

PromiseLand



PromiseLand's Daily Market Commentaries

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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 -0.46%. US markets took a breather yesterday in light of fresh concerns that improvements in the US labor market may allow the Fed to taper its asset purchases sooner than expected, after Thursday's weekly US jobless claims fell to a new pandemic low. Furthermore, Fed Governor Bowman commented that, "if the data comes in like I expect that it will, then it will likely be appropriate for us to begin the process of scaling back our asset purchases this year." This is a negative for stock markets.

Market sentiment already appears to be reflected in the form of increased long put option activity by market participants, to hedge against market declines. Notably, the Put Wall has shifted upwards from 4000 to 4300, indicating a bearish sentiment whereby more market participants are seeking greater downside protection at higher prices. Most importantly, the S&P500 is now in negative gamma territory, which sets the stage for a significant upward rebound, or downward trend for the index.

12.8% of gamma exposure and 1.56% of delta exposure are set to expire today. With the relatively low percentage of dealer gamma and delta expiration, we do not expect for dealers to amplify market trends, barring any negative exogenous factors.

Expected price range: 4450 - 4550.

2.2 NASDAQ100

The NASDAQ100 closed with a return of -0.38%.

Just like the S&P500, market sentiment already appears to be reflected in the form of increased long put option activity by market participants, to hedge against market declines. Notably, the Put Wall has shifted upwards from 15250 to 15500, indicating a bearish sentiment whereby more market participants are seeking greater downside protection at higher prices. Most importantly, the NASDAQ100 is now in negative gamma territory, which sets the stage for a significant upward rebound, or downward trend for the index.

34.7% of gamma exposure and 9.42% of delta exposure are set to expire today. With the relatively high percentage of gamma expiration, we expect that prices should shift away from current levels. With a relatively moderate percentage of delta expiration, there could be a moderate price impact. Taken together, there could be a moderate upward tendency for price levels next Monday, as dealers unwind their short positions.

Expected price range: 15500 - 15650.

2.3 STOXX50

The STOXX50 closed lower with a return of -0.00096%. Stocks were also under pressure in light of recent developments in the US. Also, the European Central Bank kept its monetary policy unchanged on Thursday but opted to slow down the pace of net asset purchases under its pandemic emergency purchase program, in light of decades-high inflation rates. Market sentiment already appears to be reflected in the form of increased long put option activity by market participants. The STOXX50 is now in negative gamma territory, which sets the stage for a significant upward rebound, or downward trend for the index.

Expected price range: 4100 - 4300.



2.4 DAX

The STOXX50 closed lower with a return of 0.0082%. Stocks were also under pressure in light of recent developments in the US. Market sentiment already appears to be reflected in the form of increased long put option activity by market participants. The DAX is now in negative gamma territory, which sets the stage for a significant upward rebound, or downward trend for the index.

Expected price range: 15600 - 16000.

2.5 Gold

Gold traded higher. A weaker dollar on Thursday and lower global bond yields supported gains in Gold prices. Gold also found support Thursday after the ECB raised its 2021 Eurozone inflation forecast to 2.2% from 1.9%, which is positive for gold demand as a hedge against inflation. Gold should continue to remain as a safe-haven support, in light of new and potentially deadlier strains of the COVID-19 disease.

Expected price range: 1750- 1850.

2.6 Silver

Silver has rebounded up from its Lower Hedge Wall. We expect it to remain stable around this price range.

Expected price range: 24 - 25.

2.7 Crude Oil

Crude oil dipped slightly, in light of China Releasing crude from its strategic reserves, in an attempt to lower its domestic prices. We expect crude to remain relatively stable around this range. The slow pace of US crude production in the Gulf of Mexico is recovering from Hurricane Ida. This is bullish for crude prices. Another positive factor for energy prices was Thursday's action by the ECB to raise its 2021 Eurozone GDP estimate to 5.0% from a previous estimate of 4.6%.

Expected price range: 65 - 75.



3 Market Price Levels

Table 1: Key Price Levels for Market Indices

	S&P500	NASDAQ100	STOXX50	DAX
Current Price	4493.28	15561.05	4177.11	15623.15
Previous Price	4514.07	15620.85	4177.15	15610.28
Return	-4.62e-03	-3.84e-03	-9.58e-06	8.24e-04
Call Wall	4550	15700	4300	16000
Key Delta Strike	4000	15100	4100	15600
Key Gamma Strike	4500	15600	4100	15600
Max Gamma Vanna	4510	15580	4200	15850
Max Gamma	4585	15800	4350	16450
Max Vanna	4500	15570	4175	15850
Put Wall	4300	15500	3900	15000
Zero Gamma Vanna	3730.30	12146.74	3363.53	13930.25
Zero Gamma	4501.16	15567.94	4184.17	15886.60

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	0.397	0.409	0.369	0.556
Largest Delta Strike Date	2021-09-17	2021-09-17	2021-12-17	2021-12-17
Largest Delta Strike	0.298	0.449	0.425	0.564
Next Expiration Date	2021-09-10	2021-09-10	2021-09-17	2021-09-17
Next Expiration Gamma	0.128	0.347	0.369	0.556
Next Expiration Delta	0.0156	0.0942	0.1310	0.2690



Table 3: Key Price Levels for Single-name Indices

	Gold Futures	Silver Futures	ICE Crude Oil Brent	Crude Oil WTI
Current Price	1797.8500	24.1632	71.4500	68.1400
Previous Price	1794.05	24.02	72.60	69.39
Return	0.00212	0.00610	-0.01600	-0.01820
Hedge Wall (Lower)	1782.50	23.70	55.75	64.00
Hedge Wall (Upper)	1825.0	24.7	83.5	76.0
Key Delta Strike (Call)	1850.00	18.25	60.00	70.00
Key Delta Strike (Put)	1650	22	35	110
Key Gamma Strike	1800	24	70	70
Min Gamma Vanna	1735.00	24.30	70.25	69.75
Min Gamma	1805.000	24.325	73.000	70.250
Min Vanna	1715.00	23.15	56.25	58.75
Zero Delta	1756.37	23.59	61.41	60.23

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	2021-09-16
Largest Gamma Strike	0.295	0.337	0.434	0.343
Largest Delta Strike Date (Put)	2021-09-10	2021-09-27	2022-06-27	2021-09-10
Largest Delta Strike (Put)	-0.028300	-0.081200	-0.000198	-0.002360
Largest Delta Strike Date (Call)	2022-05-26	2021-11-25	2021-10-26	2021-11-16
Largest Delta Strike (Call)	0.355	0.477	0.610	0.661
Next Expiration Date	2021-09-10	2021-09-10	2021-09-27	2021-09-10
Next Expiration Gamma	0.1140	0.1750	0.2300	0.0261
Next Expiration Delta	-0.02830	-0.03410	0.03710	-0.00236

