

EQDerivatives

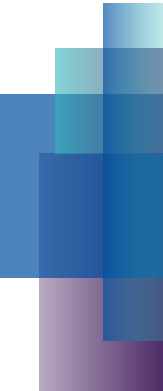
Long Volatility Strategies Using VSTOXX[®] Futures and Options

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head research and consulting

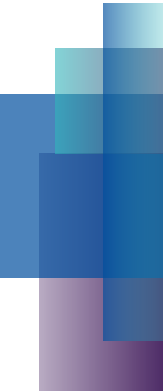
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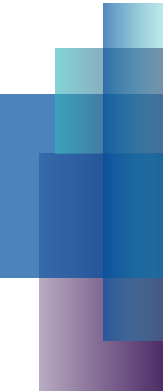
Outline

- **VSTOXX Overview**
- **Short-Term Option Strategies**
- **Consistent Approach**
- **Summary / Contact**



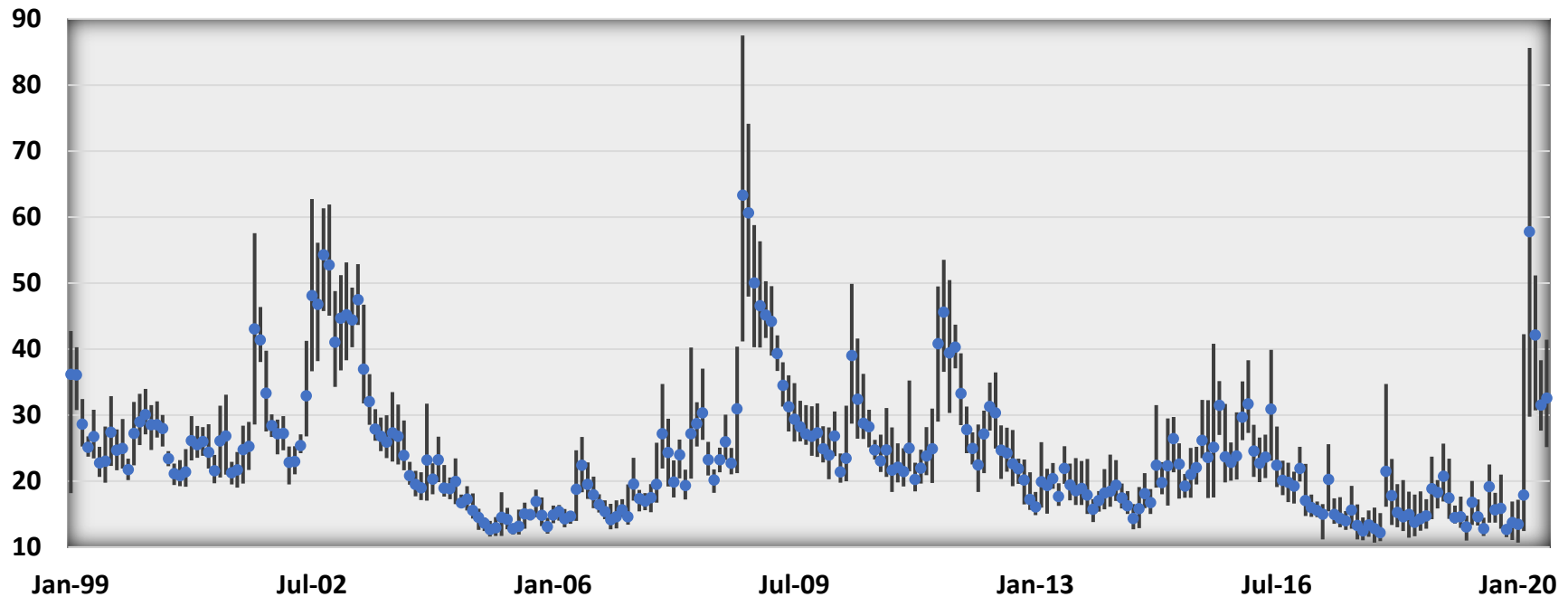
VSTOXX

- **VSTOXX measures the expected 30-day volatility for the Euro Stoxx 50[®]**
- **The price input for VSTOXX using Euro Stoxx 50 index options**
- **There is an inverse relationship between daily price changes of VSTOXX and the Euro Stoxx 50**



