

PromiseLand



PromiseLand's Daily Market Commentaries

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01 September 2021



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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 -0.14%. Markets took a breather yesterday after an extended run up, in light of negative economic data and signals. The US August MNI Chicago PMI fell by -6.6 to 66.8, which is weaker than analysts' expectations of 68. Also, the August Conference Board US Consumer Confidence Index decreased by 11.3 to a 6 month low of 113.8, which is weaker than analysts' expectations of 123.

Whether such news will continue to further dampen market sentiment remains to be seen, as there remains a lingering expectation of hope in the markets. The Call Wall has increased from 4500 to 4550, which indicates that investors are now, and still targeting a higher upside potential. The Put Wall has shifted down from 4200 to 4000, indicating a bullish sentiment whereby more market participants are seeking lower downside protection.

We do not expect the S&P500 to cross below the 4500 price level, due to the significant presence of dealer long gamma at the 4500 strike level, which should continue to buoy prices, unless there is a negative fundamental change, or sudden huge negative investor sentiment in the markets.

Expected price range: 4500 - 4600.

2.2 NASDAQ100

The NASDAQ100 closed with a return of -0.14%. Market sentiment for the index is more mixed compared to the S&P500, with increases in the Call Wall and Put Wall levels.

The upward shift in the Call Wall indicates that investors believe that the NASDAQ100 still has some room left to run. The Call Wall level whereby investors are targeting a top upside potential has increased to 15700. However, the Put Wall level whereby investors are targeting a top downside potential has increased to 15250. In other words, investors are both targeting an increased upside, while purchasing greater insurance against market downturns.

We expect for the Call Wall level of 15600 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 also expect a low likelihood of the NASDAQ100 crossing over the 15600 level, whereby there is also significant long dealer gamma exposure, which restrains upward price trends

Expected price range: 15500 - 15600.

2.3 STOXX50

The STOXX50 closed lower with a return of -0.057%. Stocks were also under pressure on the concern the ECB may start to curb stimulus after ECB Governing Council member Holzmann commented that it was time for the ECB to discuss tapering bond-buying at next month's policy meeting. Market sentiment was however relatively still positive due to a downward shift in the Put Wall, indicating that investors are seeking lower downside protection.

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

Expected price range: 4140 - 4250.



2.4 DAX

The DAX closed with a return of 0.33%. There is no material change to the outlook of the DAX.

The level whereby investors are targeting a top upside potential is 16400, and the level whereby investors are targeting a top downside potential is 15000.

Expected price range: 15800 - 15900.

2.5 Gold

Gold has recovered from its three week low, after rebounding from its then zero delta levels of approximately 1750. This is attributed to fresh talks about the ECB's intention to discuss stimulus tapering, as well as inflationary concerns worldwide, boosting the demand for Gold as an inflation hedge.

As per the market profile map, there appears to be heightened bullish speculation on Gold, in the form of increased investor long call option activity. A sudden huge demand for Gold as an inflation hedge, coupled with the negative dealer gamma exposure across strike levels above 1800, set the stage for an upwards ramp in Gold prices.

Expected price range: 1800 - 1900.

2.6 Silver

Silver traded flatly. The only consolation is that it has rebounded up slightly from its lower hedge wall.

Expected price range: 23 - 25.

2.7 Crude Oil

The gain in Crude Oil was dampened by negative economic data from China and US. Also, with Hurricane Ida looming over the southern US, crude demand looks set to fall as the region restores its infrastructure from hurricane damage.

Expected price range: 65 - 75.



3 Market Price Levels

Table 1: Key Price Levels for Market Indices

	S&P500	NASDAQ100	STOXX50	DAX
Current Price	4522.68	15582.51	4198.80	15887.31
Previous Price	4528.79	15605.09	4190.98	15851.75
Return	-0.00135	-0.00145	0.00186	0.00224
Call Wall	4550	15700	4300	16400
Key Delta Strike	4000	15200	4100	15600
Key Gamma Strike	4500	15500	4100	15600
Max Gamma Vanna	4490	15380	4175	15900
Max Gamma	4575	15800	4325	16450
Max Vanna	4475	15370	4150	15900
Put Wall	4000	15250	3900	15000
Zero Gamma Vanna	3677.01	16638.58	3329.20	14067.79
Zero Gamma	4478.93	15371.06	4139.35	15769.14

Table 2: Key Dates for Market Indices

	S&P500	NASDAQ100	STOXX50	DAX
Largest Gamma Strike Date	2021-09-17	2021-09-17	2021-09-17	2021-09-17
Largest Gamma Strike	0.341	0.394	0.375	0.590
Largest Delta Strike Date	2021-09-17	2021-09-17	2021-12-17	2021-12-17
Largest Delta Strike	0.299	0.444	0.431	0.570
Next Expiration Date	2021-09-01	2021-09-01	2021-09-17	2021-09-17
Next Expiration Gamma	0.0627	0.0896	0.3750	0.5900
Next Expiration Delta	0.00615	0.03040	0.14600	0.30700



Table 3: Key Price Levels for Single-name Indices

	Gold Futures	Silver Futures	ICE Crude Oil Brent	Crude Oil WTI
Current Price	1813.810	23.884	73.410	69.210
Previous Price	1813.79	23.89	72.70	68.74
Return	0.000011	-0.000293	0.009720	0.006810
Hedge Wall (Lower)	1742.50	23.10	57.75	61.25
Hedge Wall (Upper)	1910.00	24.65	84.25	79.75
Key Delta Strike (Call)	1850.00	18.25	70.00	70.00
Key Delta Strike (Put)	1650	23	35	110
Key Gamma Strike	1800	24	70	70
Min Gamma Vanna	1720.00	24.05	69.75	69.50
Min Gamma	1817.500	24.075	71.500	71.250
Min Vanna	1697.500	22.825	58.250	55.250
Zero Delta	1745.96	23.39	61.42	59.81

Table 4: Key Dates for Single-name Indices

	Gold Futures	Silver Futures	ICE Crude Oil Brent	Crude Oil WTI
Largest Gamma Strike Date	2021-09-27	2021-09-27	2021-10-26	2021-11-16
Largest Gamma Strike	0.274	0.379	0.444	0.341
Largest Delta Strike Date (Put)	2021-09-17	2021-09-27	2022-06-27	2021-09-24
Largest Delta Strike (Put)	-0.001130	-0.270000	-0.000158	-0.000184
Largest Delta Strike Date (Call)	2022-05-26	2022-06-27	2021-10-26	2021-11-16
Largest Delta Strike (Call)	0.275	0.505	0.598	0.634
Next Expiration Date	2021-09-03	2021-09-03	2021-09-27	2021-09-03
Next Expiration Gamma	0.0793	0.1280	0.2180	0.0159
Next Expiration Delta	0.01580	-0.02520	0.05560	0.00289

