



HORIZONS ETFs
by Mirae Asset

UNDERSTANDING ETFs DURING HIGHER VOLATILITY

MARK NOBLE

EXECUTIVE VICE-PRESIDENT, ETF STRATEGY
HORIZONS ETFs MANAGEMENT (CANADA) INC.
MAY 2020



ETF FLOWS REMAIN STRONG

- ETF flows in North America have remained strong during the COVID-19 crisis so far
- The pandemic has also revealed that investors may not clearly understand the mechanics of how ETFs work
- We have seen price dislocations in fixed income and commodities such as oil

Agenda:

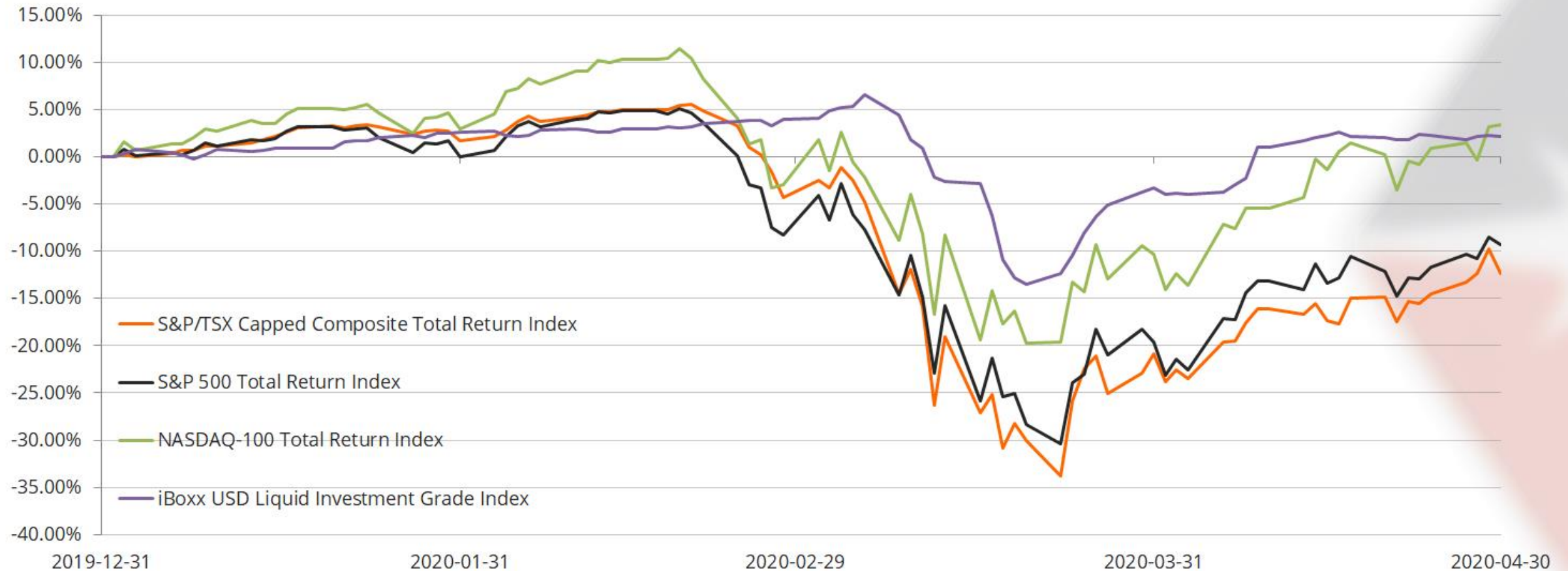
1. 2020 – Macroeconomic Backdrop
2. Index Basics
3. ETF Pricing and Mechanics
4. Examining Bond ETF Discounts
5. What Happened to Oil in April 2020?
6. Key Trading Tips for ETFs

MACROECONOMIC BACKDROP



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HISTORIC SELL-OFF (AND RALLY!)



Source: Bloomberg as at April 30, 2020

WHERE DO WE GO FROM HERE?

SCENARIOS	SUBDUED RECOVERY	RAPID RECOVERY	PROLONGED SLOWDOWN	PROTRACTED RECESSION
Probability	35%	30%	25%	10%
Money Market	0.3%	0.3%	0.3%	0.1%
Canadian Bonds	-0.5%	-3.0%	2.1%	3.4%
Canadian Equity	2.8%	15.7%	-36.1%	-51.6%
U.S. Equity	-4.2%	3.4%	-36.4%	-49.4%
International Equity	2.7%	15.1%	-30.1%	-45.6%
Emerging Market Equity	-5.2%	14.2%	-30.2%	-47.5%
Real Assets	2.0%	5.0%	0.0%	-8.0%

THE MACROECONOMIC ENVIRONMENT

SCENARIOS	APRIL 30, 2020	SUBDUED RECOVERY	RAPID RECOVERY	PROLONGED SLOWDOWN	PROTRACTED RECESSION
Probability		35%	30%	25%	10%
GDP GROWTH 2020					
Global	1.00%	-2.00%	2.00%	-3.00%	-10.00%
Canada	2.10%	-4.00%	-1.00%	-5.00%	-10.00%
U.S.	0.30%	-2.00%	0.00%	-4.00%	-10.00%
GDP GROWTH 2021					
Global	1.00%	2.50%	4.50%	1.00%	-5.00%
Canada	2.10%	2.00%	4.00%	0.00%	-5.00%
U.S.	0.30%	2.00%	4.00%	0.00%	-5.00%

THE MACROECONOMIC ENVIRONMENT

SCENARIOS	APRIL 30, 2020	SUBDUED RECOVERY	RAPID RECOVERY	PROLONGED SLOWDOWN	PROTRACTED RECESSION
Probability		35%	30%	25%	10%
P/E (FORWARD 12 MONTHS)					
Canada	18.1X	19.0X	19.0X	14.0X	13.0X
U.S.	20.2X	20.0X	21.0X	16.0X	15.0X
EAFE	9.9X	18.0X	19.0X	14.0X	13.0X
EM	13.6X	16.0X	17.0X	13.0X	12.0X
COMMODITIES					
Oil (WTI, USD/barrel)	18.84	30.00	35.00	20.00	15.00

