PromiseLand's Daily Market Commentaries

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24 August 2021

Contents

1 Introduction

Option positions in the options markets on indices and equities can be used to infer market movements and sentiments. The participants of an options trade are the investor, and the dealer. Investors who establish positions in options are generally likely to have a view on the underlying investment. In contrast, dealers generally do not adopt a view on the underlying investment. Dealers must therefore protect, or employ hedges against their options positions, and this entails buying and selling of the underlying investment. Such large hedging activity by dealers is able to influence the prices and volatility of the underlying. By knowing the expected activity taken by the dealers, we are able to infer price movement direction, to gather volatility expectations, and to assess market sentiment.

Notes and commentaries will be periodically provided.

The appendix contain explanatory notes on how to utilize price levels.

2 Concise Summary

2.1 S&P500

The S&P500 closed with a return of 0.85%. As successfully predicted last Friday, the S&P500 has seen a considerable up-move on Monday, after rebounding from its zero gamma level. Negative sentiment from mixed economic data was not enough to outweigh the strength in Technology stocks, which led the surge.

The Key Gamma Strike has shifted from 4400 to 4500. The level whereby investors are targeting a top upside potential remains at the Call Wall level of 4500. As per the market profile map, there is increased call option buying activity by market participants from the 4450 strikes and above, which indicates heightened investor sentiment.

The Put Wall has shifted down from 4400 to 4200. It indicates a bullish sentiment whereby more market participants are seeking lower downside protection.

We do not expect the S&P500 to cross over the 4500 price level, due to the significant presence of dealer long gamma from the 4500 strike level and above, unless there is a fundamental positive change, or sudden huge positive investor sentiment in the markets.

Expected price range: 4450 - 4500.

2.2 NASDAQ100

The NASDAQ100 closed with an astonishing return of 1.46%. As successfully predicted last Friday, the NASDAQ100 has seen a considerable up-move on Monday, after rebounding from its zero gamma level. The NASDAQ100 is at an all time high now.

As per the market profile map, there is increased call option buying activity by market participants, which signals that investors are positioned for significant market upswings.

The level whereby investors are targeting a top upside potential remains at 15300. This Call Wall level has been reached. We expect for the Call Wall level of 15300 to continue to be a significant level, whereby there is significant long dealer gamma exposure. This should provide some support for the NASDAQ100 to remain buoyant, barring any negative exogenous factors. We look to monitor this level in the coming days, as a no upward shift in the Call Wall indicates that the NASDAQ100 is overextended.

Expected price range: 15300 - 15350.

2.3 STOXX50

The STOXX50 closed lower with a return of 0.70%. As successfully predicted last Friday, the STOXX50 has seen a decent up-move on Monday.

We are however still not in the clear yet, for two reasons. Firstly, the STOXX50 is still in negative gamma territory, which indicates that heightened volatility is here to stay. Secondly, there is increasing investor skepticism, as the Put Wall has shifted upwards from 3900 to 4100. It indicates a bearish sentiment whereby more market participants are seeking greater downside protection.

The level whereby investors are targeting a top upside potential remains at 4300.

Expected price range: 4100 - 4200.

2.4 DAX

The DAX closed with a return of 0.28%.

Just like the STOXX50, we are still not in the clear. The DAX is still negative gamma exposure territory. Accordingly, we can expected heightened volatility.

The level whereby investors are targeting a top upside potential has shifted from 15800 at 16400.

Expected price range: 15600 - 15850.

2.5 Gold

Gold has climbed to a two-week high, after rebounding from zero delta levels of approximately 1750. A weaker dollar on Monday supported gains in Gold prices.

Gold remains sandwiched between a slew of gamma strikes between the 1750 and 1825 levels. This indicates that Gold can be expected to be volatile around this range, with price movements accentuated by dealer activity. Such volatile momentum needs to be triggered by a spark, which in this case, a sudden rush by investors to buy or sell Gold in significant amounts.

Expected price range: 1750 - 1825.

2.6 Silver

Silver traded flatly. With current prices below the lower hedge wall, we expect for Silver to rebound from its current price.

Expected price range: 23 - 25.

2.7 Crude Oil

A weaker dollar on Monday pushed oil prices higher. There is also optimism that economic growth and energy demand in China will improve. This pushed crude prices higher after China said it has contained the spread of the pandemic. Oil prices extended their gains Monday after the US indices climbed to a new record high, which shows confidence in the economic outlook. This is positive for energy demand.

Expected price range: 62.5 - 70.

3 Market Price Levels

Table 1: Key Price Levels for Market Indices

	S&P500	NASDAQ100	STOXX50	DAX
Current Price	4479.53	15312.82	4147.50	15808.04
Previous Price	4441.67	15092.57	4124.71	15765.81
Return	0.00849	0.01450	0.00551	0.00268
Call Wall	4500	15300	4300	16400
Key Delta Strike	4000	14500	4100	15600
Key Gamma Strike	4500	15300	4100	15600
Max Gamma Vanna	4445	15070	4175	15900
Max Gamma	4525	15380	4425	16600
Max Vanna	4435	15060	4175	15900
Put Wall	4200	14500	4100	15000
Zero Gamma Vanna	3649.08	13503.63	3315.06	13860.81
Zero Gamma	4430.79	14975.23	4199.94	15855.25

Table 2: Key Dates for Market Indices

	S&P500	NASDAQ100	STOXX50	DAX
Largest Gamma Strike Date	2021-09-17	2021-08-27	2021-09-17	2021-09-17
Largest Gamma Strike	0.329	0.370	0.363	0.582
Largest Delta Strike Date	2021-09-17	2021-09-17	2021-12-17	2021-12-17
Largest Delta Strike	0.298	0.360	0.429	0.577
Next Expiration Date	2021-08-25	2021-08-25	2021-09-17	2021-09-17
Next Expiration Gamma	0.0513	0.0627	0.3630	0.5820
Next Expiration Delta	0.00556	0.02500	0.14200	0.31800

Table 3: Key Price Levels for Single-name Indices

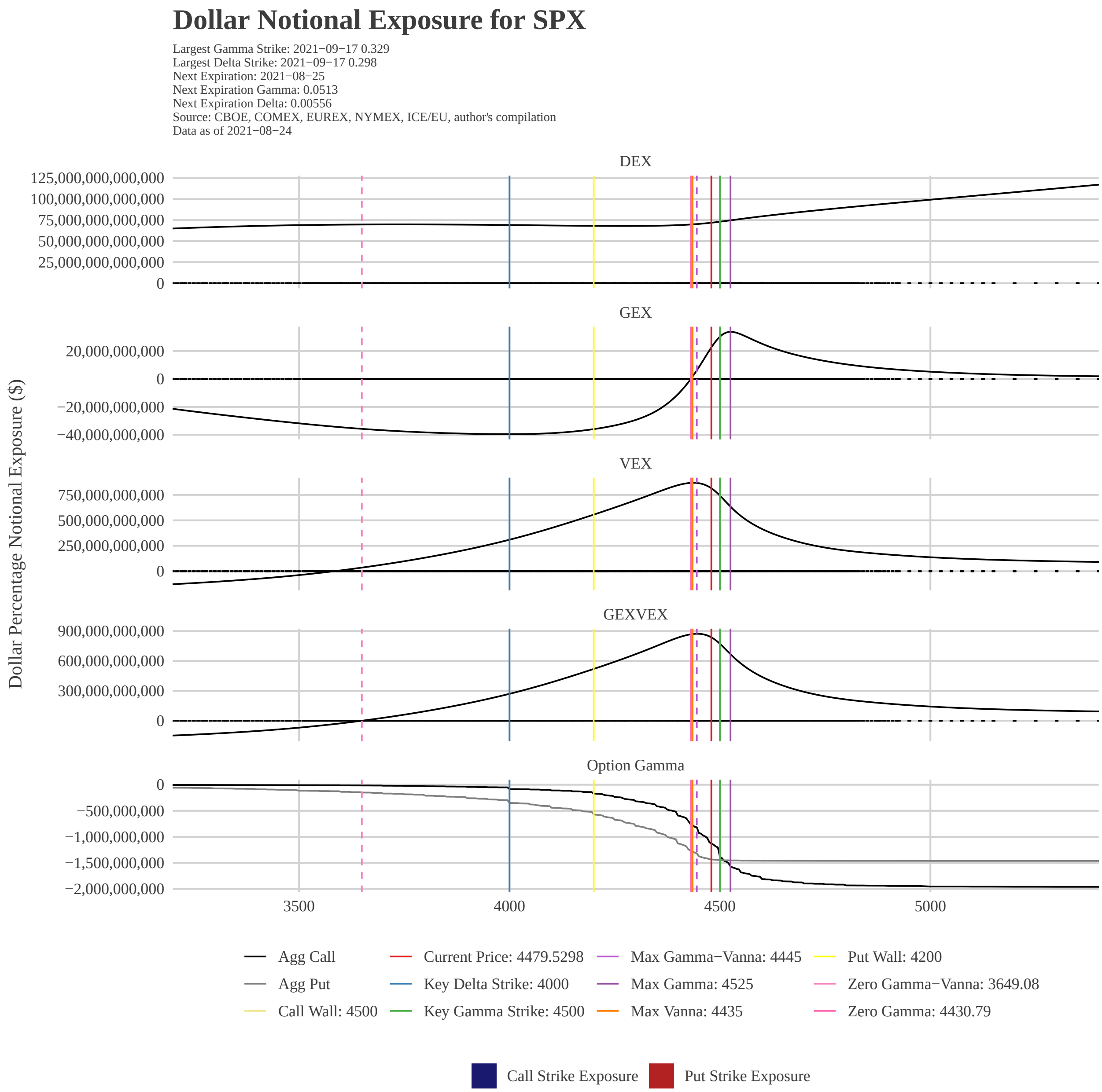
	Gold Futures	Silver Futures	ICE Crude Oil Brent	Crude Oil WTI
Current Price	1802.4100	23.5582	65.1800	62.3200
Previous Price	1805.10	23.62	66.45	63.69
Return	-0.00149	-0.00256	-0.01930	-0.02170
Hedge Wall (Lower)	1752.50	23.65	64.75	61.75
Hedge Wall (Upper)	1825.000	24.425	65.500	74.750
Key Delta Strike (Call)	1850.00	18.25	80.00	75.00
Key Delta Strike (Put)	1650	24	72	110
Key Gamma Strike	1800	24	65	65
Min Gamma Vanna	1732.500	24.175	65.000	65.500
Min Gamma	1802.500	24.175	65.000	67.250
Min Vanna	1697.500	23.625	54.500	60.000
Zero Delta	1751.50	24.02	62.03	58.77

