Month End Summary of Commodity Options

Intro:
We are pleased to welcome you to our April 2022 month end report.

April exhibited a bit more steady increase prices of Agricultural commodities. Metals were much more sedated, but Energy, Interest Rates, FX and Indexes show massive moves.

In the agriculture segment Soybean Oil futures rallied 18% with a 1.5 point increase in implied vols. Corn showed an 11% increase with vol slightly down. Rice showed strength in both price and implied volatlity. Wheat and Soybean prices rallied but volatility declined. Lumber came tumbling down. Soymeal and Feeder Cattle also saw declines.

Hot Rolled Steel, Platinum and the other precious metals fell in price. Except for Platinum, vol rallied in these commodities. Palladium was the lone standout. The Russian-Ukrainian conflict has put some pressure on the metal that is sourced from Russia.

Coal and Crack Spread futures were the big winners in the energy patch. Crude rallied 5% with vol coming off a bit. On a percentage basis Natural Gas was a big winner-up 26% with vol up dramatically. The only sector down was the TTF Dutch Natural Gas contract and the Korea/Japan LNG contract.

Interest rates were a bloodbath! The drop in prices was clearly proportional to duration. Vol was up across the board

FX was a similar. The US Dollar rallied against all other currencies. Vol was up. The Bitcoin Futures contract fell dramatically.

Indexes were all down, with the exception of the VIX. In general, the Dow Jones futures were down the least with the Nasdaq 100 down the most. The VIX was up 13 vol points. The implied volatility for all of the contracts was up dramatically. This bid in equity index vol is the strongest we have witnessed since the 2020 drawdown.

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	+2.750 [+2.6%]	-0.015 [-2.7%]
NYMEX/BE	Brent Euro Style	+2.750 [+2.6%]	-0.020 [-3.6%]
NYMEX/CVR	Chicago Ethanol(platts) Average Price	+0.365 [+15.4%]	+0.002 [+1.0%]
NYMEX/LO	Crude Oil	+5.420 [+5.5%]	-0.054 [-9.7%]
NYMEX/TFO	Dutch TTF Natural Gas	-12.700 [-11.3%]	-0.181 [-9.5%]
NYMEX/LN	European Natural Gas	+1.524 [+26.6%]	+0.173 [+31.0%]
NYMEX/E7	Henry Hub Financial Last Day	+1.524 [+26.6%]	+0.159 [+27.6%]
NYMEX/ON	Natural Gas	+1.524 [+26.6%]	+0.173 [+30.9%]
NYMEX/OH	NY Harbor ULSD	+0.593 [+17.3%]	-0.119 [-16.4%]
NYMEX/OB	RBOB	+0.289 [+9.2%]	-0.098 [-15.0%]

Ags

exch/prod	desc	futures chng [%]	vol chng [%]
CME/DK	Class IV Milk	+0.200 [+0.8%]	-0.045 [-65.1%]
CBT/C	Corn	+0.785 [+10.7%]	-0.010 [-3.4%]
CME/62	Feeder Cattle	-5.225 [-3.2%]	-0.007 [-4.1%]
CBT/KW	KC HRW Wheat	+0.927 [+9.2%]	-0.043 [-10.6%]
CME/LN	Lean Hog	-0.400 [-0.4%]	+0.048 [+29.0%]
CME/48	Live Cattle	-3.200 [-2.4%]	+0.036 [+28.3%]
CME/LB	Lumber110	-49.900 [-5.2%]	-0.055 [-9.0%]
CME/NF	Nonfat Dry Milk	+0.625 [+0.3%]	-0.022 [-45.0%]
CBT/O	Oats	-0.897 [-12.1%]	-0.008 [-2.0%]
CBT/14	Rough Rice	+1.470 [+9.2%]	+0.021 [+15.4%]
CBT/S	Soybean	+1.020 [+6.4%]	-0.013 [-6.5%]
CBT/06	Soybean Meal	-17.700 [-3.9%]	-0.036 [-14.3%]
CBT/07	Soybean Oil	+12.980 [+18.2%]	+0.015 [+4.8%]
CBT/W	Wheat	+0.712 [+7.2%]	-0.048 [-11.3%]

exch/prod	desc	futures chng [%]	vol chng [%]
CBT/26	2 YR US Treasury Note	-0.277 [-0.3%]	+0.005 [+23.4%]
CBT/25	5 YR US Treasury Note	-1.352 [-1.2%]	+0.008 [+15.9%]
CBT/21	10 YR US Treasury Note	-3.078 [-2.5%]	+0.013 [+18.8%]
CBT/17	30 YR US Treasury Bond	-9.125 [-6.1%]	+0.030 [+25.1%]
CME/ED	Eurodollar	-0.355 [-0.4%]	+0.002 [+25.0%]
CBT/UBE	Long Term US Treasury Bond	-17.594 [-9.9%]	+0.032 [+17.6%]

Forex

exch/prod	desc	futures chng [%]	vol chng [%]
CME/ADU	AUDUSD 2pmfix	-0.042 [-5.6%]	+0.047 [+45.9%]
CME/BTC	Bitcoin	-8265.000 [-17.8%]	-0.011 [-2.1%]
CME/BR	BRLUSD Monthly	-0.012 [-5.8%]	+0.037 [+21.8%]
CME/CAU	CADUSD 2pmfix	-0.020 [-2.5%]	+0.025 [+37.3%]
CME/CHU	CHFUSD 2pmfix	-0.052 [-4.8%]	+0.044 [+65.5%]
CME/EUU	EURUSD 2pmfix	-0.048 [-4.3%]	+0.030 [+42.0%]
CME/GBU	GBPUSD 2pmfix	-0.050 [-3.8%]	+0.038 [+49.8%]
CME/JPU	JPYUSD 2pmfix	-0.000 [-5.3%]	+0.027 [+26.7%]
CME/MP	Mexican Peso	-0.001 [-2.0%]	+0.044 [+45.2%]
CME/NE	New Zealand	-0.044 [-6.4%]	-0.010 [-9.5%]

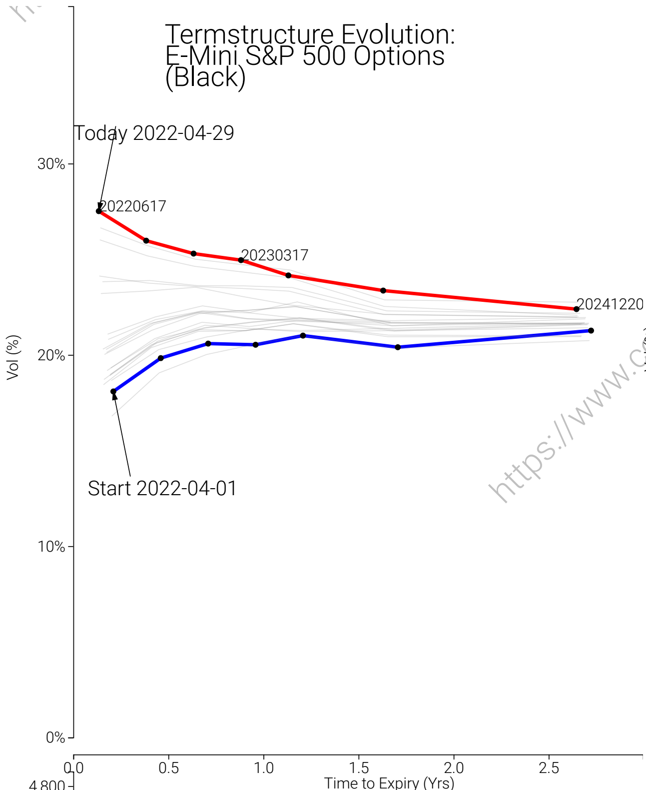
exch/prod	desc	futures chng [%]	vol chng [%]
CBT/YM	E-Mini Dow	-1836.000 [-5.3%]	+0.064 [+39.8%]
CME/NQ	E-Mini Nasdaq	-2011.750 [-13.5%]	+0.111 [+46.1%]
CME/RTO	E-Mini Russell 2000	-227.000 [-10.9%]	+0.093 [+39.5%]
CME/RTM	E-Mini Russell EOM	-227.000 [-10.9%]	+0.113 [+50.9%]
CME/ES	E-Mini S&P 500	-411.750 [-9.1%]	+0.094 [+52.1%]
CBOE/VIX	VIX Volatility Index	+13.770 [+70.1%]	+0.492 [+52.3%]

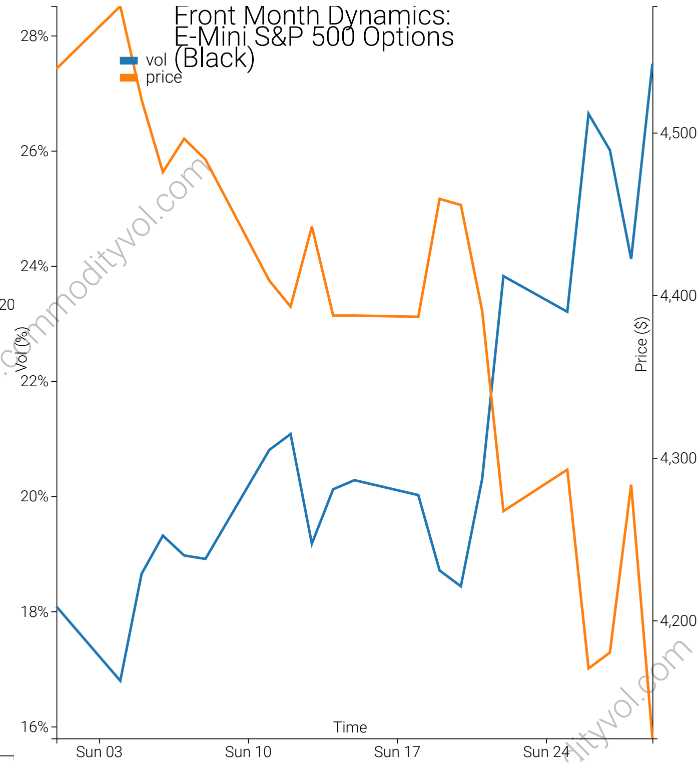
Metals

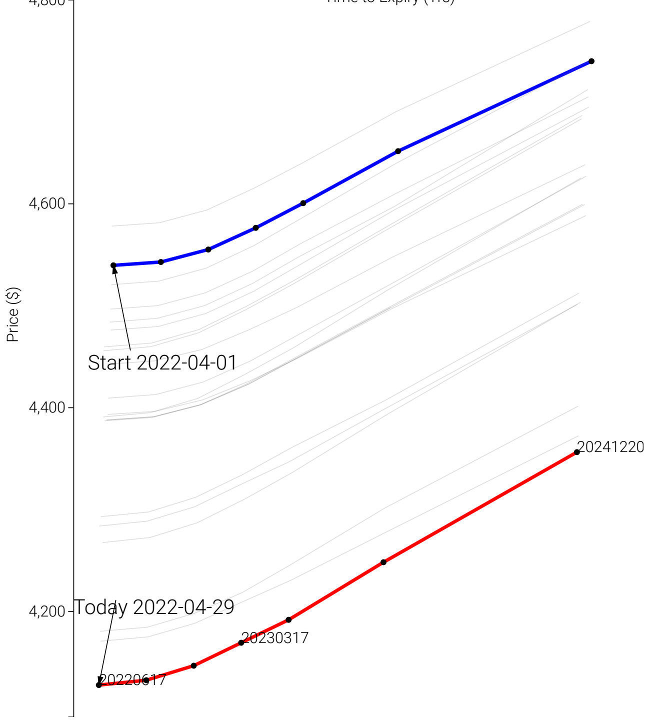
exch/prod	desc	futures chng [%]	vol chng [%]
COMEX/HX	Copper	-0.280 [-6.0%]	+0.006 [+2.2%]
COMEX/OG	Gold	-12.000 [-0.6%]	+0.013 [+8.6%]
NYMEX/PAO	Palladium	+39.500 [+1.7%]	-0.029 [-5.1%]
NYMEX/PO	Platinum	-49.000 [-5.0%]	-0.030 [-9.1%]
COMEX/SO	Silver	-1.569 [-6.4%]	+0.036 [+14.7%]
COMEX/HRO	Us. Midwest Domestic Hot-rolled Coil Steel (CRU) Index Average Price	-140.000 [-9.1%]	+0.148 [+52.9%]

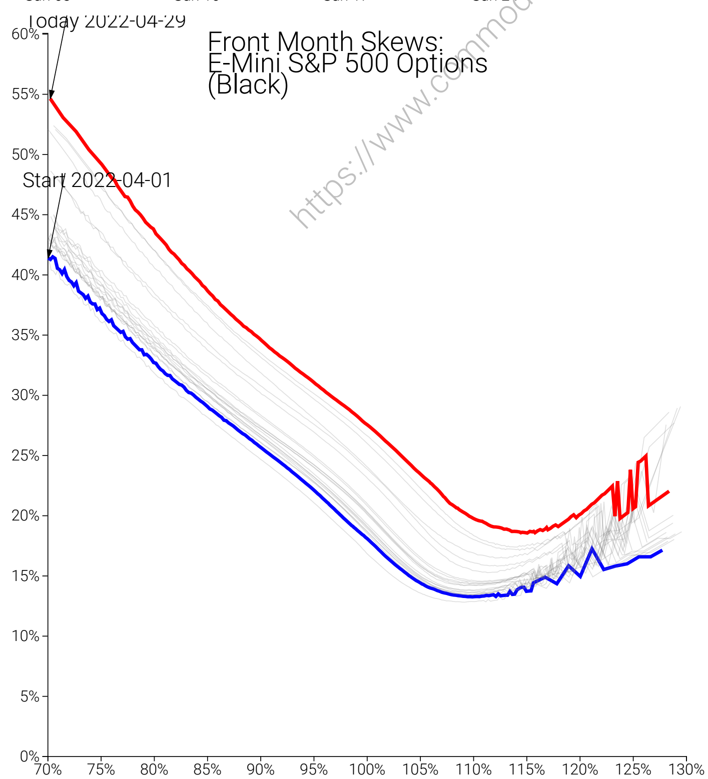
Skews, Termstructures and more

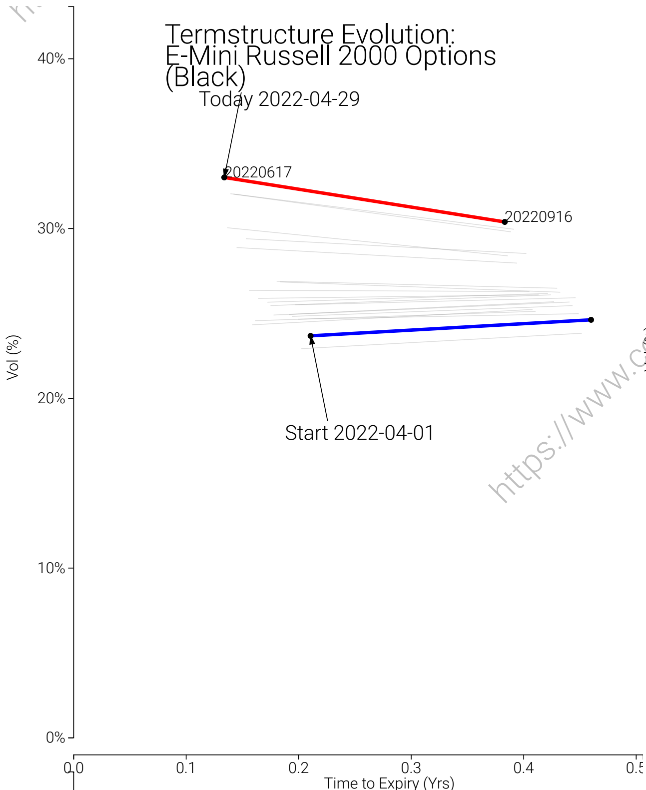
Equity Index


Termstructure Evolution:
E-Mini S&P 500 Options
(Black)
Today 2022-04-29
20220617
20230317
20241220
Start 2022-04-01
Vol (%)
30%
20%
10%
0%
0.0
0.5
1.0
1.5
2.0
2.5
Time to Expiry (Yrs)

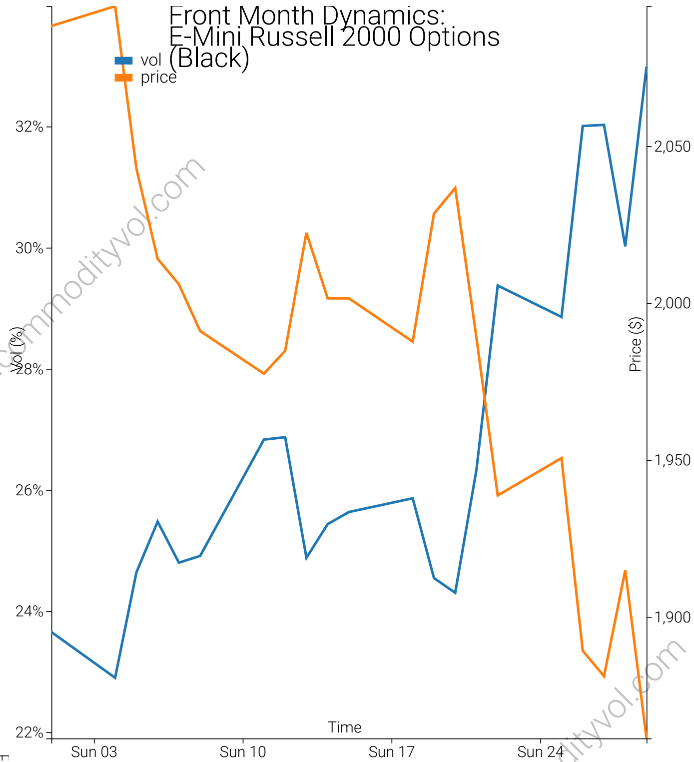

Front Month Dynamics:
E-Mini S&P 500 Options
(Black)
vol
price
28%
26%
24%
22%
20%
18%
16%
Vol (%)
4,500
4,400
4,300
4,200
Price ($)
Time
Sun 03
Sun 10
Sun 17
Sun 24
https://www.commodityvol.com


4,800
4,600
4,400
4,200
Price ($)
Start 2022-04-01
20241220
Today 2022-04-29
20230317
20220617

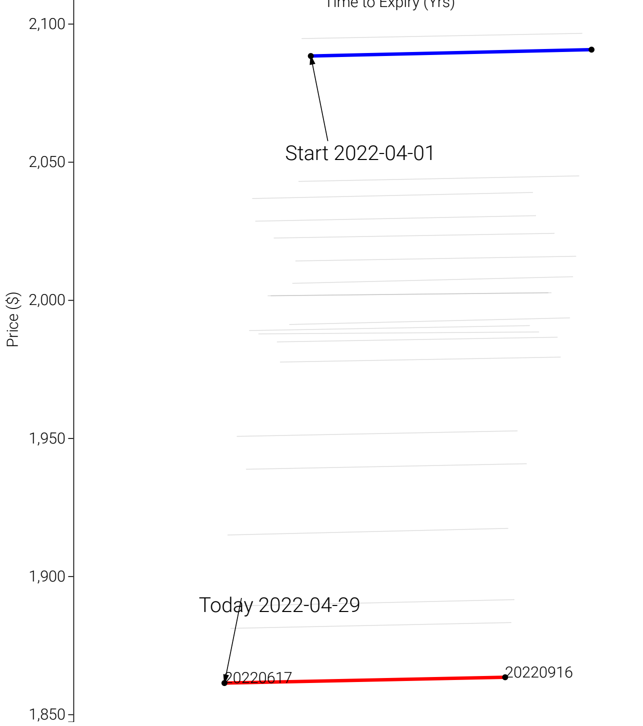

Today 2022-04-29
Front Month Skews:
E-Mini S&P 500 Options
(Black)
Start 2022-04-01
60%
55%
50%
45%
40%
35%
30%
25%
20%
15%
10%
5%
0%
70%
75%
80%
85%
90%
95%
100%
105%
110%
115%
120%
125%
130%
https://www.commodityvol.com



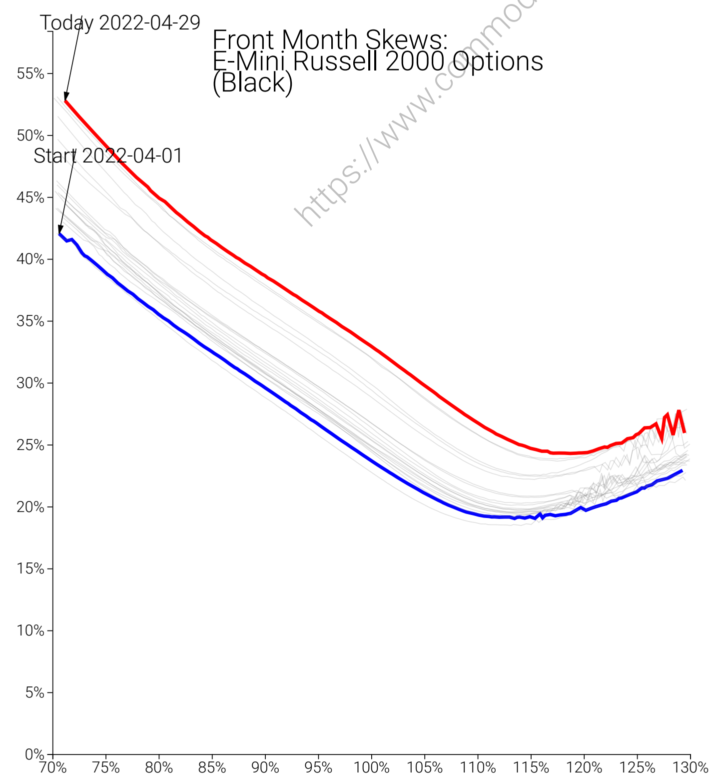
Termstructure Evolution:
E-Mini Russell 2000 Options
(Black)
Today 2022-04-29
20220617
20220916
Start 2022-04-01
Vol (%)
40%
30%
20%
10%
0%
0.0
0.1
0.2
0.3
0.4
0.5
Time to Expiry (Yrs)



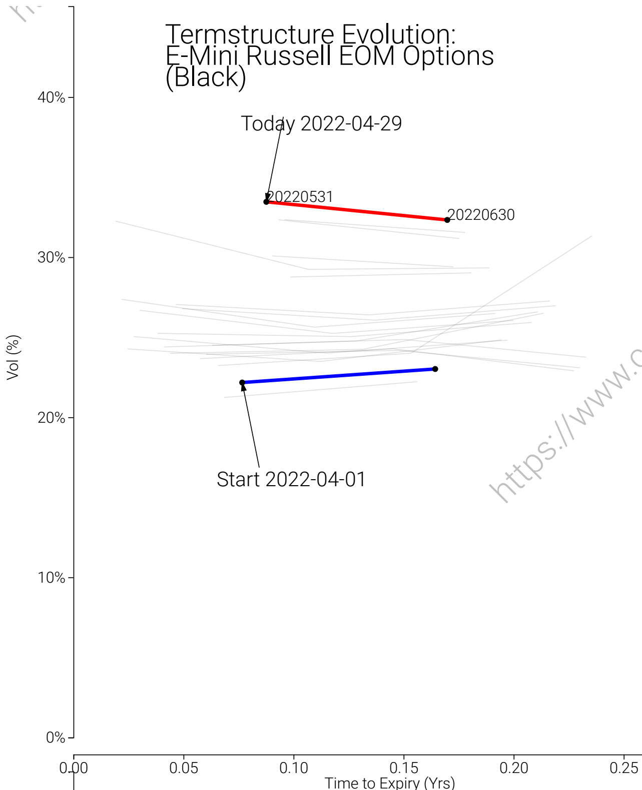
Front Month Dynamics:
E-Mini Russell 2000 Options
(Black)
vol
price
Vol (%)
Price ($)
32%
30%
28%
26%
24%
22%
2,050
2,000
1,950
1,900
Sun 03
Sun 10
Sun 17
Sun 24
Time



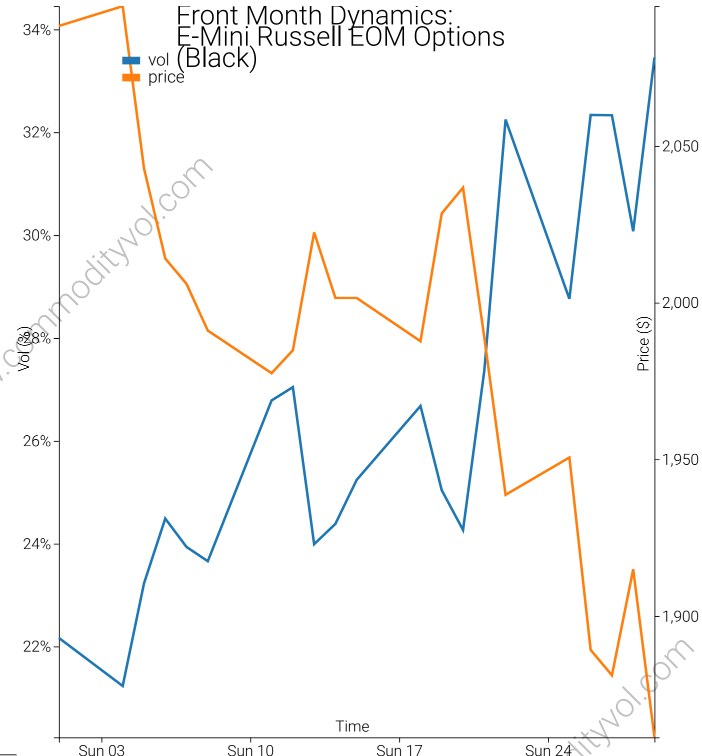
Price ($)
2,100
2,050
2,000
1,950
1,900
1,850
Start 2022-04-01
Today 2022-04-29
20220617
20220916



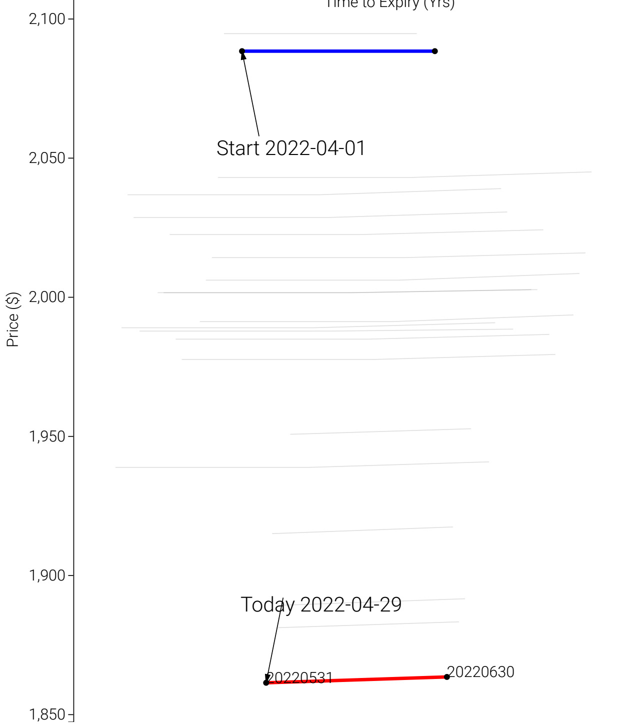
Today 2022-04-29
Front Month Skews:
E-Mini Russell 2000 Options
(Black)
Start 2022-04-01
55%
50%
45%
40%
35%
30%
25%
20%
15%
10%
5%
0%
70%
75%
80%
85%
90%
95%
100%
105%
110%
115%
120%
125%
130%



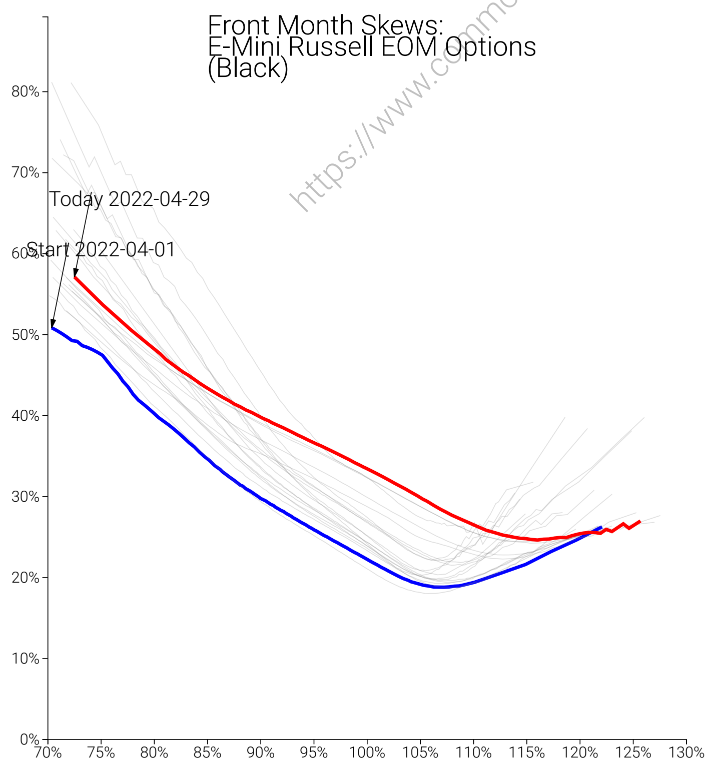
Termstructure Evolution:
E-Mini Russell EOM Options
(Black)
Today 2022-04-29
20220531
20220630
Start 2022-04-01
Vol (%)
Time to Expiry (Yrs)



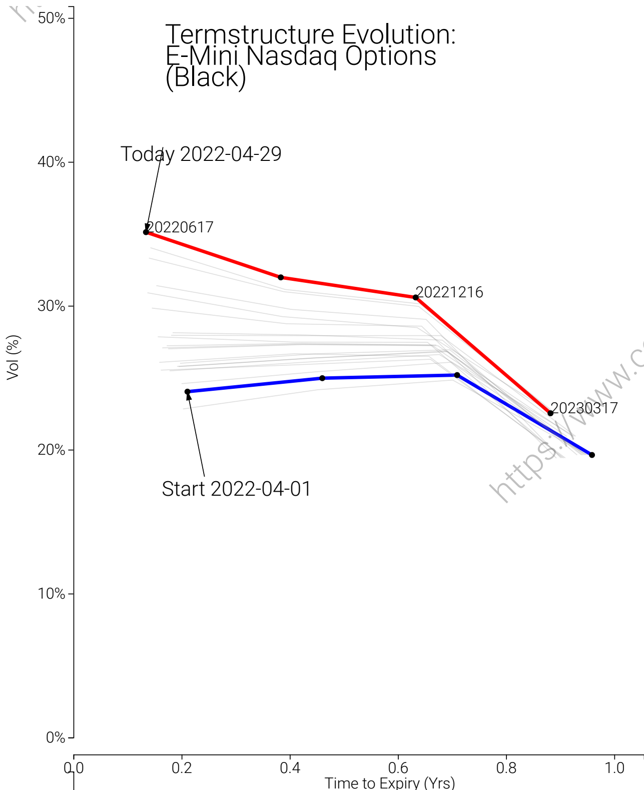
Front Month Dynamics:
E-Mini Russell EOM Options
(Black)
vol
price
Vol (%)
Price ($)
Time
Sun 03
Sun 10
Sun 17
Sun 24

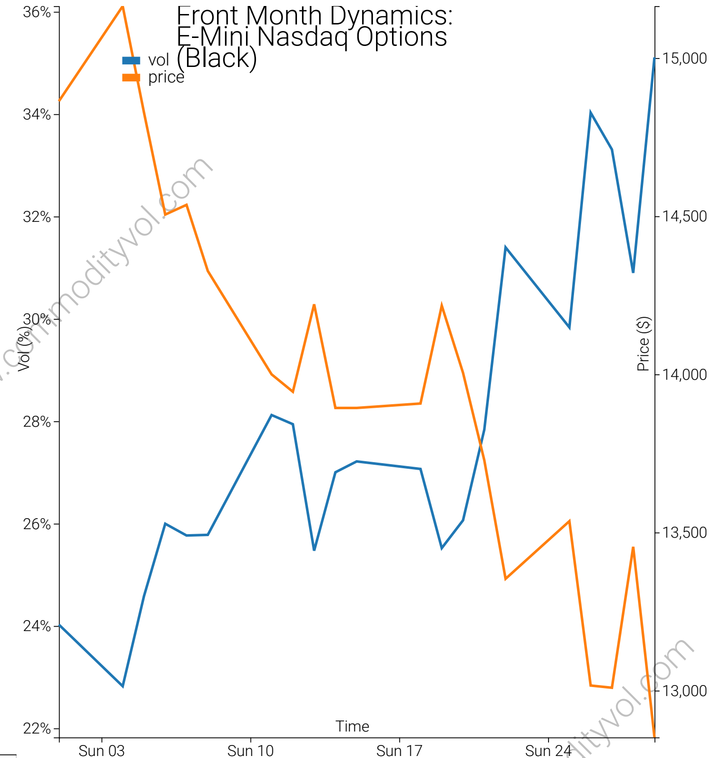


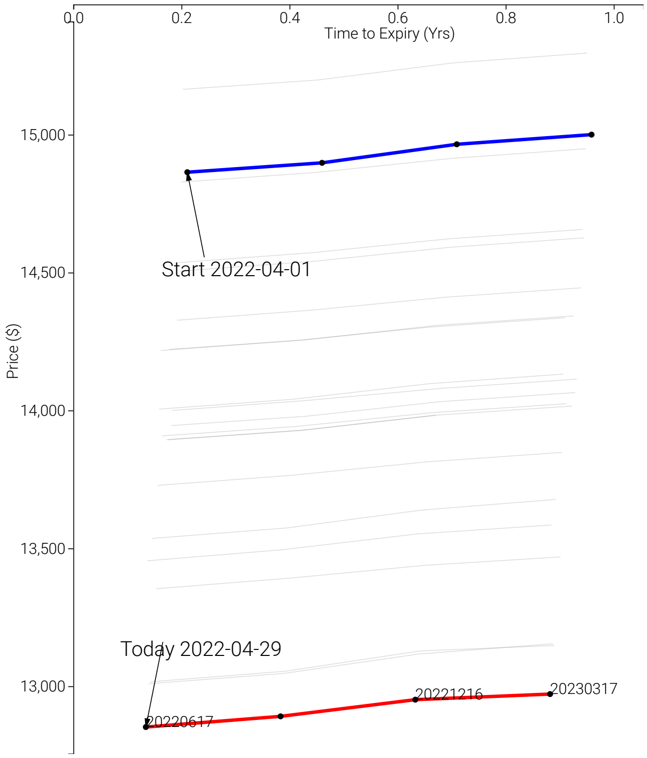
Start 2022-04-01
Today 2022-04-29
20220531
20220630
Price ($)

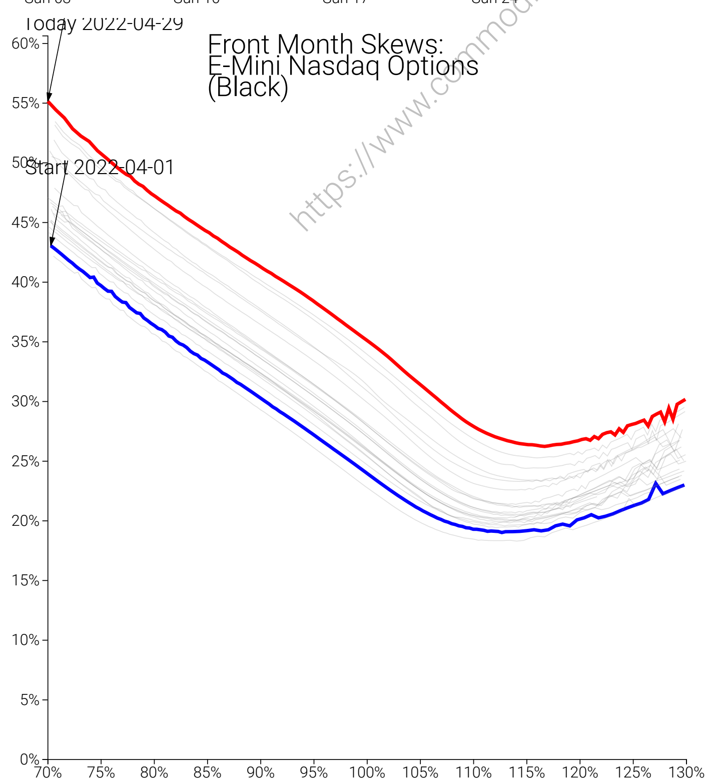


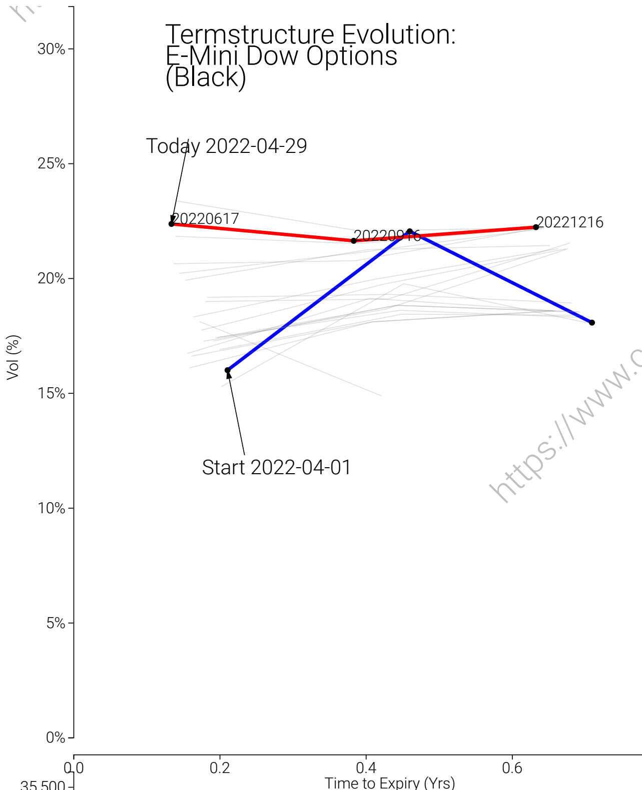
Front Month Skews:
E-Mini Russell EOM Options
(Black)
Today 2022-04-29
Start 2022-04-01

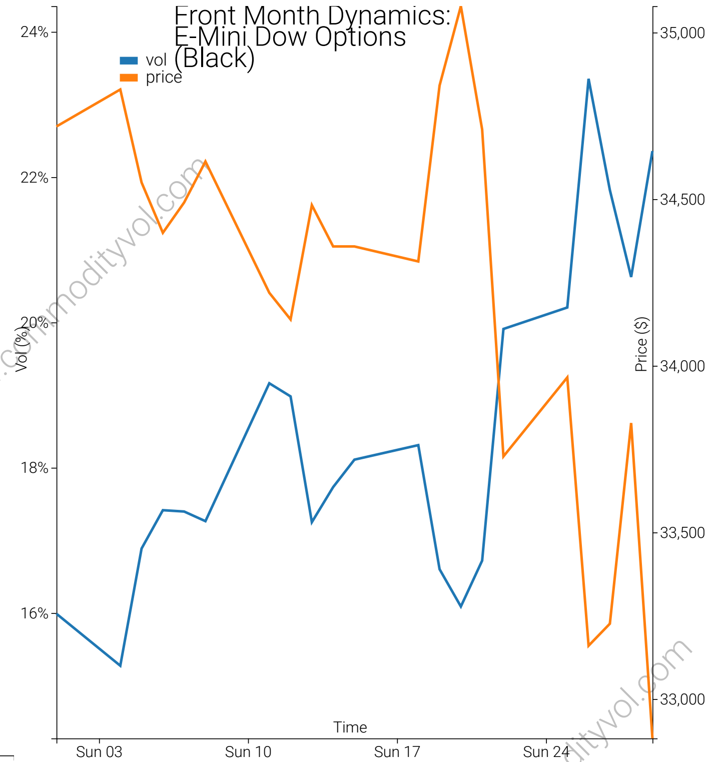

Termstructure Evolution:
E-Mini Nasdaq Options
(Black)
Today 2022-04-29
20220617
20221216
20230317
Start 2022-04-01
Vol (%)
Time to Expiry (Yrs)

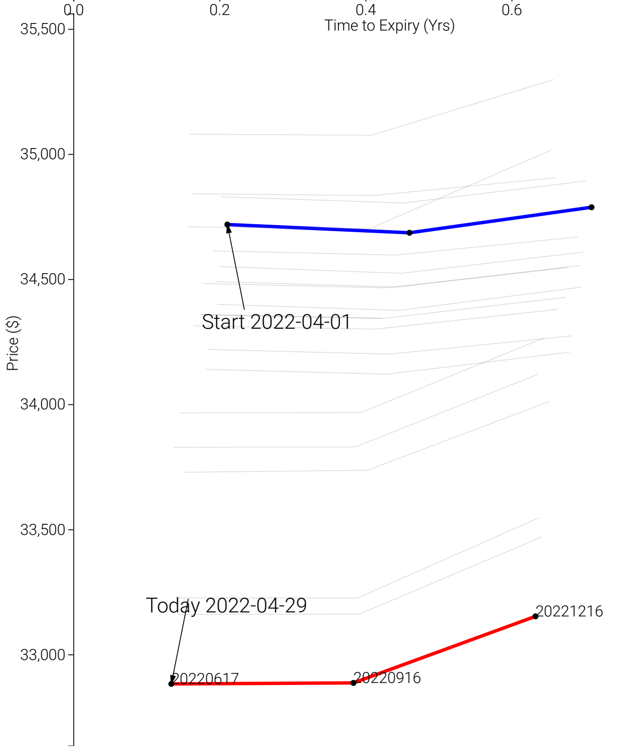

Front Month Dynamics:
E-Mini Nasdaq Options
(Black)
vol
price
Vol (%)
Price ($)
Time
Sun 03
Sun 10
Sun 17
Sun 24

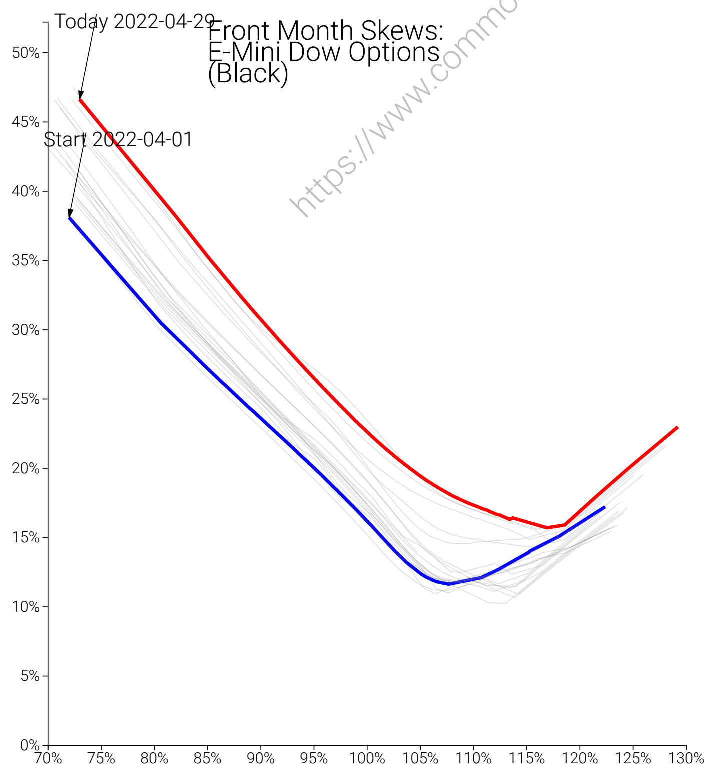

Start 2022-04-01
Today 2022-04-29
20220617
20221216
20230317
Price ($)

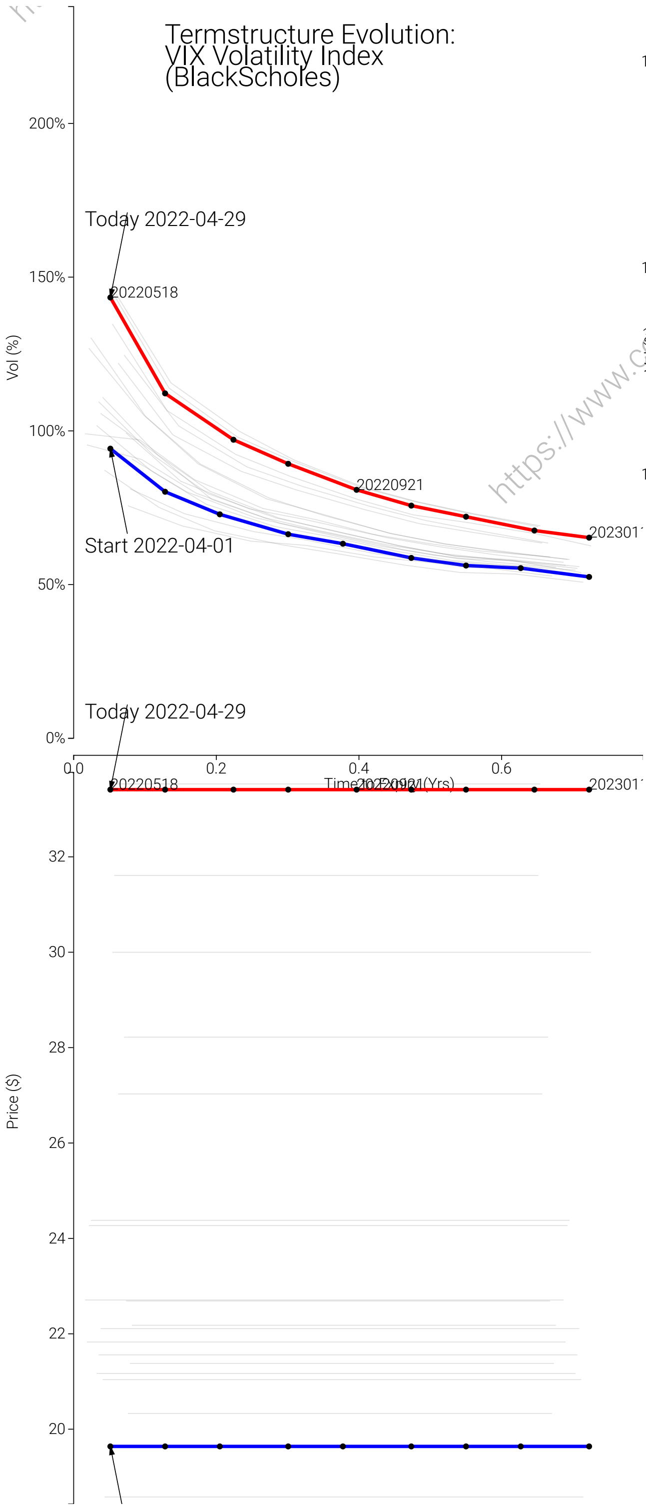

Today 2022-04-29
Front Month Skews:
E-Mini Nasdaq Options
(Black)
Start 2022-04-01

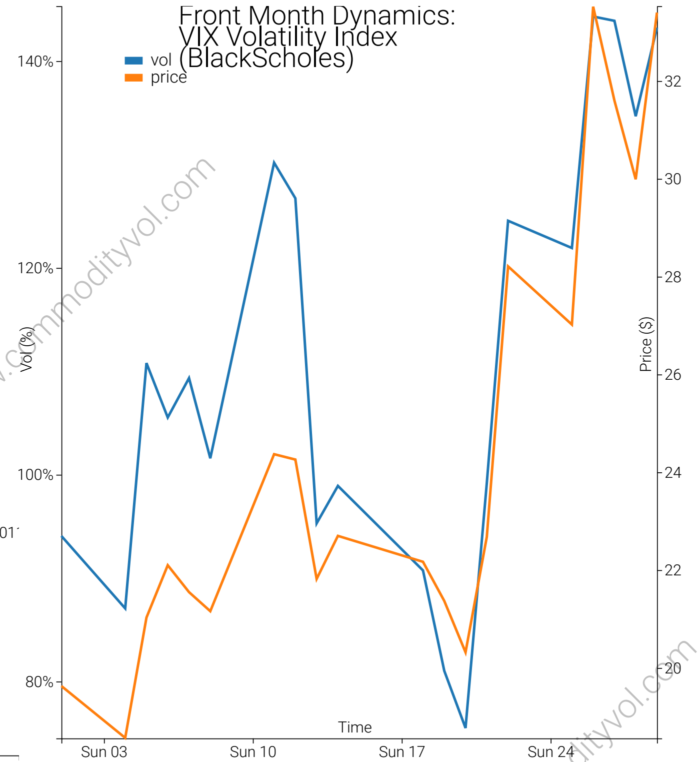

Termstructure Evolution:
E-Mini Dow Options
(Black)
Today 2022-04-29
Start 2022-04-01
20220617
20220916
20221216
Vol (%)
Time to Expiry (Yrs)
https://www.commodityvol.com

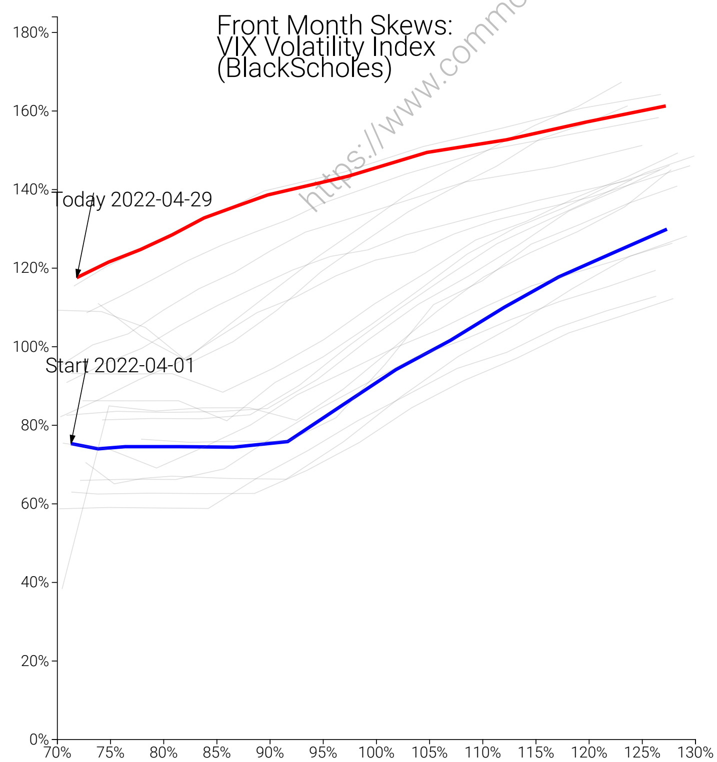

Front Month Dynamics:
E-Mini Dow Options
(Black)
vol
price
Vol (%)
Price ($)
Time
Sun 03
Sun 10
Sun 17
Sun 24
https://www.commodityvol.com


