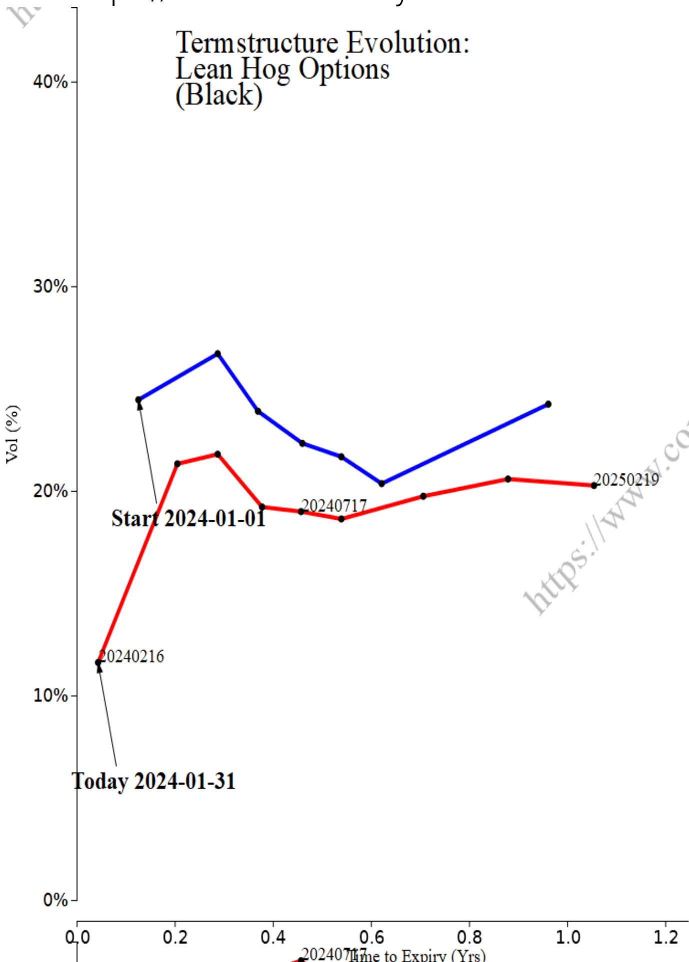

Termstructure Evolution:
Rapeseed Options
(Black)
25%
20%
15%
10%
5%
0%
Vol (%)
20240415
Start 2024-01-19
Today 2024-01-31
20250415
20260415
0.0
0.5
1.0
1.5
2.0
Time to Expiry (Yrs)

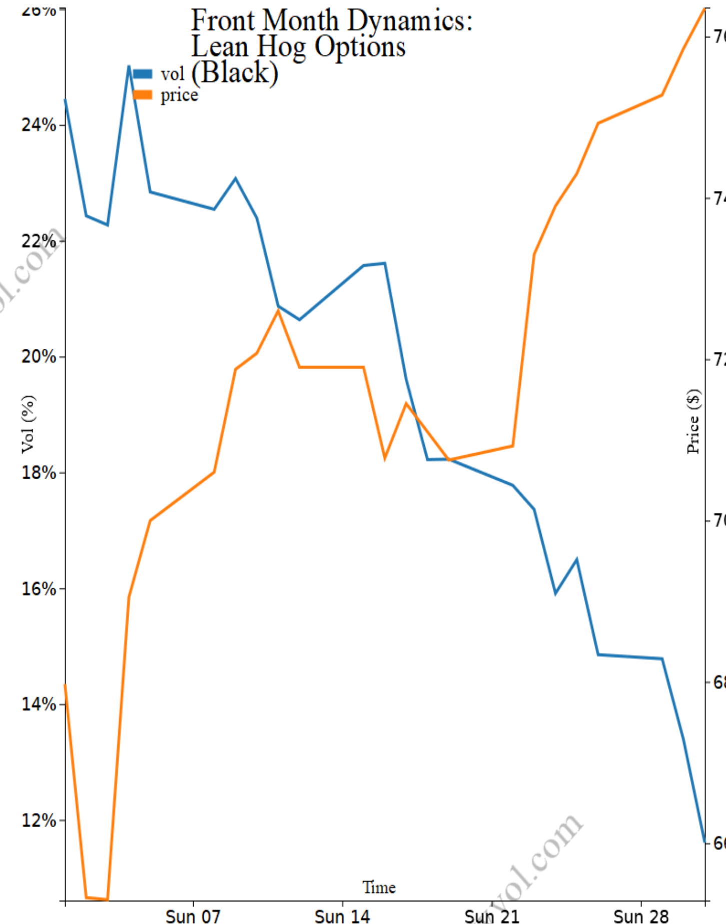

Front Month Dynamics:
Rapeseed Options
(Black)
vol
price
21%
20%
20%
19%
19%
18%
Vol (%)
436
434
432
430
428
426
Price ($)
Time
Fri 19
Sun 21
Tue 23
Thu 25
Sat 27
Mon 29
Wed 31

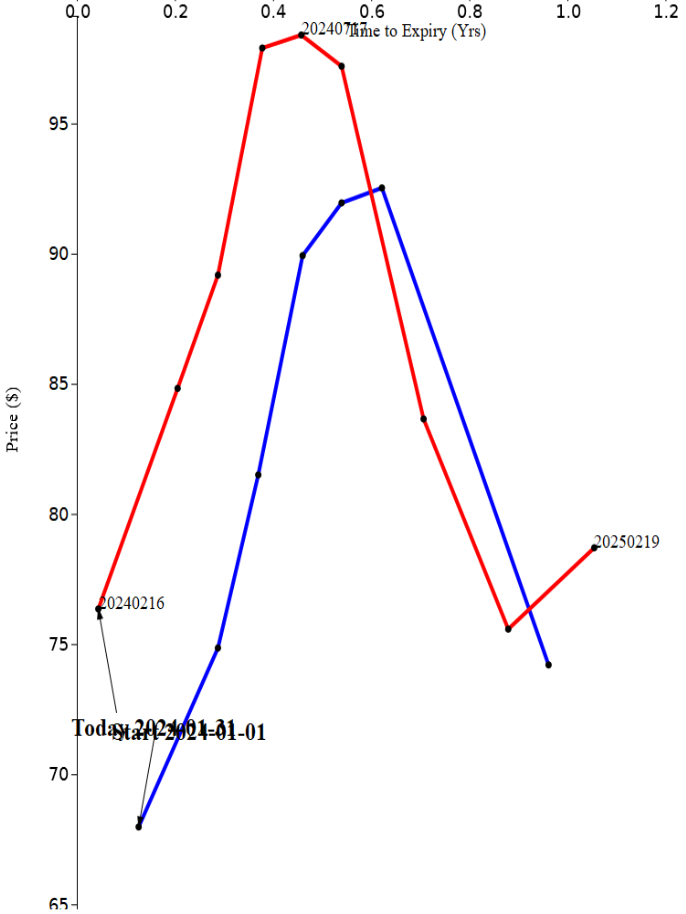

450
440
430
420
Price ($)
Start 2024-01-19
Today 2024-01-31
20240415
20250415
20260415

