## **HEDGEYE**



# CRYPTO QUANT BTC TRACKER

Different Asset; Same Process

January 13th, 2021



## **MACRO**

Christian Drake

Daryl Jones

## Legal



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Please submit questions\* to

qa@hedgeye.com

<sup>\*</sup>Answered at the end of the call

# Market Data, Performance and Time Referencing



## Daily B Quant

HEDGEYE

MA	RK	ET	D#	۱T۶	۱*

Coin Supply (Mn's)

Price (last) 34,088.85 Mkt Cap (B \$'s)

\$655.46 18.598

24hr Low Last (% of 24hr Range) 24hr High 30,324 39,026

43.3%

### **PERFORMANCE**

1D	5D	1M	3M	QTD	YTD	vs. 52	2-Wk
% Chg	% Chg	% Chg	% Chg	% Chg	% Chg	High	Low
3.7%	-5.1%	77.6%	198.1%	17.6%	17.6%	-16.1%	799.3%

### RELATIVE PERFORMANCE

	1D	5D	1M	ЗМ	QTD	YTD
	% Chg	% Chg	% Chg	% Chg	% Chg	% Chg
vs SPX	3.6%	-7.1%	73.8%	189.9%	16.4%	16.4%
vs GOLD	3.7%	-1.8%	76.1%	200.1%	19.9%	19.9%
vs. \$USD	3.5%	-6.0%	78.3%	201.6%	17.2%	17.2%

## **VOLUME**

### **COIN VOLUME**

D/D %	vs 1M Avg	vs 3M Avg	Y/Y (Qtrly)
-27.8%	106.5%	176.2%	-19.3%

### **\$USD VOLUME**

D/D %	vs 1M Avg	vs 3M Avg	Y/Y (Qtrly)
-18.3%	165.5%	373.5%	55.2%

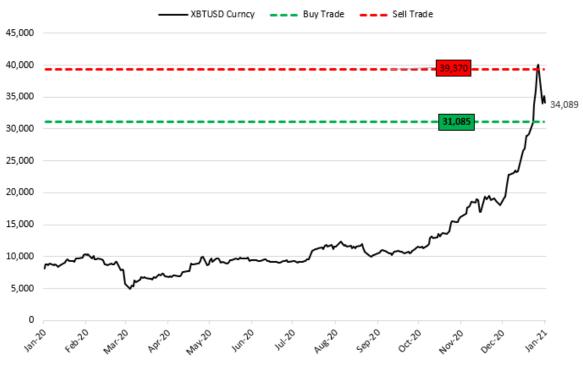
## **Numbers > Narratives**



### **HEDGEYE RISK RANGE\***

Duration	Buy Trade	Sell Trade
TRADE	31,085	39,370
TREND	BUL	LISH

## **BTC Price**



Data Source: Bloomberg

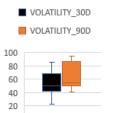
# Volatility



## **VOLATILITY (TTM)**

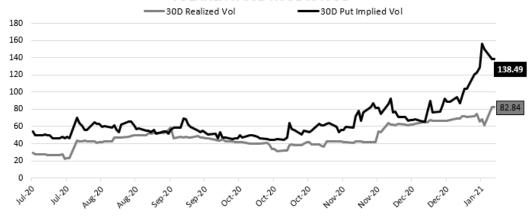
30D Realized Vol	82.8
3M Percentile	1009
1Y Percentile	889





# BTC1 (Front Month Future) 30D Realized Vol 94.31 30D Implied Vol 138.49 30D IVOL Premium 46.8% IVOL Premium 3M Percentile 83% 1Y Percentile 88%

## **VOLATILITY: 30D RVOL vs IVOL**





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## **Price & Return Correlations**

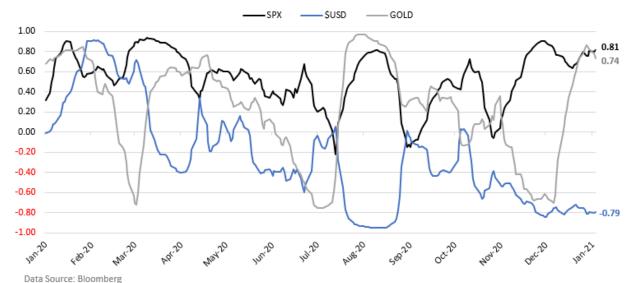
## **HEDGEYE**

### **BTC PRICE CORRELATIONS**

METRIC	15D	30D	90D	120D	High	Low
SPX	0.66	0.81	0.85	0.84	0.93	-0.22
\$USD	-0.66	-0.79	-0.89	-0.88	0.91	-0.95
GOLD	0.48	0.74	-0.20	-0.37	0.97	-0.75
10Y Breakeven	0.90	0.94	0.91	0.89	0.95	-0.82
VIX	0.37	0.47	-0.46	-0.34	0.77	-0.94