THE MACROECONOMIC ENVIRONMENT

SCENARIOS	APRIL 30, 2020	SUBDUED RECOVERY	RAPID RECOVERY	PROLONGED SLOWDOWN	PROTRACTED RECESSION
Probability		35%	30%	25%	10%
INFLATION (HEADLINE Y/Y)					
Canada	0.90%	0.00%	1.00%	-1.00%	-2.00%
U.S.	1.50%	0.00%	1.00%	-1.00%	-2.00%
SHORT TERM RATES					
Bank of Canada	0.25%	0.25%	0.25%	0.25%	0.00%
Federal Reserve	0.25%	0.25%	0.25%	0.25%	0.00%
10-YEAR RATES					
Canada Government	0.55%	0.90%	1.25%	0.50%	0.30%
U.S. Government	0.64%	1.00%	1.40%	0.60%	0.40%

Source: Fiera Capital as at April 30, 2020

ETF INVESTOR ACTIVITY

U.S. ETF Flows (Year-To-Date)

	Net Flows (\$,mm)	AUM (\$,mm)	% of AUM
U.S. Equity	56,782.26	2,305,654.49	2.46%
International Equity	-8,439.55	733,306.28	-1.15%
U.S. Fixed Income	33,389.89	802,281.04	4.16%
International Fixed Income	-691.28	84,294.27	-0.82%
Commodities ETFs	22,648.31	104,117.41	21.75%
Currency	1,005.03	2,316.29	43.39%
Leveraged	8,110.02	33,442.70	24.25%
Inverse	9,918.27	17,729.91	55.94%
Asset Allocation	59.96	9,123.53	0.66%
Alternatives	-1,684.86	4,271.58	-39.44%
Total:	121,098.05	4,096,537.51	2.96%

ETF INVESTOR ACTIVITY

Ticker	Fund Name	Net Flows*
VOO	Vanguard S&P 500 ETF	15,418.83
BIL	SPDR Bloomberg Barclays 1-3 Month T-Bill ETF	10,362.29
VTI	Vanguard Total Stock Market ETF	9,817.99
LQD	iShares iBoxx USD Investment Grade Corporate Bond ETF	9,458.90
GLD	SPDR Gold Trust	8,676.61
QQQ	Invesco QQQ Trust	8,227.18
USO	United States Oil Fund LP	6,532.92
ESGU	iShares ESG MSCI U.S.A. ETF	5,388.77
SHY	iShares 1-3 Year Treasury Bond ETF	5,299.93
XLV	Health Care Select Sector SPDR Fund	4,833.06

Source: ETF.com as at April 30, 2020.

WHAT'S IN AN INDEX?



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IS THE NASDAQ-100 THE NEW DOW?

	NASDAQ-100 Company	Symbol	Weight %	DJIA Company	Symbol	Weight %	S&P 500 Company	Symbol	Weight %
1	Microsoft Corp	MSFT	11.77	Apple Inc	AAPL	8.28	Microsoft Corp	MSFT	5.77
2	Apple Inc.	AAPL	11.10	UnitedHealth Group Inc.	UNH	8.24	Apple Inc.	AAPL	5.30
3	Amazon.Com Inc.	AMZN	10.63	Home Depot Inc.	HD	6.19	Amazon Com Inc.	AMZN	4.06
4	Facebook Inc.	FB	4.25	McDonald's Corp.	MCD	5.28	Facebook Class A Inc.	FB	2.09
5	Alphabet Cl A Cmn	GOOGL	4.00	Goldman Sachs Group Inc.	GS	5.17	Alphabet Inc. Class C	GOOG	1.70

Source: Bloomberg as at April 30, 2020.

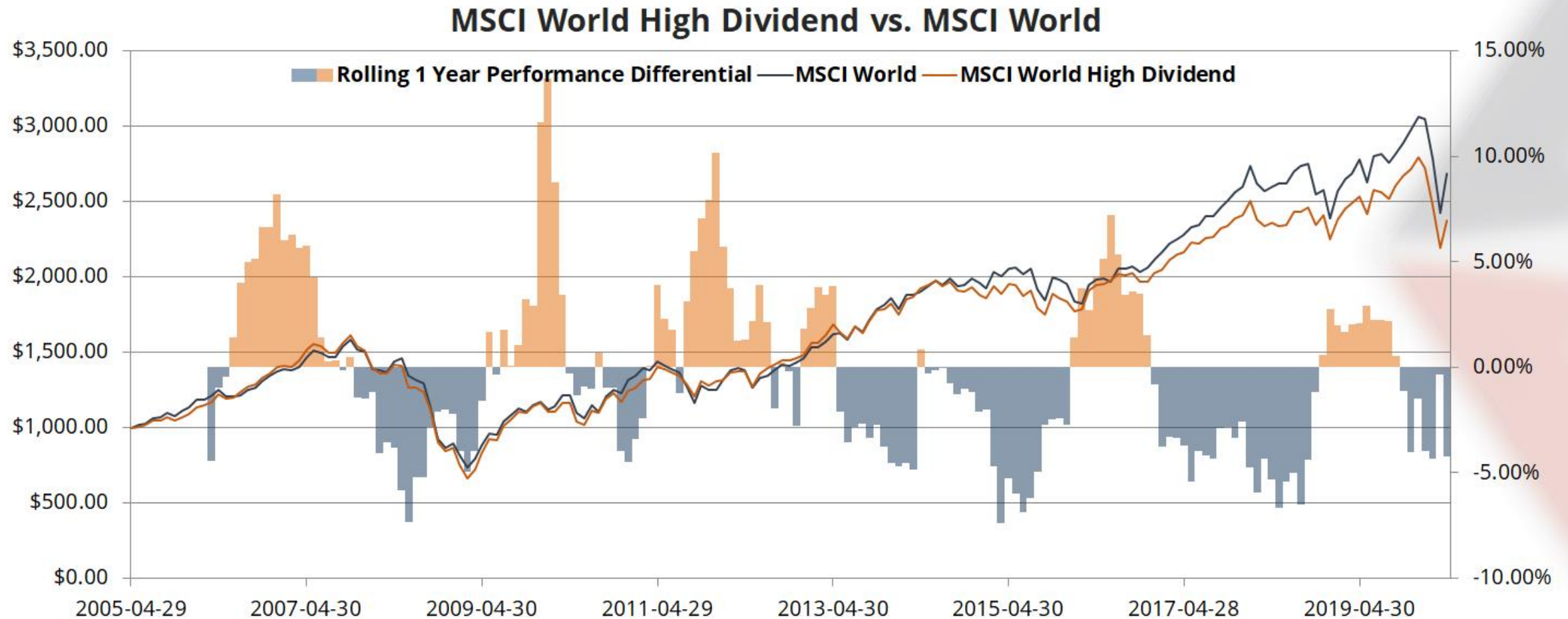
IS THE NASDAQ-100 THE NEW DOW?