Table 4: Key Dates for Single-name Indices

	Gold Futures	Silver Futures	ICE Crude Oil Brent	Crude Oil WTI
Largest Gamma Strike Date	2021-08-26	2021-08-26	2021-08-25	2021-11-16
Largest Gamma Strike	0.378	0.416	0.383	0.382
Largest Delta Strike Date (Put)	2022-07-26	2021-08-26	2021-08-25	2021-09-16
Largest Delta Strike (Put)	-9.47e-05	1.40e+00	-3.78e-01	-3.29e-01
Largest Delta Strike Date (Call)	2022-05-26	2022-06-27	2021-10-26	2021-11-16
Largest Delta Strike (Call)	0.270	-0.384	0.966	1.030
Next Expiration Date	2021-08-26	2021-08-26	2021-08-25	2021-09-03
Next Expiration Gamma	0.3780	0.4160	0.3830	0.0061
Next Expiration Delta	0.10300	1.40000	-0.37800	0.00727

4 Market Indices

4.1 S&P500



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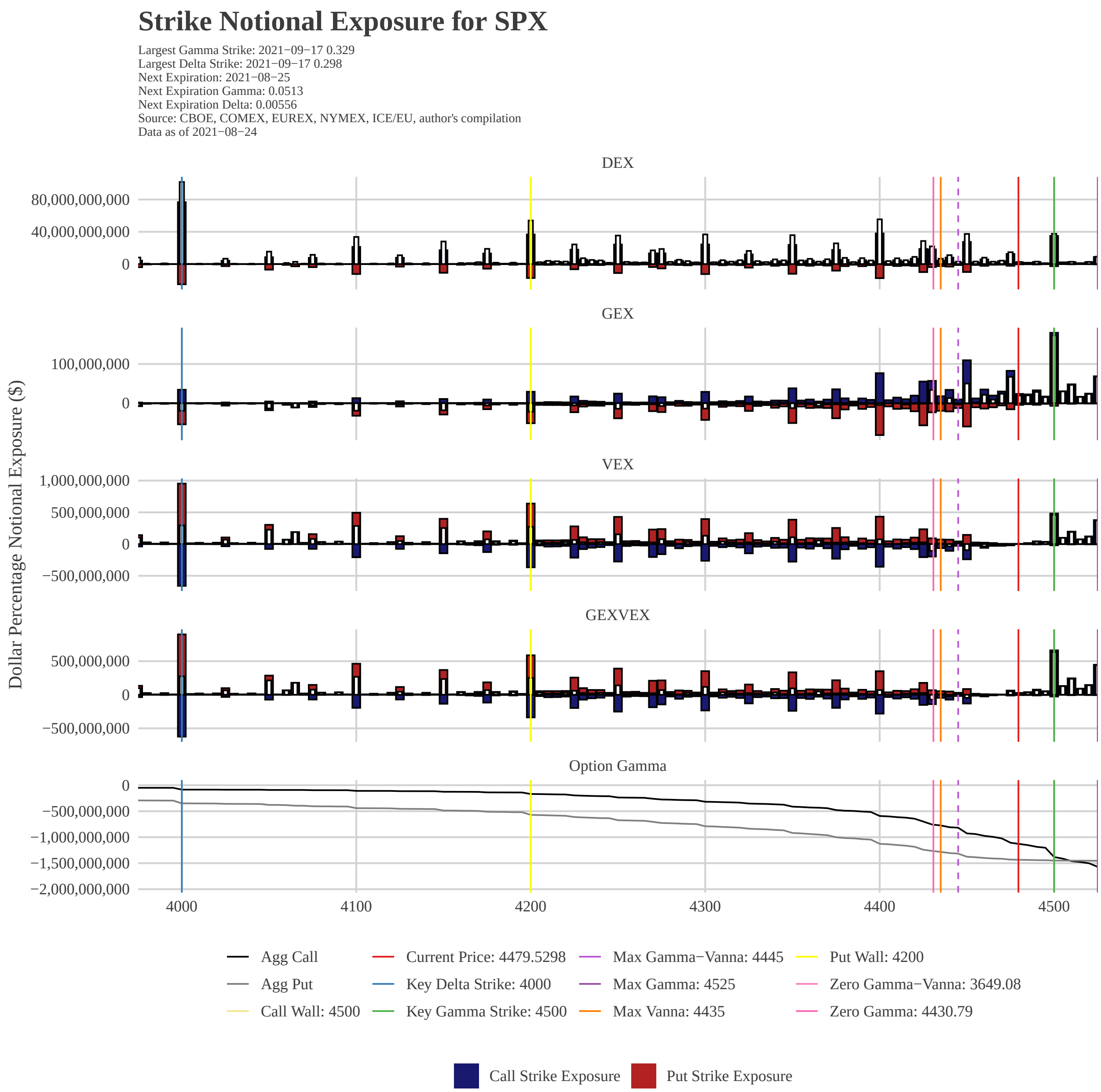
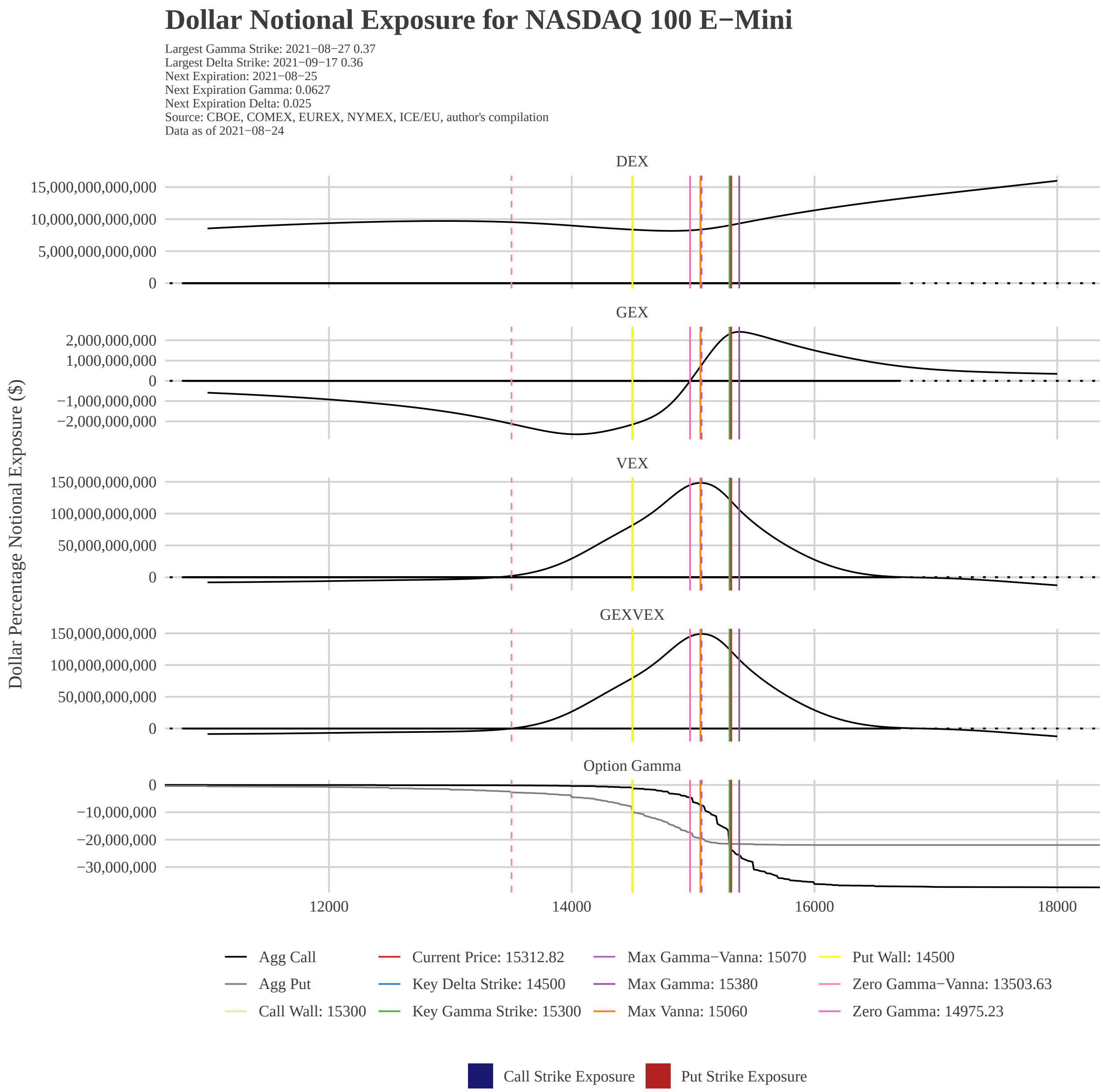