## **BTC: Rolling 30D Price Correlations**

1Y Rolling 30D Correlation



## RETURN CORRELATIONS, 1-Day % Chg

	MACRO-CRYPTO CORRELATION MATRIX										
	1-MONTH										
	BTC	SPX	VIX	\$USD	GOLD	10Y TIPS	ETH	XRP	Litecoin	BTC Cash	
ВТС	BTC	0.47	-0.35	-0.36	0.17	0.34	0.62	0.38	0.79	0.35	
SPX	0.47	SPX	-0.77	-0.03	-0.37	0.21	-0.17	0.40	0.02	-0.19	
VIX	-0.35	-0.77	VIX	0.05	0.26	-0.19	0.21	-0.29	-0.09	0.40	
\$USD	-0.36	-0.03	0.05	\$USD	-0.54	-0.19	-0.17	0.02	-0.34	-0.07	
GOLD	0.17	-0.37	0.26	-0.54	GOLD	0.36	0.43	0.04	0.36	0.30	
10Y TIPS	0.34	0.21	-0.19	-0.19	0.36	TIPS	0.37	0.24	0.25	0.17	
ETH	0.62	-0.17	0.21	-0.17	0.43	0.37	ETH	0.15	0.76	0.75	
XRP	0.38	0.40	-0.29	0.02	0.04	0.24	0.15	XRP	0.41	0.29	
Litecoin	0.79	0.02	-0.09	-0.34	0.36	0.25	0.76	0.41	Litecoin	0.50	
BTC Cash	0.35	-0.19	0.40	-0.07	0.30	0.17	0.75	0.29	0.50	BTC Cash	

	3-MONTH									
	BTC	SPX	VIX	\$USD	GOLD	10Y TIPS	ETH	XRP	Litecoin	BTC Cash
ВТС	BTC	0.15	-0.23	-0.27	0.14	0.09	0.65	0.26	0.81	0.50
SPX	0.15	SPX	-0.78	-0.24	0.02	0.19	-0.01	0.16	0.05	-0.03
VIX	-0.23	-0.78	VIX	0.22	-0.04	-0.06	-0.02	-0.22	-0.14	0.07
\$USD	-0.27	-0.24	0.22	\$USD	-0.53	-0.03	-0.07	0.03	-0.23	0.04
GOLD	0.14	0.02	-0.04	-0.53	GOLD	-0.06	0.11	-0.16	0.16	-0.10
10Y TIPS	0.09	0.19	-0.06	-0.03	-0.06	TIPS	0.15	0.12	0.08	0.20
ETH	0.65	-0.01	-0.02	-0.07	0.11	0.15	ETH	0.39	0.74	0.77
XRP	0.26	0.16	-0.22	0.03	-0.16	0.12	0.39	XRP	0.37	0.55
Litecoin	0.81	0.05	-0.14	-0.23	0.16	0.08	0.74	0.37	Litecoin	0.61
BTC Cash	0.50	-0.03	0.07	0.04	-0.10	0.20	0.77	0.55	0.61	<b>BTC Cash</b>

# **Spec Positioning**

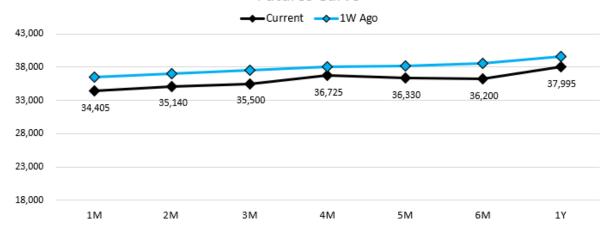


CME FUTURES NET LONG PO		1Y					
METRIC	Latest	W/W Chg	3M Ave	1Y Ave	Max	Min	Z-Score
Total Open Interest	12,255	885	12,909	9,415	15,501	3,976	0.8X
Non-Commercial Net Long	(2,985)	(152)	(2,918)	(2,112)	(705)	(3,690)	-1.1X
Leveraged Funds Net Long	(5,514)	(727)	(4,269)	(2,363)	(632)	(5,963)	-2.4X
Asst Mgr Net Long	761	173	691	254	254	(364)	1.5X

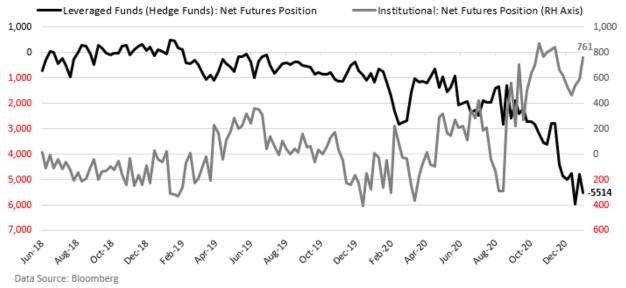
### **Futures Curve**

	<u>1M</u>	<u>2M</u>	<u>3M</u>	<u>4M</u>	<u>5M</u>	<u>6M</u>	<u>1Y</u>
Current	34,405	35,140	35,500	36,725	36,330	36,200	37,995
1W Ago	36,565	37,055	37,545	38,000	38,245	38,605	39,655
1W Chg	(2.160)	(1.915)	(2.045)	(1.275)	(1.915)	(2.405)	(1.660)

## **Futures Curve**



## SPECULATIVE FUTURES POSITIONING



Data Source: Bloomberg © Hedgeye Risk Management LLC.