	NASDAQ-100 Company	Symbol	Weight %	DJIA Company	Symbol	Weight %	S&P 500 Company	Symbol	Weight %
6	Alphabet Cl C Cap.	GOOG	3.97	Microsoft Corp.	MSFT	5.05	Alphabet Inc Class A	GOOGL	1.70
7	Intel Corp.	INTC	2.83	Visa Inc.	V	5.03	Johnson & Johnson	JNJ	1.60
8	Netflix, Inc.	NFLX	2.03	3M Co.	MMM	4.28	Berkshire Hathaway Inc Class B	BRKB	1.42
9	Pepsico Inc.	PEP	2.02	Johnson & Johnson	JNJ	4.23	Visa Inc Class A	V	1.30
10	Cisco Systems Inc.	CSCO	1.98	Boeing Co.	BA	3.97	Jpmorgan Chase & Co.	JPM	1.19

IS THE NASDAQ-100 THE NEW DOW?

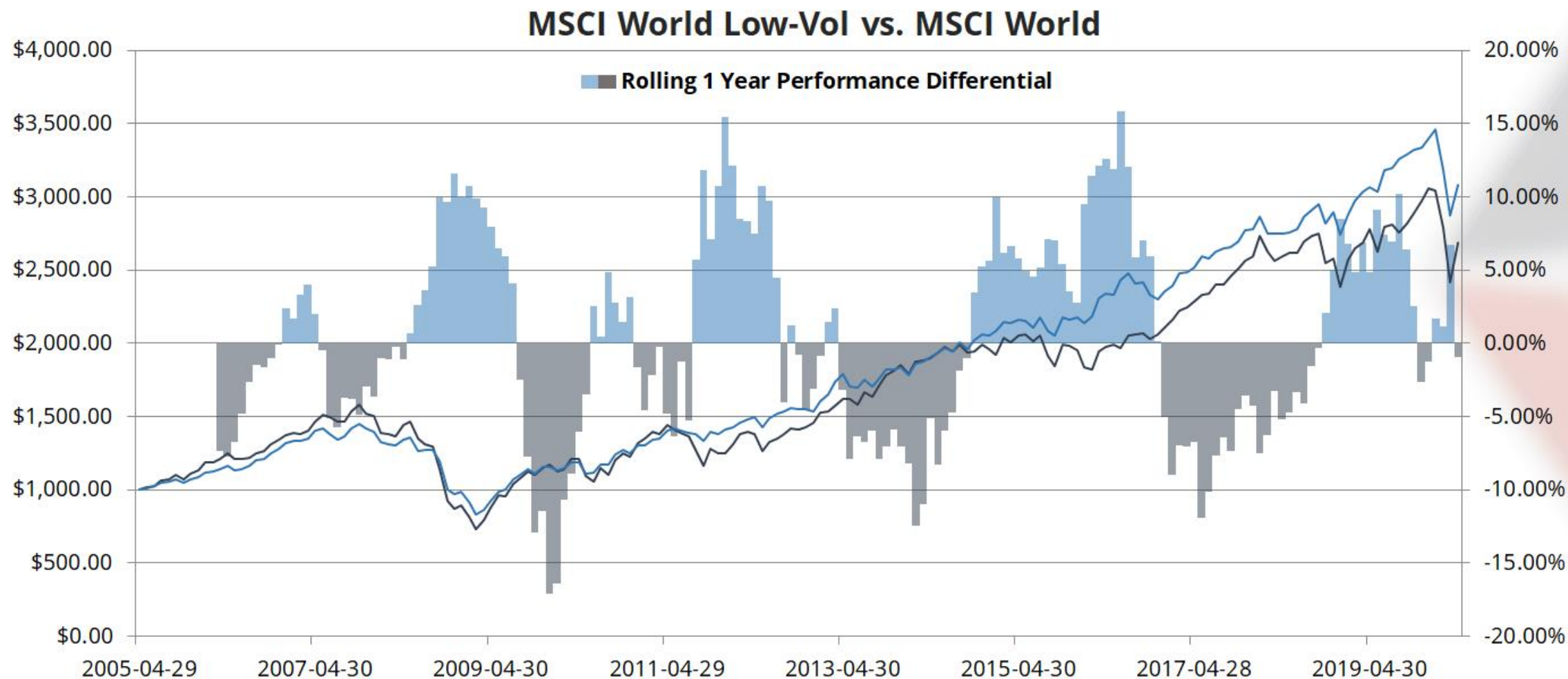
	NASDAQ-100 Company	Symbol	Weight %	DJIA Company	Symbol	Weight %	S&P 500 Company	Symbol	Weight %
11	Nvidia Corporation	NVDA	1.97	International Business Machines Corp.	IBM	3.54	Procter & Gamble	PG	1.18
12	Comcast Corp A	CMCSA	1.88	Walmart Inc.	WMT	3.42	Unitedhealth Group Inc.	UNH	1.11
13	Adobe Inc.	ADBE	1.88	Procter & Gamble Co.	PG	3.32	Intel Corporation Corp.	INTC	1.06
14	Paypal Holdings	PYPL	1.59	Caterpillar Inc.	CAT	3.28	Home Depot Inc.	HD	1.05
15	Tesla, Inc.	TSLA	1.59	Walt Disney Co.	DIS	3.05	Mastercard Inc. Class A	MA	1.03

DIVIDENDS VS. BROAD EQUITIES



Source: Bloomberg as at April 30, 2020.