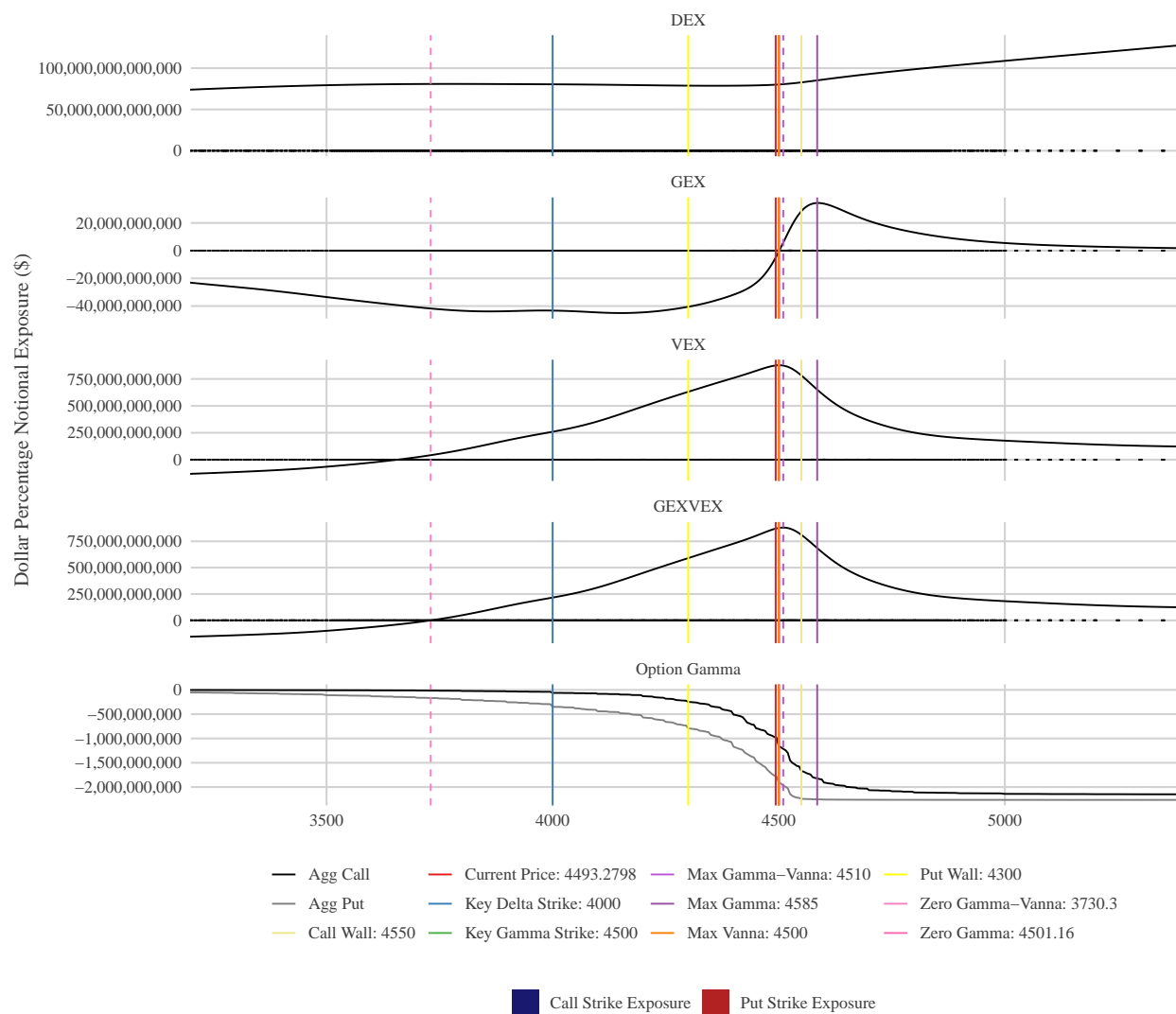


4 Market Indices

4.1 S&P500

Dollar Notional Exposure for SPX

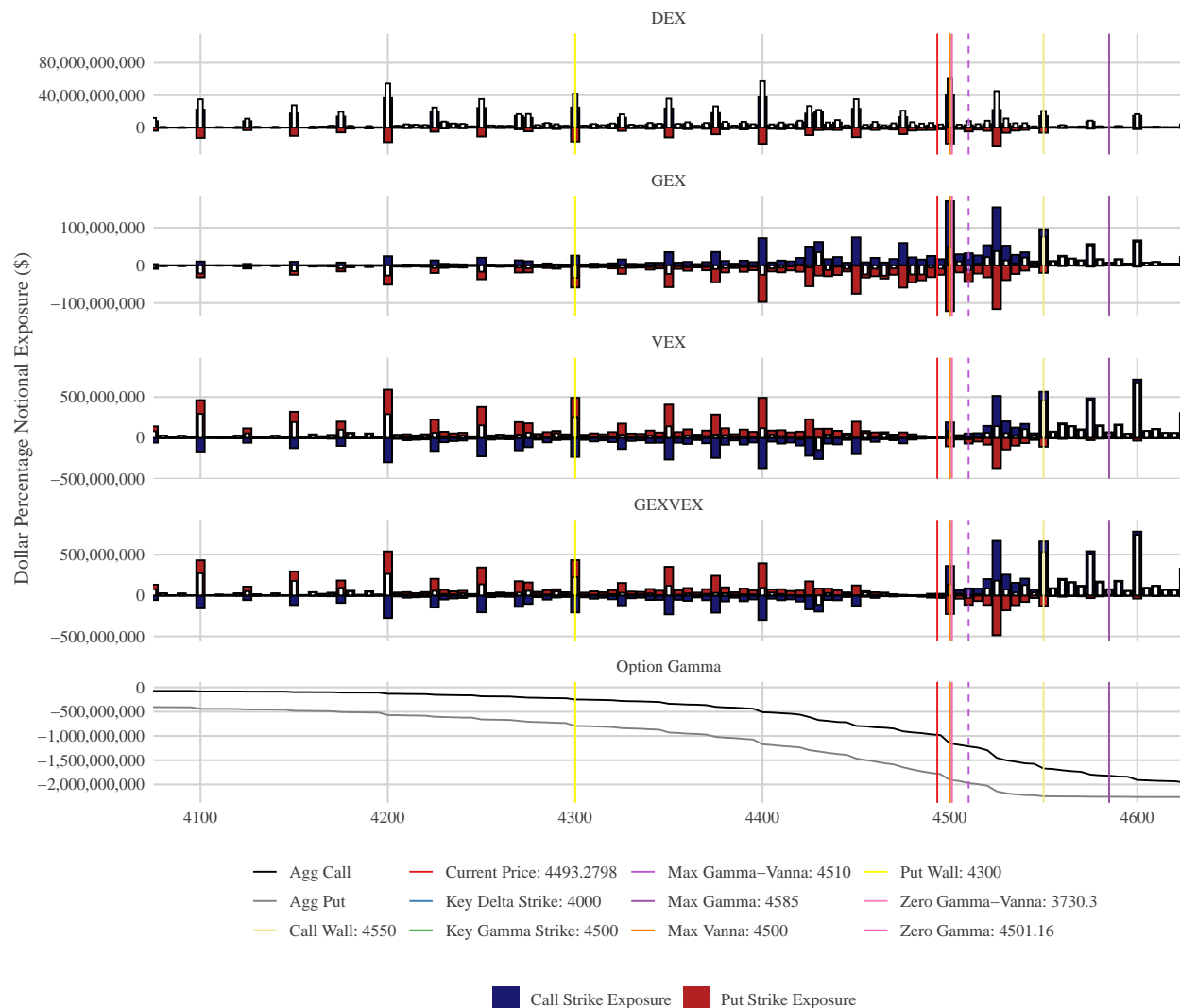
Largest Gamma Strike: 2021-09-17 0.397
Largest Delta Strike: 2021-09-17 0.298
Next Expiration: 2021-09-10
Next Expiration Gamma: 0.128
Next Expiration Delta: 0.0156
Source: CBOE, COMEX, EUREX, NYMEX, ICE/EU, author's compilation
Data as of 2021-09-10





Strike Notional Exposure for SPX

Largest Gamma Strike: 2021-09-17 0.397
Largest Delta Strike: 2021-09-17 0.298
Next Expiration: 2021-09-10
Next Expiration Gamma: 0.128
Next Expiration Delta: 0.0156
Source: CBOE, COMEX, EUREX, NYMEX, ICE/EU, author's compilation
Data as of 2021-09-10

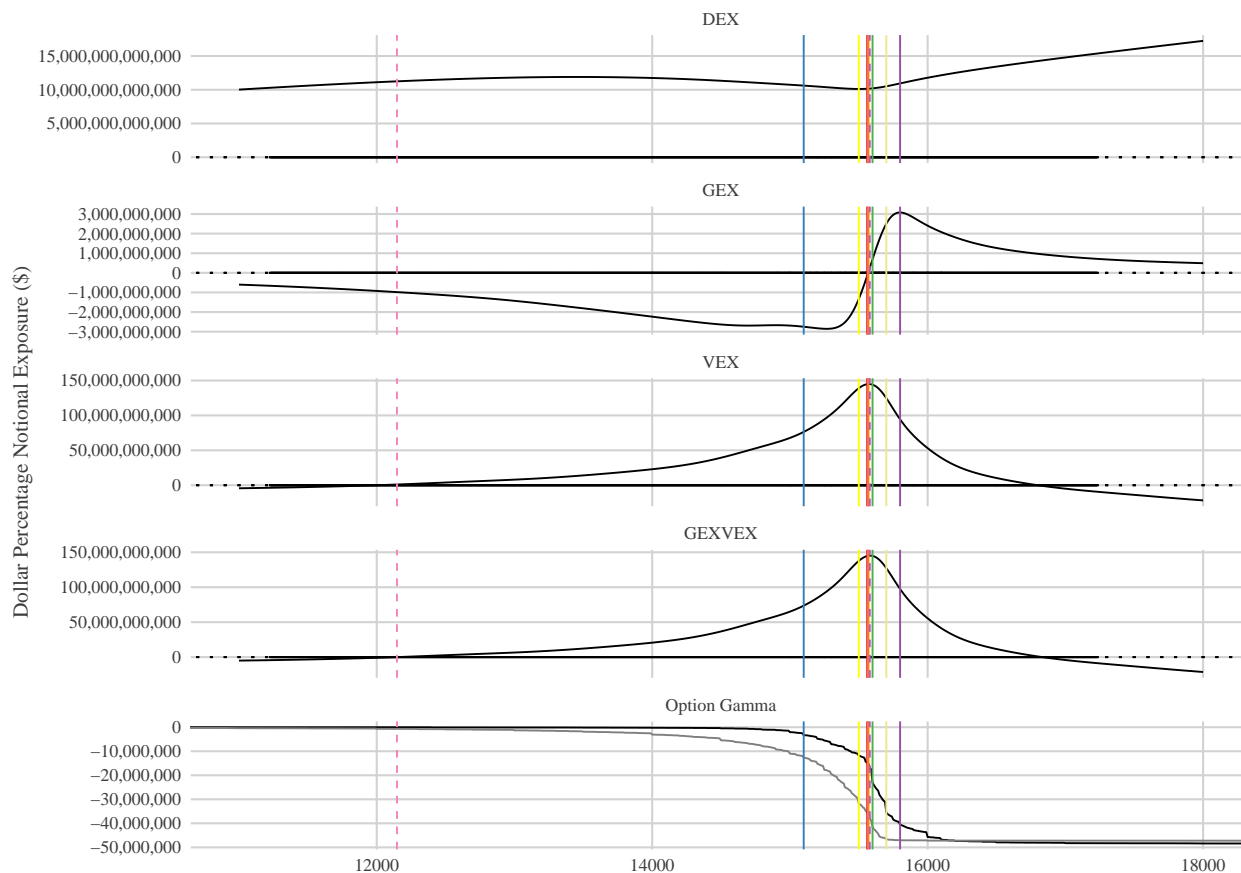




4.2 NASDAQ100

Dollar Notional Exposure for NASDAQ 100 E-Mini

Largest Gamma Strike: 2021-09-17 0.409
Largest Delta Strike: 2021-09-17 0.449
Next Expiration: 2021-09-10
Next Expiration Gamma: 0.347
Next Expiration Delta: 0.0942
Source: CBOE, COMEX, EUREX, NYMEX, ICE/EU, author's compilation
Data as of 2021-09-10