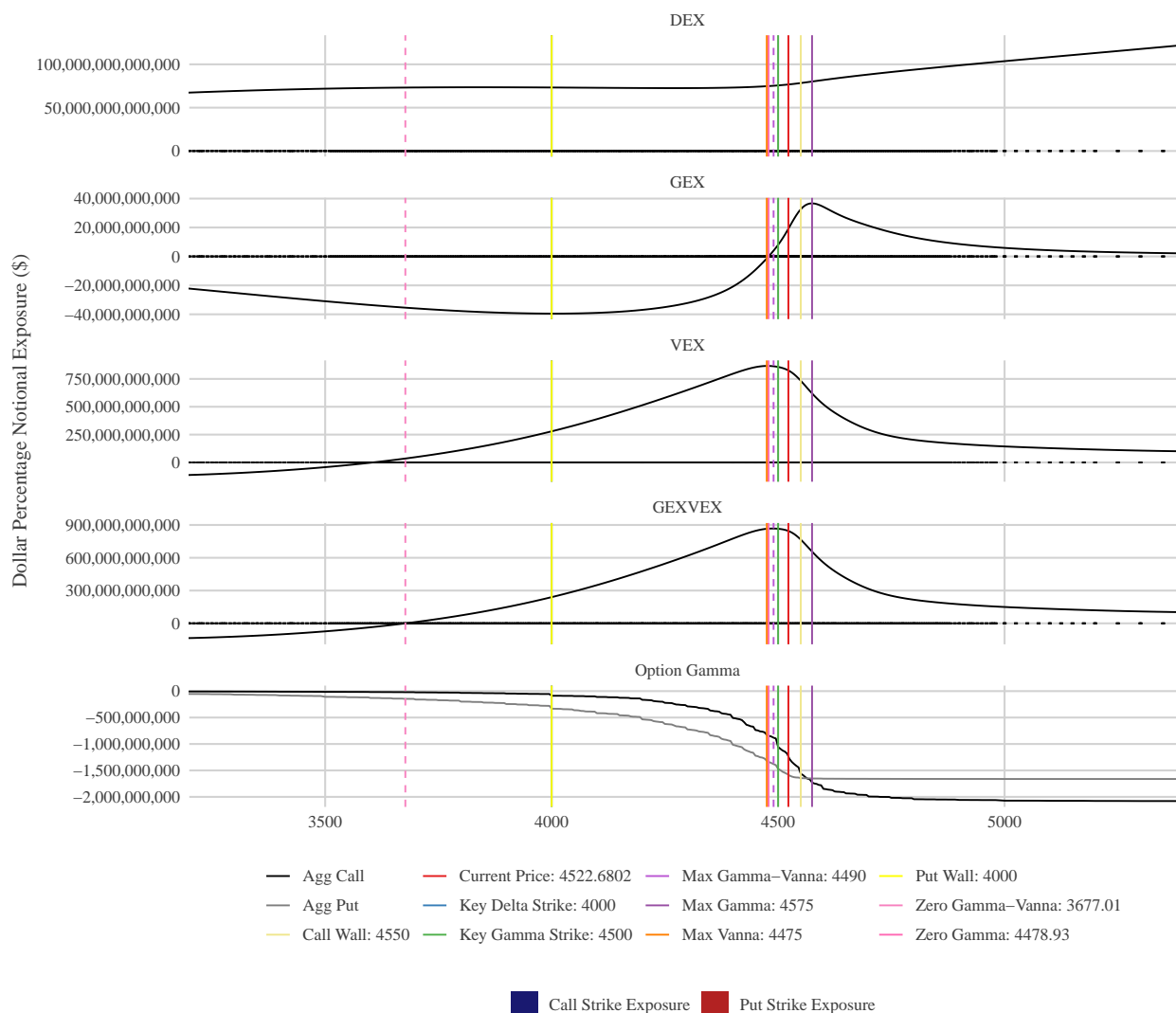


4 Market Indices

4.1 S&P500

Dollar Notional Exposure for SPX

Largest Gamma Strike: 2021-09-17 0.341
 Largest Delta Strike: 2021-09-17 0.299
 Next Expiration: 2021-09-01
 Next Expiration Gamma: 0.0627
 Next Expiration Delta: 0.00615
 Source: CBOE, COMEX, EUREX, NYMEX, ICE/EU, author's compilation
 Data as of 2021-09-01



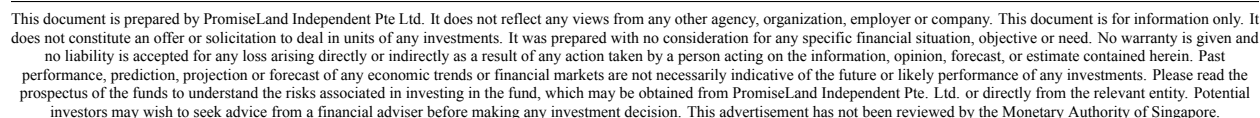
The S&P500 closed with a return of -0.14%. Markets took a breather yesterday after an extended run up, in light of negative economic data and signals. The US August MNI Chicago PMI fell by -6.6 to 66.8, which is weaker than analysts' expectations of 68. Also, the August Conference Board US Consumer Confidence Index decreased by 11.3 to a 6 month low of 113.8, which is weaker than analysts' expectations of 123.

Whether such news will continue to further dampen market sentiment remains to be seen, as there remains a lingering expectation of hope in the markets. The Call Wall has increased from 4500 to 4550, which indicates that investors are now, and still targeting a higher upside potential. The Put Wall has shifted down from 4200 to 4000, indicating a bullish sentiment whereby more market participants are seeking lower downside



Expected price range: 4500 - 4600.

Largest Gamma Strike: 2021-09-17 0.341
Largest Delta Strike: 2021-09-17 0.299
Next Expiration: 2021-09-01
Next Expiration Gamma: 0.0627
Next Expiration Delta: 0.00615
Source: CBOE, COMEX, EUREX, NYMEX, ICE/EU, author's compilation
Data as of 2021-09-01

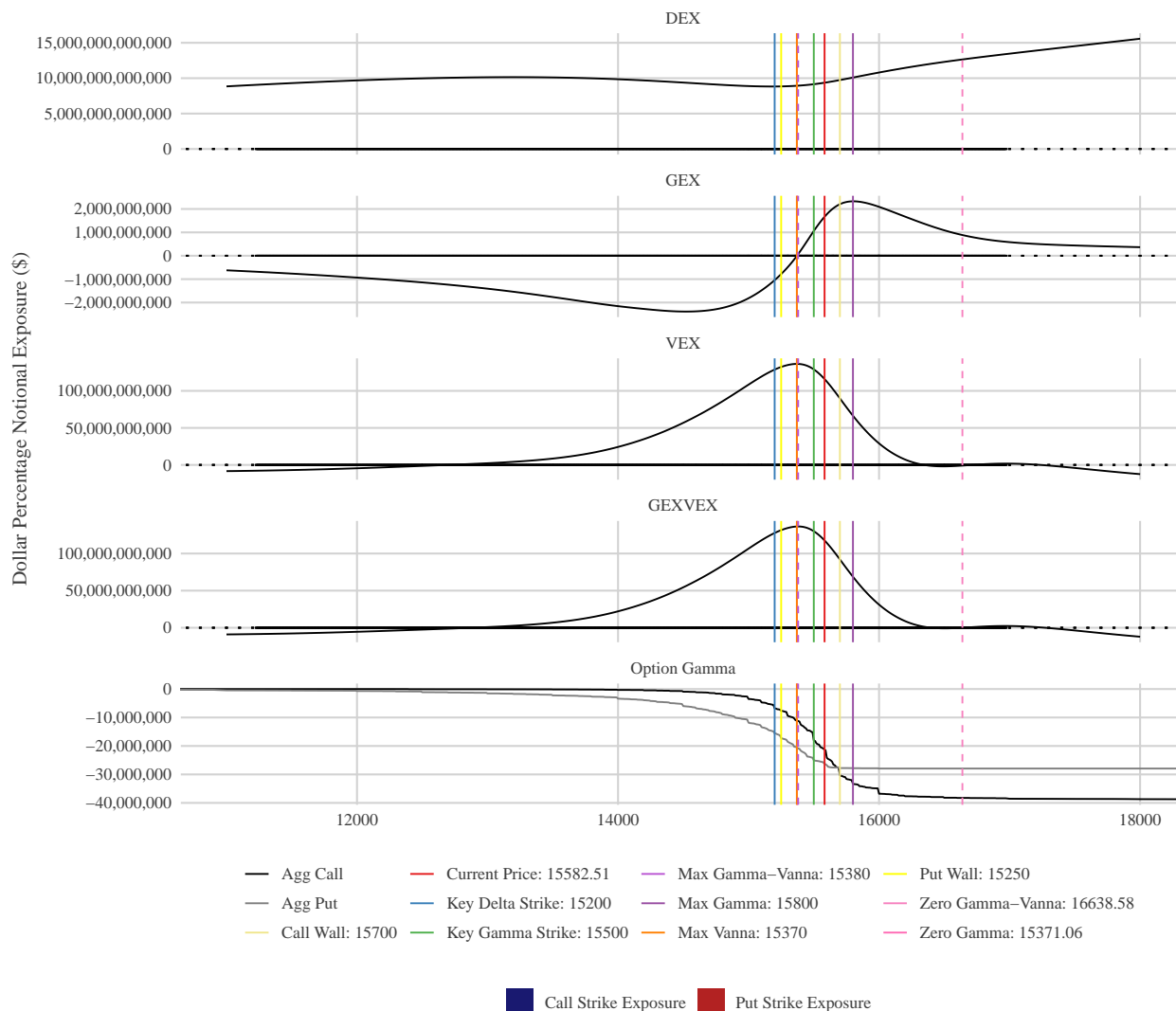




4.2 NASDAQ100

Dollar Notional Exposure for NASDAQ 100 E-Mini

Largest Gamma Strike: 2021-09-17 0.394
Largest Delta Strike: 2021-09-17 0.444
Next Expiration: 2021-09-01
Next Expiration Gamma: 0.0896
Next Expiration Delta: 0.0304
Source: CBOE, COMEX, EUREX, NYMEX, ICE/EU, author's compilation
Data as of 2021-09-01



The NASDAQ100 closed with a return of -0.14%. Market sentiment for the index is more mixed compared to the S&P500, with increases in the Call Wall and Put Wall levels.

The upward shift in the Call Wall indicates that investors believe that the NASDAQ100 still has some room left to run. The Call Wall level whereby investors are targeting a top upside potential has increased to 15700. However, the Put Wall level whereby investors are targeting a top downside potential has increased to 15250. In other words, investors are both targeting an increased upside, while purchasing greater insurance against market downturns.