Today 2022-04-29
Start 2022-04-01
20220617
20220916
20221216
Price ($)

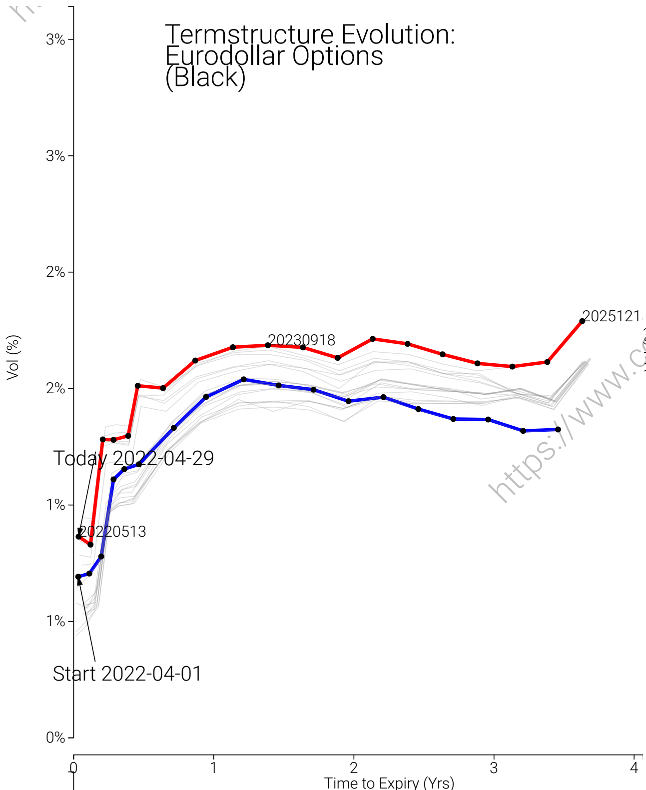

Front Month Skews:
E-Mini Dow Options
(Black)
Today 2022-04-29
Start 2022-04-01
https://www.commodityvol.com

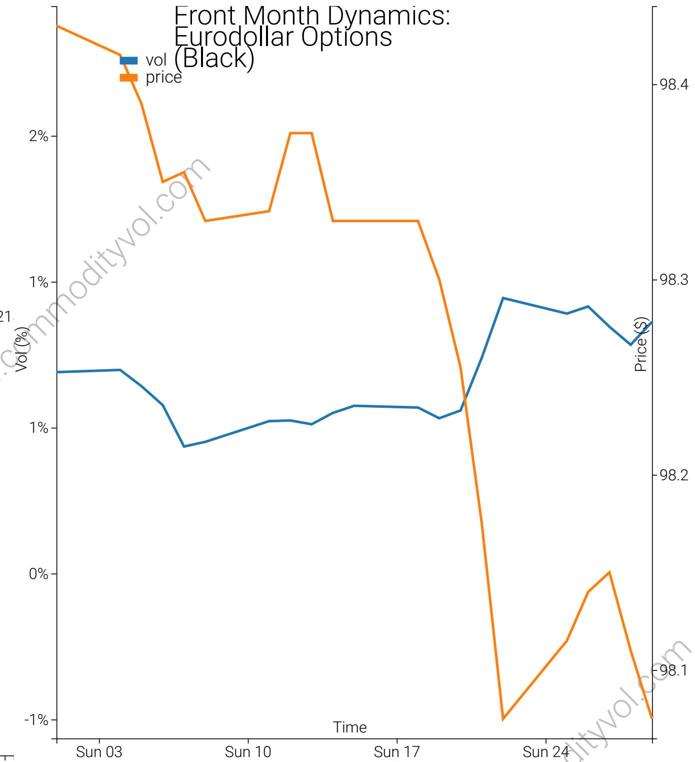

Termstructure Evolution:
VIX Volatility Index
(BlackScholes)
Today 2022-04-29
20220518
20220921
Start 2022-04-01
Vol (%)
Time to Expiry (Yrs)
Price ($)

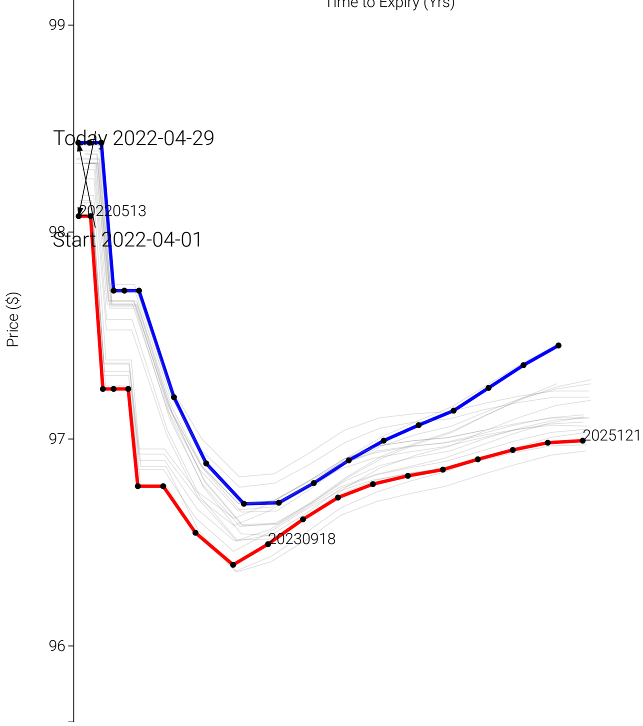

Front Month Dynamics:
VIX Volatility Index
(BlackScholes)
vol
price
Vol (%)
Price ($)
Time
Sun 03
Sun 10
Sun 17
Sun 24

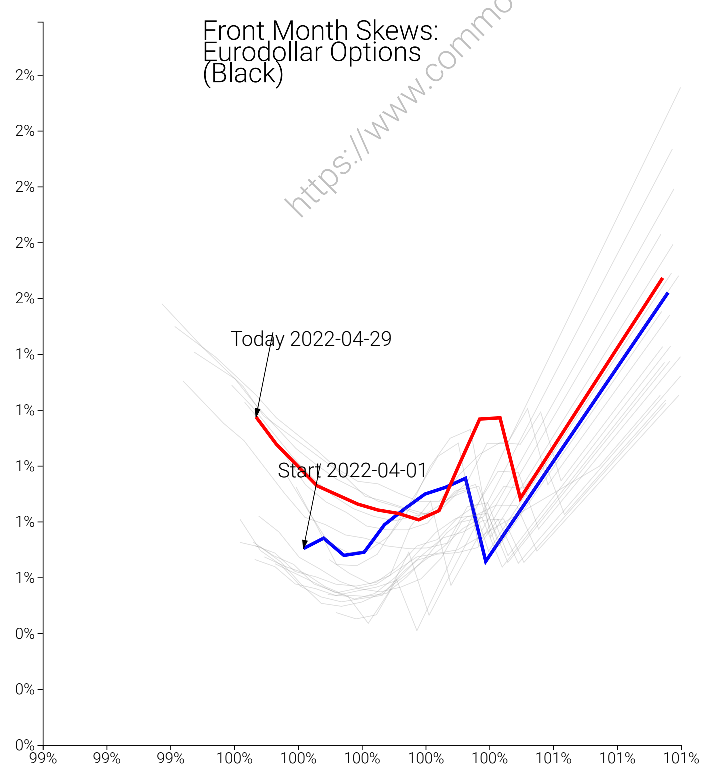

Front Month Skews:
VIX Volatility Index
(BlackScholes)
Today 2022-04-29
Start 2022-04-01

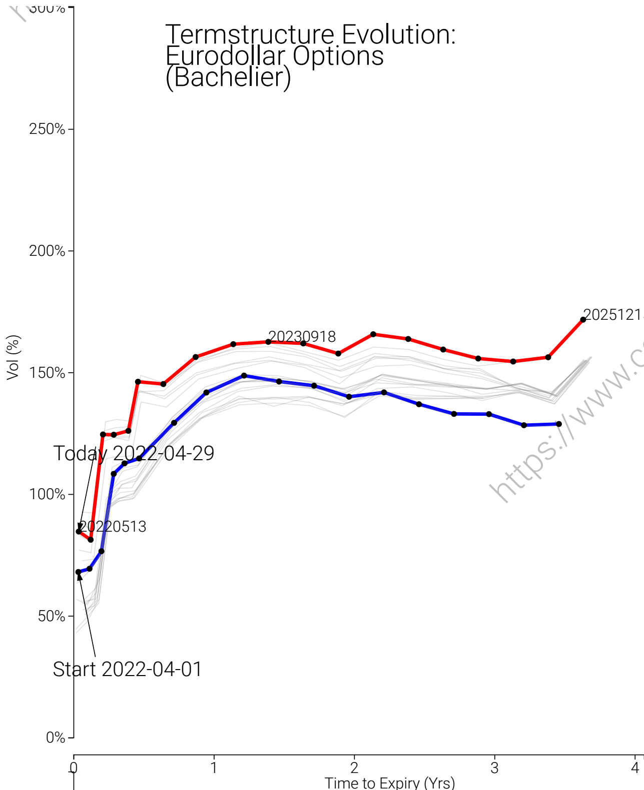
Fixed Income and STIRS

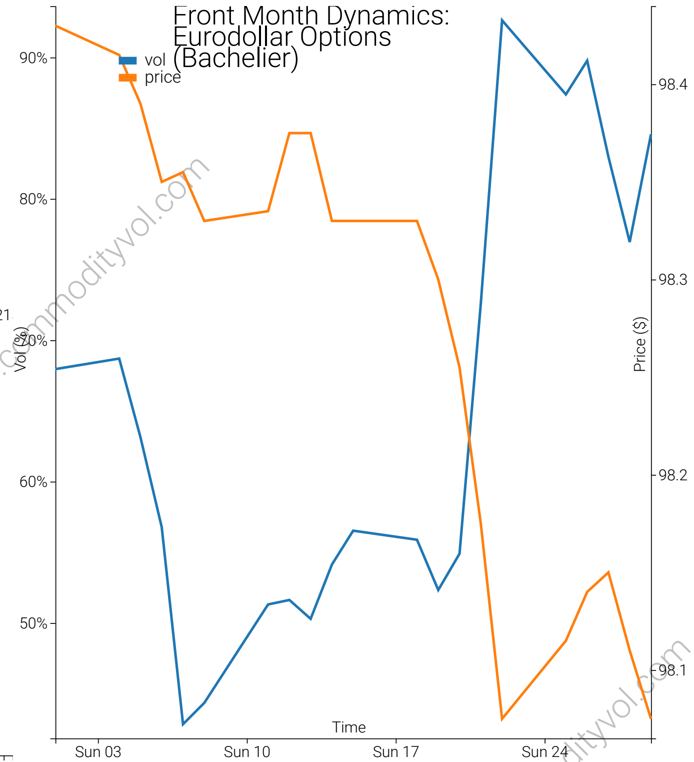

Termstructure Evolution:
Eurodollar Options
(Black)
Vol (%)
Time to Expiry (Yrs)
Today 2022-04-29
Start 2022-04-01
20220513
20230918
2025121

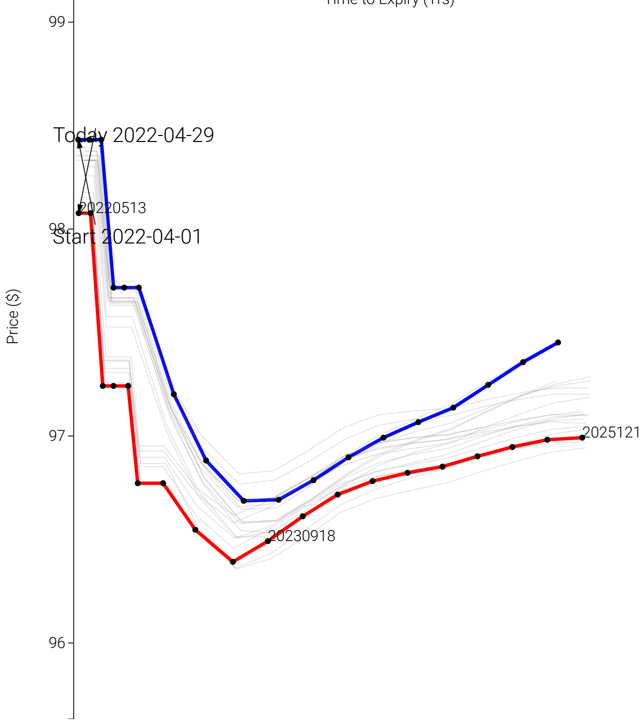

Front Month Dynamics:
Eurodollar Options
(Black)
vol
price
Vol (%)
Price ($)
Time
Sun 03
Sun 10
Sun 17
Sun 24

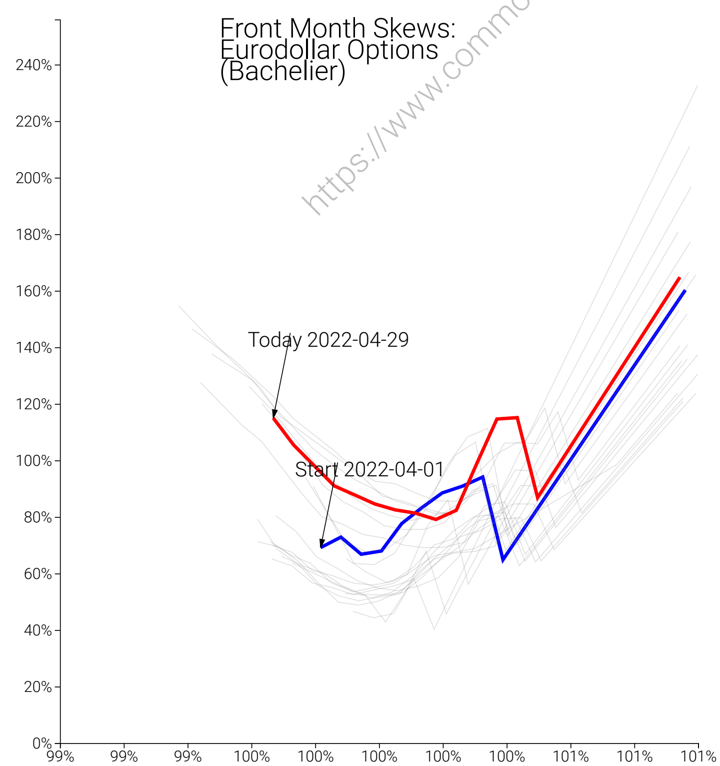

Price ($)
Today 2022-04-29
Start 2022-04-01
20220513
20230918
2025121

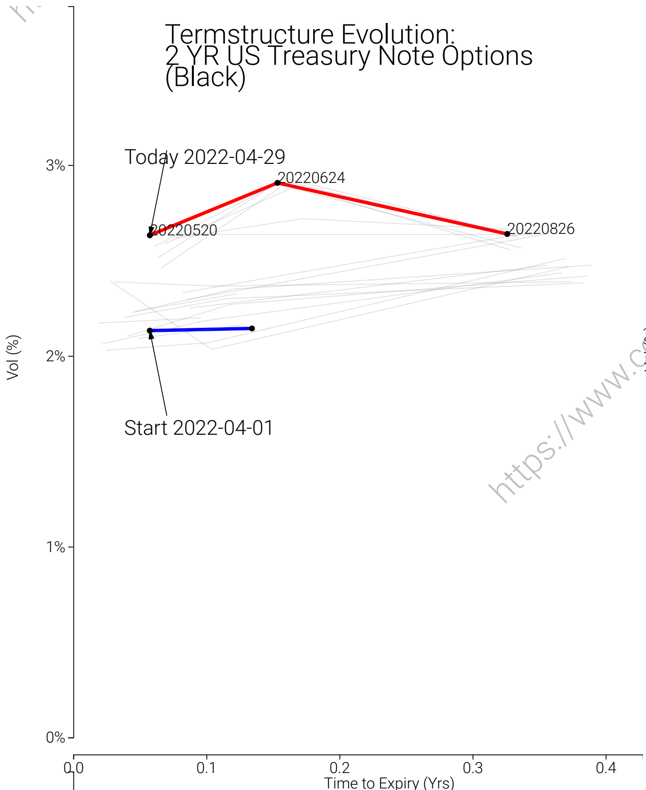

Front Month Skews:
Eurodollar Options
(Black)
Today 2022-04-29
Start 2022-04-01

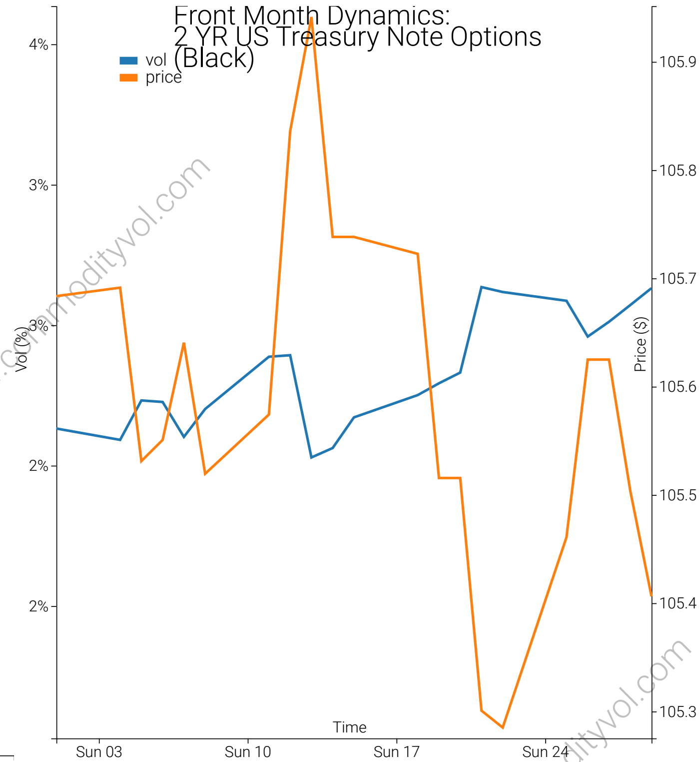

Termstructure Evolution:
Eurodollar Options
(Bachelier)
Vol (%)
300%
250%
200%
150%
100%
50%
0%
20230918
2025121
Today 2022-04-29
20220513
Start 2022-04-01
0
1
2
3
4
Time to Expiry (Yrs)

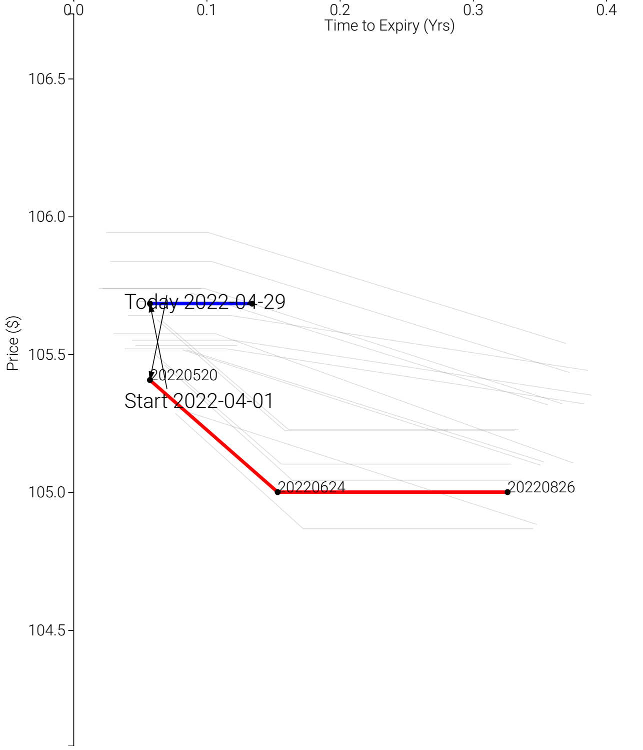

Front Month Dynamics:
Eurodollar Options
(Bachelier)
vol
price
Vol (%)
90%
80%
70%
60%
50%
Price ($)
98.4
98.3
98.2
98.1
Time
Sun 03
Sun 10
Sun 17
Sun 24

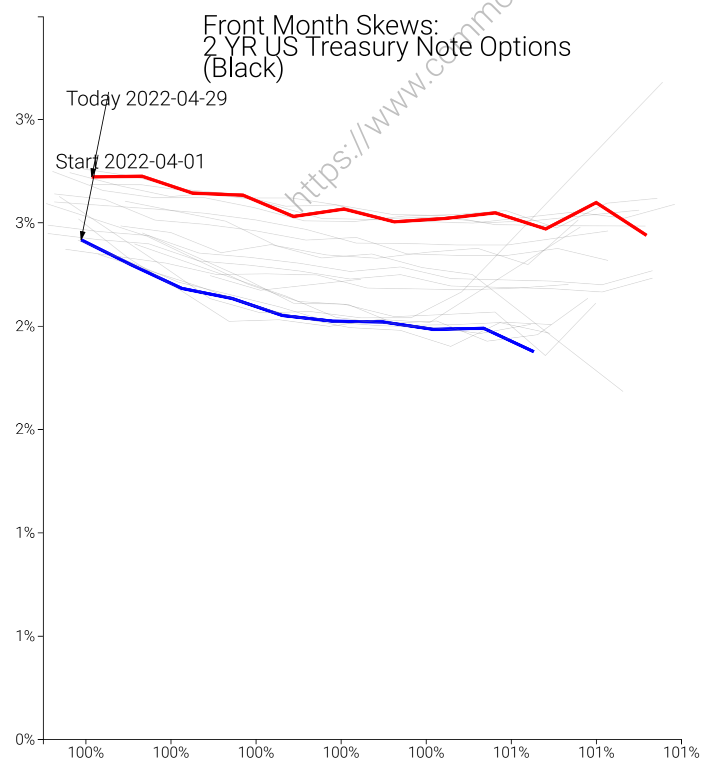

Price ($)
99
98
97
96
Today 2022-04-29
20220513
Start 2022-04-01
2025121
20230918

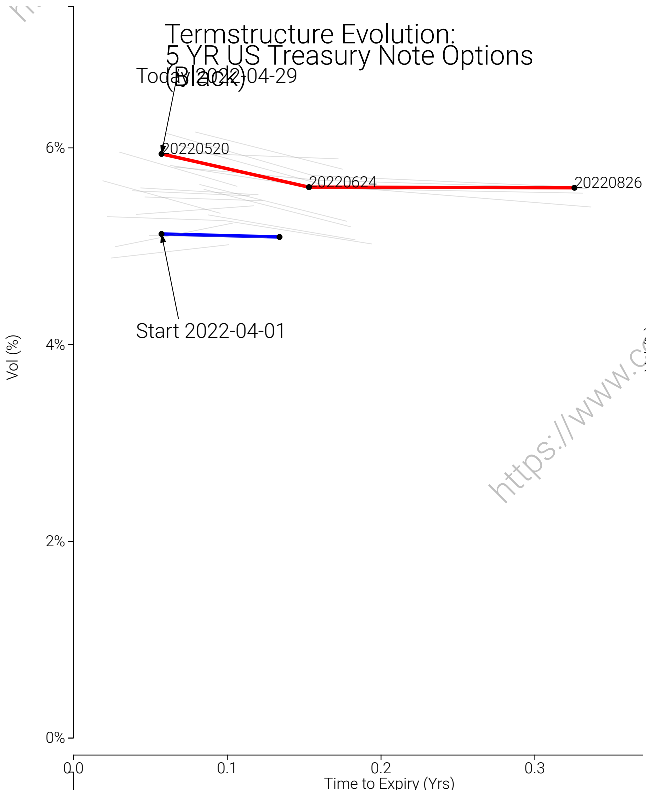

Front Month Skews:
Eurodollar Options
(Bachelier)
240%
220%
200%
180%
160%
140%
120%
100%
80%
60%
40%
20%
0%
Today 2022-04-29
Start 2022-04-01
99%
99%
99%
100%
100%
100%
100%
100%
101%
101%
101%

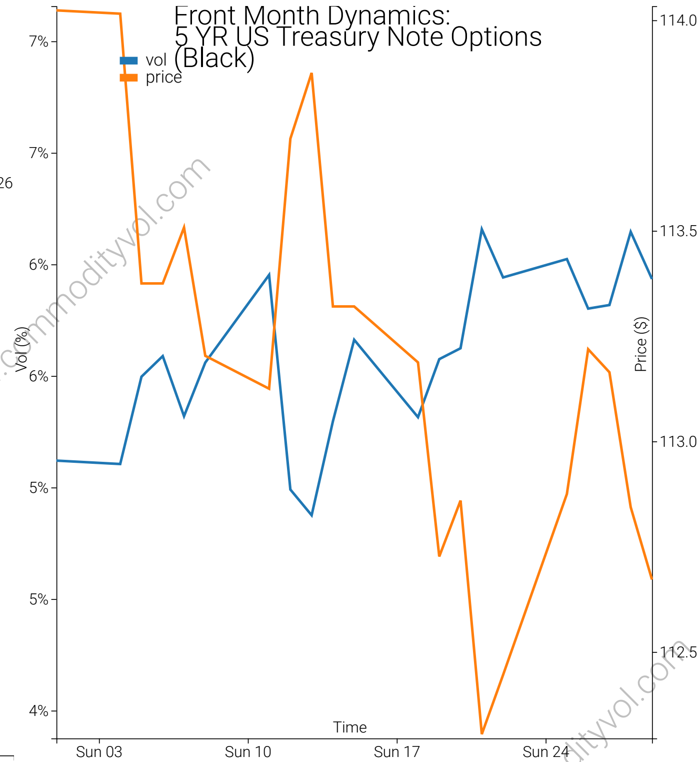

Termstructure Evolution:
2 YR US Treasury Note Options
(Black)
Today 2022-04-29
20220624
20220520
20220826
Start 2022-04-01
Vol (%)
Time to Expiry (Yrs)

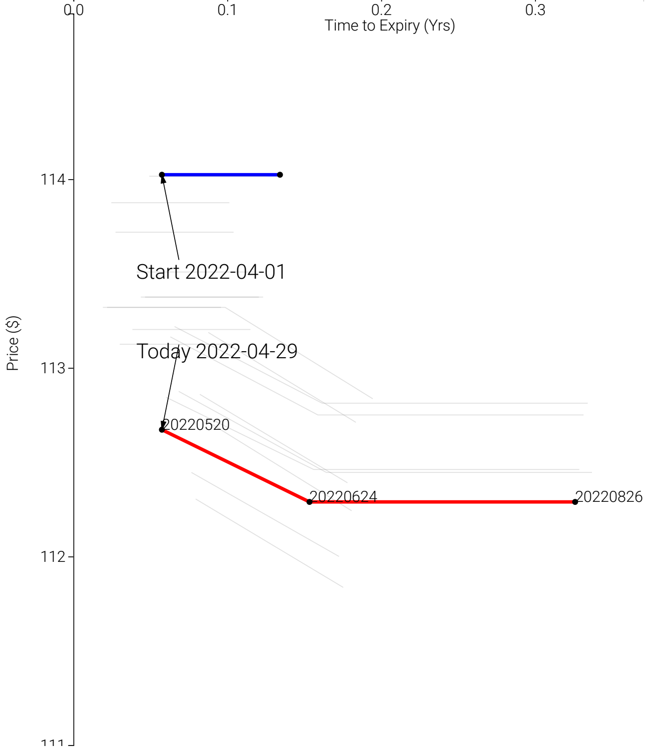

Front Month Dynamics:
2 YR US Treasury Note Options
(Black)
vol
price
Vol (%)
Price ($)
Time
Sun 03
Sun 10
Sun 17
Sun 24

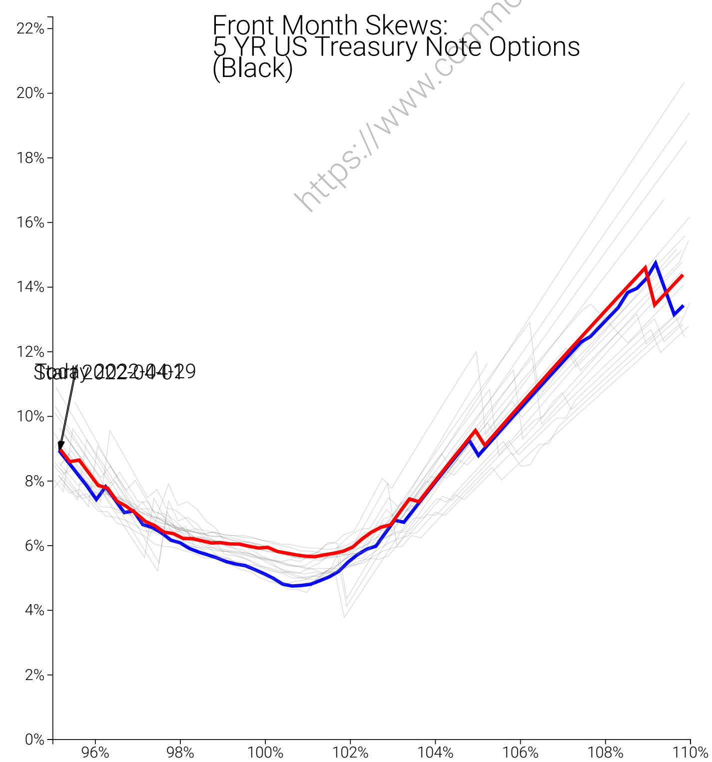

Today 2022-04-29
20220520
Start 2022-04-01
20220624
20220826
Price ($)

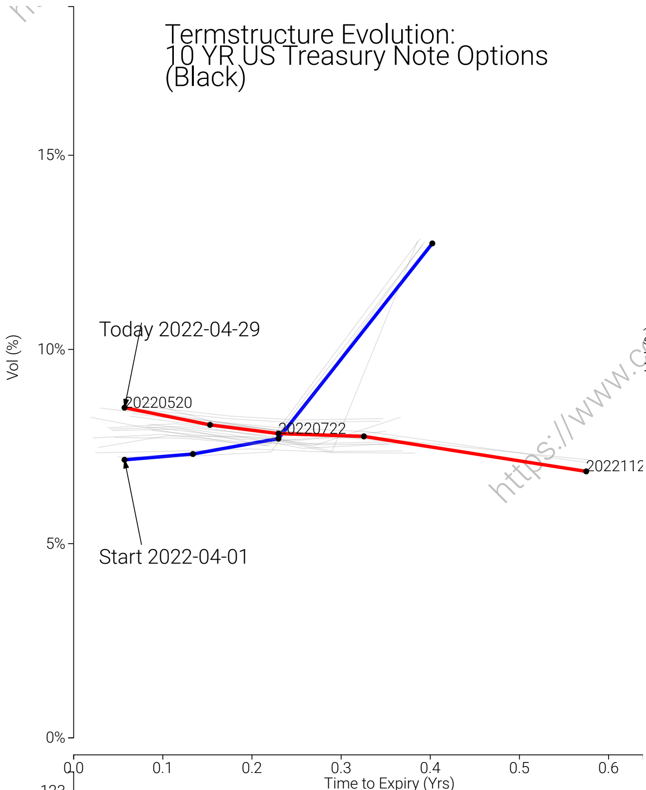

Front Month Skews:
2 YR US Treasury Note Options
(Black)
Today 2022-04-29
Start 2022-04-01

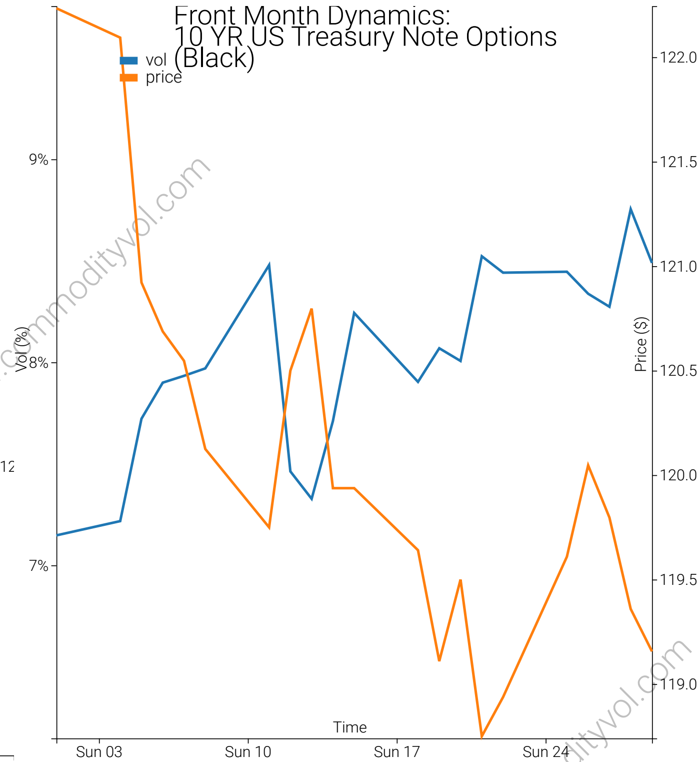

Termstructure Evolution:
5 YR US Treasury Note Options
(Black)
Today 2022-04-29
Start 2022-04-01
20220520
20220624
20220826
Vol (%)
Time to Expiry (Yrs)

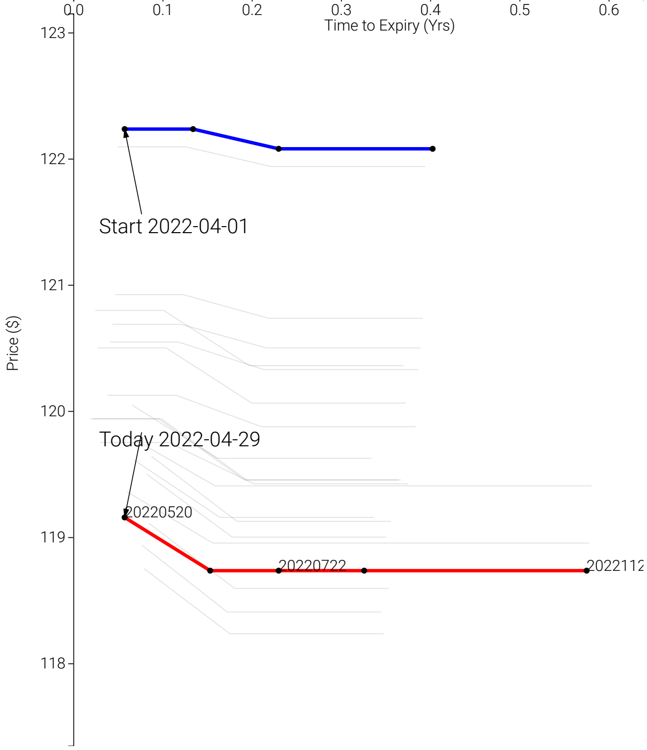

Front Month Dynamics:
5 YR US Treasury Note Options
(Black)
vol
price
Vol (%)
Price ($)
Time
Sun 03
Sun 10
Sun 17
Sun 24

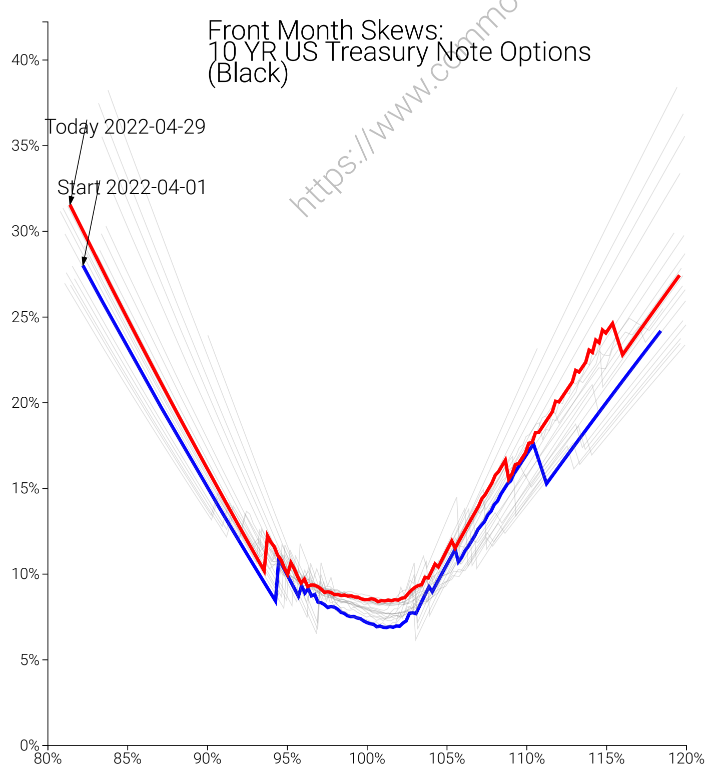

Start 2022-04-01
Today 2022-04-29
20220520
20220624
20220826
Price ($)

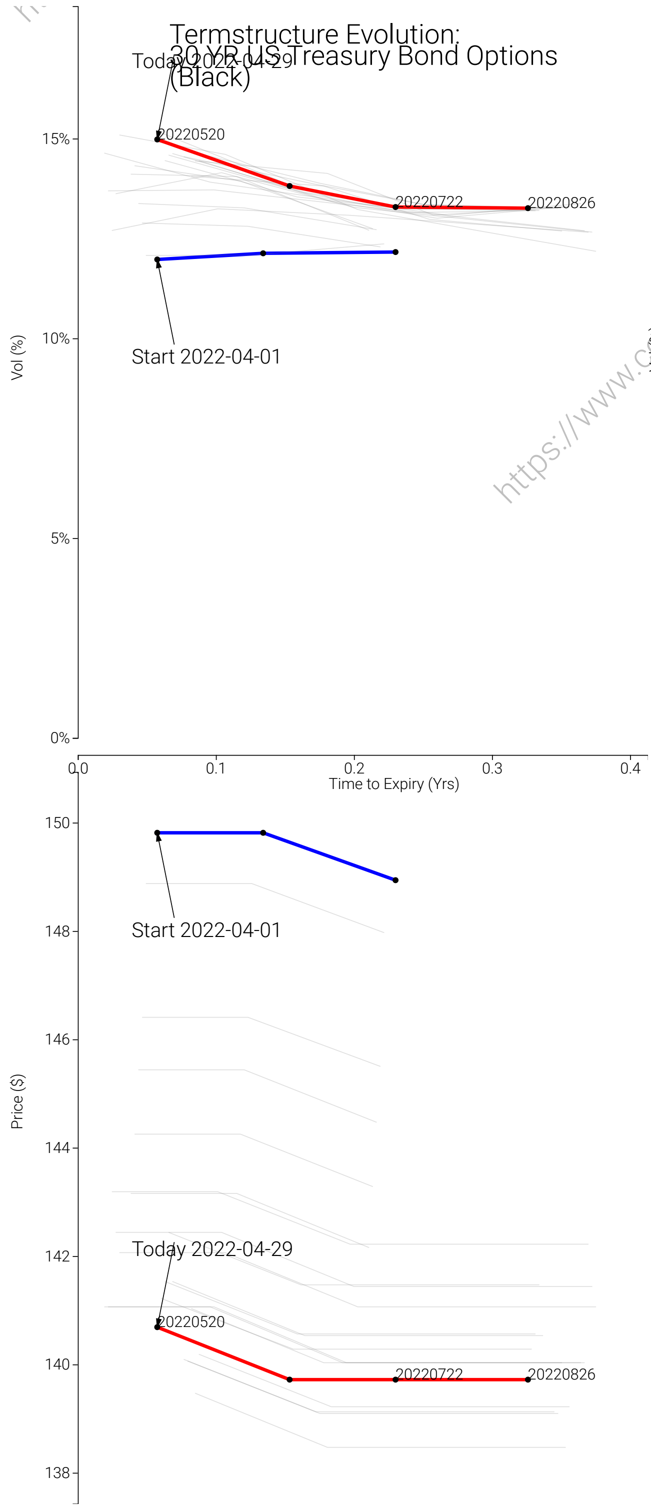

Front Month Skews:
5 YR US Treasury Note Options
(Black)
Today 2022-04-29
Start 2022-04-01

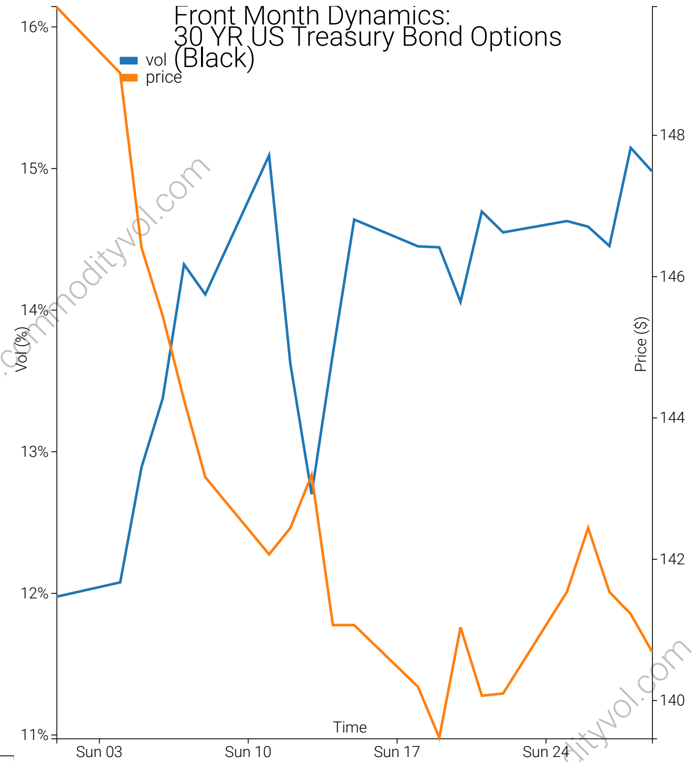

Termstructure Evolution:
10 YR US Treasury Note Options
(Black)
Today 2022-04-29
20220520
20220722
2022112
Start 2022-04-01
Vol (%)
15%
10%
5%
0%
0.0
0.1
0.2
0.3
0.4
0.5
0.6
Time to Expiry (Yrs)

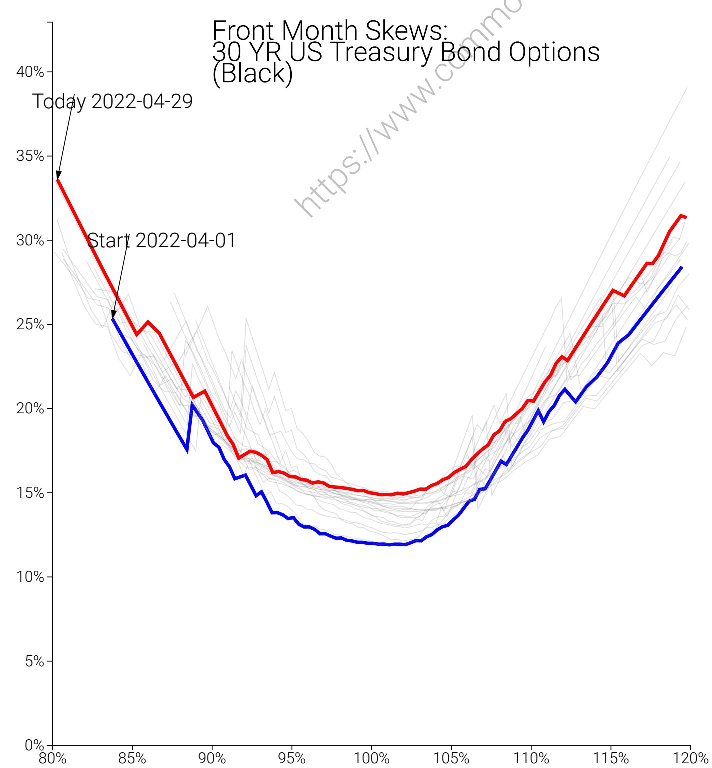

Front Month Dynamics:
10 YR US Treasury Note Options
(Black)
vol
price
9%
8%
7%
Vol (%)
Price ($)
122.0
121.5
121.0
120.5
120.0
119.5
119.0
Time
Sun 03
Sun 10
Sun 17
Sun 24

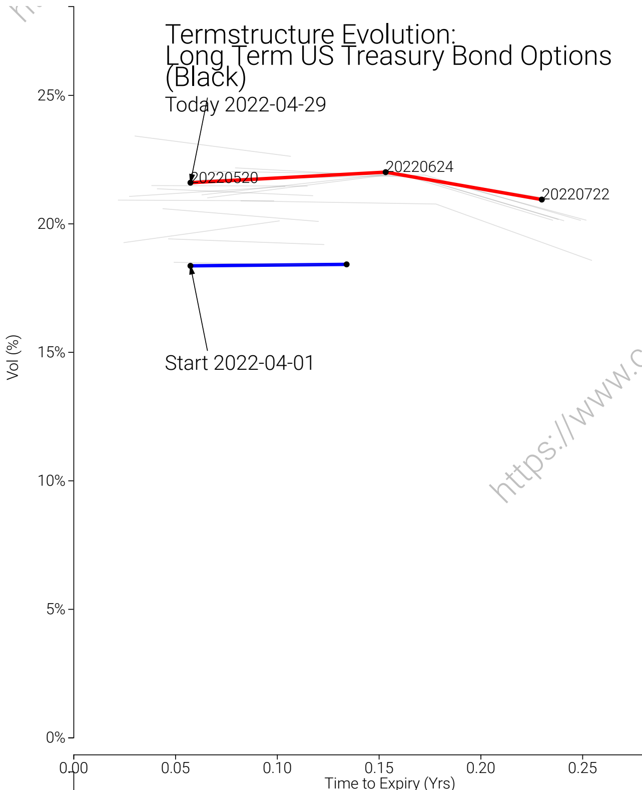

123
122
121
120
119
118
Price ($)
Start 2022-04-01
Today 2022-04-29
20220520
20220722
2022112

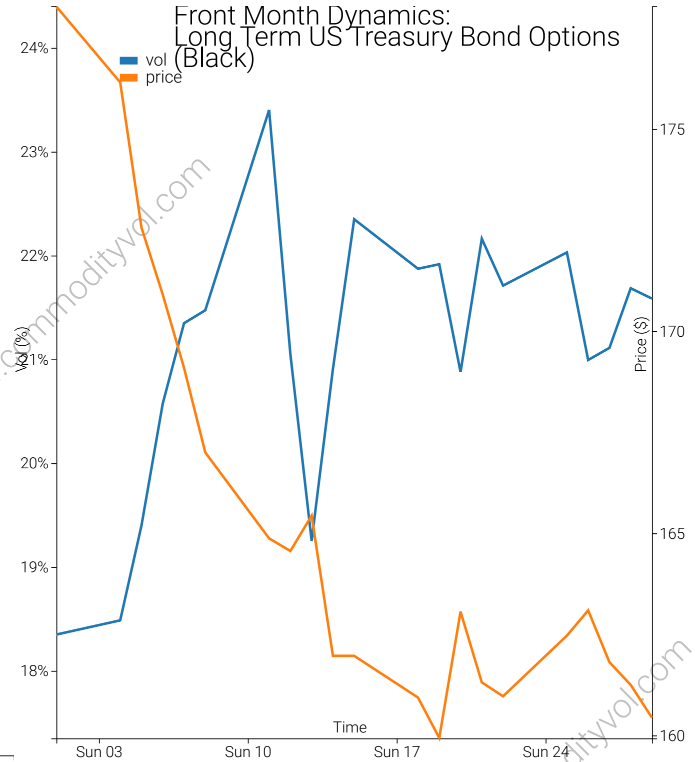

Front Month Skews:
10 YR US Treasury Note Options
(Black)
Today 2022-04-29
Start 2022-04-01
40%
35%
30%
25%
20%
15%
10%
5%
0%
80%
85%
90%
95%
100%
105%
110%
115%
120%

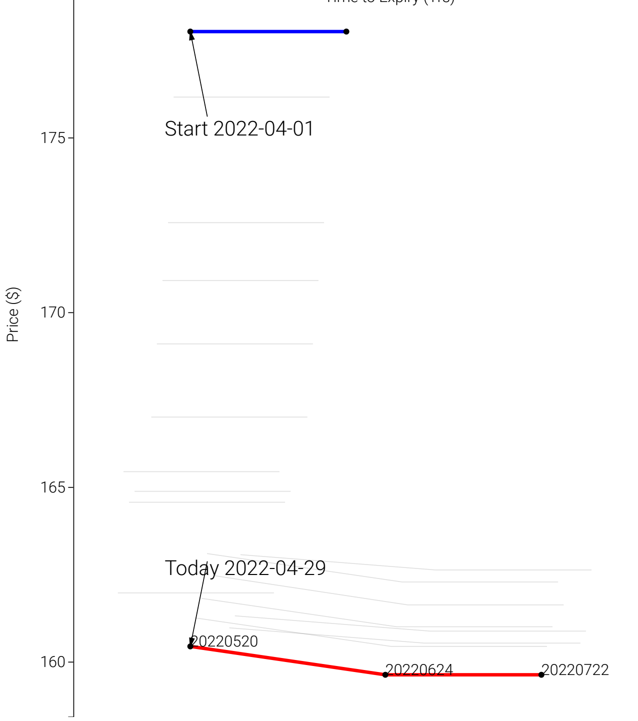

Termstructure Evolution:
30 YR US Treasury Bond Options
(Black)
Today 2022-04-29
Start 2022-04-01
20220520
20220722
20220826
Vol (%)
Time to Expiry (Yrs)
Price ($)

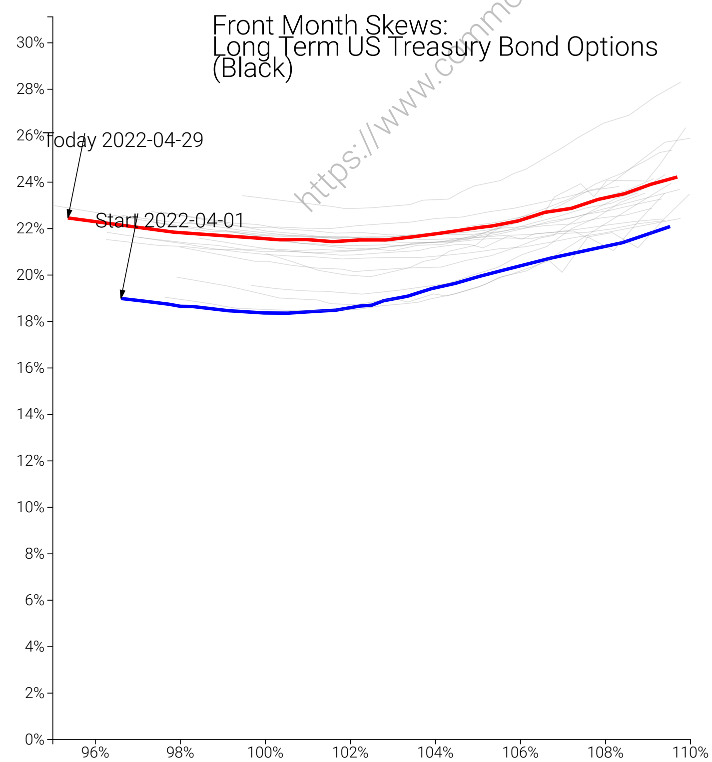

Front Month Dynamics:
30 YR US Treasury Bond Options
(Black)
vol
price
Vol (%)
Price ($)
Time
Sun 03
Sun 10
Sun 17
Sun 24