VSTOXX History

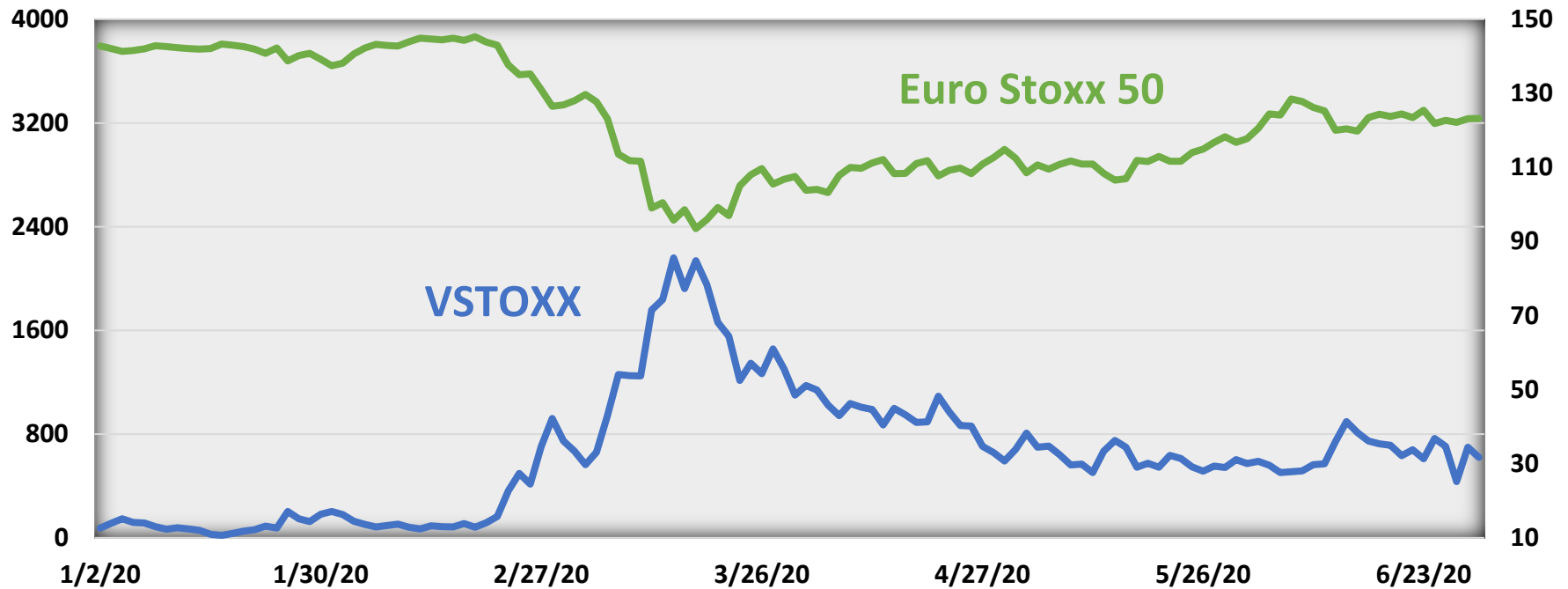
Monthly High / Low / Average Jan 1999 – Jun 2020



Data Source: Bloomberg

VSTOXX vs. Euro Stoxx 50

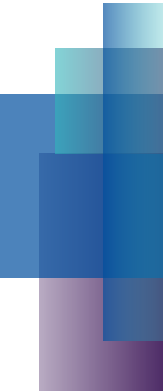
Daily Prices – First Six Months 2020



Data Source: Bloomberg

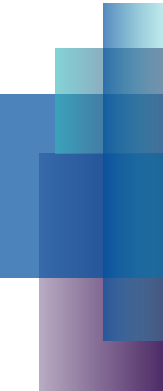
Short Term Trade

- **Index option volatility is not as anticipatory as stock option volatility when catalysts approach**
- **This aspect of index option volatility opens the door to using VSTOXX options to trade one-day events**
- **We take a look at three option strategies that can be implemented when expecting a one-day move up in VSTOXX and the related VSTOXX future**



Long Call

- **A long call will offer upside leverage in the event VSTOXX experiences a dramatic one-day upside move**
- **This leverage is superior to a spread trade that reduces the trade cost by selling options**