We expect for the Call Wall level of 15600 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,

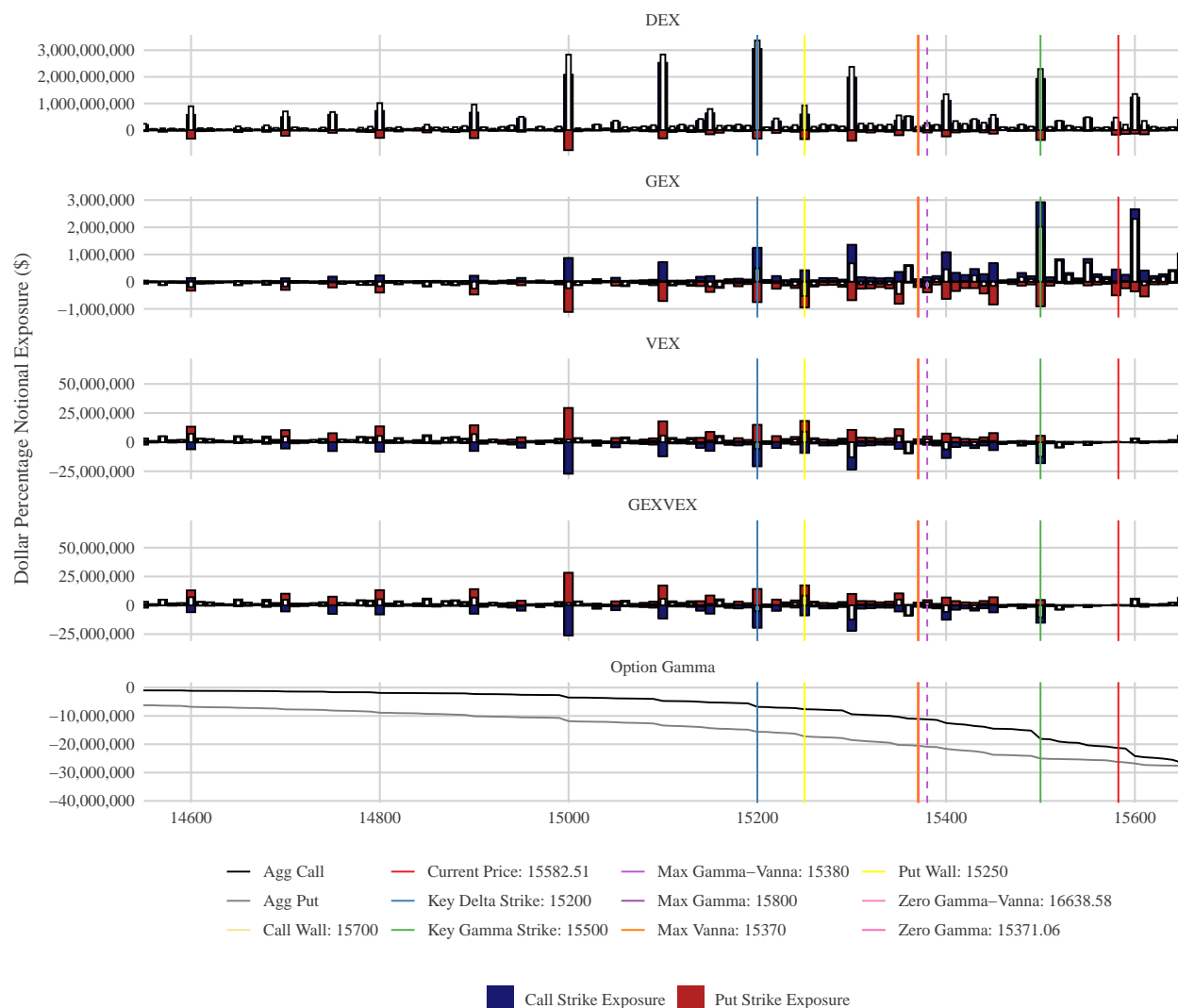


barring any negative exogenous factors. We also expect a low likelihood of the NASDAQ100 crossing over the 15600 level, whereby there is also significant long dealer gamma exposure, which restrains upward price trends

Expected price range: 15500 - 15600.

Strike Notional Exposure for NASDAQ 100 E-Mini

Largest Gamma Strike: 2021-09-17 0.394
Largest Delta Strike: 2021-09-17 0.444
Next Expiration: 2021-09-01
Next Expiration Gamma: 0.0896
Next Expiration Delta: 0.0304
Source: CBOE, COMEX, EUREX, NYMEX, ICE/EU, author's compilation
Data as of 2021-09-01

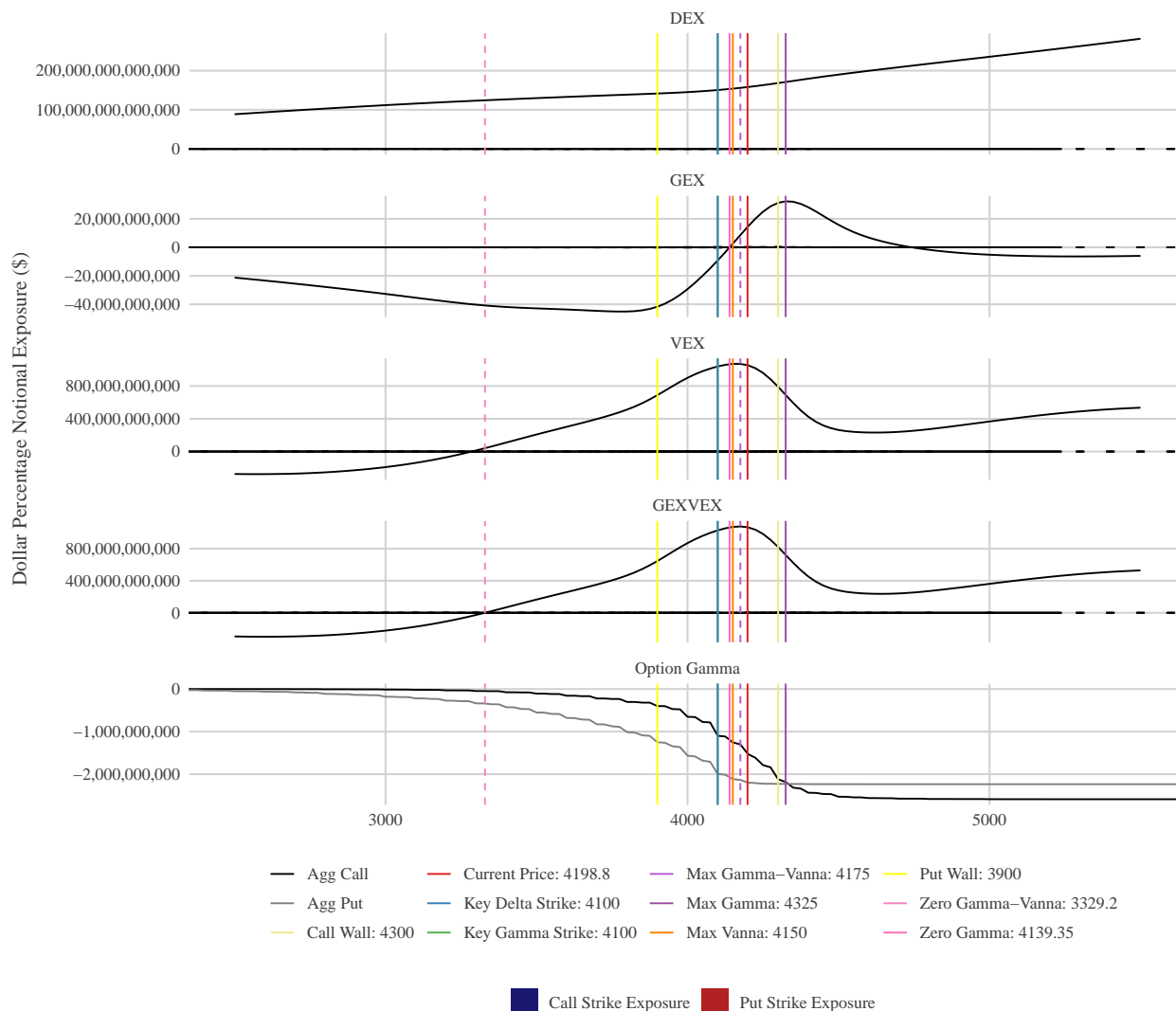




4.3 STOXX50

Dollar Notional Exposure for Euro Stoxx 50 Futures

Largest Gamma Strike: 2021-09-17 0.375
 Largest Delta Strike: 2021-12-17 0.431
 Next Expiration: 2021-09-17
 Next Expiration Gamma: 0.375
 Next Expiration Delta: 0.146
 Source: CBOE, COMEX, EUREX, NYMEX, ICE/EU, author's compilation
 Data as of 2021-09-01



The STOXX50 closed lower with a return of -0.057%. Stocks were also under pressure on the concern the ECB may start to curb stimulus after ECB Governing Council member Holzmann commented that it was time for the ECB to discuss tapering bond-buying at next month's policy meeting. Market sentiment was however relatively still positive due to a downward shift in the Put Wall, indicating that investors are seeking lower downside protection.