Front Month Skews:
30 YR US Treasury Bond Options
(Black)
Today 2022-04-29
Start 2022-04-01

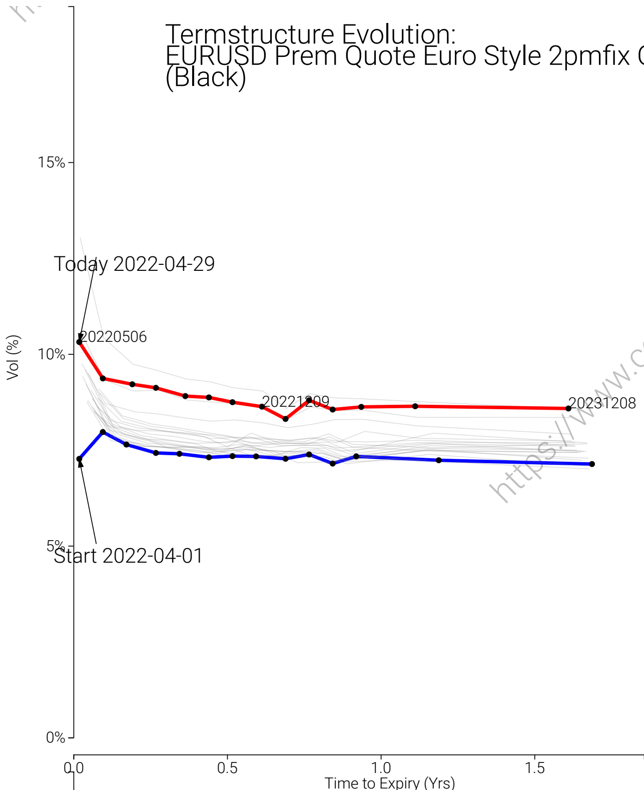

Termstructure Evolution:
Long Term US Treasury Bond Options
(Black)
Today 2022-04-29
20220520
20220624
20220722
Start 2022-04-01
Vol (%)
25%
20%
15%
10%
5%
0%
0.00
0.05
0.10
0.15
0.20
0.25
Time to Expiry (Yrs)

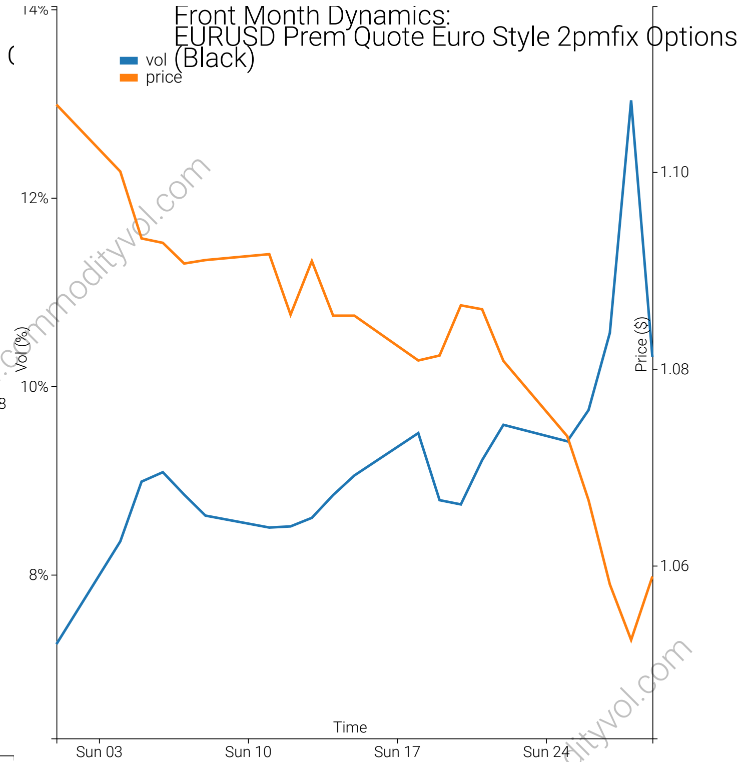

Front Month Dynamics:
Long Term US Treasury Bond Options
(Black)
vol
price
Vol (%)
Price ($)
24%
23%
22%
21%
20%
19%
18%
175
170
165
160
Time
Sun 03
Sun 10
Sun 17
Sun 24

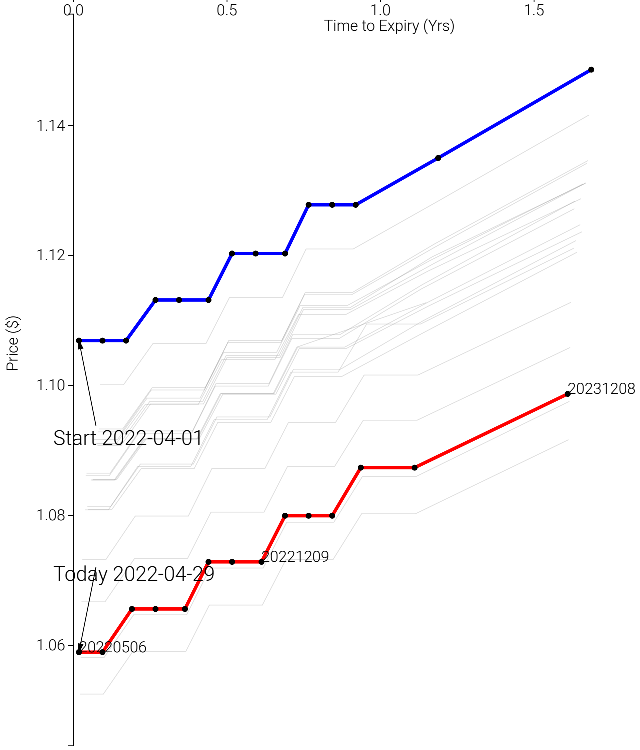

Start 2022-04-01
Today 2022-04-29
20220520
20220624
20220722
Price ($)
175
170
165
160

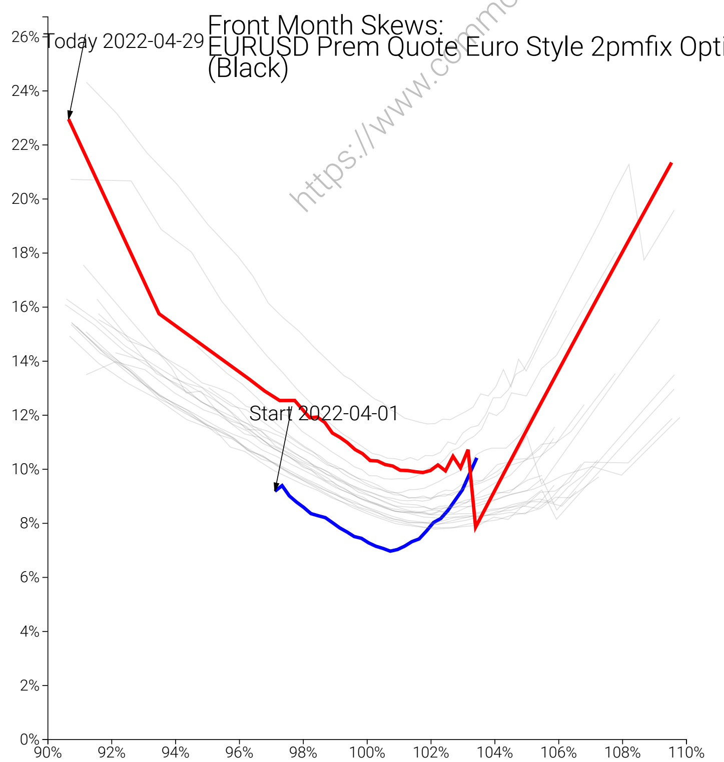

Front Month Skews:
Long Term US Treasury Bond Options
(Black)
Today 2022-04-29
Start 2022-04-01
30%
28%
26%
24%
22%
20%
18%
16%
14%
12%
10%
8%
6%
4%
2%
0%
96%
98%
100%
102%
104%
106%
108%
110%

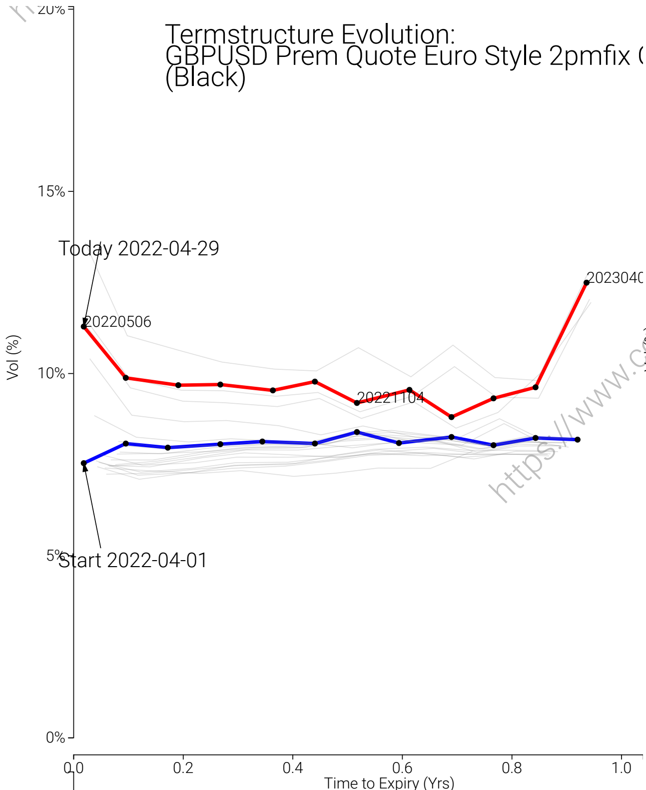
Foreign Exchange

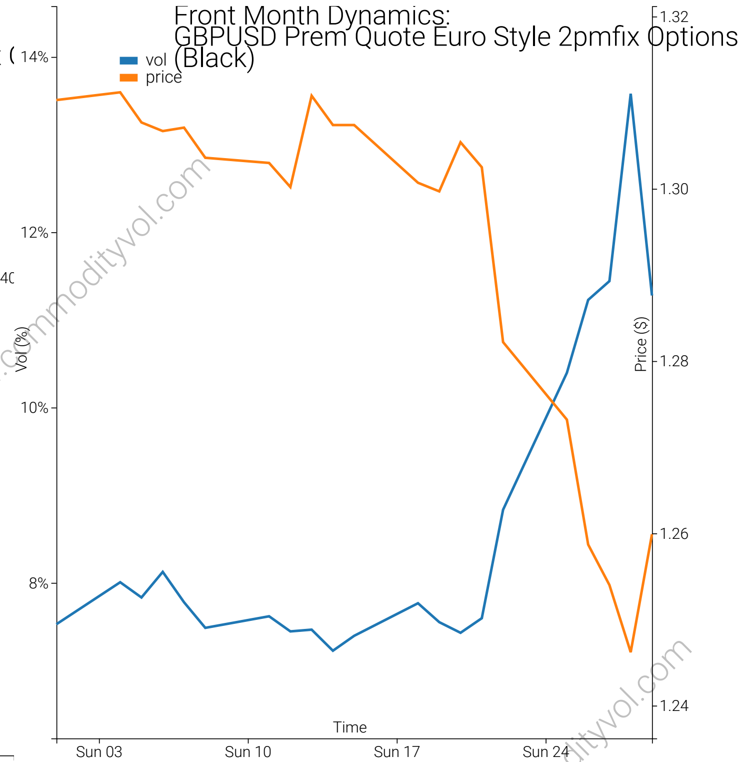

Termstructure Evolution:
EURUSD Prem Quote Euro Style 2pmfix (
(Black)
Today 2022-04-29
20220506
20221209
20231208
Start 2022-04-01
Vol (%)
15%
10%
5%
0%
0.0
0.5
1.0
1.5
Time to Expiry (Yrs)

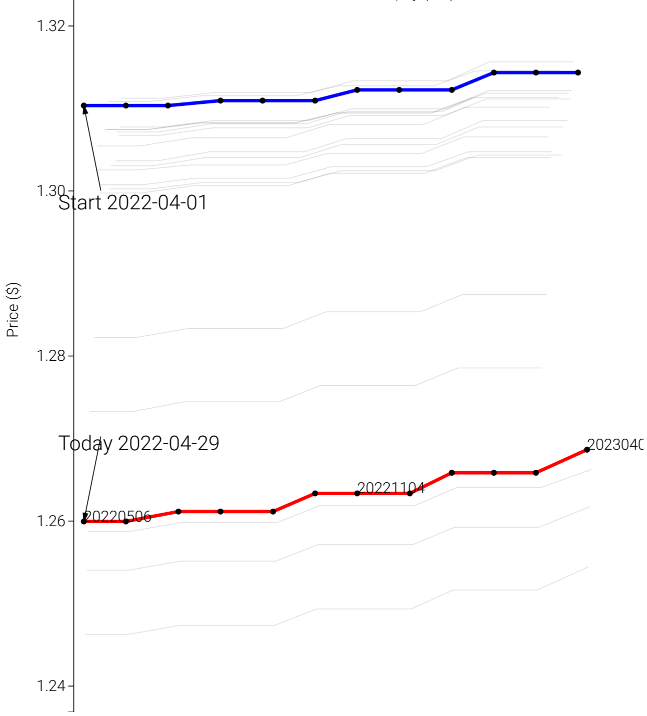

Front Month Dynamics:
EURUSD Prem Quote Euro Style 2pmfix Options
(Black)
vol
price
Vol (%)
Price ($)
14%
12%
10%
8%
1.10
1.08
1.06
Time
Sun 03
Sun 10
Sun 17
Sun 24

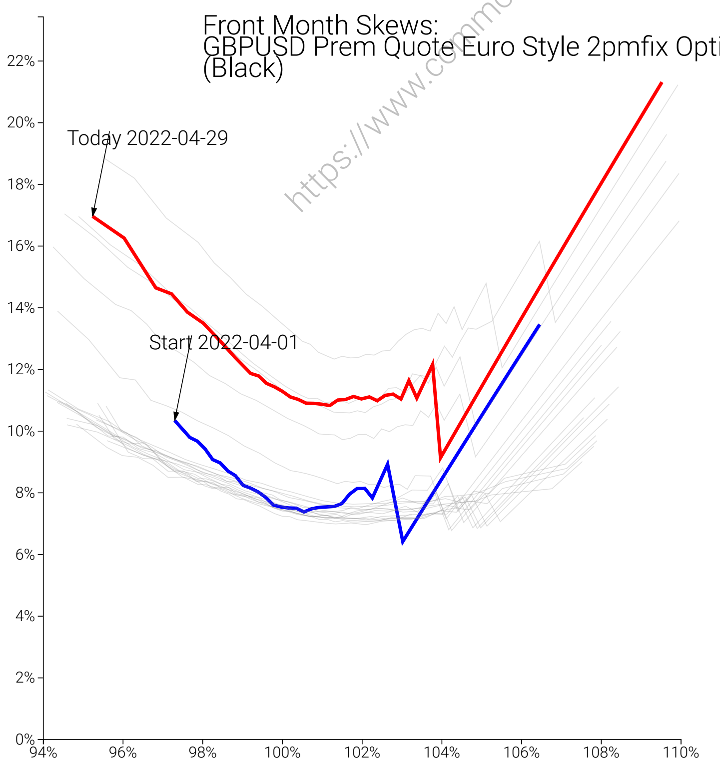

Price ($)
1.14
1.12
1.10
1.08
1.06
Start 2022-04-01
Today 2022-04-29
20220506
20221209
20231208

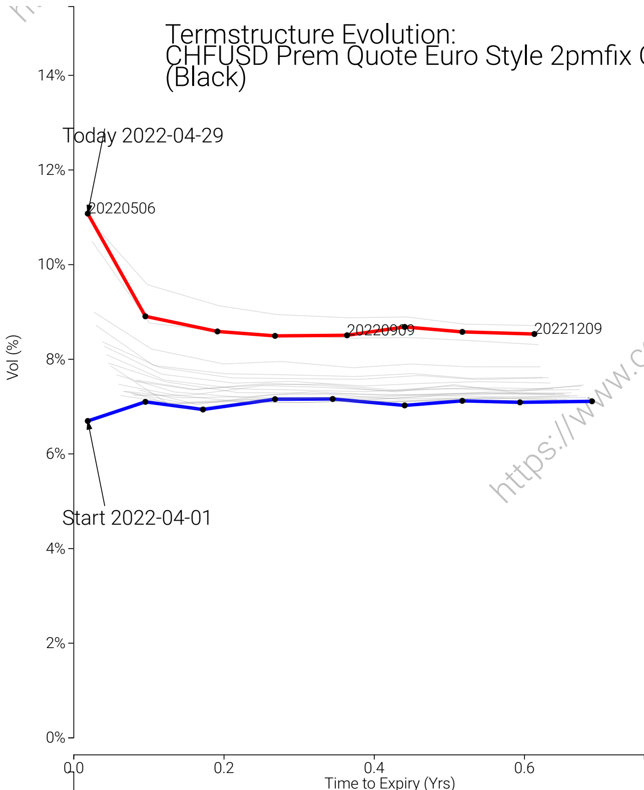

Front Month Skews:
EURUSD Prem Quote Euro Style 2pmfix Opti
(Black)
Today 2022-04-29
Start 2022-04-01
26%
24%
22%
20%
18%
16%
14%
12%
10%
8%
6%
4%
2%
0%
90%
92%
94%
96%
98%
100%
102%
104%
106%
108%
110%

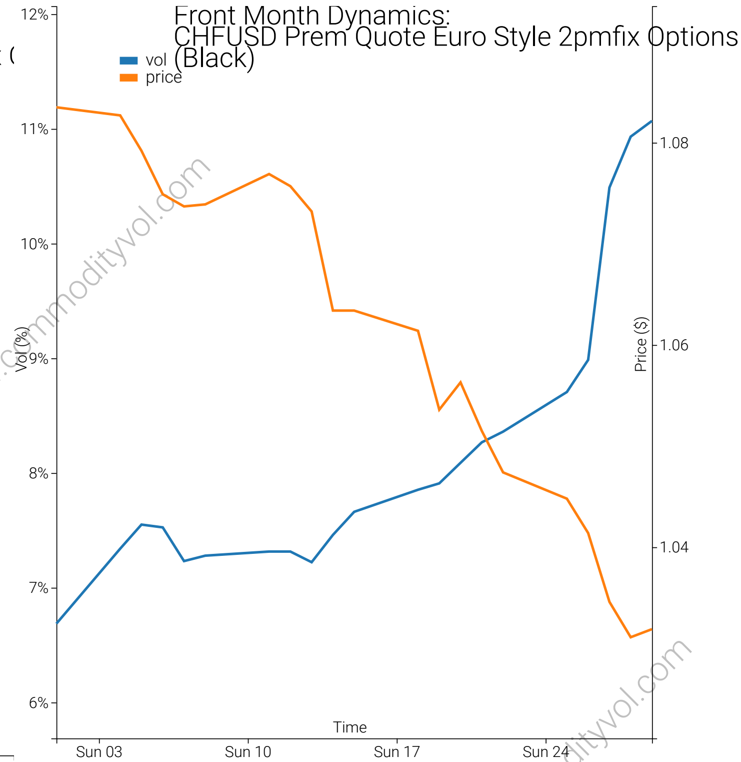

Termstructure Evolution:
GBPUSD Prem Quote Euro Style 2pmfix (
(Black)
Today 2022-04-29
Start 2022-04-01
20220506
20221104
2023040
Vol (%)
Time to Expiry (Yrs)

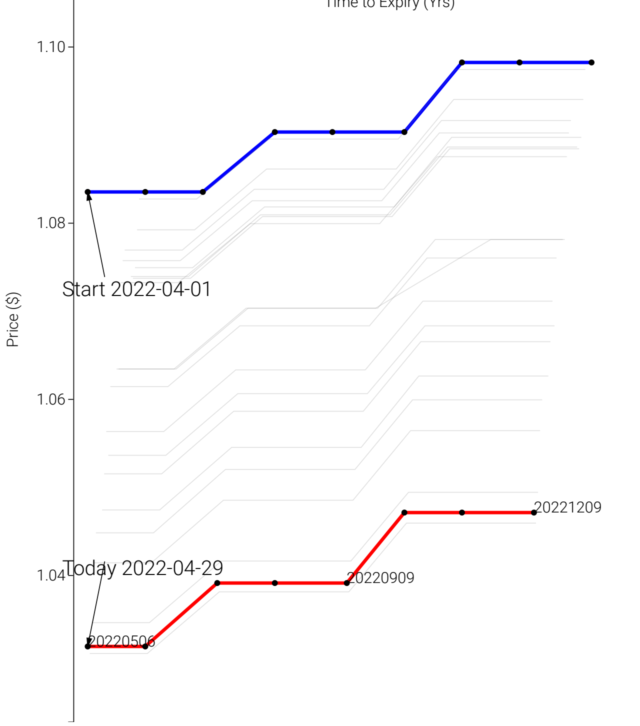

Front Month Dynamics:
GBPUSD Prem Quote Euro Style 2pmfix Options
(Black)
vol
price
Vol (%)
Price ($)
Time
Sun 03
Sun 10
Sun 17
Sun 24

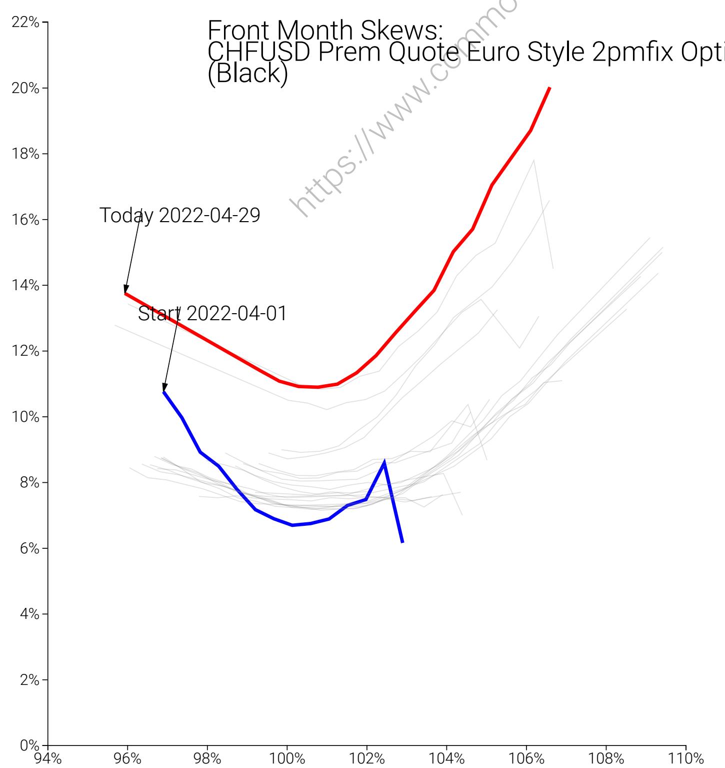

Today 2022-04-29
Start 2022-04-01
20220506
20221104
2023040
Price ($)

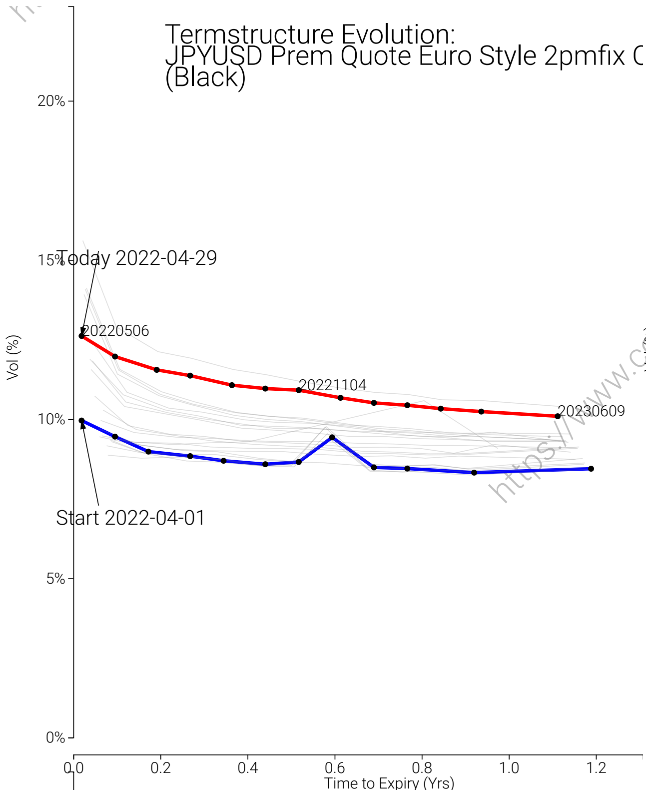

Front Month Skews:
GBPUSD Prem Quote Euro Style 2pmfix Opti
(Black)
Today 2022-04-29
Start 2022-04-01

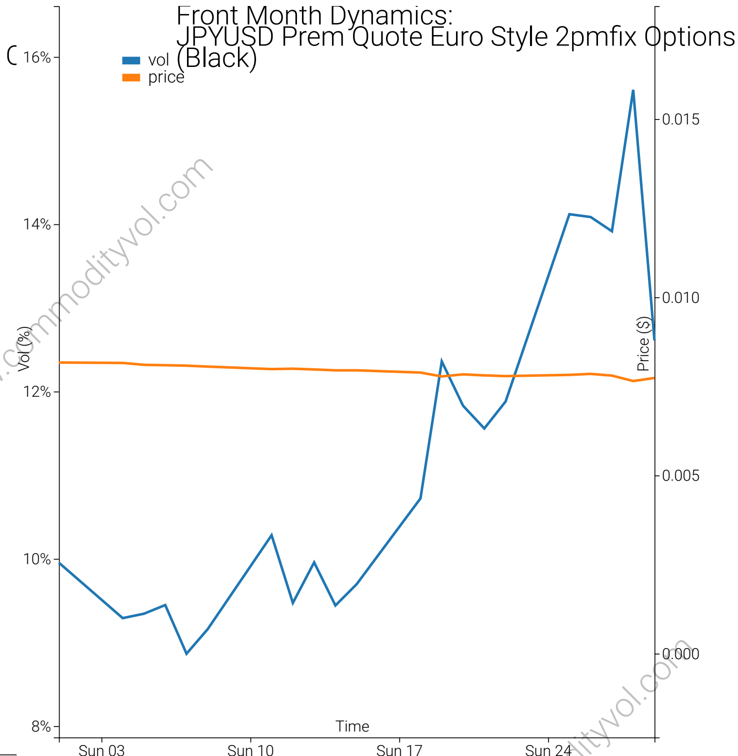

Termstructure Evolution:
CHFUSD Prem Quote Euro Style 2pmfix (
(Black)
Today 2022-04-29
20220506
20220909
20221209
Start 2022-04-01
Vol (%)
14%
12%
10%
8%
6%
4%
2%
0%
0.0
0.2
0.4
0.6
Time to Expiry (Yrs)

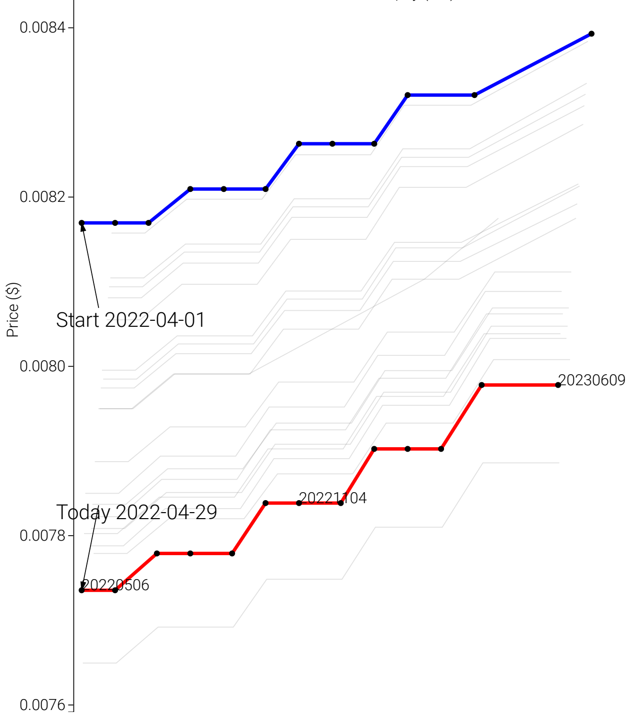

Front Month Dynamics:
CHFUSD Prem Quote Euro Style 2pmfix Options
(Black)
vol
price
Vol (%)
Price ($)
12%
11%
10%
9%
8%
7%
6%
1.08
1.06
1.04
Time
Sun 03
Sun 10
Sun 17
Sun 24

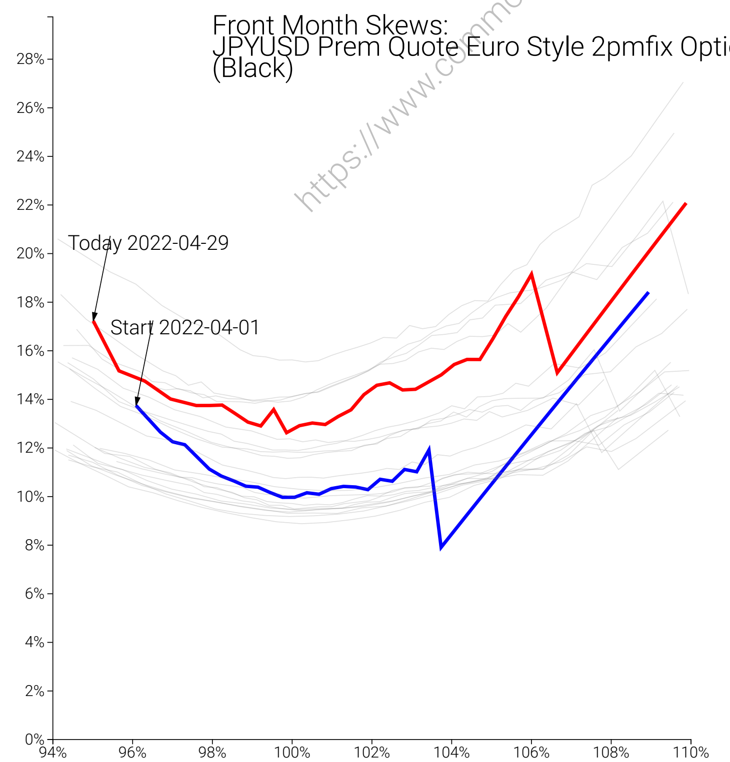

Price ($)
1.10
1.08
1.06
1.04
Start 2022-04-01
Today 2022-04-29
20220506
20220909
20221209

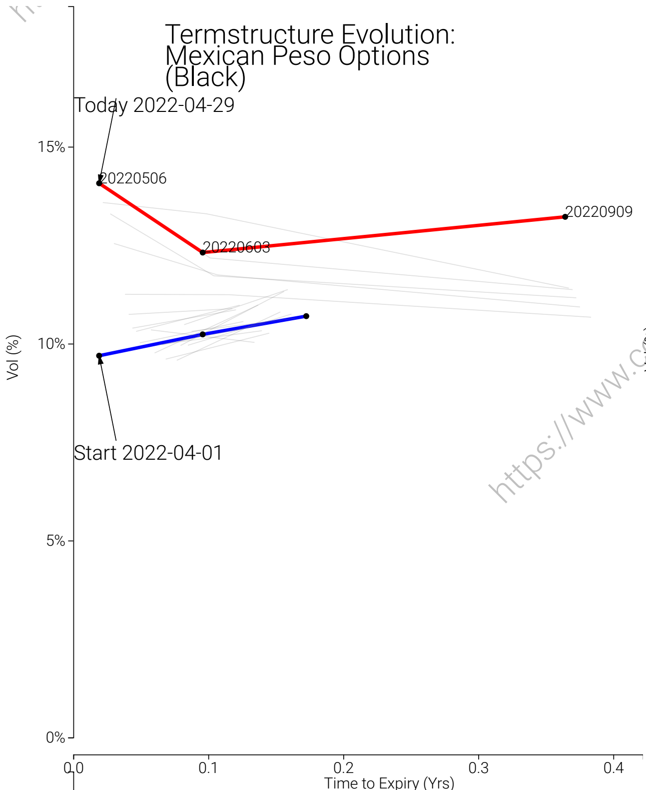

Front Month Skews:
CHFUSD Prem Quote Euro Style 2pmfix Opti
(Black)
Today 2022-04-29
Start 2022-04-01
22%
20%
18%
16%
14%
12%
10%
8%
6%
4%
2%
0%
94%
96%
98%
100%
102%
104%
106%
108%
110%

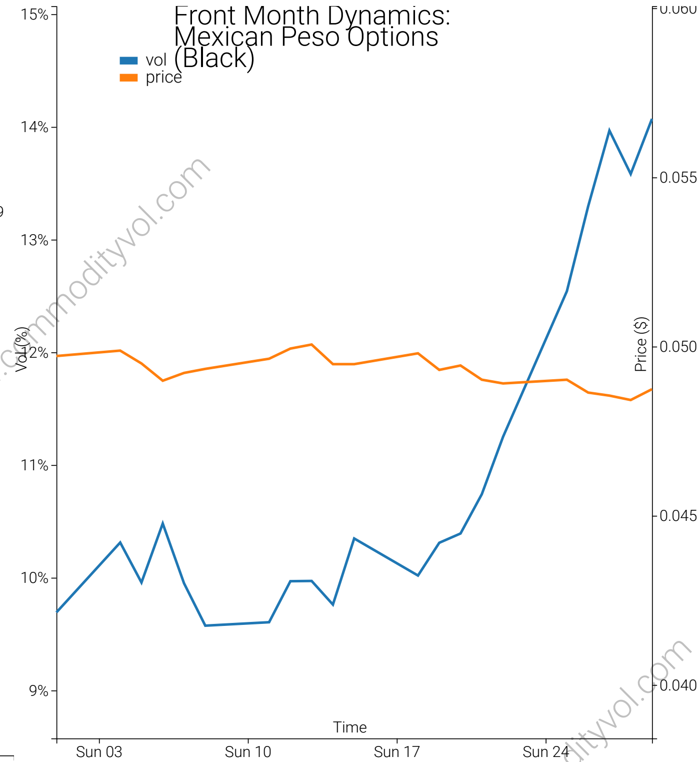

Termstructure Evolution:
JPYUSD Prem Quote Euro Style 2pmfix C
(Black)
Today 2022-04-29
20220506
20221104
20230609
Start 2022-04-01
Vol (%)
Time to Expiry (Yrs)

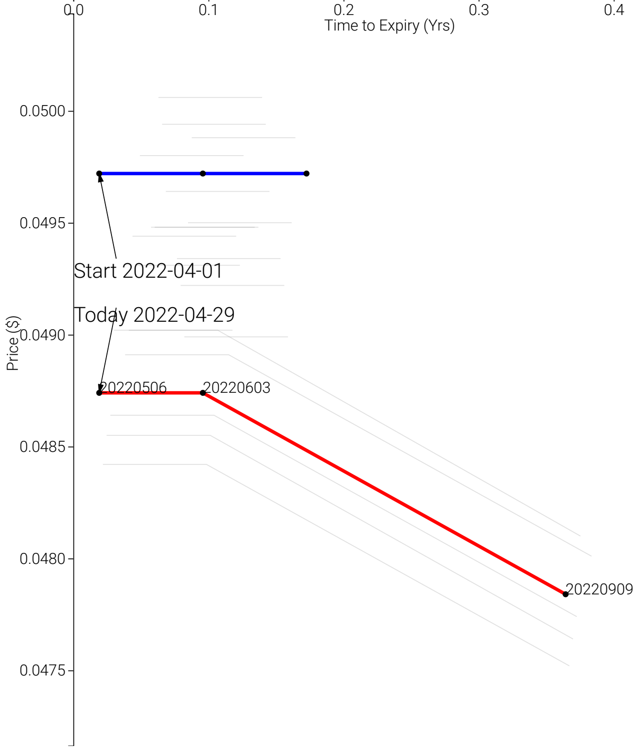

Front Month Dynamics:
JPYUSD Prem Quote Euro Style 2pmfix Options
(Black)
vol
price
Vol (%)
Price ($)
Time
Sun 03
Sun 10
Sun 17
Sun 24

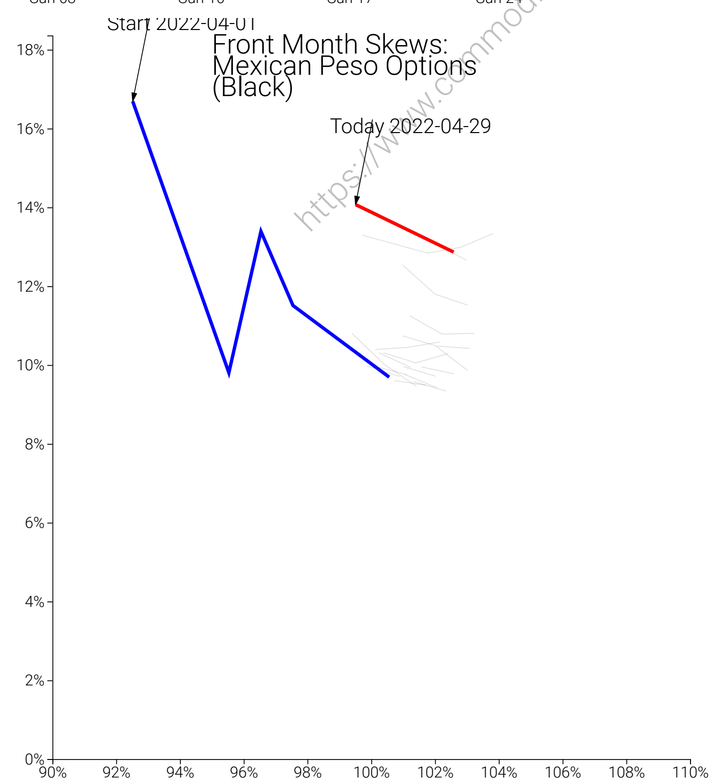

Start 2022-04-01
20230609
Today 2022-04-29
20221104
20220506
Price ($)

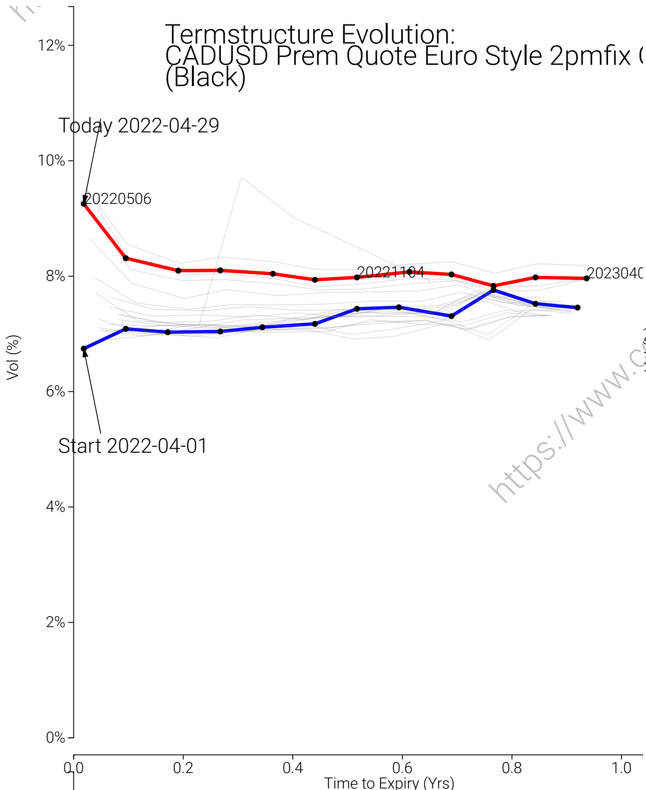

Front Month Skews:
JPYUSD Prem Quote Euro Style 2pmfix Optic
(Black)
Today 2022-04-29
Start 2022-04-01

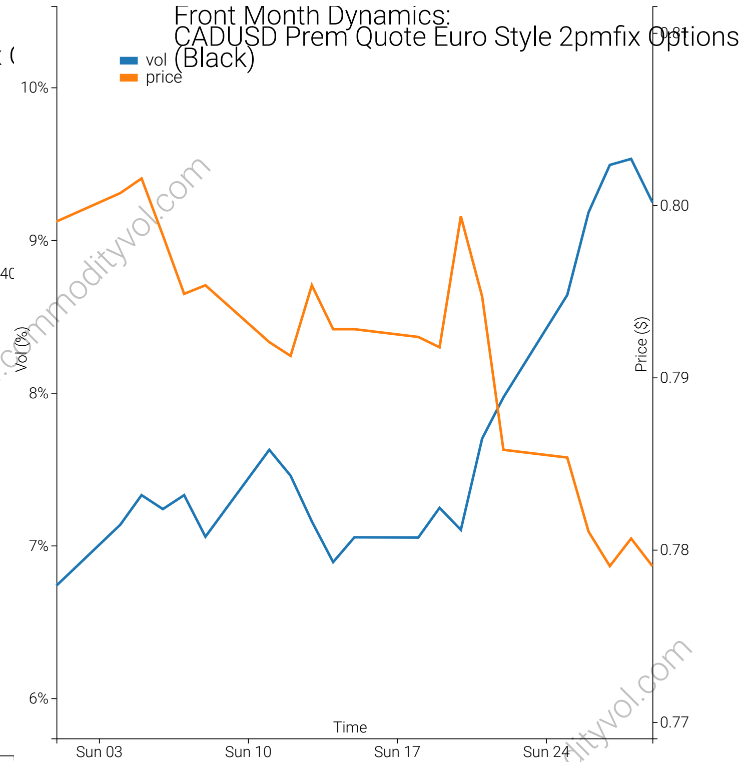

Termstructure Evolution:
Mexican Peso Options
(Black)
Today 2022-04-29
20220506
20220603
20220909
Start 2022-04-01
Vol (%)
0%
5%
10%
15%
0.0
0.1
0.2
0.3
0.4
Time to Expiry (Yrs)

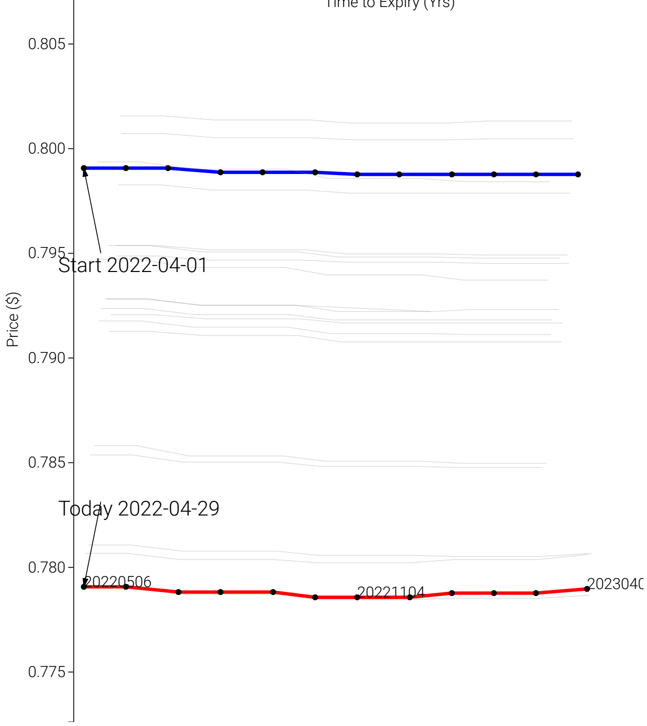

Front Month Dynamics:
Mexican Peso Options
(Black)
vol
price
Vol (%)
Price ($)
9%
10%
11%
12%
13%
14%
15%
0.040
0.045
0.050
0.055
0.060
Time
Sun 03
Sun 10
Sun 17
Sun 24

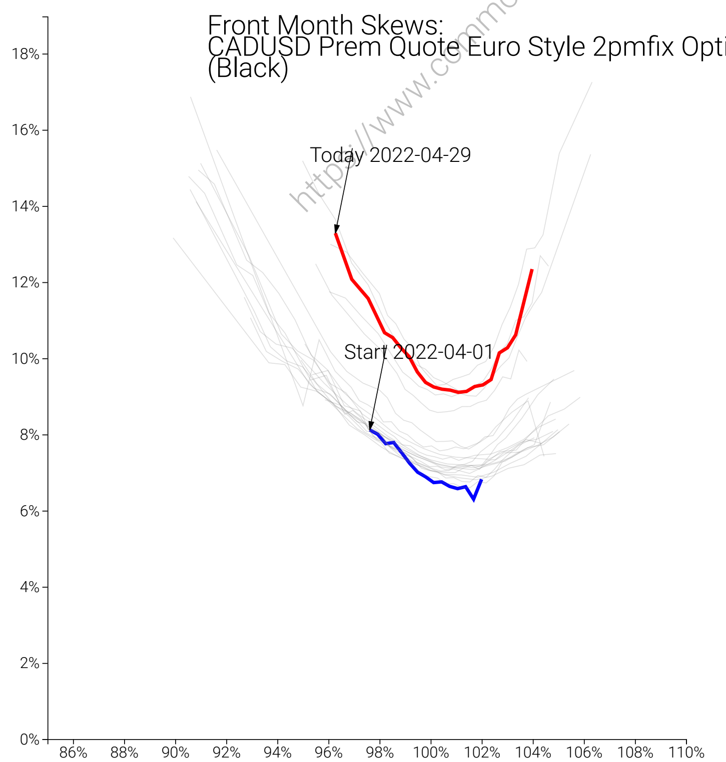

Start 2022-04-01
Today 2022-04-29
20220506
20220603
20220909
Price ($)
0.0475
0.0480
0.0485
0.0490
0.0495
0.0500

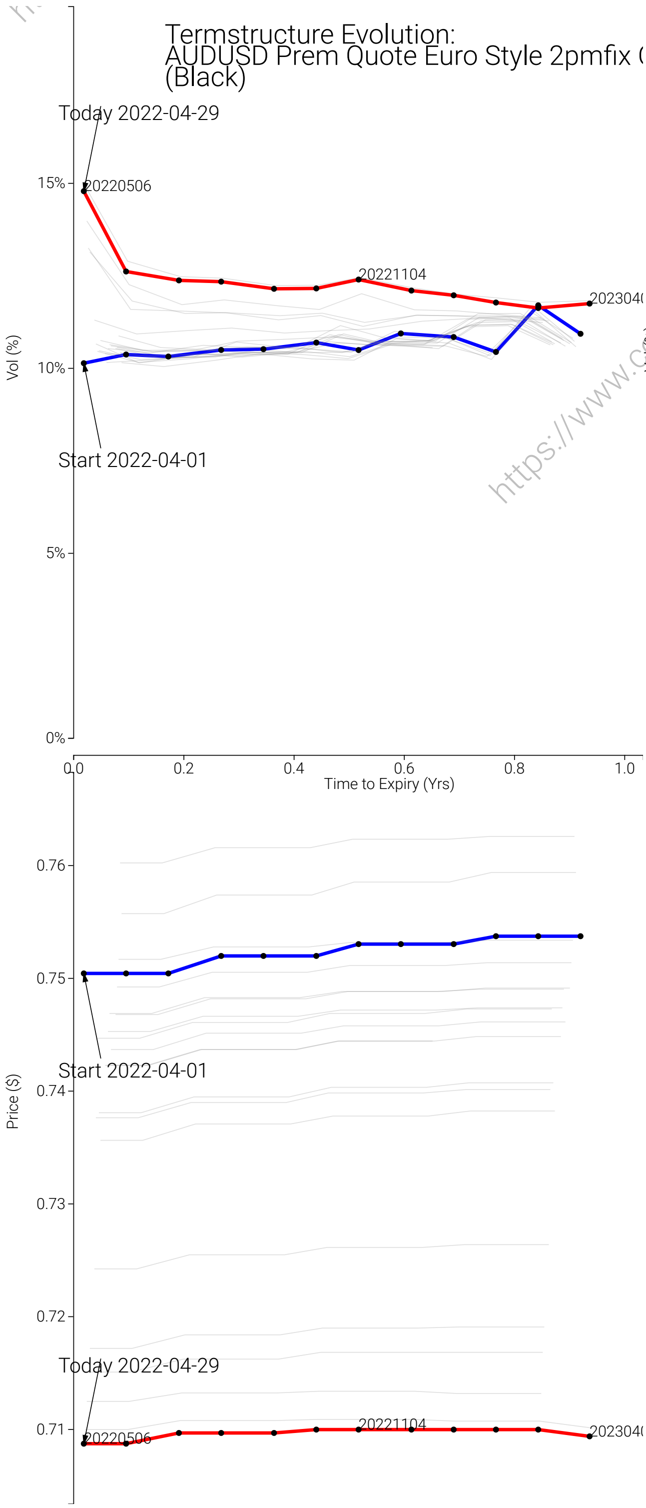

Start 2022-04-01
Front Month Skews:
Mexican Peso Options
(Black)
Today 2022-04-29
0%
2%
4%
6%
8%
10%
12%
14%
16%
18%
90%
92%
94%
96%
98%
100%
102%
104%
106%
108%
110%

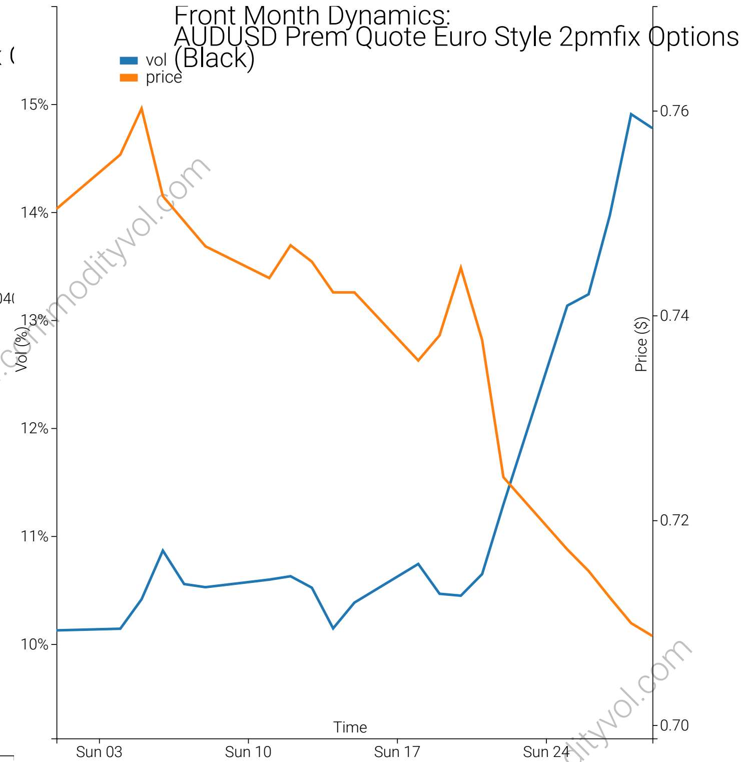

Termstructure Evolution:
CADUSD Prem Quote Euro Style 2pmfix (
(Black)
Today 2022-04-29
20220506
20221104
2023040
Start 2022-04-01
Vol (%)
Time to Expiry (Yrs)

