

MO OPTIONS PLAYBOOK

The Playbook

- Volatility Risk Premium Harvest (Carry Trade)
- DOTM (Deep Out of The Money)
- Jim Leitner Straddles
- Fade The Fear

Volatility Risk Premium Harvest

- On average, volatility on risk assets is over priced
- The positive spread between the volatility we can sell and what actually plays out is called the Volatility Risk Premium (VRP)
- Volatility risk premium is supported structurally by an imbalance in supply and demand
- Buyers of options and volatility include hedgers or speculators seeking leverage with capped downside, but there are few natural sellers of options and volatility

FIGURE 1: IMPLIED VOLATILITY IS TYPICALLY HIGHER THAN SUBSEQUENT REALIZED VOLATILITY (AS SHOWN BY GLOBAL EQUITY, INTEREST RATE, COMMODITY AND CURRENCY MARKETS), (MAY 1994 TO JUNE 2012)

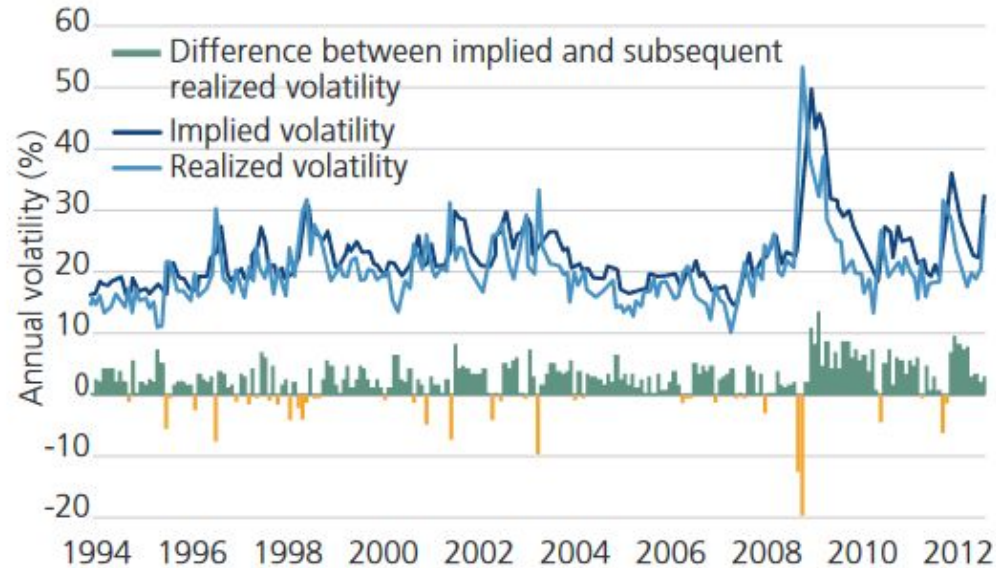


Figure 1 shows the average implied volatility, and the average subsequent realized volatility, across 14 options markets (described in Figure 2). Implied volatility is the annualized one month at-the-money implied volatility at the beginning of each month. Realized volatility is the annualized standard deviation of daily returns during each month.

Source: Bloomberg, Barclays, JP Morgan, PIMCO, as of 30 June 2012

**FIGURE 2: IMPLIED VOLATILITY VS. REALIZED VOLATILITY
(JUNE 1994 TO JUNE 2012)**

Option market	Average one-month implied volatility (beginning of month)	Average one-month annualized realized volatility (during month)	Difference
Equity indexes	20.3%	18.1%	2.2%
Commodity futures	37.4%	33.0%	4.4%
Currencies	10.3%	9.4%	0.9%
10y IR swaptions	23.4%	20.4%	2.9%

Source: Bloomberg, Barclays, JP Morgan, PIMCO, as of 30 June 2012

How To Trade It

- Short straddles or strangles on a basket of macro underlyings
- We focus on equity index vol which was one of our **biggest winning trades of 2017**
- In the past we shorted slightly OTM options in SPX/ES
 - Focused on 20 delta as that is where institutional demand for hedging is higher
- But now we harvest this risk premium through VIX futures (short VXX/long SVXY)



Size Right To Survive

- This trade will make money over time
- But you won't walk away with the money unless you size right
- Have to size in way where crisis events don't wipe you out
- Do a scenario analysis, assume the worst: flash crashes, VIX at 100, markets closed for extended amounts of time
- Put on a position size that won't bankrupt you if that occurs
- If you want to be extra safe, cap the risk by buying options against your short vol structure
 - We do this with VIX OTM calls

Variation On a Theme

- Instead of constantly selling options or selling vol, only sell it when elevated
- Since you are selling high prices you don't have to deal with as many large and sharp drawdowns that occur with negatively skewed strategies
- Example trade: Whenever the weekly return for the S&P 500 is negative, sell 2 put spreads at the close on Friday
 - Short 40 delta put, long 25 delta put
 - 4 week expiry