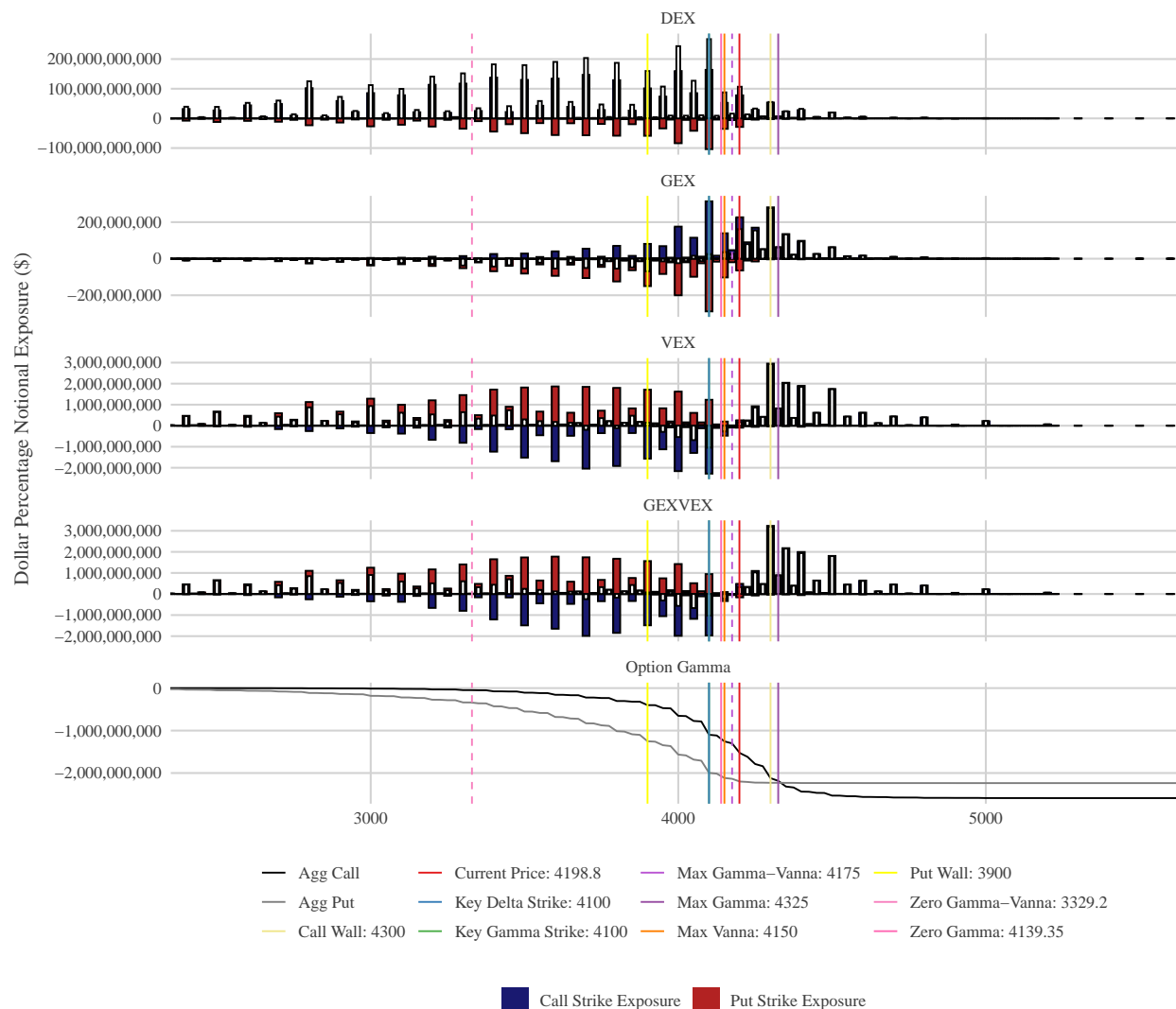
The level whereby investors are targeting a top upside potential remains at 4300.

Expected price range: 4140 - 4250.



Strike Notional Exposure for Euro Stoxx 50 Futures

Largest Gamma Strike: 2021-09-17 0.375
Largest Delta Strike: 2021-12-17 0.431
Next Expiration: 2021-09-17
Next Expiration Gamma: 0.375
Next Expiration Delta: 0.146
Source: CBOE, COMEX, EUREX, NYMEX, ICE/EU, author's compilation
Data as of 2021-09-01

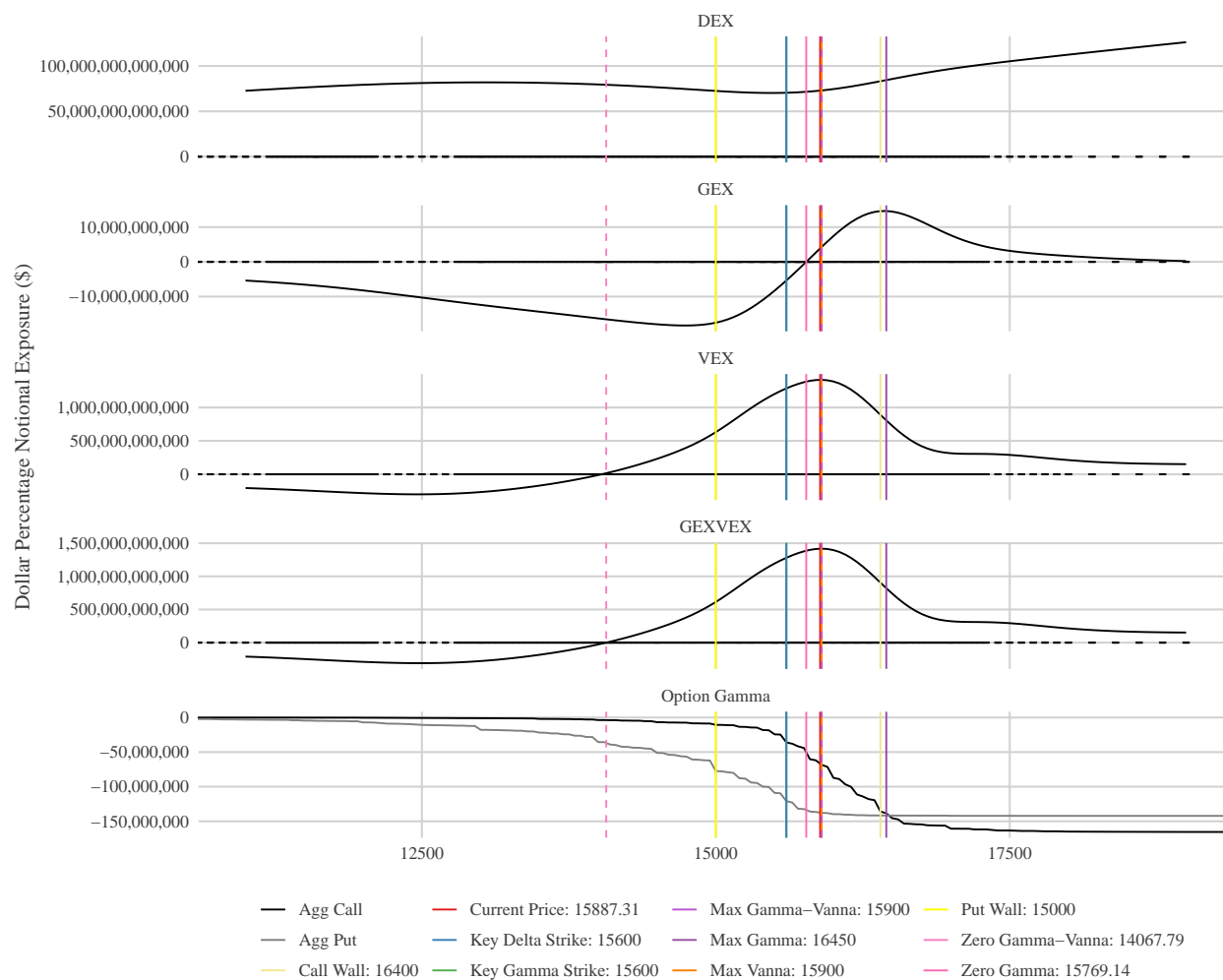




4.4 DAX

Dollar Notional Exposure for DAX Futures

Largest Gamma Strike: 2021-09-17 0.59
Largest Delta Strike: 2021-12-17 0.57
Next Expiration: 2021-09-17
Next Expiration Gamma: 0.59
Next Expiration Delta: 0.307
Source: CBOE, COMEX, EUREX, NYMEX, ICE/EU, author's compilation
Data as of 2021-09-01



■ Call Strike Exposure ■ Put Strike Exposure

The DAX closed with a return of 0.33%. There is no material change to the outlook of the DAX.

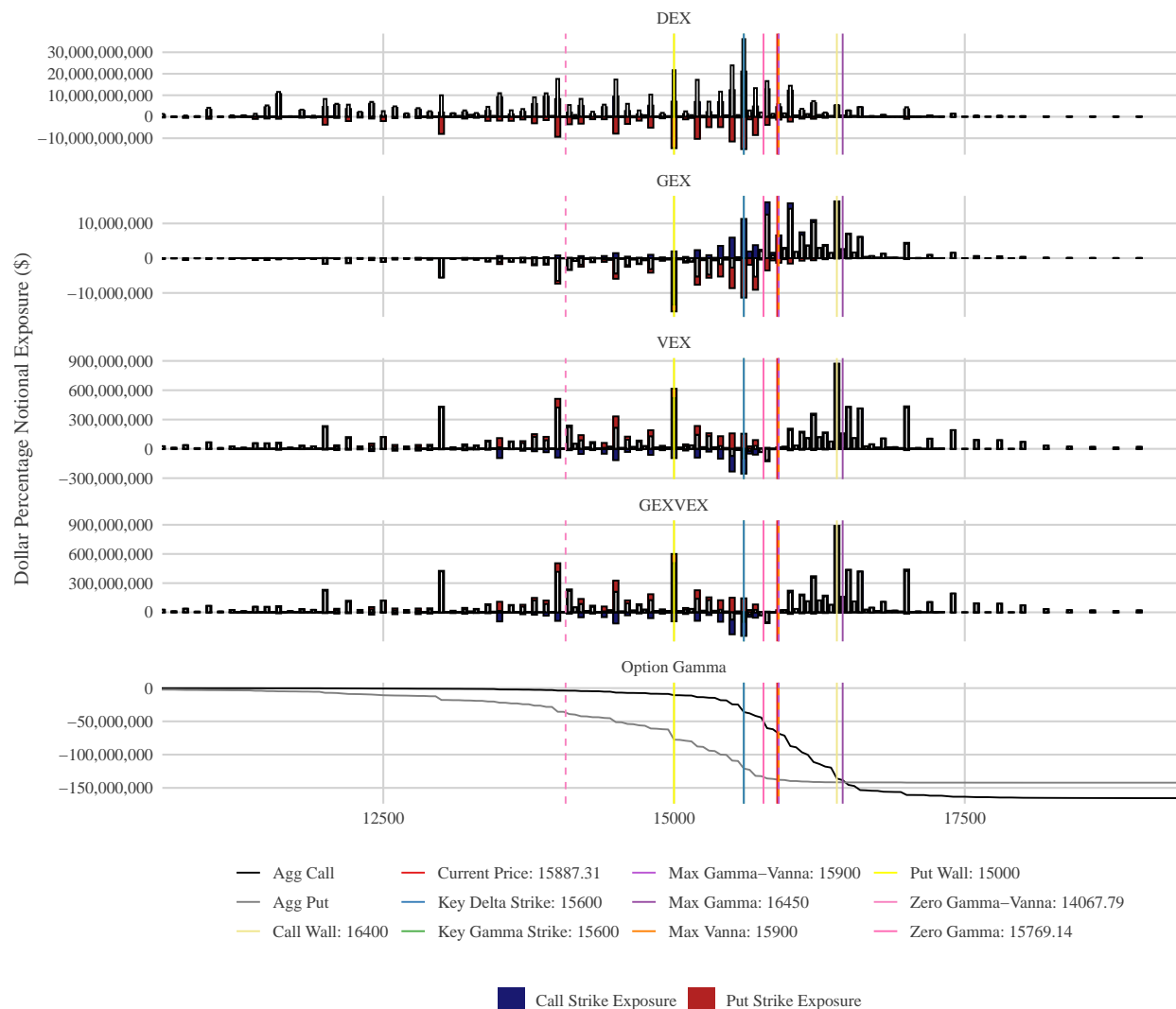
The level whereby investors are targeting a top upside potential is 16400, and the level whereby investors are targeting a top downside potential is 15000.