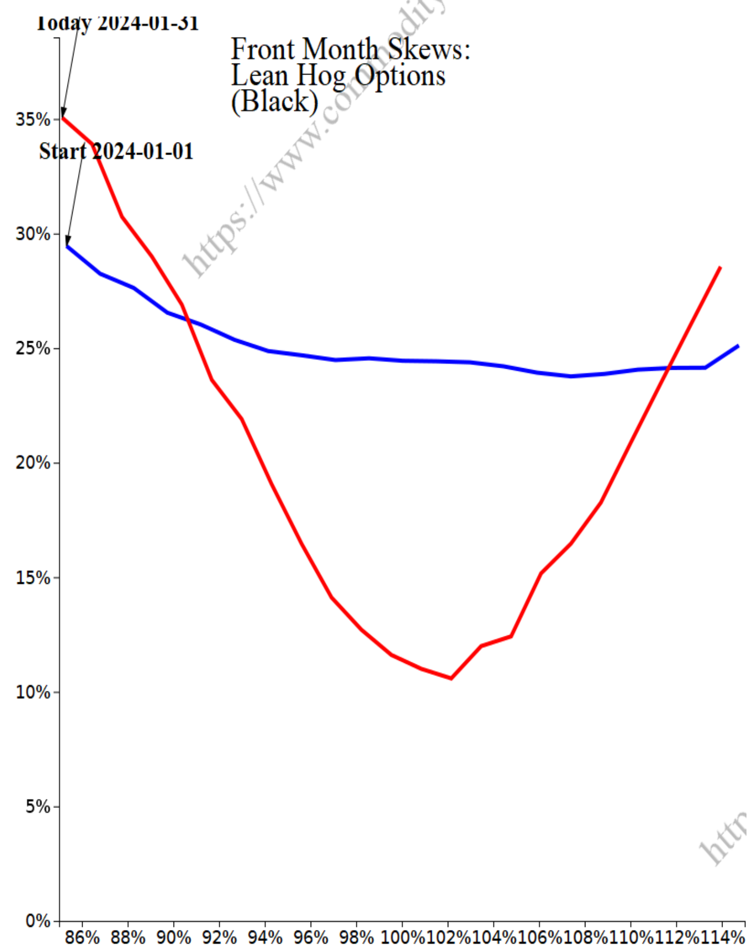

Front Month Skews:
Rapeseed Options
(Black)
26%
24%
22%
20%
18%
16%
14%
12%
10%
8%
6%
4%
2%
0%
86%
88%
90%
92%
94%
96%
98%
100%
102%
104%
106%
108%
110%
112%
114%

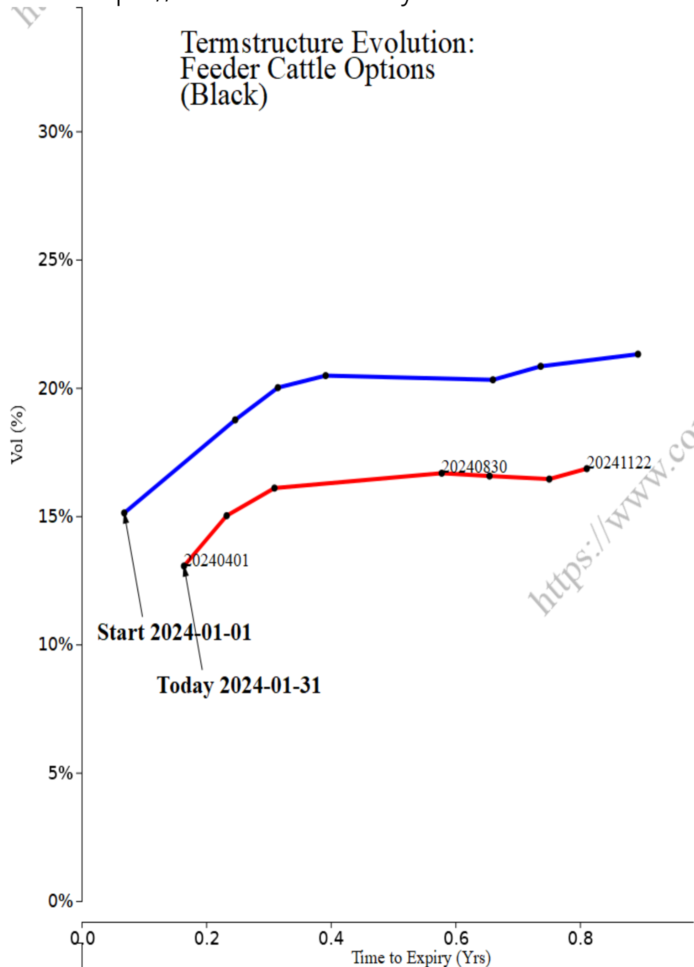
Ags: Proteins, Meats and so forth

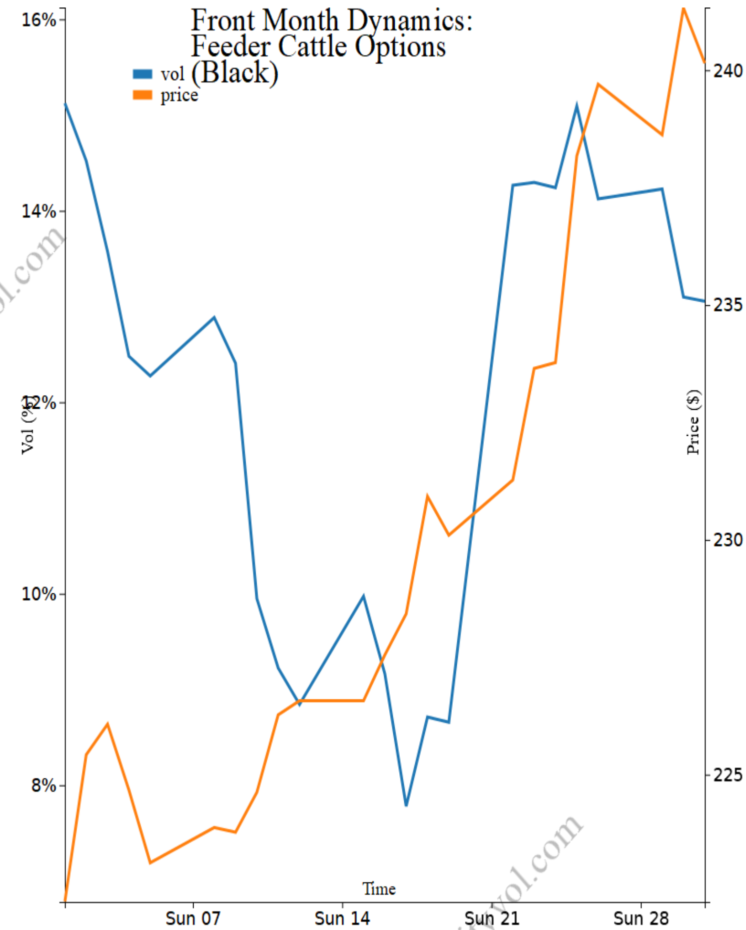

Termstructure Evolution:
Lean Hog Options
(Black)
Vol (%)
Time to Expiry (Yrs)
Start 2024-01-01
Today 2024-01-31
20240216
20240717
20250219
https://www.commodityvol.com