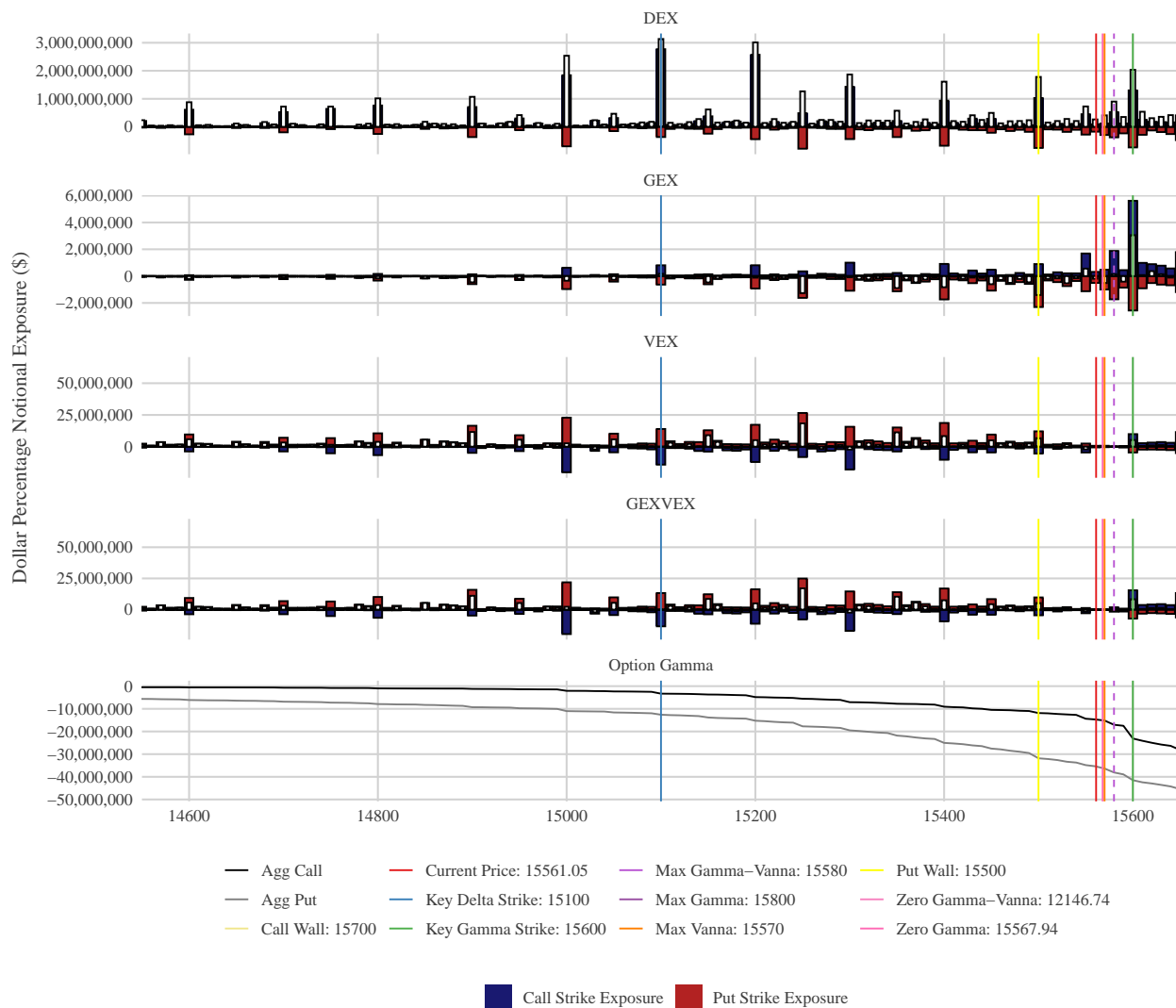
— Agg Call — Current Price: 15561.05 — Max Gamma-Vanna: 15580 — Put Wall: 15500
— Agg Put — Key Delta Strike: 15100 — Max Gamma: 15800 — Zero Gamma-Vanna: 12146.74
— Call Wall: 15700 — Key Gamma Strike: 15600 — Max Vanna: 15570 — Zero Gamma: 15567.94

■ Call Strike Exposure ■ Put Strike Exposure



Strike Notional Exposure for NASDAQ 100 E-Mini

Largest Gamma Strike: 2021-09-17 0.409
Largest Delta Strike: 2021-09-17 0.449
Next Expiration: 2021-09-10
Next Expiration Gamma: 0.347
Next Expiration Delta: 0.0942
Source: CBOE, COMEX, EUREX, NYMEX, ICE/EU, author's compilation
Data as of 2021-09-10

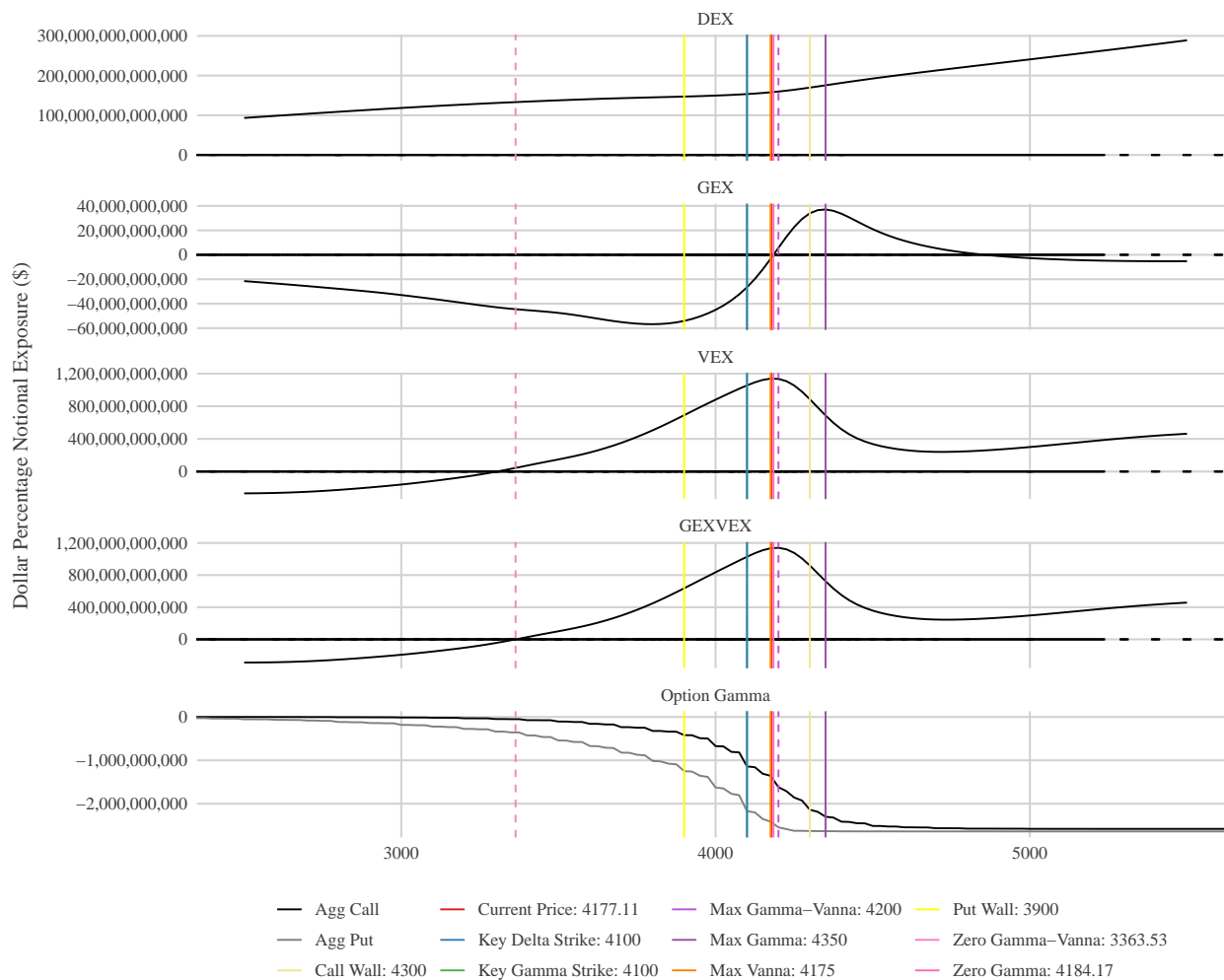




4.3 STOXX50

Dollar Notional Exposure for Euro Stoxx 50 Futures

Largest Gamma Strike: 2021-09-17 0.369
Largest Delta Strike: 2021-12-17 0.425
Next Expiration: 2021-09-17
Next Expiration Gamma: 0.369
Next Expiration Delta: 0.131
Source: CBOE, COMEX, EUREX, NYMEX, ICE/EU, author's compilation
Data as of 2021-09-10