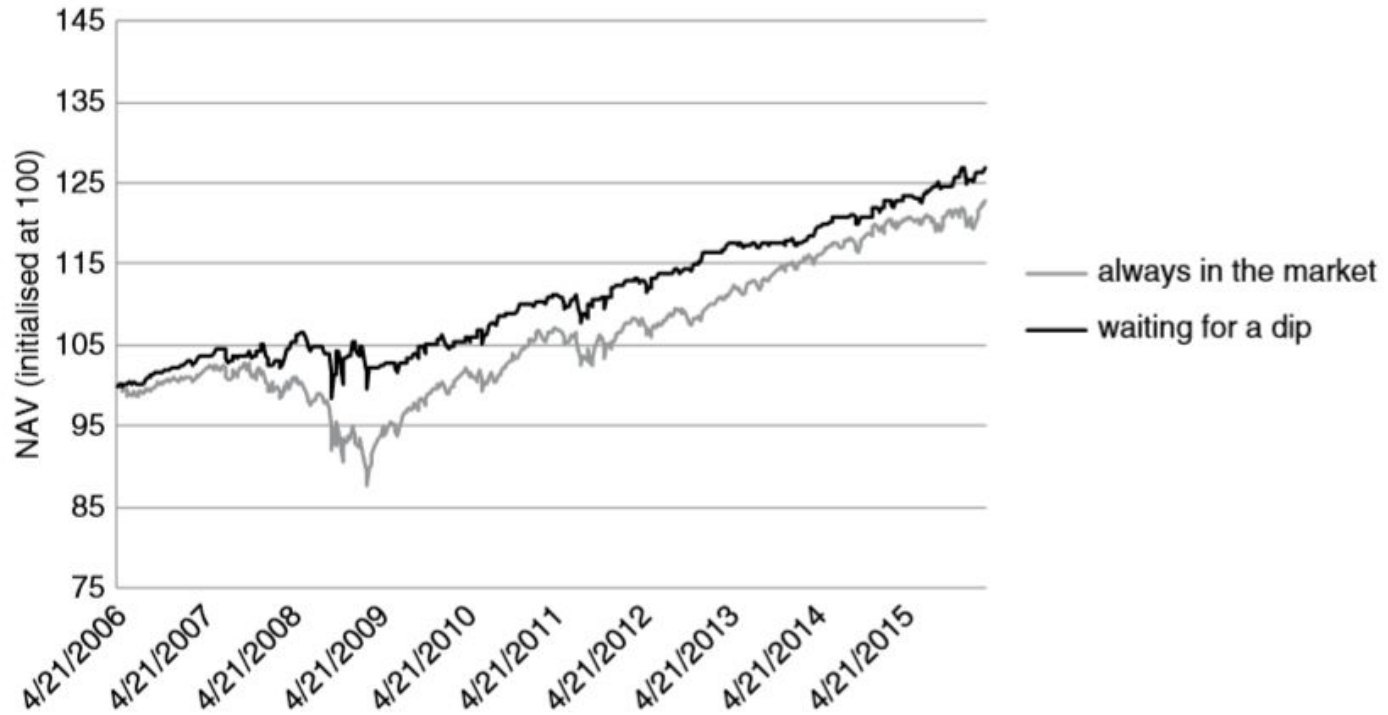


FIGURE 7.10 Selective selling of put spreads can generate interesting risk-adjusted returns

DOTM

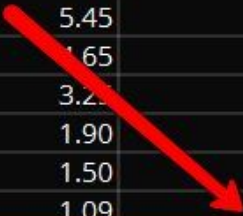
- **Deep Out of The Money** (usually 15 delta or less)
- Long-dated (180 days or more)
- We focus on call buying because of higher return potential
- DOTM's great for putting convexity into your portfolio
- Not uncommon for winners to 20x or more
- But it has a very low win rate so sizing has to be small
- Best to put 25-100 bps of the portfolio into each play, limit the amount of shots you take each year
- If you get carried away and don't have a winner it can really drag down returns
- [Macro Ops DOTM Guide has more details](#)

The Macro Ops DOTM Setup

- Stock has strong positive price momentum (ie, bullish trend)
- Stock has a solid fundamental narrative supporting the strong trend
- Option volatility is moderately priced (20-50% implied volatility reading)