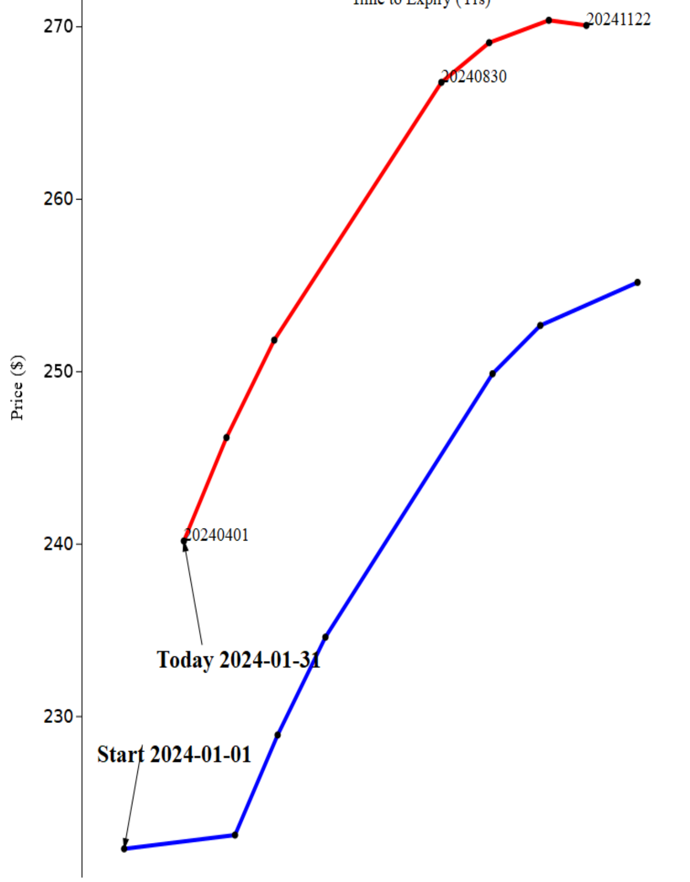

Front Month Dynamics:
Lean Hog Options
(Black)
vol
price
Vol (%)
Price ($)
Time
Sun 07
Sun 14
Sun 21
Sun 28

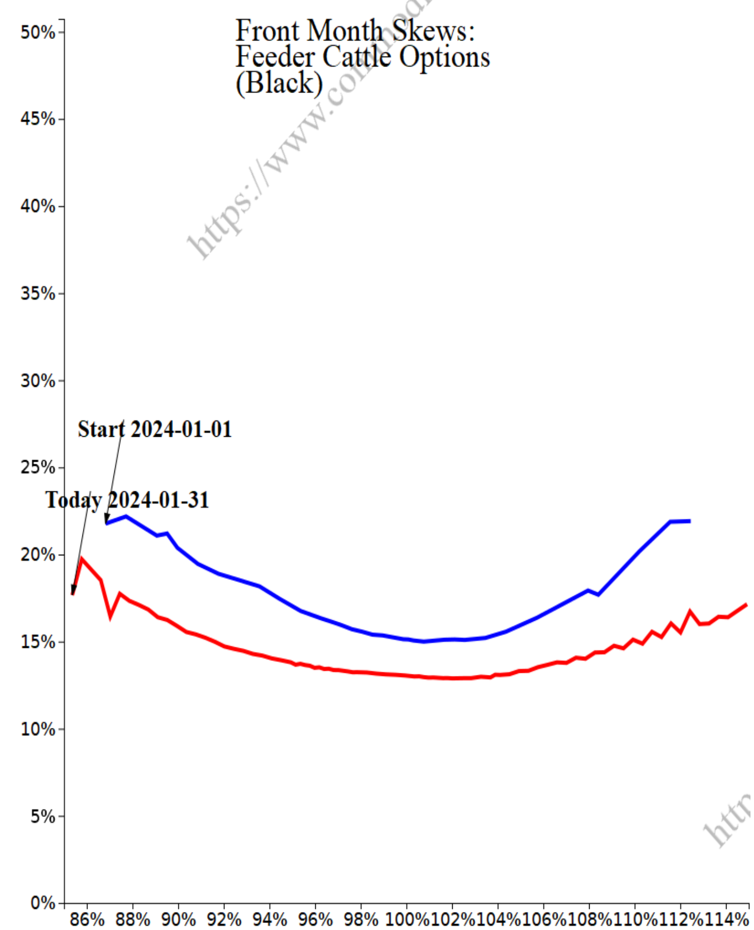

Price ($)
Start 2024-01-01
Today 2024-01-31
20240216
20240717
20250219

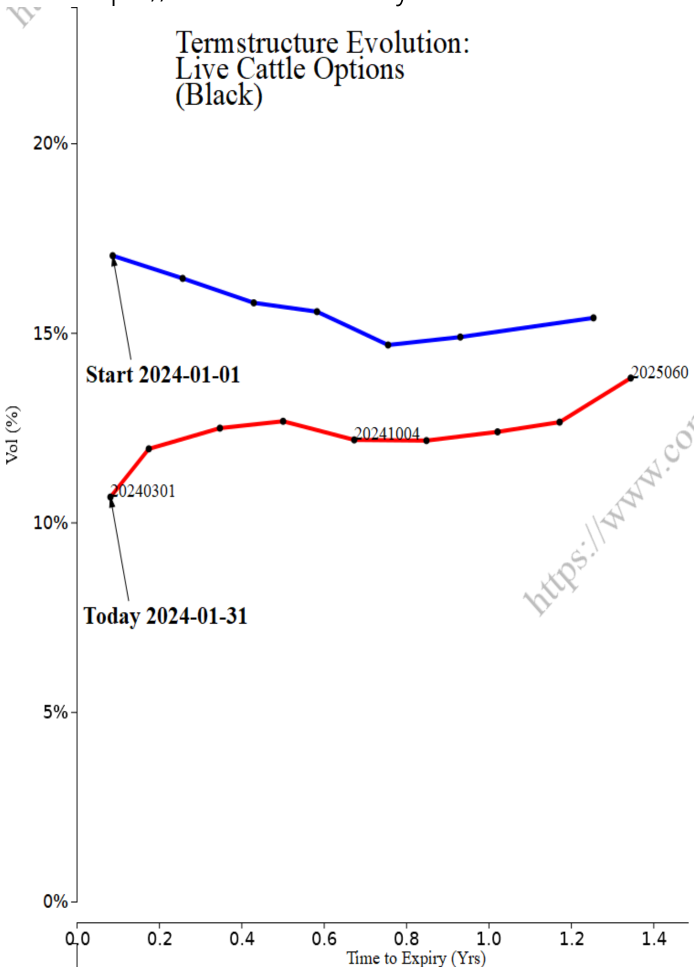

Front Month Skews:
Lean Hog Options
(Black)
Today 2024-01-31
Start 2024-01-01
https://www.commodityvol.com