4.2 NASDAQ100



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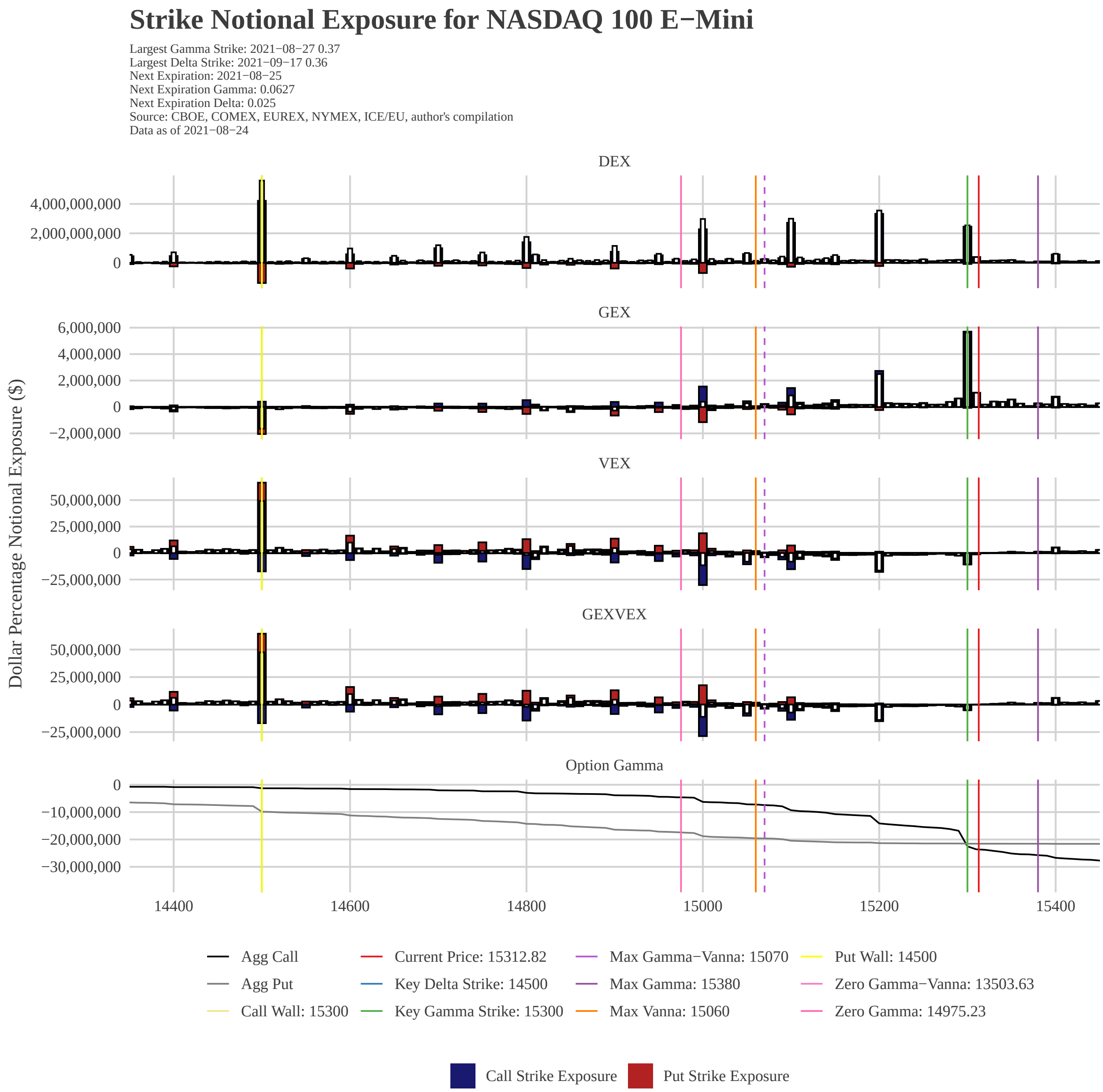
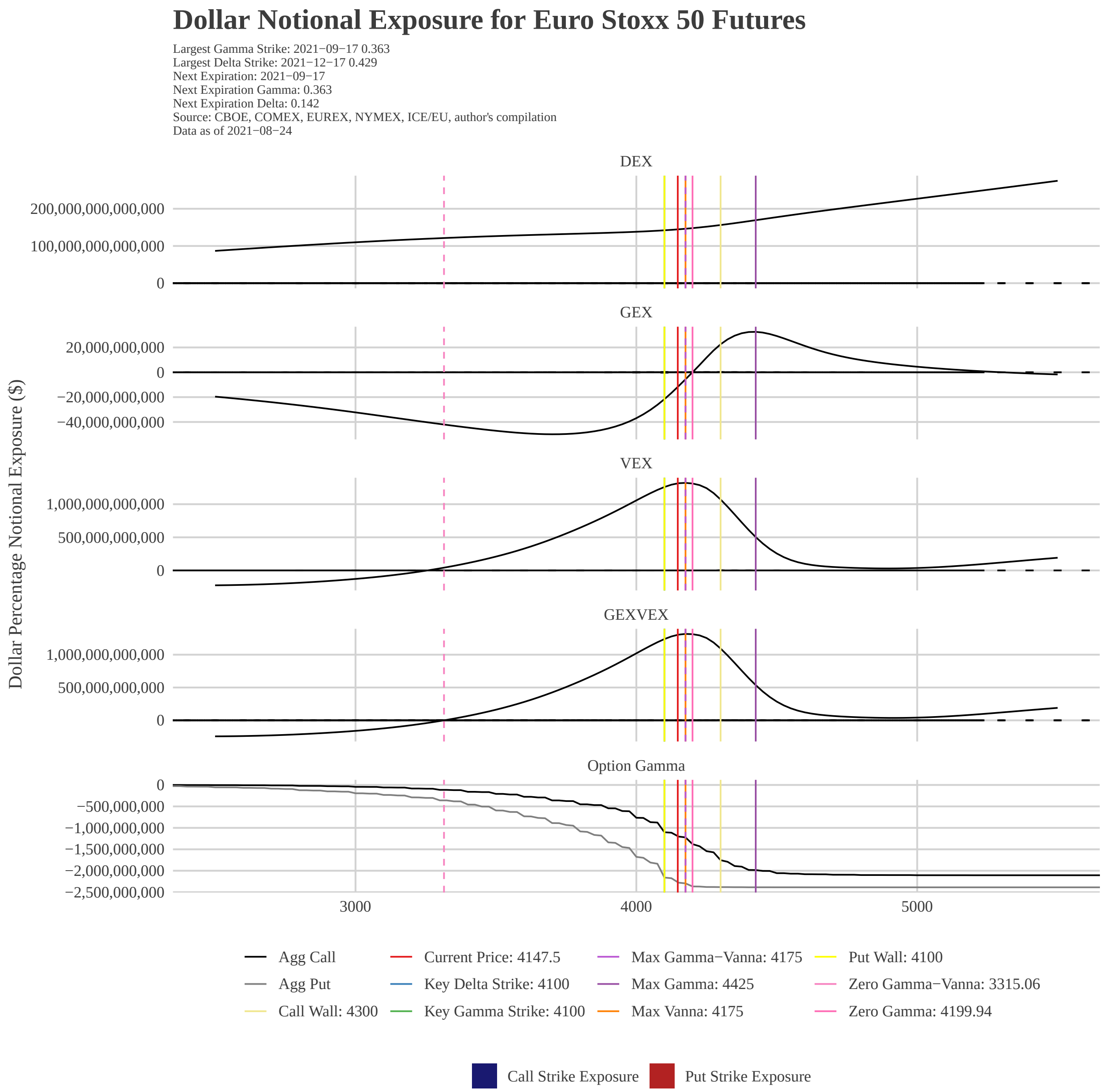


4.3 STOXX50



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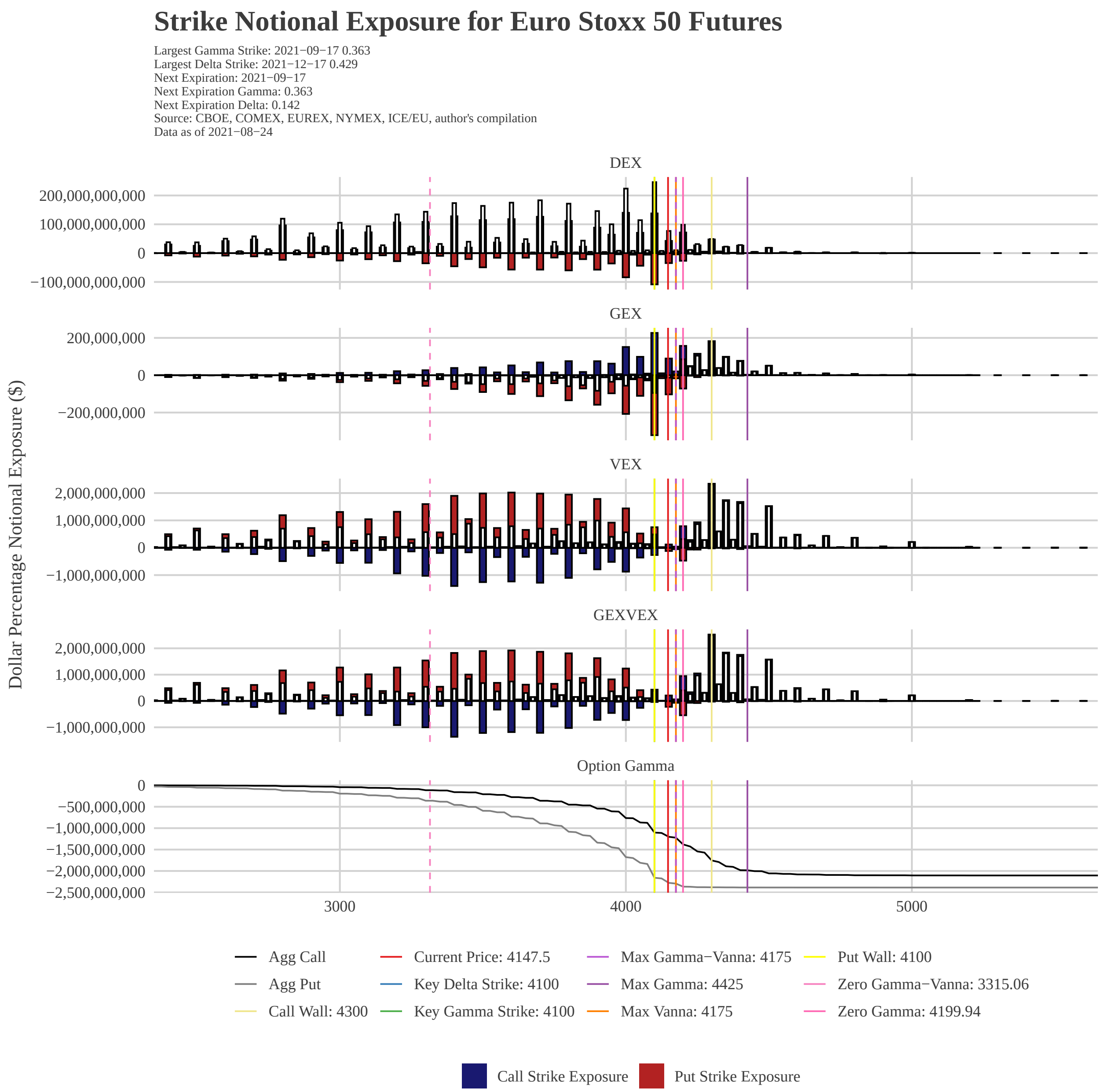
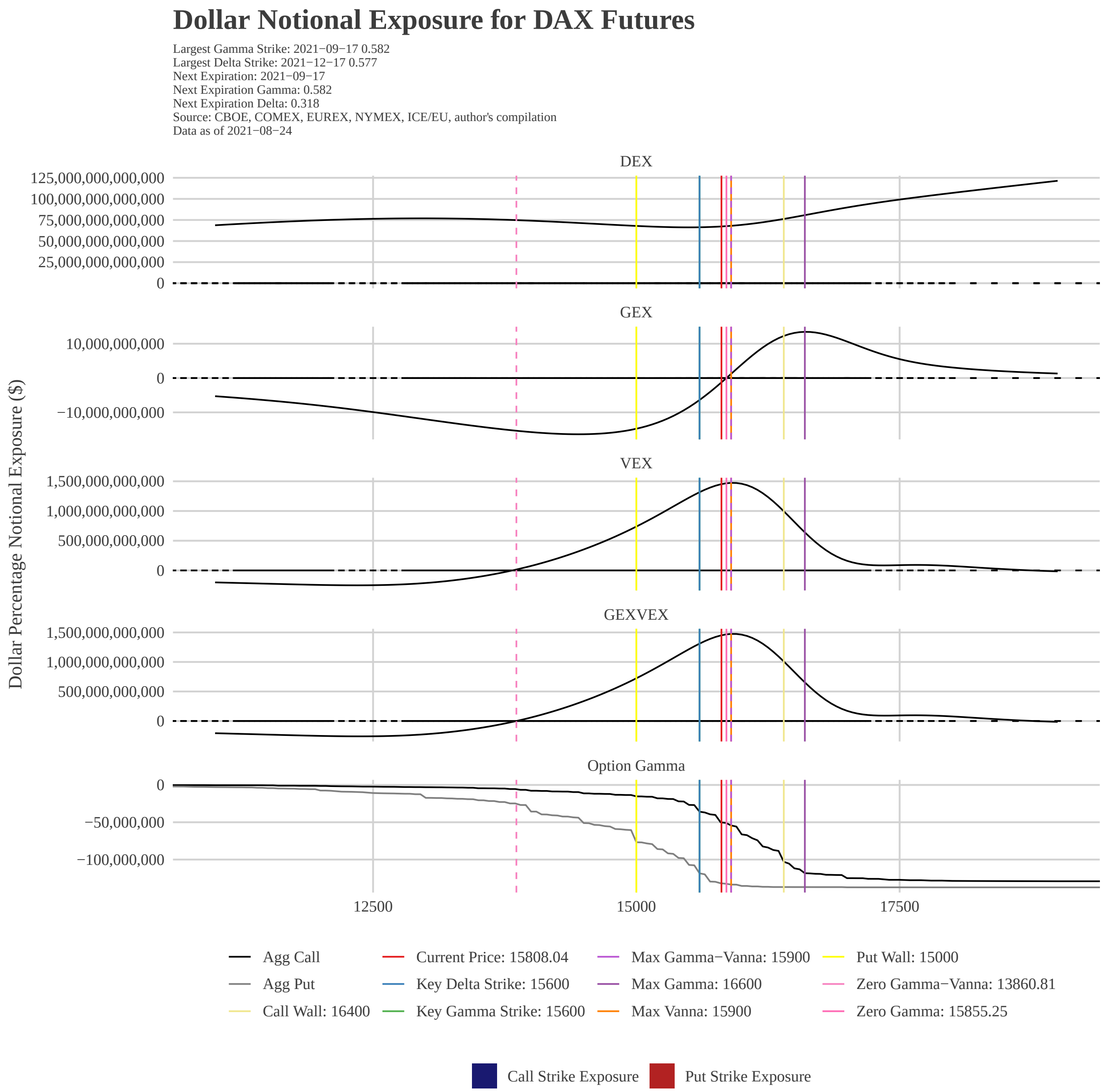