Expected price range: 15800 - 15900.



Strike Notional Exposure for DAX Futures

Largest Gamma Strike: 2021-09-17 0.59
Largest Delta Strike: 2021-12-17 0.57
Next Expiration: 2021-09-17
Next Expiration Gamma: 0.59
Next Expiration Delta: 0.307
Source: CBOE, COMEX, EUREX, NYMEX, ICE/EU, author's compilation
Data as of 2021-09-01



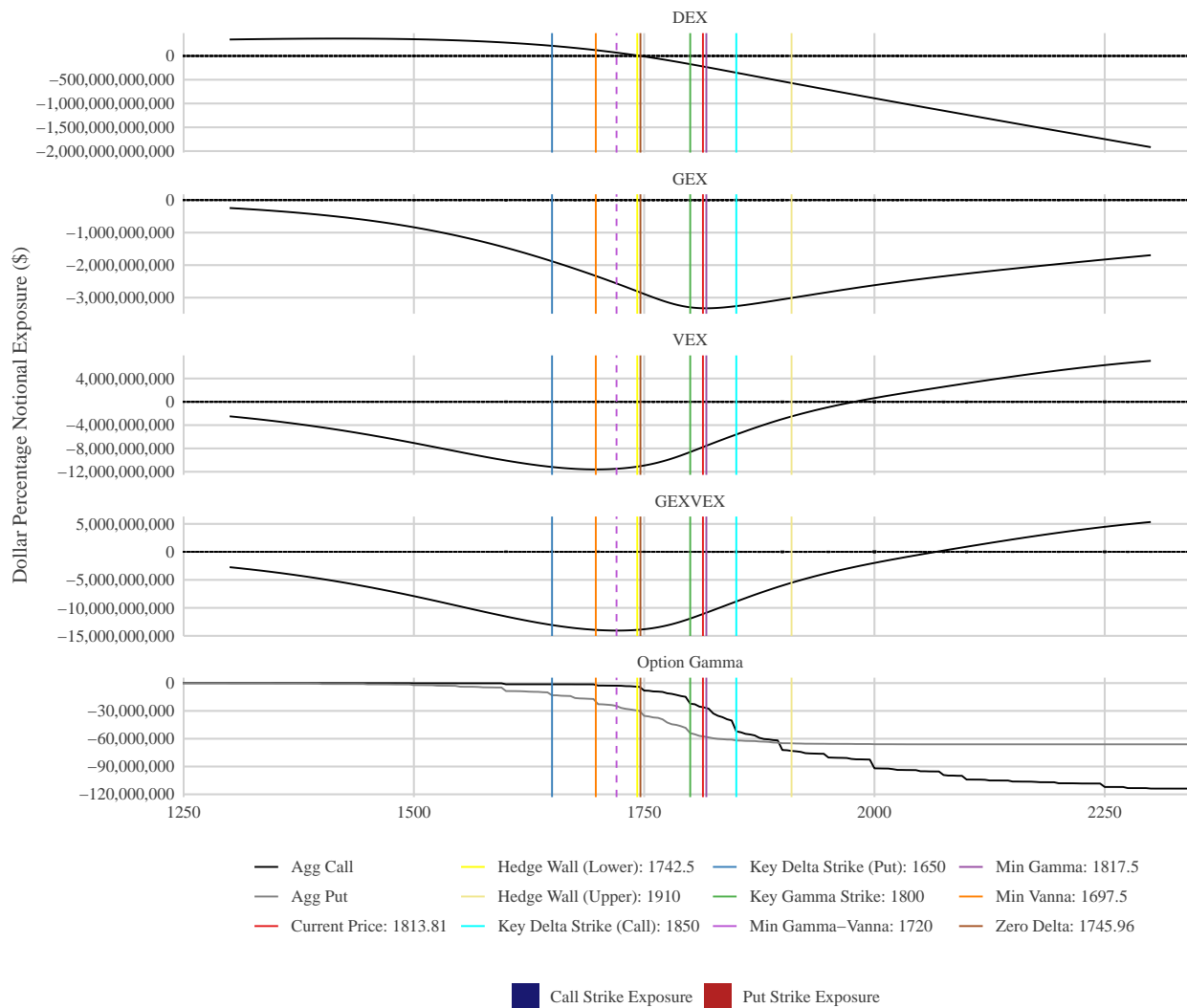


5 Commodities

5.1 Gold

Dollar Notional Exposure for Gold Futures

Largest Gamma Strike: 2021-09-27 0.274
Largest Delta Strike (Put): 2021-09-17 -0.00113
Largest Delta Strike (Call): 2022-05-26 0.275
Next Expiration Gamma: 0.0793
Next Expiration Delta: 0.0158
Source: CBOE, COMEX, EUREX, NYMEX, ICE/EU, author's compilation
Data as of 2021-09-01



Gold has recovered from its three week low, after rebounding from its then zero delta levels of approximately 1750. This is attributed to fresh talks about the ECB's intention to discuss stimulus tapering, as well as inflationary concerns worldwide, boosting the demand for Gold as an inflation hedge.

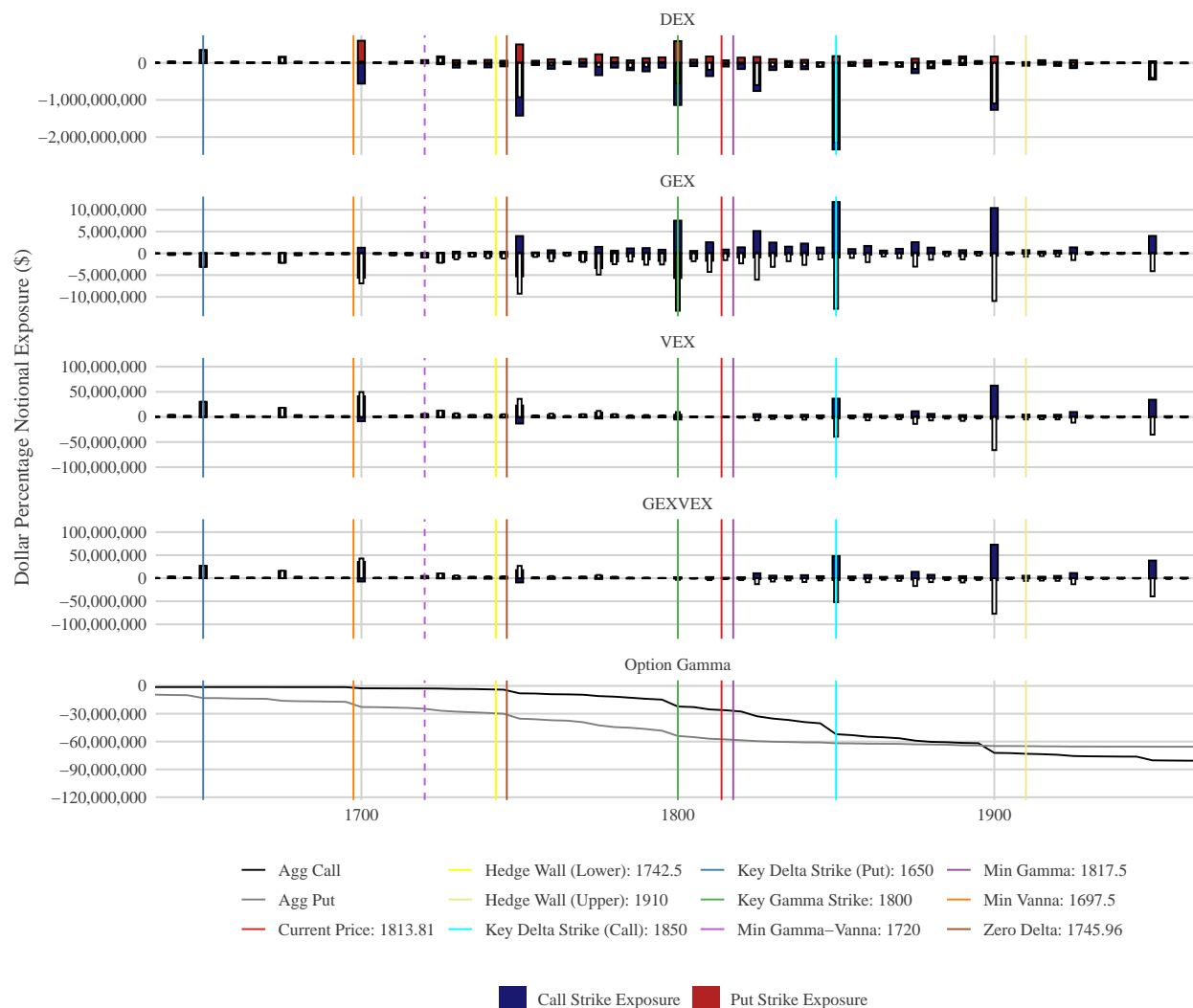
As per the market profile map, there appears to be heightened bullish speculation on Gold, in the form of increased investor long call option activity. A sudden huge demand for Gold as an inflation hedge, coupled with the negative dealer gamma exposure across strike levels above 1800, set the stage for an upwards ramp in Gold prices.