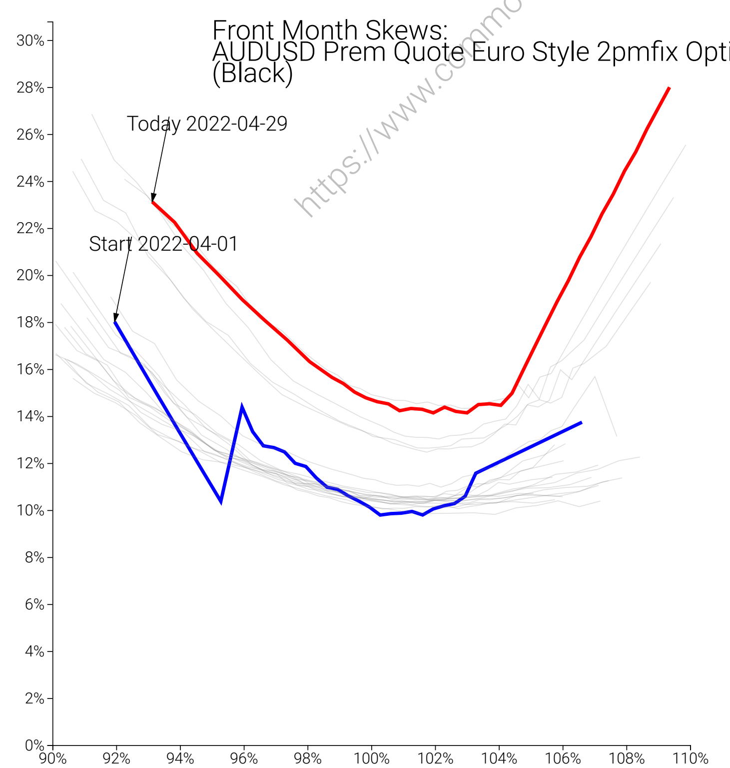

Front Month Dynamics:
CADUSD Prem Quote Euro Style 2pmfix Options
(Black)
vol
price
Vol (%)
Price ($)
Time
Sun 03
Sun 10
Sun 17
Sun 24

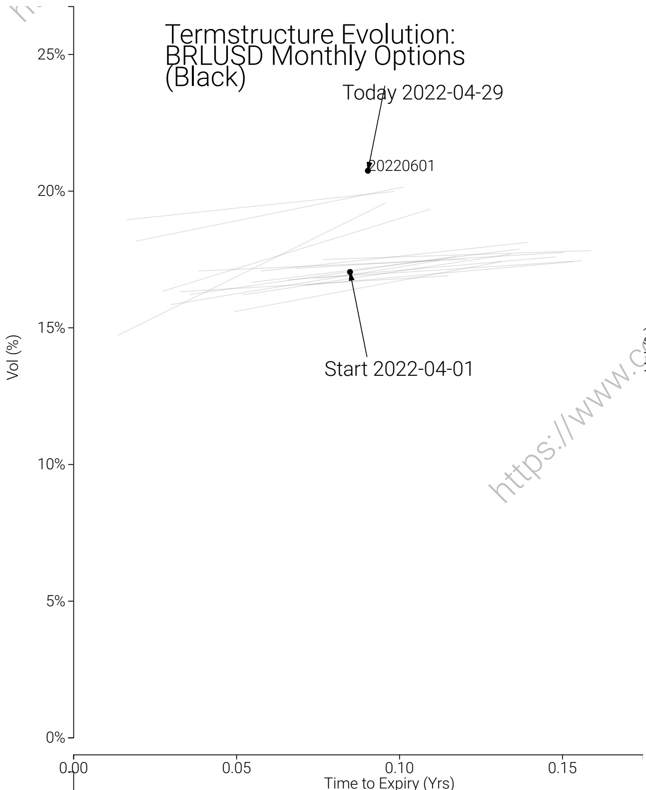

Start 2022-04-01
Today 2022-04-29
20220506
20221104
2023040
Price ($)

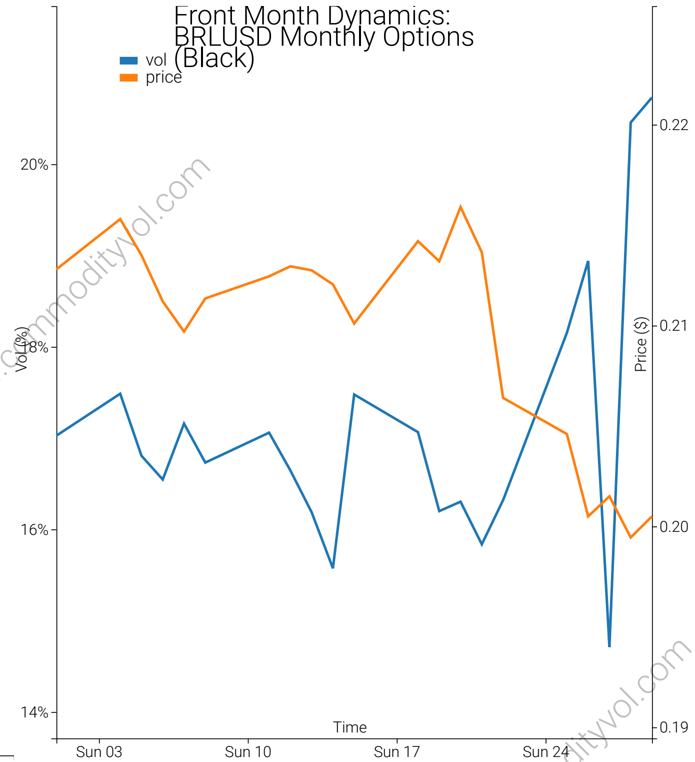

Front Month Skews:
CADUSD Prem Quote Euro Style 2pmfix Opti
(Black)
Today 2022-04-29
Start 2022-04-01

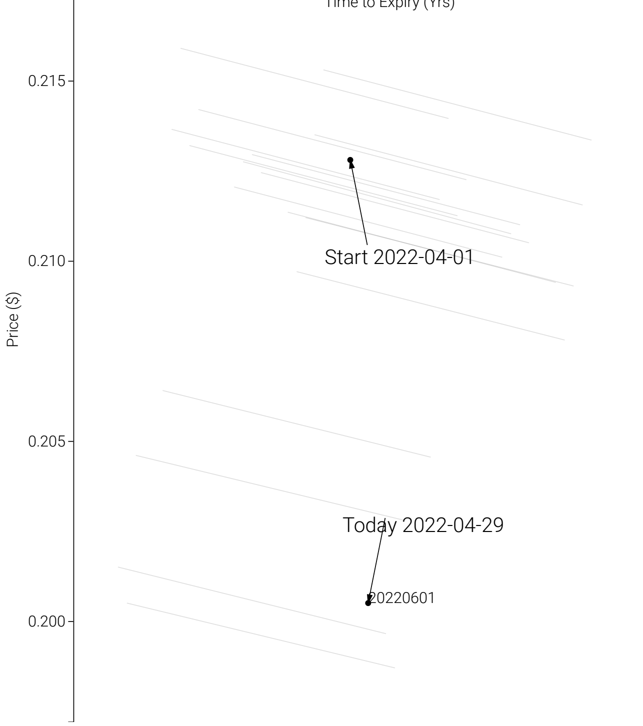

Termstructure Evolution:
AUDUSD Prem Quote Euro Style 2pmfix (Black)
Today 2022-04-29
20220506
20221104
Start 2022-04-01
Vol (%)
Time to Expiry (Yrs)
Price ($)

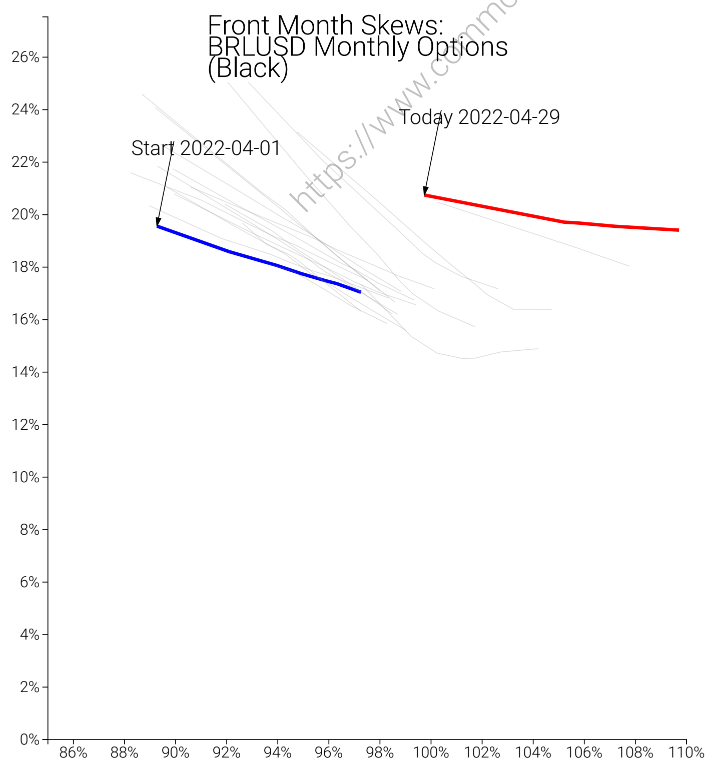

Front Month Dynamics:
AUDUSD Prem Quote Euro Style 2pmfix Options (Black)
vol
price
Vol (%)
Price ($)
Time
Sun 03
Sun 10
Sun 17
Sun 24

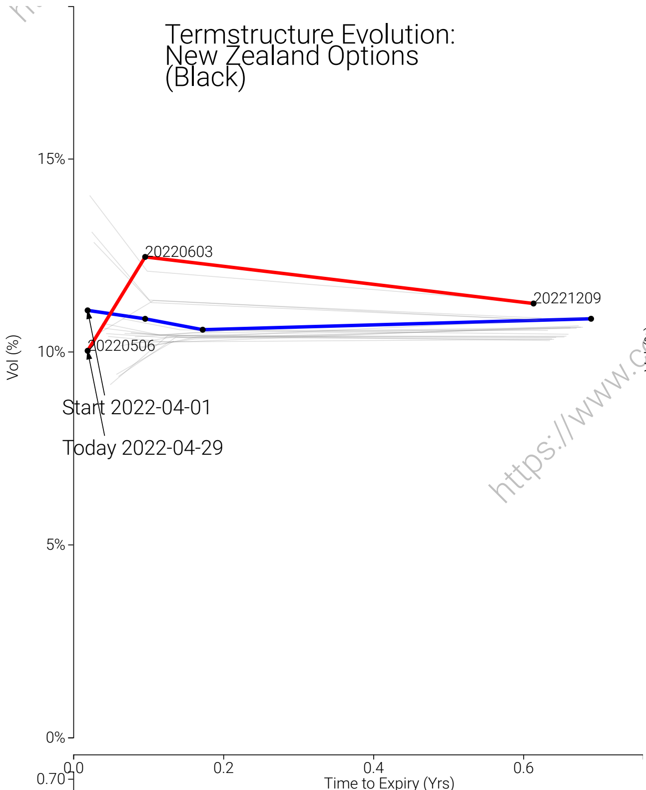

Front Month Skews:
AUDUSD Prem Quote Euro Style 2pmfix Opti (Black)
Today 2022-04-29
Start 2022-04-01


Termstructure Evolution:
BRLUSD Monthly Options
(Black)
Today 2022-04-29
20220601
Start 2022-04-01
Vol (%)
25%
20%
15%
10%
5%
0%
0.00
0.05
0.10
0.15
Time to Expiry (Yrs)

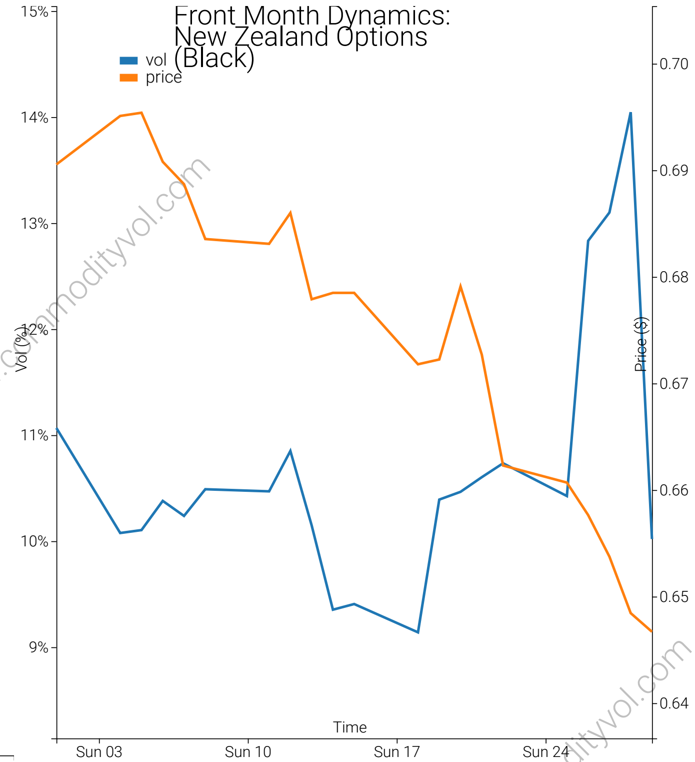

Front Month Dynamics:
BRLUSD Monthly Options
(Black)
vol
price
Vol (%)
20%
18%
16%
14%
Price ($)
0.22
0.21
0.20
0.19
Time
Sun 03
Sun 10
Sun 17
Sun 24


Price ($)
0.215
0.210
0.205
0.200
Start 2022-04-01
Today 2022-04-29
20220601

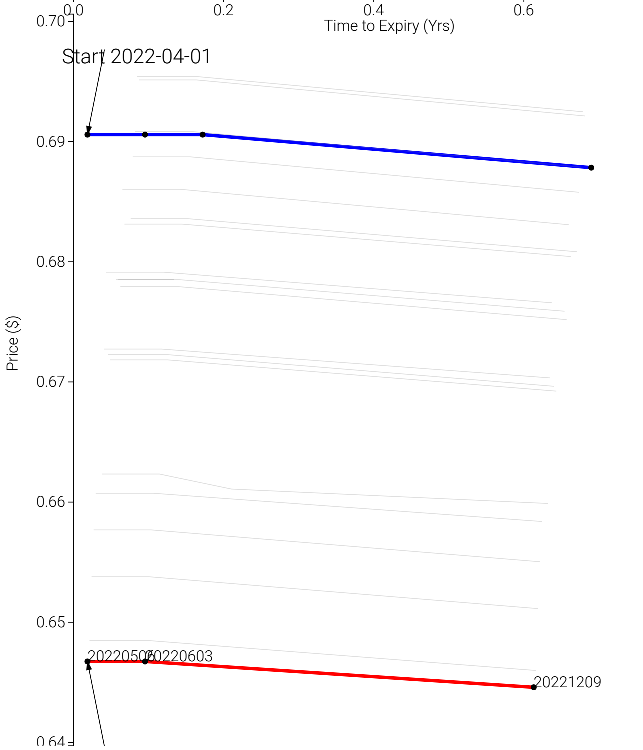

Front Month Skews:
BRLUSD Monthly Options
(Black)
Today 2022-04-29
Start 2022-04-01
26%
24%
22%
20%
18%
16%
14%
12%
10%
8%
6%
4%
2%
0%
86%
88%
90%
92%
94%
96%
98%
100%
102%
104%
106%
108%
110%



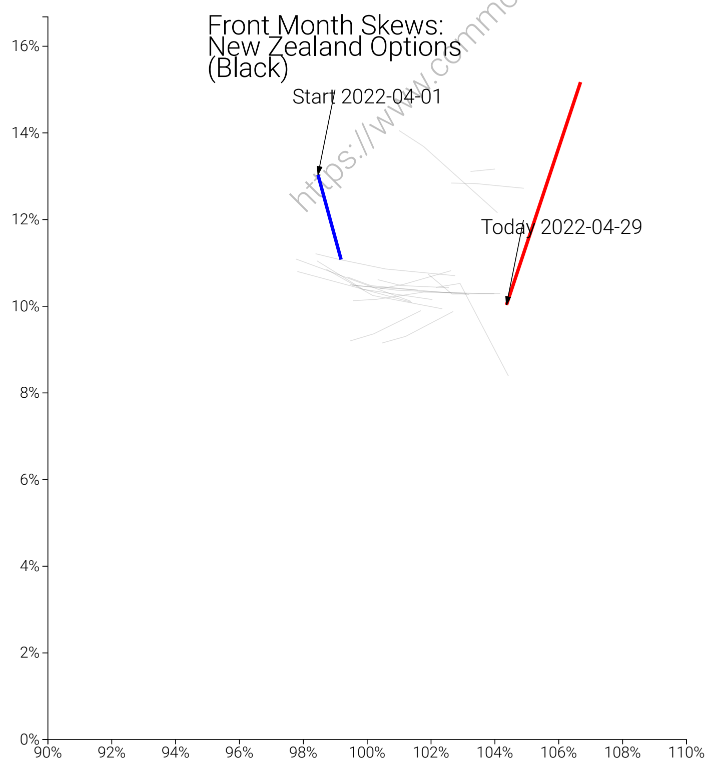
Termstructure Evolution:
New Zealand Options
(Black)
Vol (%)
15%
10%
5%
0%
20220603
20221209
20220506
Start 2022-04-01
Today 2022-04-29
0.0
0.2
0.4
0.6
Time to Expiry (Yrs)



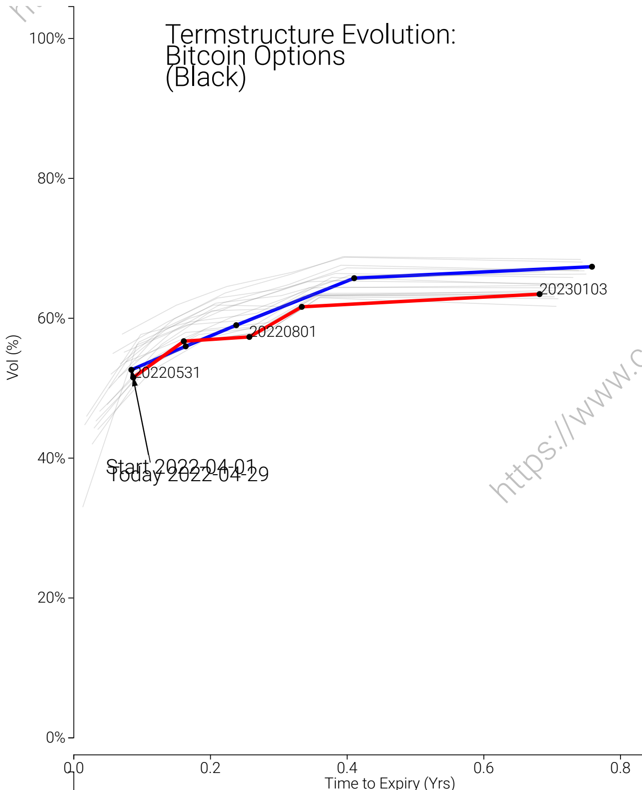
Front Month Dynamics:
New Zealand Options
(Black)
vol
price
Vol (%)
Price ($)
15%
14%
13%
12%
11%
10%
9%
0.70
0.69
0.68
0.67
0.66
0.65
0.64
Time
Sun 03
Sun 10
Sun 17
Sun 24

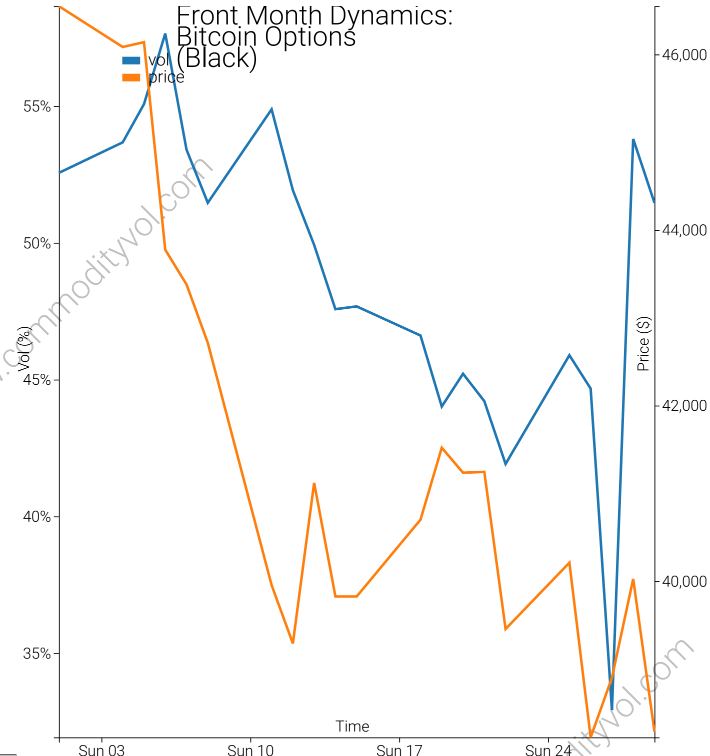


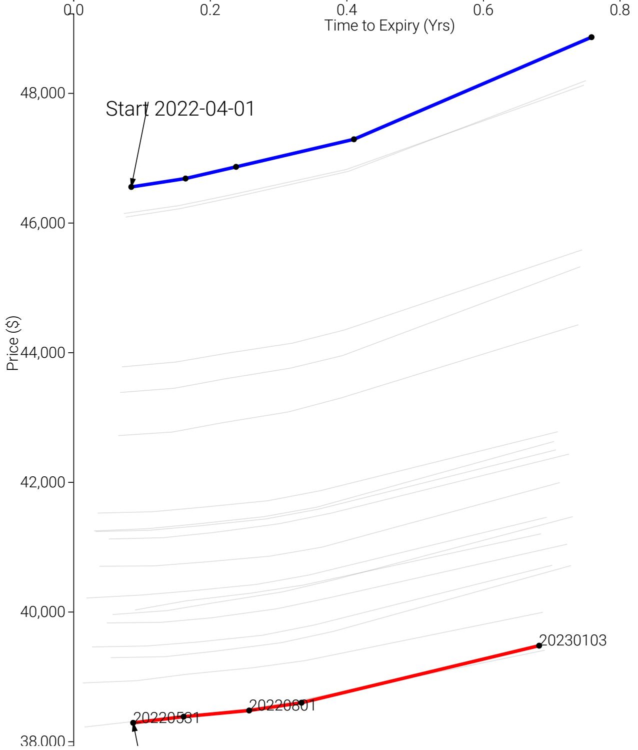
Price ($)
0.70
0.69
0.68
0.67
0.66
0.65
0.64
Start 2022-04-01
20220506
20220603
20221209

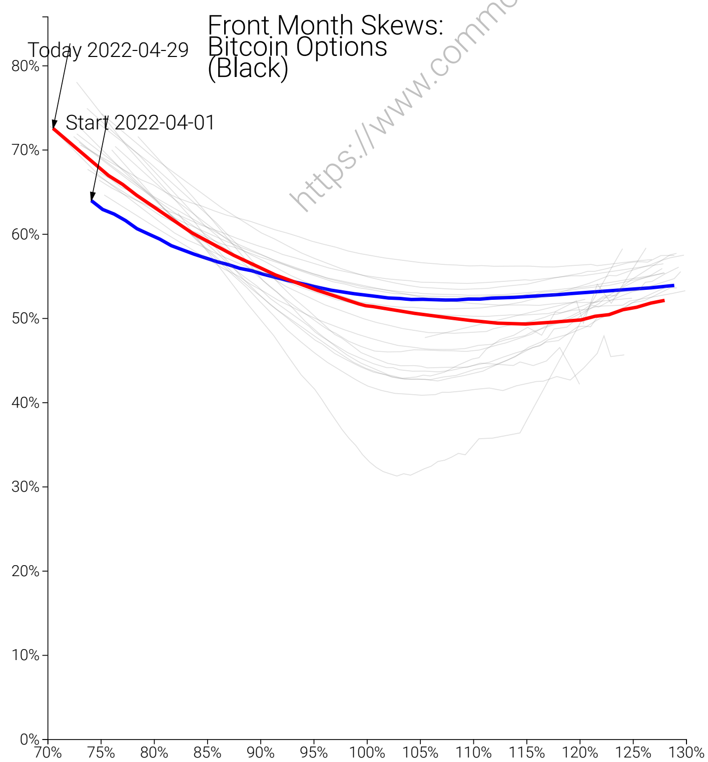


Front Month Skews:
New Zealand Options
(Black)
Start 2022-04-01
Today 2022-04-29
16%
14%
12%
10%
8%
6%
4%
2%
0%
90%
92%
94%
96%
98%
100%
102%
104%
106%
108%
110%

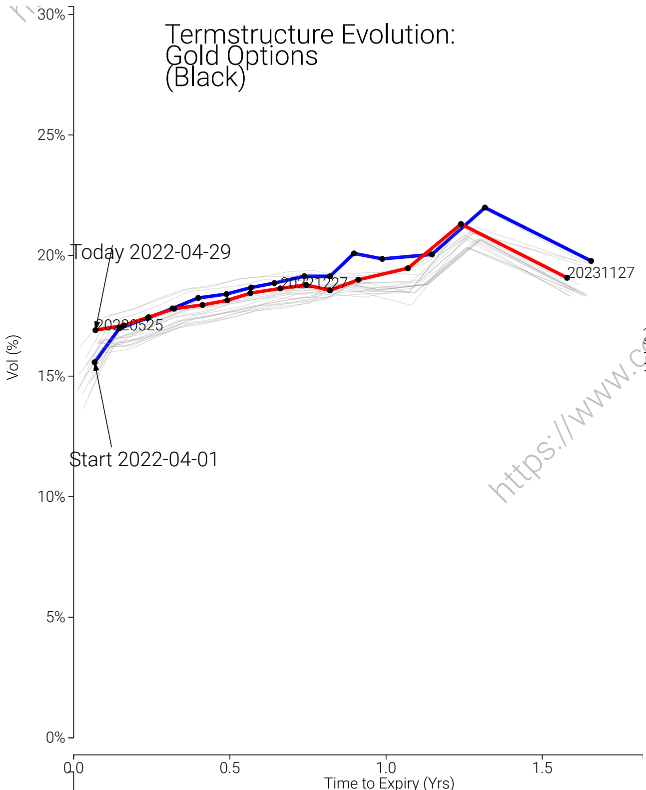

Termstructure Evolution:
Bitcoin Options
(Black)
Vol (%)
Time to Expiry (Yrs)
20220531
20220801
20230103
Start 2022-04-01
Today 2022-04-29


Front Month Dynamics:
Bitcoin Options
(Black)
vol
price
Vol (%)
Price ($)
Time
Sun 03
Sun 10
Sun 17
Sun 24

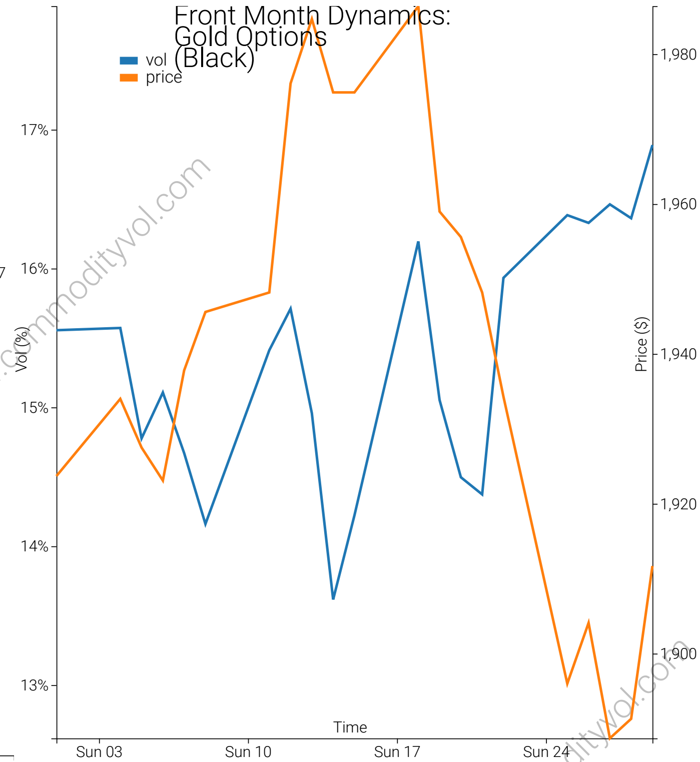

Price ($)
Start 2022-04-01
20220531
20220801
20230103


Front Month Skews:
Bitcoin Options
(Black)
Today 2022-04-29
Start 2022-04-01

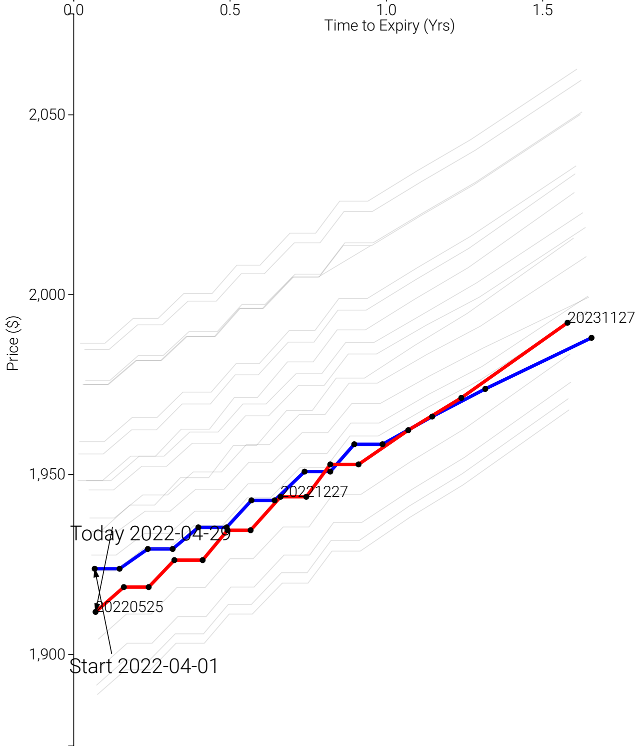
Metals, Materials and so forth



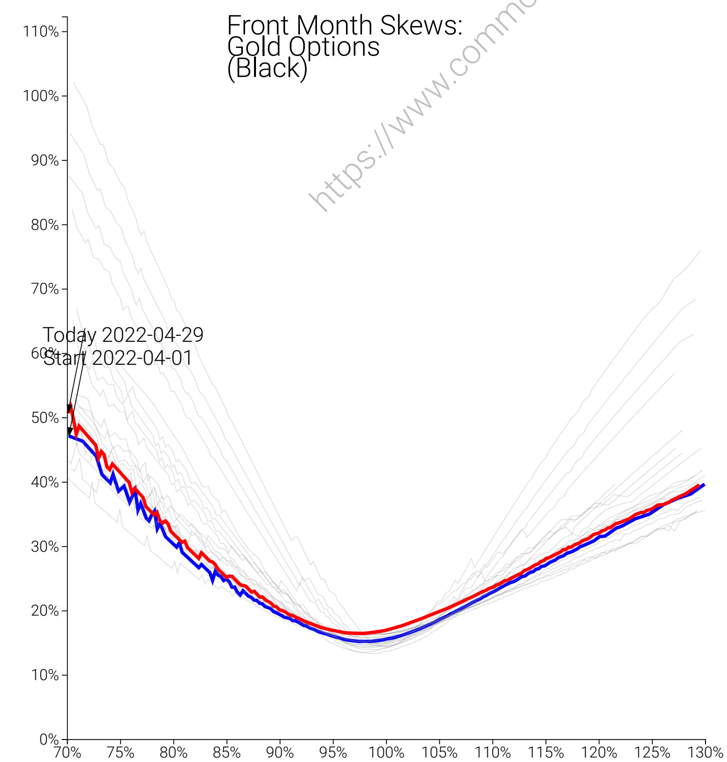
Termstructure Evolution:
Gold Options
(Black)
Vol (%)
30%
25%
20%
15%
10%
5%
0%
Today 2022-04-29
Start 2022-04-01
20220525
20221227
20231127
0.0
0.5
1.0
1.5
Time to Expiry (Yrs)



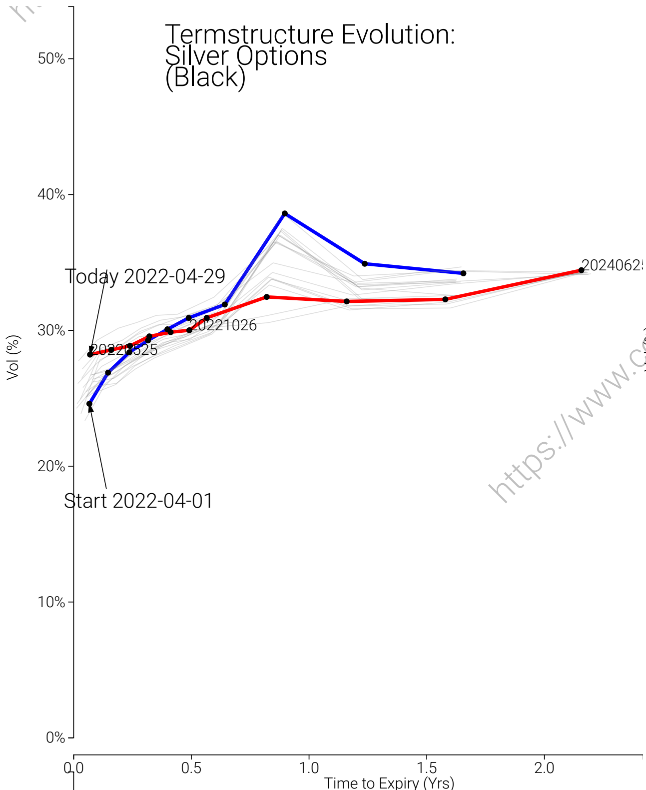
Front Month Dynamics:
Gold Options
(Black)
vol
price
Vol (%)
Price ($)
17%
16%
15%
14%
13%
1,980
1,960
1,940
1,920
1,900
Time
Sun 03
Sun 10
Sun 17
Sun 24

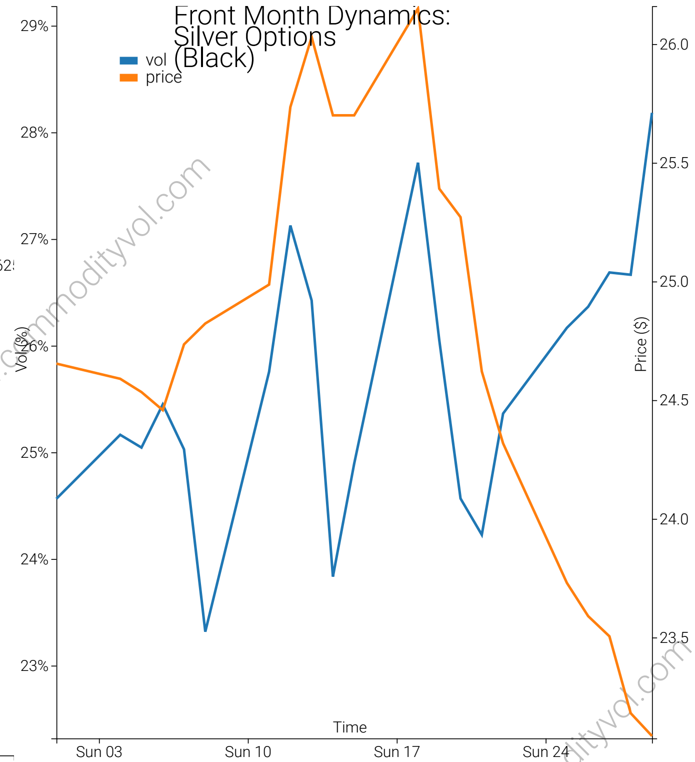


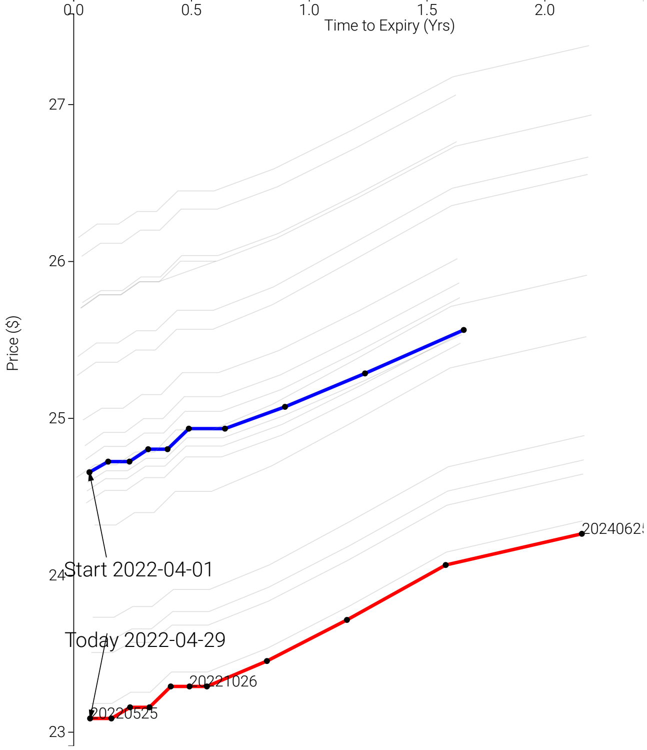
Price ($)
2,050
2,000
1,950
1,900
20231127
20221227
Today 2022-04-29
20220525
Start 2022-04-01

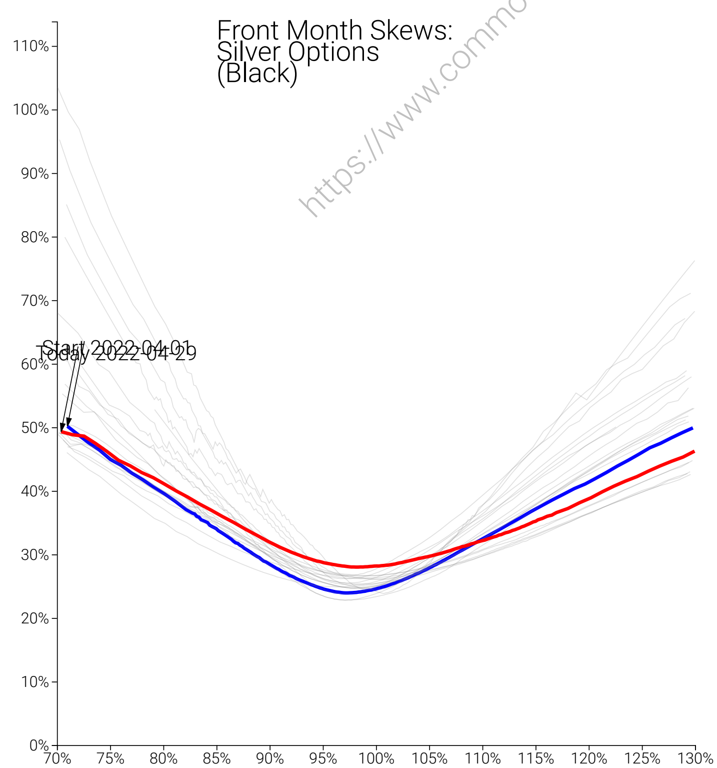


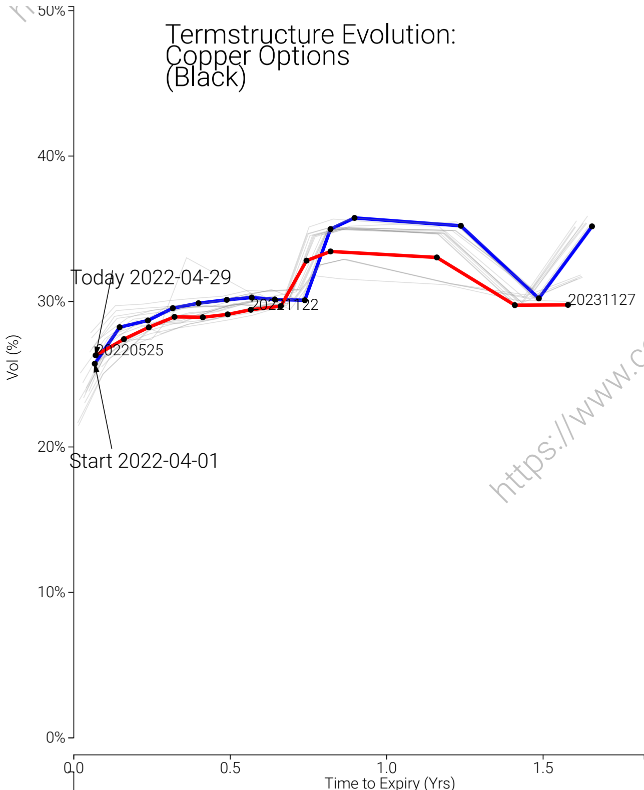
Front Month Skews:
Gold Options
(Black)
110%
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
Today 2022-04-29
Start 2022-04-01
70%
75%
80%
85%
90%
95%
100%
105%
110%
115%
120%
125%
130%

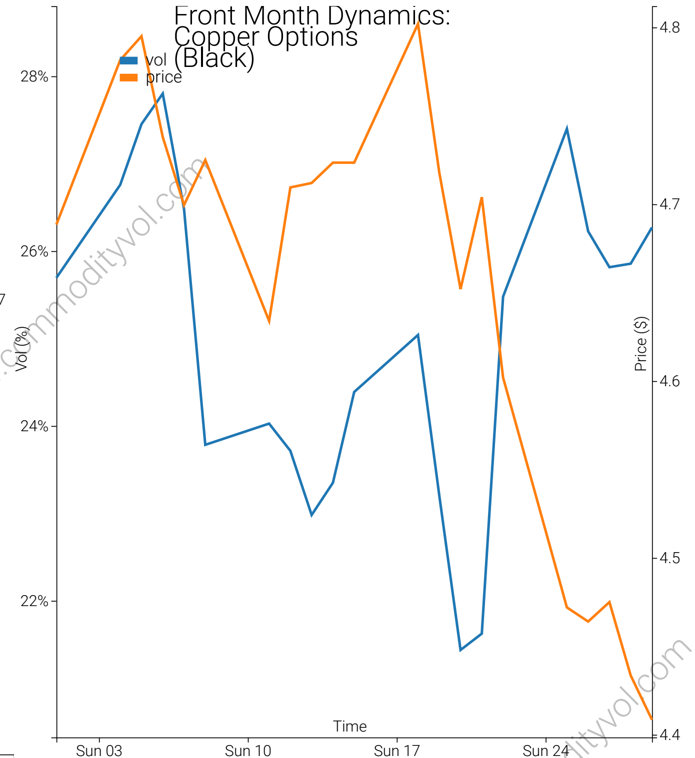

Termstructure Evolution:
Silver Options
(Black)
Vol (%)
Time to Expiry (Yrs)
Today 2022-04-29
Start 2022-04-01
20220525
20221026
20240625

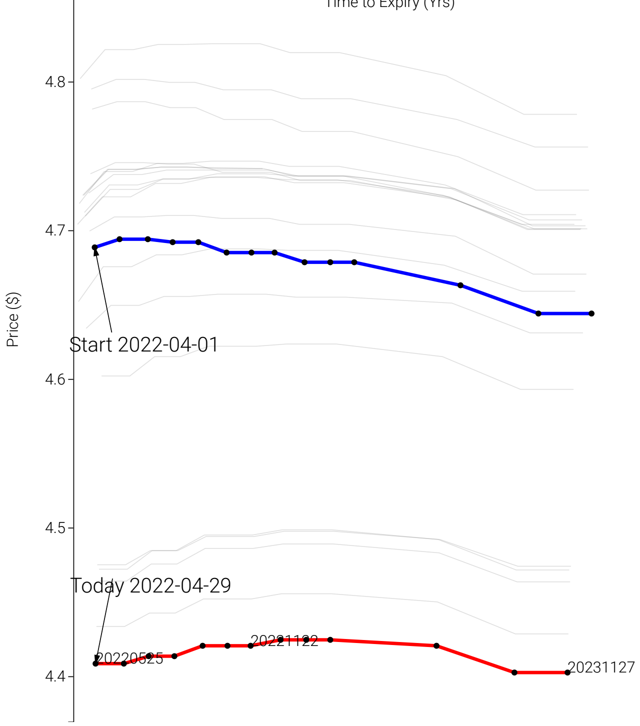

Front Month Dynamics:
Silver Options
(Black)
vol
price
Vol (%)
Price ($)
Time
Sun 03
Sun 10
Sun 17
Sun 24

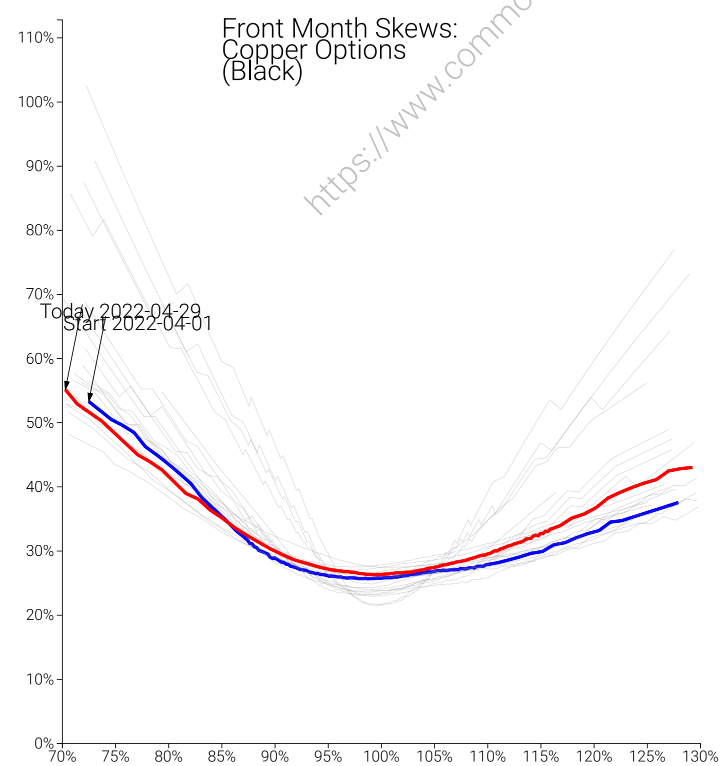

Price ($)
Start 2022-04-01
Today 2022-04-29
20221026
20220525
20240625

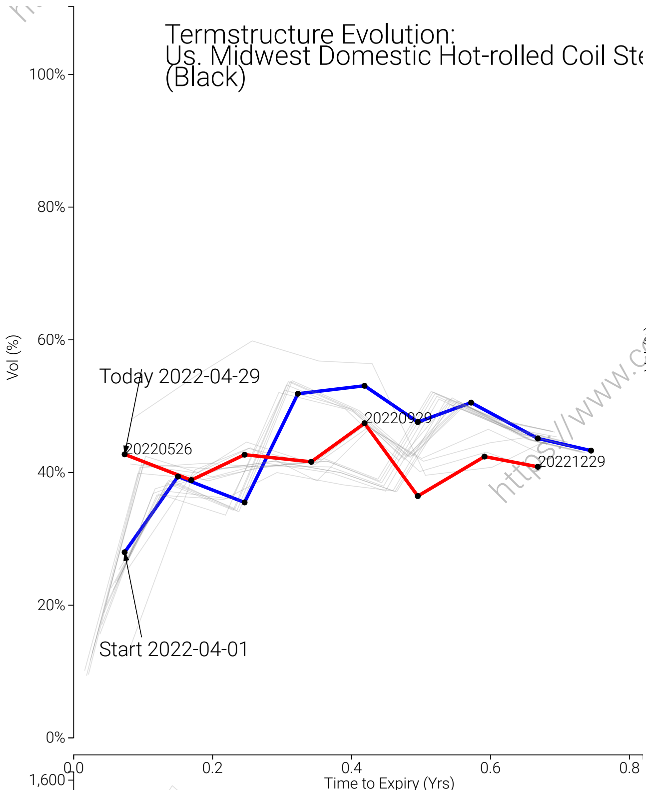

Front Month Skews:
Silver Options
(Black)
Start 2022-04-01
Today 2022-04-29

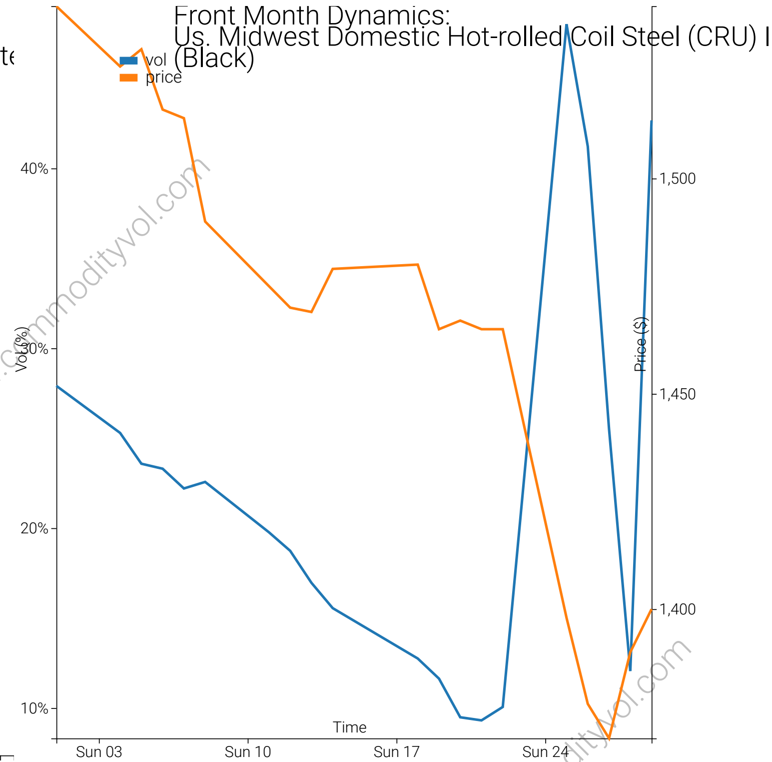

Termstructure Evolution:
Copper Options
(Black)
Today 2022-04-29
Start 2022-04-01
20220525
20221122
20231127
Vol (%)
Time to Expiry (Yrs)
https://www.commodityvol.com