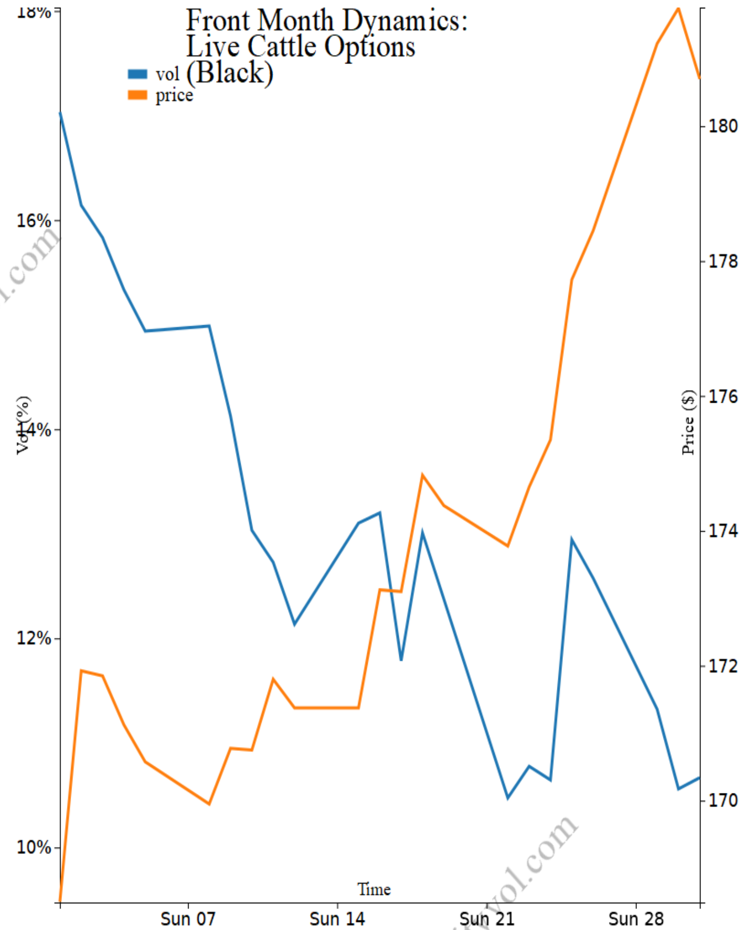

Termstructure Evolution:
Feeder Cattle Options
(Black)
Vol (%)
30%
25%
20%
15%
10%
5%
0%
20240401
20240830
20241122
Start 2024-01-01
Today 2024-01-31
0.0
0.2
0.4
0.6
0.8
Time to Expiry (Yrs)

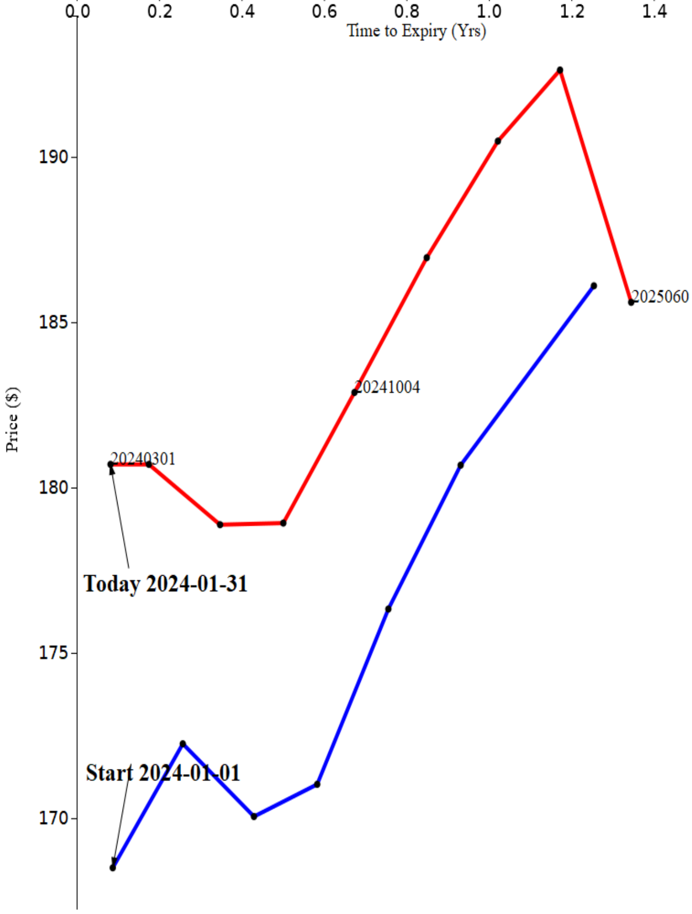

Front Month Dynamics:
Feeder Cattle Options
(Black)
vol
price
Vol (%)
Price ($)
16%
14%
12%
10%
8%
240
235
230
225
Time
Sun 07
Sun 14
Sun 21
Sun 28

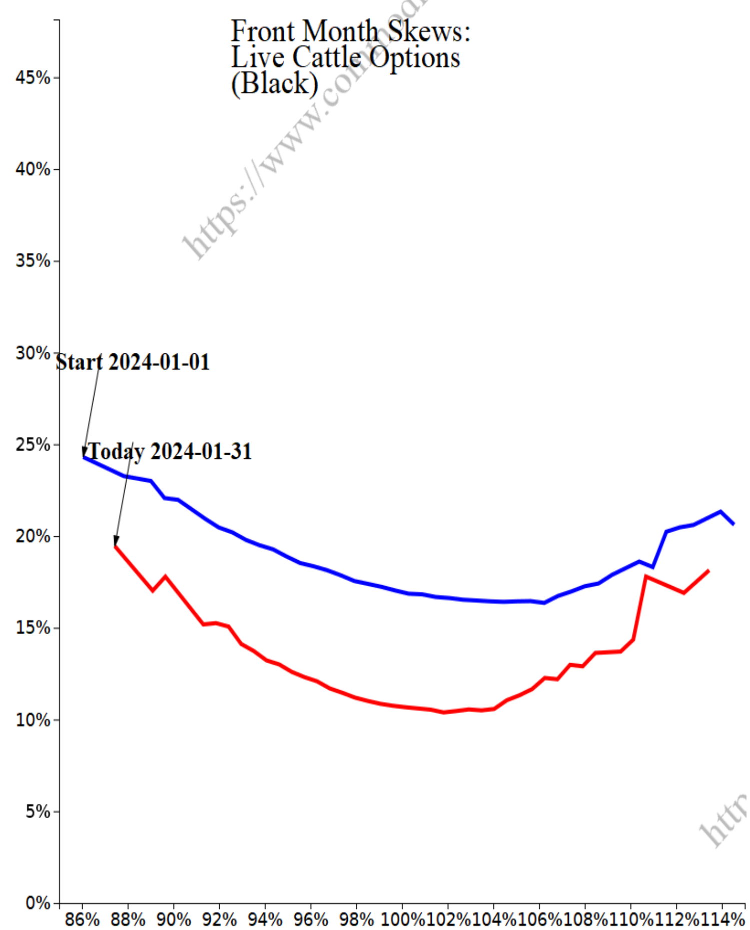

Price ($)
270
260
250
240
230
20241122
20240830
20240401
Today 2024-01-31
Start 2024-01-01