Expected price range: 1800 - 1900.



Strike Notional Exposure for Gold Futures

Largest Gamma Strike: 2021-09-27 0.274
Largest Delta Strike (Put): 2021-09-17 -0.00113
Largest Delta Strike (Call): 2022-05-26 0.275
Next Expiration: 2021-09-03
Next Expiration Gamma: 0.0793
Next Expiration Delta: 0.0158
Source: CBOE, COMEX, EUREX, NYMEX, ICE/EU, author's compilation
Data as of 2021-09-01

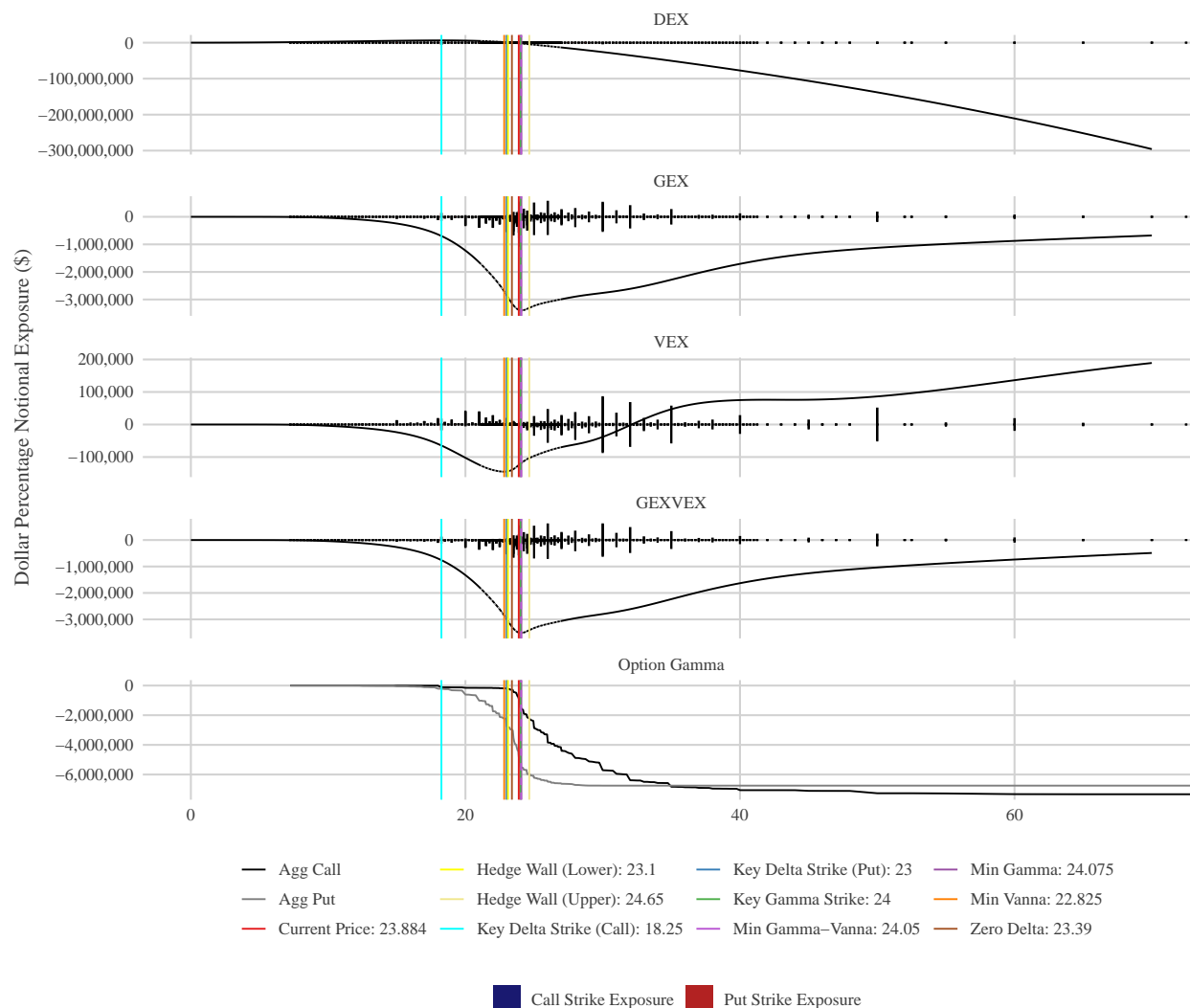




5.2 Silver

Dollar Notional Exposure for Silver Futures

Largest Gamma Strike: 2021-09-27 0.379
 Largest Delta Strike (Put): 2021-09-27 -0.27
 Largest Delta Strike (Call): 2022-06-27 0.505
 Next Expiration: 2021-09-03
 Next Expiration Gamma: 0.128
 Next Expiration Delta: -0.0252
 Source: CBOE, COMEX, EUREX, NYMEX, ICE/EU, author's compilation
 Data as of 2021-09-01



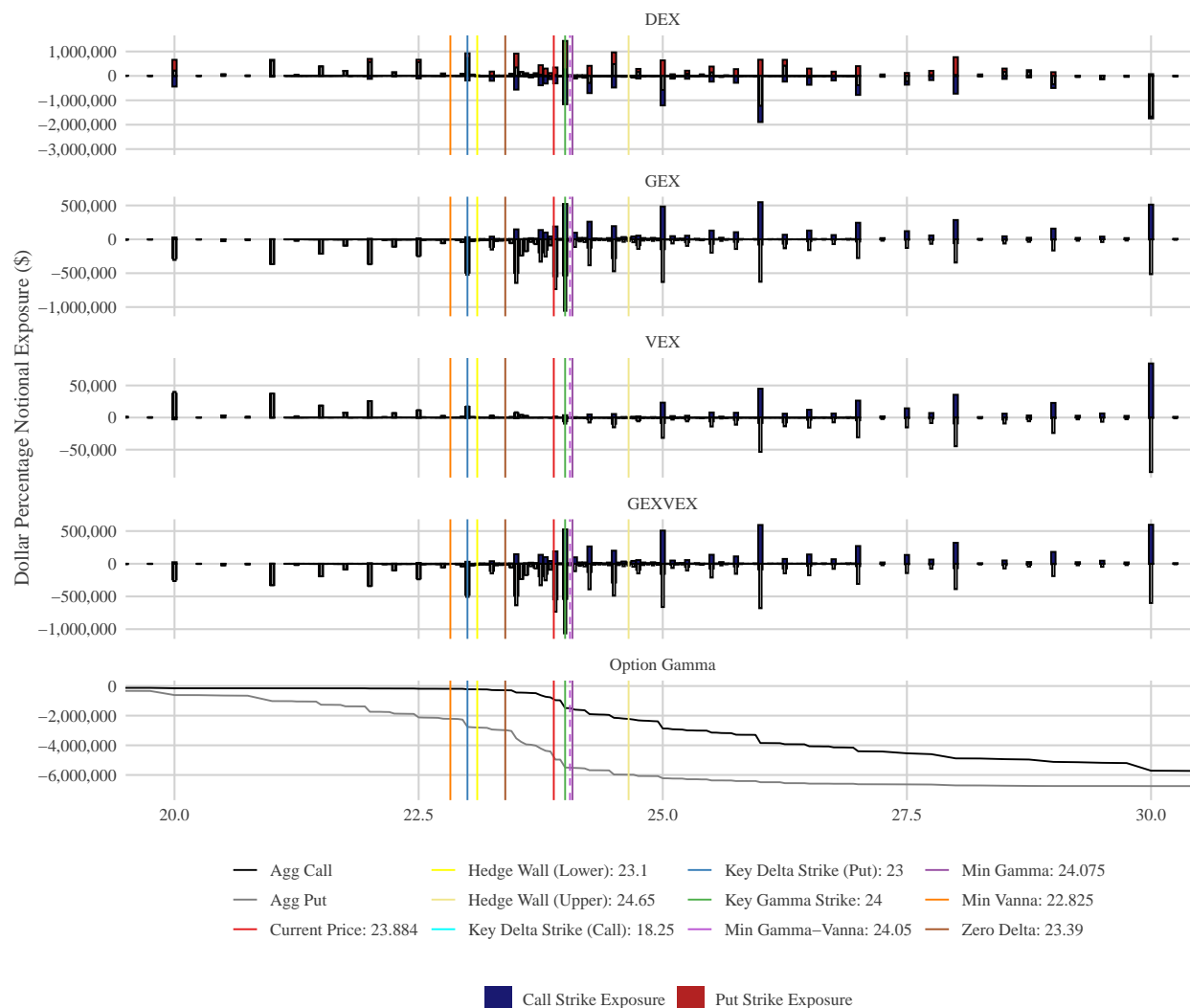
Silver traded flatly. The only consolation is that it has rebounded up slightly from its lower hedge wall.