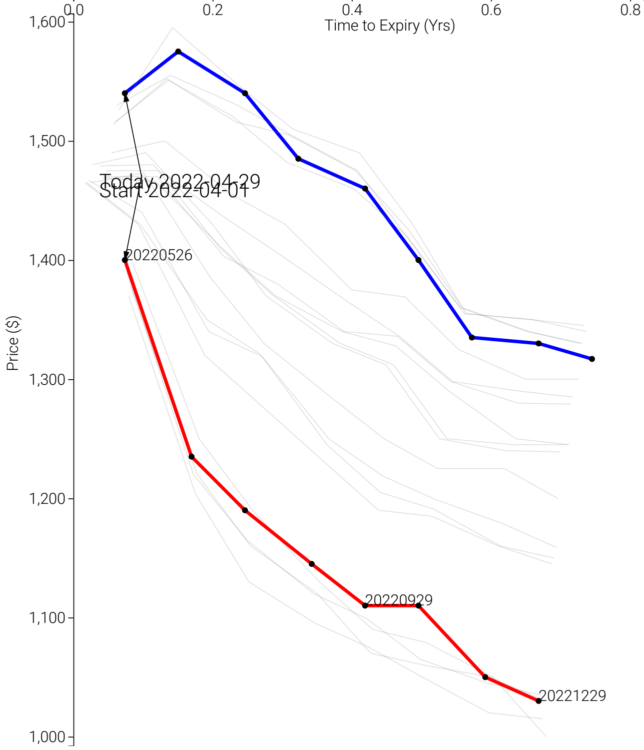

Front Month Dynamics:
Copper Options
(Black)
vol
price
Vol (%)
Price ($)
Time
Sun 03
Sun 10
Sun 17
Sun 24
https://www.commodityvol.com

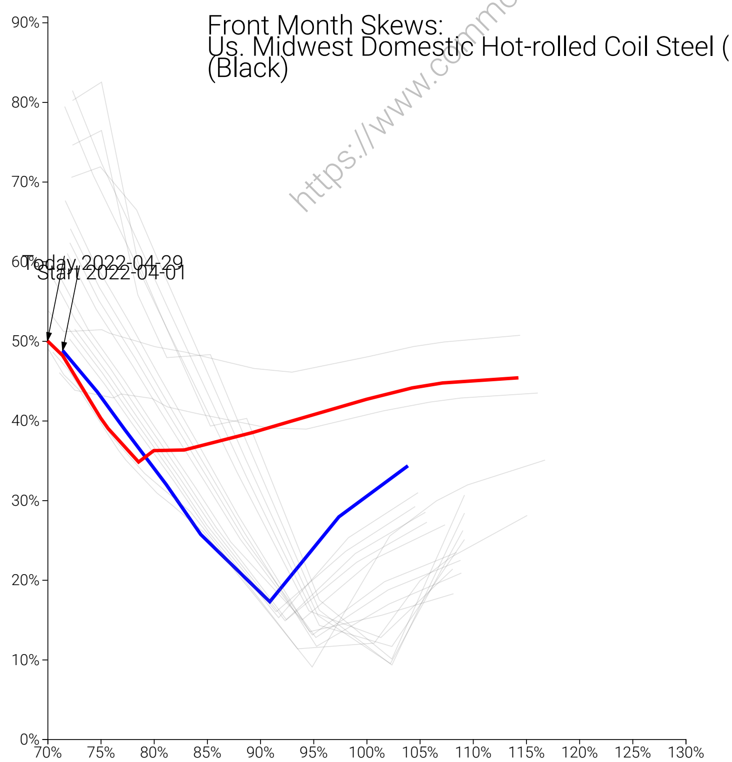

Price ($)
Start 2022-04-01
Today 2022-04-29
20220525
20221122
20231127

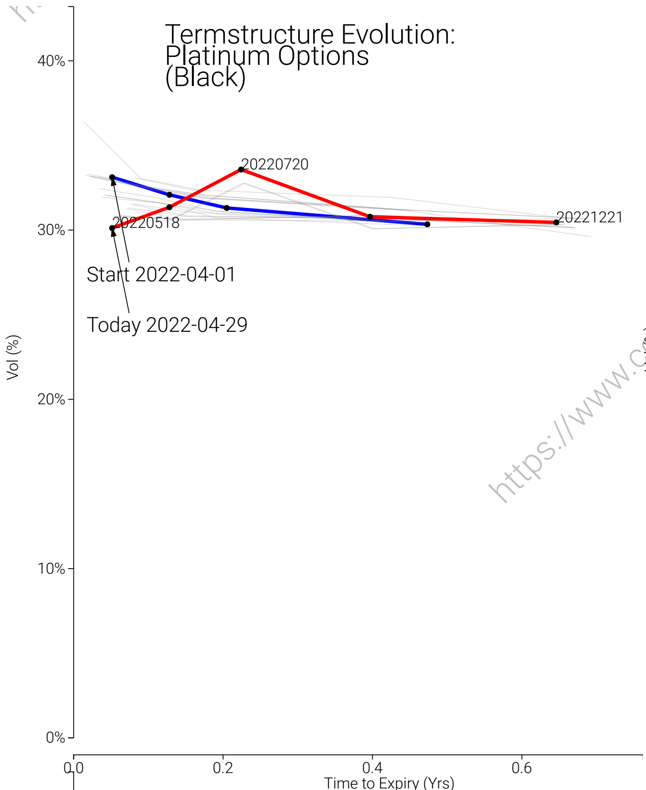

Front Month Skews:
Copper Options
(Black)
Today 2022-04-29
Start 2022-04-01
https://www.commodityvol.com

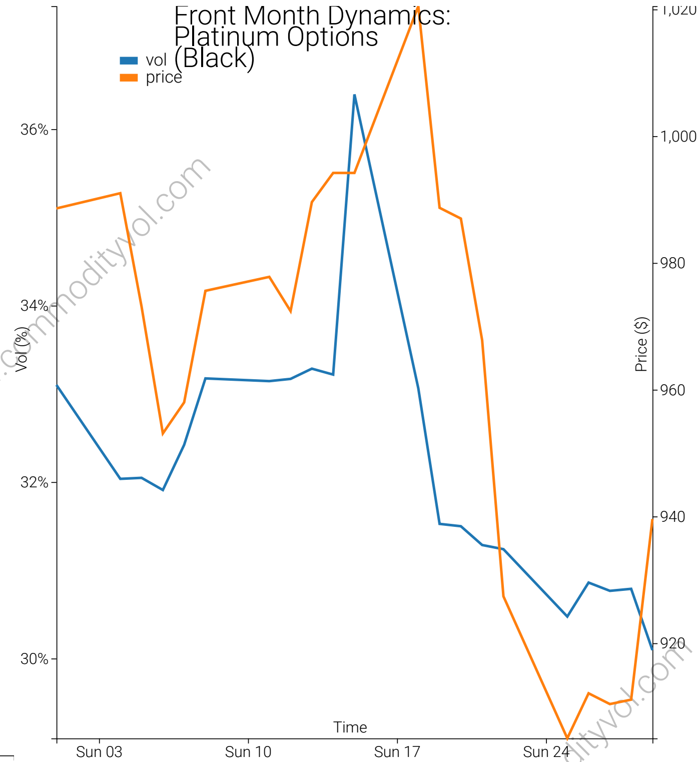

Termstructure Evolution:
Us. Midwest Domestic Hot-rolled Coil Ste
(Black)
Vol (%)
Time to Expiry (Yrs)
Today 2022-04-29
Start 2022-04-01
20220526
20220929
20221229

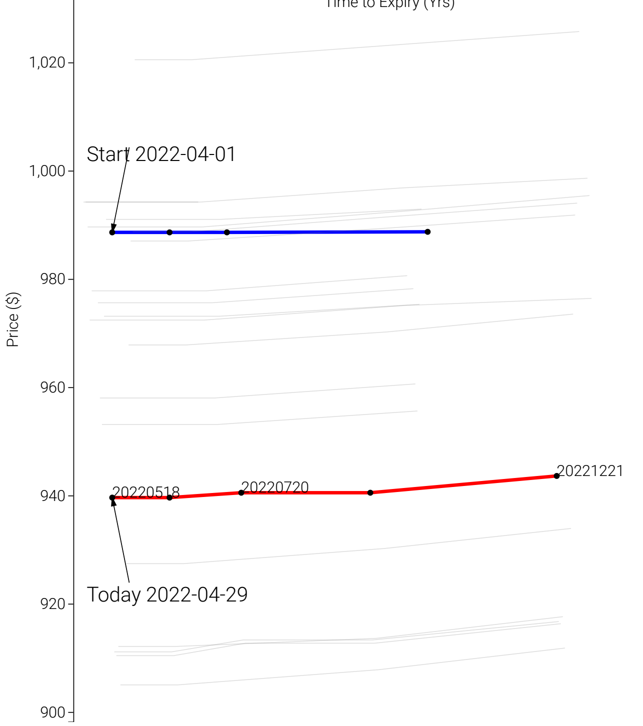

Front Month Dynamics:
Us. Midwest Domestic Hot-rolled Coil Steel (CRU) Ir
(Black)
vol
price
Vol (%)
Price ($)
Time
Sun 03
Sun 10
Sun 17
Sun 24

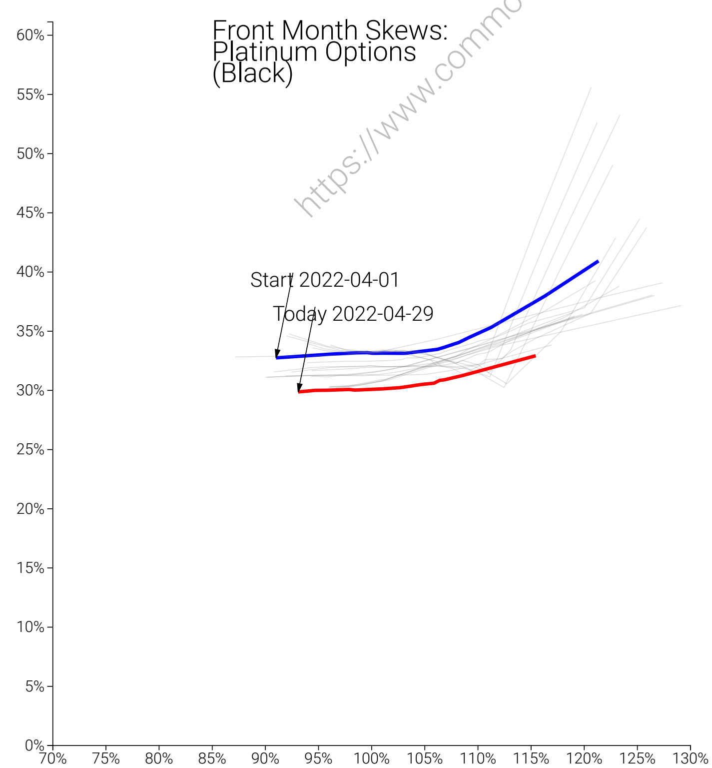

Price ($)
Today 2022-04-29
Start 2022-04-01
20220526
20220929
20221229

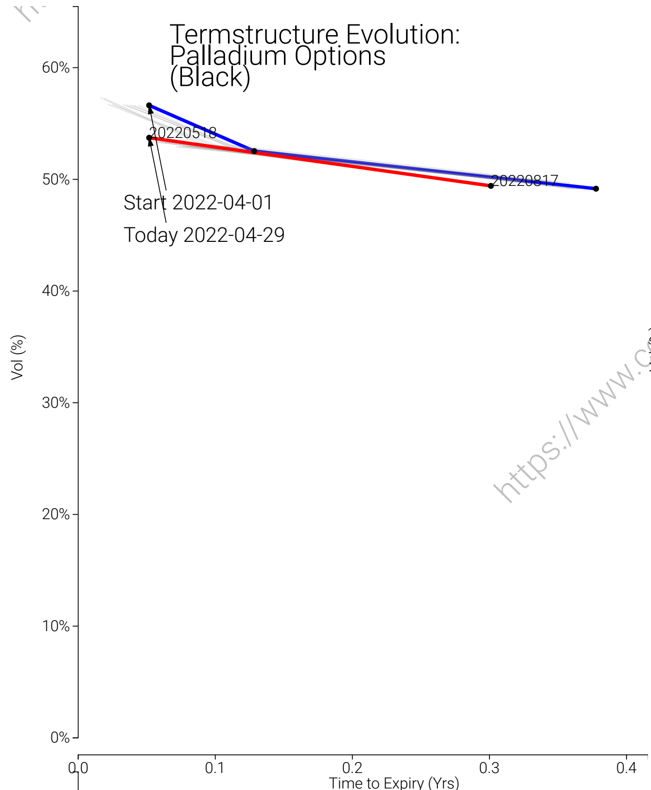

Front Month Skews:
Us. Midwest Domestic Hot-rolled Coil Steel (
(Black)
Today 2022-04-29
Start 2022-04-01

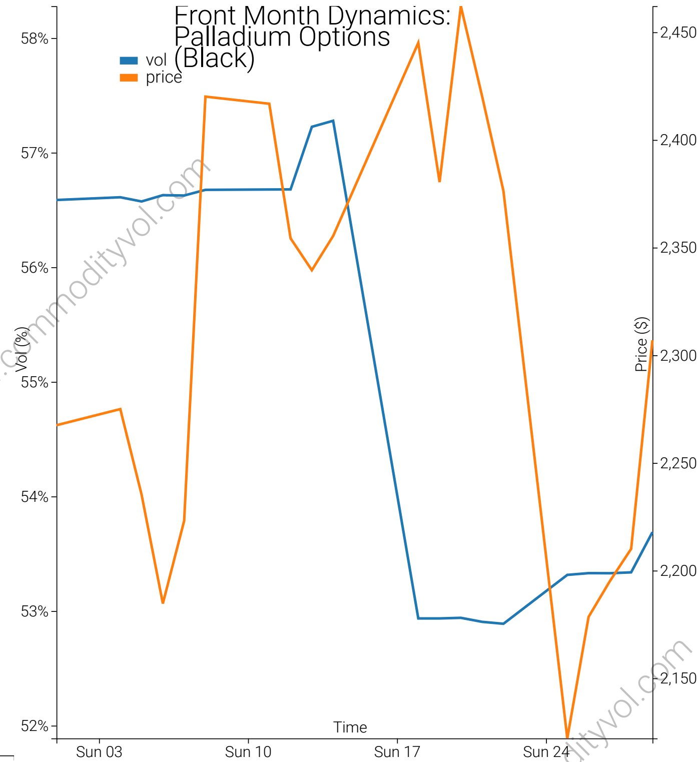

Termstructure Evolution:
Platinum Options
(Black)
20220720
20220518
20221221
Start 2022-04-01
Today 2022-04-29
Vol (%)
Time to Expiry (Yrs)

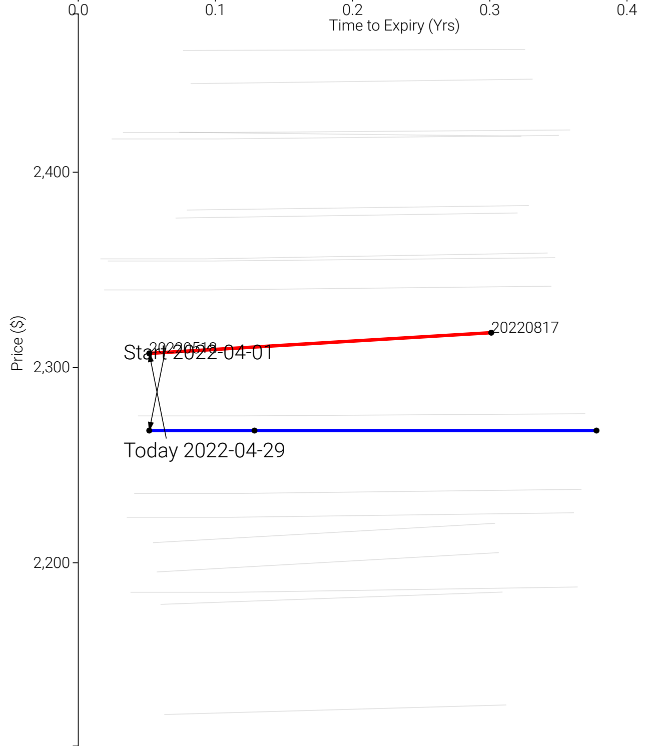

Front Month Dynamics:
Platinum Options
(Black)
vol
price
Vol (%)
Price ($)
Time
Sun 03
Sun 10
Sun 17
Sun 24

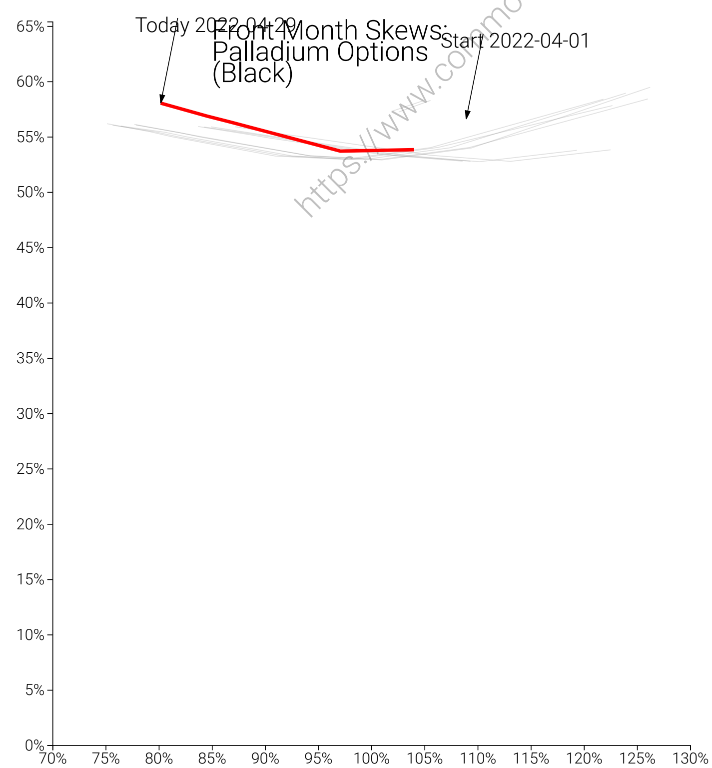

Start 2022-04-01
20220518
20220720
20221221
Today 2022-04-29
Price ($)

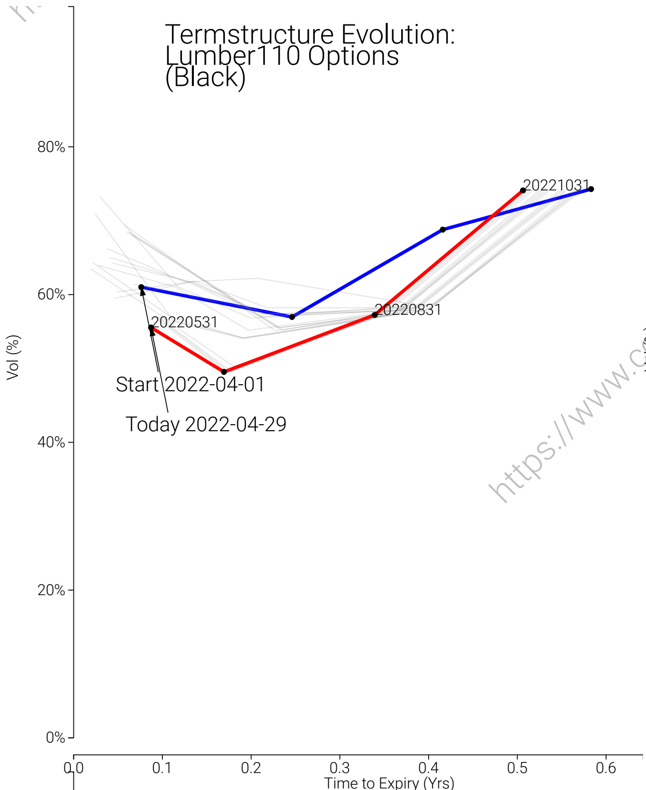

Front Month Skews:
Platinum Options
(Black)
Start 2022-04-01
Today 2022-04-29

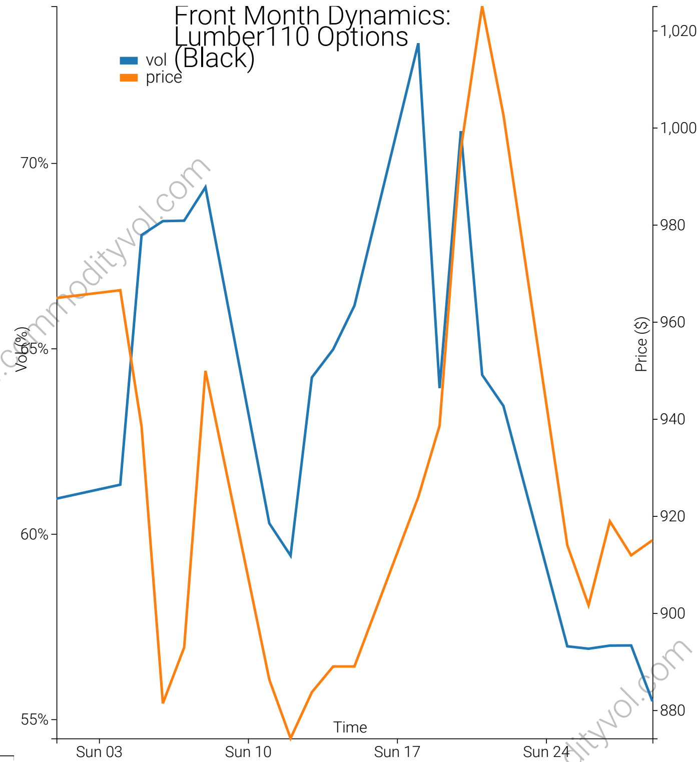

Termstructure Evolution:
Palladium Options
(Black)
20220518
20220817
Start 2022-04-01
Today 2022-04-29
Vol (%)
Time to Expiry (Yrs)

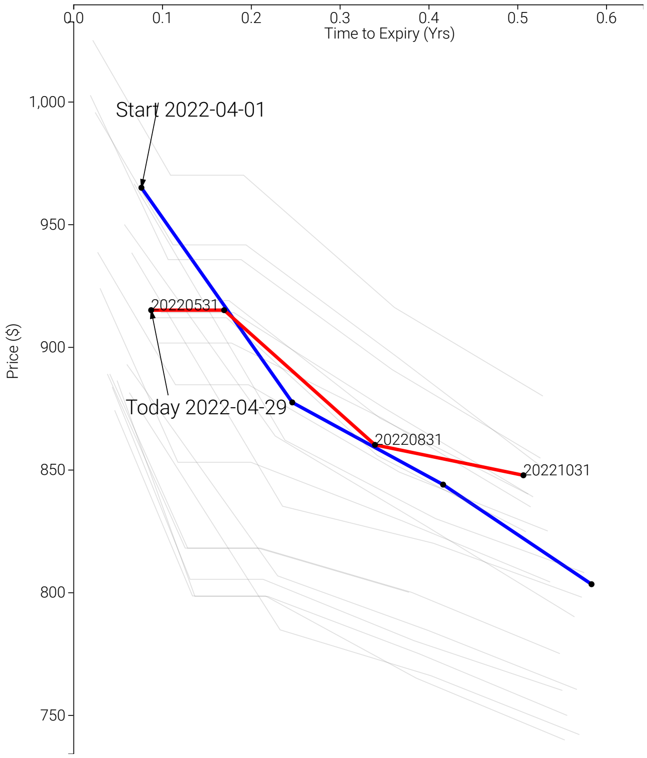

Front Month Dynamics:
Palladium Options
(Black)
vol
price
Vol (%)
Price ($)
Time
Sun 03
Sun 10
Sun 17
Sun 24

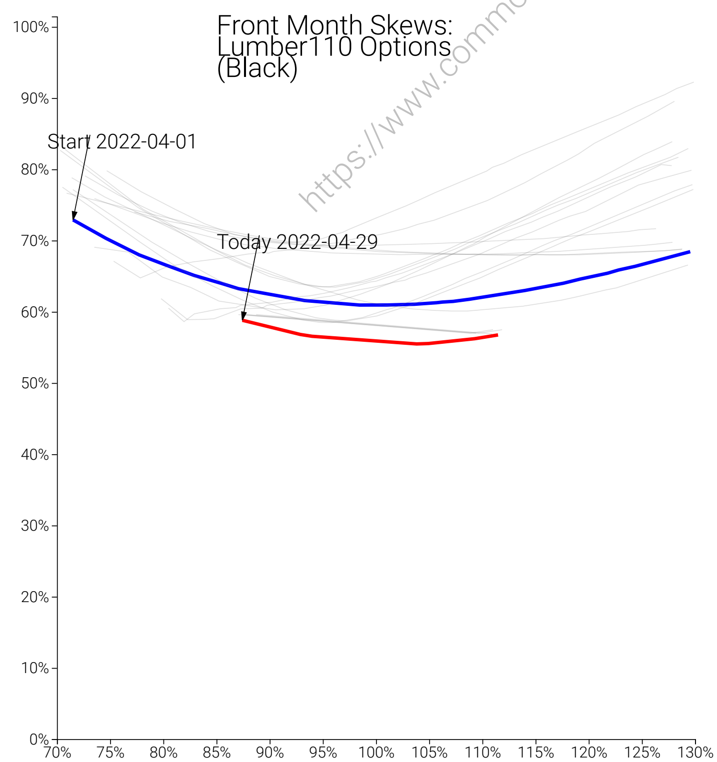

20220518
20220817
Start 2022-04-01
Today 2022-04-29
Price ($)


Front Month Skews:
Palladium Options
(Black)
Today 2022-04-29
Start 2022-04-01

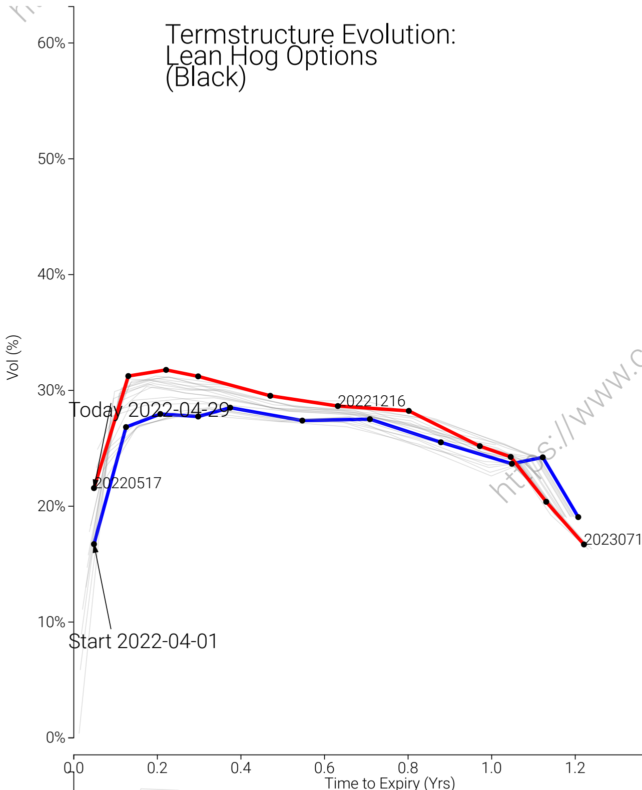

Termstructure Evolution:
Lumber110 Options
(Black)
Vol (%)
Time to Expiry (Yrs)
20221031
20220531
20220831
Start 2022-04-01
Today 2022-04-29

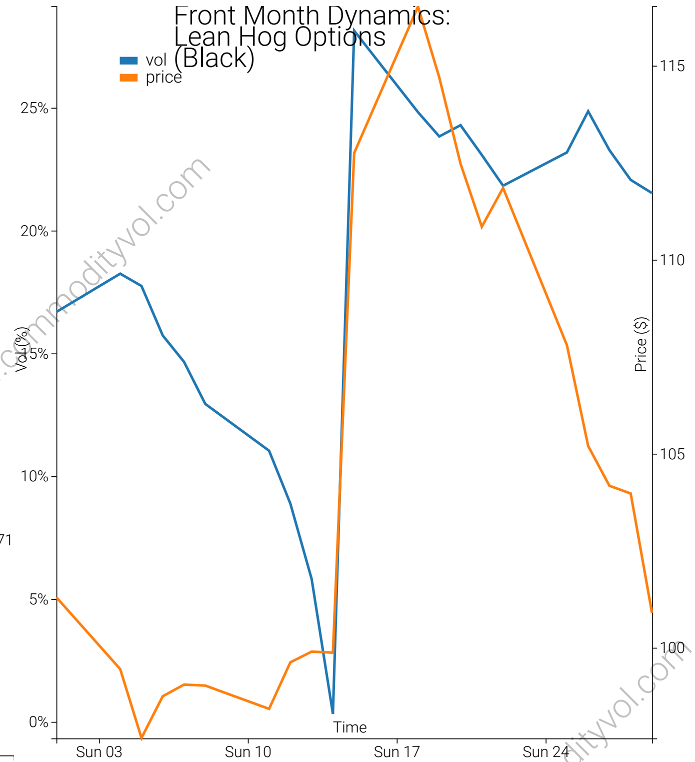

Front Month Dynamics:
Lumber110 Options
(Black)
vol
price
Vol (%)
Price ($)
Time
Sun 03
Sun 10
Sun 17
Sun 24

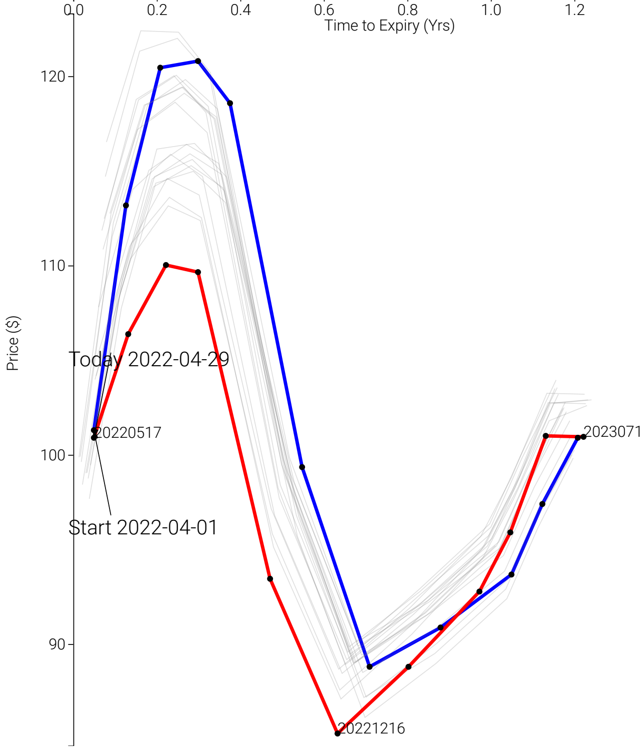

Price ($)
Start 2022-04-01
Today 2022-04-29
20220531
20220831
20221031

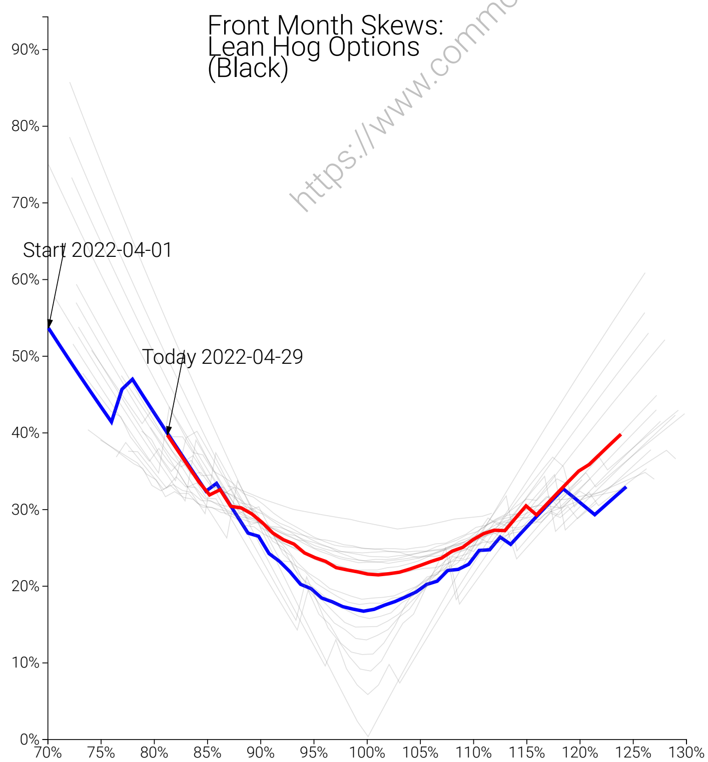

Front Month Skews:
Lumber110 Options
(Black)
Start 2022-04-01
Today 2022-04-29

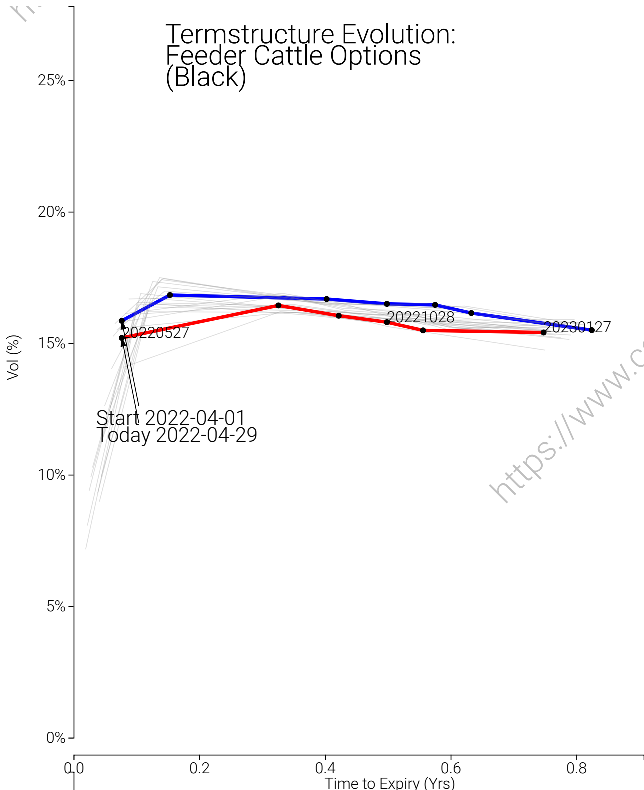
Proteins, Meats and so forth

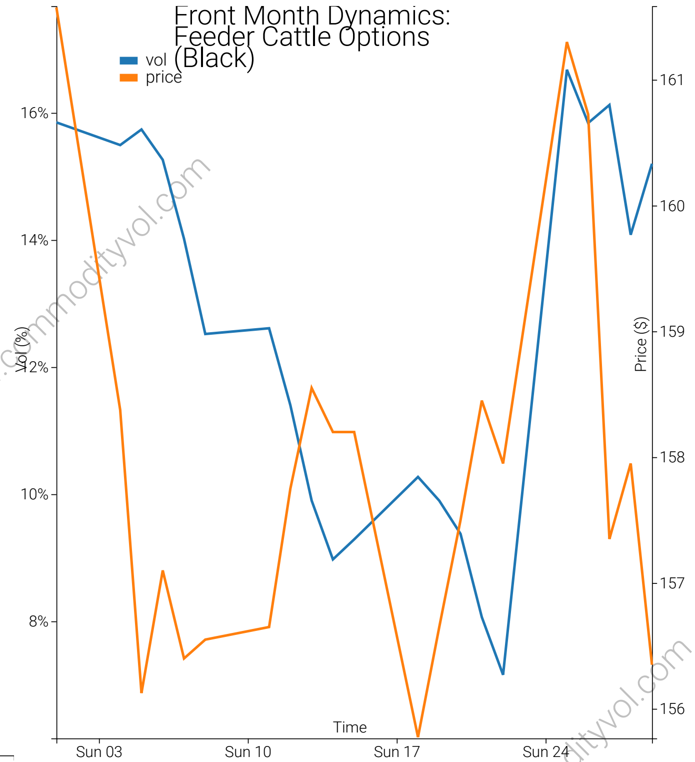

Termstructure Evolution:
Lean Hog Options
(Black)
Vol (%)
Time to Expiry (Yrs)
Today 2022-04-29
Start 2022-04-01
20220517
20221216
2023071

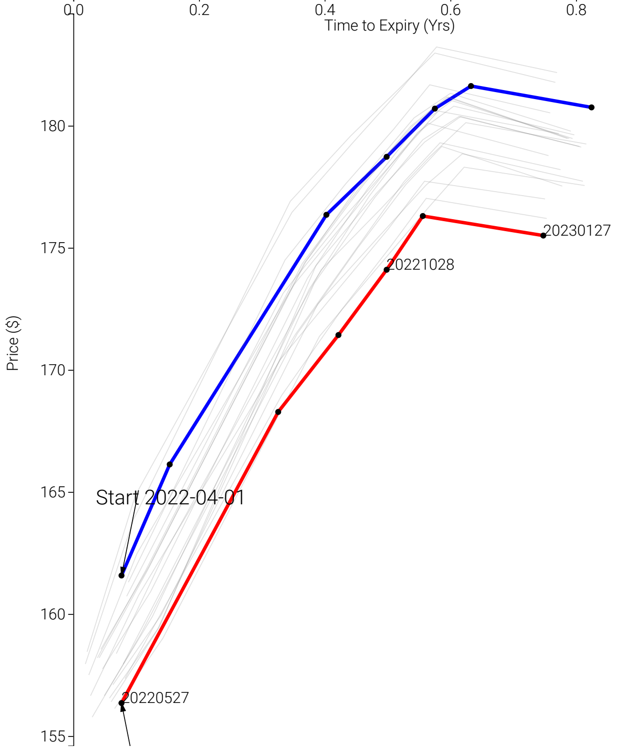

Front Month Dynamics:
Lean Hog Options
(Black)
vol
price
Vol (%)
Price ($)
Time
Sun 03
Sun 10
Sun 17
Sun 24

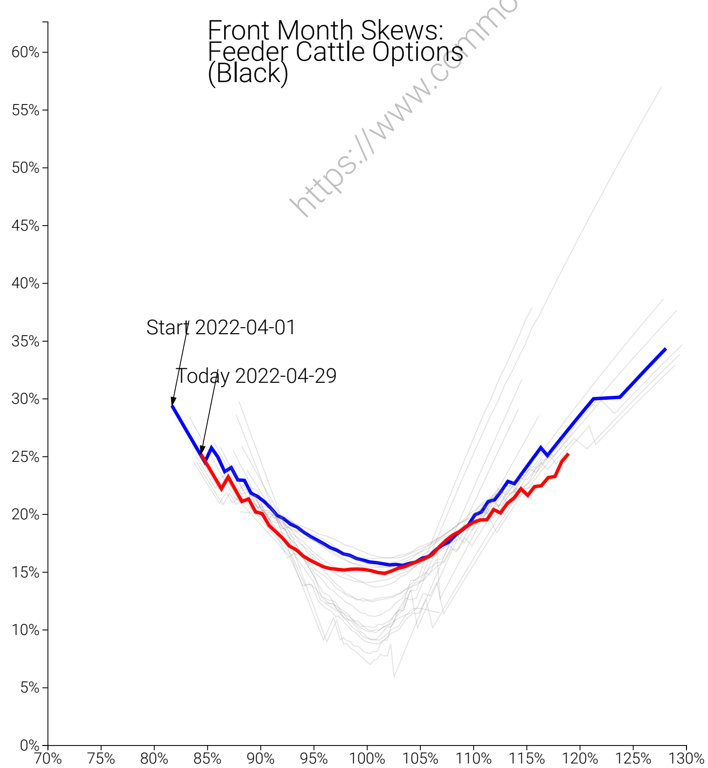

Price ($)
Today 2022-04-29
Start 2022-04-01
20220517
20221216
2023071

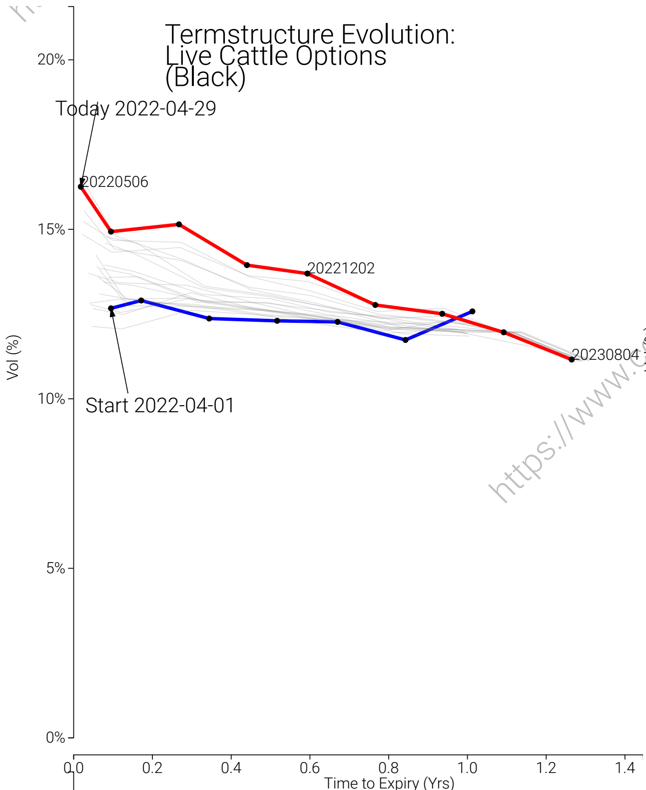

Front Month Skews:
Lean Hog Options
(Black)
Start 2022-04-01
Today 2022-04-29

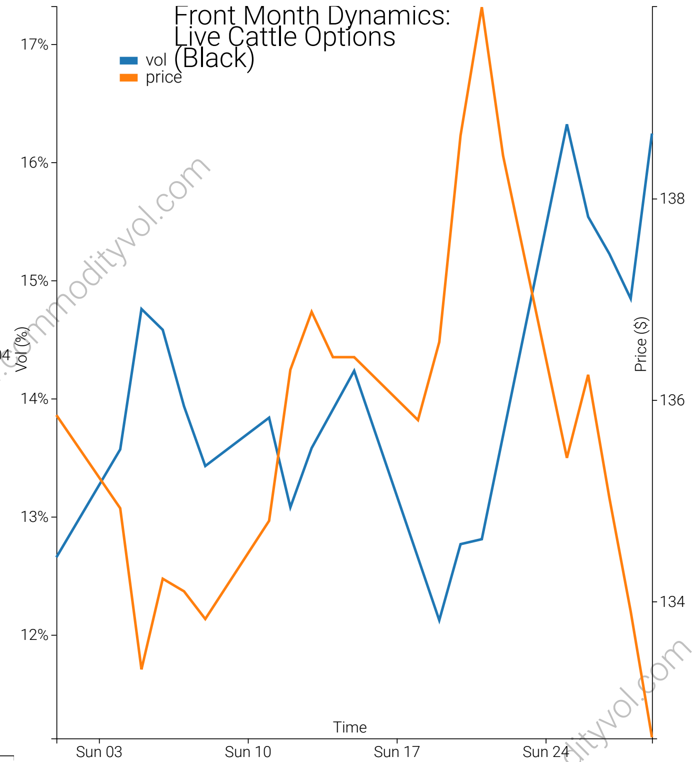

Termstructure Evolution:
Feeder Cattle Options
(Black)
Vol (%)
Time to Expiry (Yrs)
20220527
20221028
20230127
Start 2022-04-01
Today 2022-04-29

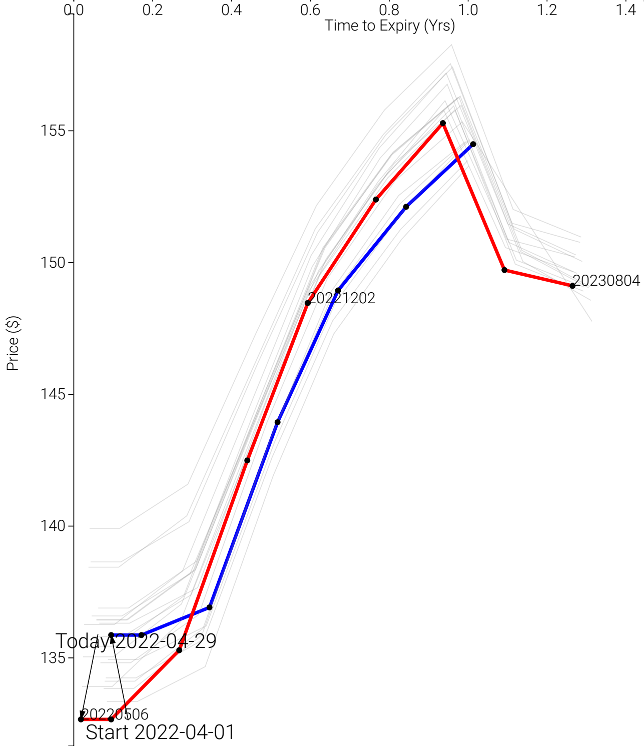

Front Month Dynamics:
Feeder Cattle Options
(Black)
vol
price
Vol (%)
Price ($)
Time
Sun 03
Sun 10
Sun 17
Sun 24

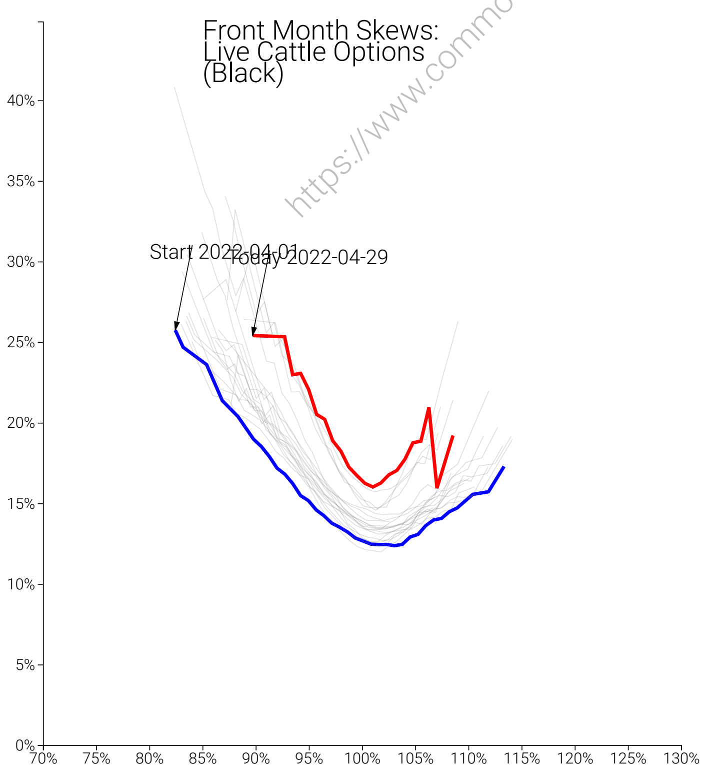

Price ($)
Start 2022-04-01
20220527
20221028
20230127

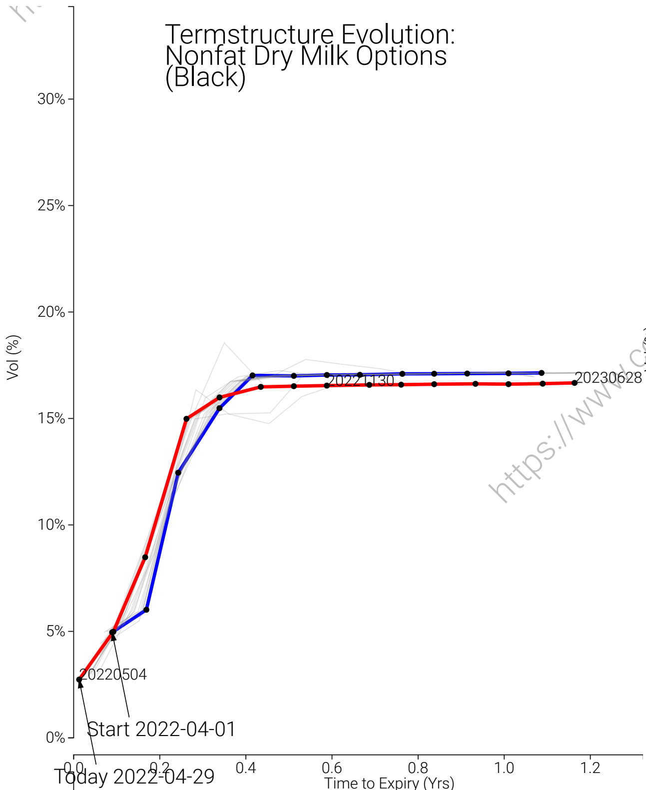

Front Month Skews:
Feeder Cattle Options
(Black)
Start 2022-04-01
Today 2022-04-29

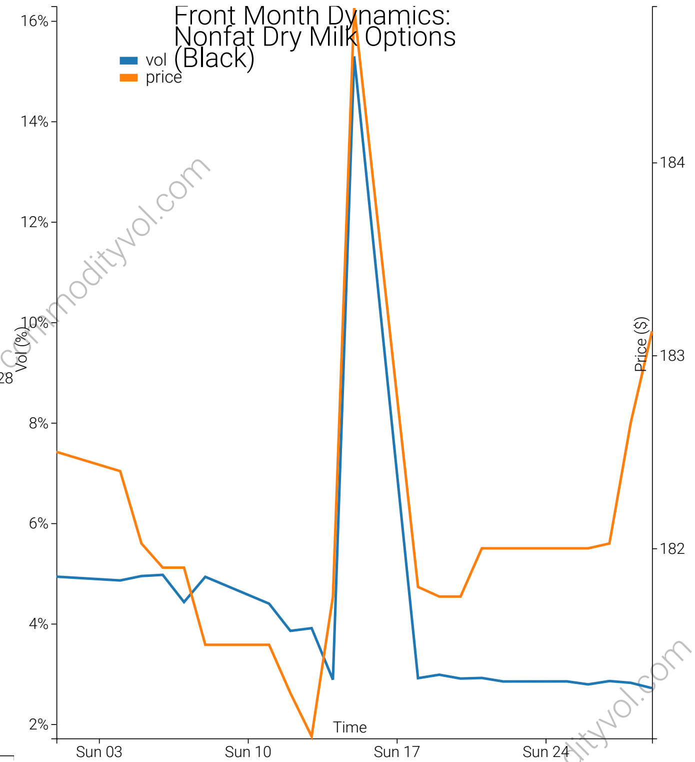

Termstructure Evolution:
Live Cattle Options
(Black)
Today 2022-04-29
20220506
20221202
20230804
Start 2022-04-01
Vol (%)
Time to Expiry (Yrs)
0%
5%
10%
15%
20%
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4