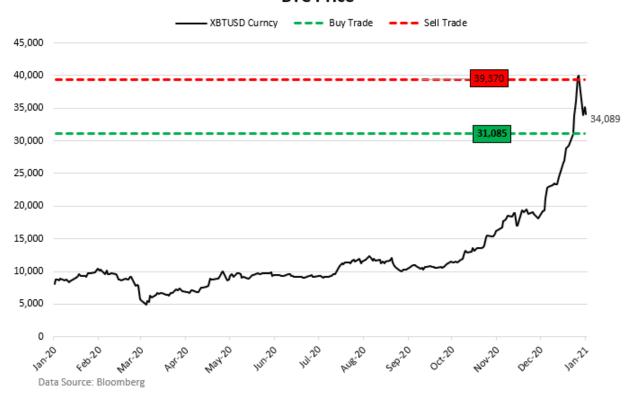
# Risk Managing The Range

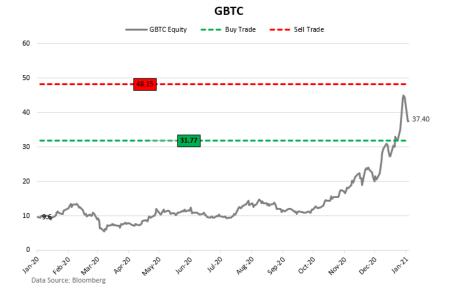
## HEDGEYE

## DIRECT & DERIVATIVE EXPOSURES: RISK RANGE & TREND SIGNAL

TICKER	Price	Buy Trade	Sell Trade	TREND SIGNAL
ВТС	34,089	31,085	39,370	BULLISH
GBTC	37.4	31.77	48.15	BULLISH
MSTR	495.49	464	579	BULLISH

## **BTC Price**





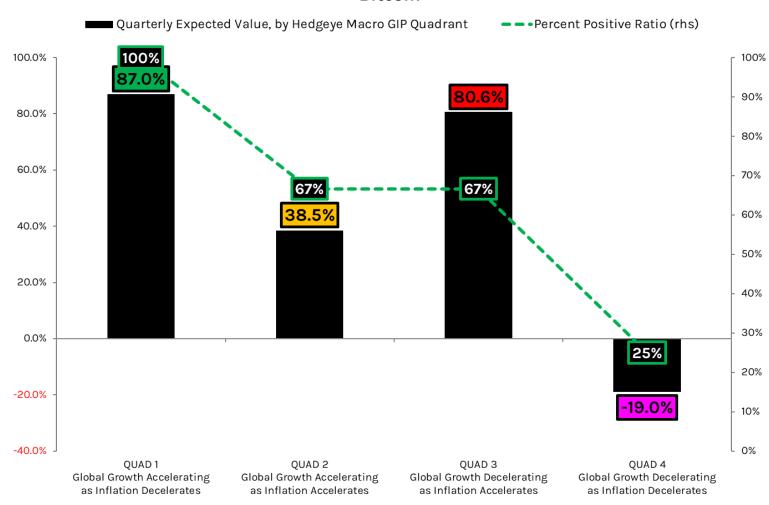


## **BTC: QUAD QUANT**



10





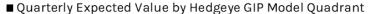
Data Source: Bloomberg. Asset classes include equities, fixed income, currencies and commodities. Quarterly observations starting in 1Q17.

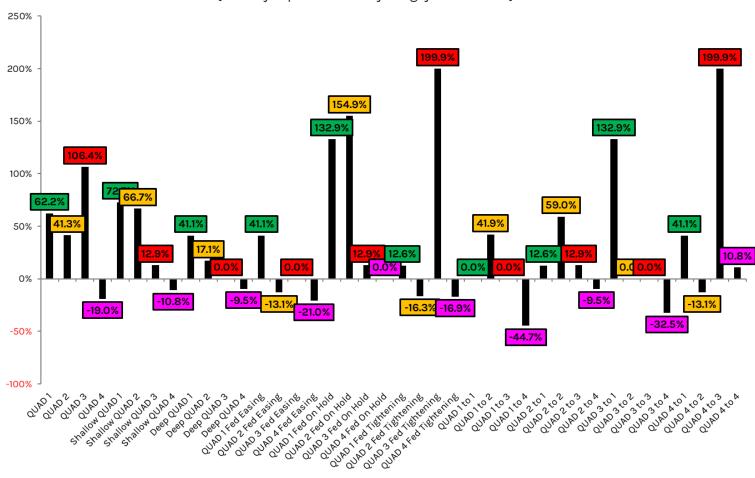
Data Source: Bloomberg © Hedgeye Risk Management LLC.

# **Conditional Factoring**



## **Bitcoin**





Data Source: Bloomberg. Asset classes include equities, fixed income, currencies and commodities. Quarterly observations starting in 1Q17.