Expected price range: 23 - 25.



Strike Notional Exposure for Silver Futures

Largest Gamma Strike: 2021-09-27 0.379
Largest Delta Strike (Put): 2021-09-27 -0.27
Largest Delta Strike (Call): 2022-06-27 0.505
Next Expiration: 2021-09-03
Next Expiration Gamma: 0.128
Next Expiration Delta: -0.0252
Source: CBOE, COMEX, EUREX, NYMEX, ICE/EU, author's compilation
Data as of 2021-09-01





5.3 Crude Oil

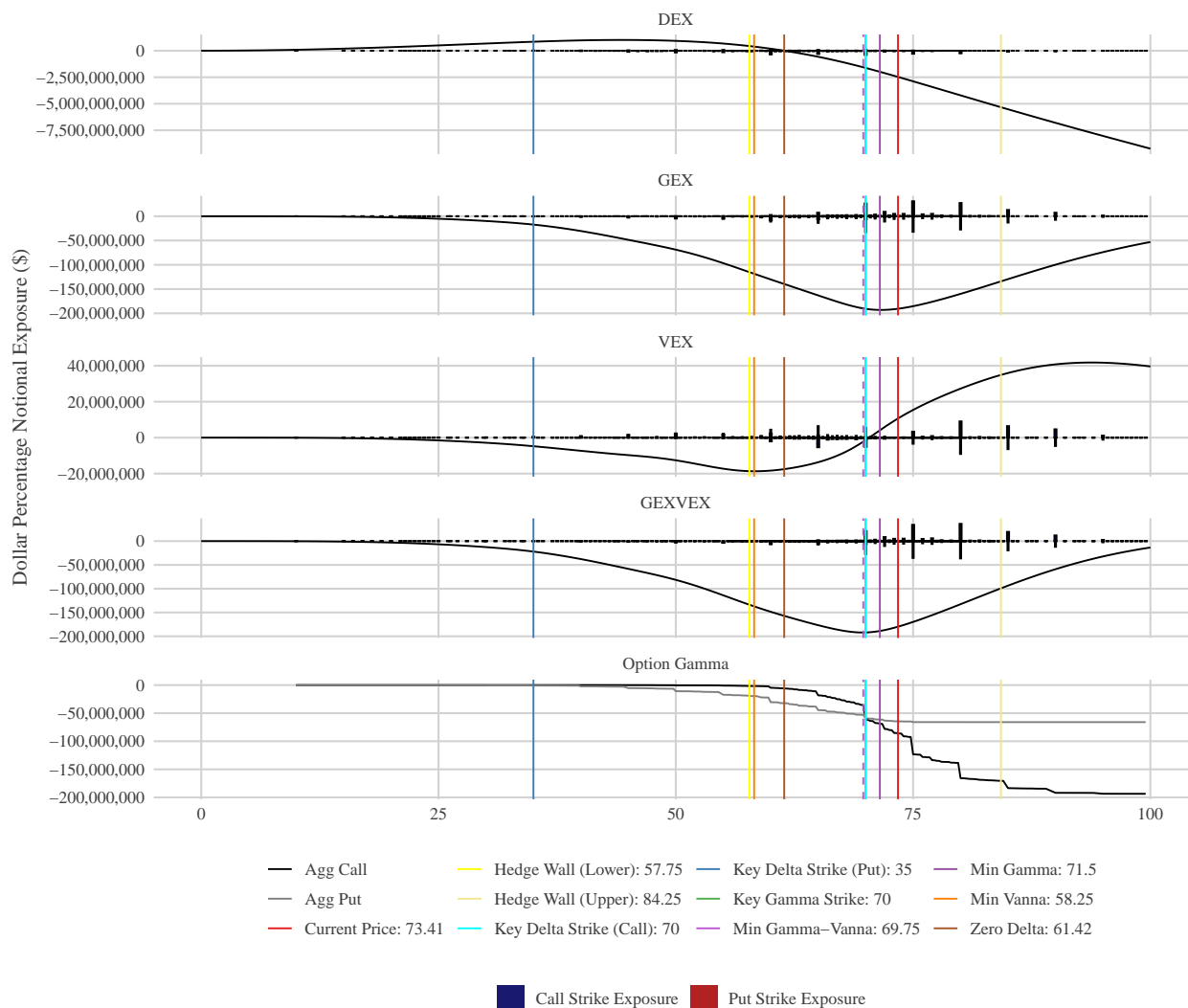
The gain in Crude Oil was dampened by negative economic data from China and US. Also, with Hurricane Ida looming over the southern US, crude demand looks set to fall as the region restores its infrastructure from hurricane damage.

Expected price range: 65 - 75.

5.3.1 Brent

Dollar Notional Exposure for ICE Crude Oil Brent

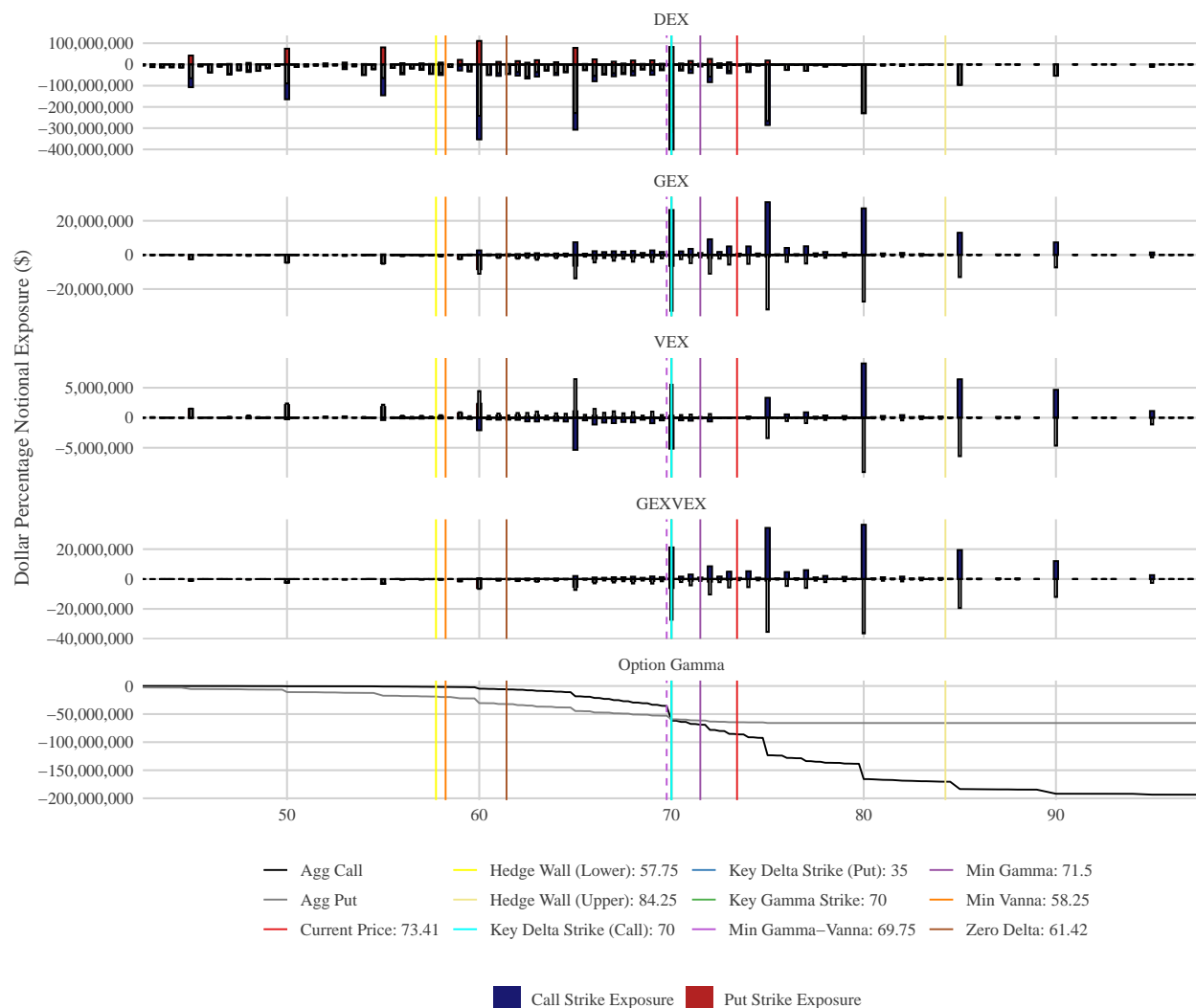
Largest Gamma Strike: 2021-10-26 0.444
Largest Delta Strike (Put): 2022-06-27 -0.000158
Largest Delta Strike (Call): 2021-10-26 0.598
Next Expiration: 2021-09-27
Next Expiration Gamma: 0.218
Next Expiration Delta: 0.0556
Source: CBOE, COMEX, EUREX, NYMEX, ICE/EU, author's compilation
Data as of 2021-09-01