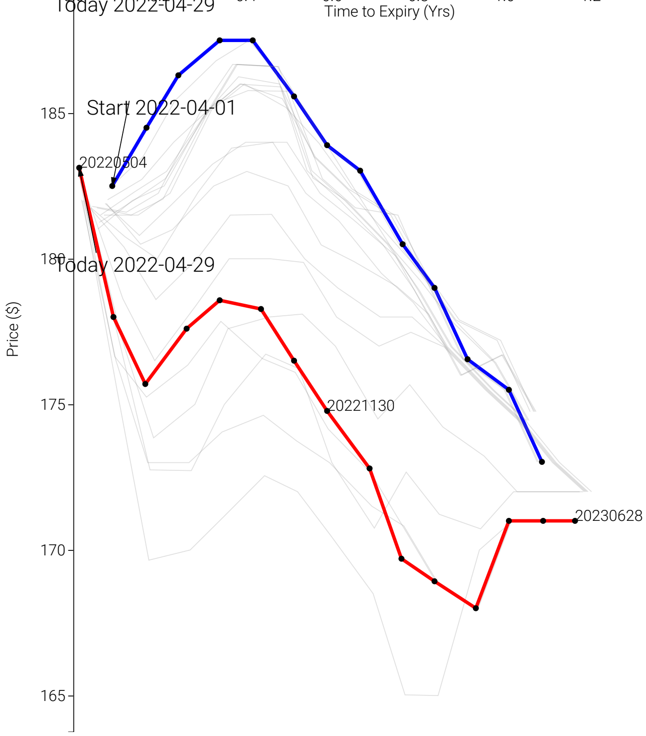

Front Month Dynamics:
Live Cattle Options
(Black)
vol
price
Vol (%)
Price ($)
Time
12%
13%
14%
15%
16%
17%
134
136
138
Sun 03
Sun 10
Sun 17
Sun 24

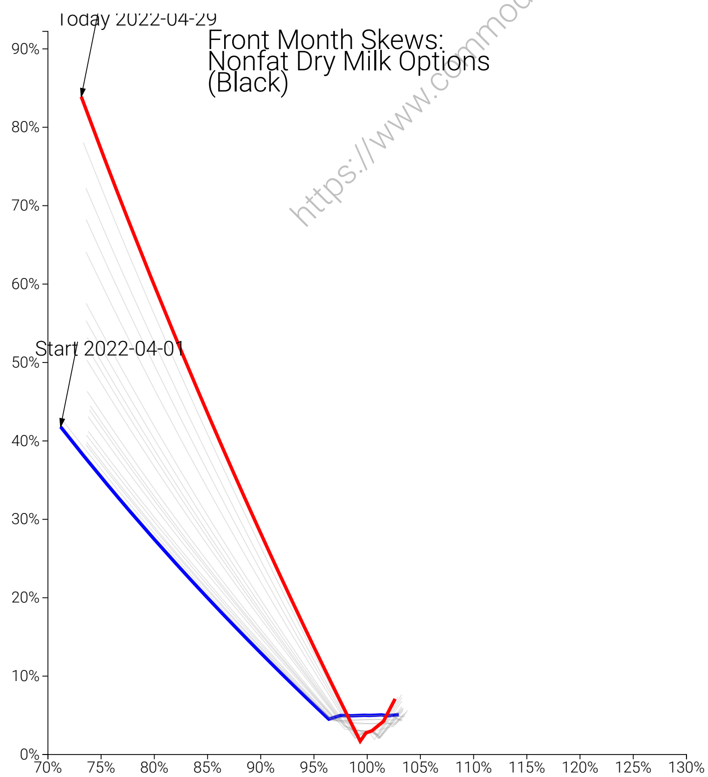

Price ($)
20221202
20230804
Today 2022-04-29
20220506
Start 2022-04-01
135
140
145
150
155

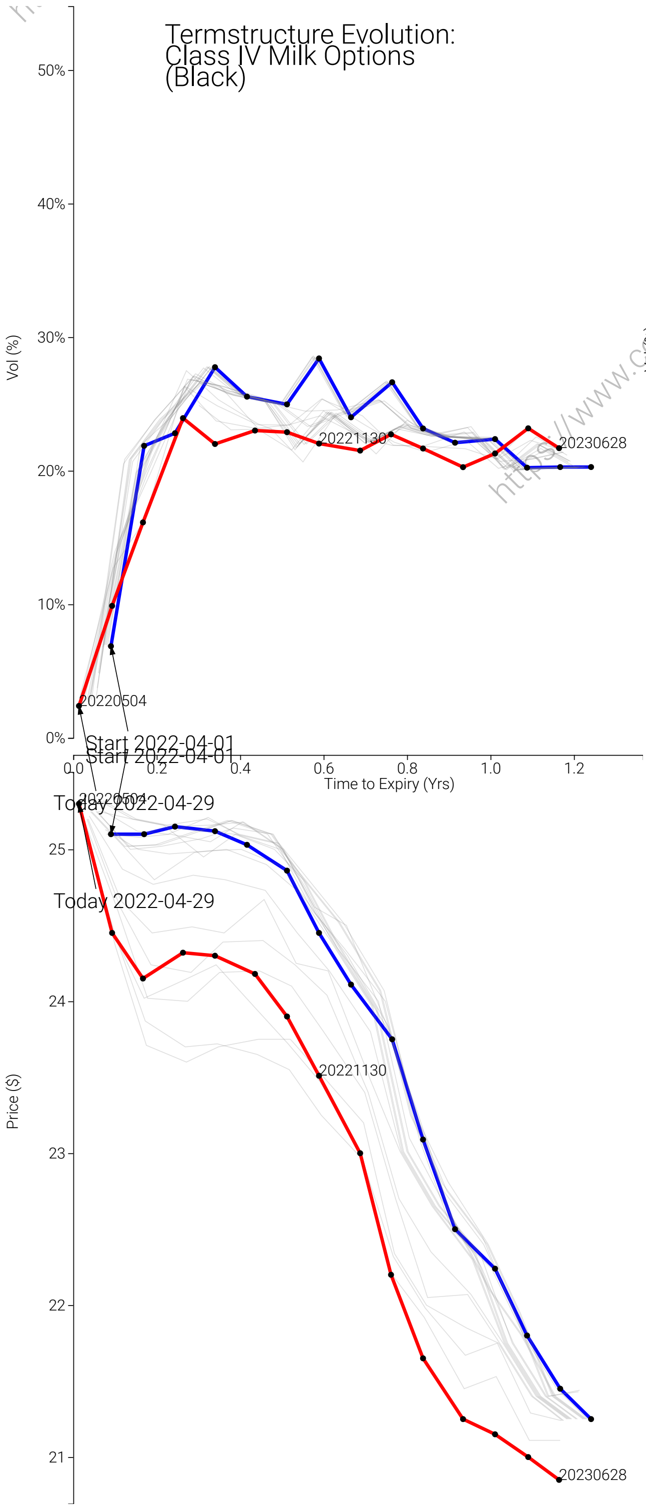

Front Month Skews:
Live Cattle Options
(Black)
Start 2022-04-01
Today 2022-04-29
0%
5%
10%
15%
20%
25%
30%
35%
40%
70%
75%
80%
85%
90%
95%
100%
105%
110%
115%
120%
125%
130%

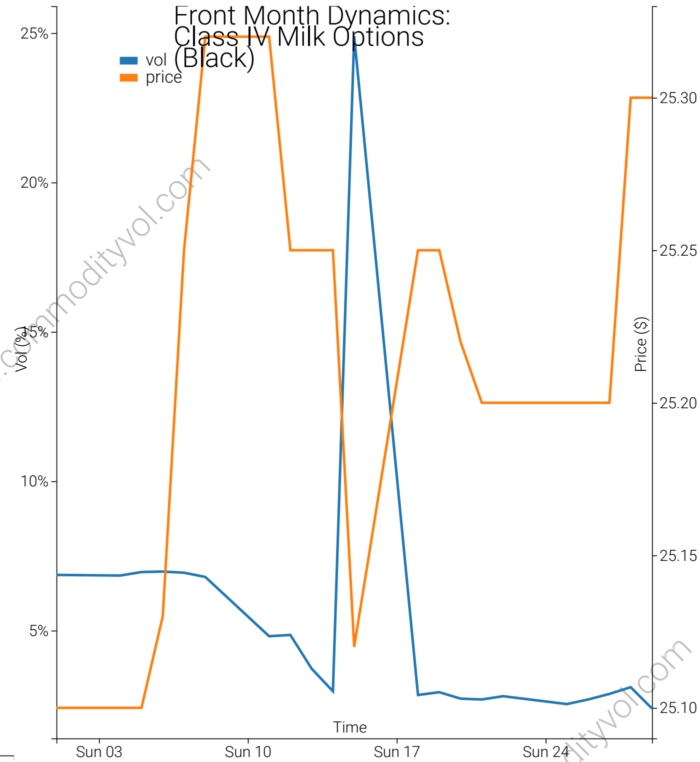

Termstructure Evolution:
Nonfat Dry Milk Options
(Black)
Vol (%)
Time to Expiry (Yrs)
20220504
Start 2022-04-01
Today 2022-04-29
20221130
20230628

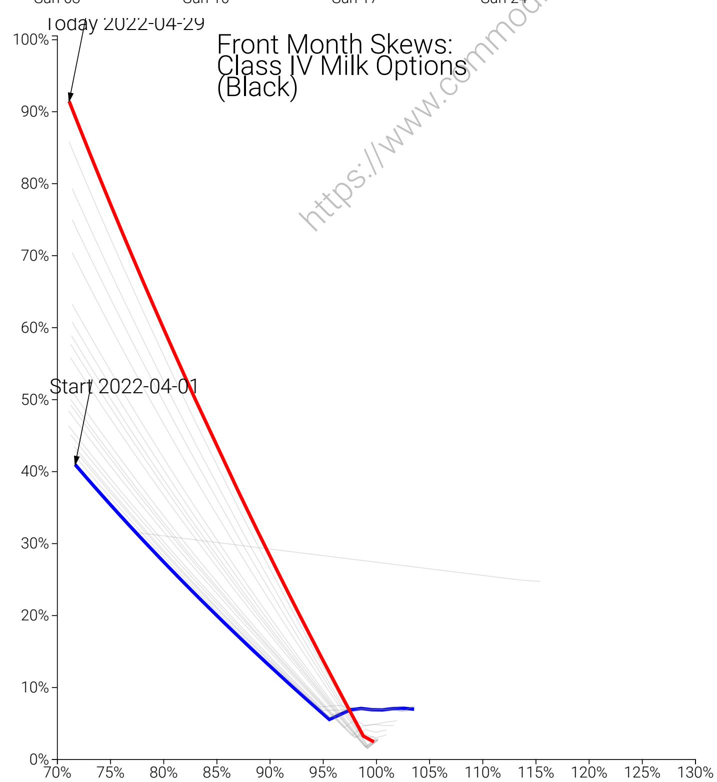

Front Month Dynamics:
Nonfat Dry Milk Options
(Black)
vol
price
Vol (%)
Price ($)
Time
Sun 03
Sun 10
Sun 17
Sun 24


Price ($)
Start 2022-04-01
20220504
Today 2022-04-29
20221130
20230628

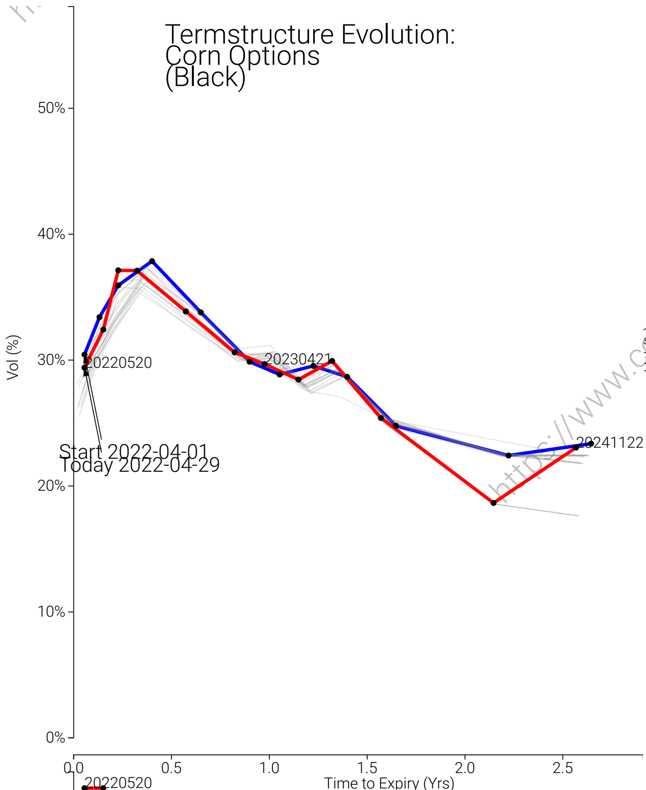

Front Month Skews:
Nonfat Dry Milk Options
(Black)
Today 2022-04-29
Start 2022-04-01

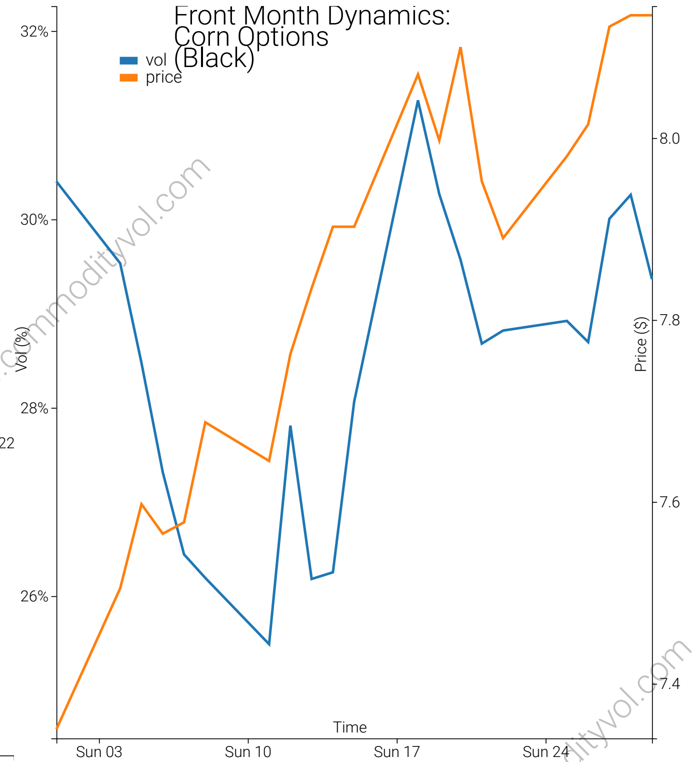

Termstructure Evolution:
Class IV Milk Options
(Black)
Vol (%)
Time to Expiry (Yrs)
20220504
20221130
20230628
Start 2022-04-01
Today 2022-04-29
Price ($)

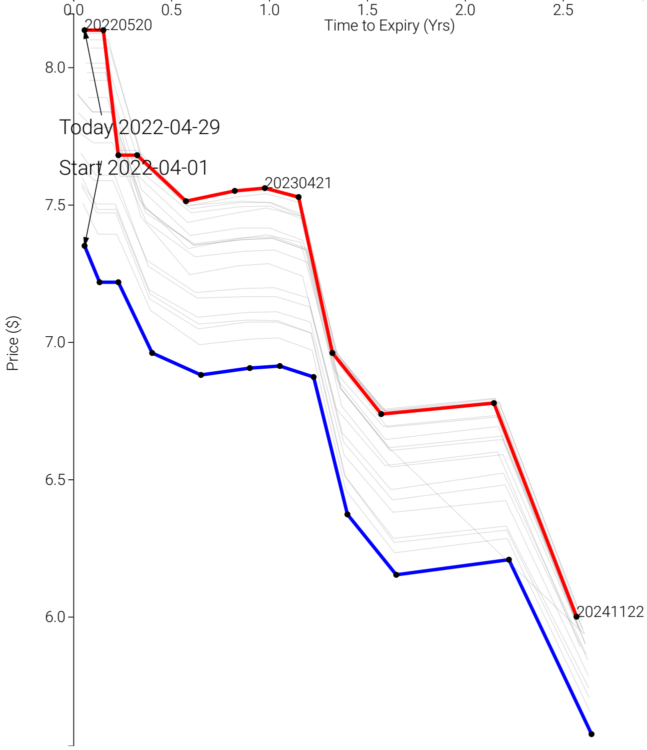

Front Month Dynamics:
Class IV Milk Options
(Black)
vol
price
Vol (%)
Price ($)
Time
Sun 03
Sun 10
Sun 17
Sun 24

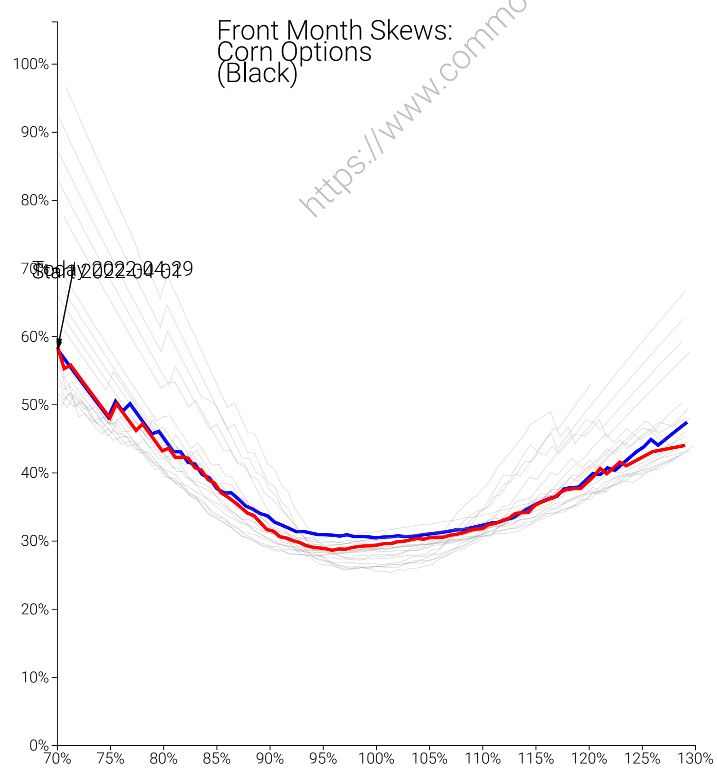

Front Month Skews:
Class IV Milk Options
(Black)
Today 2022-04-29
Start 2022-04-01

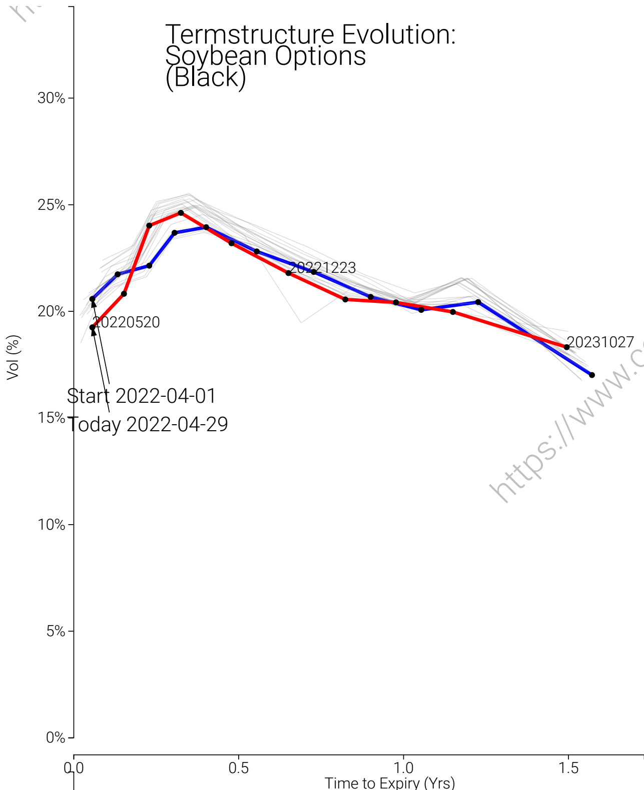
Ags, Grains, Softs and so forth

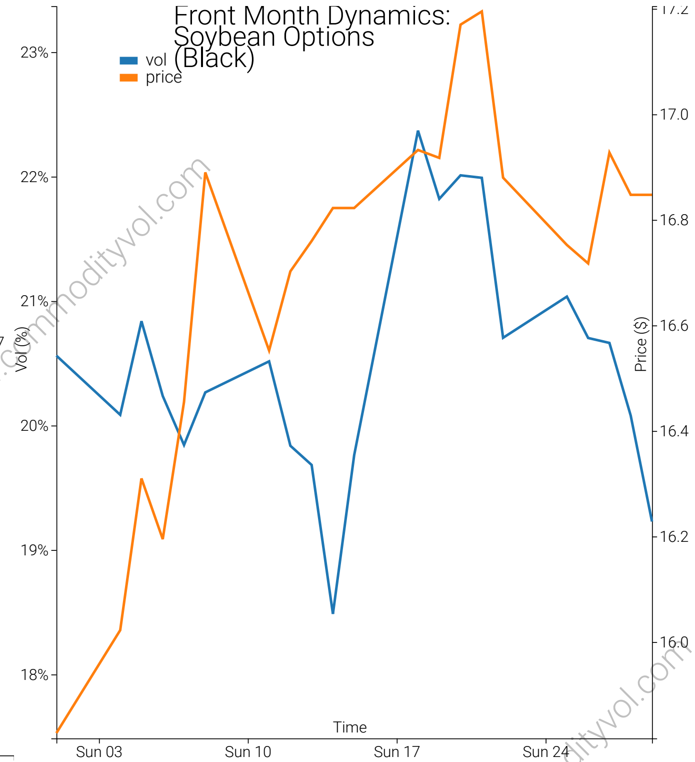

Termstructure Evolution:
Corn Options
(Black)
Vol (%)
Time to Expiry (Yrs)
20220520
20230421
20241122
Start 2022-04-01
Today 2022-04-29

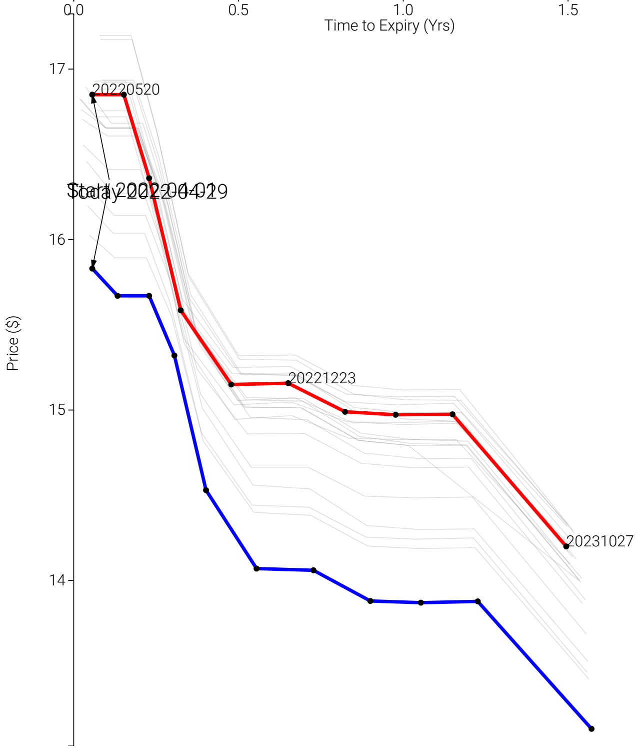

Front Month Dynamics:
Corn Options
(Black)
vol
price
Vol (%)
Price ($)
Time
Sun 03
Sun 10
Sun 17
Sun 24

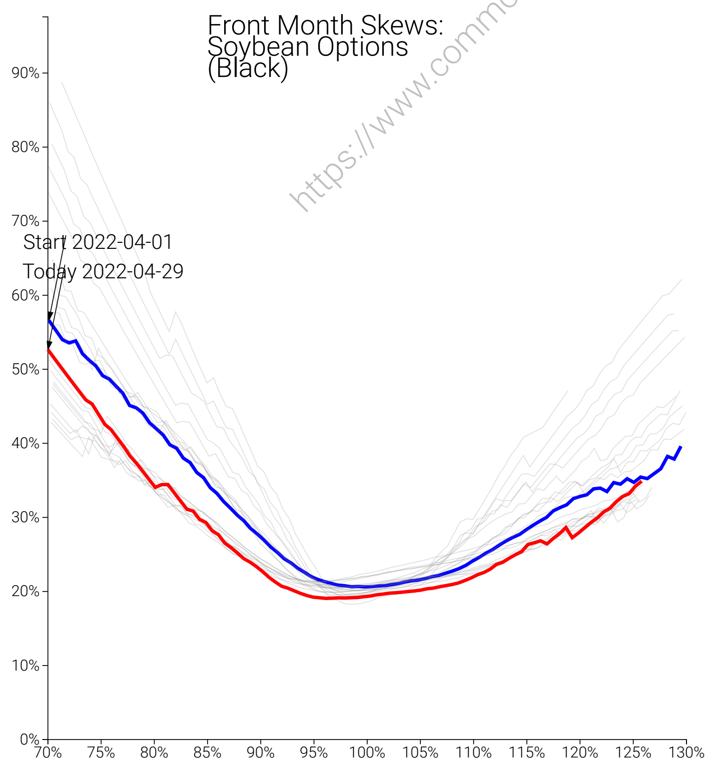

Price ($)
20220520
Today 2022-04-29
Start 2022-04-01
20230421
20241122

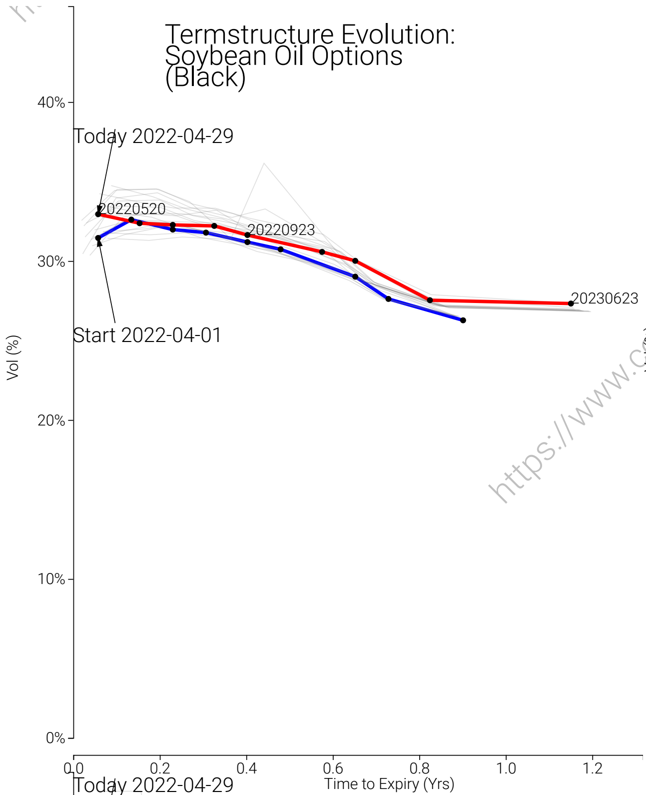

Front Month Skews:
Corn Options
(Black)
Today 2022-04-29
Start 2022-04-01

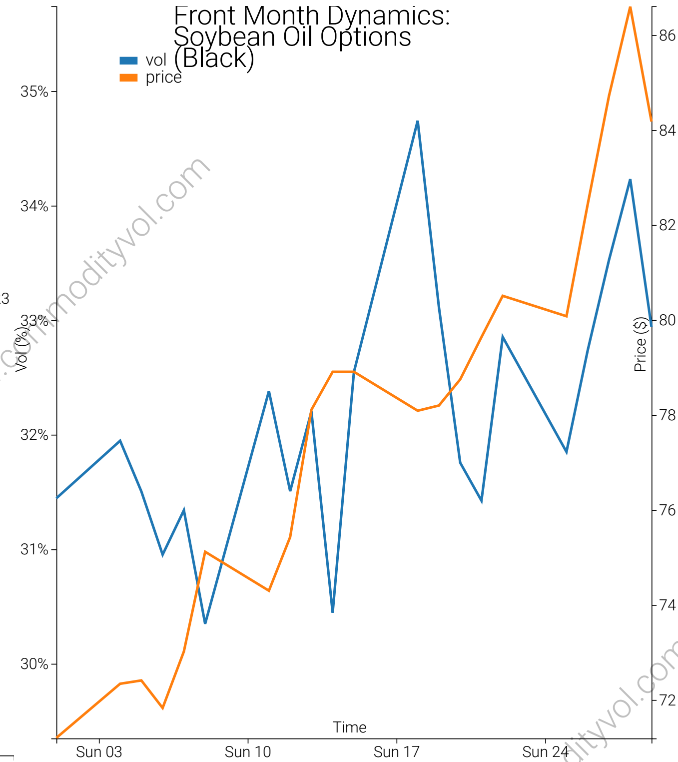

Termstructure Evolution:
Soybean Options
(Black)
30%
25%
20%
15%
10%
5%
0%
Vol (%)
20221223
20220520
20231027
Start 2022-04-01
Today 2022-04-29
0.0
0.5
1.0
1.5
Time to Expiry (Yrs)

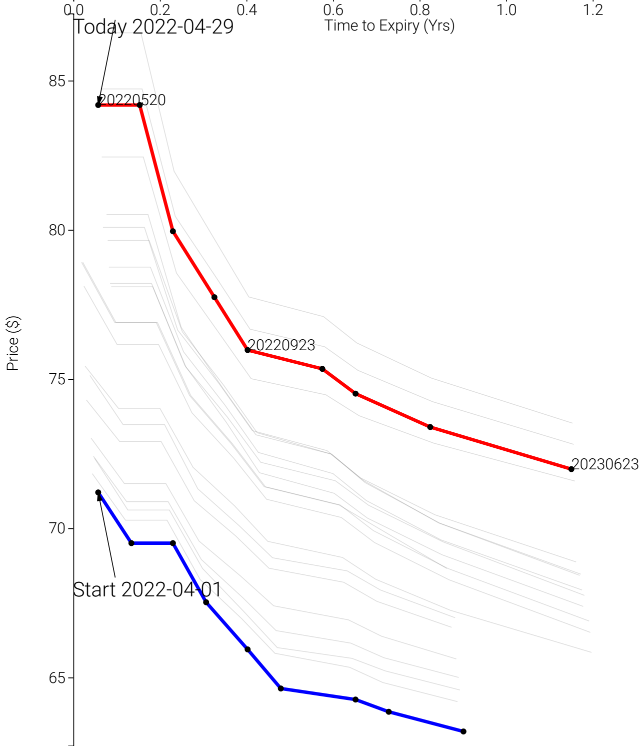

Front Month Dynamics:
Soybean Options
(Black)
vol
price
23%
22%
21%
20%
19%
18%
Vol (%)
17.2
17.0
16.8
16.6
16.4
16.2
16.0
Price ($)
Time
Sun 03
Sun 10
Sun 17
Sun 24

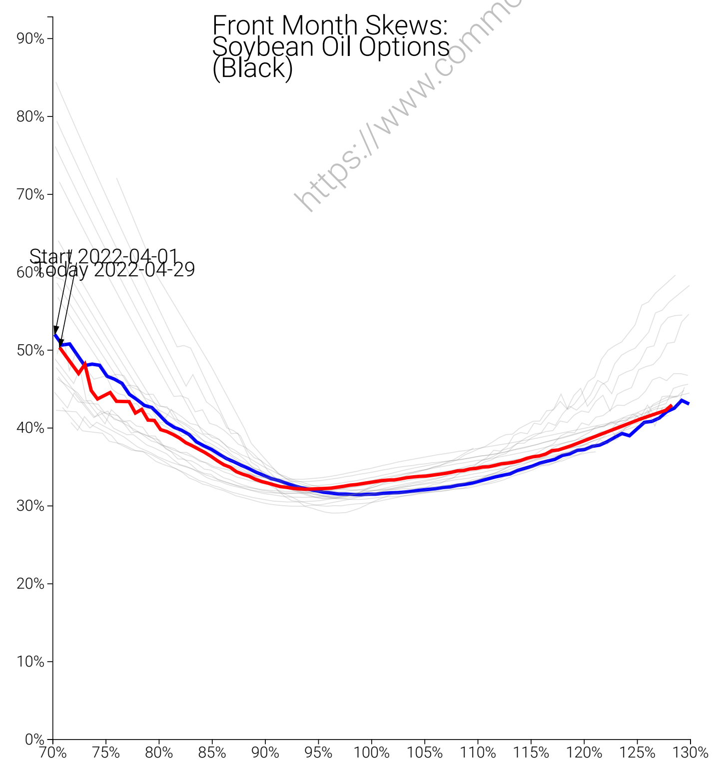

17
16
15
14
Price ($)
20220520
Start 2022-04-01
Today 2022-04-29
20221223
20231027

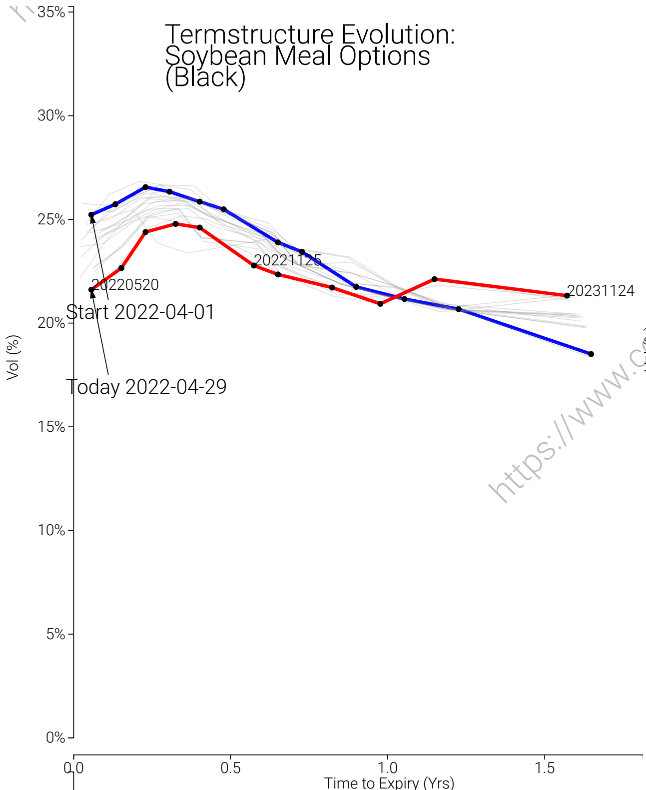

Front Month Skews:
Soybean Options
(Black)
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
Start 2022-04-01
Today 2022-04-29
70%
75%
80%
85%
90%
95%
100%
105%
110%
115%
120%
125%
130%

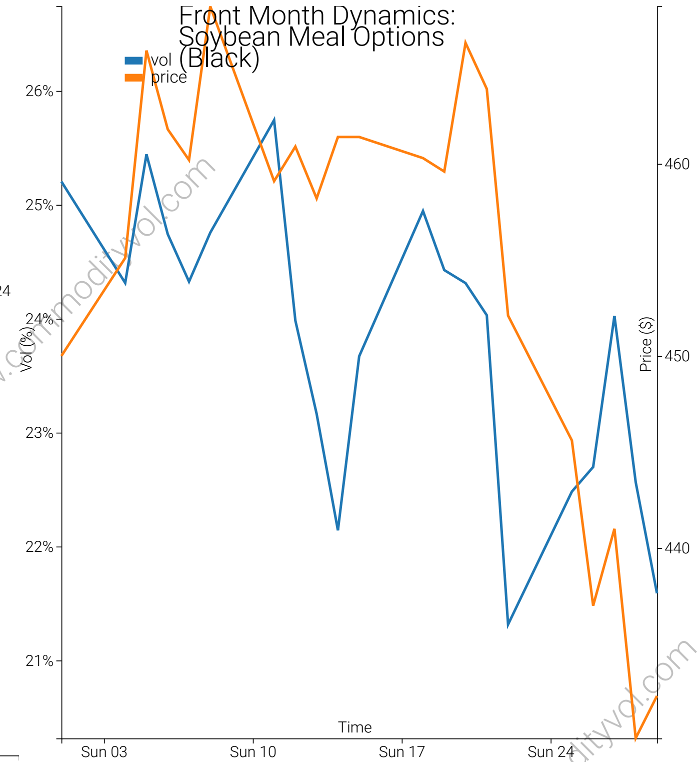

Termstructure Evolution:
Soybean Oil Options
(Black)
Today 2022-04-29
Start 2022-04-01
20220520
20220923
20230623
Vol (%)
Time to Expiry (Yrs)

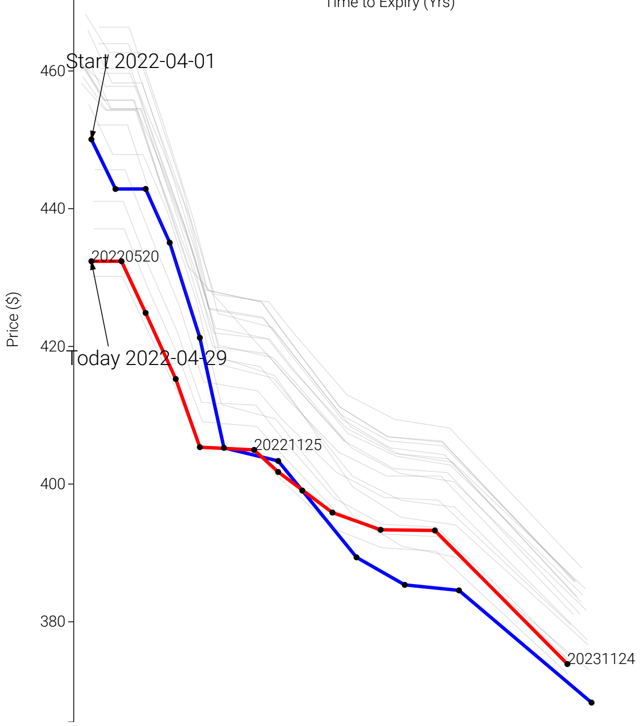

Front Month Dynamics:
Soybean Oil Options
(Black)
vol
price
Vol (%)
Price ($)
Time
Sun 03
Sun 10
Sun 17
Sun 24

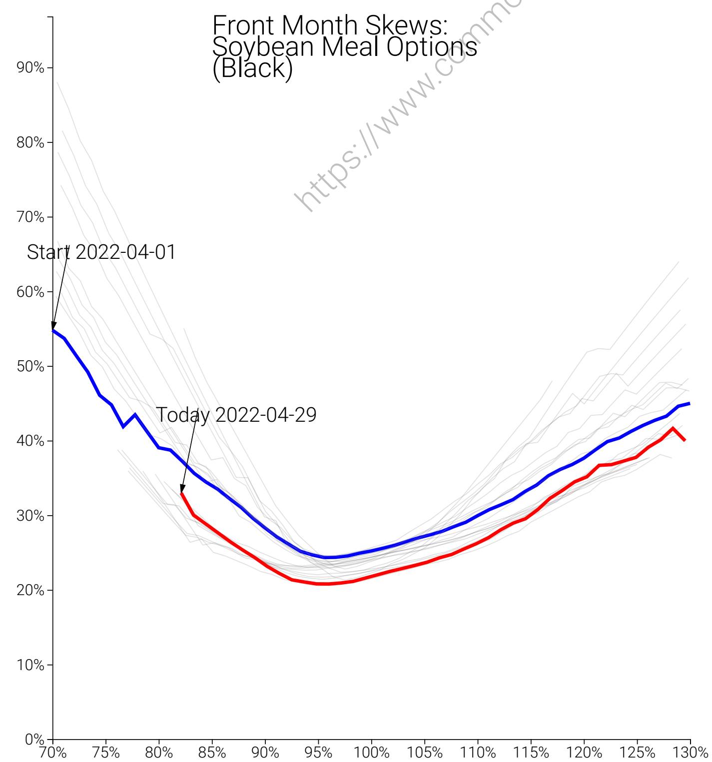

Today 2022-04-29
Start 2022-04-01
20220520
20220923
20230623
Price ($)

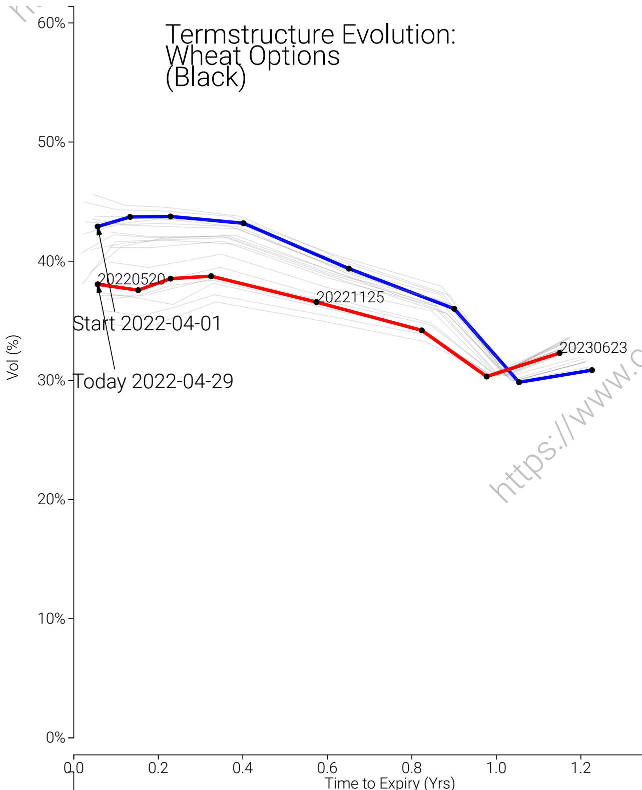

Front Month Skews:
Soybean Oil Options
(Black)
Start 2022-04-01
Today 2022-04-29

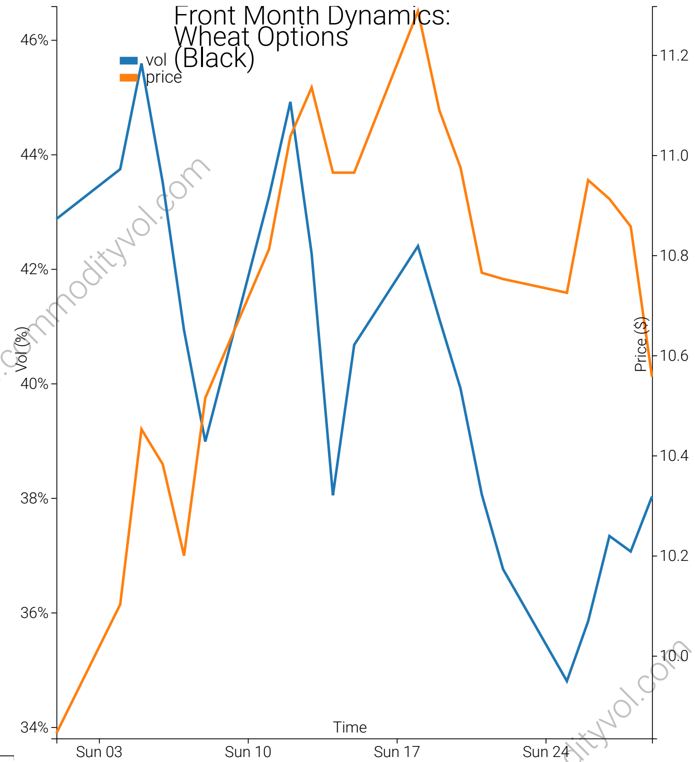

Termstructure Evolution:
Soybean Meal Options
(Black)
Vol (%)
Time to Expiry (Yrs)
20220520
20221125
20231124
Start 2022-04-01
Today 2022-04-29

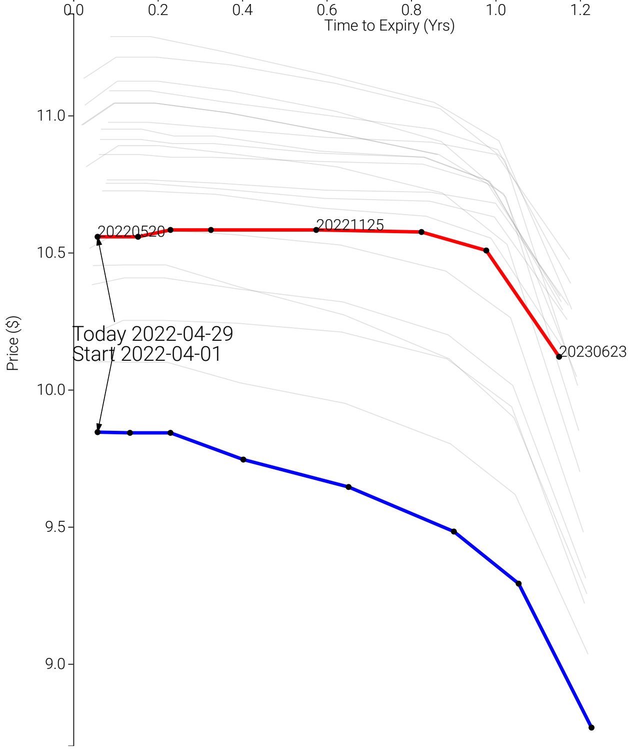

Front Month Dynamics:
Soybean Meal Options
(Black)
vol
price
Vol (%)
Price ($)
Time
Sun 03
Sun 10
Sun 17
Sun 24

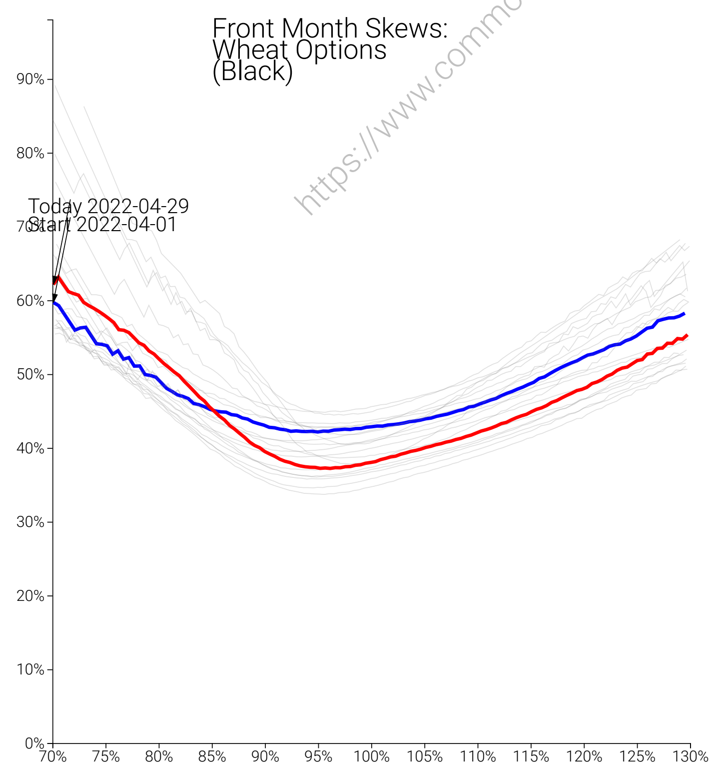

Price ($)
Start 2022-04-01
20220520
Today 2022-04-29
20221125
20231124

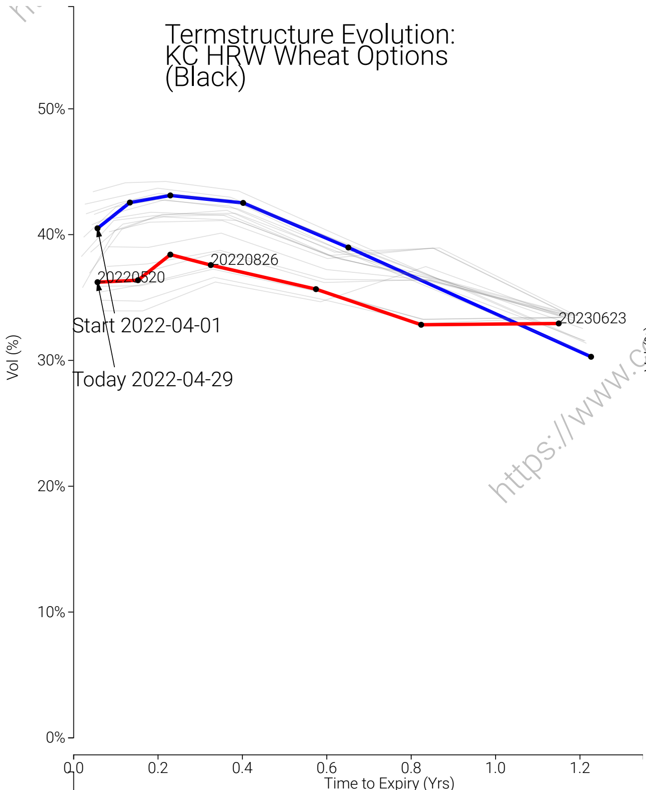

Front Month Skews:
Soybean Meal Options
(Black)
Start 2022-04-01
Today 2022-04-29