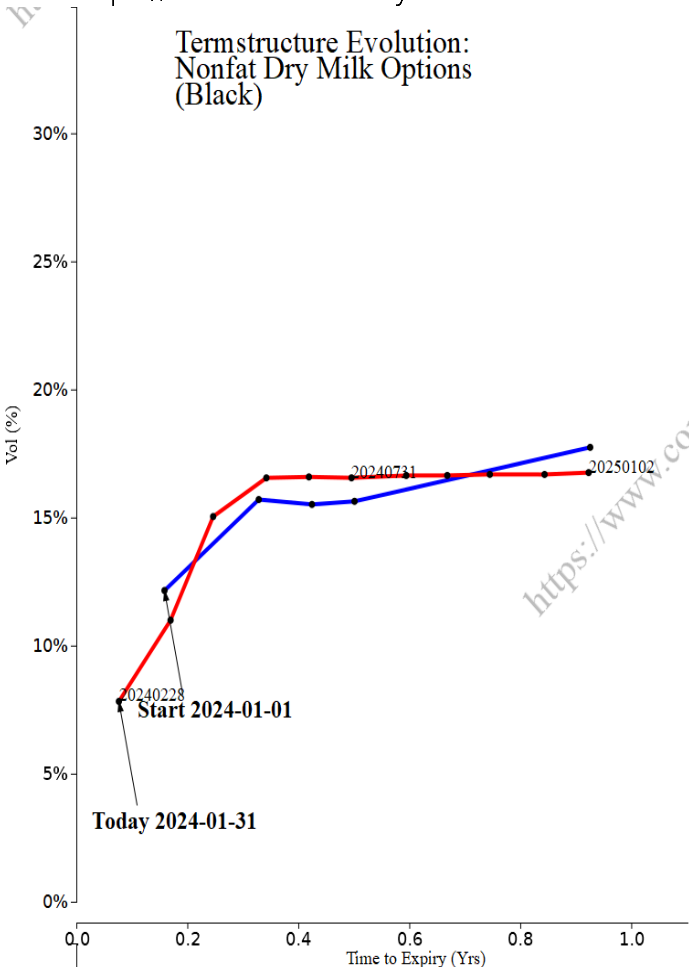

Front Month Skews:
Feeder Cattle Options
(Black)
50%
45%
40%
35%
30%
25%
20%
15%
10%
5%
0%
Start 2024-01-01
Today 2024-01-31
86%
88%
90%
92%
94%
96%
98%
100%
102%
104%
106%
108%
110%
112%
114%

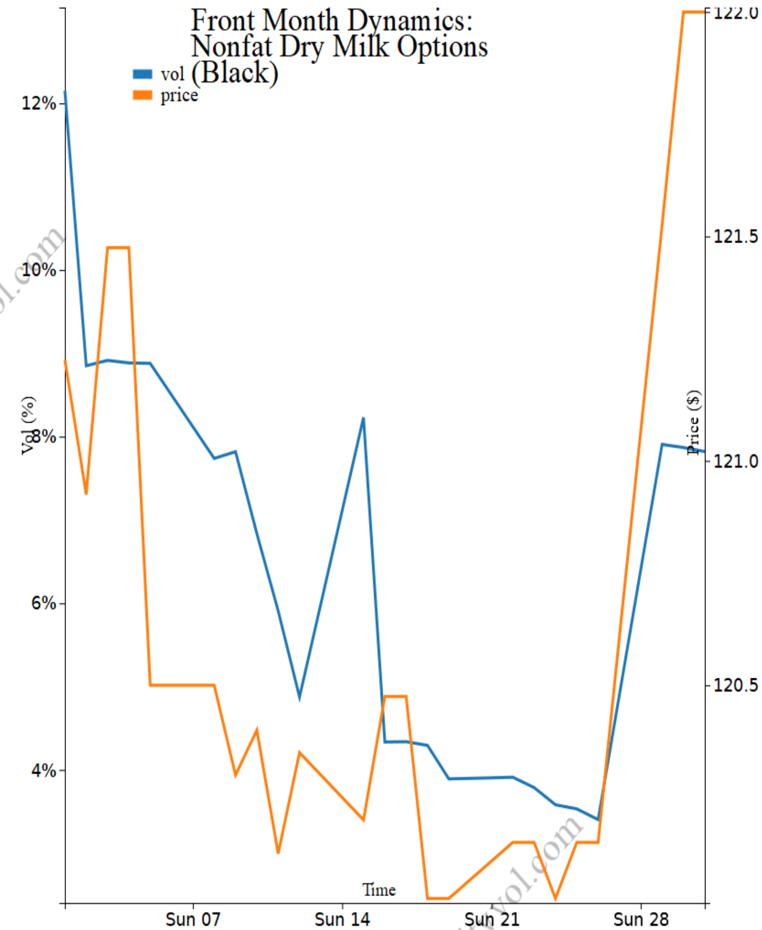

Termstructure Evolution:
Live Cattle Options
(Black)
Vol (%)
Time to Expiry (Yrs)
Start 2024-01-01
Today 2024-01-31
20240301
20241004
2025060