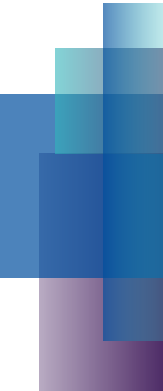
Long Call

October 1, 2019 – Oct VSTOXX at 16.85

Buy 1 VSTOXX Oct 16 Call @ 1.60

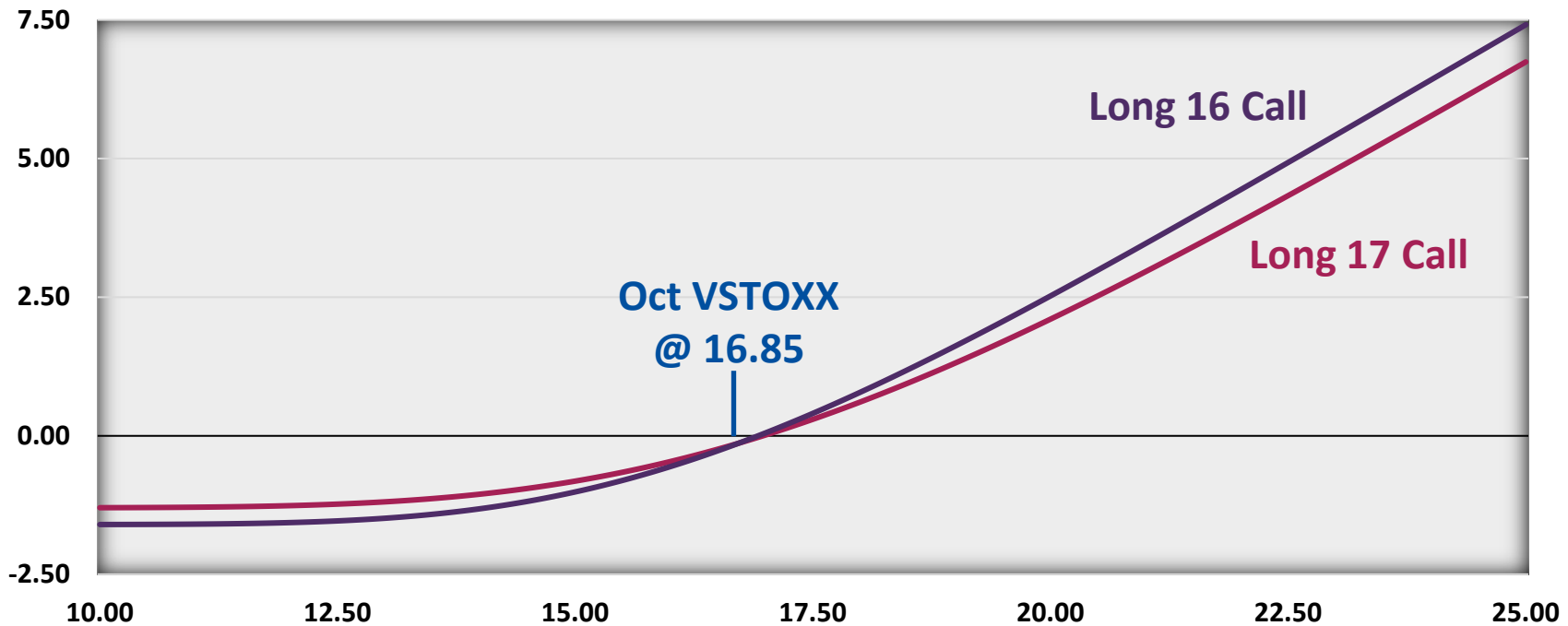
or

Buy 1 VSTOXX Oct 17 Call @ 1.30



Long Call

16 Call vs. 17 Call – One Day Hold



Data Source: Bloomberg and EQDerivatives Calculations

Long Call

One Day Hold

VSTOXX Future	Long 16 Call	Long 17 Call
13.00	-1.49	-1.19
14.00	-1.31	-1.05
15.00	-1.01	-0.82
16.00	-0.56	-0.47
17.00	0.05	0.01
18.00	0.79	0.61
19.00	1.62	1.31
20.00	2.52	2.10
21.00	3.47	2.96
22.00	4.44	3.86
23.00	5.42	4.80