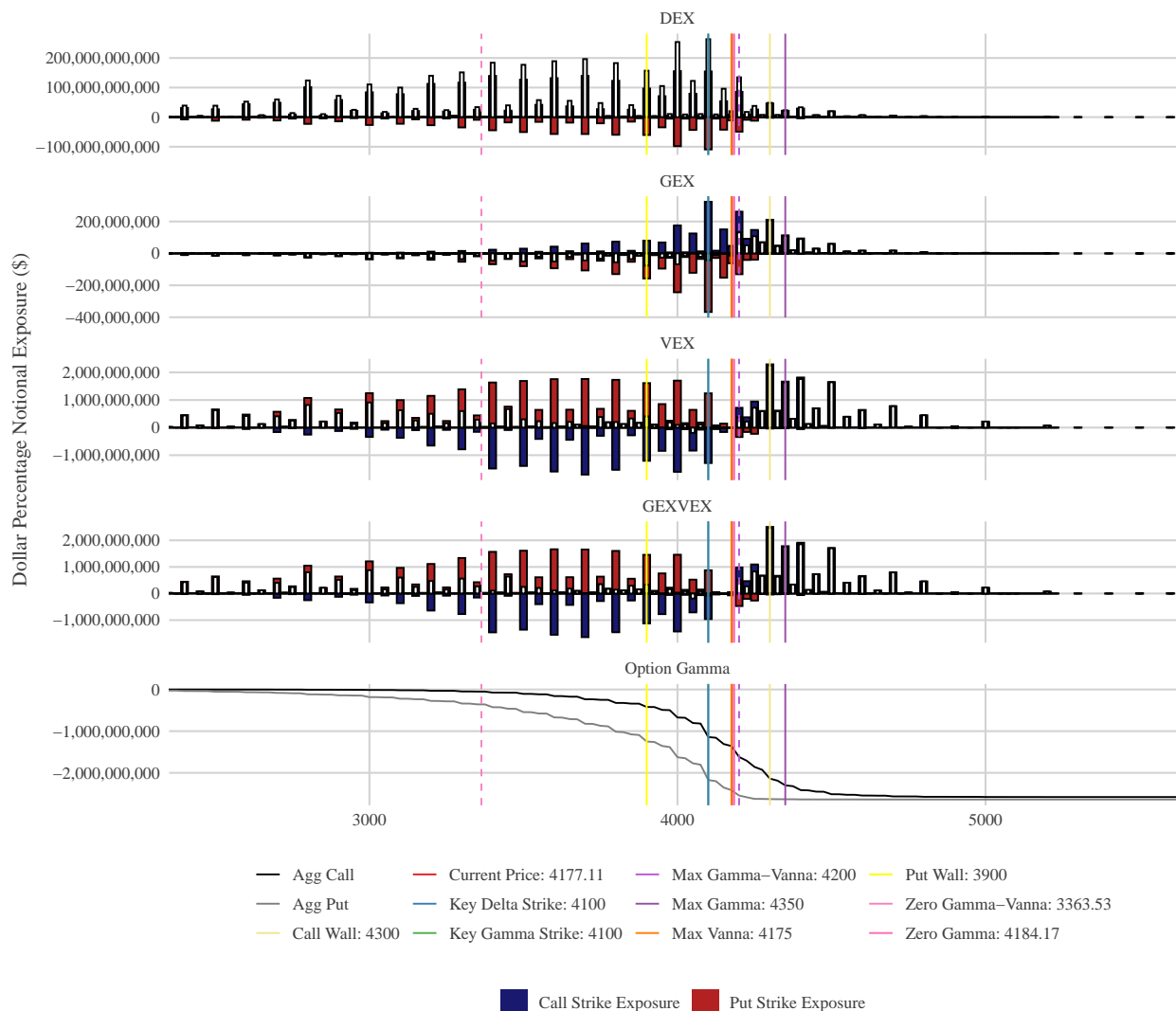


Call Strike Exposure Put Strike Exposure



Strike Notional Exposure for Euro Stoxx 50 Futures

Largest Gamma Strike: 2021-09-17 0.369
Largest Delta Strike: 2021-12-17 0.425
Next Expiration: 2021-09-17
Next Expiration Gamma: 0.369
Next Expiration Delta: 0.131
Source: CBOE, COMEX, EUREX, NYMEX, ICE/EU, author's compilation
Data as of 2021-09-10

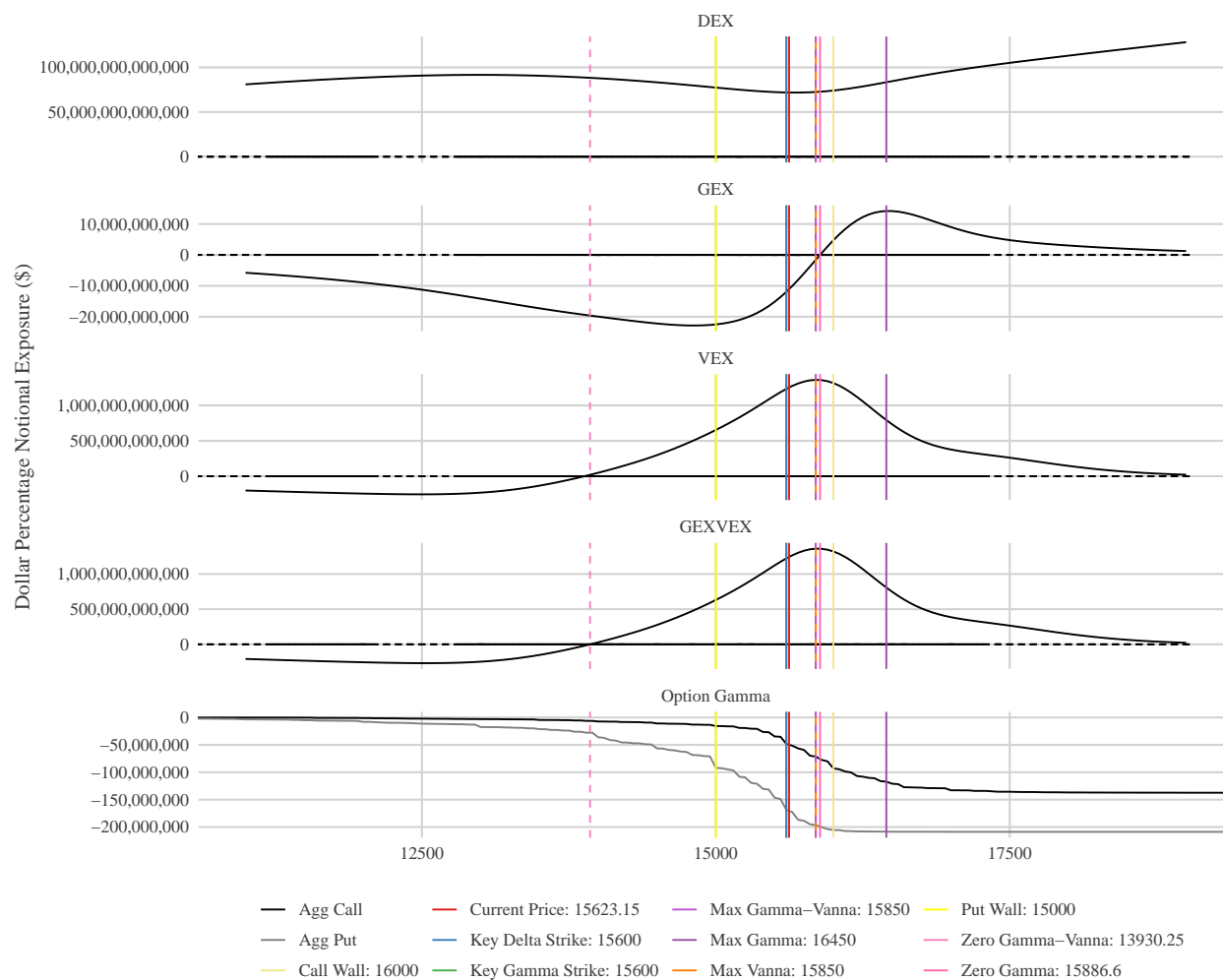




4.4 DAX

Dollar Notional Exposure for DAX Futures

Largest Gamma Strike: 2021-09-17 0.556
Largest Delta Strike: 2021-12-17 0.564
Next Expiration: 2021-09-17
Next Expiration Gamma: 0.556
Next Expiration Delta: 0.269
Source: CBOE, COMEX, EUREX, NYMEX, ICE/EU, author's compilation
Data as of 2021-09-10