LOW-VOL VS. BROAD EQUITIES



Source: Bloomberg as at April 30, 2020.

PRICING ETFs



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HOW IS AN ETF VALUED?

$$\text{NAV} = \frac{\text{Fund Assets} - \text{Fund Liabilities}}{\text{Outstanding Shares}}$$

(Net Asset Value per unit)

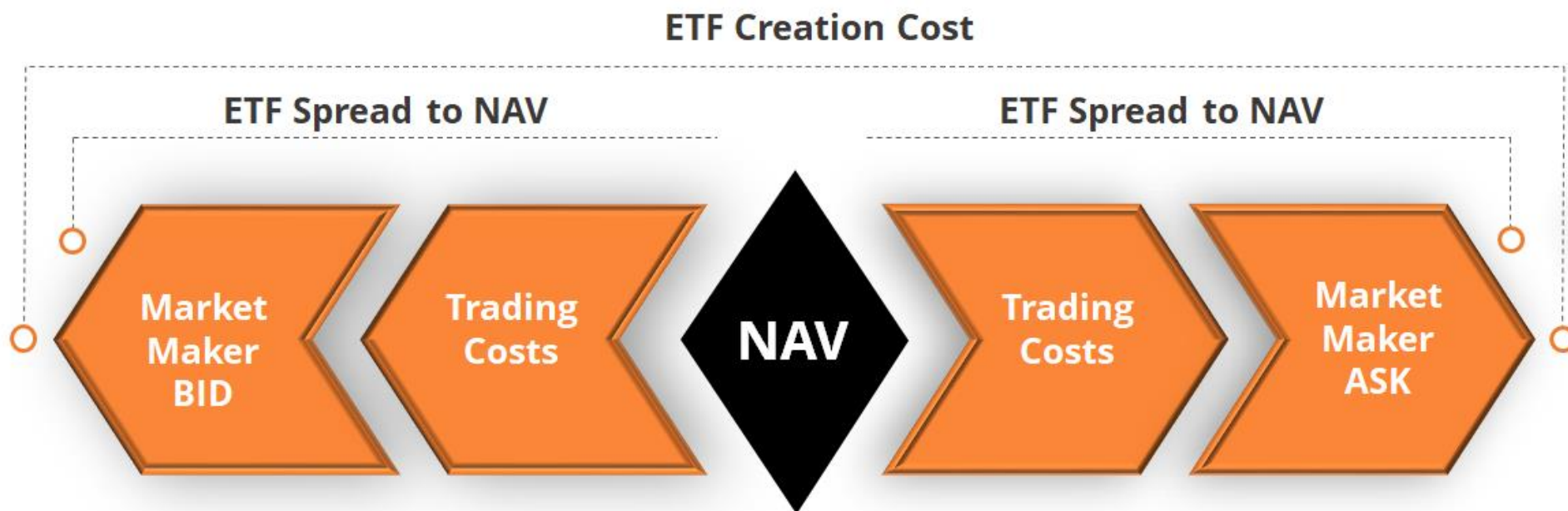


UNDERSTANDING THE COST OF OWNING AN ETF

The total pre-tax cost of an ETF is comprised of four key factors:

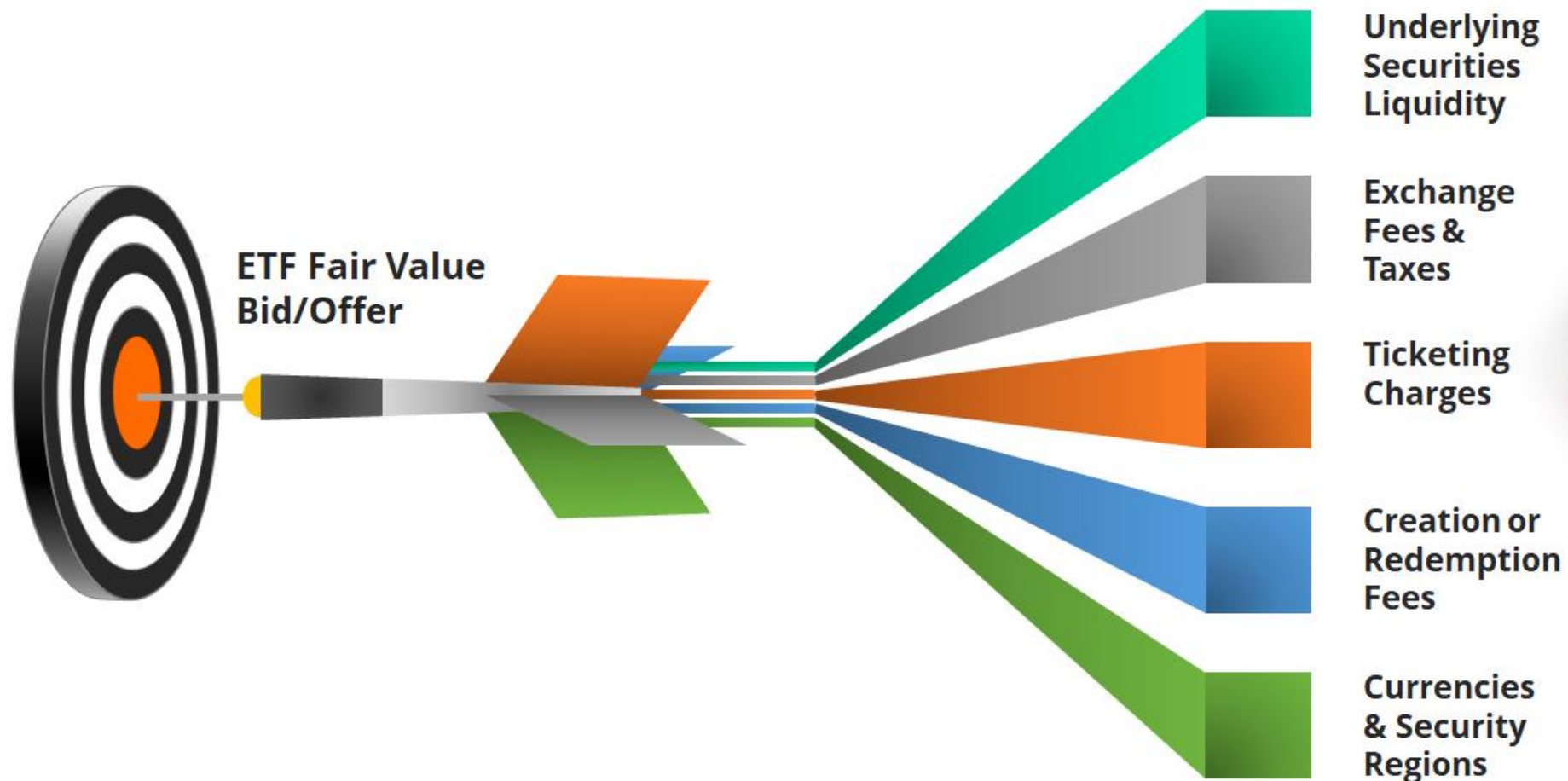
1. Management Expense Ratio (MER)
2. Trading Expense Ratio (TER)
3. Bid/Offer Spread of ETF units
4. Commission Costs of Buying and Selling ETF Units