Strike Notional Exposure for Euro Stoxx 50 Futures
Largest Gamma Strike: 2021−09−17 0.363
Largest Delta Strike: 2021−12−17 0.429
Next Expiration: 2021−09−17
Next Expiration Gamma: 0.363
Next Expiration Delta: 0.142
Source: CBOE, COMEX, EUREX, NYMEX, ICE/EU, author's compilation
Data as of 2021−08−24
DEX
GEX
VEX
GEXVEX
Option Gamma
Dollar Percentage Notional Exposure ($)
200,000,000,000
100,000,000,000
0
−100,000,000,000
200,000,000
−200,000,000
2,000,000,000
1,000,000,000
−1,000,000,000
−500,000,000
−1,500,000,000
−2,000,000,000
−2,500,000,000
3000
4000
5000
Agg Call
Agg Put
Call Wall: 4300
Current Price: 4147.5
Key Delta Strike: 4100
Key Gamma Strike: 4100
Max Gamma−Vanna: 4175
Max Gamma: 4425
Max Vanna: 4175
Put Wall: 4100
Zero Gamma−Vanna: 3315.06
Zero Gamma: 4199.94
Call Strike Exposure
Put Strike Exposure

4.4 DAX



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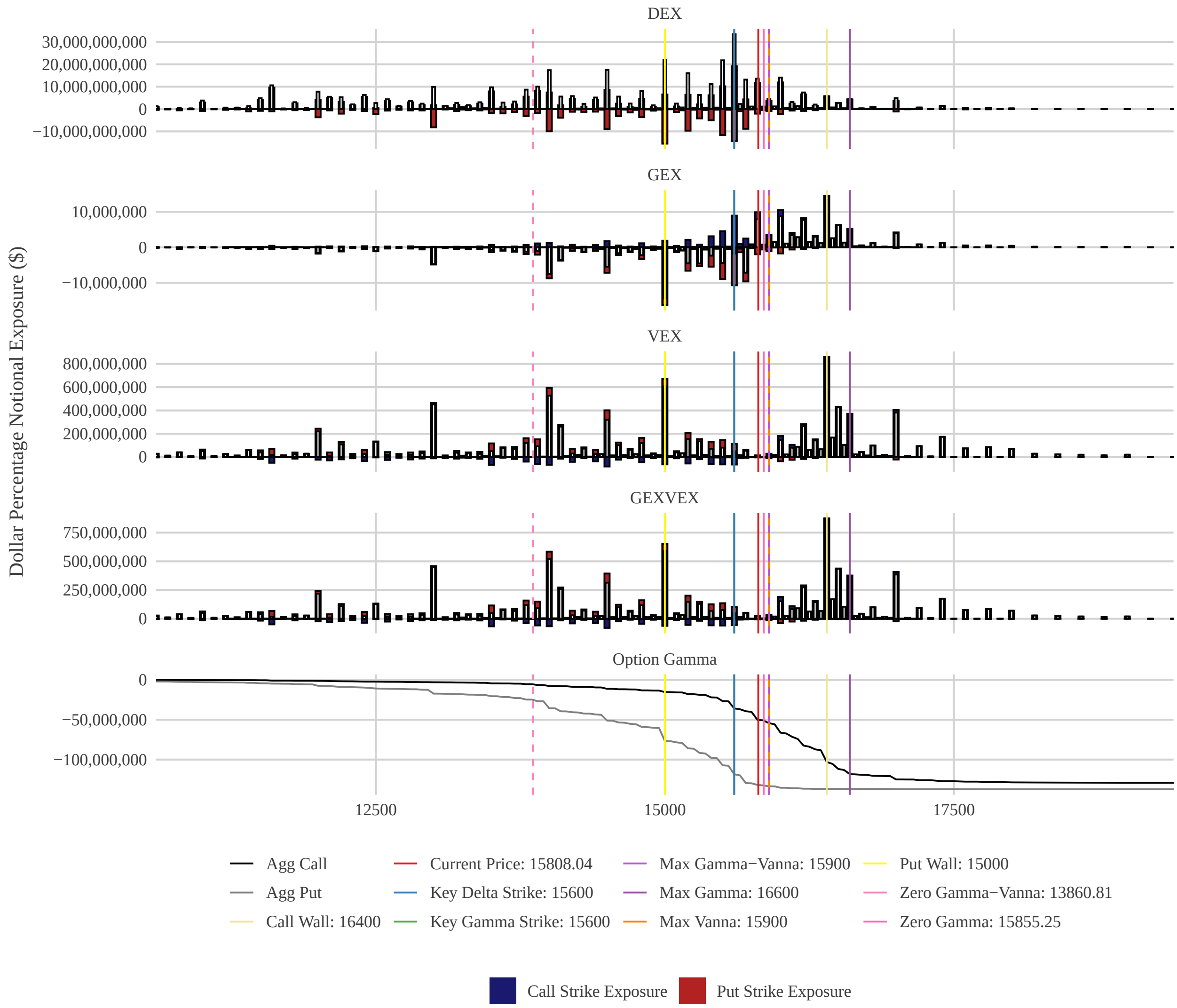
The level whereby investors are targeting a top upside potential has shifted from 15800 at 16400.

Expected price range: 15600 - 15850.

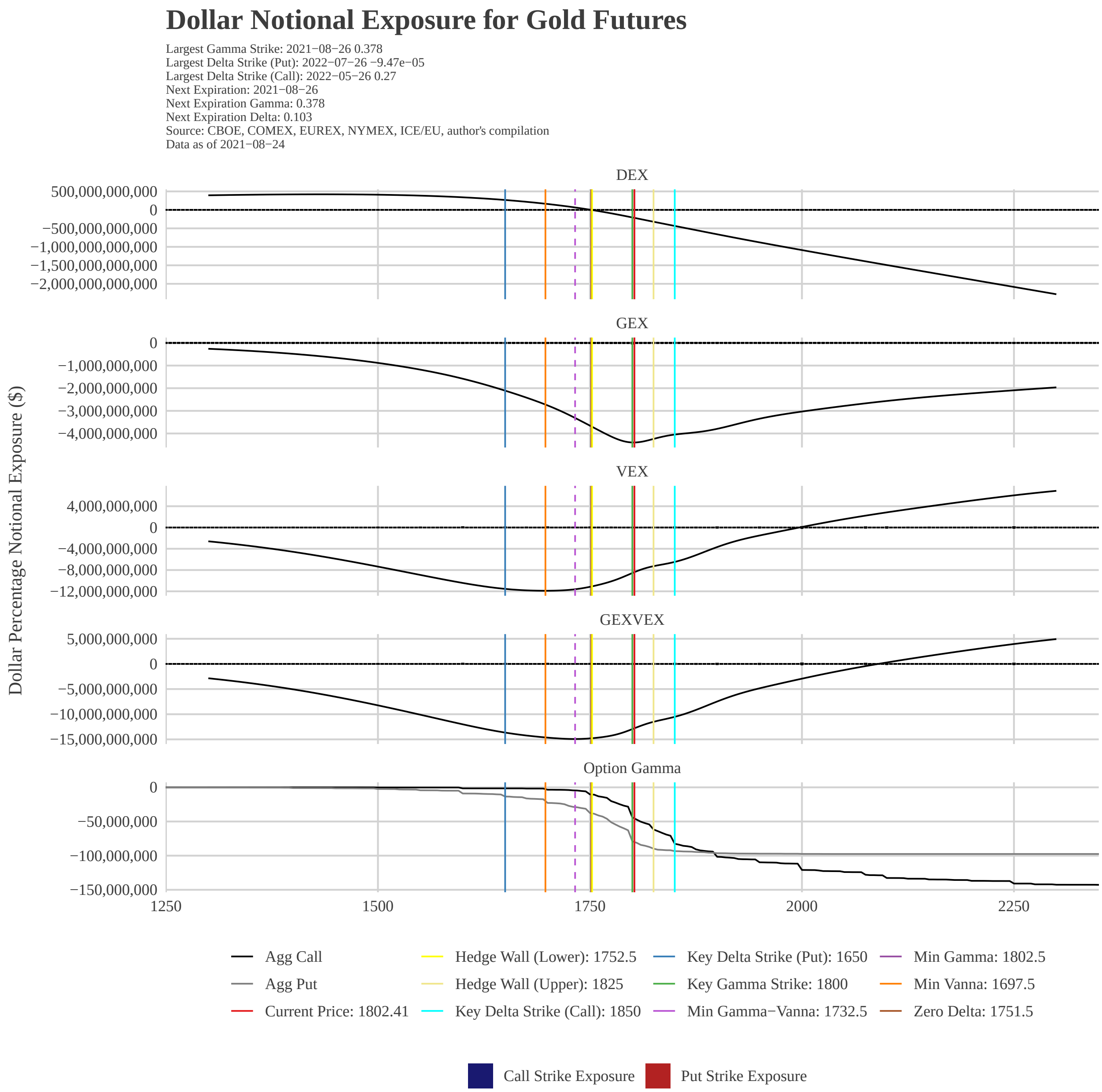
Strike Notional Exposure for DAX Futures