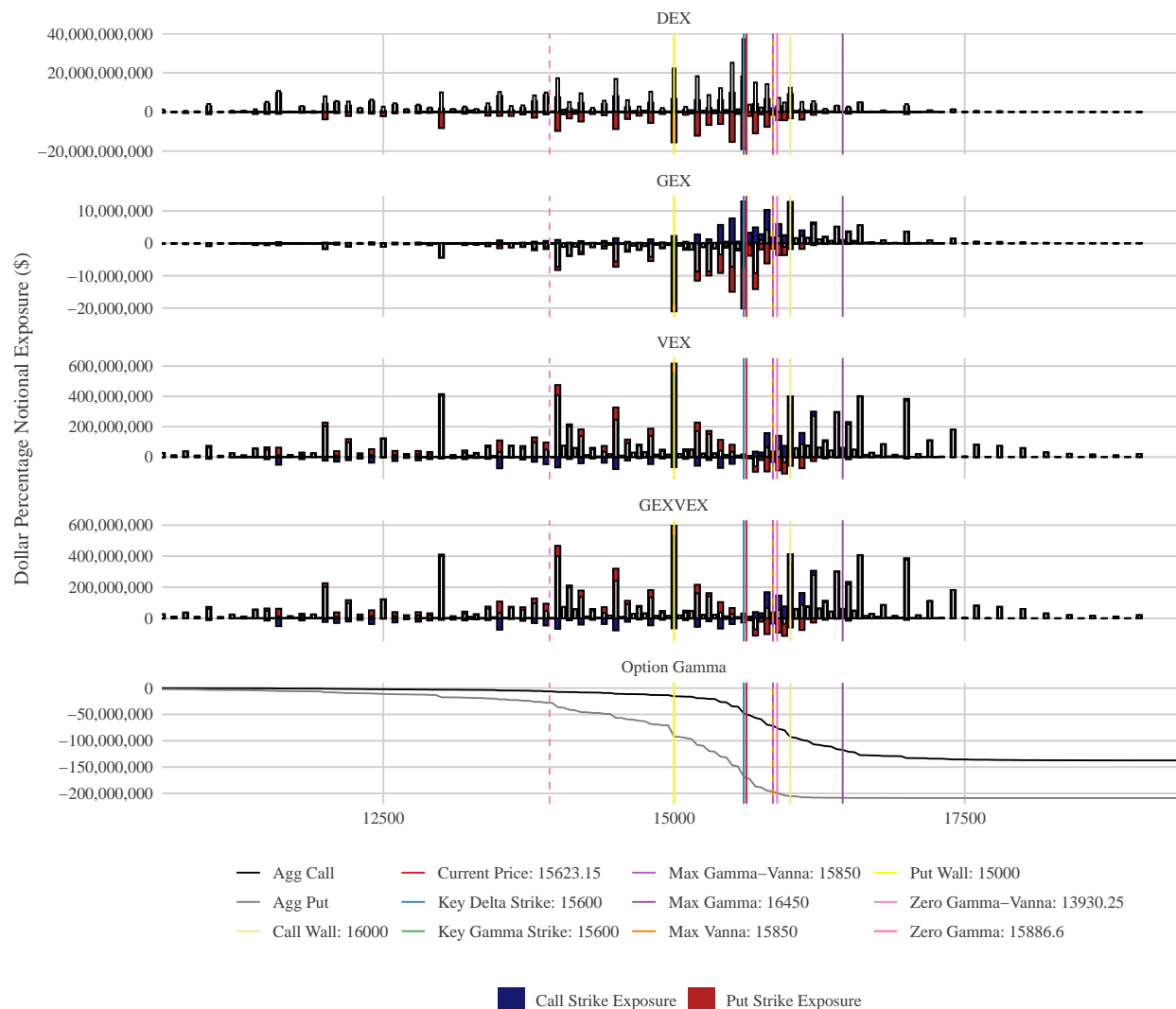


■ Call Strike Exposure ■ Put Strike Exposure



Strike Notional Exposure for DAX Futures

Largest Gamma Strike: 2021-09-17 0.556
Largest Delta Strike: 2021-12-17 0.564
Next Expiration: 2021-09-17
Next Expiration Gamma: 0.556
Next Expiration Delta: 0.269
Source: CBOE, COMEX, EUREX, NYMEX, ICE/EU, author's compilation
Data as of 2021-09-10



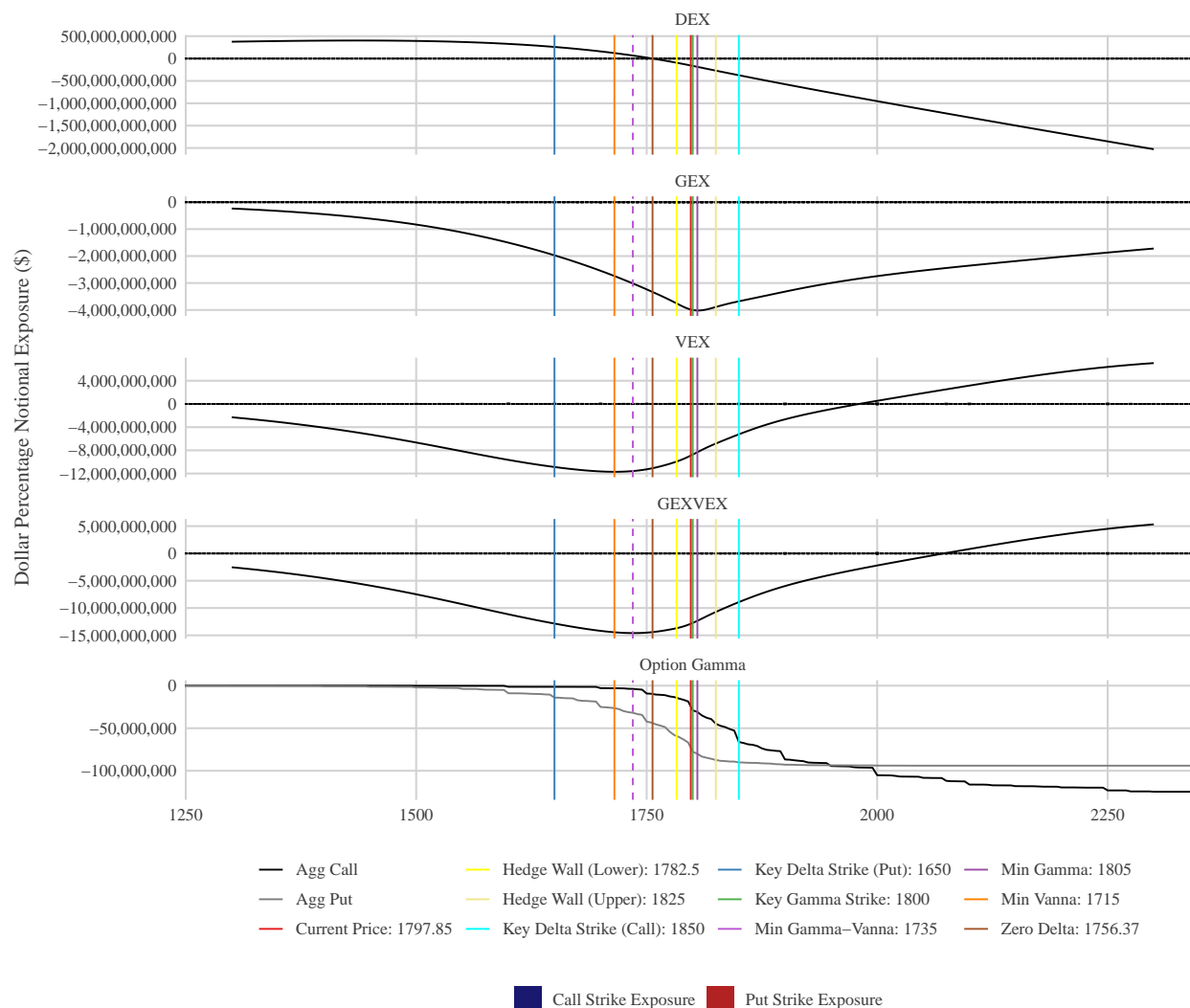


5 Commodities

5.1 Gold

Dollar Notional Exposure for Gold Futures

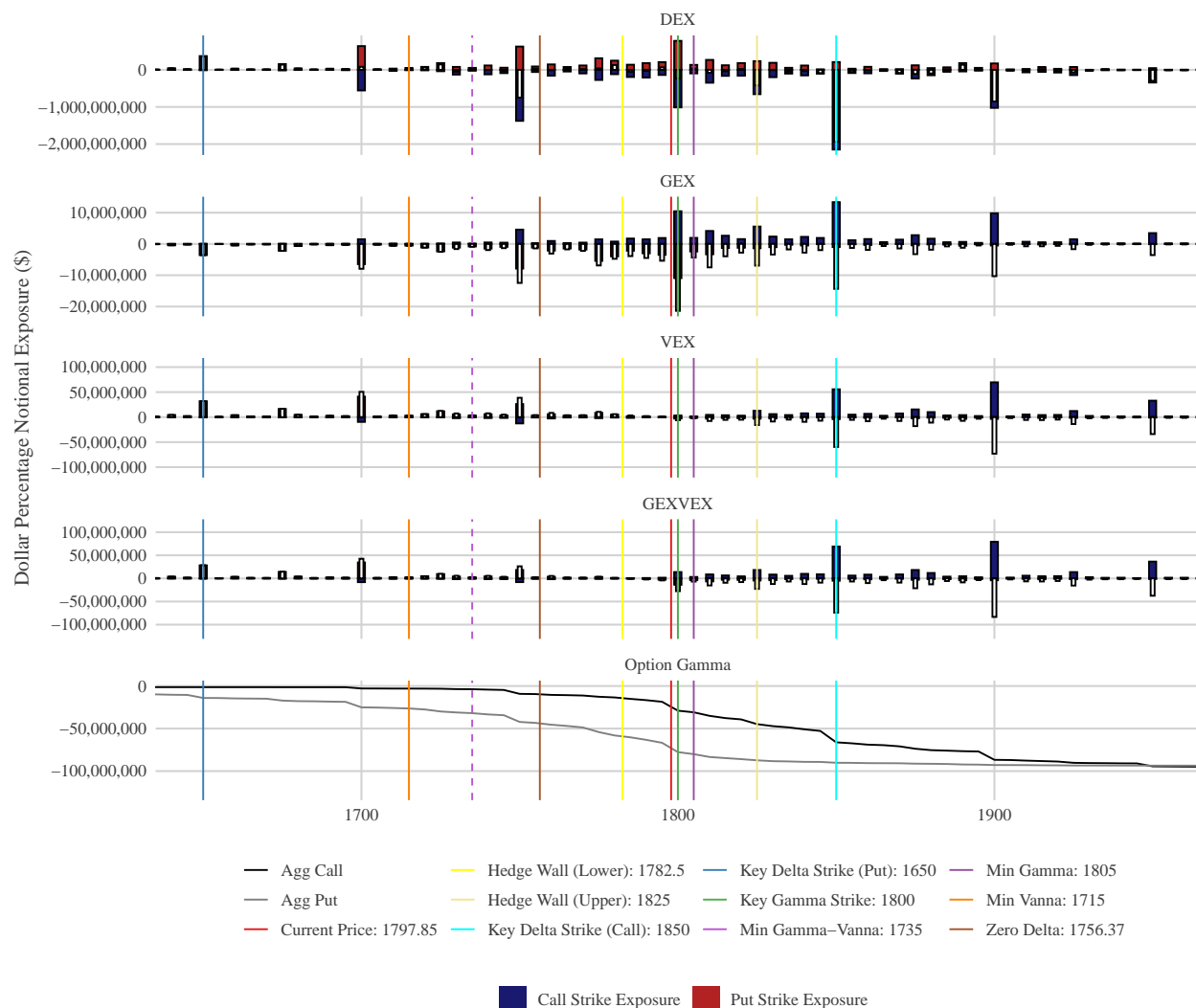
Largest Gamma Strike: 2021-09-27 0.295
Largest Delta Strike (Put): 2021-09-10 -0.0283
Largest Delta Strike (Call): 2022-05-26 0.355
Next Expiration: 2021-09-10
Next Expiration Gamma: 0.114
Next Expiration Delta: -0.0283
Source: CBOE, COMEX, EUREX, NYMEX, ICE/EU, author's compilation
Data as of 2021-09-10