NFLX		NETFLIX.COM INC COM		150.18	+3.93 +2.69%	ETB	NASDAQ
Underlying							
		Last	150.18		Net Chng	+3.93	
						Volume	
						5,561,263	
Option Chain							
Filter: Off		Spread: Single		Layout: Impl Vol, Probability OTM, Delta			
CALLS							
		Impl Vol	Prob.OTM	Delta	Bid	Ask	Strikes: ALL
15 JUN 18		(343)	100				Exp
							Strike
		31.82%	61.73%	.50	15.50	15.75	15 JUN 18
		31.54%	65.50%	.46	13.55	13.80	15 JUN 18
		31.33%	69.07%	.42	11.80	12.10	15 JUN 18
		30.99%	72.45%	.38	10.20	10.45	15 JUN 18
					8.80	9.00	15 JUN 18
					7.50	7.90	15 JUN 18
					6.40	6.75	15 JUN 18
					5.45	5.60	15 JUN 18
		30.03%	85.64%	.22	4.65	5.00	15 JUN 18
		29.58%	89.36%	.17	3.25	3.60	15 JUN 18
		28.72%	92.53%	.12	1.90	2.62	15 JUN 18
		29.01%	94.38%	.10	1.50	1.90	15 JUN 18
		28.95%	95.92%	.07	1.09	1.34	15 JUN 18
		28.75%	97.12%	.05	.75	.93	15 JUN 18

In July 2017, NFLX had DOTM calls trading for just \$0.93



Underlying

Last	391.98	Net Chng	-0.89	Volume	13,588,114
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Option Chain Filter: Off Spread: Single Layout: Impl Vol, Probability OTM, Delta

CALLS							Strikes:	ALL
	Impl Vol	Prob.OTM	Delta	Bid	Ask	Exp	Strike	
15 JUN 18	(0) 100							
	--	0.00%	1.00	169.75	172.80	15 JUN 18	220	
	729.35%	10.39%	.90	166.50	168.05	15 JUN 18	225	
	--	0.00%	1.00	160.35	163.60	15 JUN 18	230	
	--	0.00%	1.00	155.60	158.05	15 JUN 18	235	
	--	0.00%	1.00	150.35	153.60	15 JUN 18	240	
	--	0.00%	1.00	145.30	148.05	15 JUN 18	245	
	--	0.00%	1.00	140.00	143.05	15 JUN 18	250	
	537.02%	8.32%	.91	136.65	138.05	15 JUN 18	255	
	--	0.00%	1.00	129.85	133.40	15 JUN 18	260	
	480.73%	7.72%	.92	126.60	128.05	15 JUN 18	265	
	440.21%	6.73%	.92	120.35	123.65	15 JUN 18	270	
	--	0.00%	1.00	115.40	118.55	15 JUN 18	275	
						15 JUN 18	280	
						15 JUN 18	285	
						15 JUN 18	290	
						15 JUN 18	295	
	318.07%	6.50%	.93	91.65	93.05	15 JUN 18	300	

Absolutely insane appreciation on these DOTM calls



DOTM Psychology

- Only use this strategy if you can handle a high loss rate
- It's possible to go an entire trading year without having one winner
- If you fall off the program you'll never catch the one winner that covers all the losers plus much more
- This strategy is best used in conjunction with many others inside of a portfolio

Jim Leitner Straddles

- When implied volatility is in the low end of the range we can buy long-dated straddles and usually make money on market trends
- Straddle = one ATM put with one ATM call, same strike
- Long-dated = 6-18 months
- This strategy can be used on all macro markets as long as there are listed options far out in time
- Long consolidations in price usually lead to falling realized volatility and falling implied volatility, this creates the optimal setup

EURUSD Historical Straddles

EUR 2-Yr Return at 0%	Price	Price 1-Yr Later	1-Yr Return	EUR 1-Yr Implied Vol	Difference
July 1999	1.0703	0.9268	-13.41%	9.70%	3.71%
April 2002	0.9002	1.1172	24.11%	9.60%	14.51%
November 2005	1.1787	1.3241	12.34%	9.40%	2.94%
November 2006	1.3241	1.463	10.49%	7.70%	2.79%
Oct 2008	1.2738	1.4712	15.50%	17.75%	-2.25%
November 2009	1.5005	1.2982	-13.48%	13.98%	-0.50%
November 2010	1.2982	1.3445	3.57%	15.05%	-11.48%
April 2012	1.3238	1.3166	-0.54%	11.40%	-10.86%
September 2013	1.3525	1.2626	-6.65%	8.35%	-1.70%
September 2014	1.2626	1.1175	-11.49%	7.80%	3.69%
March 2017	1.0666	1.2321	15.52%	8.65%	6.87%