Bull Call Spread

October 1, 2019 – Oct VSTOXX at 16.85

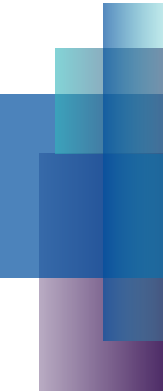
Buy 1 VSTOXX Oct 16 Call @ 1.60

Sell 1 VSTOXX Oct 20 Call @ 0.65

or

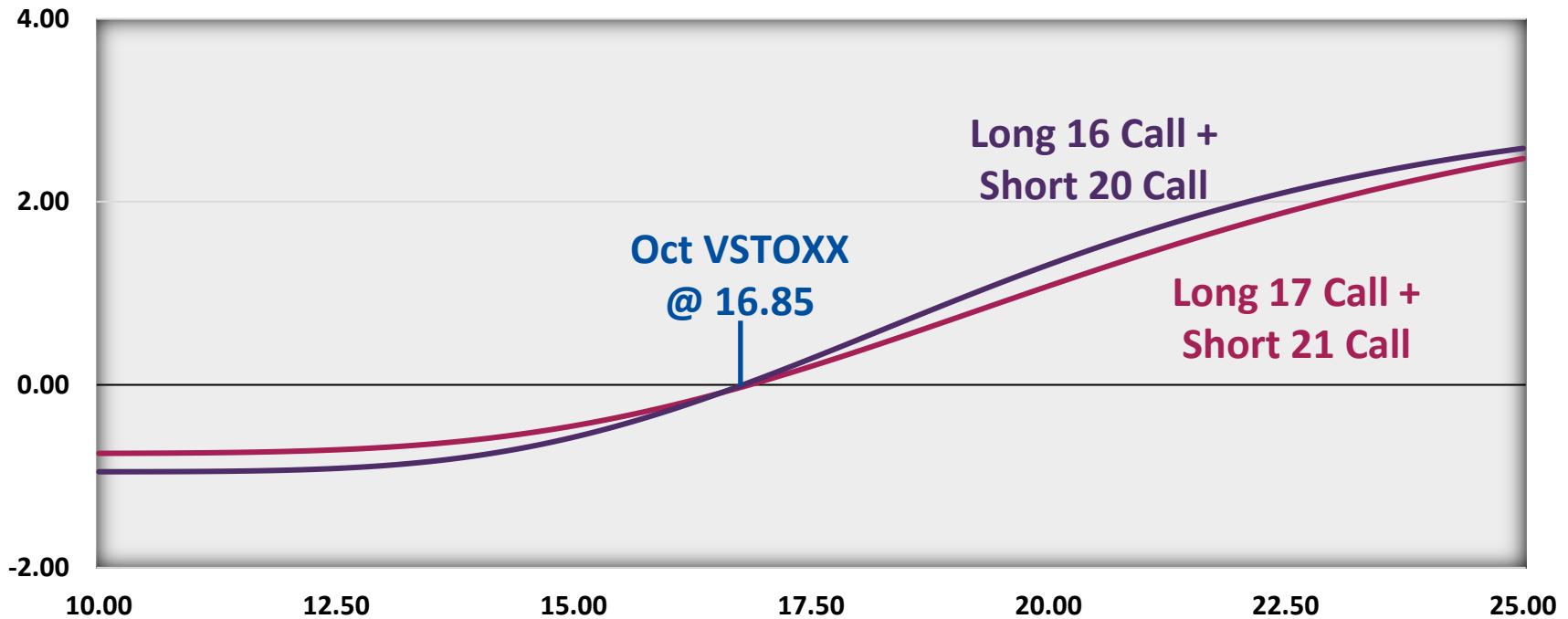
Buy 1 VSTOXX Oct 17 Call @ 1.30

Sell 1 VSTOXX Oct 21 Call @ 0.55



Bull Call Spread

16/20 Bull Call Spread vs. 17/21 Bull Call Spread

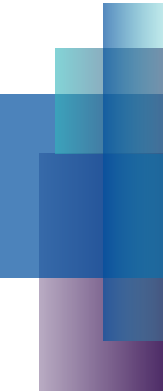


Data Source: Bloomberg and EQDerivatives Calculations

Bull Call Spread

One Day Hold

VSTOXX Future	16/20 Bull Call Spread	17/21 Bull Call Spread
13.00	-0.88	-0.68
14.00	-0.77	-0.60
15.00	-0.57	-0.45
16.00	-0.28	-0.23
17.00	0.08	0.04
18.00	0.50	0.37
19.00	0.91	0.72
20.00	1.31	1.08
21.00	1.67	1.42
22.00	1.97	1.74
23.00	2.22	2.02