UNDERSTANDING BID/OFFER SPREAD

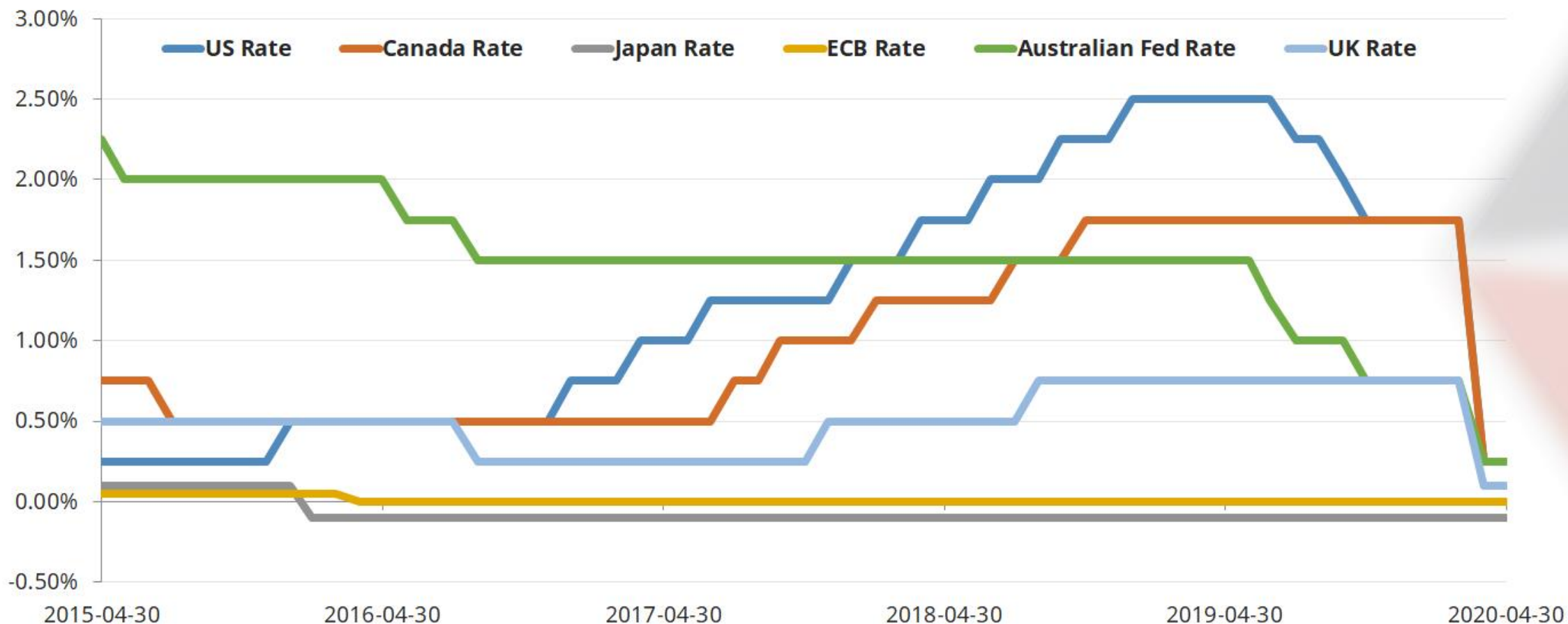


Note: Costs shown are per single trade.
FOR ILLUSTRATIVE PURPOSES ONLY.