Sizing The Straddles

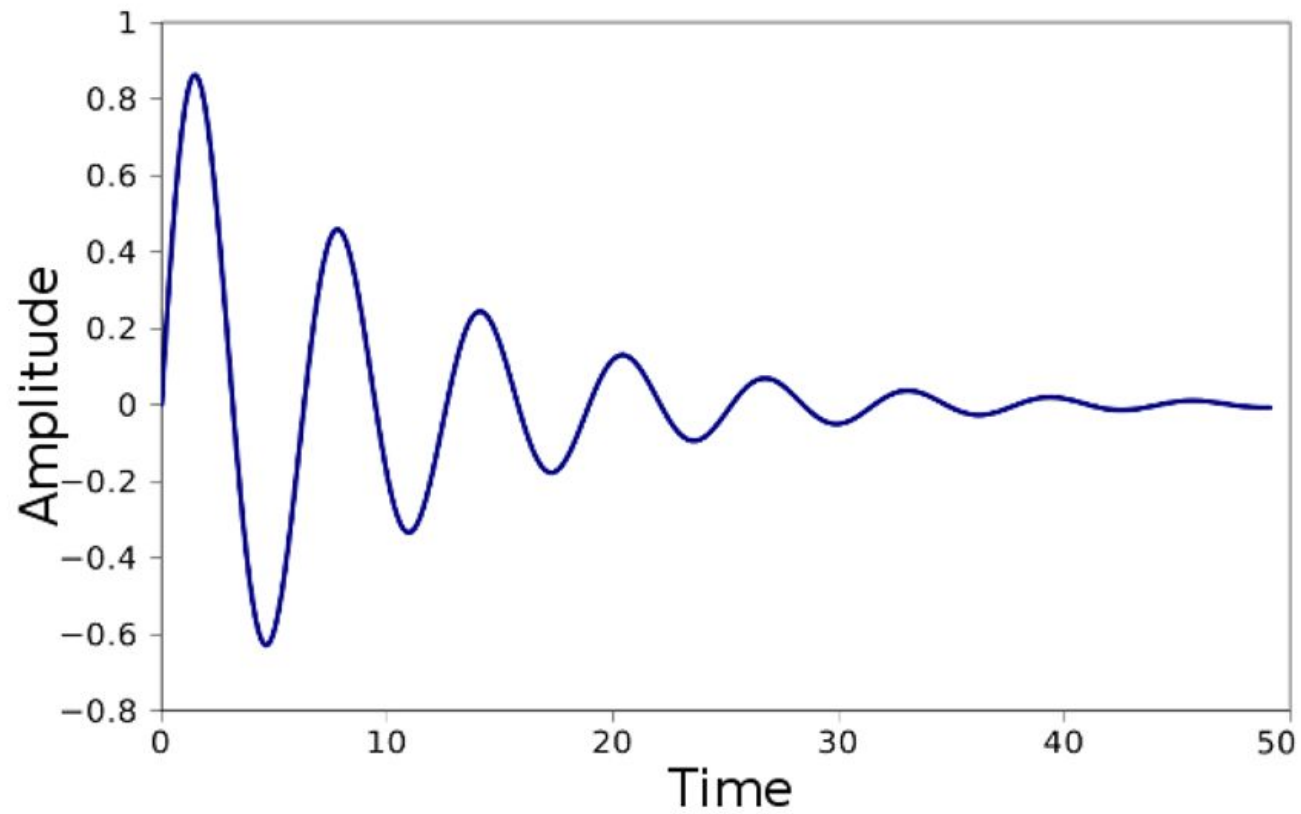
- Sizing on these is tricky, it depends on how much risk is on the book
- Rare for straddles to lose 100% of premium paid because in order for that to happen the underlying has to expire exactly on the strike price
- More likely to take a 30% or 50% loss in a bad scenario
- We like to do around 200-500 bps

Fade The Fear

- “Be greedy when others are fearful”
- When there’s a large overnight shock to a stock or index, implied vols get crazy high
- It usually pays to take the other side of this fear while the market sorts itself out
- Make sure it’s fear and not euphoria, can’t just be any big move, implied volatility needs to spike, many positive moves don’t get the same type of implied vol spike as negative moves

Fade The Fear Framework

- Search for large IV explosions caused by news
 - Geopolitical/Political Shocks
 - Earnings announcement gone bad
 - Liquidation/derisking by a large fund
- Look for exploding realized volatility with implied vols following suit
- Sell options typically with 30 days left
- As market participants calibrate to the shock, volatility will contract and options will sink in value