Short Put + Bull Call Spread

October 1, 2019 – Oct VSTOXX at 16.85

Sell 1 VSTOXX Oct 15 Put @ 0.40

Buy 1 VSTOXX Oct 16 Call @ 1.60

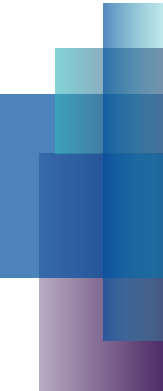
Sell 1 VSTOXX Oct 20 Call @ 0.65

Or

Sell 1 VSTOXX Oct 16 Put @ 0.80

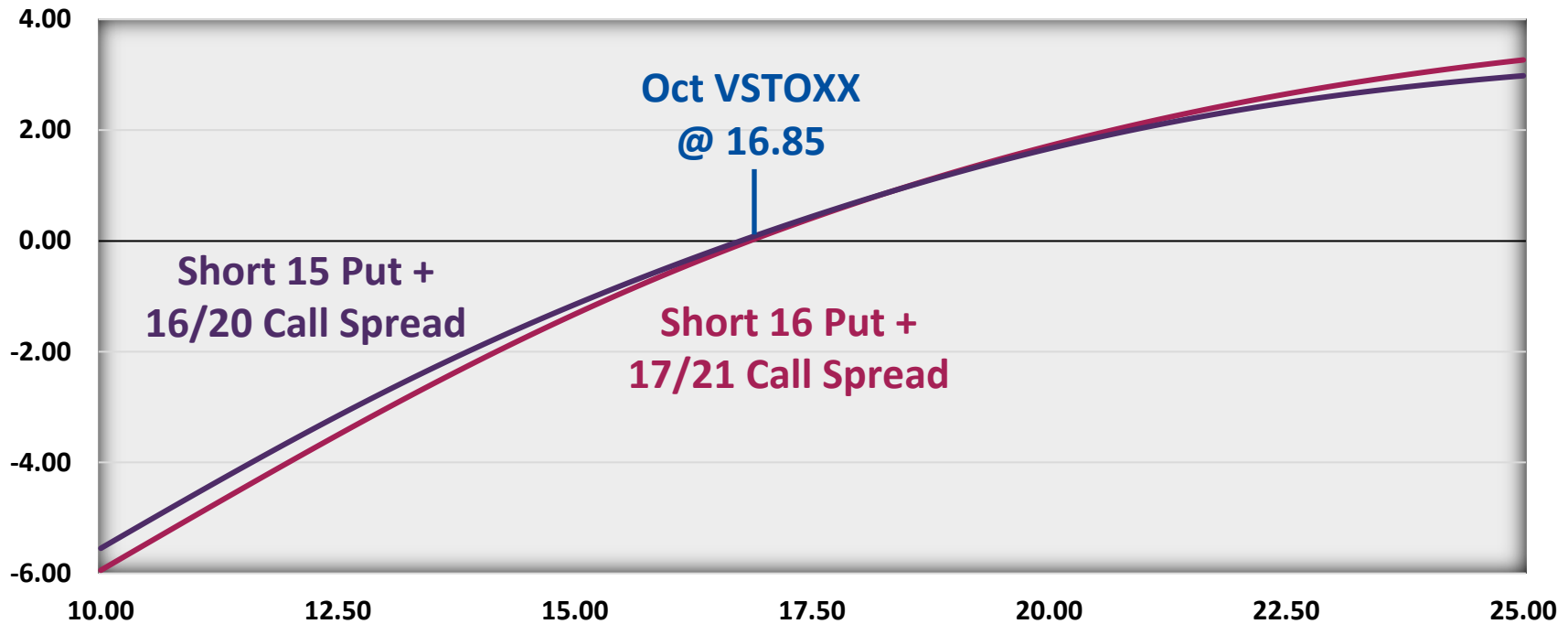
Buy 1 VSTOXX Oct 17 Call @ 1.30

Sell 1 VSTOXX Oct 21 Call @ 0.55



Short Put + Bull Call Spread

Sh. 15 Put + 16/20 Call Spread vs. Sh. 16 Put + 17/21 Call Spread



Data Source: Bloomberg and EQDerivatives Calculations

Short Put + Bull Call Spread

One Day Hold

VSTOXX Future	Short 15 Put + 16/20 Bull Call Spread	Short 16 Put + 17/21 Bull Call Spread
13.00	-2.72	-3.04
14.00	-1.89	-2.15
15.00	-1.15	-1.32
16.00	-0.47	-0.57
17.00	0.15	0.10
18.00	0.72	0.70
19.00	1.22	1.24
20.00	1.67	1.72
21.00	2.05	2.13
22.00	2.36	2.49
23.00	2.62	2.80