Largest Gamma Strike: 2021−09−17 0.582
Largest Delta Strike: 2021−12−17 0.577
Next Expiration: 2021−09−17
Next Expiration Gamma: 0.582
Next Expiration Delta: 0.318
Source: CBOE, COMEX, EUREX, NYMEX, ICE/EU, author's compilation
Data as of 2021−08−24



5 Commodities

5.1 Gold



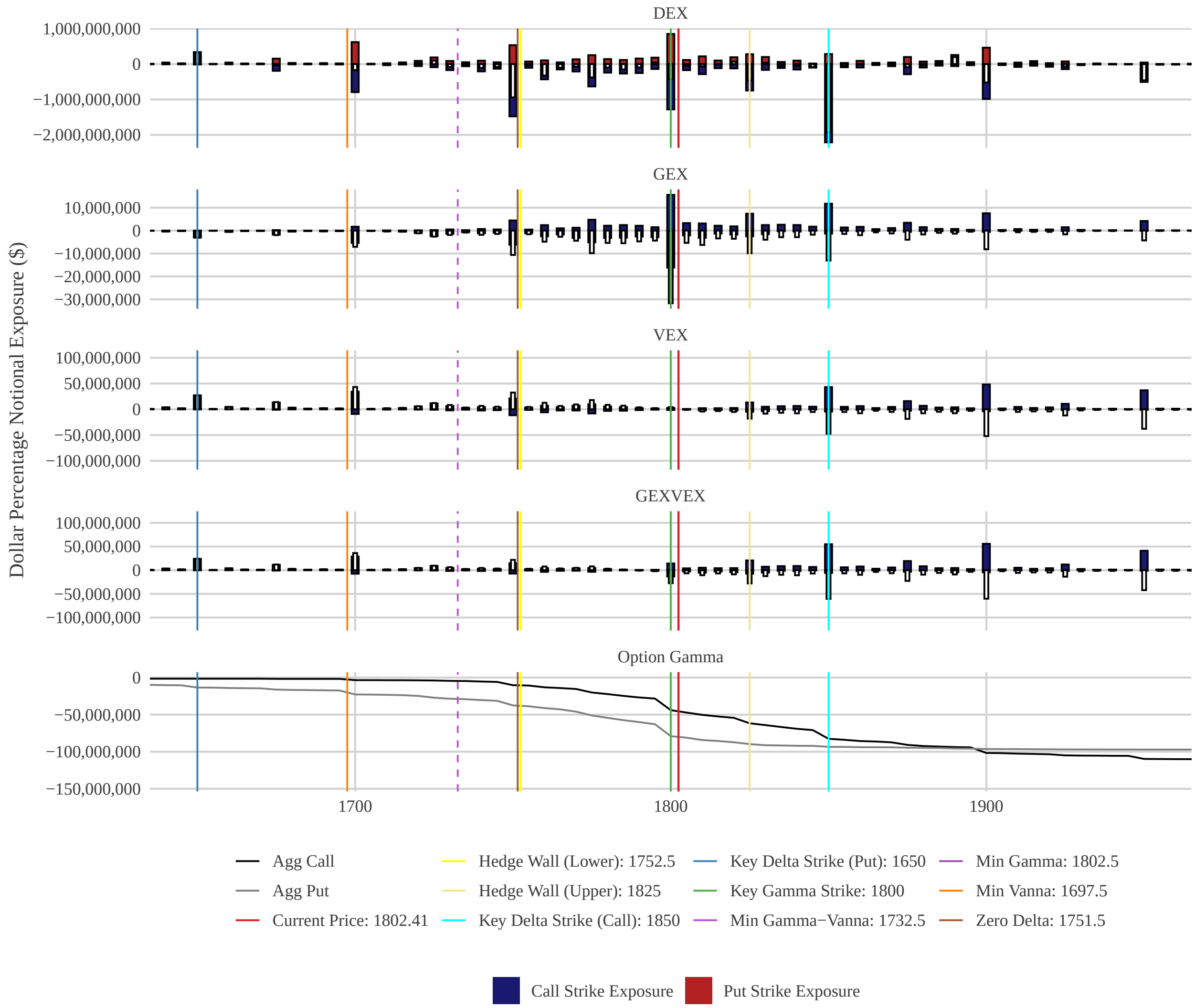
Gold has climbed to a two-week high, after rebounding from zero delta levels of approximately 1750. A weaker dollar on Monday supported gains in Gold prices.

Gold remains sandwiched between a slew of gamma strikes between the 1750 and 1825 levels. This indicates that Gold can be expected to be volatile around this range, with price movements accentuated by dealer activity. Such volatile momentum needs to be triggered by a spark, which in this case, a sudden rush by investors to buy or sell Gold in significant amounts.

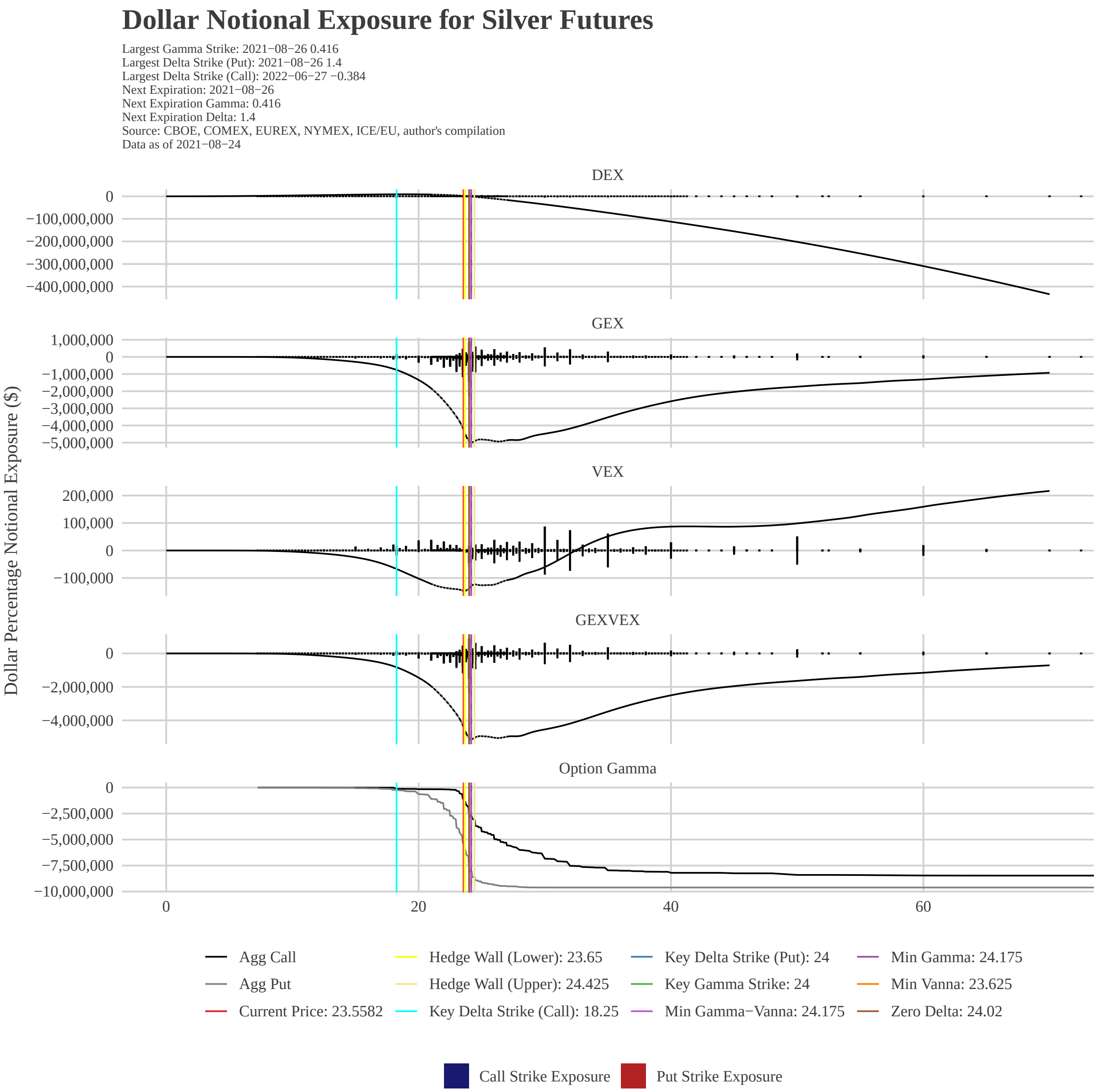
Expected price range: 1750 - 1825.