# Quarterly Expected Values By GIP Model Quad Regime



																																			_						
Hedgeye Macro US GIP Model Backtest		EV by Q	uadran	t		Shallo	w GDP Δ	PΔ Deep GDP Δ					F	ed Easing		Fed On Hold					ed Tight	ening		Qua	ad 1 Prior	r		Quad 2	Prior	Quad 3 Prior					Quad 4 Prior				Global Quad		
Exposure	1	2	3	4	- 1	2	3	4	- 1	2	3	1	1	2 3	4	- 1	2	3	4	1	2	3	4 1	1 12	13	14	21	22	23	24	31 3	2 33	34	41	42	43	44	1	2 3	4	
S&P 500 INDEX (SPY)	6.8%	2.4%	1.0%	-1.4%	2.8%	0.7%	4.3%	6.9%	5.9%	1.2% -2	23% -10	.9% 9.	.1% 6.	2% 1.2%	-3.8%	3.7%	-0.4%	-0.8% -0	.2% 6.3	7% 2	2.9%	3.8% 0	.9% 15.1	1% 2.39	% 1.8%	-1.7%	3.7%	2.3%	4.0% -	19.6%	3.6% 0.7	% -2.09	% -1.1%	7.9%	6.5%	4.7%	1.2%	4.6% 2.6	6% 3.7%	-0.9%	
Communication Services (XLC)	7.0%	-2.2%	0.7%	0.1%	4.9%	-4.0%	6.1%	7.7%	2.9%	-4.8% -	5.1% -9.	8% 10.	.0% 2.	3% 2.6%	-2.6%	2.0%	-5.2%	-2.2% 3	.5% 7.9	9% -	1.8%	3.2% 1.	.0% 17.1	1% -2.3	% 0.5%	1.1%	5.0%	-3.0%	5.4% -	17.0%	4.0% -2.4	1% -1.69	6 1.9%	6.8%	1.7%	2.7%	-0.3%	1.7% 2.0	0% 2.5%	0.2%	
Consumer Cyclical (XLY)	8.4%	2.9%	1.1%	-0.3%	2.4%	0.4%	3.7%	7.4%	9.9%	2.1%	.6% -9.	.1% 10.	.8% 7.	1% -0.2%	-1.5%	5.9%	-0.9%	1.3% -0	.3% 7.3	3% 4	4.6%	2.5% 1	.2% 20.2	2% 3.99	% 2.6%	-2.0%	2.7%	5.1%	0.4%	19.3%	2.4% -2.5	-1.19	-1.3%	11.7%	3.7%	4.4%	4.8%	5.8% 2.	1% 5.2%	-0.1%	
Consumer Non-Cyclical (XLP)	4.9%	1.0%	0.8%	1.8%	-0.2%	-2.9%	1.2%	9.6%	3.9%	4.3% 1	3% -1.	5% 6.	2% 4.	0% 1.1%	-0.3%	3.4%	-1.1%	0.9% 8	.0% 4.3	7% 1	1.3% (	0.2% 0	.0% 12.8	3% 2.29	% 0.7%	2.2%	3.5%	-0.5%	-1.9%	12.7%	1.2% 2.1	% 0.79	4.3%	5.3%	0.4%	3.8%	0.8%	2.2% 0.	5% 4.3%	1.6%	
Energy (XLE)	6.3%	1.7%	1.8%	-3.8%	2.2%		6.9%	6.4%	7.2%	-2.5% -	5.5% -16			8% 5.9%	-9.8%	2.8%	1.7%			0% -	-1.6%	6.7% -0	0.4% 5.9	-0.9	% 3.7%	-6.7%	2.1%	0.3%	2.8%		6.4% 7.2	% -2.09			3.9%		0.8%		5% 4.1%	-3.1%	
Financials (XLF)	6.2%	1.9%	0.1%	-1.4%	0.2%	-0.8%	0.5%	6.7%	5.7%	-0.2%		_	_	7% -2.4%	-6.2%	3.4%	2.7%		-	8%	-1.5%	3.1% 2	2.2% 16.2	2% 1.09	6 1.7%		1.9%	4.1%	9.0% -		1.1% -3.4	1% -5.79	-0.3%		7.5%	3.6%	1.2%	6.1% 2.	1% 1.1%		
Health Care (XLV)	6.3%	2.1%	0.8%		5.8%	-4.0%	3.0%	4.9%	4.2%		).6% -3.		0,0 7.	6% 1.7%	-1.7%	4.0%							0.2% 10.9	0.0			4.6%	-0.4%			5.2% 5.7				7.7%	2.7%	-0.6%		2% 3.2%		
Industrials (XLI)	7.2%	2.7%	1.1%	-1.8%	2.0%			7.0%	4.8%					4% 1.2%	-3.8%	3.5%			-		_		0.1% 14.6				5.2%	1.9%			4.2% 1.9				4.8%		2.0%		1% 3.8%		
Information Technology (XLK)	9.0%	5.0%	_	-2.6%	5.1%	7.3%	9.1%	6.3%	7.6%					0% 2.1%	-4.1%	3.7%		0.6%					28% 23.	2% 3.85			5.6%	4.8%			4.5% 3.2	_		9.1%	13.6%		4.5%		6% 5.7%	-1.5%	