DETERMINING BID/OFFER SPREAD

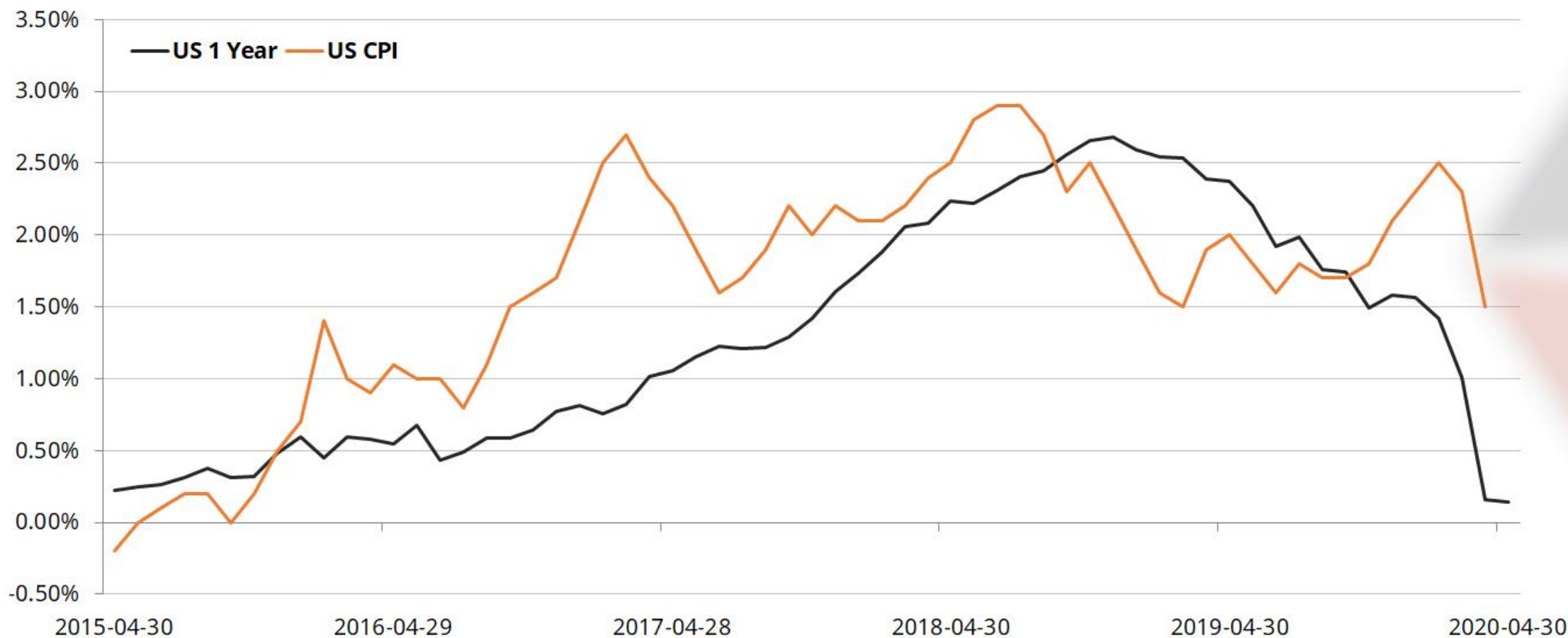


RATES AROUND THE WORLD: REAL RETURNS ARE NEGATIVE



Source: Bloomberg, as at April 30, 2020.

RATES AROUND THE WORLD: REAL RETURNS ARE NEGATIVE



Source: Bloomberg, as at April 30, 2020.

FIXED INCOME DISCOUNTS



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BOND INDEX ETF VS STOCK INDEX ETF

Top 10 Holdings – iShares iBoxx \$ Investment Grade Corporate Bond ETF (LQD)

Name	Sector	Weight (%)
Blk Csh Fnd Treasury SI Agency	Cash and/or Derivatives	1.49
Ge Capital International Funding C	Finance Companies	0.36
Anheuser-Busch Companies Llc	Consumer Non-Cyclical	0.35
Cvs Health Corp	Consumer Non-Cyclical	0.32
Cvs Health Corp	Consumer Non-Cyclical	0.29
T-Mobile Usa Inc 144A	Communications	0.24
Goldman Sachs Group Inc	Banking	0.23
Abbvie Inc 144A	Consumer Non-Cyclical	0.2
Cvs Health Corp	Consumer Non-Cyclical	0.2
Abbvie Inc 144A	Consumer Non-Cyclical	0.19

Top 10 Holdings – iShares Core S&P 500 ETF (IVV)

Name	Sector	Weight (%)
Microsoft Corp	Information Technology	5.63
Apple Inc	Information Technology	5.06
Amazon Com Inc	Consumer Discretionary	4.25
Facebook Class A Inc	Communication	2.03
Alphabet Inc Class A	Communication	1.66
Alphabet Inc Class C	Communication	1.66
Johnson & Johnson	Health Care	1.63
Berkshire Hathaway Inc Class B	Financials	1.51
Visa Inc Class A	Information Technology	1.26
JP Morgan Chase & Co	Financials	1.24

Source: BlackRock, as at April 30, 2020.