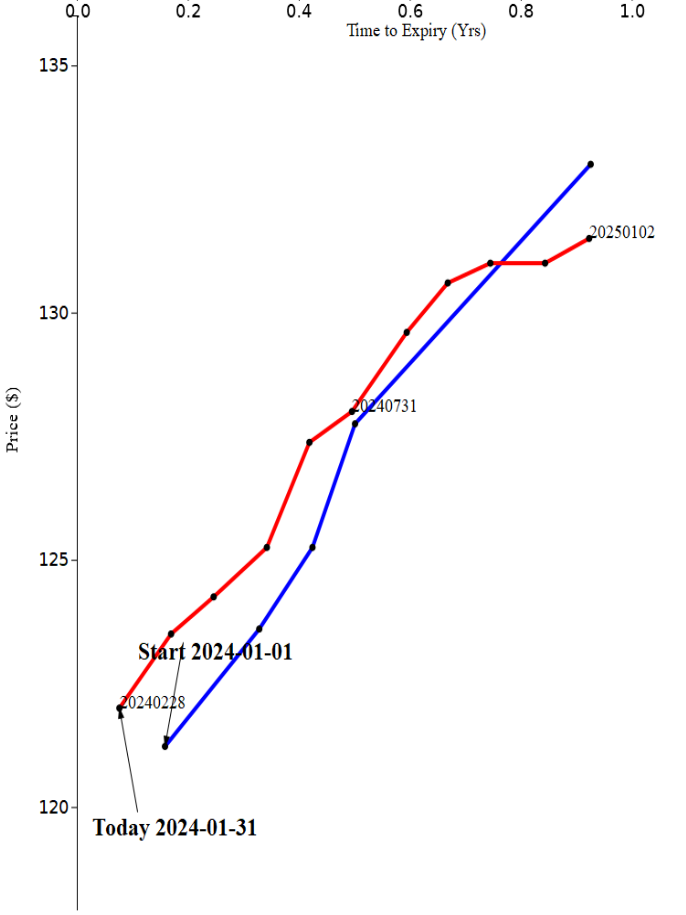

Front Month Dynamics:
Live Cattle Options
(Black)
vol
price
Vol (%)
Price ($)
Time
Sun 07
Sun 14
Sun 21
Sun 28