Materials (XLB)	7.3%	2.2%	0.6%	-0.5%	1.0%	_	6.3%	3.3%	9.5%	01011		_	_	5% 4.7%	-5.4%	6.5%	1.2%		_	3% -			2.5% 10.8			-5.9%	4.0%	0.1%			3.8% -2.6	-2.9			5.0%		4.3%		7% 3.3%		
REITS (XLRE)	4.0% 3.5%	-0.1%	0.2%	0.9%	-0./%	-2.7%	0.7%	10.0%	5.8%	4.3%		_	_	9% 0.3%	-3.8%	2.9%	-2.1%		_	4% -			3.4% 5.9		_	6.3%	-0.6%	-1.1%			1.5% -1.5	0.79	_		-1.6%	2.3%	2.2%	5.2% -0.	.1% 1.7%		
Utilities (XLU)		-1.5%	4.0%	1.3%	3.6%	-6.0%	5.0%	9.6%	0.6%	0.1%	.1% -6.		-	5% 3.1%	-2.5%	2.8%	-5.3%	-		8% (	0.470	0.070	3.2% 4.4		% 1.8%	7.1%	1.2%	-4.3%			8.4% 2.0	_			-2.6%	5.4%	-3.4%		2.2%	2.9%	
Growth (IWF)	7.4%	3.8%	1.2%	-2.2%	3.4%		4.8%	7.0%	7.1%		3.7% -12			1.8%	-4.2%	3.7%		-0.7% -4					.8% 18.1	1% 3.49	_		4.0%	4.4%			3.3% 1.4	_		8.4%	7.6%	4.9%	1.7%		1% 4.7%	-1.5%	
Value (IWD) Cyclicals (RSP)	6.4% 8.0%	1.1% 3.1%	1.0%	-0.7% -2.8%	2.0%	-1.3% 2.1%	3.8%	7.2% 6.7%	5.3% 8.1%		_			5% 1.2% 8% 2.3%	-3.9% -6.0%	3.9%	-0.2% -0.1%	-1.2% 3 -1.9% -3		6% - 6 7% 3			0.7% 12.6 .8% 18.8	6% 1.7% 8% 2.5%			3.1%	0.5% 4.0%			4.0% -1.1 3.9% -1.1	% -2.35		7.9% 9.8%	5.4%	4.7% 5.2%	1.0%		3% 2.8% 4% 3.8%		
Defensives (DEF)	6.0%	2.0%	1.0%	-0.1%	3.2%	-0.3%		7.5%	4.7%					0% 0.7%	-6.0%	3.6%				_			0.9% 12.6				3.3%	1.2%				% -0.9	-1.170		9.7%	4.5%	1.9%		4% 3.8% 1% 3.7%		
High Beta (SPHB)	9.6%	3.3%	1.0%	-4.0%	1.3%	1.9%	7.7%	6.5%	8.5%		2.9% -20		2% D	0% 2.7%	-7.6%	2.8%	-1.1%	-3.3%		_	_	-	2.6% 19.8	267	% 2.8%		3.2%	5.2%	121%		6.3% 0.9		-7.99	6.7%	12.8%	8.3%	5.7%		6% 3.2%		
Low Beta (SPLV)	4.5%	0.9%	1.6%	2.2%	2.3%		2.9%	9.4%	4.0%				8% 4.	0% 0.7%	0.0%	4.4%	-0.8%	1.1% 6	_	_			.9% 8.0	0% 3.49		6 2.8%	2.7%	-0.8%	3.7% -		3.6% 0.9		4.0%		-0.5%		2.8%		6% 3.4%		
Momentum (MTUM)	8.1%	4.0%	1.7%	-3.0%	3.9%	5.7%	5.5%	8.1%	7.9%					9% 1.5%	-5.1%	5.3%		-0.4%					0.3% 19.5	5% 4.29			4.6%	5.9%			5.0% 0.4			6 8.4%	3.7%	6.3%	-1.3%	5.2% 3.3		-1.3%	
Quality (QUAL)	7.3%	2.9%	1.4%	0.0%	4.2%	-0.3%		8.0%	6.5%			_	_	5% 2.0%	-2.0%	4.3%			_	_	_		1.1% 14.9	_	_	_	4.8%	2.0%		_	5.3% 3.7	_	_		5.7%		3.2%		1% 4.2%		
Dividend Yield (SDY)	6.8%	1.3%	0.8%	1.7%	2.2%	-1.9%	2.5%	8.0%	6.2%		_	_	_	8% 0.5%	-0.4%	4.7%			_	8% -	0.5%	2.4% 1.	.3% 13.3	_	_	0.6%	3.4%	0.4%	1.5% -		4.0% -1.0	_			3.4%		3.7%		7% 4.2%	1.0%	
Size (OEF)	6.9%	2.7%	1.1%	-1.7%	3.0%	1.5%	4.3%	6.2%	5.3%			_	_	0% 0.7%	-3.8%	3.3%			_	_		_	0.0% 15.5	5% 2.09	_		4.1%	2.8%			3.4% 1.3	_	_	_	7.0%	_	0.6%		5% 4.0%	-1.2%	
Secular Growth (QQQ)	7.8%	5.6%	2.6%	-2.7%	6.6%	9.6%	8.7%	5.6%	8.0%		.3% -13	_	.6% 9.	0% 2.2%	-4.4%	1.2%		-0.4%		_	_	7.5% 2	2.7% 18.2	2% 3.29	_		6.0%	8.1%	_		5.1% 1.8	_		7.8%	11.8%		3.0%		7% 5.1%	-2.9%	