Strike Notional Exposure for Gold Futures

Largest Gamma Strike: 2021-09-27 0.295
Largest Delta Strike (Put): 2021-09-10 -0.0283
Largest Delta Strike (Call): 2022-05-26 0.355
Next Expiration: 2021-09-10
Next Expiration Gamma: 0.114
Next Expiration Delta: -0.0283
Source: CBOE, COMEX, EUREX, NYMEX, ICE/EU, author's compilation
Data as of 2021-09-10

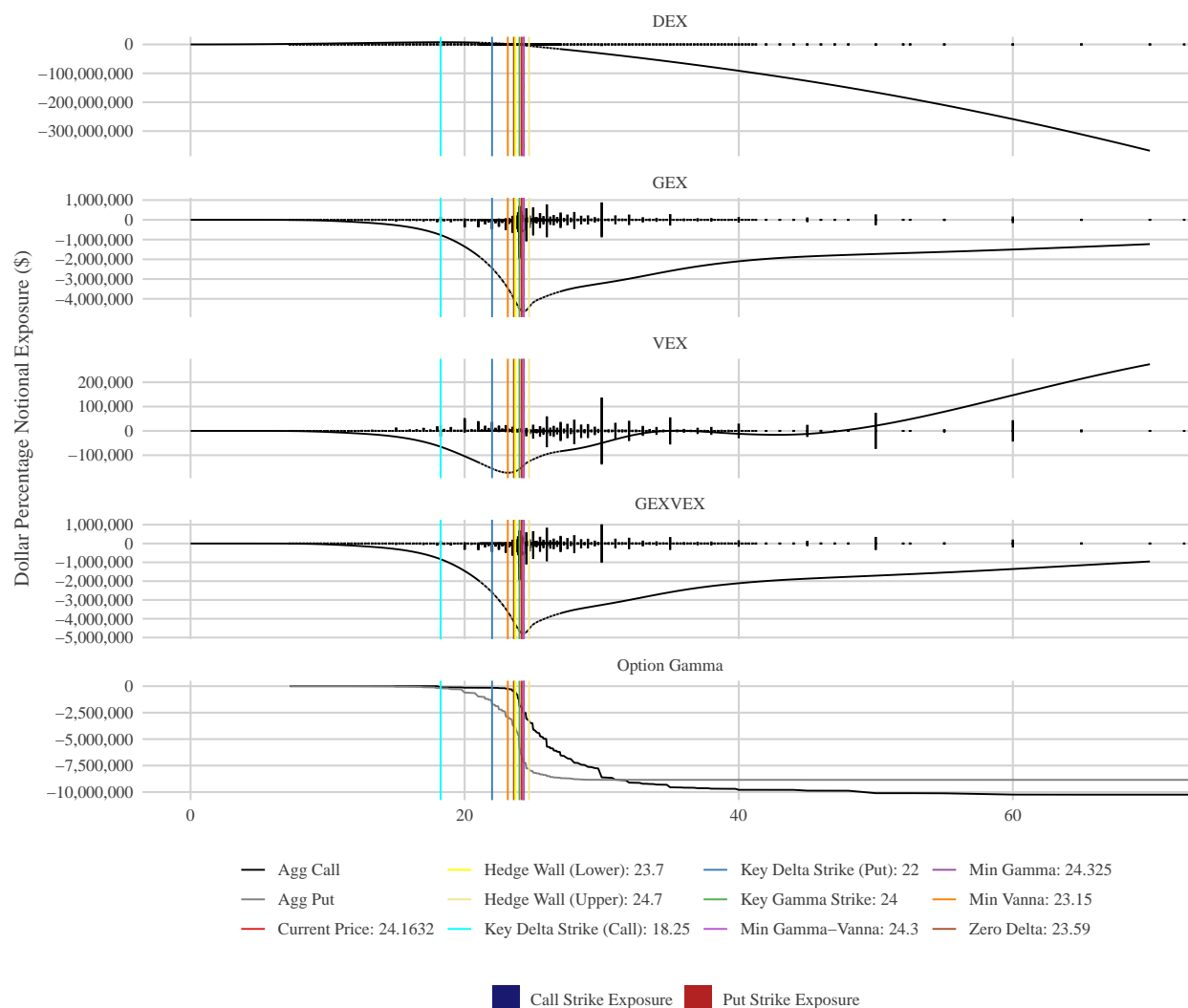




5.2 Silver

Dollar Notional Exposure for Silver Futures

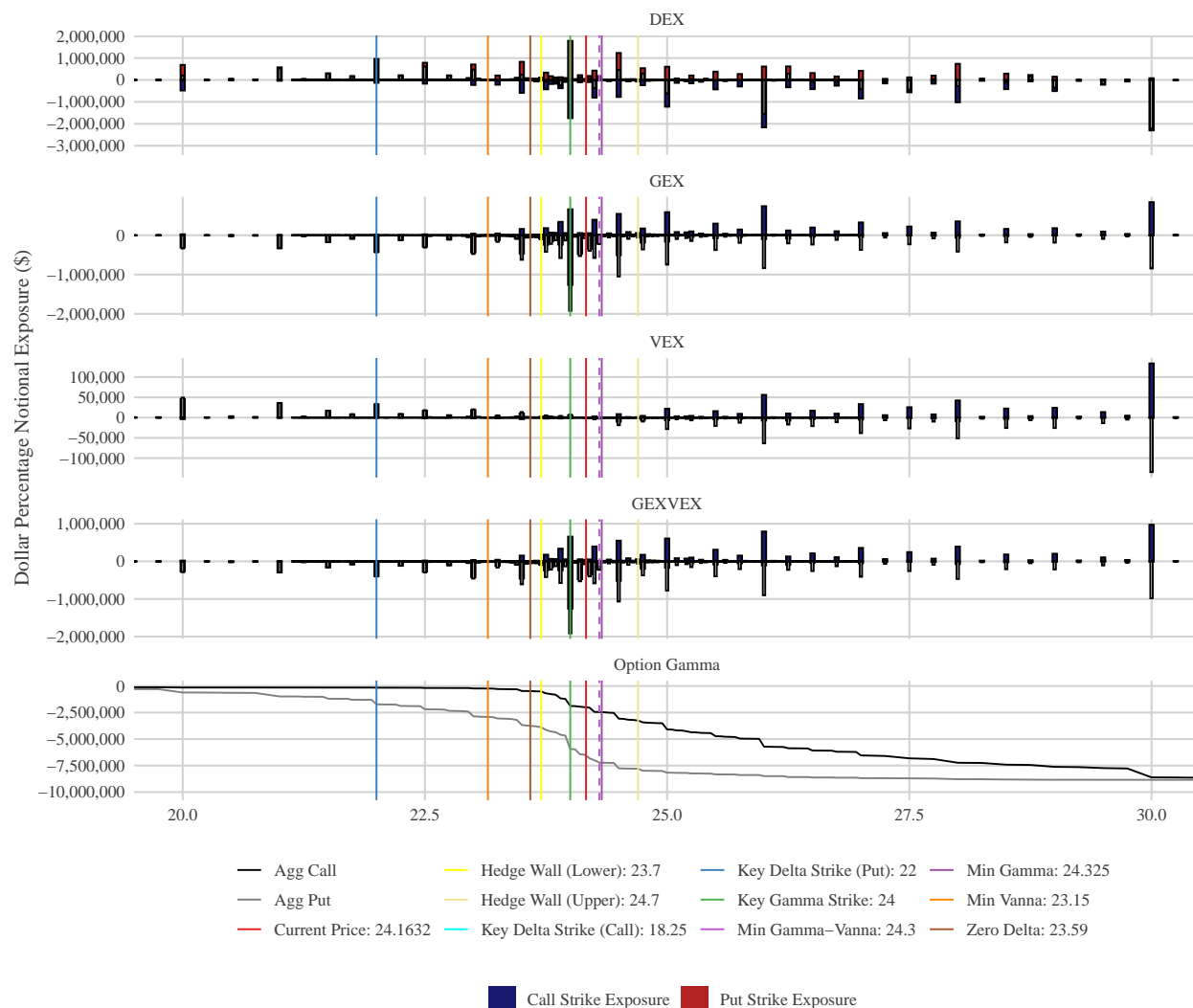
Largest Gamma Strike: 2021-09-27 0.337
Largest Delta Strike (Put): 2021-09-27 -0.0812
Largest Delta Strike (Call): 2021-11-25 0.477
Next Expiration: 2021-09-10
Next Expiration Gamma: 0.175
Next Expiration Delta: -0.0341
Source: CBOE, COMEX, EUREX, NYMEX, ICE/EU, author's compilation
Data as of 2021-09-10