Strike Notional Exposure for Gold Futures

Largest Gamma Strike: 2021−08−26 0.378
Largest Delta Strike (Put): 2022−07−26 −9.47e−05
Largest Delta Strike (Call): 2022−05−26 0.27
Next Expiration: 2021−08−26
Next Expiration Gamma: 0.378
Next Expiration Delta: 0.103
Source: CBOE, COMEX, EUREX, NYMEX, ICE/EU, author's compilation
Data as of 2021−08−24



5.2 Silver

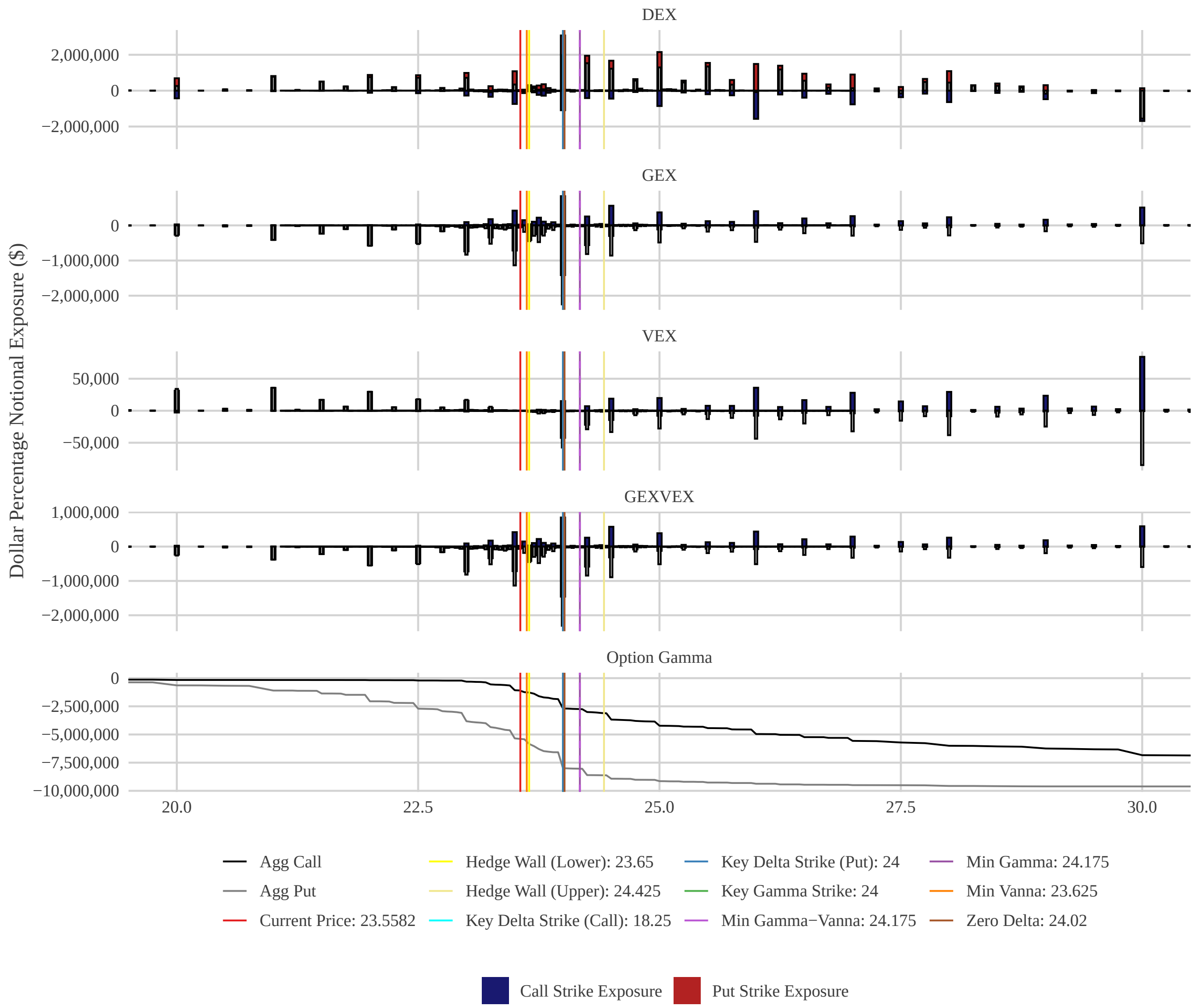


Silver traded flatly. With current prices below the lower hedge wall, we expect for Silver to rebound from its current price.

Expected price range: 23 - 25.

Strike Notional Exposure for Silver Futures

Largest Gamma Strike: 2021−08−26 0.416
Largest Delta Strike (Put): 2021−08−26 1.4
Largest Delta Strike (Call): 2022−06−27 −0.384
Next Expiration: 2021−08−26
Next Expiration Gamma: 0.416
Next Expiration Delta: 1.4
Source: CBOE, COMEX, EUREX, NYMEX, ICE/EU, author's compilation
Data as of 2021−08−24

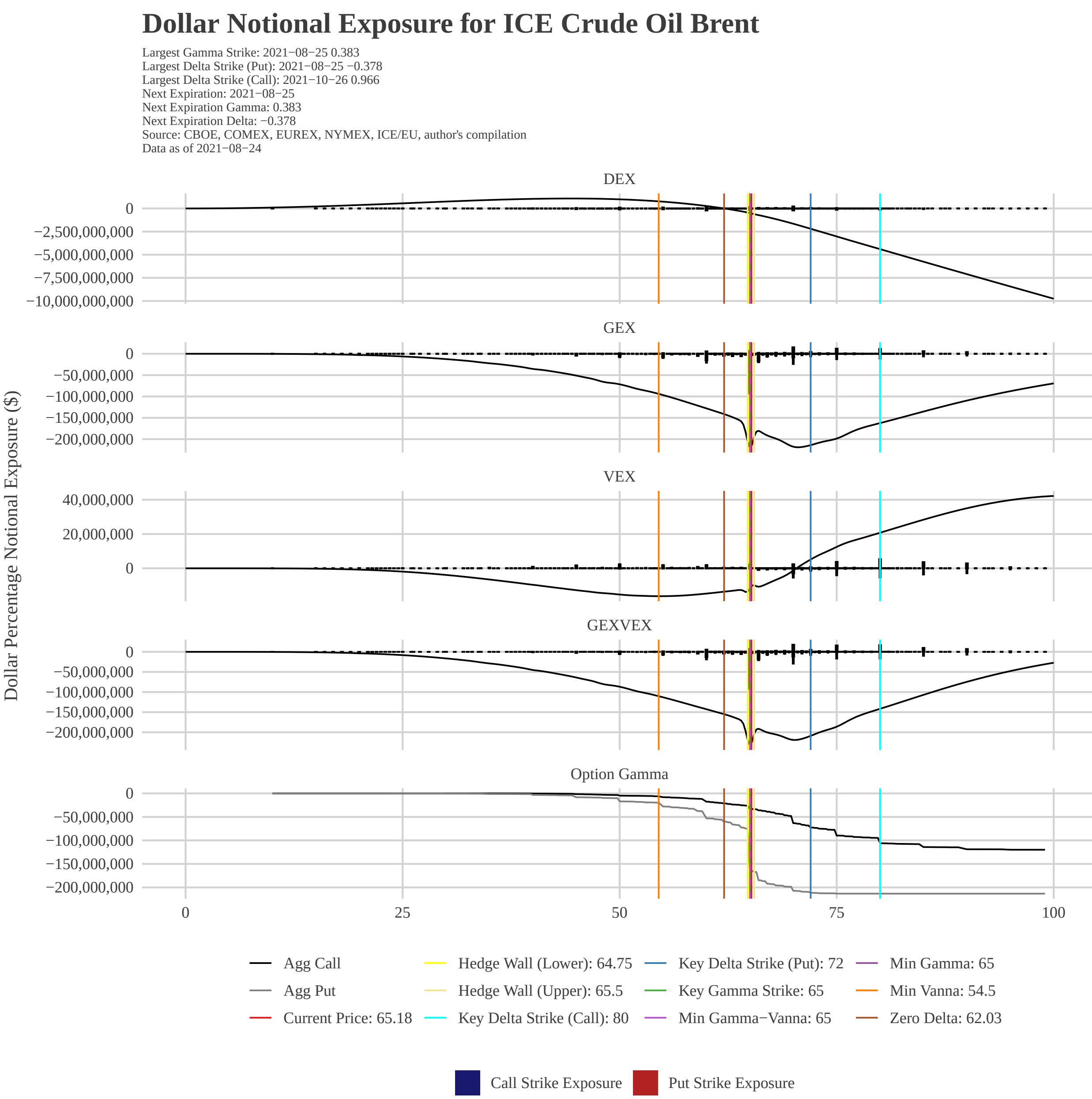


5.3 Crude Oil

A weaker dollar on Monday pushed oil prices higher. There is also optimism that economic growth and energy demand in China will improve. This pushed crude prices higher after China said it has contained the spread of the pandemic. Oil prices extended their gains Monday after the US indices climbed to a new record high, which shows confidence in the economic outlook. This is positive for energy demand.