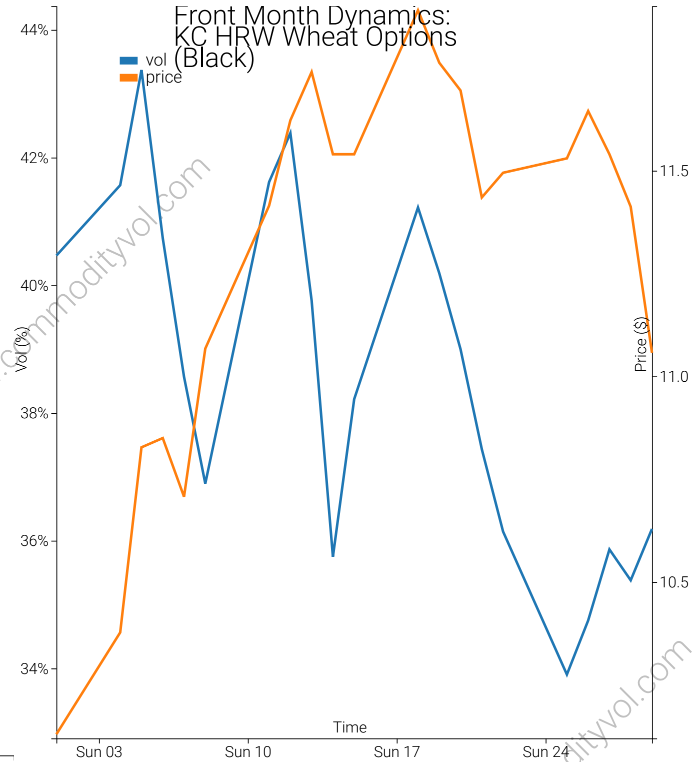

Termstructure Evolution:
Wheat Options
(Black)
Vol (%)
Time to Expiry (Yrs)
20220520
20221125
20230623
Start 2022-04-01
Today 2022-04-29

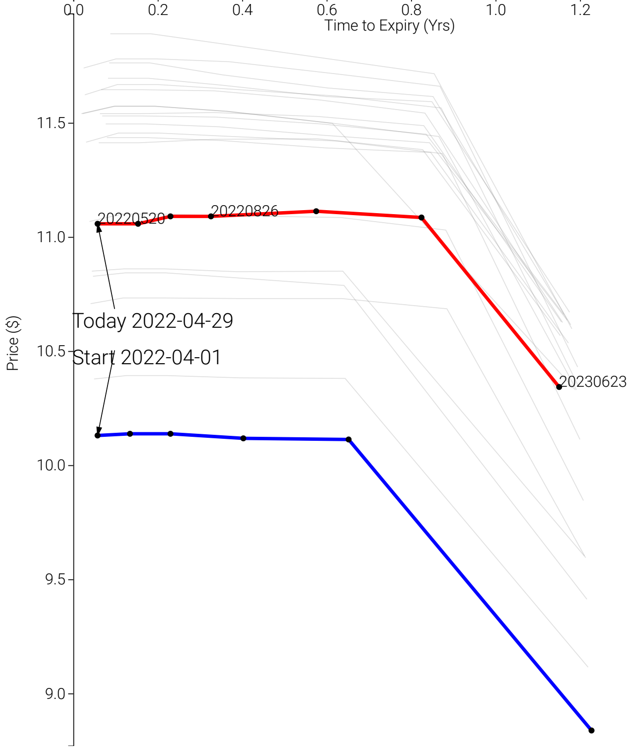

Front Month Dynamics:
Wheat Options
(Black)
vol
price
Vol (%)
Price ($)
Time
Sun 03
Sun 10
Sun 17
Sun 24

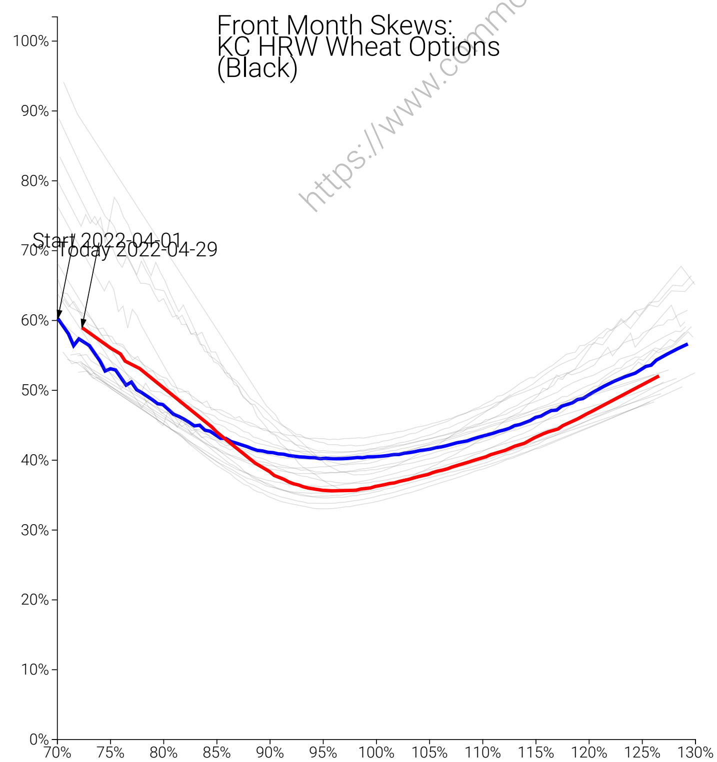

Price ($)
20220520
20221125
20230623
Today 2022-04-29
Start 2022-04-01

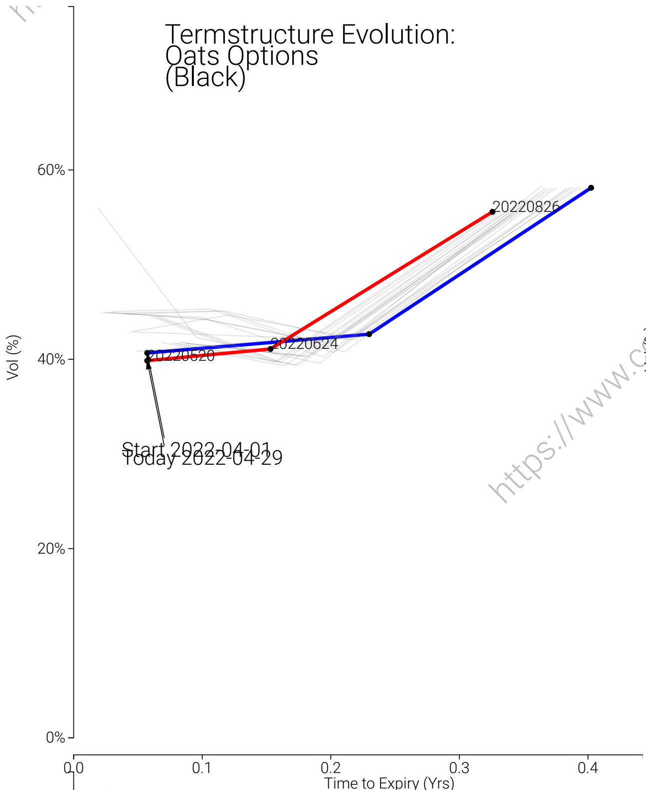

Front Month Skews:
Wheat Options
(Black)
Today 2022-04-29
Start 2022-04-01

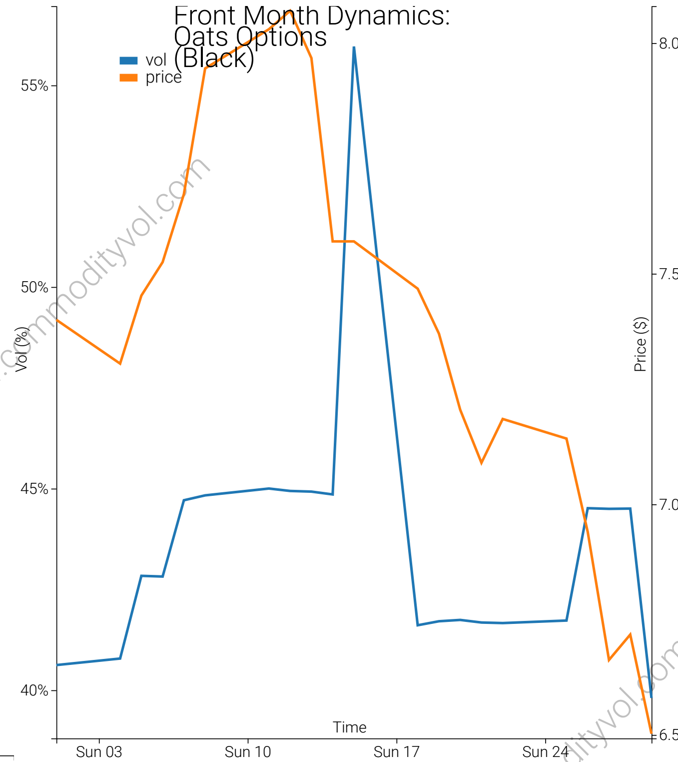

Termstructure Evolution:
KC HRW Wheat Options
(Black)
Vol (%)
Time to Expiry (Yrs)
20220520
20220826
20230623
Start 2022-04-01
Today 2022-04-29

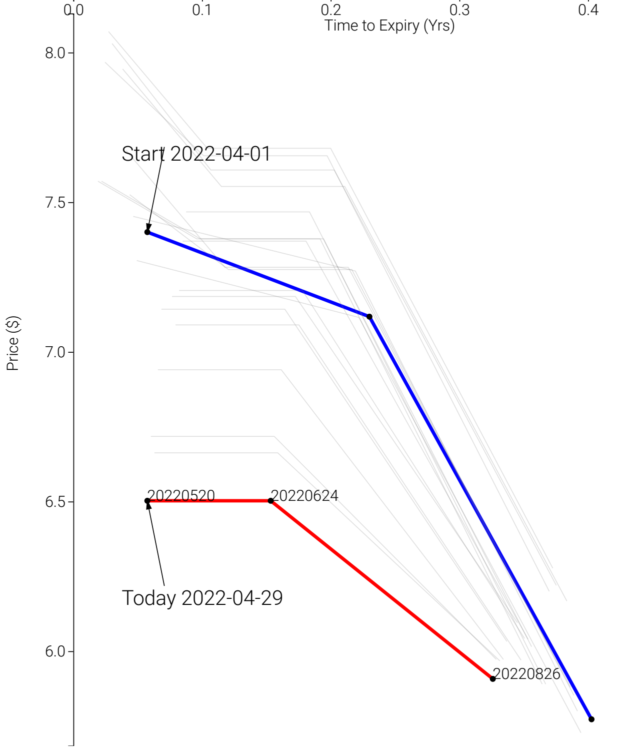

Front Month Dynamics:
KC HRW Wheat Options
(Black)
vol
price
Vol (%)
Price ($)
Time
Sun 03
Sun 10
Sun 17
Sun 24

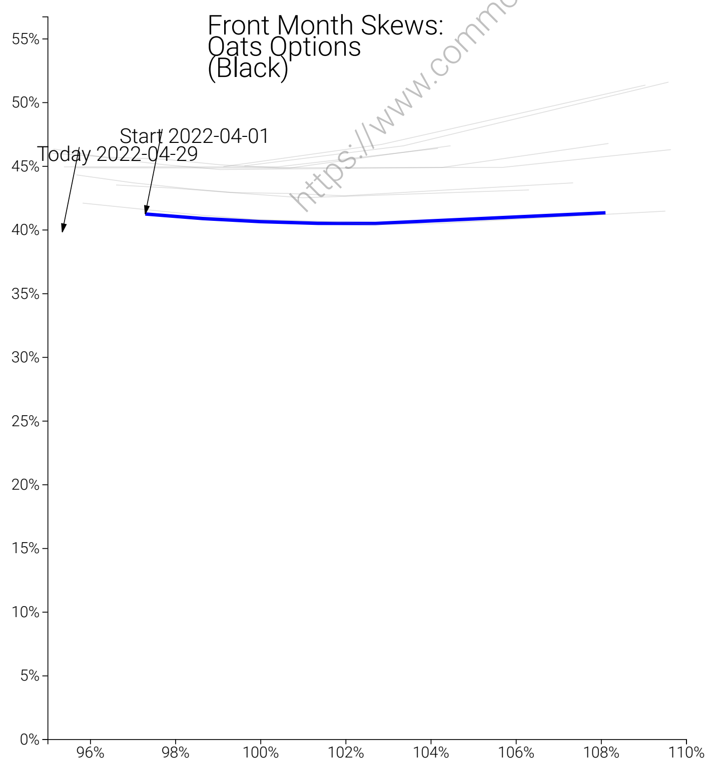

Price ($)
20220520
20220826
20230623
Today 2022-04-29
Start 2022-04-01

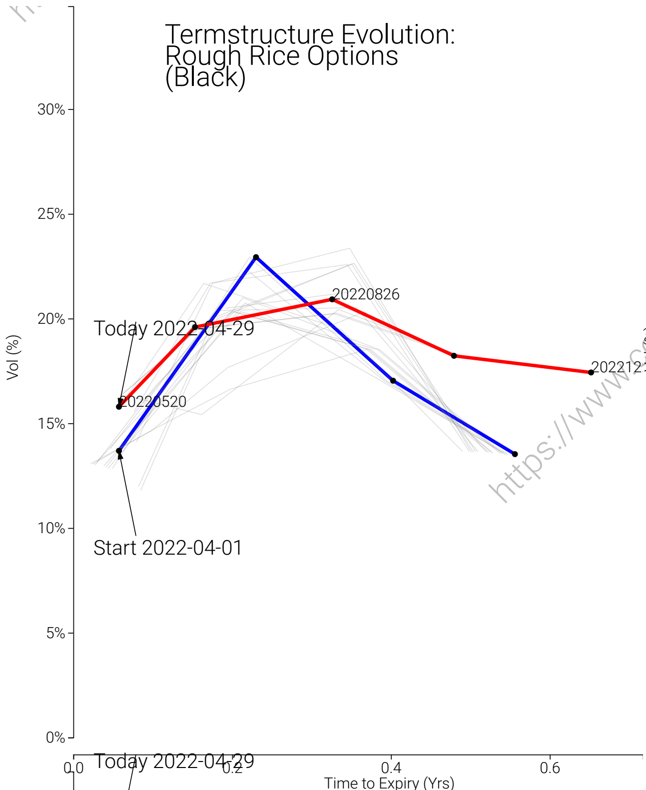

Front Month Skews:
KC HRW Wheat Options
(Black)
Start 2022-04-01
Today 2022-04-29

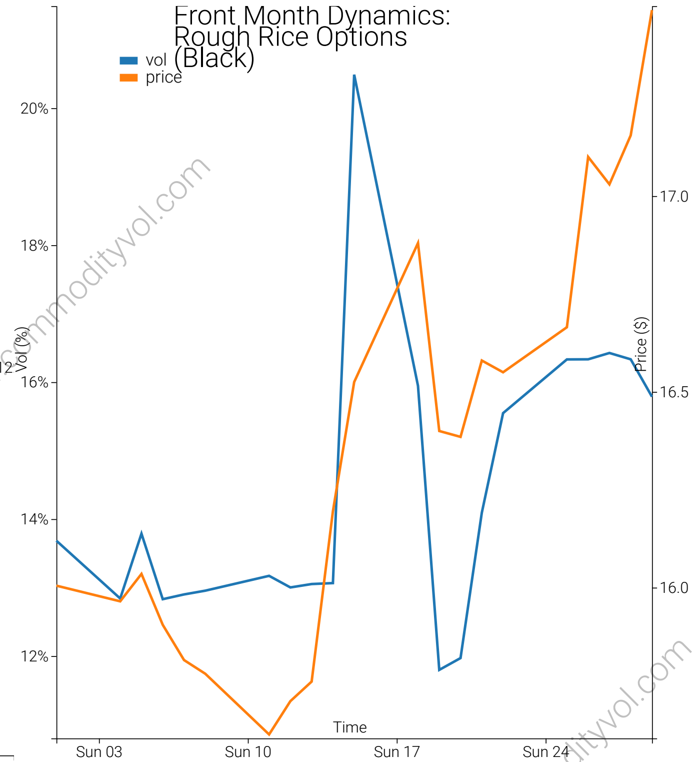

Termstructure Evolution:
Oats Options
(Black)
Vol (%)
60%
40%
20%
0%
20220826
20220624
20220520
Start 2022-04-01
Today 2022-04-29
0.0
0.1
0.2
0.3
0.4
Time to Expiry (Yrs)

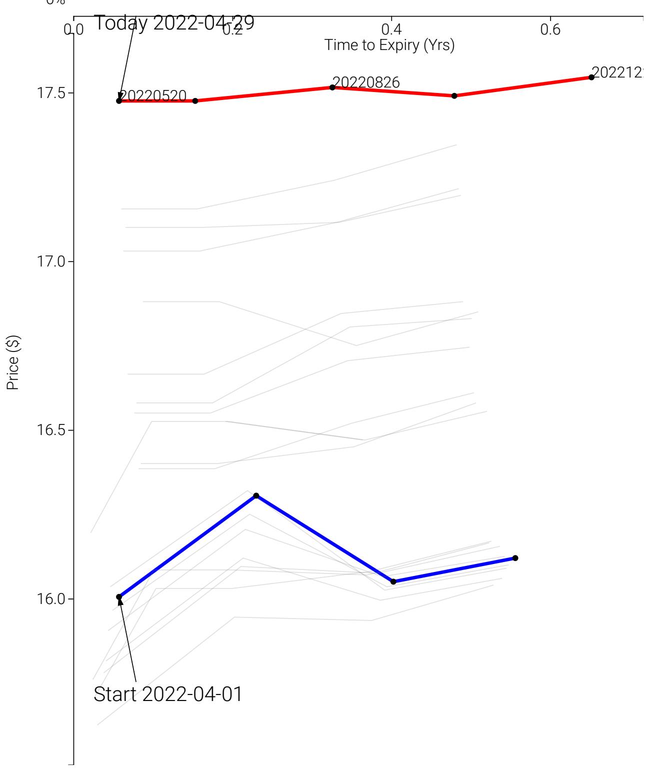

Front Month Dynamics:
Oats Options
(Black)
vol
price
Vol (%)
Price ($)
55%
50%
45%
40%
8.0
7.5
7.0
6.5
Time
Sun 03
Sun 10
Sun 17
Sun 24

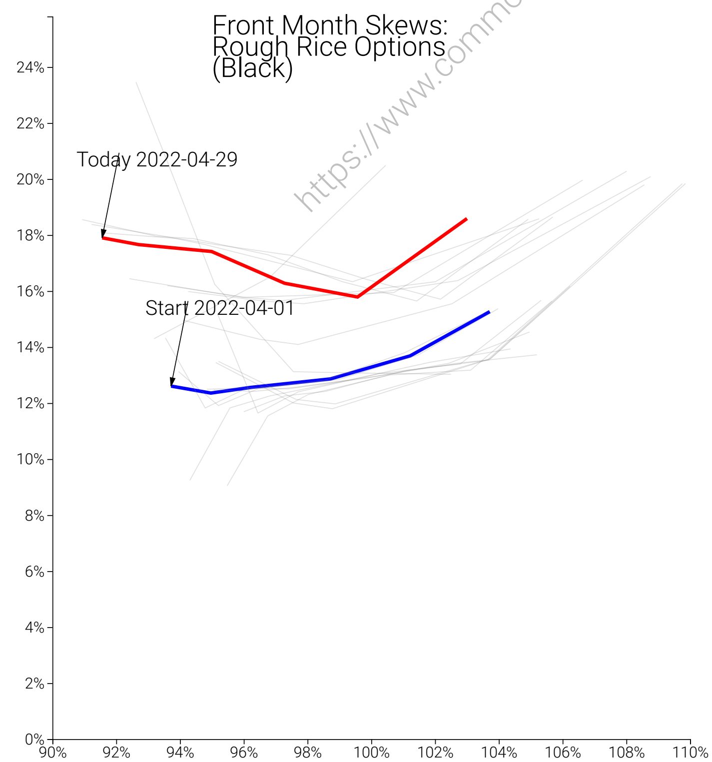

Price ($)
8.0
7.5
7.0
6.5
6.0
Start 2022-04-01
20220520
20220624
Today 2022-04-29
20220826

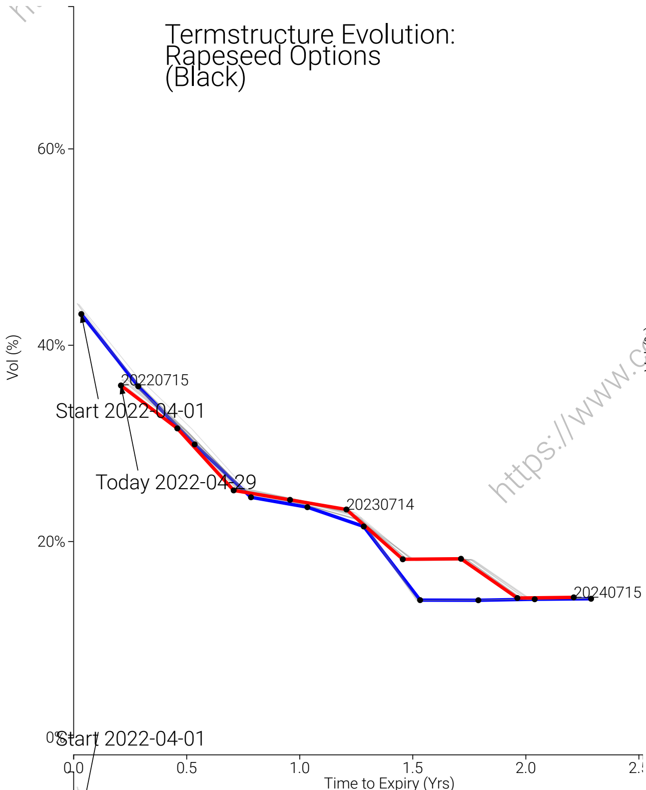

Front Month Skews:
Oats Options
(Black)
Start 2022-04-01
Today 2022-04-29
55%
50%
45%
40%
35%
30%
25%
20%
15%
10%
5%
0%
96%
98%
100%
102%
104%
106%
108%
110%

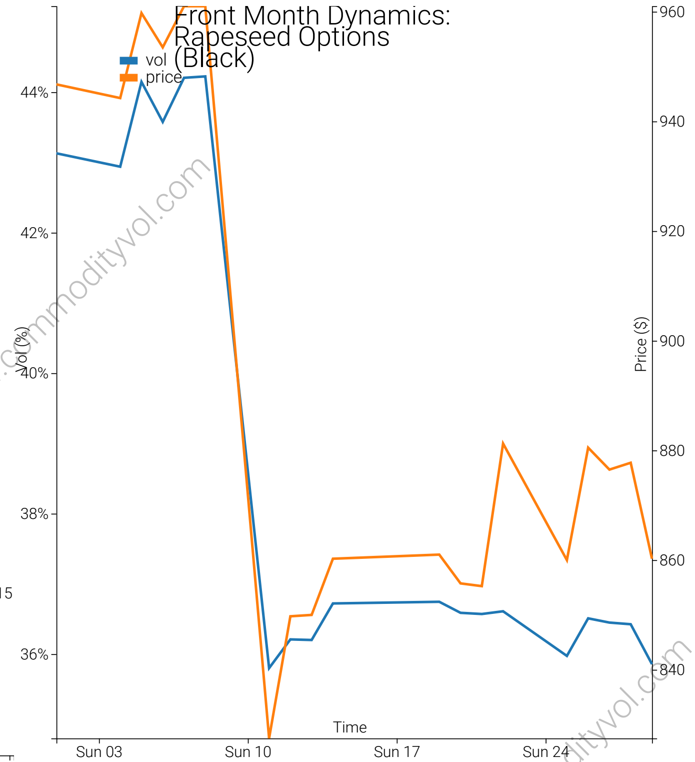

Termstructure Evolution:
Rough Rice Options
(Black)
Vol (%)
30%
25%
20%
15%
10%
5%
0%
Today 2022-04-29
Start 2022-04-01
20220520
20220826
202212
0.0
0.2
0.4
0.6
Time to Expiry (Yrs)

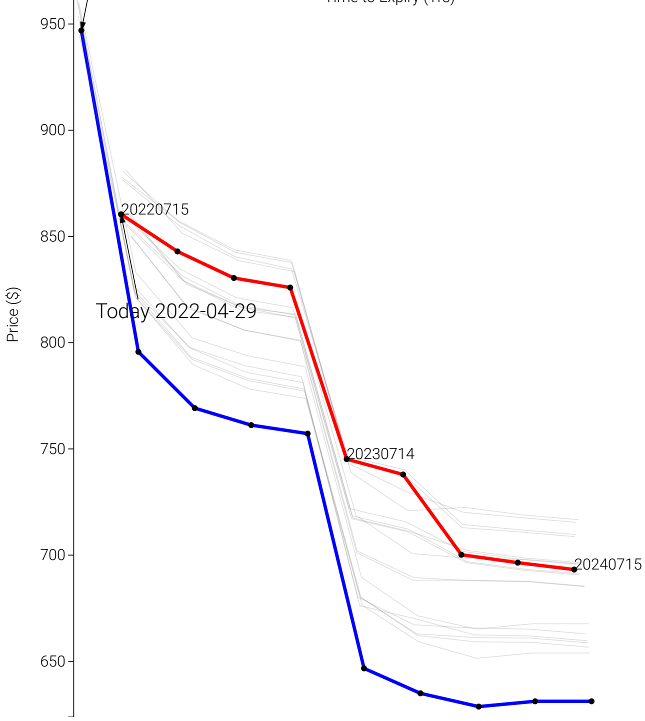

Front Month Dynamics:
Rough Rice Options
(Black)
vol
price
Vol (%)
Price ($)
20%
18%
16%
14%
12%
17.0
16.5
16.0
Time
Sun 03
Sun 10
Sun 17
Sun 24

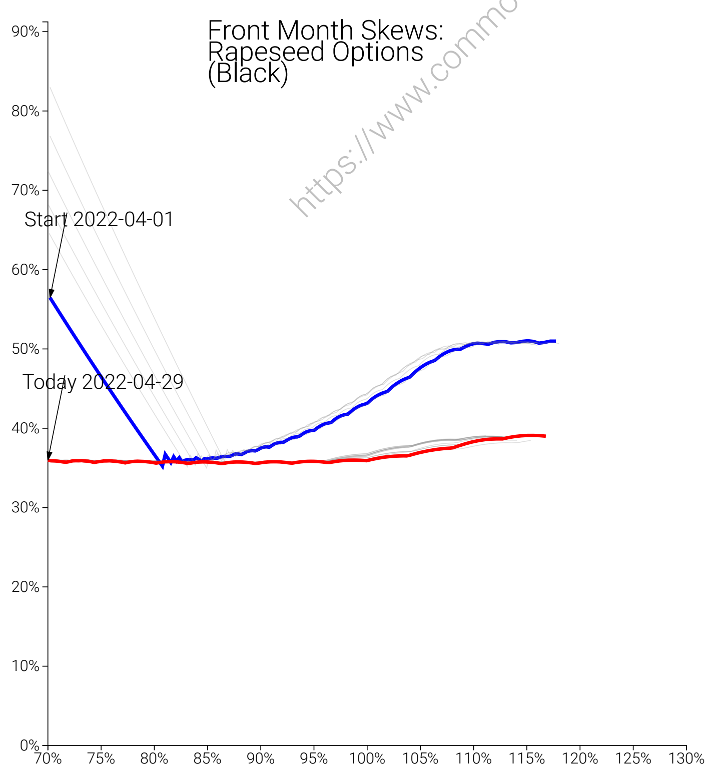

Price ($)
17.5
17.0
16.5
16.0
Today 2022-04-29
Start 2022-04-01
20220520
20220826
202212


Front Month Skews:
Rough Rice Options
(Black)
Today 2022-04-29
Start 2022-04-01
24%
22%
20%
18%
16%
14%
12%
10%
8%
6%
4%
2%
0%
90%
92%
94%
96%
98%
100%
102%
104%
106%
108%
110%

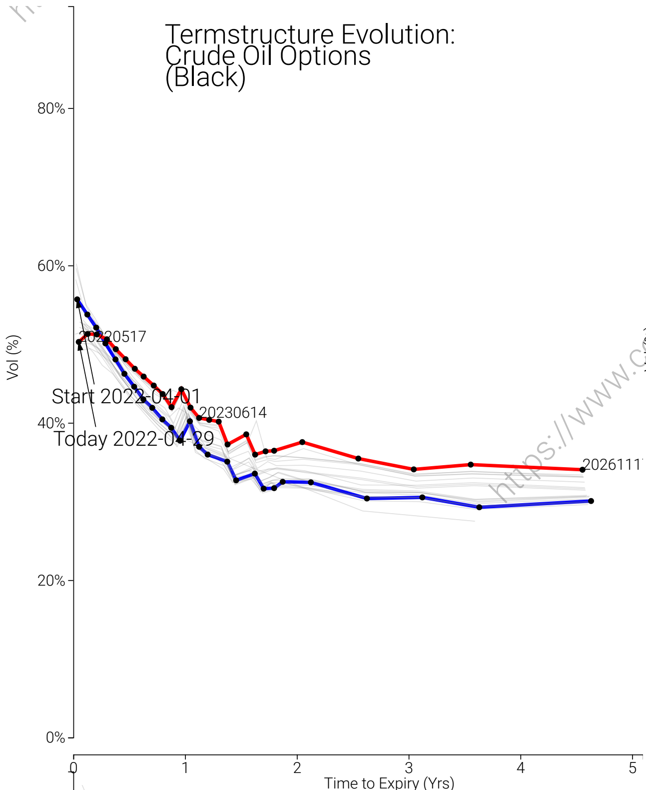

Termstructure Evolution:
Rapeseed Options
(Black)
Vol (%)
Time to Expiry (Yrs)
20220715
20230714
20240715
Start 2022-04-01
Today 2022-04-29

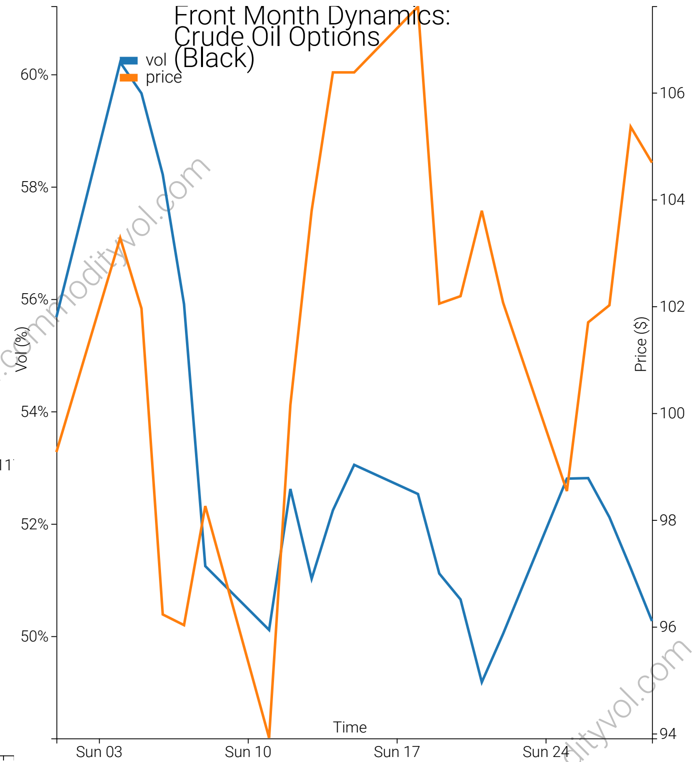

Front Month Dynamics:
Rapeseed Options
(Black)
vol
price
Vol (%)
Price ($)
Time
Sun 03
Sun 10
Sun 17
Sun 24

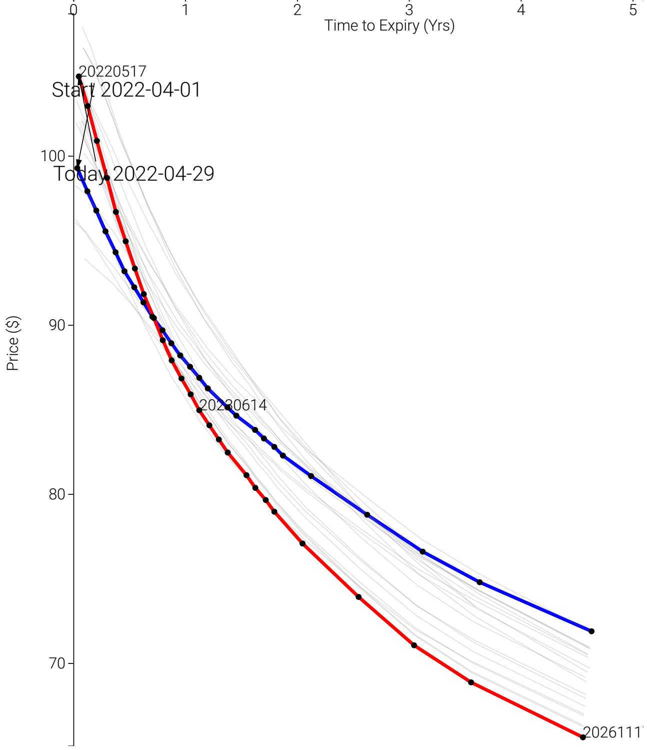

Start 2022-04-01
Price ($)
20220715
Today 2022-04-29
20230714
20240715

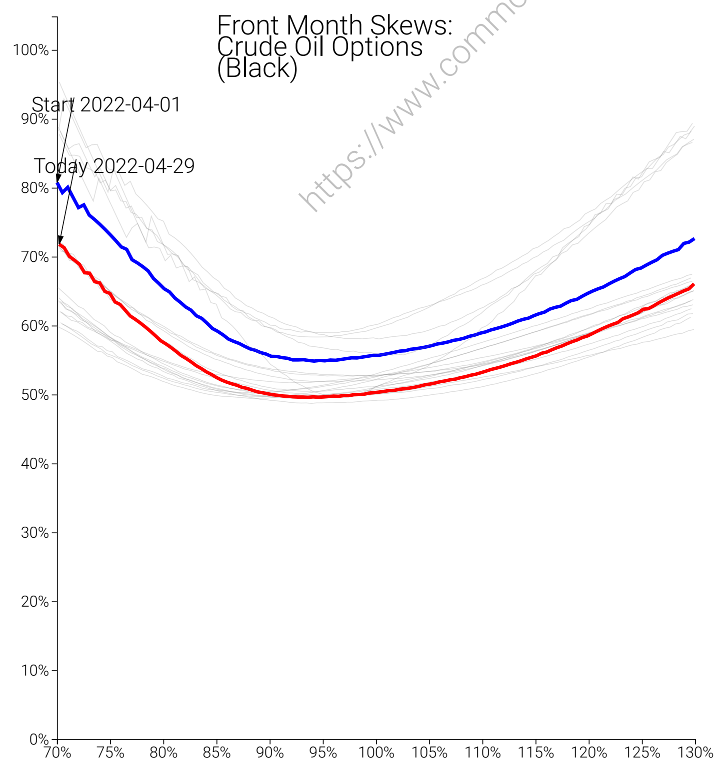

Front Month Skews:
Rapeseed Options
(Black)
Start 2022-04-01
Today 2022-04-29

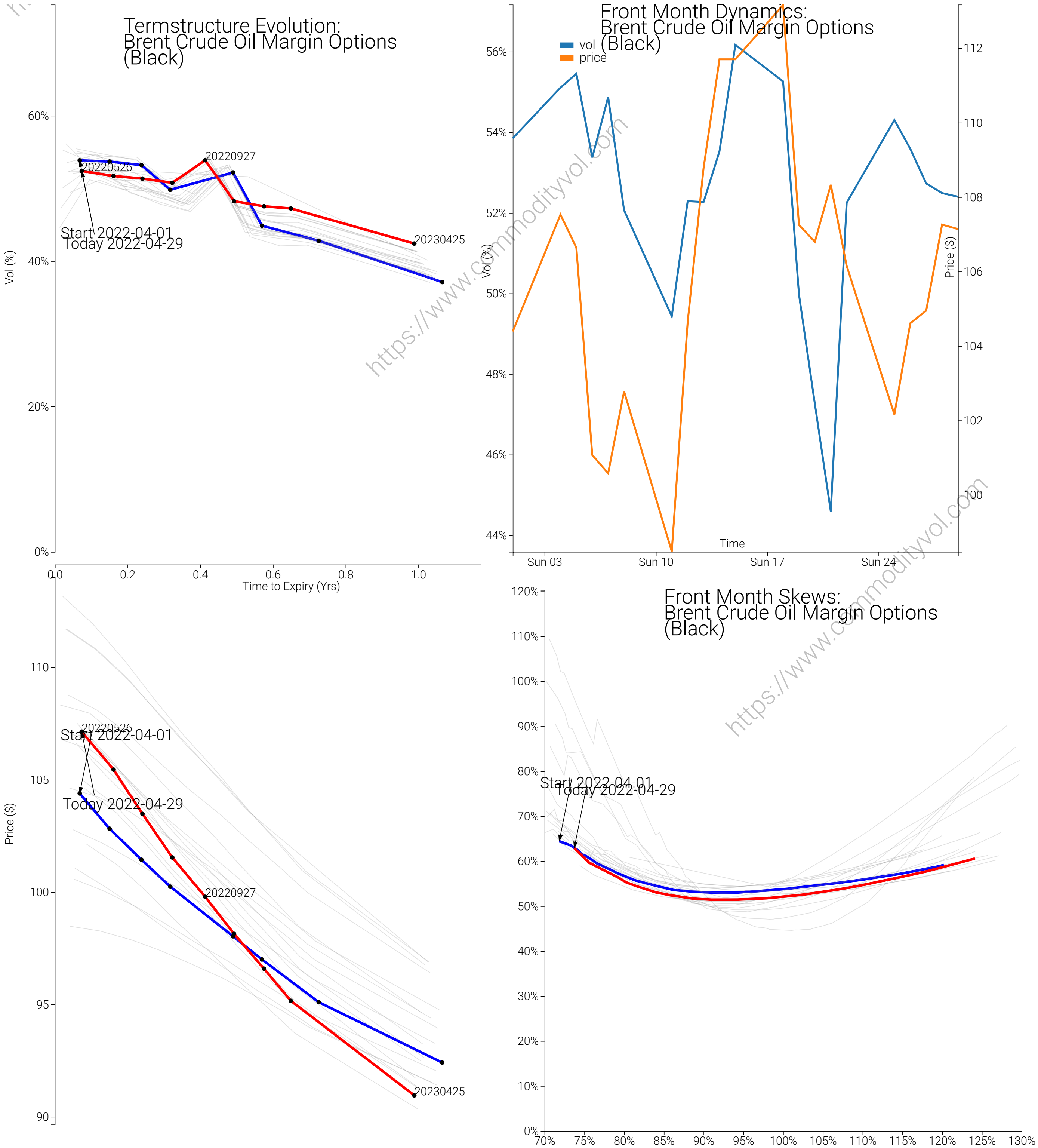
Crude and Derivatives

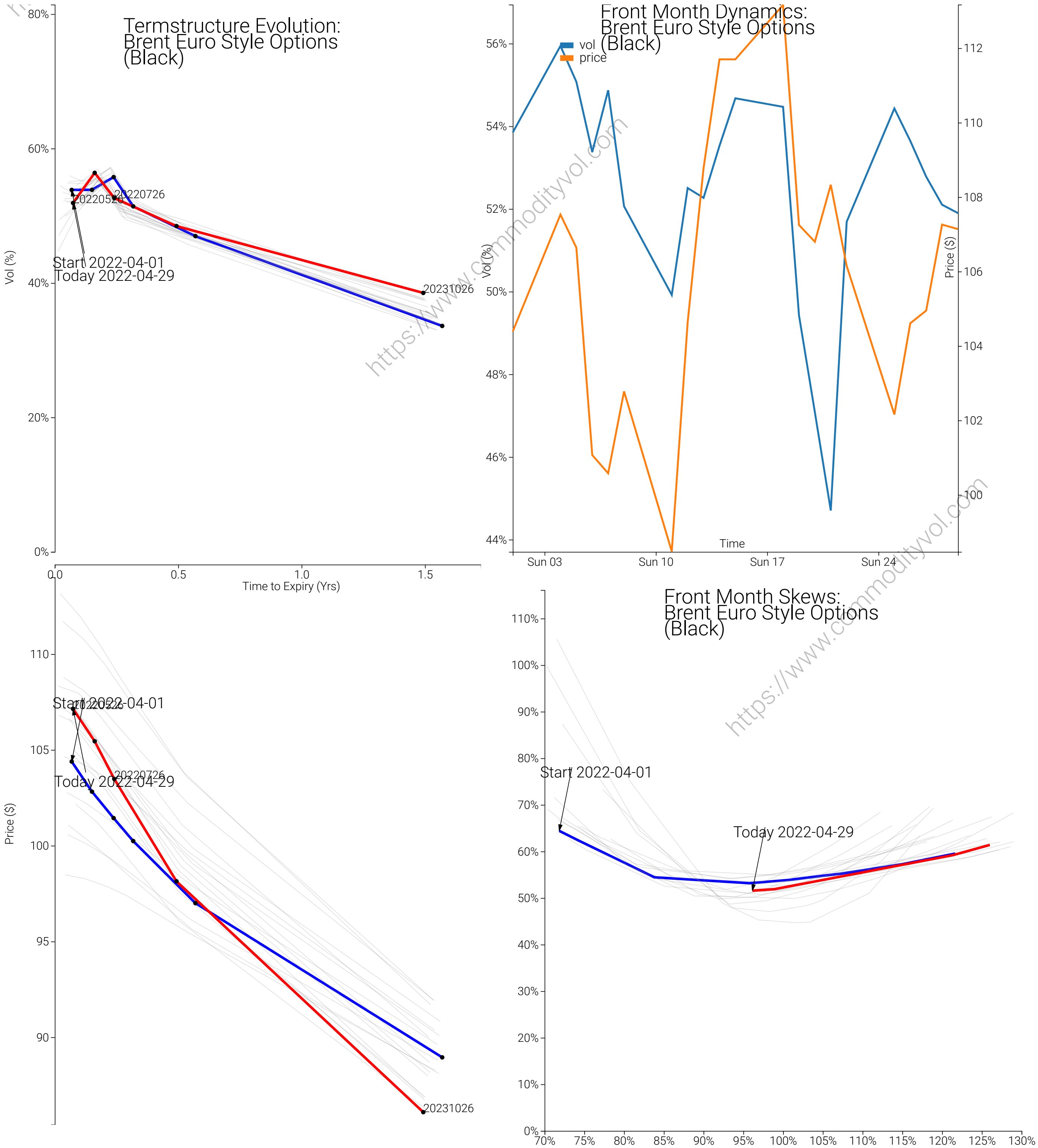

Termstructure Evolution:
Crude Oil Options
(Black)
Vol (%)
Time to Expiry (Yrs)
20220517
Start 2022-04-01
Today 2022-04-29
20230614
2026111


Front Month Dynamics:
Crude Oil Options
(Black)
vol
price
Vol (%)
Price ($)
Time
Sun 03
Sun 10
Sun 17
Sun 24

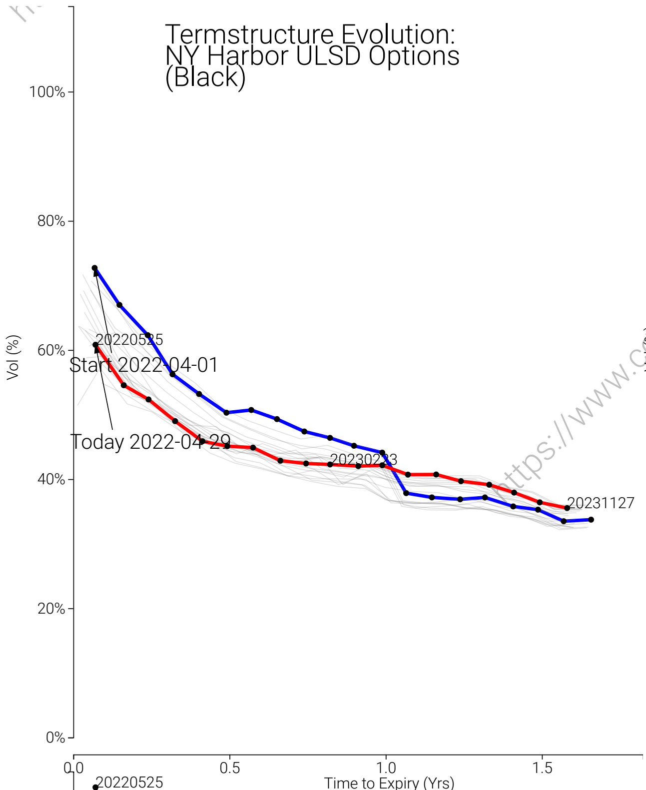

Price ($)
20220517
Start 2022-04-01
Today 2022-04-29
20230614
2026111


Front Month Skews:
Crude Oil Options
(Black)
Start 2022-04-01
Today 2022-04-29

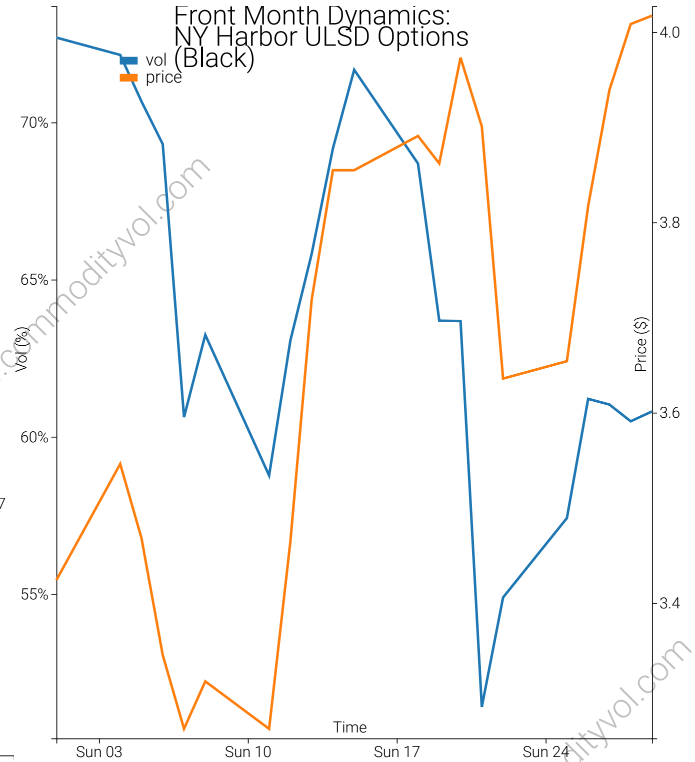

Termstructure Evolution:
Brent Crude Oil Margin Options
(Black)
Vol (%)
Time to Expiry (Yrs)
20220526
20220927
20230425
Start 2022-04-01
Today 2022-04-29
Front Month Dynamics:
Brent Crude Oil Margin Options
(Black)
vol
price
Vol (%)
Price ($)
Time
Sun 03
Sun 10
Sun 17
Sun 24
Price ($)
Front Month Skews:
Brent Crude Oil Margin Options
(Black)
https://www.commodityvol.com



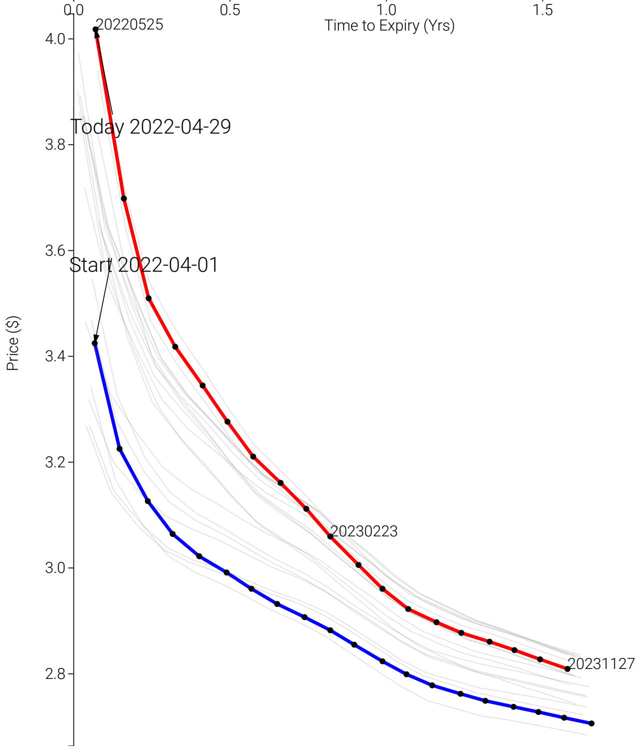
Termstructure Evolution:
Brent Euro Style Options
(Black)
Vol (%)
Time to Expiry (Yrs)
20220526
20220726
Start 2022-04-01
Today 2022-04-29
20231026
Front Month Dynamics:
Brent Euro Style Options
(Black)
vol
price
Vol (%)
Price ($)
Time
Sun 03
Sun 10
Sun 17
Sun 24
Price ($)
Front Month Skews:
Brent Euro Style Options
(Black)
https://www.commodityvol.com



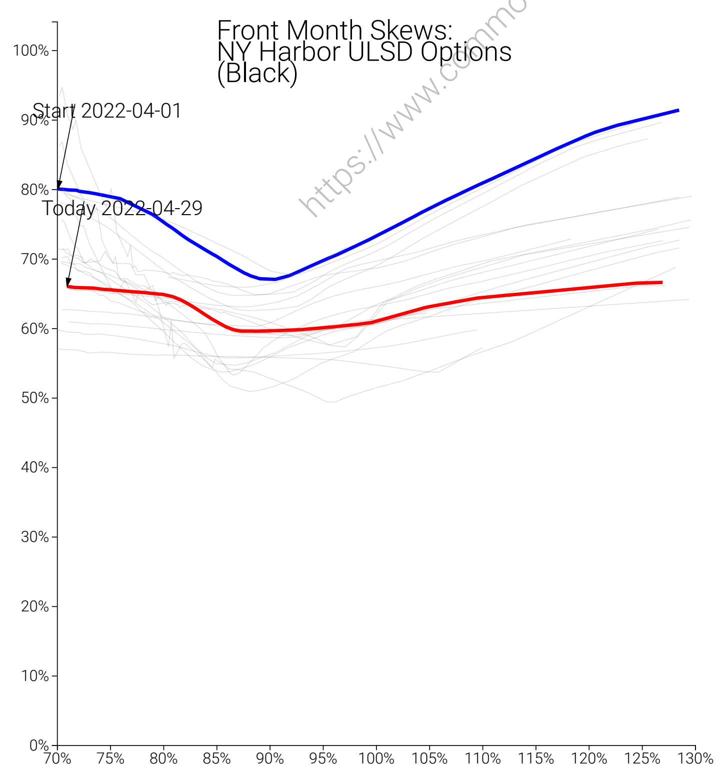
Termstructure Evolution:
NY Harbor ULSD Options
(Black)
Vol (%)
Time to Expiry (Yrs)
20220525
Start 2022-04-01
Today 2022-04-29
20230223
20231127