Mid-Caps (MDY)	7.5%	2.9%	1.7%	-0.9%	0.8%	1.4%	4.5%	8.2%	8.9%	1.5% C	.9% -11.	.5% 9.3	3% 6.		-3.5%	5.1%	1.0%	-2.1% -0		_	2.3%	6.4% 1.	.8% 18.3	3% 3.19	_	-1.3%	1.8%	3.8%	8.7% -	29.7%	3.5% -0.4	1% -1.69	6 -1.5%	9.8%	5.6%	5.3%	4.1%		7% 4.2%	-0.8%	
Small-Caps (IWM)	6.8%	3.5%	0.5%	-1.2%	0.0%	3.7%	4.1%	7.7%	8.5%	0.5% -	.2% -12	.3% 8.	1% 7.	0% 2.0%	-3.2%	4.9%	1.3%	-3.5% C	.0% 6.	9% 3	3.5%	5.6% 0	.4% 13.3	3% 4.29	% 0.2%	-0.7%	1.1%	3.7%	4.2% -	30.6%	3.2% -0.9	9% -2.2	% -2.6%	6 10.5%	9.5%	5.3%	4.1%	5.6% 3.3	3% 3.7%	-1.8%	
BARCLAYS AGG (AGG)	1.2%	0.7%	0.9%	2.3%	1.7%	1.1%	0.0%	1.9%	1.5%	1.5% 1	.2% 3.	1% 1.5	5% 1.0	0% 1.0%	2.2%	1.4%	0.8%	1.2% 3	.0% 0.	5% (	0.2%	0.3% 1	.9% 1.0	% 1.09	6 0.6%	2.2%	1.1%	0.3%	1.9%	3.1%	1.8% 1.0	% 1.0%	2.6%	1.1%	0.3%	0.2%	1.9%	1.3% 0	7% 0.7%	2.1%	
Leveraged Loans (BKLN)	2.3%	1.7%	0.6%	0.6%	1.6%	1.2%	1.6%	2.1%	3.0%	2.3% -0	.4% -8.	5% 2.	8% 2	6% 1.0%	-3.2%	1.3%	1.2%	-0.3% 1	.5% 2.0	6%	1.6%	1.5% 4	.8% 2.7	% 2.09	% 1.3%	-0.2%	0.5%	1.5%	1.2% -	13.0%	1.7% 1.2	% -0.69	% -1.5%	3.7%	2.4%	1.6%	5.5%	3.3% 1.6	6% 0.3%	0.1%	
BDCs (BIZD)	6.3%	4.8%	-1.3%	-0.3%	5.6%	3.8%	-3.4%	8.7%	10.8%	10.6% -0	.2% -42	.2% 8.	.1% 9.	3% -3.0%	-15.4%	1.3%	1.7%	-1.0% 5	.4% 7.4	4% 2	2.4% 2	2.3% 9	0.5% 13.9	9% 3.89	% -0.5%	-0.2%	-2.0%	6.7%	7.1%	44.8%	2.1% 0.6	% -4.2	% -2.0%	11.7%	6.1%	4.2%	18.1%	12.2% 4.0	0.4%	-4.4%	
Preferreds (PFF)	1.9%	2.2%	-0.3%	-0.5%	1.6%	3.2%	1.3%	1.8%	3.0%	3.6% -	2.2% -17	.1% 3.	.1% 1.	4% 0.7%	-6.1%	0.4%	2.0%	-1.2% 2	4% 1.7	7% 4	4.0% -	0.3%	.7% 3.3	3.3	% -0.1%	-0.6%	0.8%	1.6%	4.6% -	22.8%	2.0% -0.8	3% -1.49	6 0.0%	2.5%	4.3%	-0.1%	5.7%	2.8% 0.6	6% 1.0%	-1.4%	
IG Credit (LQD)	2.0%	0.8%	0.7%	2.5%	2.3%	1.2%	0.1%	2.7%	2.7%	1.9%	.4% 1.3	3% 2.	6% 1.	6% 1.1%	1.7%	1.6%	0.9%	0.7% 3	.4% 1.5	5% 0	0.0%	0.1% 2	2.9% 2.4	1% 1.29	6 0.5%	2.2%	1.3%	0.3%	2.2%	-3.1%	2.3% 0.9	% 0.49	2.9%	2.2%	1.1%	0.3%	3.1%	2.3% 0.9	9% 0.5%	2.0%	
HY Credit (HYG)	3.4%	1.5%	0.8%	1.3%	1.7%	0.3%	2.1%	3.5%	4.3%	2.7% -(	).7% -9.	5% 3.	9% 3.	6% 2.1%	-2.4%	2.8%	0.4%	-0.2% 1	.7% 3.	4% 1	1.0% (	0.8% 5	5.7% 4.7	% 1.99	4 1.6%	0.3%	1.7%	0.8%	1.9%	12.7%	2.5% 0.6	-0.69	% -0.5%	4.7%	4.1%	1.8%	6.0%	3.6% 2.	2% 0.5%	0.7%	
Convertibles (CWB)	5.6%	5.2%	0.0%	0.4%	4.1%	5.8%	3.0%	5.7%	8.2%	6.7% -2	2.5% -16	.4% 7.9	9% 6.	3% 1.7%	-5.0%	2.9%	3.6%	-3.3%	8% 4.	9% (	6.6%	2.6% 3	3.4% 10.0	0% 7.09	% 2.2%	-1.5%	1.7%	2.9%	5.8%	13.4%	3.7% 4.5	% -3.9	-0.9%	8.9%	7.3%	3.4%	11.0%	5.9% 3.5	5% 1.3%		
EM USD Debt (EMB)	3.2%	1.2%	1.9%	1.8%	-1.3%	2.4%	3.7%	2.1%	4.9%	2.2%	.7% -3.	3% 2.	5% 3.	0% 2.8%	-2.1%	3.5%	-0.2%	1.0% 3	.4% 3.	8%	1.7%	2.6% 5	5.6% 8.4	0.95	% 0.8%	1.7%	1.7%	1.2%	7.0%	-9.5%	0.8% 1.1	% 1.0%	1.7%	4.6%	2.6%	2.0%	3.5%	4.4% 2.4	4% 1.7%	0.5%	