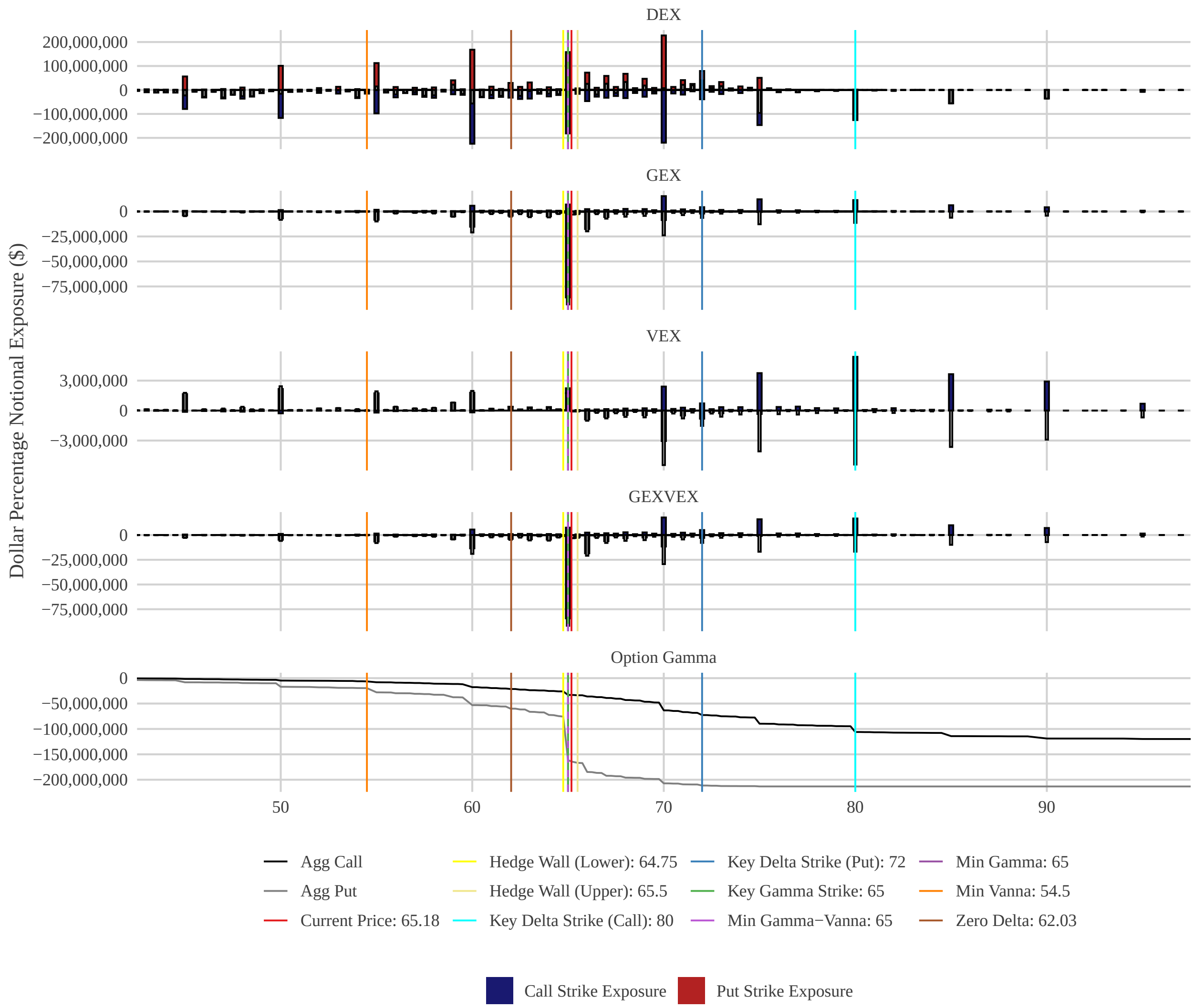
Expected price range: 62.5 - 70.

5.3.1 Brent

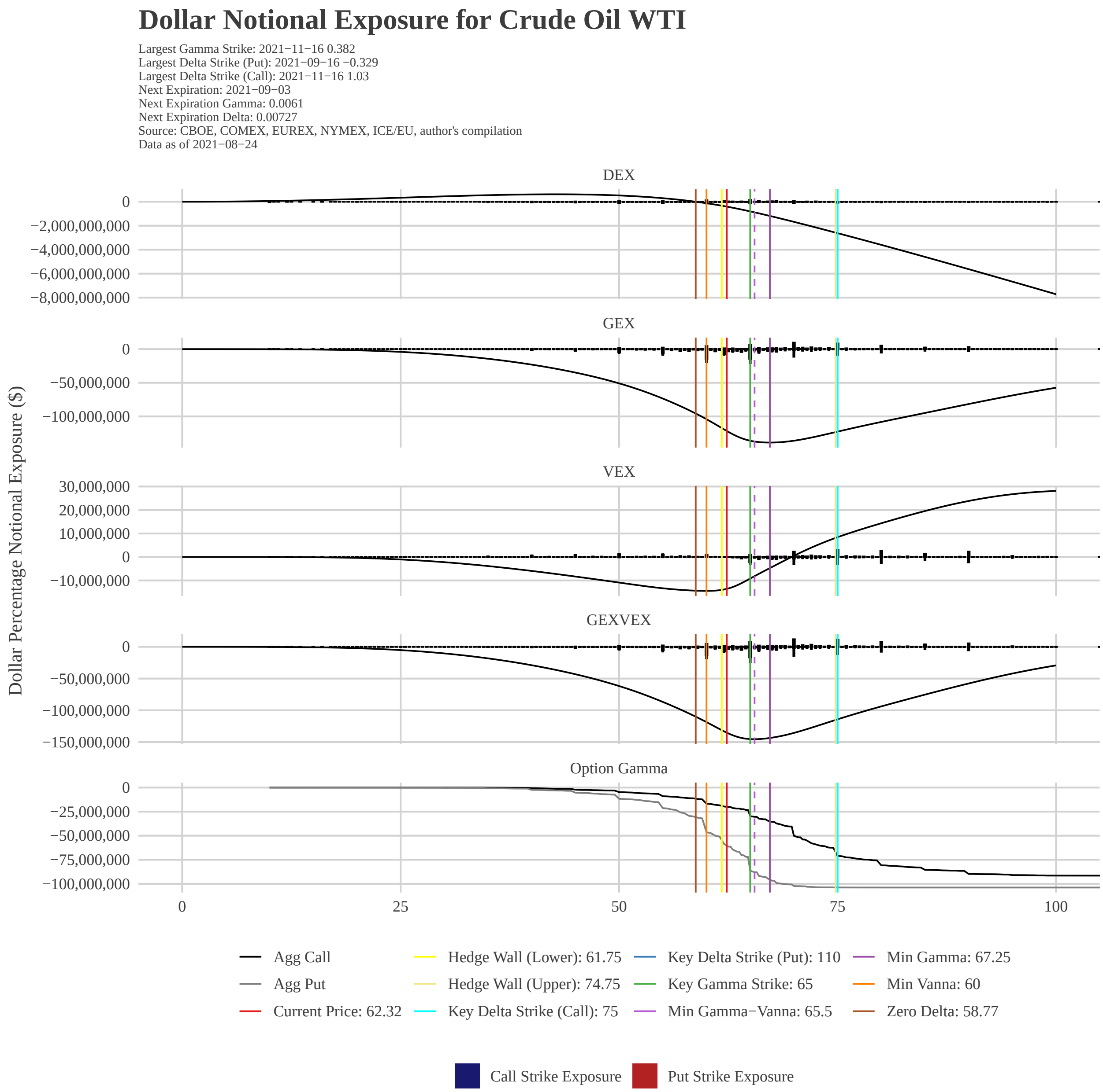


Strike Notional Exposure for ICE Crude Oil Brent

Largest Gamma Strike: 2021−08−25 0.383
Largest Delta Strike (Put): 2021−08−25 −0.378
Largest Delta Strike (Call): 2021−10−26 0.966
Next Expiration: 2021−08−25
Next Expiration Gamma: 0.383
Next Expiration Delta: −0.378
Source: CBOE, COMEX, EUREX, NYMEX, ICE/EU, author's compilation
Data as of 2021−08−24

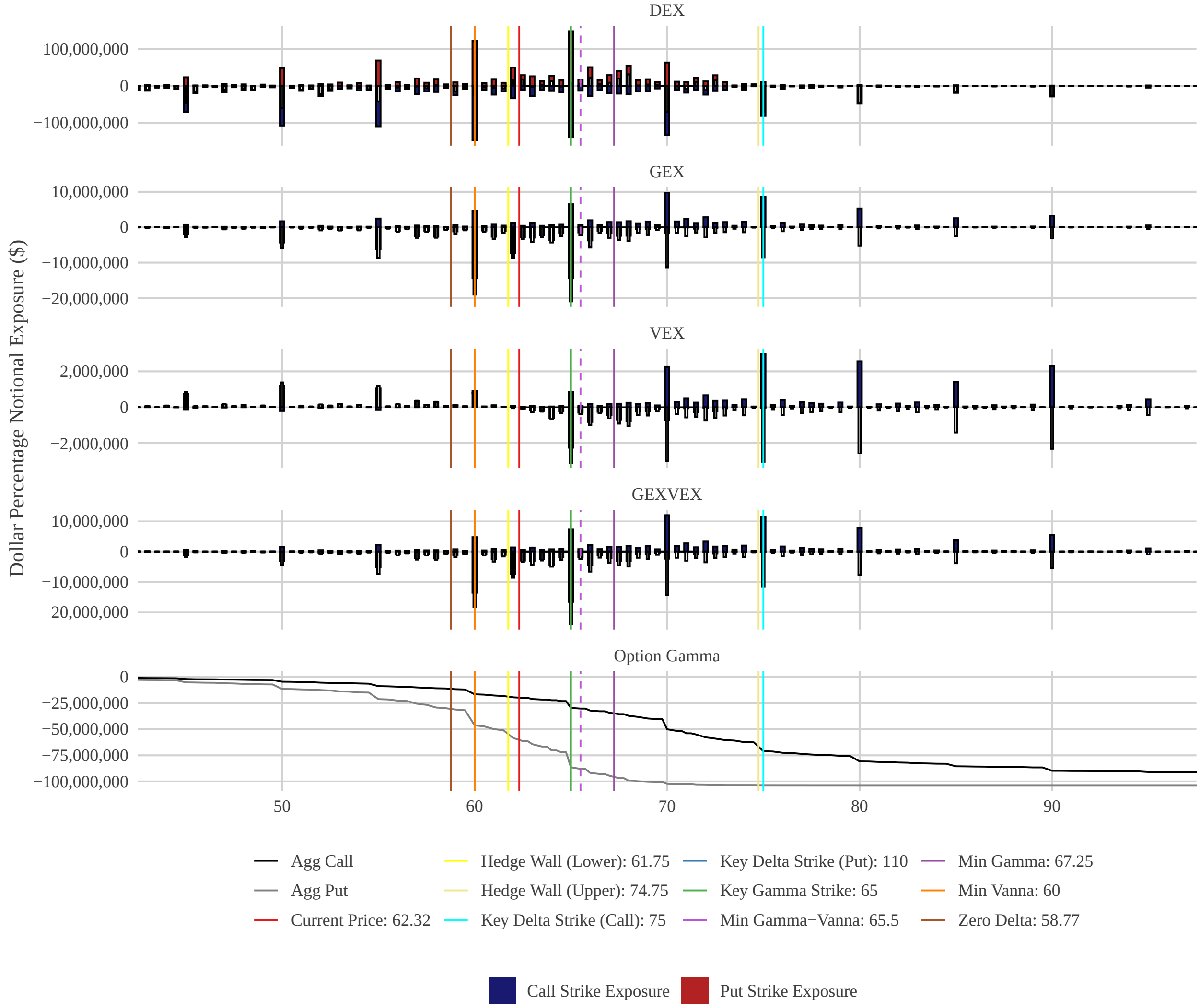


5.3.2 West Texas Intermediate (WTI)



Strike Notional Exposure for Crude Oil WTI

Largest Gamma Strike: 2021−11−16 0.382
Largest Delta Strike (Put): 2021−09−16 −0.329
Largest Delta Strike (Call): 2021−11−16 1.03
Next Expiration: 2021−09−03
Next Expiration Gamma: 0.0061
Next Expiration Delta: 0.00727
Source: CBOE, COMEX, EUREX, NYMEX, ICE/EU, author's compilation
Data as of 2021−08−24



6 Appendix

6.1 Introduction to Options

A derivative is an investment instrument whose investment value is dependent on an underlying investment. Options are a form of derivative instrument that allows investors to engage in investing, speculating, and risk management activities. Options give market participants the right to purchase and sell the underlying security, or to deliver and receive the underlying security, at a predetermined price, which is also known as the Strike price. Each option has an expiration date, by which the holder of the option must decide whether to exercise the option.