Strike Notional Exposure for ICE Crude Oil Brent

Largest Gamma Strike: 2021-10-26 0.444
Largest Delta Strike (Put): 2022-06-27 -0.000158
Largest Delta Strike (Call): 2021-10-26 0.598
Next Expiration: 2021-09-27
Next Expiration Gamma: 0.218
Next Expiration Delta: 0.0556
Source: CBOE, COMEX, EUREX, NYMEX, ICE/EU, author's compilation
Data as of 2021-09-01

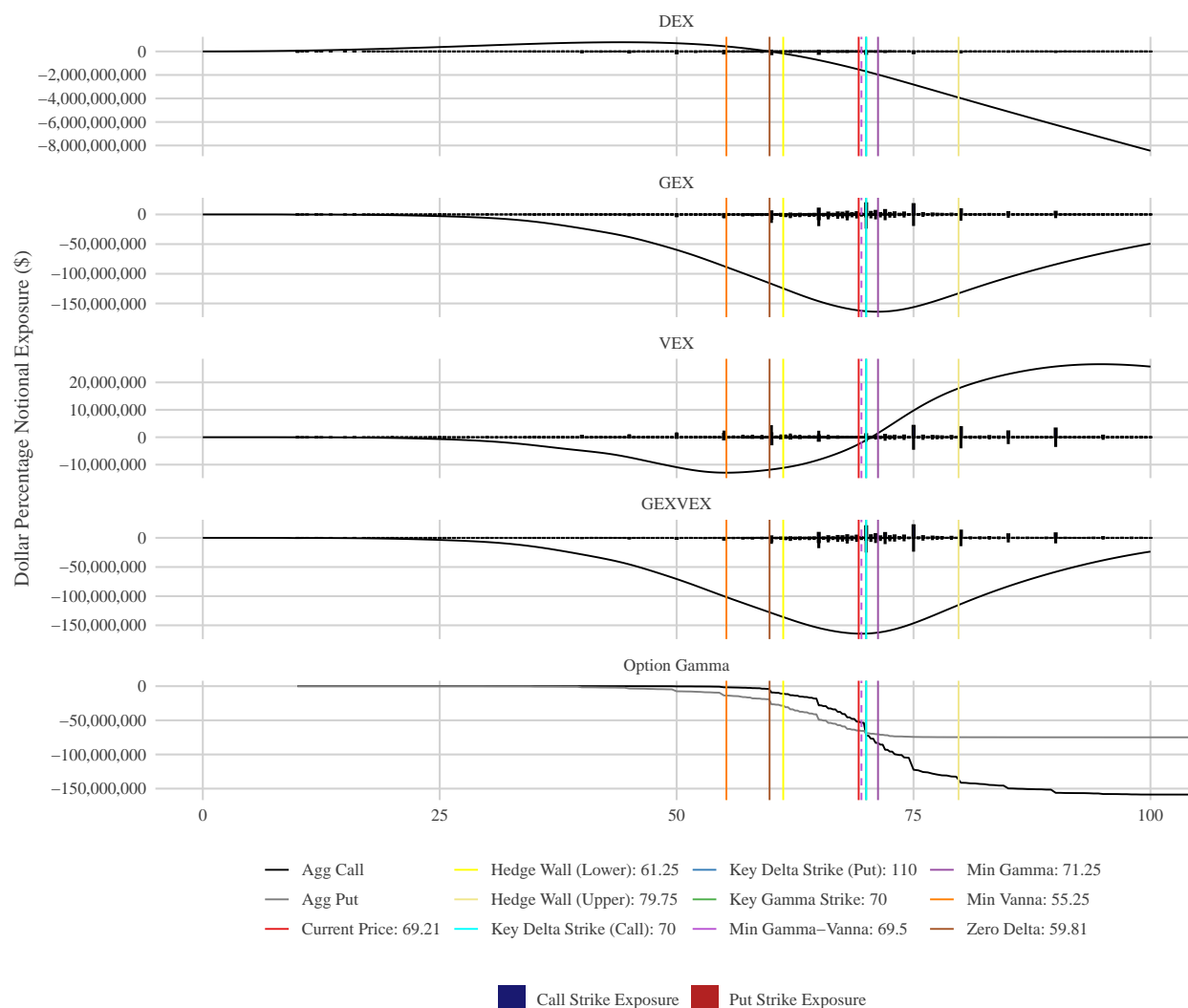




5.3.2 West Texas Intermediate (WTI)

Dollar Notional Exposure for Crude Oil WTI

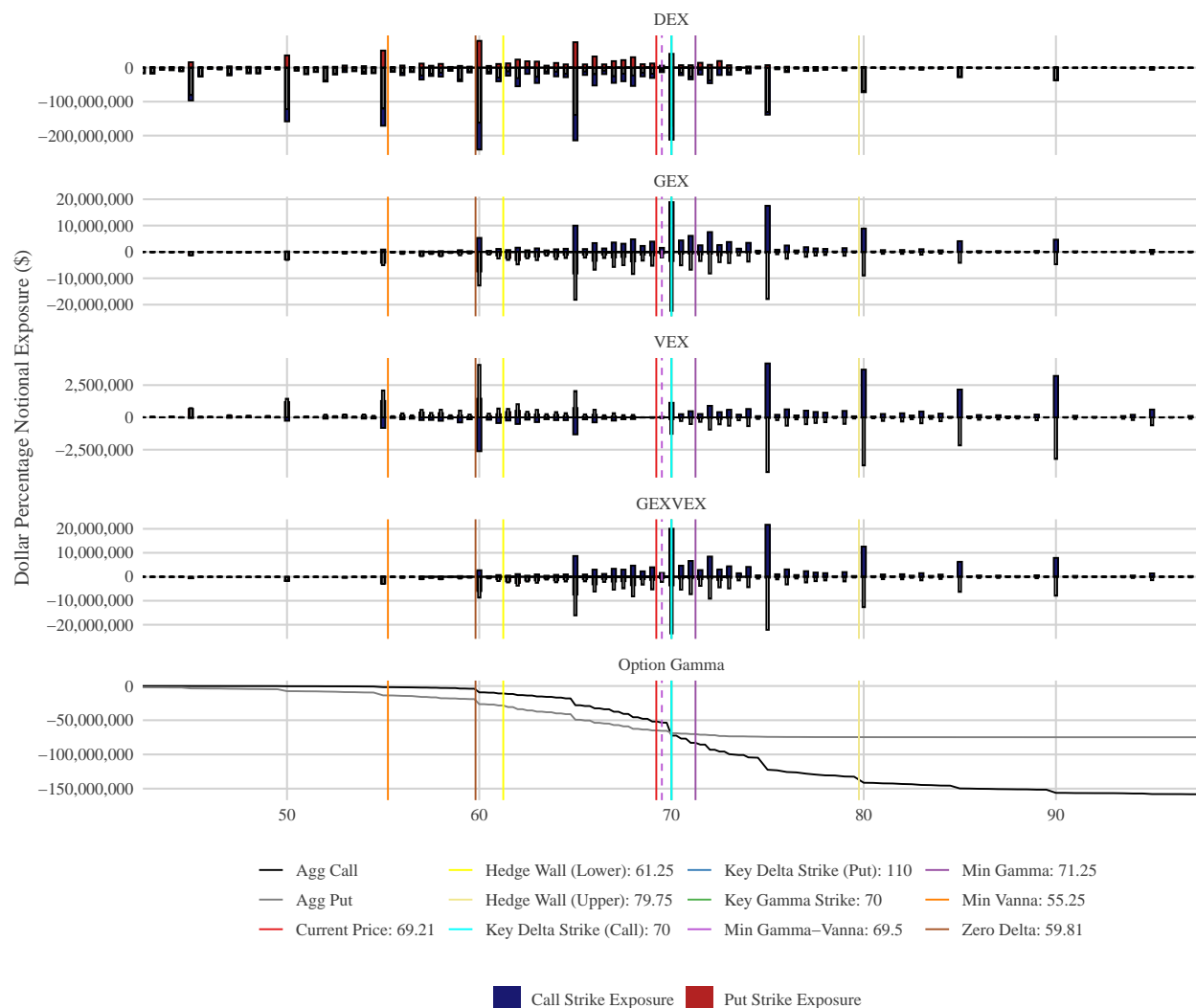
Largest Gamma Strike: 2021-11-16 0.341
Largest Delta Strike (Put): 2021-09-24 -0.000184
Largest Delta Strike (Call): 2021-11-16 0.634
Next Expiration: 2021-09-03
Next Expiration Gamma: 0.0159
Next Expiration Delta: 0.00289
Source: CBOE, COMEX, EUREX, NYMEX, ICE/EU, author's compilation
Data as of 2021-09-01





Strike Notional Exposure for Crude Oil WTI

Largest Gamma Strike: 2021-11-16 0.341
Largest Delta Strike (Put): 2021-09-24 -0.000184
Largest Delta Strike (Call): 2021-11-16 0.634
Next Expiration: 2021-09-03
Next Expiration Gamma: 0.0159
Next Expiration Delta: 0.00289
Source: CBOE, COMEX, EUREX, NYMEX, ICE/EU, author's compilation
Data as of 2021-09-01





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.