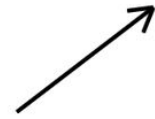


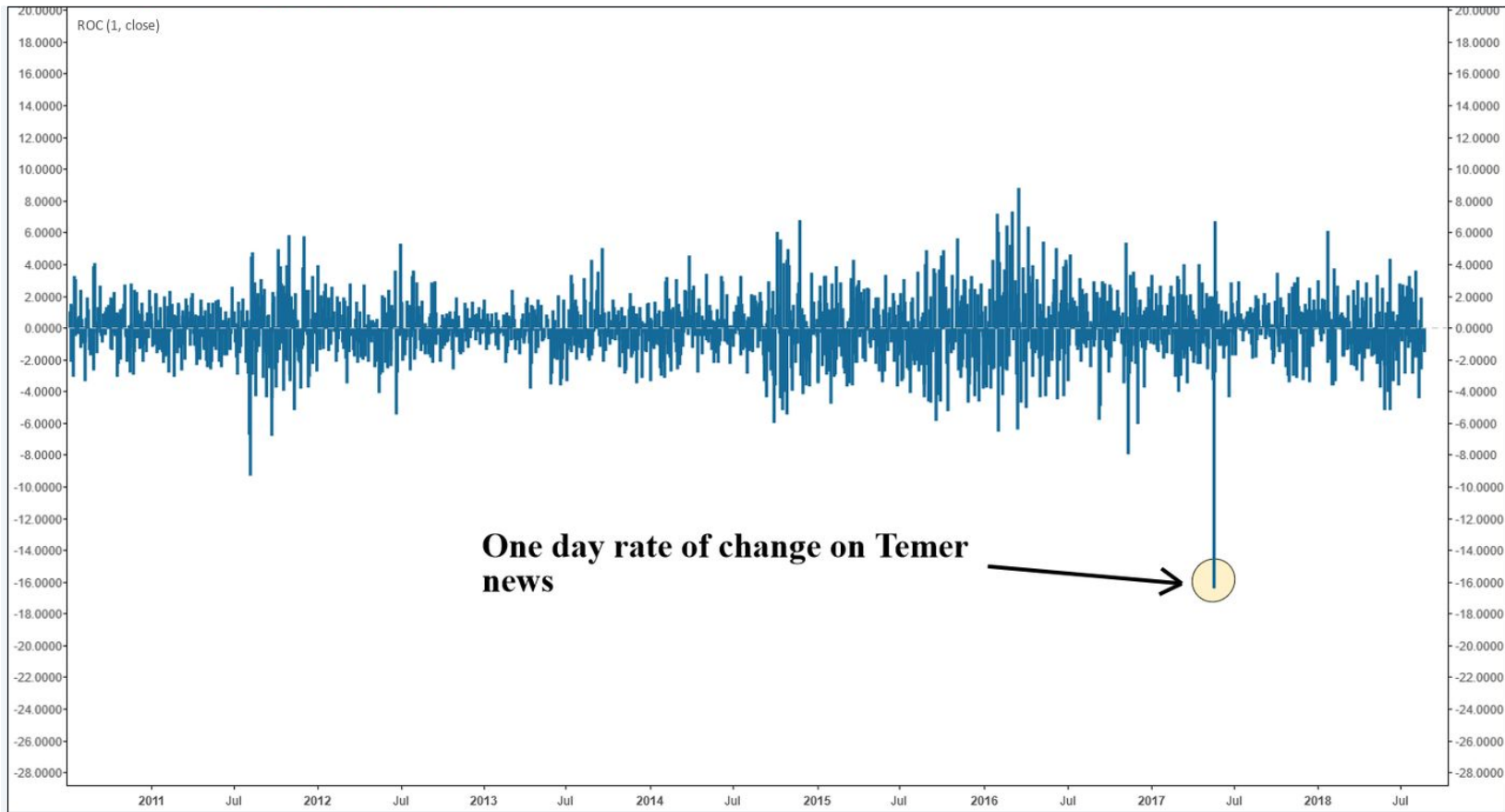
EWZ 2017 Example

- Political scandal allegations against President Temer
- EWZ, the Brazilian equity ETF, sold off 18% overnight
- Implied vols and realized vols spiked
- But under the hood economics were just fine
 - GDP printing its first positive QoQ increase in 2 years
 - Uptrending LEI (hitting new highs)
 - Steady inflation
 - A Central Bank in full out ease mode