EM Local Currency Debt (EMLC)	1.6%	1.4%	0.7%	-0.5%	2.2%	3.0%	5.6%	0.7%	1.2%	3.8% -	2.4% -6.	6% 0.	5% 3.	9% 2.7%	-3.5%	-1.4%	0.1%	-1.0% 0	.5% 5.	6% -	-1.2%	3.4% 2	2.6% 8.7	7% 2.55	% 1.3%	-0.9%	-2.1%	-1.2%	6.8%	-7.6%	1.6% 5.4	% -0.8	% -0.9%	1.8%	3.6%	3.4%	2.7%	3.8% 2.4	4% 0.2%	-1.4%	
1-3yr Treasurys (SHY)	0.6%	0.6%	0.7%	1.2%	0.9%	0.9%	0.1%	0.7%	0.3%		0% 23			4% 0.7%	1.6%	0.6%			-	2% (	_		0.7% 0.4				0.7%	0.4%			0.8% 1.0		_		0.2%	0.1%	1.3%	0.6% 0.	6% 0.6%	1.2%	
5-10yr Treasurys (IEF)	1.1%	0.5%	1.1%	2.9%	2.0%	1.0%	-0.8%	2.1%	1.1%		.9% 6.			3% 1.1%	3.5%	1.5%	0.9%		.0% 0.	.1% (	0.0% -	0.1% 1.	.3% 0.8	3% 0.75	% 0.3%	3.5%	1.4%	0.4%			2.4% 0.9		_		-0.6%		0.6%	0.7% 0.	4% 0.9%		
10-20yr Treasurys (TLT)	1.3%	0.1%	1.4%	4.1%	1.8%	0.9%	-1.0%	3.3%	1.3%		.4% 8.5	_	7% -0	.5% 0.9%	4.9%	2.0%	0.8%		.9% -0.	.3% -	0.5%		.9% 0.4	0.03	% 0.1%	5.7%	1.7%	0.2%	2.7%		3.2% 0.7		_		-1.8%		0.0%	0.9% 0.	3% 1.0%		
25+ Year Treasurys (EDV)	1.4%	-0.6%	1.8%	5.6%	2.1%	0.6%	-1.6%	4.1%	1.4%		.3% 15.		0% -2	0.8%	8.2%	3.1%	0.5%		.1% -1.	.5% -		-	0.6% -1.0		% -0.9%	8.2%	2.7%	-0.2%	3.3%		4.5% 0.6		8.6%		-2.3%	-0.4%	-2.1%	0.9% -0.	.2% 1.5%		
0-5yr TIPS (STIP)	0.5%	0.8%	1.1%	0.6%	0.1%	0.4%	0.7%	1.4%	1.0%		.1% -3.	_		2% 1.6%	-1.3%	0.1%			_		_		.6% 1.1			_	0.3%	0.3%			0.4% 1.1	_			0.7%		2.7%		9% 0.8%		
5-10yr TIPS (TIP)	0.8%	1.5%	1.5%	1.7%	0.0%	2.1%		2.4%	2.4%		_		_	2.3%	-0.5%	1.2%	1.5%						2.3% 2.2	-	_		0.5%	1.0%		_	1.1% 1.7	_			0.8%		3.3%	1.6% 0.9	9% 1.3%		
MBS (MBB)	0.9%	0.8%	1.0%	2.0%	1.2%	1.3%	0.5%	1.4%	1.2%					3% 1.2%	2.0%	1.4%	0.7%		.3% 0.3	3% (	0.5% (		.8% 0.7 2.6% 1.9				1.0%	0.3%			1.0% 1.3 1.9% 0.8	_			0.7%	0.5%	1.9%	1.1% 0.	7% 0.9% 4% 0.7%		
Munis (MUB)	2.2%	0.6%	1.9%	1.9%	1.7%	0.6%	0.4%	1.6%	1.6% 4.0%		.9% 1.3	-	79/	7% 0.6% 4% 1.8%	0.9%	1.4%	0.7%		.8% 1.3 .7% 2.5	5% (	0.2% (		2.6% 1.9	_	% 0.4%	1.9%	1.1%	0.3%	1.7%	_	1.9% 0.8 1.8% 1.5	_	6 2.2% 6 2.0%		0.2%	0.2% 4.5%	2.0%	3.8% 0.	4% 0.7% 5% 1.5%		
Taxable Munis (BAB)  CRB Index (DBC)	1.2%	4.4%	1.9%	-4.2%	0.0%	3.7%		4.5%	4.0%		1.5% -17.		69/ 3	1.8% 6% 7.3%	-12.4%	0.2%	3.4%			0,0	6.4% 3			4% 5.35	% 0.3% % 5.0%	-6.0%	-0.2%	3.1%	4.3% -:	_	2.1% 6.5			2.0%	2.0%	1.6%	-0.8%		1% 0.9%		
CRB Index (DBC) CRB Raw Index	1.3%	3.3%	-0.29/	-4.2%	-0.1%	3.7%	-0.79	1.19/	1.8%			0% -0.	_	7% 2.3%	-12.4%	1.4%	3.4%		_	_	2.7%		.8% -0.4				-0.3%	1.5%		-7.0%	-1.1% 1.9			2.5%	2.0%	-2.8%	1.4%		7% -0.3%	-4.1%	
CRB Foodstuffs Index (DBA)	-0.3%	2.4%	1.8%	-0.9%	1.9%	-3.9%	0.1%	21%	-1.7%			2% -3		2% 6.6%	-4.9%	1.4%	1.3%			_	_		0.2% 4.5			_	-2.6%	1.2%		_	0.2% 2.7	_		2.176 4 -0.694	-21%	-1.6%	2.8%	1.0% 2.			