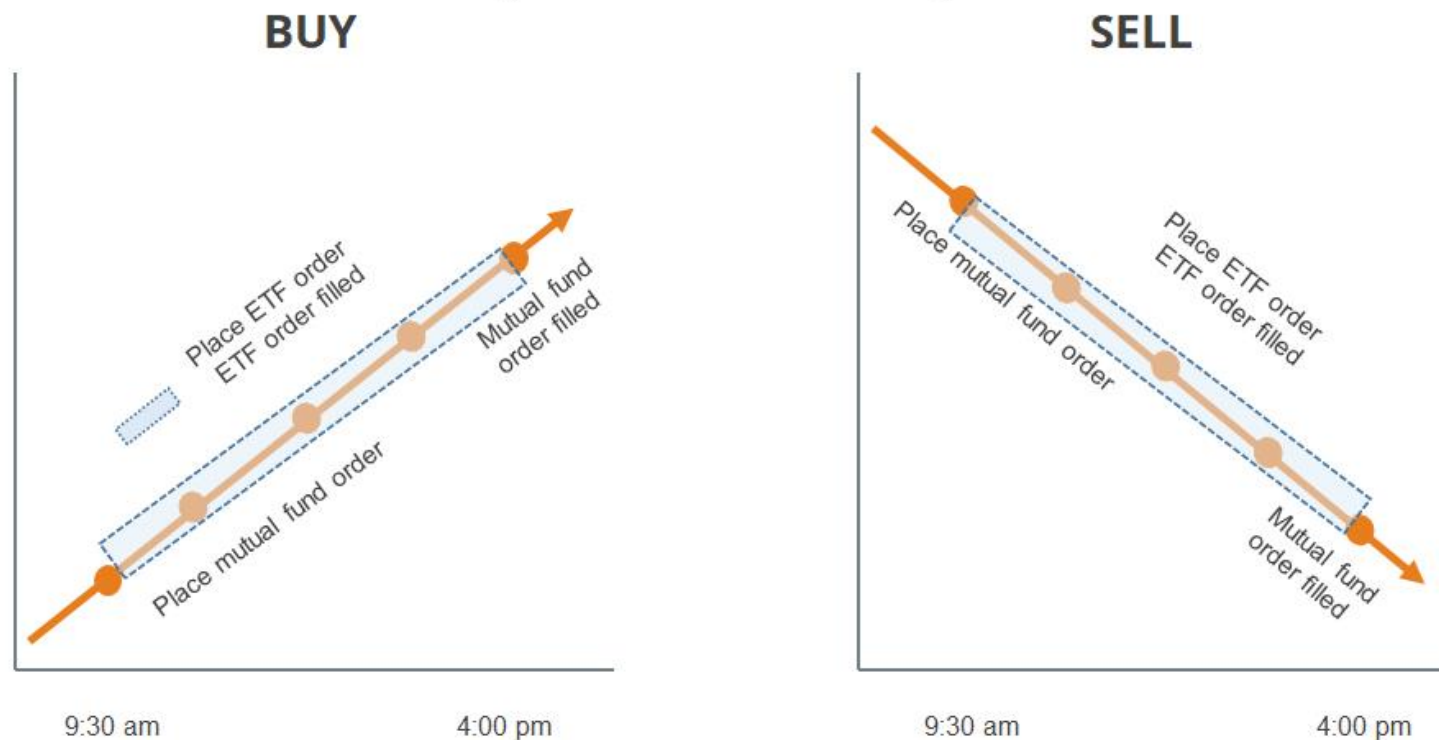
SPREADS ON FIXED INCOME ETFs

Illustrative Example Only

	Closing NAV (3/20/2020)	Closing Price (3/20/2020)	Last Price (3/23/2020)	BID (3/23/2020)	ASK (3/23/2020)	Closing Premium/Discount
Corporate Bond ETFs						
ETF 1 (Mid-Duration)	10.5212	9.53	9.55	9.4	9.53	-9.42%
ETF 2	20.829	18.6	18.28	18.27	18.44	-10.70%
ETF 3 (Mid-Duration)	15.9249	13.52	13.05	13.04	13.05	-15.10%
ETF 4	18.3616	17	16.8	16.8	16.83	-7.42%
ETF 5	23.8203	21.87	21.98	21.97	22.13	-8.19%
Aggregate Bond ETFs						
ETF 1	48.6665	47.3	47.48	46.5	47.48	-2.81%
ETF 2	31.9129	30.7	30.26	30.26	30.29	-3.80%
ETF 3	15.9473	15.23	15.44	15.43	15.47	-4.50%

INTRADAY LIQUIDITY

- An ETF order can be filled at any time of the day



COMMODITY ETFs — THINGS TO KNOW



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AN INTRODUCTION TO ETFs

THE OIL OVERHANG

- A massive supply glut in the United States as a result of limited storage capacity resulted in negative oil prices



Source: Bloomberg, *Oil Tankers Surround California With Nowhere to Unload*, April 22, 2020.

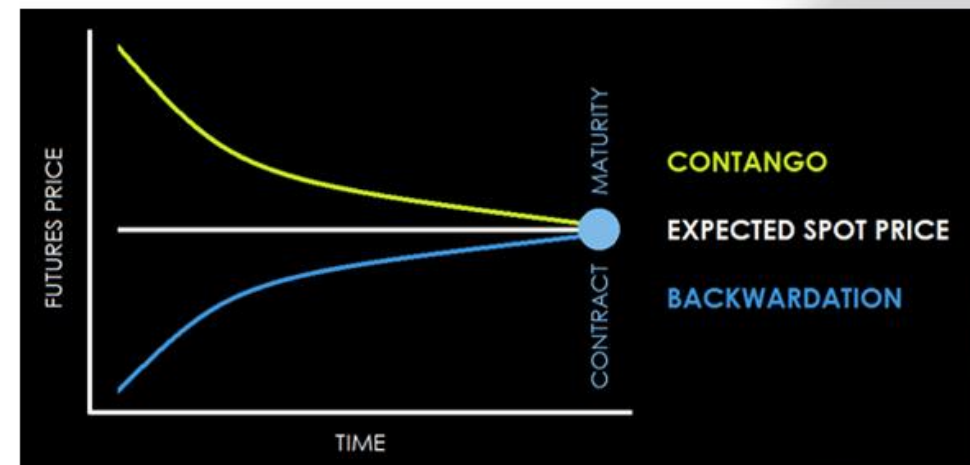
THINGS TO KNOW ABOUT COMMODITY ETFS

Futures vs. Spot Price: All of the BetaPro ETFs are derivatives-based ETFs. Those that track commodities or volatility track the price of futures rather than the spot price.

Contango is when the futures price is above the expected future spot price. With the passage of time, the value of the futures contracts will generally decrease as they converge with the spot price.

In order for a futures trade to be profitable during a period of contango, the spot price will have to rise higher than the value of the futures contract.

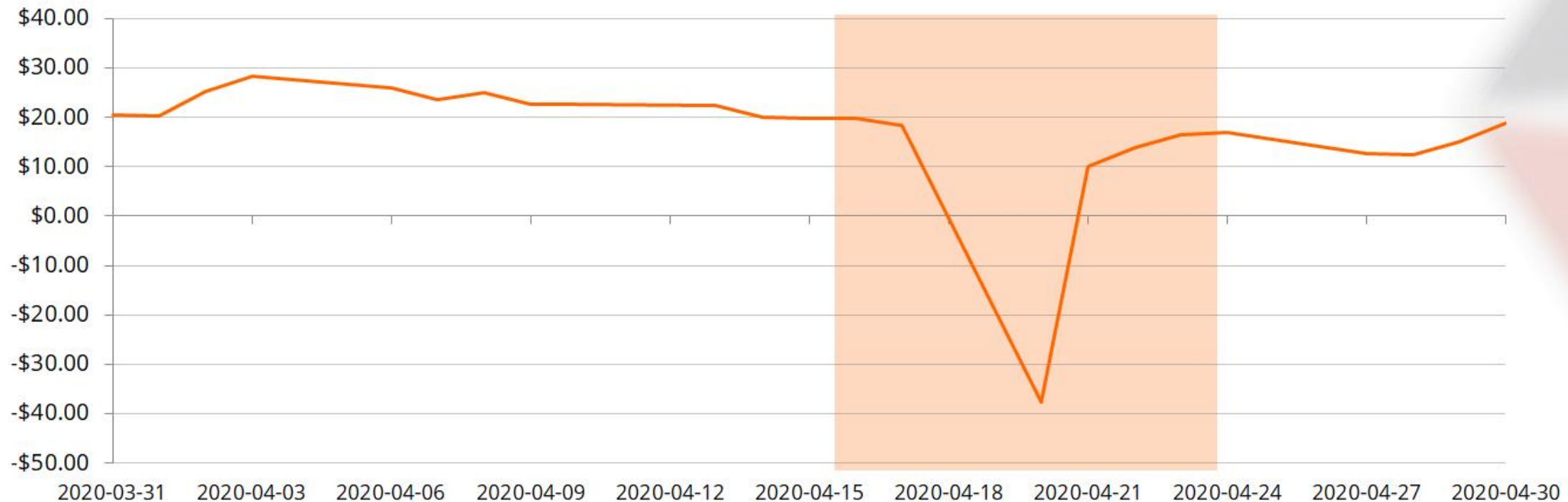
Normal backwardation is when the futures price is below the expected future spot price. With the passage of time, the value of the futures prices will generally increase as they converge with the spot price.