**Gap down on the
Temer news**





One day rate of change on Temer news



May 18, 2017 Trading Day

EWZ -6.39 -16.33% ETB 05/18/2017

Underlying

Last	Net Chng	Volume	Open	High	Low
32.75	-6.39	166,606,770	32.19	34.59	31.78

Option Chain Filter: Off Spread: Single Layout: Impl Vol, Probability OTM, Delta

CALLS							Strikes: 14	PUTS						
	Impl Vol	Prob.OTM	Delta	Bid	Ask	Exp	Strike	Bid	Ask	Impl Vol	Prob.OTM	Delta		
> 9 JUN 17	(22)	100 (Weekly)											51.60% (±3.355)	
▼ 16 JUN 17	(29)	100											50.74% (±3.786)	
	52.61%	26.58%	.78	3.85	4.05	16 JUN 17	29.5	.63	.69	52.36%	73.54%	-.22		
	52.85%	30.46%	.75	3.50	3.70	16 JUN 17	30	.75	.87	52.65%	69.62%	-.25		
	50.11%	33.28%	.72	3.05	3.30	16 JUN 17	30.5	.90	1.00	51.98%	65.96%	-.29		
	50.77%	37.72%	.68	2.80	2.95	16 JUN 17	31	1.07	1.12	50.93%	62.22%	-.32		
	49.79%	41.70%	.64	2.45	2.63	16 JUN 17	31.5	1.24	1.34	50.82%	58.02%	-.36		
	50.22%	46.13%	.59	2.22	2.33	16 JUN 17	32	1.45	1.52	50.12%	53.89%	-.40		
	49.88%	50.38%	.55	1.96	2.05	16 JUN 17	32.5	1.65	1.77	49.68%	49.64%	-.45		
	48.73%	54.61%	.51	1.65	1.80	16 JUN 17	33	1.92	2.02	49.62%	45.37%	-.49		
	48.24%	58.88%	.47	1.47	1.51	16 JUN 17	33.5	2.18	2.29	49.14%	41.18%	-.53		

Jacked up implied vol



50.74% (±3.786)

Backtrades P/L Date: 05/18/2017

Spread	Side	Qty	Symbol	Exp	Strike	Type	Trade Date	Price	Delta	Theta	P/L Open	
▼	EWZ											
✓	STRADDLE	SELL	-10	EWZ	16 JUN 17	33	CALL	05/18/20	3.695	-19.36	60.69	\$0.00
		SELL	-10	EWZ	16 JUN 17	33	PUT		CREDIT			

June 15, 2017 Trading Day

EWZ IShares MSCI Brazil Capped ETF 33.96 -0.36 (-1.05%) ETB ± 0.402

06/15/2017

Underlying

Last	Net Chng	Volume	Open	High	Low
33.96	-0.36	12,508,923	33.87	34.05	33.60

Vol crush

Option Chain Filter: Off Spread: Single Layout: Impl Vol, Probability OTM, Delta

CALLS							PUTS						
Impl Vol	Prob.OTM	Delta	Bid	Ask	Exp	Strike	Bid	Ask	Impl Vol	Prob.OTM	Delta		
16 JUN 17 (1) 100							37.76% (± 0.623)						
42.05%	8.07%	.92	1.48	1.52	16 JUN 17	32.5	.02	.03	38.65%	93.65%	-.06		
33.71%	12.68%	.88	1.00	1.03	16 JUN 17	33	.03	.05	31.37%	89.04%	-.11		
28.02%	25.70%	.75	.54	.60	16 JUN 17	33.5	.08	.11	26.59%	75.46%	-.24		
25.70%	52.62%	.48	.22	.26	16 JUN 17	34	.24	.29	24.57%	47.30%	-.52		
25.00%	80.40%	.20	.06	.08	16 JUN 17	34.5	.57	.62	23.33%	17.98%	-.82		
25.49%	94.55%	.06	.01	.02	16 JUN 17	35	1.02	1.06	0.00%	0.00%	-1.00		
32.10%	96.95%	.03	0	.02	16 JUN 17	35.5	1.51	1.55	--	0.00%	-1.00		
43.33%	96.65%	.04	.01	.02	16 JUN 17	36	2.01	2.05	--	0.00%	-1.00		
43.53%	98.78%	.01	0	.01	16 JUN 17	36.5	2.51	2.55	--	0.00%	-1.00		
55.83%	98.18%	.02	0	.02	16 JUN 17	37	3.00	3.00	--	0.00%	-1.00		