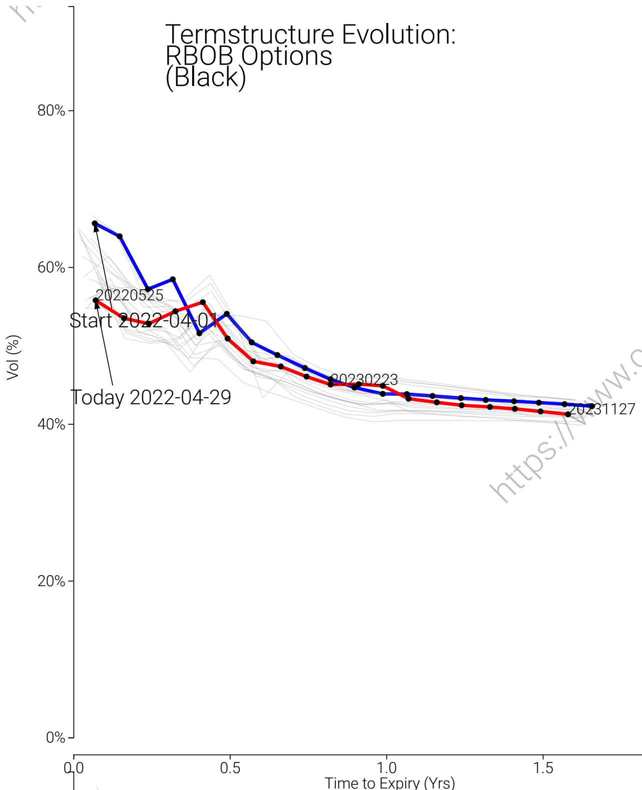
Front Month Dynamics:
NY Harbor ULSD Options
(Black)
vol
price
Vol (%)
Price ($)
Time
Sun 03
Sun 10
Sun 17
Sun 24

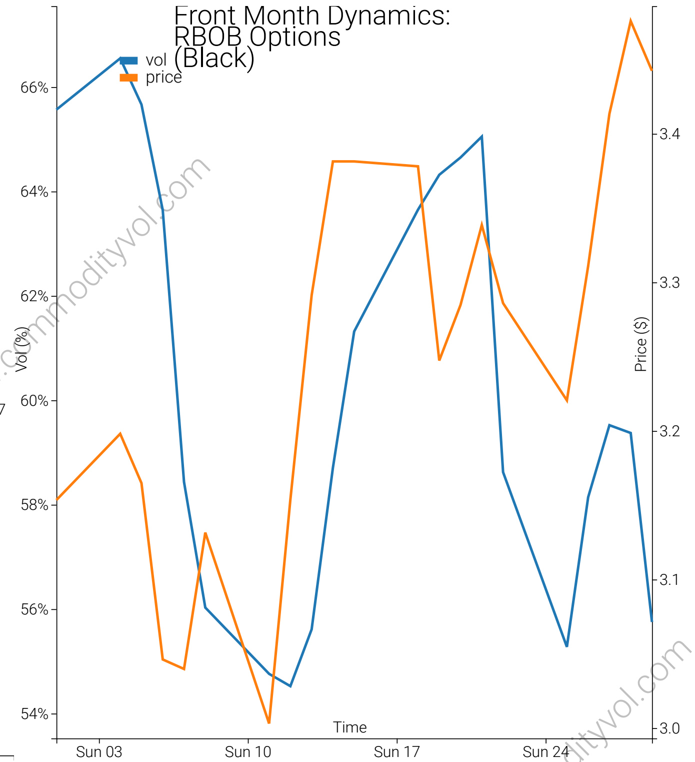


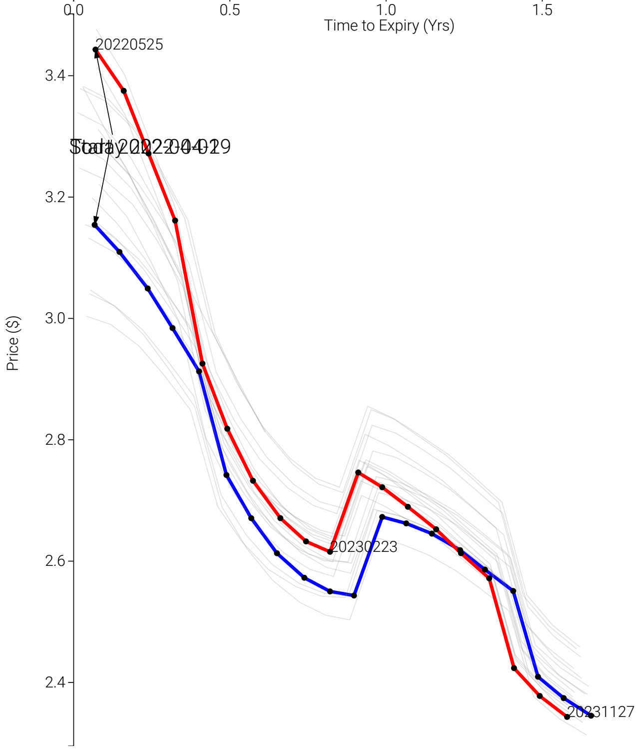
Price ($)
20220525
Today 2022-04-29
Start 2022-04-01
20230223
20231127

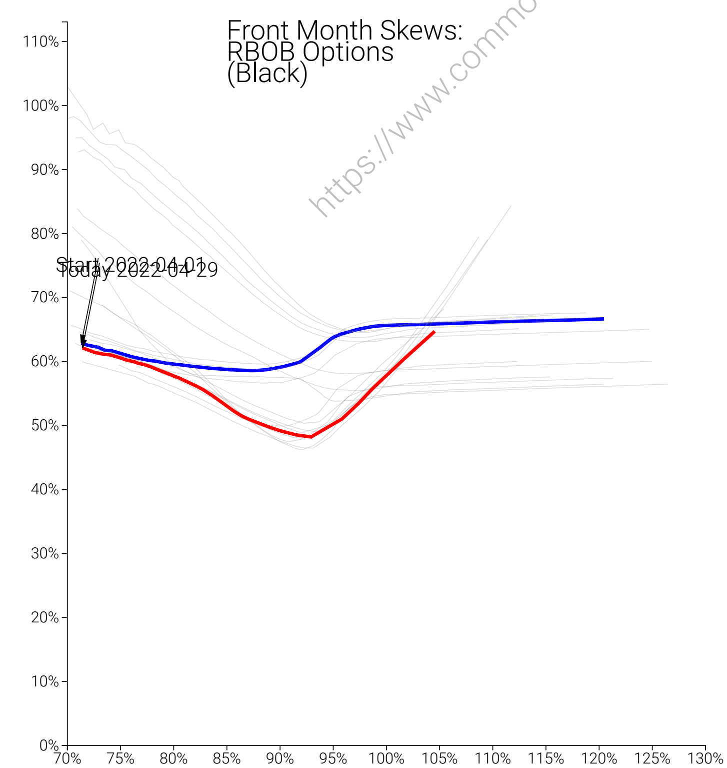


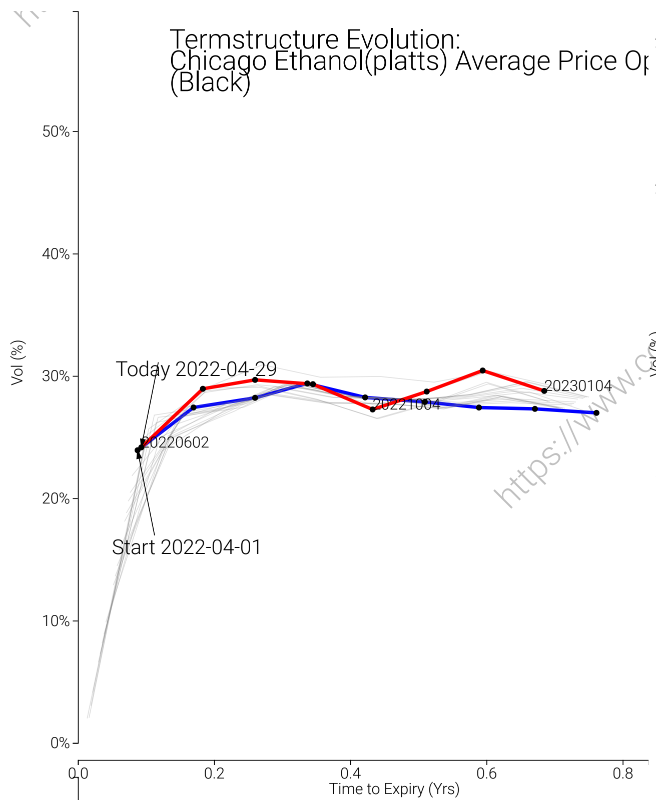
Front Month Skews:
NY Harbor ULSD Options
(Black)
Start 2022-04-01
Today 2022-04-29

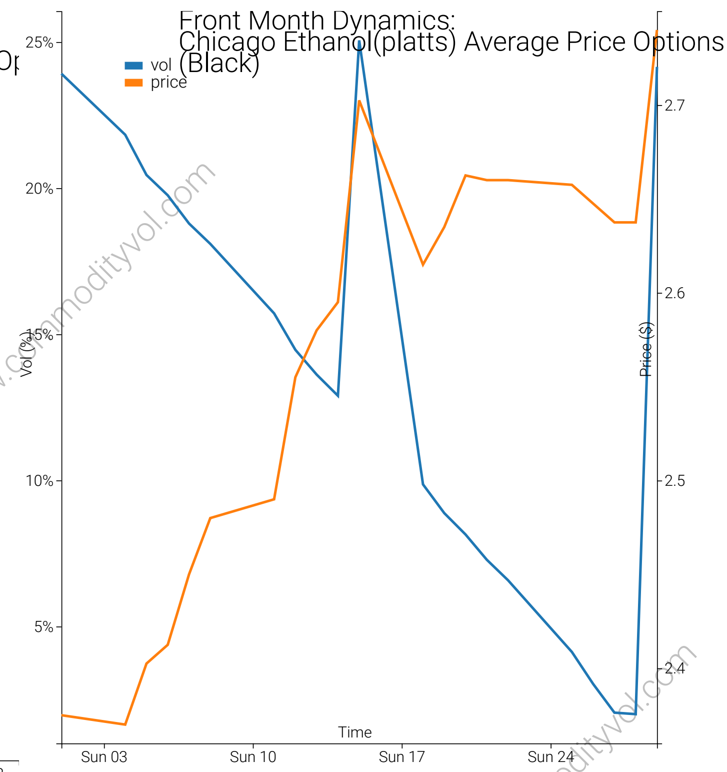

Termstructure Evolution:
RBOB Options
(Black)
Vol (%)
Time to Expiry (Yrs)
20220525
Start 2022-04-01
Today 2022-04-29
20230223
20231127

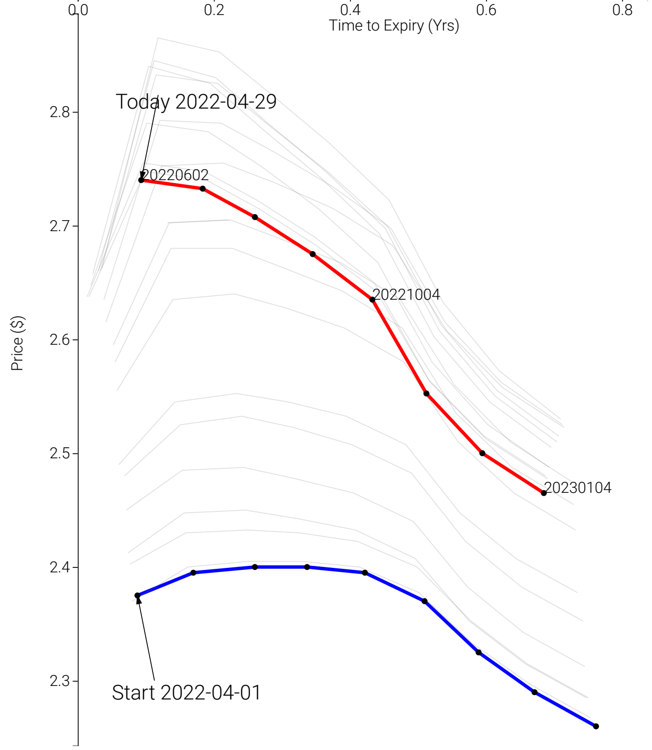

Front Month Dynamics:
RBOB Options
(Black)
vol
price
Vol (%)
Price ($)
Time
Sun 03
Sun 10
Sun 17
Sun 24

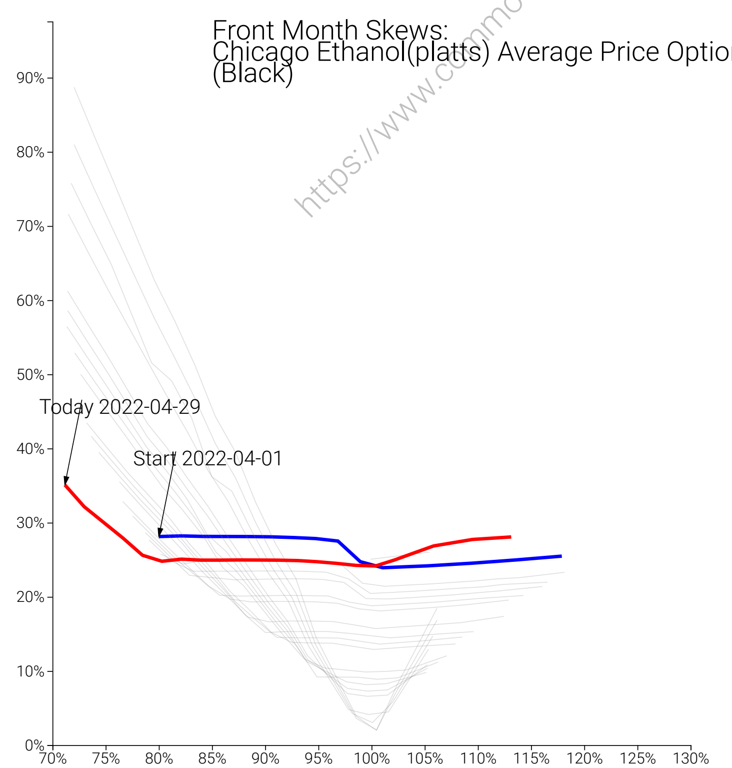

Price ($)
20220525
Start 2022-04-01
Today 2022-04-29
20230223
20231127


Front Month Skews:
RBOB Options
(Black)
Start 2022-04-01
Today 2022-04-29

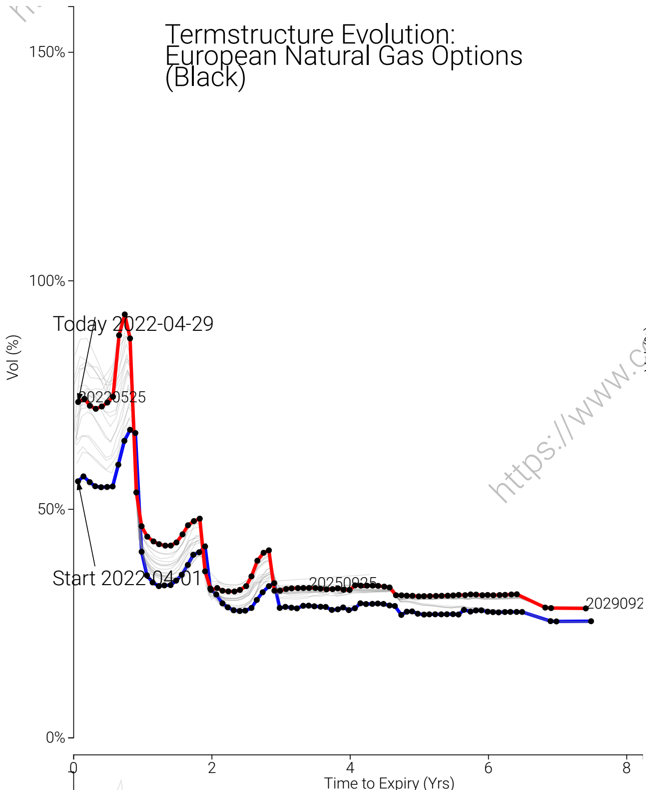

Termstructure Evolution:
Chicago Ethanol(platts) Average Price Op
(Black)
Vol (%)
Time to Expiry (Yrs)
Today 2022-04-29
Start 2022-04-01
20220602
20221004
20230104

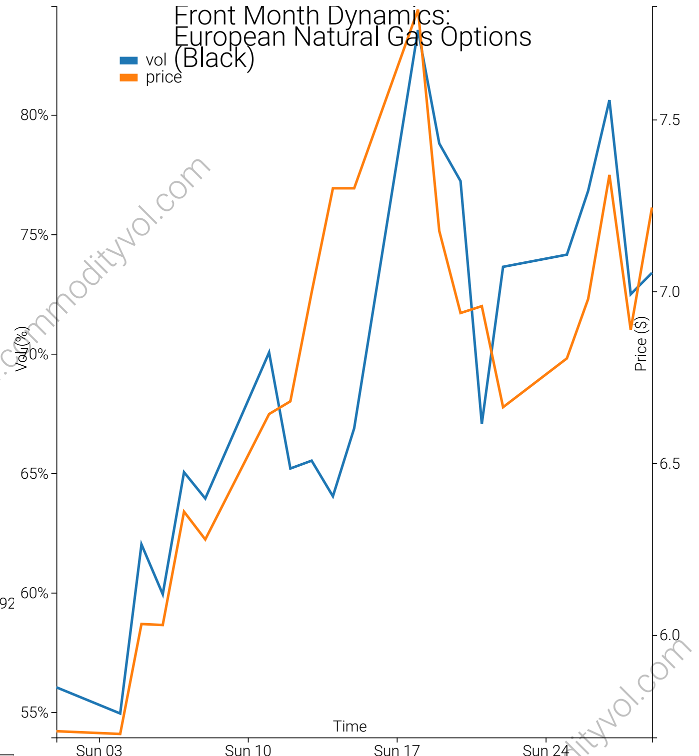

Front Month Dynamics:
Chicago Ethanol(platts) Average Price Options
(Black)
vol
price
Vol (%)
Price ($)
Time
Sun 03
Sun 10
Sun 17
Sun 24

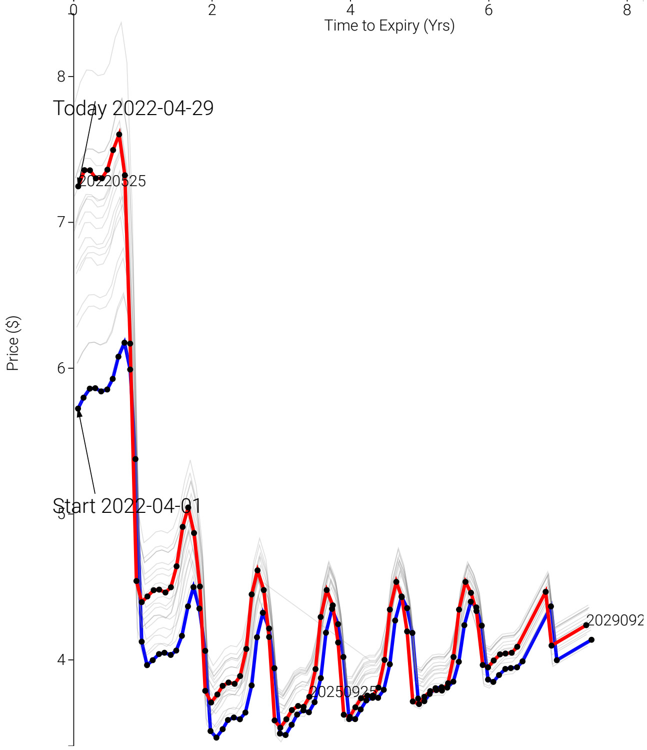

Price ($)
Today 2022-04-29
Start 2022-04-01
20220602
20221004
20230104

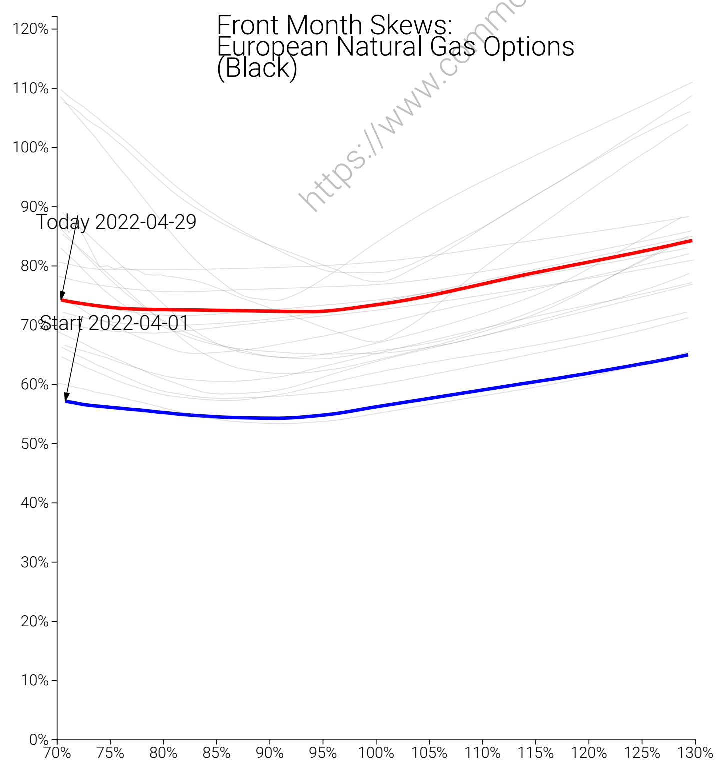

Front Month Skews:
Chicago Ethanol(platts) Average Price Optio
(Black)
Today 2022-04-29
Start 2022-04-01

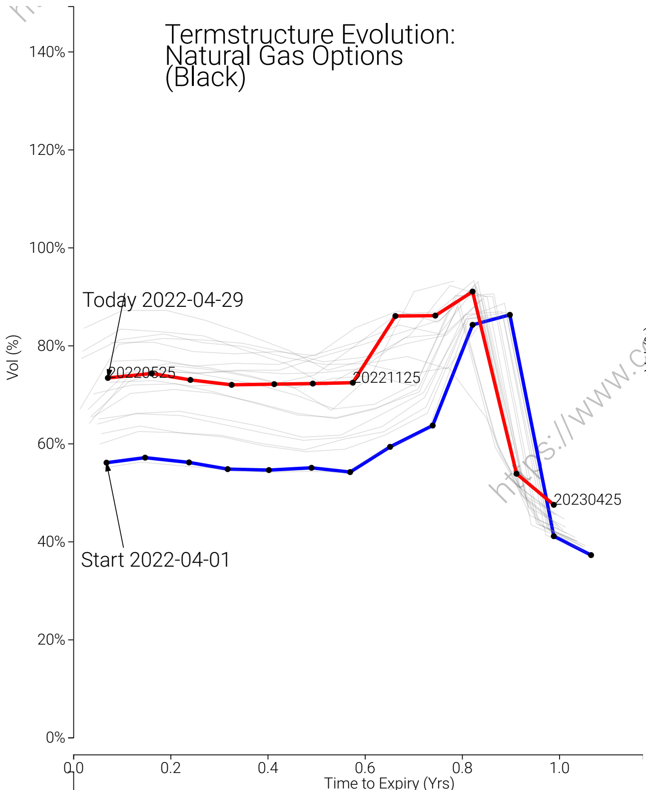
Natural Gas

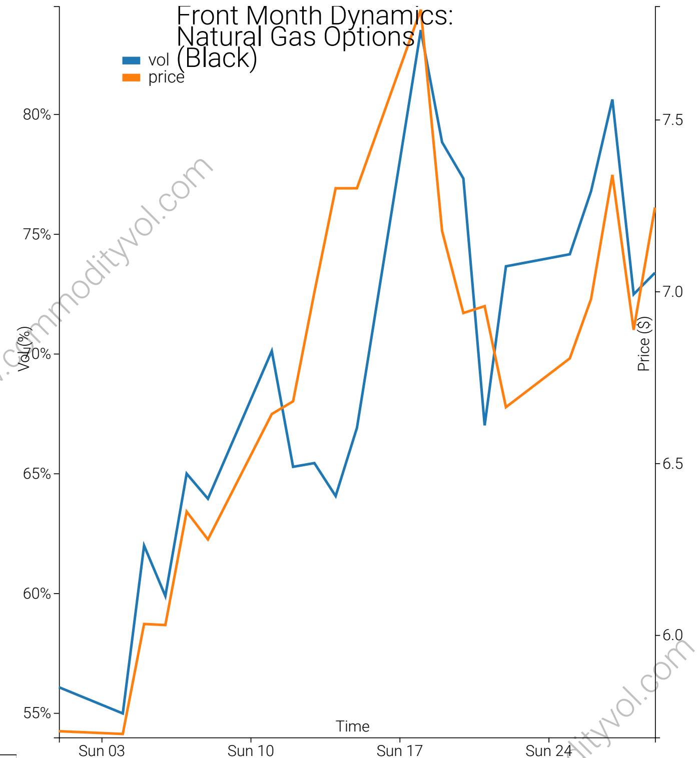

Termstructure Evolution:
European Natural Gas Options
(Black)
150%
100%
50%
0%
Vol (%)
Today 2022-04-29
20220525
Start 2022-04-01
20250925
2029092
0
2
4
6
8
Time to Expiry (Yrs)

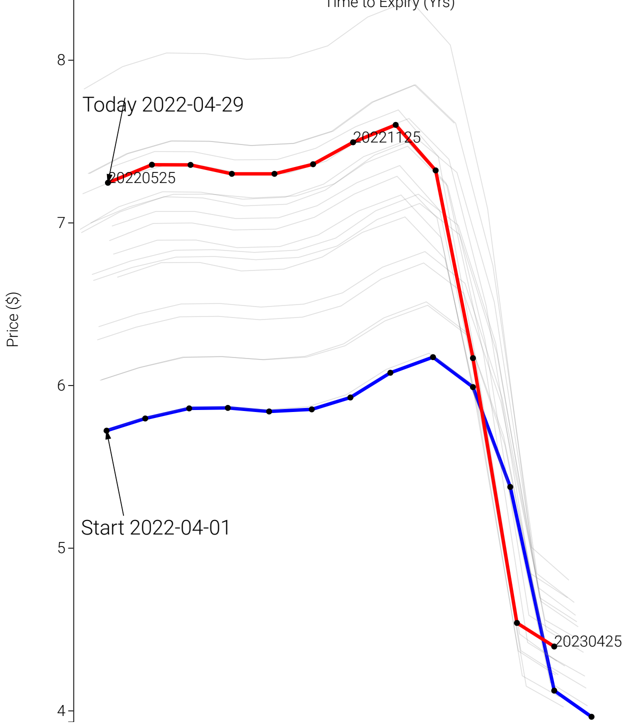

Front Month Dynamics:
European Natural Gas Options
(Black)
vol
price
80%
75%
70%
65%
60%
55%
Vol (%)
7.5
7.0
6.5
6.0
Price ($)
Time
Sun 03
Sun 10
Sun 17
Sun 24

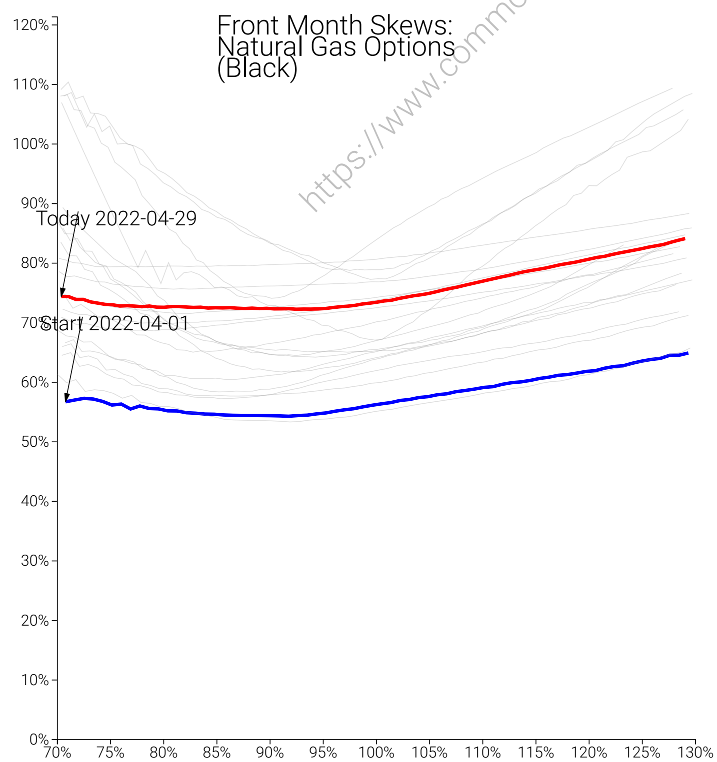

8
7
6
5
4
Price ($)
Today 2022-04-29
20220525
Start 2022-04-01
20250925
2029092

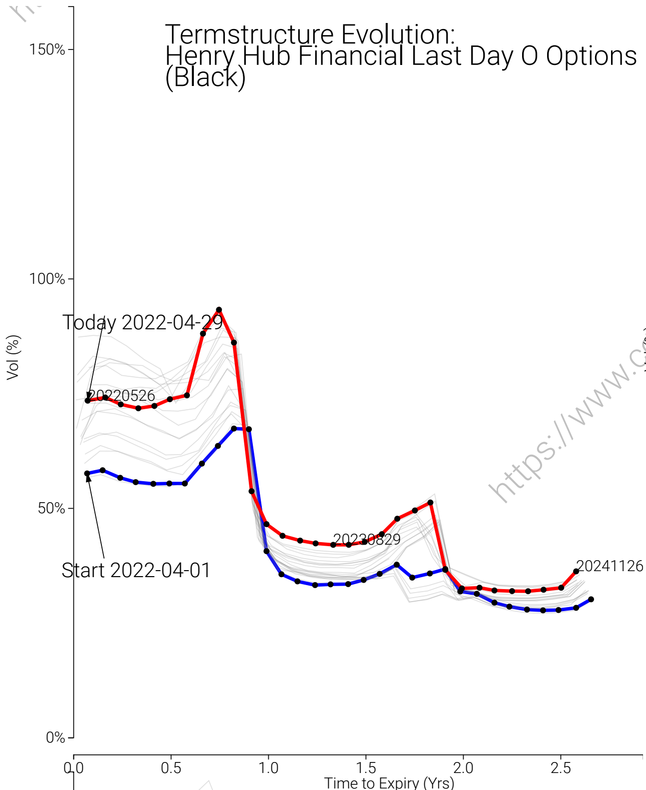

Front Month Skews:
European Natural Gas Options
(Black)
120%
110%
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
Today 2022-04-29
Start 2022-04-01
70%
75%
80%
85%
90%
95%
100%
105%
110%
115%
120%
125%
130%


Termstructure Evolution:
Natural Gas Options
(Black)
Today 2022-04-29
20220525
20221125
20230425
Start 2022-04-01
Vol (%)
Time to Expiry (Yrs)

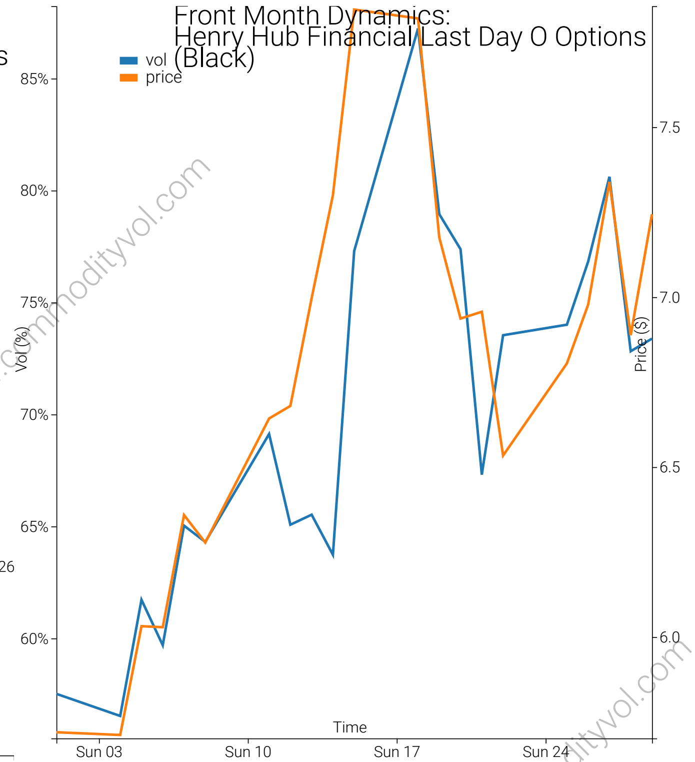

Front Month Dynamics:
Natural Gas Options
(Black)
vol
price
Vol (%)
Price ($)
Time
Sun 03
Sun 10
Sun 17
Sun 24


Today 2022-04-29
20220525
20221125
20230425
Start 2022-04-01
Price ($)

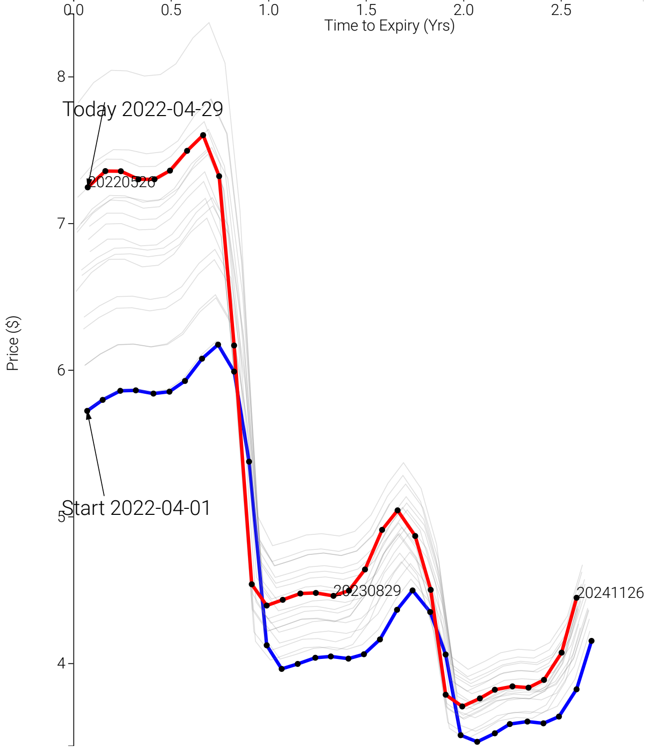

Front Month Skews:
Natural Gas Options
(Black)
Today 2022-04-29
Start 2022-04-01



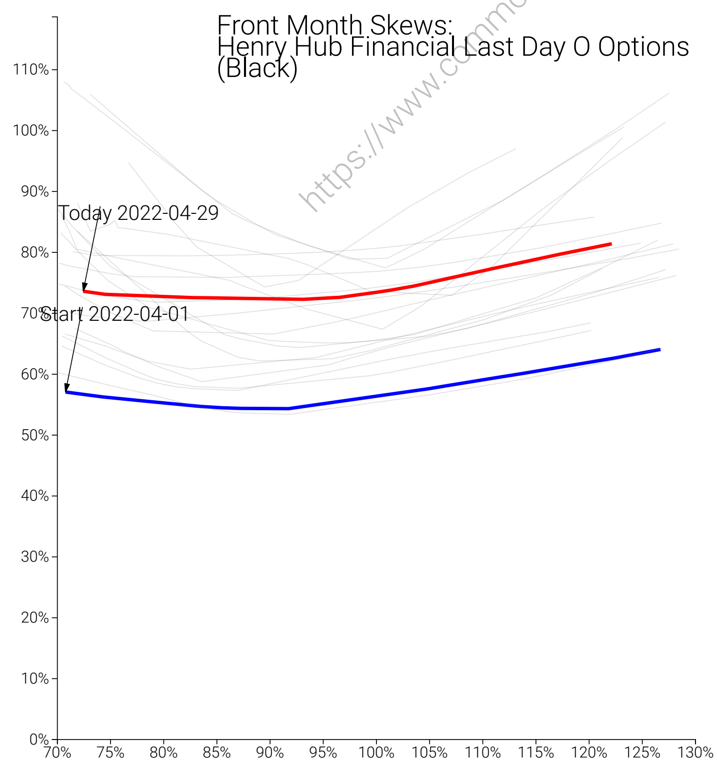
Termstructure Evolution:
Henry Hub Financial Last Day O Options
(Black)
Vol (%)
150%
100%
50%
0%
Today 2022-04-29
20220526
20230829
20241126
Start 2022-04-01
0.0
0.5
1.0
1.5
2.0
2.5
Time to Expiry (Yrs)



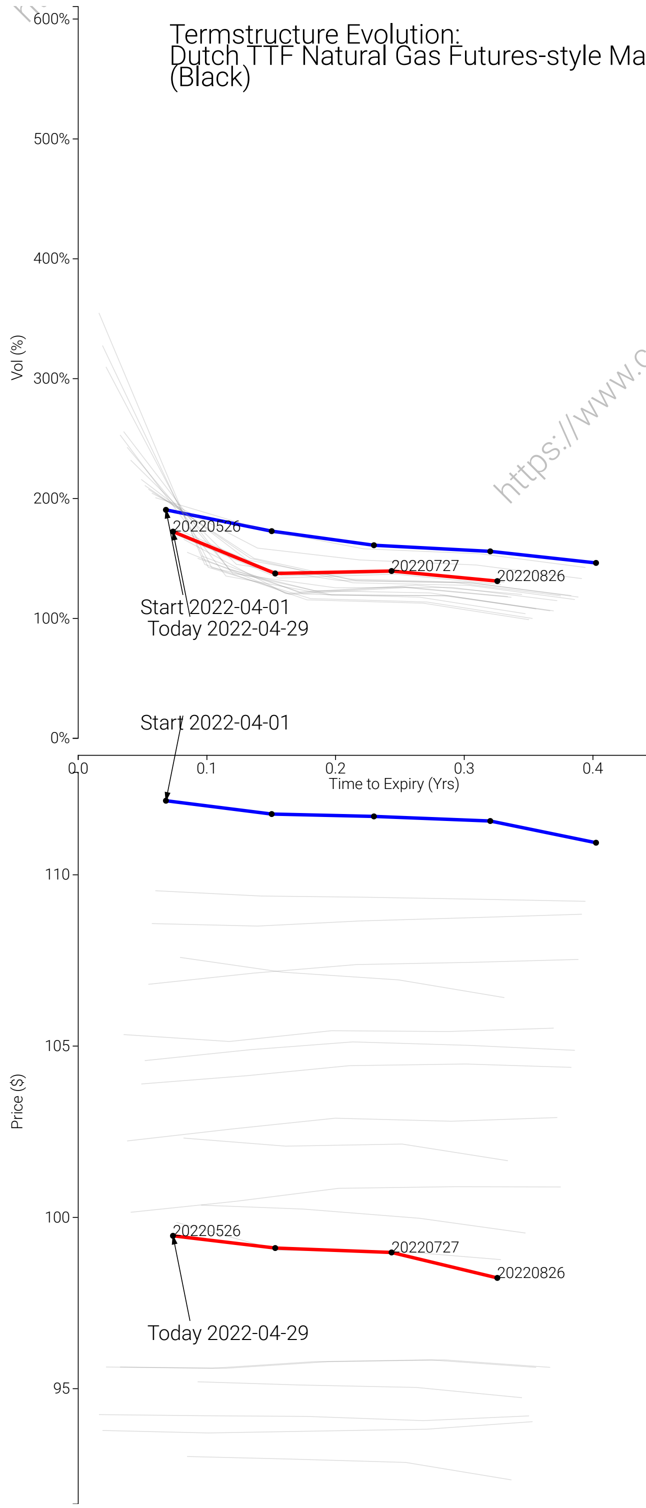
Front Month Dynamics:
Henry Hub Financial Last Day O Options
(Black)
vol
price
Vol (%)
Price ($)
85%
80%
75%
70%
65%
60%
7.5
7.0
6.5
6.0
Time
Sun 03
Sun 10
Sun 17
Sun 24



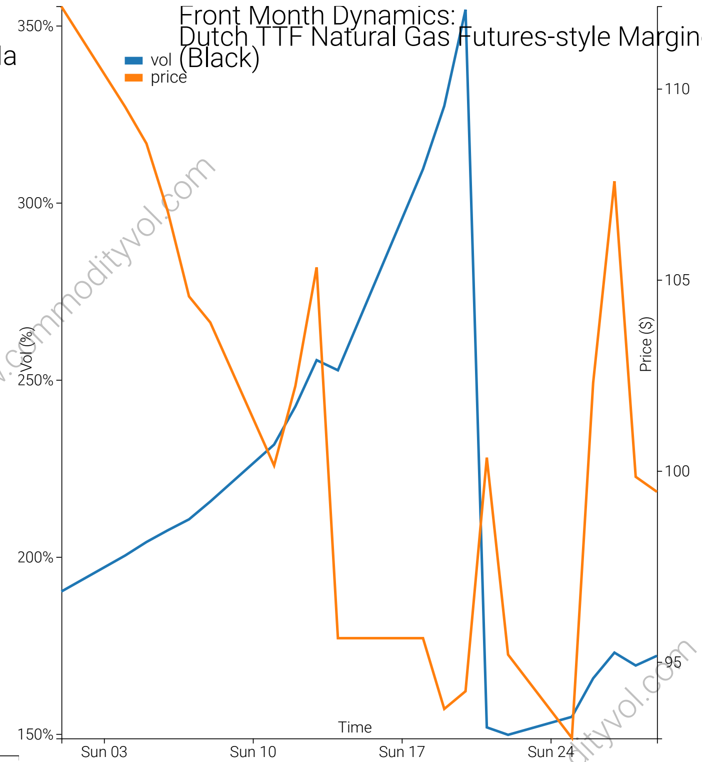
Price ($)
8
7
6
5
4
Today 2022-04-29
20220526
Start 2022-04-01
20230829
20241126



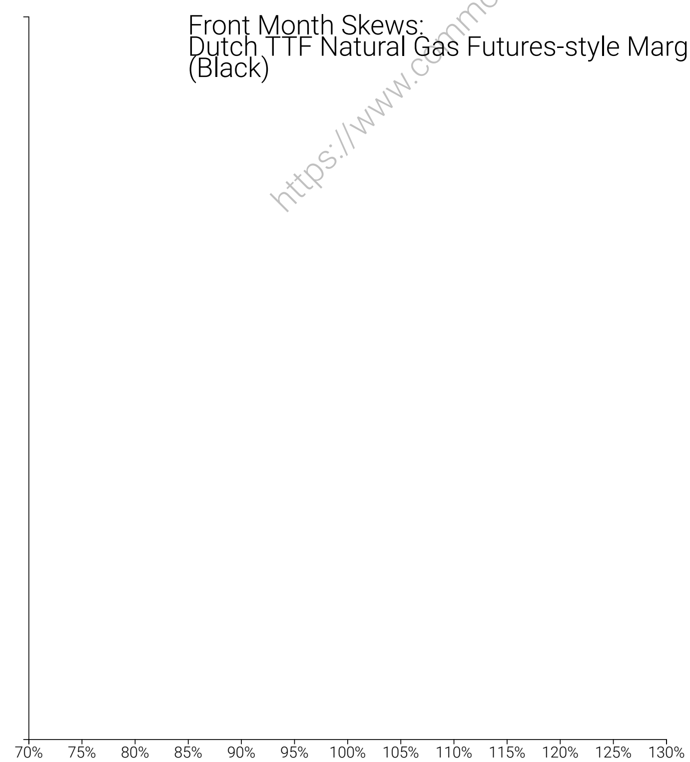
Front Month Skews:
Henry Hub Financial Last Day O Options
(Black)
110%
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
Today 2022-04-29
Start 2022-04-01
70%
75%
80%
85%
90%
95%
100%
105%
110%
115%
120%
125%
130%



Termstructure Evolution:
Dutch TTF Natural Gas Futures-style Ma
(Black)
Vol (%)
600%
500%
400%
300%
200%
100%
0%
20220526
20220727
20220826
Start 2022-04-01
Today 2022-04-29
Start 2022-04-01
0.0
0.1
0.2
0.3
0.4
Time to Expiry (Yrs)
Price ($)
110
105
100
95
20220526
20220727
20220826
Today 2022-04-29



Front Month Dynamics:
Dutch TTF Natural Gas Futures-style Margined Cale
(Black)
vol
price
Vol (%)
350%
300%
250%
200%
150%
Price ($)
110
105
100
95
Time
Sun 03
Sun 10
Sun 17
Sun 24

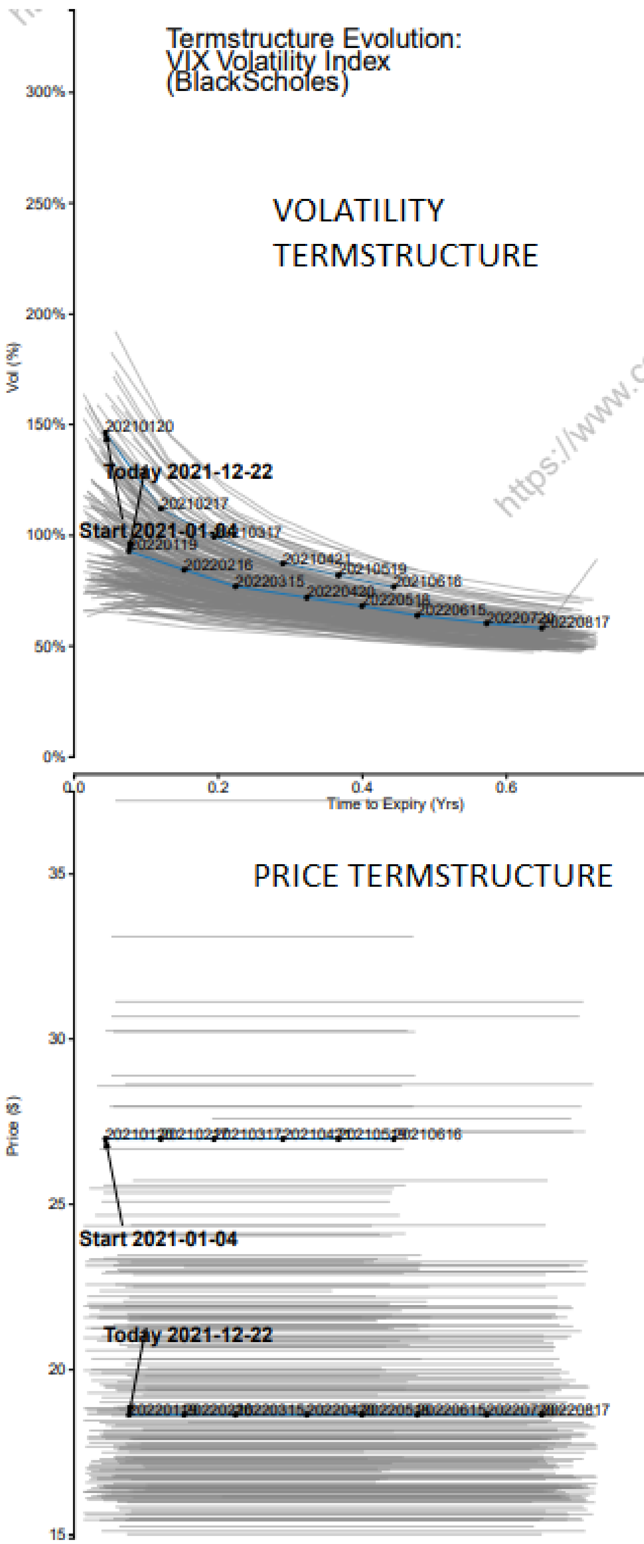


Front Month Skews:
Dutch TTF Natural Gas Futures-style Margin
(Black)
70%
75%
80%
85%
90%
95%
100%
105%
110%
115%
120%
125%
130%

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.

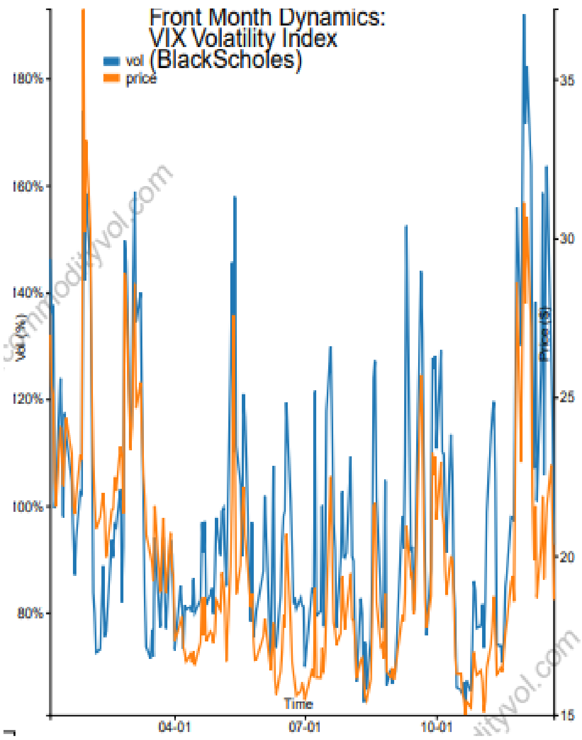
At the Money Volatilty and Price Term Structures:

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



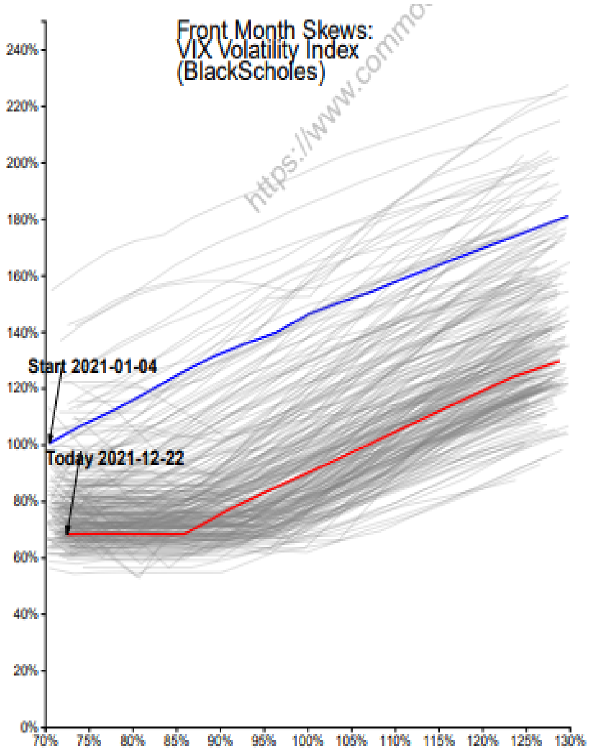
The starting curve is the termstructure at the beginning of the period. This curve is labelled start and is typically colored blue. The ending curve is typically colored red and denoted by the text: Today. The greyed out lines are the termstructures for each day of the period. The hope is that the range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