Strike Notional Exposure for Silver Futures

Largest Gamma Strike: 2021-09-27 0.337
Largest Delta Strike (Put): 2021-09-27 -0.0812
Largest Delta Strike (Call): 2021-11-25 0.477
Next Expiration: 2021-09-10
Next Expiration Gamma: 0.175
Next Expiration Delta: -0.0341
Source: CBOE, COMEX, EUREX, NYMEX, ICE/EU, author's compilation
Data as of 2021-09-10



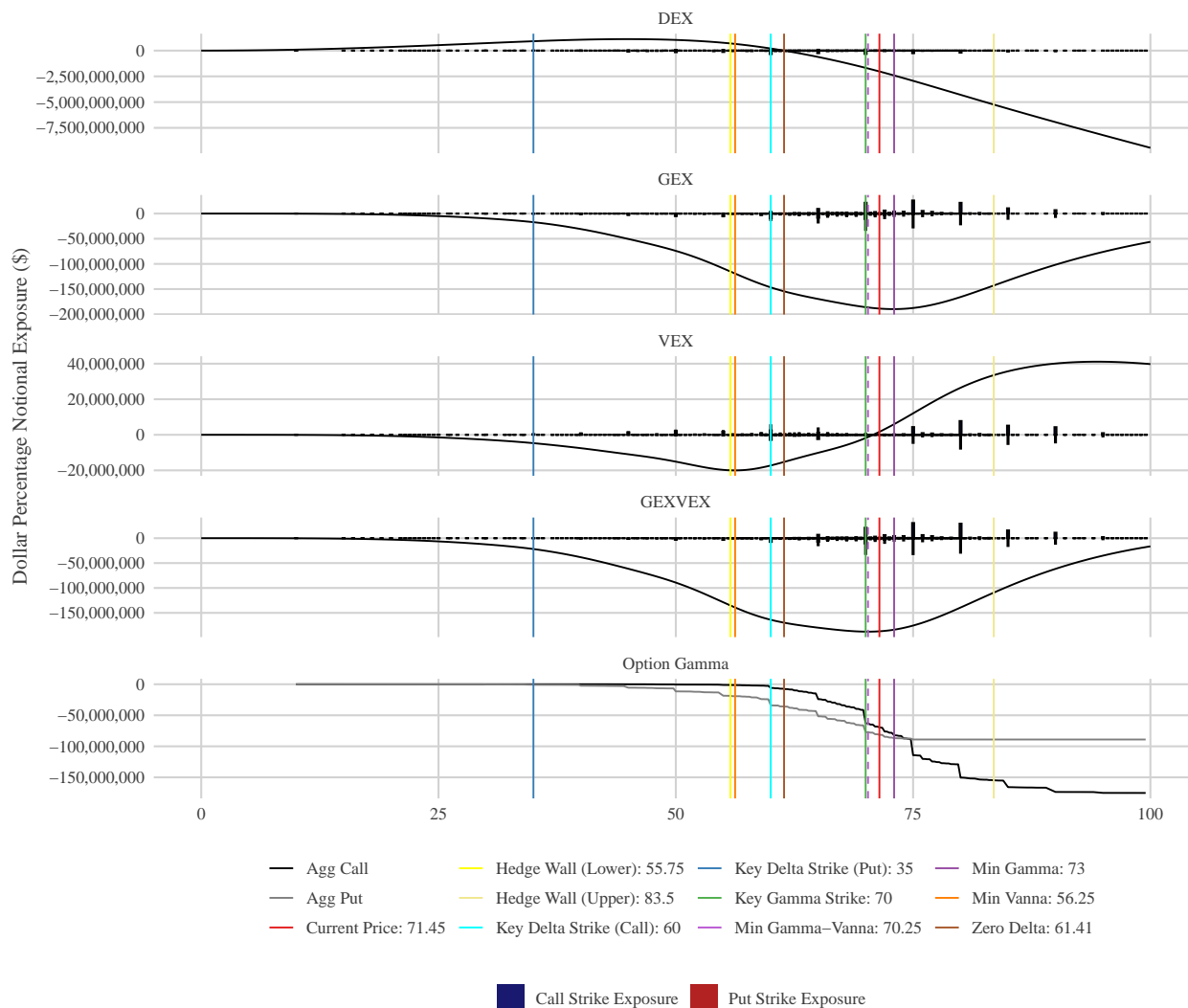


5.3 Crude Oil

5.3.1 Brent

Dollar Notional Exposure for ICE Crude Oil Brent

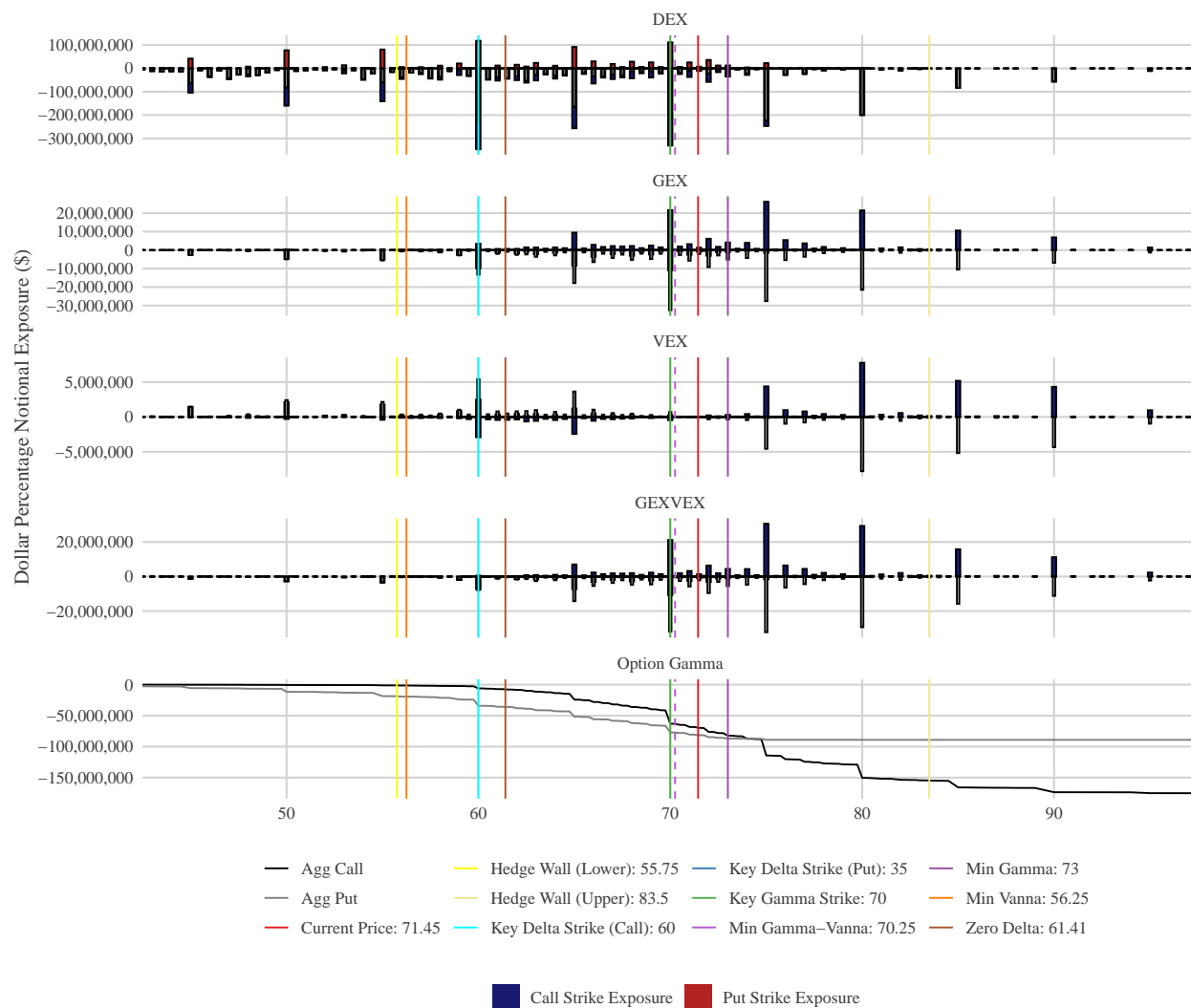
Largest Gamma Strike: 2021-10-26 0.434
Largest Delta Strike (Put): 2022-06-27 -0.000198
Largest Delta Strike (Call): 2021-10-26 0.61
Next Expiration: 2021-09-27
Next Expiration Gamma: 0.23
Next Expiration Delta: 0.0371
Source: CBOE, COMEX, EUREX, NYMEX, ICE/EU, author's compilation
Data as of 2021-09-10