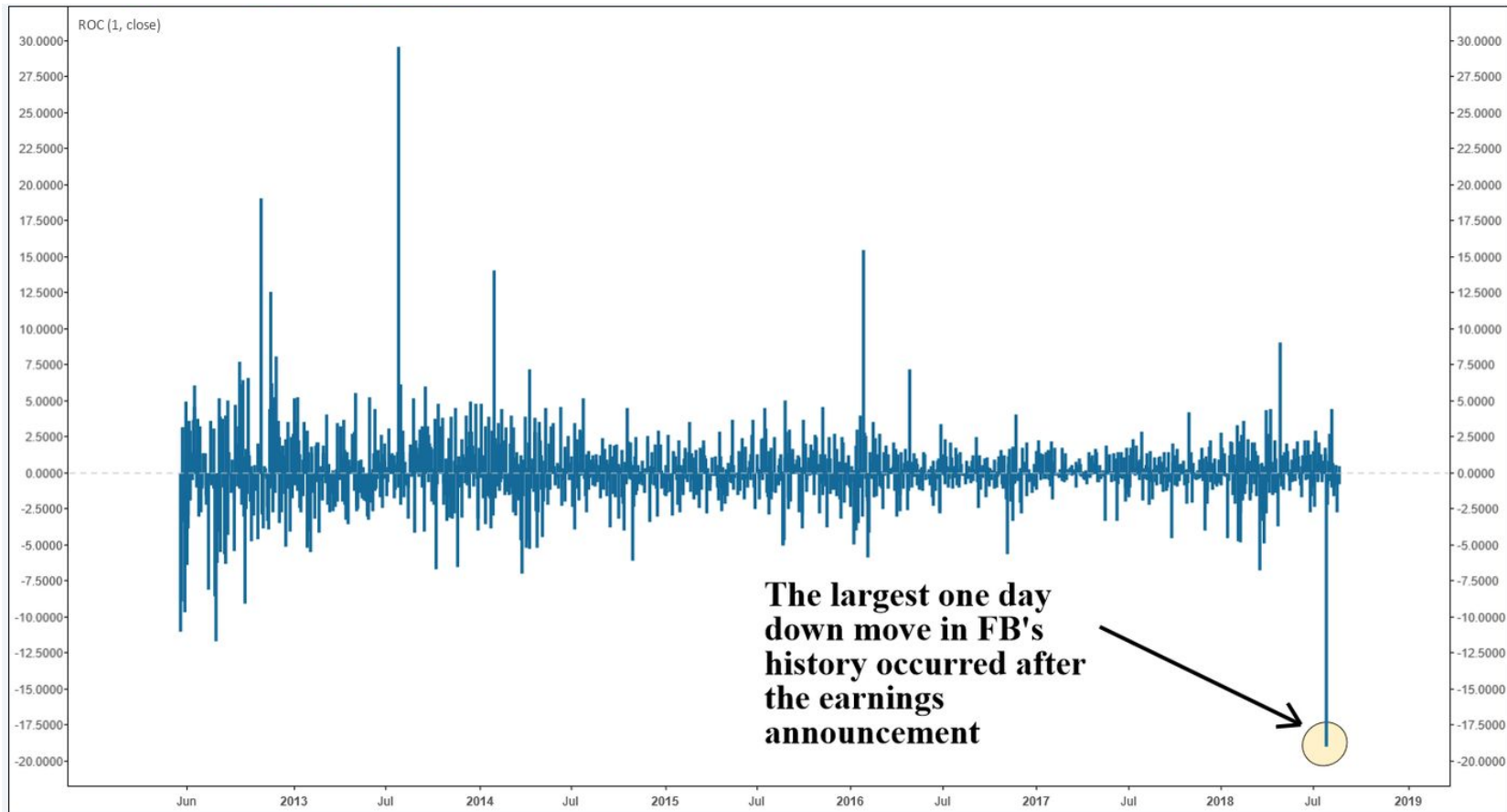
Short straddle profits

Spread	Side	Qty	Symbol	Exp	Strike	Type	Trade Date	Price	Delta	Theta	P/L Open	
✓	STRADDLE	SELL	-10	EWZ	16 JUN 17	33	CALL	05/18/20	3.695	-772.92	81.37	\$2,640.00
✓		SELL	-10	EWZ	16 JUN 17	33	PUT		CREDIT			

Facebook 2018 Example

- FB July 2018 earnings reaction
- Stock got crushed due to surprise guidance and fell 19% in a day
- But the fundamentals hadn't changed that much
- Company was still dominating advertising business
- Revenue and earnings still growing





July 26, 2018 Trading Day

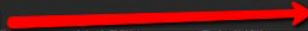
FB FACEBOOK INC COM CL A 176.26 -41.24 -18.96% ETB ± 2.99

Company Profile 07/26/2018

Underlying	Last	Net Chng	Volume	Open	High	Low
	176.26	-41.24	169,803,670	174.89	180.13	173.75

Option Chain	Filter: Off	Spread: Single	Layout: Impl Vol, Probability OTM, Delta									
CALLS				Strikes: 14	PUTS							
	Impl Vol	Prob.OTM	Delta	Bid	Ask	Exp	Strike	Bid	Ask	Impl Vol	Prob.OTM	Delta
17 AUG 18	(22) 100											
	39.00%	10.07%	.92	21.85	22.45	17 AUG 18				36.36%	91.57%	-.07
	36.73%	15.44%	.87	17.40	17.80	17 AUG 18	160	.95	1.03	35.12%	85.73%	-.12
	35.77%	24.05%	.79	13.30	13.65	17 AUG 18	165	1.77	1.89	34.37%	76.94%	-.21
	34.44%	34.83%	.68	9.55	9.95	17 AUG 18	170	3.15	3.25	33.94%	65.42%	-.32
	34.19%	47.79%	.56	6.70	6.85	17 AUG 18	175	5.05	5.25	33.34%	52.35%	-.44
	33.64%	60.87%	.42	4.30	4.50	17 AUG 18	180	7.70	7.95	33.09%	39.00%	-.58
	33.79%	66.92%	.36	3.45	3.60	17 AUG 18	182.5	9.25	9.55	32.90%	32.73%	-.64
	33.76%	72.53%	.30	2.70	2.83	17 AUG 18	185	10.95	11.30	32.69%	26.91%	-.71
	33.81%	77.52%	.25	2.10	2.20	17 AUG 18	187.5	12.85	13.20	32.72%	21.81%	-.76
	33.61%	82.05%	.20	1.60	1.64	17 AUG 18	190	14.85	15.25	32.79%	17.41%	-.81