A Call Option gives the holder the right to buy the underlying at the strike price, while a Put Option gives the holder the right to sell the underlying at the strike price. Accordingly, the seller of a Call Option has the obligation to deliver the underlying at the strike price, while the seller of a Put option has the obligation to receive the underlying at the strike price. Whether the holders of the options would exercise their rights, and whether the sellers of the options would be obligated, depends on the moneyness of the option.

An Out-of-the-Money (OTM) option would not be exercised by options holders, as they would be better off by transacting in the underlying directly. For instance, if a Call Option has a Strike of 100, and the underlying is at 90, it would be better for the investor to directly purchase the underlying at 90, rather than to exercise the right to purchase the underlying at 100. If a Put Option has a Strike of 100, and the underlying is at 110, it would be better for the investor to directly sell the underlying at 110, rather than to exercise the right to sell the underlying at 100. Accordingly, such options would have little value.

An In-the-Money (ITM) option would generally be exercised by options holders, as they would not be better off by transacting in the underlying directly. For instance, if a Call Option has a Strike of 100, and the underlying is at 110, it would be better for the investor to exercise the right to purchase the underlying at 100, rather than to directly purchase the underlying at 11. If a Put Option has a Strike of 100, and the underlying is at 90, it would be better for the investor to exercise the right to sell the underlying at 100, rather than to directly sell the underlying at 90. Accordingly, ITM options would have greater value than an OTM option.

The value of an option is influenced by many factors. The more pertinent factors are the price of the underlying, the strike price, the volatility of the underlying, and the time to expiration.

6.2 Quantifying Dealer Market Exposure

For market indices, dealers are assumed to be long call options, and short put options. For single-name indices, dealers are assumed to be short call options, and short put options.

For single-name indices, call gamma strike exposure and vanna strike exposure are assigned positive numbers, and put gamma strike exposure and vanna strike exposure are assigned negative numbers.

Dealers are generally exposed to three kinds of exposures: Delta, Gamma, and Vanna. Delta exposure refers to the value of the hedge that dealers are notionally exposed to, at a particular strike price. It is the dollar notional amount that dealers are holding or selling in order to remain protected (against small price movements).

What is of greater interest are the gamma and vanna exposures. Gamma exposure refers to the rate of change of the value of the hedge that dealers are notionally exposed to, with respect to changes in the underlying price. It measures the sensitivity of the delta notional exposure to changes in the underlying price. The metric utilized to assess dealer gamma exposure is known as Total Gamma Exposure (GEX). The rate of change of GEX can be denominated in per unit points, or percentage points.

Vanna exposure refers to the rate of change of the value of the hedge that dealers are notionally exposed to, with respect to changes in the volatility of the underlying. It measures the sensitivity of the delta notional exposure to changes in the volatility of the underlying. The metric utilized to assess dealer gamma exposure is known as Total Vanna Exposure (VEX). The rate of change of VEX can be denominated in per unit points, or percentage points.

6.3 Making Inferences

A high GEX indicates heightened dealer hedging activity, whereas a low GEX indicates subdued dealer hedging activity. A high GEX implies that dealers must purchase or sell a greater amount of the underlying in order to be protected against small price movements, while a low GEX implies that dealers must purchase or sell a lesser amount of the underlying in order to be protected against small price movements.

A positive GEX indicates that dealers would have to sell the underlying as the underlying price increases, and to buy the underlying as the underlying price decreases. Accordingly, a positive GEX indicates relative market calmness and tempered volatility, as dealer selling activity would put downward pressure on market highs, and dealer buying activity would put upward pressure on market lows. Expected market trading ranges can then be inferred.

A negative GEX indicates that dealers would have to sell the underlying as the underlying price decreases, and to buy the underlying as the underlying price increases. Accordingly, a negative GEX indicates relative market aggressiveness and heightened volatility, as dealer selling activity would put further downward pressure on market lows, and dealer buying activity would put further upward pressure on market highs. Expected market momentum and volatility can then be inferred. A high VEX indicates a heightened additional adjustment to the delta notional exposure for a given change in volatility, while a low VEX indicates a subdued additional adjustment to the delta notional exposure for a given change in volatility.

A positive VEX indicates that dealers would have to sell the underlying as the volatility of the underlying price increases, and to buy the underlying as the volatility of the underlying price decreases.

A negative VEX indicates that dealers would have to buy the underlying as the volatility of the underlying price increases, and to sell the underlying as the volatility of the underlying price decreases.

If GEX is positive, and if markets are experiencing decreasing volatility, a positive VEX, which induces buying activity of the underlying, tempers and subdues the selling activity of a positive GEX. This is usually the case for a market uptrend. If markets are experiencing increasing volatility, a positive VEX, which induces selling activity of the underlying, tempers and subdues the buying activity of a positive GEX. This is usually the case for a market downtrend. Expected market trading ranges can then be inferred.

If GEX is negative, and if markets are experiencing decreasing volatility, a positive VEX, which induces buying activity of the underlying, amplifies the buying activity of a negative GEX. This is usually the case for a sharp upward rebound in the market. If markets are experiencing increasing volatility, a positive VEX, which induces selling activity of the underlying, amplifies the selling activity of a negative GEX. This is usually the case for large downward spirals in the market, until the volatility of the underlying can no longer increase further. Expected market momentum and volatility can then be inferred.

The charts show the calculated distributions of DEX, GEX, VEX, and GEXVEX across different underlying prices, and the distributions of call and put gamma at each strike level (for plotting purposes, calls are given positive gamma, puts are given negative gamma). The net effect is also shown. The aggregated option gamma exposure for calls and puts indicates the volatility profile, and market sentiment of the underlying. Key price levels are indicated, and those serve as important price levels to be wary of.

For market indices, call delta strike exposure are assigned positive numbers, put delta strike exposure are assigned negative numbers, and call option gamma are assigned negative numbers for plotting purposes.

For single-name indices, call gamma strike exposure and vanna strike exposure are assigned positive numbers, and put gamma strike exposure and vanna strike exposure are assigned negative numbers for plotting purposes.

6.4 Key Price Levels

6.4.1 Market Indices

Zero Gamma: The Zero Gamma level is the price whereby there is zero dealer gamma notional exposure. At this level, expected dealer hedging activity is zero. This is a crucial level whereby dealer hedging activity may swing from suppressing volatility to exacerbating volatility, and it therefore acts as a major pivot point; large underlying price drawdowns may be observed if the underlying price crosses below this level, and it acts as a support level if the underlying price approaches this level.

Max Gamma: The Max Gamma level is the price at which dealer hedging activity due to changes in the underlying price is at the maximum. It serves as a major pinning point if the underlying is trading near that level.

Max Vanna: The Max Vanna level is the price at which dealer hedging activity due to changes in the volatility of the underlying is at the maximum. It serves as a major pivot point for the underlying, whereby the price movement of the underlying is most affected, and contingent on the volatility trend of the underlying.

Key Delta Strike: The Key Delta Strike level is the strike price whereby there is the largest positive delta notional position. It is the level whereby there is the highest level of dealer call and put delta. Downward price trends may be reversed upon expiration of this delta notional position. It serves as a support or resistance level for the underlying.

Key Gamma Strike: The Key Gamma Strike level is the strike price whereby there is the largest total gamma notional position. It is the strike price whereby there is heightened dealer hedging activity, and hence there should be heightened dealer influence in the underlying. It serves as a support or resistance level for the underlying.

Call Wall: The Call Wall level is the strike price whereby there is the largest net positive gamma notional position. It indicates the market sentiment and expectation of the upper limit of the underlying, should the underlying trend upwards. It serves as a major resistance point. If this level moves higher, it indicates a bullish sentiment whereby the upward run is not overextended. If this level moves lower, it indicates a bearish sentiment whereby the upward run is overextended.

Put Wall: The Call Wall level is the strike price whereby there is the largest net negative gamma notional position. It indicates the market sentiment and expectation of the lower limit of the underlying, should the underlying trend downwards. It serves as a major pivot point. If this level moves higher, it indicates a bearish sentiment whereby more market participants are seeking greater downside protection. If this level moves lower, it indicates a bullish sentiment whereby more market participants are seeking lower downside protection.

6.4.2 Single-name Indices

Key Delta Strike (Put): The Key Delta Strike (Put) level is the strike price whereby there is the largest positive net delta notional position. If the strike is above the price of the underlying, downward price trends may be reversed upon expiration of this delta notional position. It serves as a support or resistance level for the underlying.

Key Delta Strike (Call): The Key Delta Strike (Call) level is the strike price whereby there is the largest negative net delta notional position. If the strike is below the price of the underlying, upward price trends may be reversed upon expiration of this delta notional position. It serves as a support or resistance level for the underlying.

Key Gamma Strike: The Key Gamma Strike level is the strike price whereby there is the largest total gamma notional position. It is the strike price whereby there is heightened dealer hedging activity, and hence there should be heightened dealer influence in the underlying. It serves as a support or resistance level for the underlying.

Zero Delta: The Zero Delta level is the price whereby there is zero dealer delta notional exposure. It serves as a pivot point for the underlying, whereby the impact of dealer hedging activity on the market is minimized.

Lower Hedge Wall: The Lower Hedge Wall level is the price whereby downside gamma exposure starts to decrease. It serves as a price level whereby downside market volatility may reduce.

Upper Hedge Wall: The Lower Hedge Wall level is the price whereby upside gamma exposure starts to decrease. It serves as a price level whereby upside market volatility may reduce.

Min Vanna: The Min Vanna level is the price at which dealer hedging activity due to changes in the volatility of the underlying is at the maximum. It serves as a major pivot point for the underlying, whereby the price movement of the underlying is most affected, and contingent on the volatility trend of the underlying.

GEXVEX aggregates the effects of Gamma and Vanna.