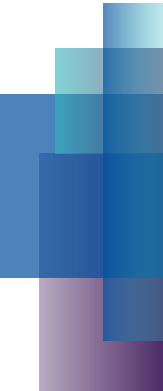


Strategy Outcomes – 1 Day Price Changes

VSTOXX Oct Future 16.85 -> 19.45 +2.60

Oct 16 Call 1.60 -> 3.55 +1.95

Oct 17 Call 1.30 -> 3.00 +1.70



Strategy Outcomes – 1 Day Price Changes

VSTOXX Oct Future 16.85 -> 19.45 +2.60

Oct 16 / 21 Call Spread 0.95 -> 1.90 +0.95

Oct 17 / 20 Call Spread 0.75 -> 1.55 +0.80



Strategy Outcomes – 1 Day Price Changes

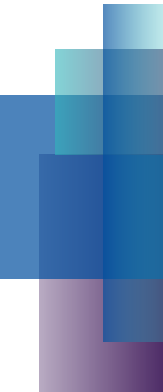
VSTOXX Oct Future 16.85 -> 19.45 +2.60

Short Oct 15 Put + Oct 16 / 21 Call Spread

0.55 -> 1.80 +1.25

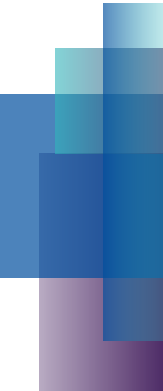
Short Oct 16 Put + Oct 17 / 20 Call Spread

(0.05) -> 1.35 +1.40



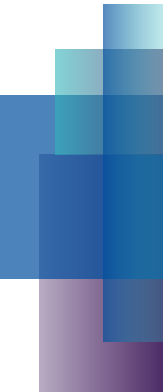
Consistent Strategy

- Typically VSTOXX futures prices are at a premium relative to the underlying index
- As expiration approaches, the future price will gravitate toward the underlying index
- This drift lower is fairly consistent and short VSTOXX positions have a high win rate
- However, there are some instances where VSTOXX futures prices rise quickly



Consistent Strategy

- **Day before current month settlement, trade following month options**
- **Execute trade only if spot VSTOXX < next month VSTOXX future**
- **Sell 1 ATM or first OTM Call option**
- **Buy 2 OTM calls – second OTM that results in the trade being executed at a credit**
- **Hold trade through settlement**

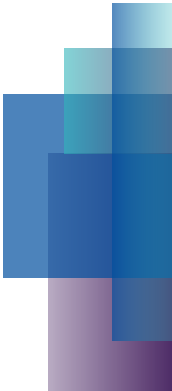


Consistent Strategy

VSTOXX Index, Future, Option Prices June 18, 2019

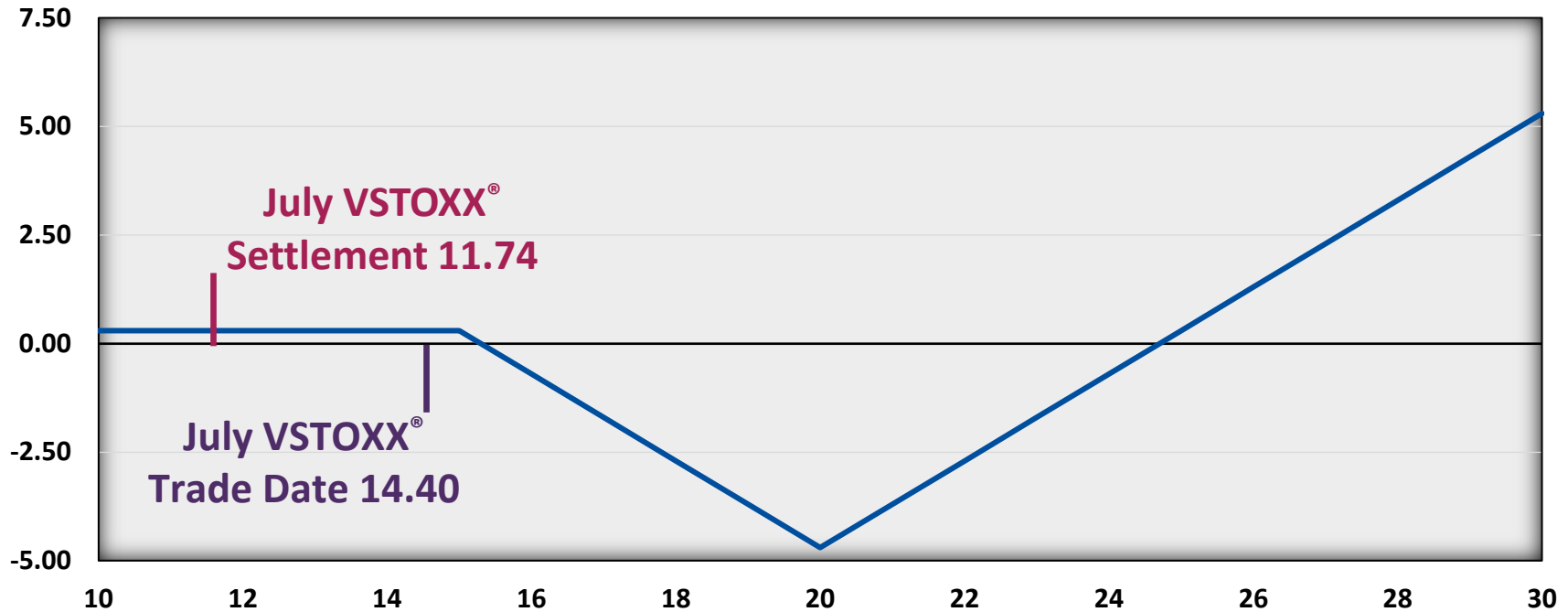
Spot VSTOXX®	13.27		July VSTOXX®	14.40
July 10 Call	4.40		July 16 Call	0.60
July 11 Call	3.40		July 17 Call	0.45
July 12 Call	2.50		July 18 Call	0.35
July 13 Call	1.75		July 19 Call	0.30
July 14 Call	1.25		July 20 Call	0.25
July 15 Call	0.90		July 21 Call	0.20