Strike Notional Exposure for ICE Crude Oil Brent

Largest Gamma Strike: 2021-10-26 0.434
Largest Delta Strike (Put): 2022-06-27 -0.000198
Largest Delta Strike (Call): 2021-10-26 0.61
Next Expiration: 2021-09-27
Next Expiration Gamma: 0.23
Next Expiration Delta: 0.0371
Source: CBOE, COMEX, EUREX, NYMEX, ICE/EU, author's compilation
Data as of 2021-09-10

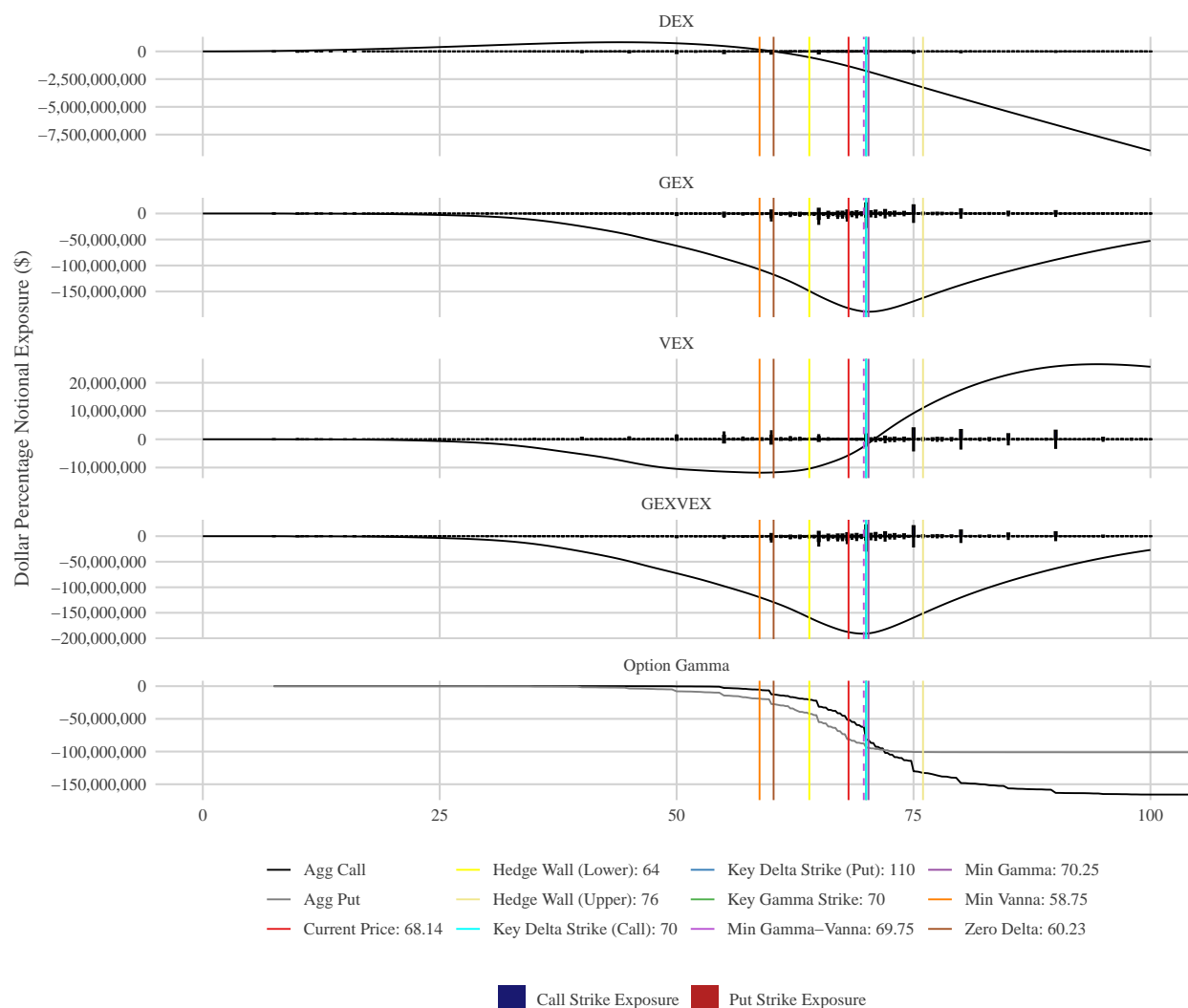




5.3.2 West Texas Intermediate (WTI)

Dollar Notional Exposure for Crude Oil WTI

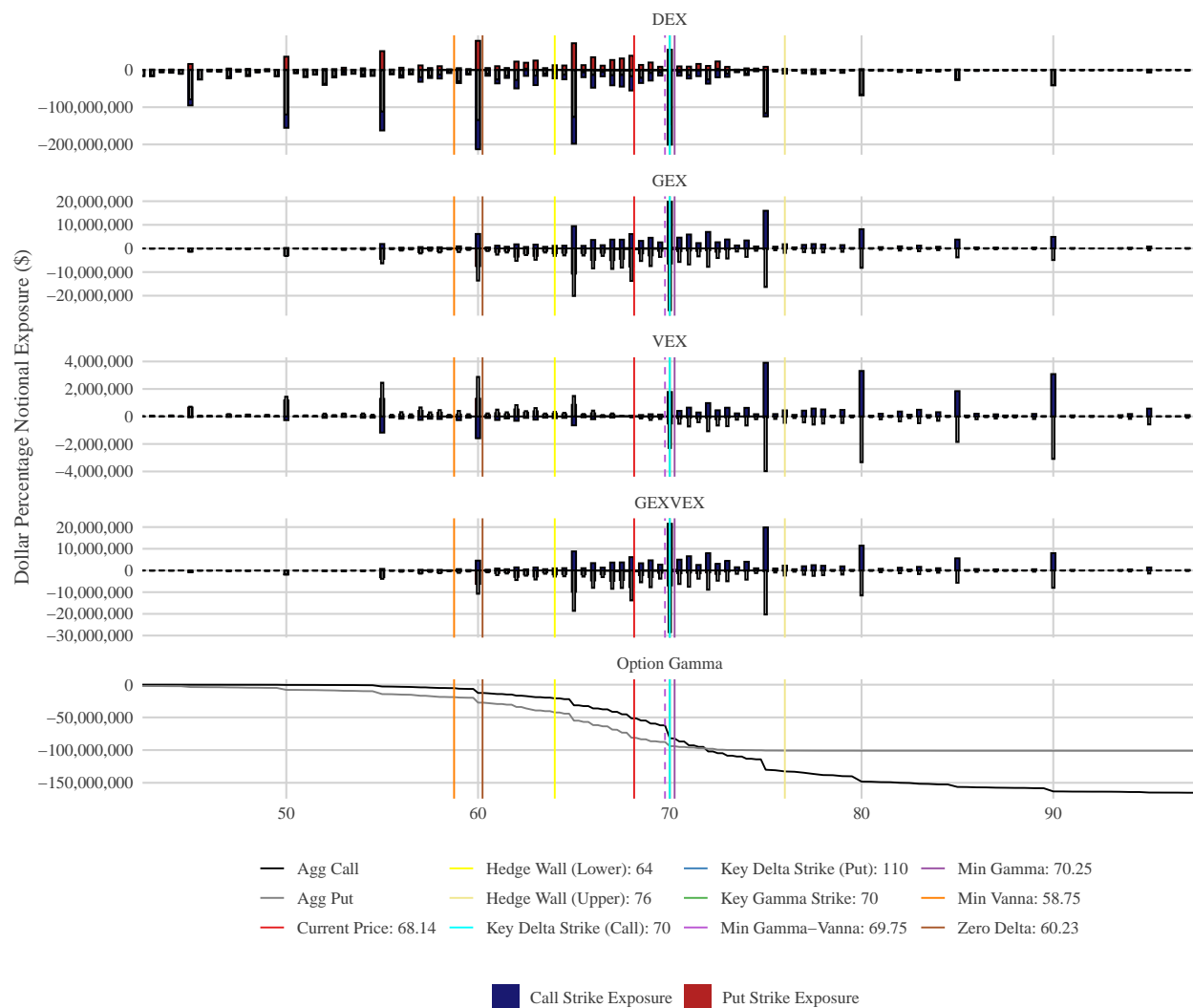
Largest Gamma Strike: 2021-09-16 0.343
Largest Delta Strike (Put): 2021-09-10 -0.00236
Largest Delta Strike (Call): 2021-11-16 0.661
Next Expiration: 2021-09-10
Next Expiration Gamma: 0.0261
Next Expiration Delta: -0.00236
Source: CBOE, COMEX, EUREX, NYMEX, ICE/EU, author's compilation
Data as of 2021-09-10





Strike Notional Exposure for Crude Oil WTI

Largest Gamma Strike: 2021-09-16 0.343
Largest Delta Strike (Put): 2021-09-10 -0.00236
Largest Delta Strike (Call): 2021-11-16 0.661
Next Expiration: 2021-09-10
Next Expiration Gamma: 0.0261
Next Expiration Delta: -0.00236
Source: CBOE, COMEX, EUREX, NYMEX, ICE/EU, author's compilation
Data as of 2021-09-10





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.