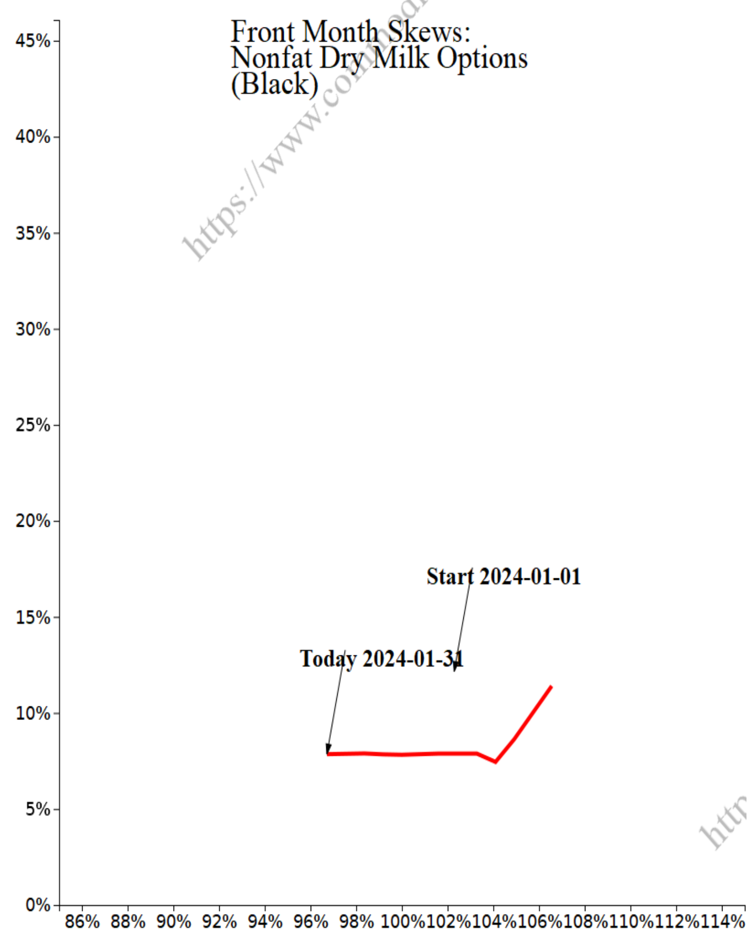

Price ($)
20240301
20241004
2025060
Today 2024-01-31
Start 2024-01-01

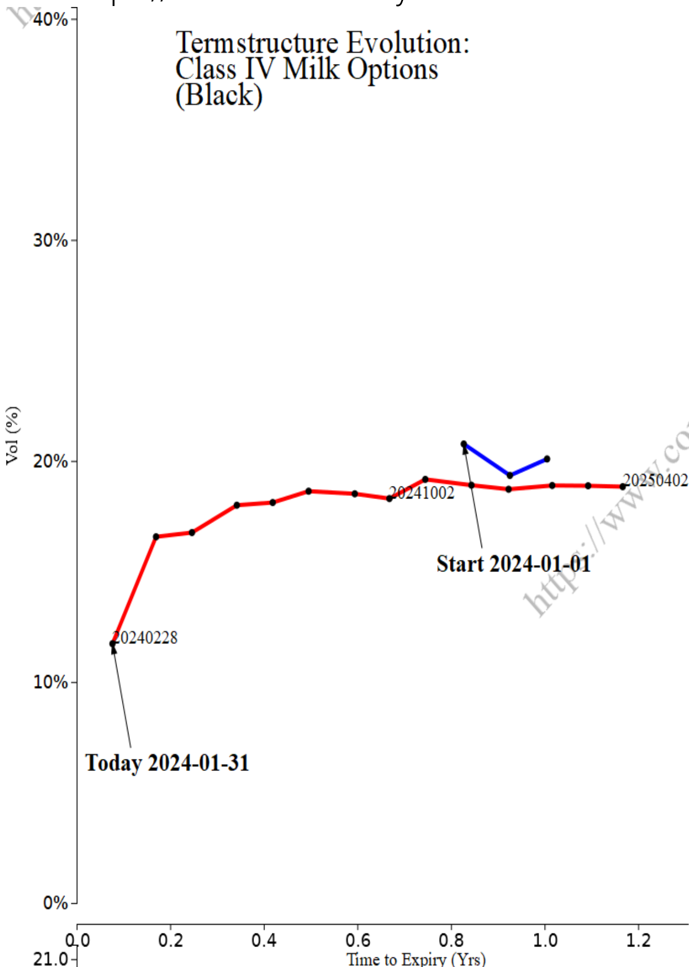

Front Month Skews:
Live Cattle Options
(Black)
Start 2024-01-01
Today 2024-01-31

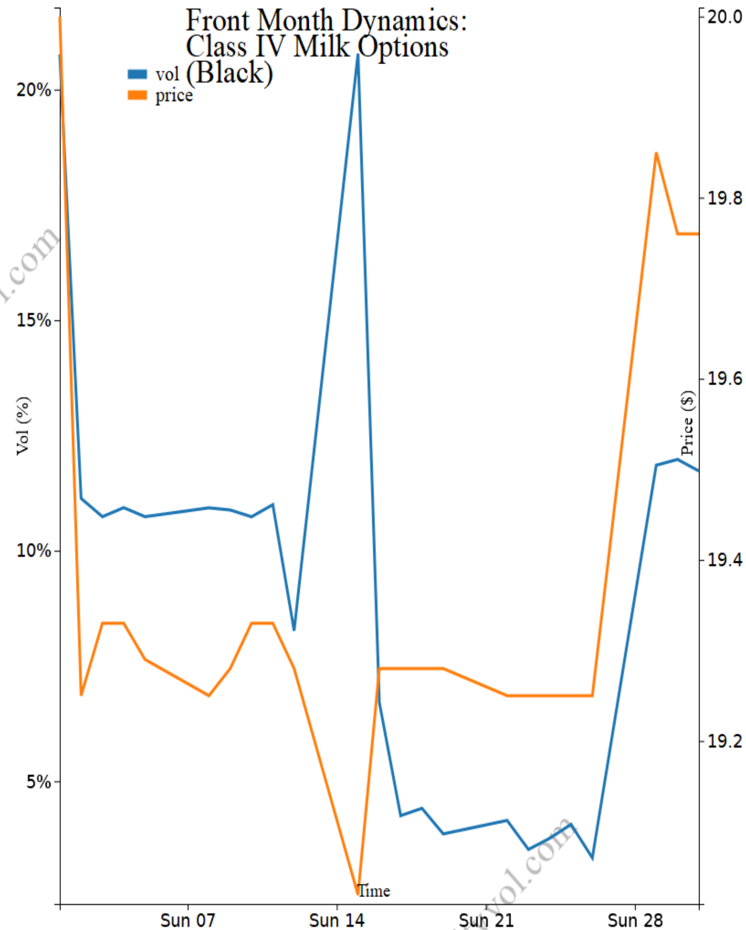

Termstructure Evolution:
Nonfat Dry Milk Options
(Black)
Vol (%)
Time to Expiry (Yrs)
20240228
20240731
20250102
Start 2024-01-01
Today 2024-01-31

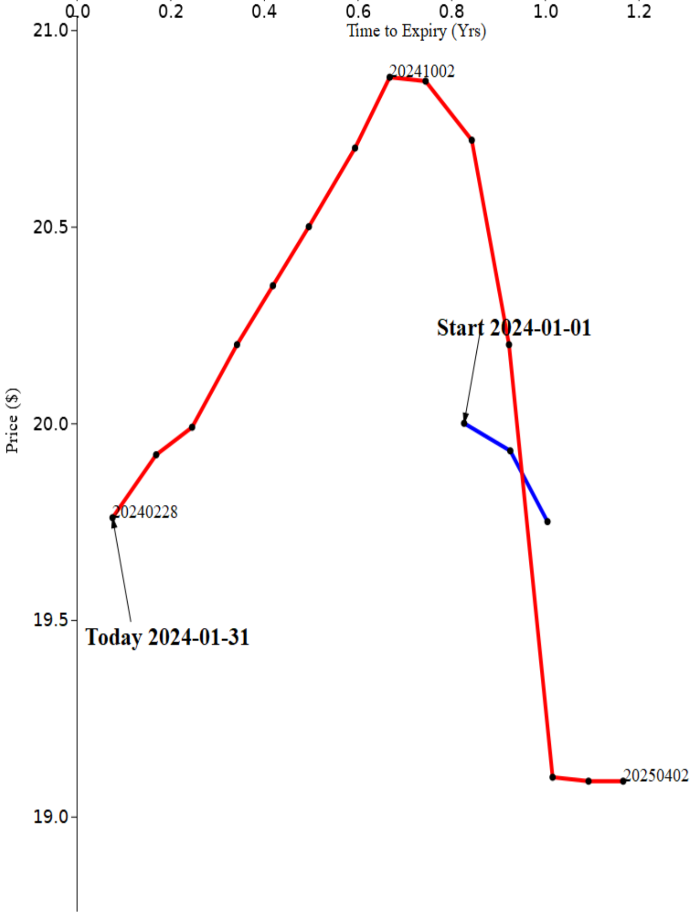

Front Month Dynamics:
Nonfat Dry Milk Options
(Black)
vol
price
Vol (%)
Price ($)
Time
Sun 07
Sun 14
Sun 21
Sun 28

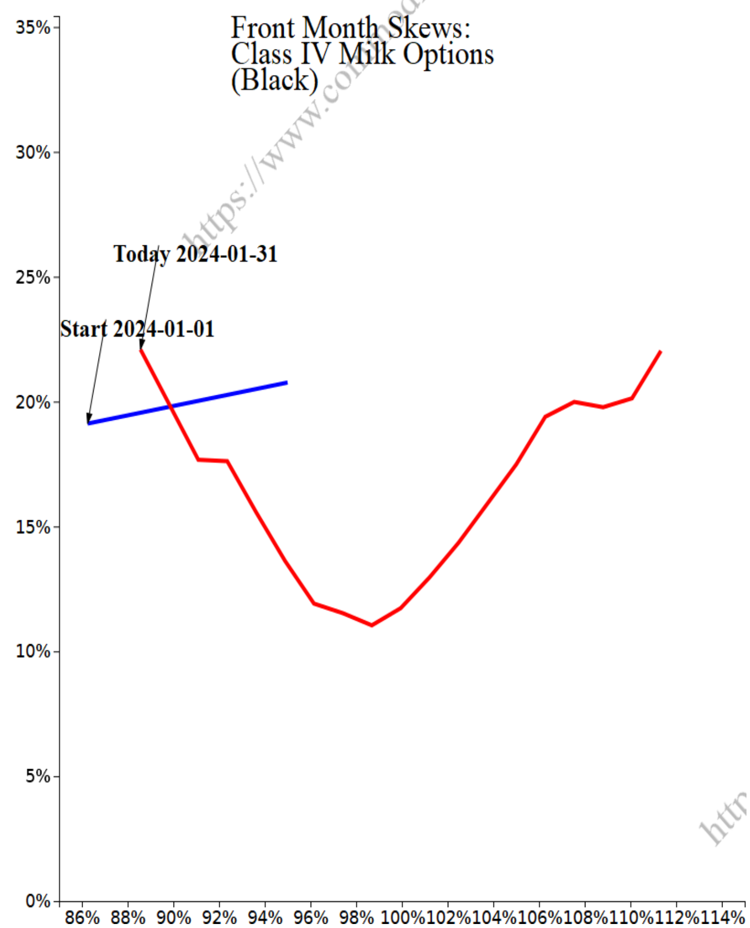

Price ($)
20240228
20240731
20250102
Start 2024-01-01
Today 2024-01-31


Front Month Skews:
Nonfat Dry Milk Options
(Black)
Start 2024-01-01
Today 2024-01-31


Termstructure Evolution:
Class IV Milk Options
(Black)
Vol (%)
Time to Expiry (Yrs)
40%
30%
20%
10%
0%
0.0
0.2
0.4
0.6
0.8
1.0
1.2
20240228
20241002
20250402
Start 2024-01-01
Today 2024-01-31