Sell 1 VSTOXX July 15 Call @ 0.90
Buy 2 VSTOXX July 19 Calls @ 0.30 ea



Consistent Strategy

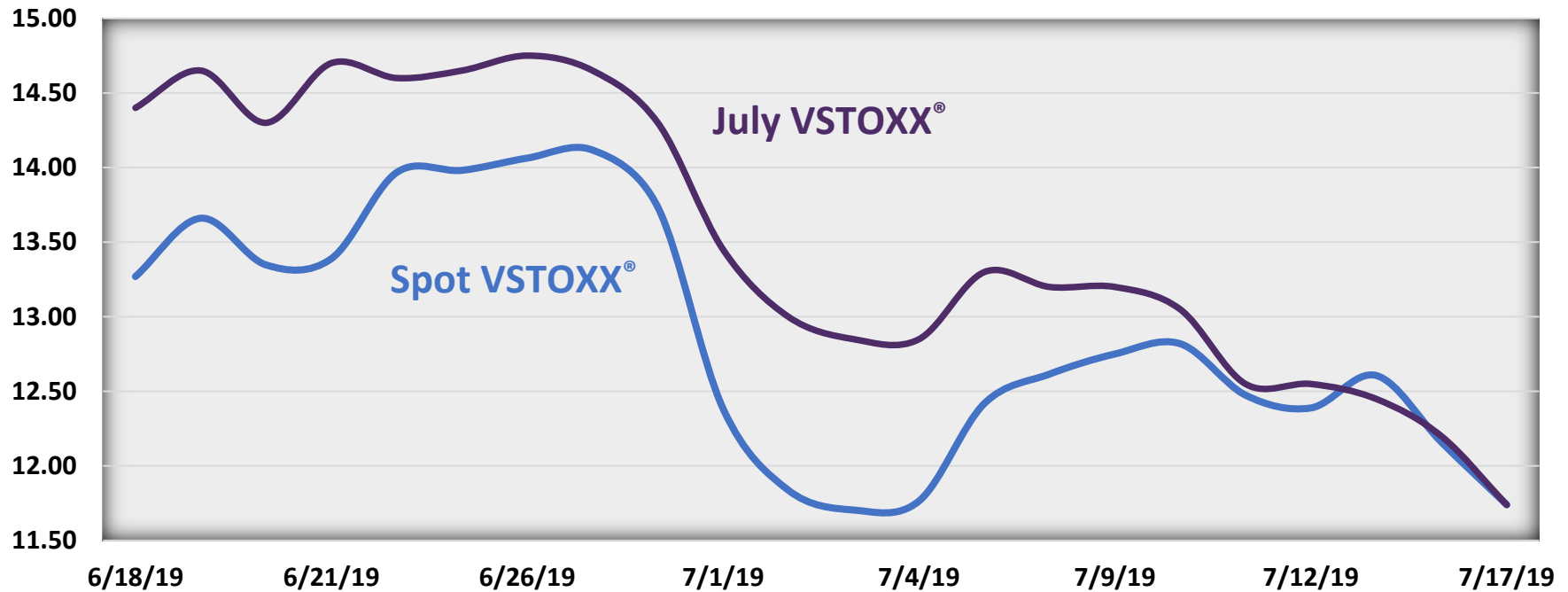
Short 1 15 Call + Long 2 19 Calls



Data Source: Bloomberg

Consistent Strategy

VSTOXX Index and July Future



Data Source: Bloomberg

Consistent Strategy

Trade Results (part 1)