Elevated implied vol



35.45% (± 12.37)

Backtrades	P/L Date: 07/26/2018										
Spread	Side	Qty	Symbol	Exp	Strike	Type	Trade Date	Price	Delta	Theta	P/L Open
FB											
STRADDLE	SELL	-10	FB	17 AUG 18	175	CALL	07/26/20	11.925	-112.26	255.76	\$0.00
	SELL	-10	FB	17 AUG 18	175	PUT		CREDIT			

August 14, 2018 Trading Day

FB FACEBOOK INC COM CL A 181.11 +1.06 +0.59% ETB ± 1.035 Company Profile 08/14/2018

Underlying

Last	Net Chng	Volume	Open	High	Low
181.11	+1.06	19,101,995	180.71	181.99	178.62

Vol crush

Option Chain Filter: Off Spread: Single Layout: Impl Vol, Probability OTM, Delta

CALLS							PUTS						
Impl Vol	Prob.OTM	Delta	Bid	Ask	Exp	Strike	Bid	Ask	Impl Vol	Prob.OTM	Delta		
17 AUG 18 (3) 100							172.5	.08	.10	27.33%	95.51%	-0.04	24.88% (± 3.447)
28.02%	4.91%	.95	8.65	8.85	17 AUG 18	175	.17	.18	24.07%	91.28%	-.08		
24.13%	8.77%	.92	6.25	6.40	17 AUG 18	177.5	.38	.39	21.16%	81.80%	-.18		
21.99%	19.13%	.81	4.00	4.15	17 AUG 18	180	.99	1.04	20.18%	61.45%	-.38		
20.40%	38.68%	.62	2.16	2.20	17 AUG 18	182.5	2.25	2.31	19.88%	35.67%	-.64		
20.11%	64.19%	.37	.92	.97	17 AUG 18	185	4.10	4.25	20.10%	15.62%	-.84		
20.62%	83.78%	.17	.34	.35	17 AUG 18	187.5	6.40	6.60	22.79%	7.26%	-.92		
21.99%	93.43%	.07	.12	.13	17 AUG 18	190	8.80	9.00	24.59%	3.10%	-.95		
24.26%	97.07%	.03	.05	.06	17 AUG 18	192.5	11.30	11.50	31.15%	3.00%	-.95		
27.03%	98.47%	.02	.02	.04	17 AUG 18	195					-.95		
29.10%	99.25%	.01	.01	.02	17 AUG 18	197.5					-.95		

Profits on the short straddle

Spread	Side	Qty	Symbol	Exp	Strike	Type	Trade Date	Price	Delta	Theta	P/L	Open
STRADDLE	SELL	-10	FB	17 AUG 18	175	CALL	07/26/20	11.925	-832.98	186.91	\$5,425.00	
	SELL	-10	FB	17 AUG 18	175	PUT		CREDIT				

Sizing Fade The Fear

- Largely dependent on what else is going on in the portfolio
- Bad losers are usually 1x the size of a straddle but could be more in extreme scenarios
- Conservative sizing = Sell 100-200 bps worth of premium
- Aggressive sizing = Sell 200-500 bps worth of premium

Expanding The Playbook

- The best way to find new option trading ideas is to check out the white papers on the Social Science Research Network (SSRN)
- Academia puts out a lot of great starter research
- You can take those ideas and run with them and see if they can actually be executed in real life and profitable after transaction costs

Here's A List To Get You Started

- [**Understanding and Trading The Term Structure of Volatility**](#)
- [Cross-Section of Option Returns and Idiosyncratic Stock Volatility](#)
- [Option Return Predictability](#)
- [Informed Options Trading Prior to M&A Announcements: Insider Trading?](#)
- [How Do Informed Option Traders Trade? Option Trading Activity, News Releases, and Stock Return Predictability](#)
- [Informed Trading of Out-of-the-Money Options and Market Efficiency](#)
- [Cumulative Prospect Theory and the Variance Premium](#)
- [Equity Volatility Term Structures and the Cross-Section of Option Returns](#)