Bloomberg Energy Index (BNO)	6.6%	11.1%	5.1%	-8.8%	4.0%	5.6%	13.6%	5.5%	21.8%	17.2%	15% -37			5% 11.4%	-24.7%	2.4%	73%		8% 12	1% 2	_		3.8% -1.7			-16.8%	-1.9%	8.4%	-1.9%		7.0% 23.	4% 0.99	_	14.7%	3.1%	6.3%	2.1%	11.4% 8.	1% 0.9%		
Bloomberg Precious Metals Index (DBP)	2.4%	4.8%	1.0%	1.4%	2.3%	5.6%	0.1%	5.9%	3.7%	8.5%	6.5% 1.1		_	6% 5.6%	-3.6%	3.4%	1.3%			4% 6		2.3% 6	6.5% 8.2			1.3%	0.4%	1.1%	6.7%	0.3% -	0.8% 7.7		_	3.7%	5.8%	-0.2%	-1.2%		2% 1.3%		
Silver (SUI)	5000	0.007	0.00	0.000	2.5%	1.00/	0.50	0.0%	10.00	0.50/	-		10/	0.0%	0.0%	5.473	1.00	100	504	201	4.000	0	0.2	0.07	0.476	0.000	0.473	0.000	0.500	01.70	7.7		4.0%	11.007	0.70	5.00	0.504	0.770 0.0	200	0.000	
Bitcoin (GBTC)	62.2%	41.3%	106.4%	-19.0%	72.7%	66.7%	12.9%	-10.8%	41.1%	17.1%	9	5% 41	.1% -13	3.1% -	-21.0%	132.9%	154,9%	12.9%	- 12	.6% -1	16.3%	99.9% -1	6.9%	41.9	% -	-44.7%	12.6%	59.0%	12.9%	-9.5% 13	32.9%	-	-32.59	<b>%</b> 41.1%	-13.1%	199,9%	10.8%	87.0% 42.	.8% 80.6%	6 -19.0%	
W. T. G.	Mar 79		0.070	-	1,0479	-	U.U.O.			7.070				170   507.70		U.U.,		har 10		-	- TO	V.E.79	V., 10 V.		-		V.E.		U.U.D.		V. V. V. I	79 100 4	7,14		W-7/2	LCT CR	U.170		1.079	V.U.	
Natural Gas (UNG)	2.2%	5.5%	5.8%	-2.9%	5.2%	-0.6%	16.6%	1.9%	7.4%	14.2% -	2.1% 0.2	2% 0.	.1% -3	.9% 12.1%	-17.6%	12.2%	3.5%	-4.7% 3	1.7% -6.	0% 1	5.9% 1	5.8%	8.7% -21.	7% 7.79	4.8%	-2.4%	10.5%	1.1%	10.9% -	25.1%	1.3% 14.1	1% -0.4	6 14.7%	5.1%	-3.3%	20.1%	-20.1%	6.2% 1.9	9% 2.1%	0.3%	
Base Metals (DBB)	3.7%	4.7%	-0.4%	-0.9%	0.4%	7.0%	2.7%	3.6%	6.0%			_	0% 7.	6% 1.3%	-10.5%	1.1%	3.5%	-4.2%	.5% 9.	4% 3	3.9%	4.1% 9	0.8% 9.2	2% 8.65	% 0.4%		-0.1%	2.1%			1.1% 4.2				3.3%	-0.4%	4.9%		3% 1.9%		
Copper (CPER)	5.1%	5.5%	0.5%	-0.1%	-2.4%	4.8%	3.4%	7.5%	9.4%	5.6%	1.7% -21	_	4% 9.	5% 2.3%	-12.5%	1.4%	5.2%		7% 10.		2.6%	7.3% 13	3.7% 8.9		% 2.5%	_	1.2%	1.7%		_	3.9% 6.3			7.0%	4.6%	-1.0%	5.9%		5% 3.9%	-2.6%	
US Dollar Index (UUP)	-0.7%	-0,6%	-0.2%	1.7%	-2.8%	-2.9%	-0.5%	2.3%	1.2%	0.3% 2	.6% 0.5	9% -1.	3% -0	.2% -1.9%	2.7%	0.7%	-1.3%	1.5%	.7% -1.	5% -	0.1% -	0.8% 1.	.0% -4.0		% -0.4%		0.5%	2.4%		2.8%	-1.6% -1.1	% 0.39	6 1.2%		-1.9%	-1.7%	1.0%	-1.0% -0	.7%0.7%	1.9%	
Gold (GLD)	2.2%	2.5%	2.3%	1.9%	1.8%		2.0%	0.8%	7.9%			4% -1.	.9% 4.	9% 5.1%	0.7%	5.4%				8% 2	2.7%	1.5% 4	1.5% 3.0				1.7%	-2.0%		3.9%	-1.2% 4.7				1.3%			3.2% 2.	4% 2.7%	1.0%	
EM FX (CEW)	0.3%	-0.7%	-0.4%	-2.1%	1.0%			-0.6%	0.2%		3.1% -6.	_		8% 1.2%		-0.1%			_	3% -			.2% 6.0		6 -0.2%	6 -1.9%	-1.6%	-2.6%			0.2% 0.3	_			0.9%	1.3%	-1.0%	0.5% 0	7% -0.9%	-2.7%	
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