Contract	Date	VSTOXX® Index	VSTOXX® Future	Short Call Strike	Long Calls Strike	Short Call Premium	Long Calls Premium	Trade Credit	Position Drawdown	Settlement	Trade P/L
Jan 18	12/19/17	11.20	13.00	13	17	1.15	0.45	0.25	-0.30	11.17	0.25
Feb 18	1/16/18	11.35	13.95	14	18	1.10	0.45	0.20	-0.80	22.61	0.81
Mar 18	3/9/18	15.41	15.55	16	20	1.00	0.30	0.40	-0.20	14.55	0.40
Apr 18	3/20/18	15.38	17.15	18	24	1.65	0.70	0.25	-0.60	13.23	0.25
May 18	4/17/18	13.29	14.85	15	19	1.25	0.50	0.25	-0.25	13.40	0.25
Jun 18	5/15/18	12.68	13.95	14	18	1.25	0.50	0.25	-1.35	13.32	0.25
Jul 18	6/19/18	14.87	15.15	16	22	1.50	0.65	0.20	-0.55	11.76	0.20
Aug 18	7/17/18	12.56	14.00	14	20	1.35	0.55	0.25	-1.45	13.82	0.25
Sep 18	8/21/18	13.87	15.00	15	22	1.55	0.65	0.25	-0.90	14.03	0.25
Oct 18	9/18/18	14.36	15.15	16	22	1.25	0.55	0.15	-2.05	16.17	-0.02
Nov 18	10/16/18	16.83	17.20	18	25	1.65	0.65	0.35	-1.15	18.91	-0.56
Dec 18	No Signal										
Jan 19	12/18/18	20.04	20.60	21	27	2.30	0.95	0.40	-1.25	16.24	0.40
Feb 19	1/15/19	16.93	18.35	19	24	1.50	0.45	0.60	0.05	14.04	0.60

Consistent Results

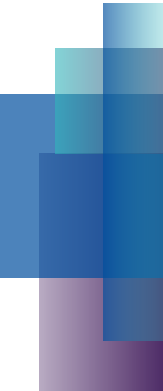
Trade Results (part 2)

Contract	Date	VSTOXX® Index	VSTOXX® Future	Short Call Strike	Long Calls Strike	Short Call Premium	Long Calls Premium	Trade Credit	Position Drawdown	Settlement	Trade P/L
Mar 19	2/12/19	14.28	15.85	16	21	1.45	0.55	0.35	-0.15	12.56	0.35
Apr 19	3/19/19	13.00	14.40	15	20	1.00	0.35	0.30	-0.35	10.77	0.30
May 19	4/16/19	11.30	14.20	15	20	1.00	0.35	0.30	-1.50	15.25	0.05
Jun 19	6/5/19	16.10	16.20	17	21	0.90	0.30	0.30	0.00	13.41	0.30
Jul 19	6/18/19	13.27	14.40	15	19	0.90	0.30	0.30	0.05	11.74	0.30
Aug 19	7/16/19	12.16	13.80	14	19	1.20	0.45	0.30	-3.00	16.97	-2.67
Sep 19	9/3/19	18.24	18.35	19	25	1.40	0.50	0.40	0.00	15.09	0.40
Oct 19	9/17/19	15.55	16.50	17	23	1.55	0.60	0.35	-0.85	14.73	0.35
Nov 19	10/15/19	14.47	15.45	16	21	1.35	0.45	0.45	-0.05	13.29	0.45
Dec 19	11/19/19	12.37	13.45	14	19	0.95	0.30	0.35	-0.50	11.54	0.35
Jan 20	12/17/19	12.15	13.70	14	19	1.20	0.45	0.30	-0.40	11.77	0.30
Feb 20	1/21/20	11.81	13.20	14	19	0.95	0.38	0.20	-0.55	12.66	0.20
Mar 20	2/18/20	13.84	14.05	15	21	1.00	0.38	0.25	-0.65	89.44	62.44

Consistent Strategy

January 2018 to March 2020

Summary Data	
Signals	26
Positive Outcome	21
Max Gain	62.44
Max Loss	-2.67
Average Drawdown	-0.72
Max Drawdown	-3.00



Questions / Contact

Questions?

Contact Info

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