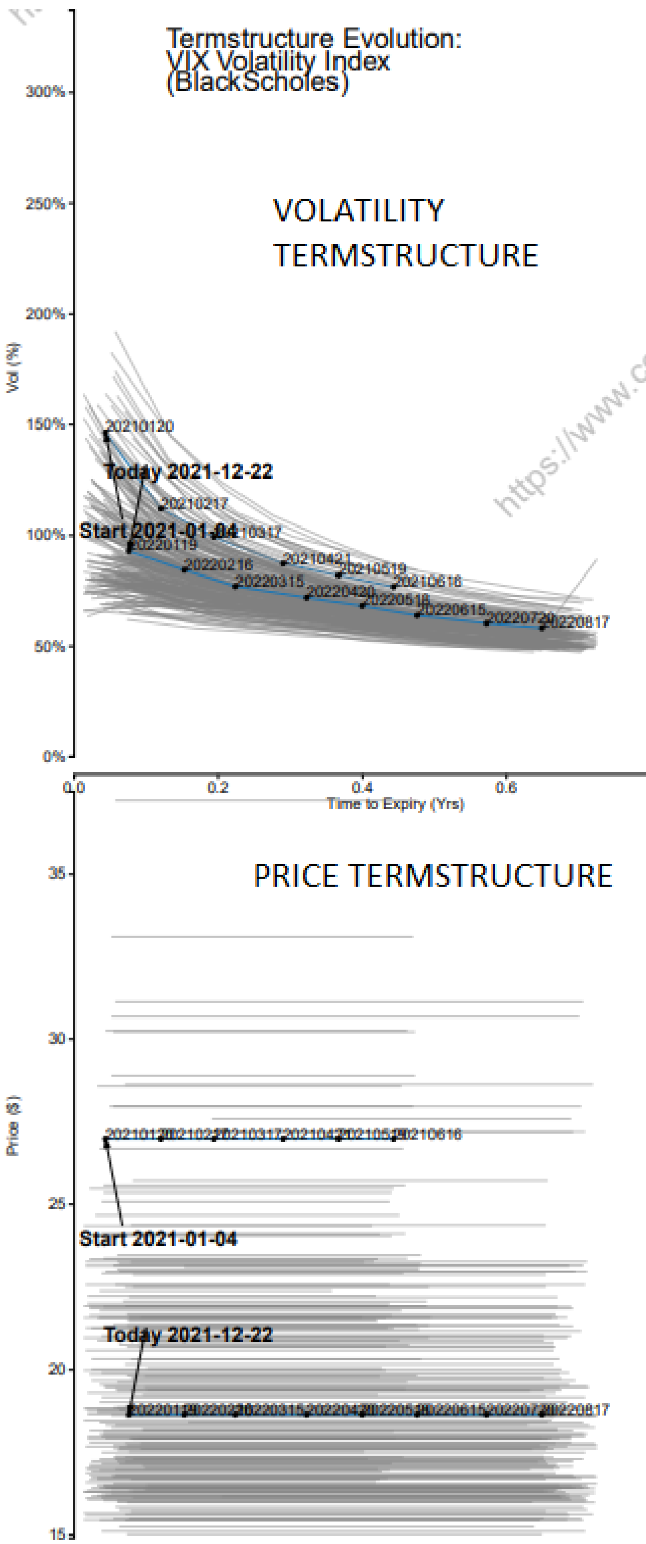

Front Month Dynamics:
Class IV Milk Options
(Black)
vol
price
Vol (%)
Price ($)
Time
20%
15%
10%
5%
20.0
19.8
19.6
19.4
19.2
Sun 07
Sun 14
Sun 21
Sun 28


Price ($)
21.0
20.5
20.0
19.5
19.0
20241002
20240228
20250402
Start 2024-01-01
Today 2024-01-31


Front Month Skews:
Class IV Milk Options
(Black)
35%
30%
25%
20%
15%
10%
5%
0%
Today 2024-01-31
Start 2024-01-01
86%
88%
90%
92%
94%
96%
98%
100%
102%
104%
106%
108%
110%
112%
114%

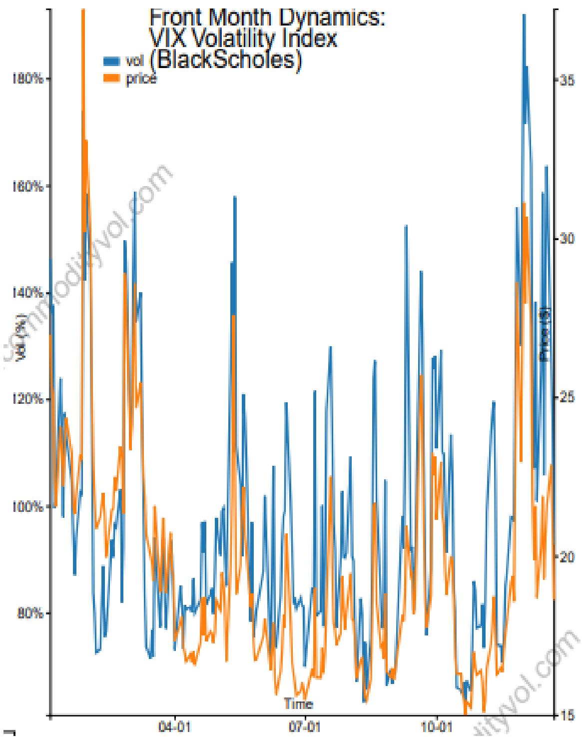
Explanation:
The document is composed of two parts. There is a tabular portion which summarizes the changes in front month futures prices and the changes in the at the money front month implied volatility. The results are presented as raw differences and percentage changes. The plots in this document 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 Volatilty 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.



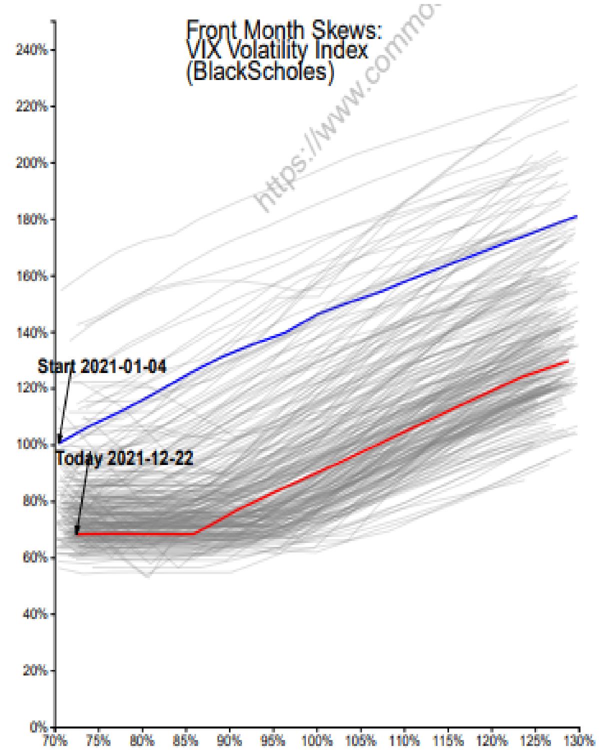
The starting curve is the termstructure at the beginning of the period. This curve is labelled start and is typically colored blue. The ending curve is typically colored red and denoted by the text: Today. The greyed out lines are the termstructures for each day of the period. The hope is that the range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

Front Month At the Money Volatilty 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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