UNDERSTANDING OIL FUTURES CONTRACTS

Due to roll methodology of ETFs, it is almost impossible for retail ETF investors to enter at this bottom

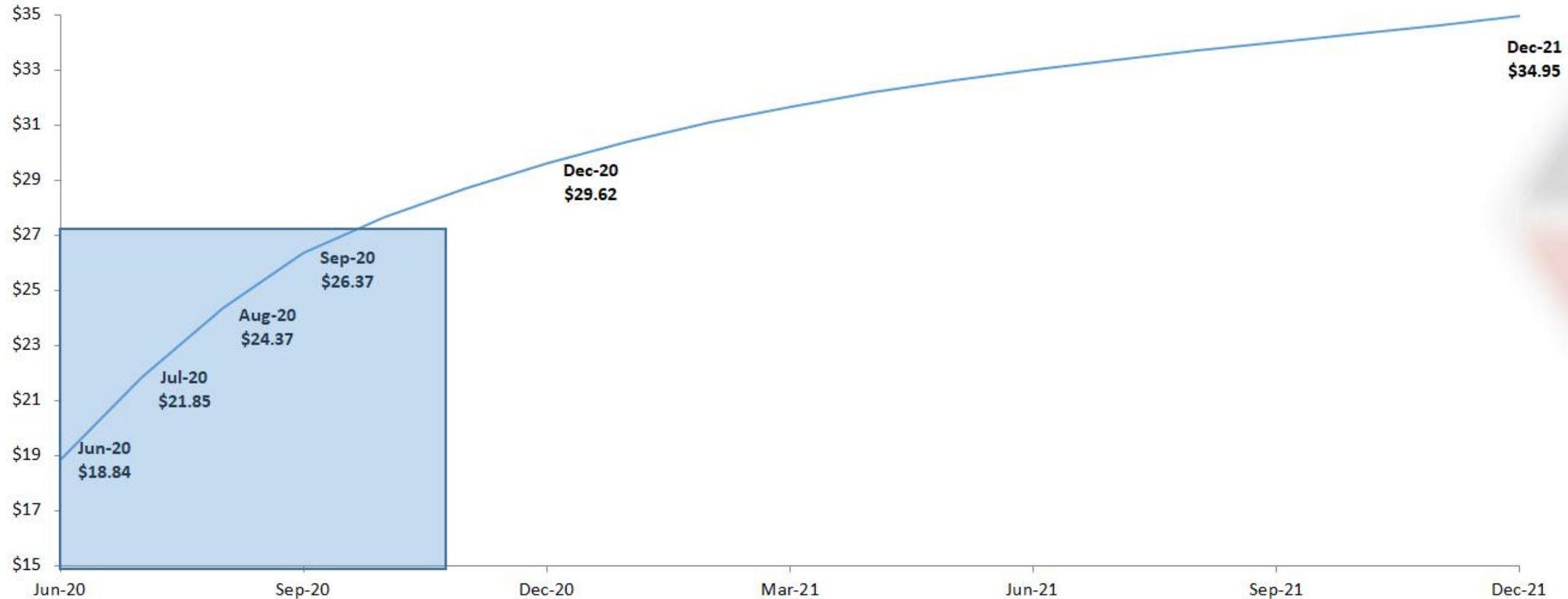
NYMEX WTI Crude Oil futures front-month contract (CL1)



Source: Bloomberg, as at April 30, 2020.

UNDERSTANDING OIL FUTURES CONTRACTS

NYMEX WTI Crude Oil futures contracts



Source: CME Group, as at April 30, 2020

The background of the image features a blue-tinted collage of financial data. A large magnifying glass is positioned over a line chart, highlighting a specific peak. To the right, another chart shows a line graph with a y-axis ranging from 0 to 70 and an x-axis labeled 'Monate ab 2008'. Below this, a table titled 'Performancevergleich zur Benchmark' lists performance metrics for different time periods. The main title 'TRADING CONSIDERATIONS' is overlaid in large, bold, orange letters.

TRADING CONSIDERATIONS



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TYPES OF ORDERS

- **Market Orders:** The most basic order, where an investor will put through a buy or sell order that will be executed at the current market value of the ETF
 - ✓ *Generally this is not an ideal way to buy and sell ETFs*
- **Limit Orders:** This is an order to buy or sell a security at a specific price or better
 - ✓ *You may not get filled on this order but it is generally a better way to avoid misalignment of price in the market versus NAV*



TYPES OF ORDERS

- **Stop-Loss:** This is an order that is designed to generally sell a security if it falls below a certain price. While this is a good form of protection on the downside, again, due to potential pricing misalignments within the market, investors should evaluate their usage carefully
 - ✓ *Consider using a limit order with a stop-loss to provide further protection against misalignment of price in the market versus NAV*

ETF ECONOMICS: MARKET ORDER BOOK

Typical Market Depth Order Book:

BUY

BROKER	SHARES	PRICE
80	10,000	\$9.98
9	1,500	\$9.98
7	300	\$9.98
80	10,000	\$9.97
2	800	\$9.97
80	10000	\$9.96
79	1,500	\$9.96
79	1,000	\$9.95

SELL

PRICE	SHARES	BROKER
\$10.01	10,000	80
\$10.01	2,000	2
\$10.02	800	9
\$10.02	10,000	80
\$10.03	10,000	80
\$10.04	1,800	81
\$10.05	500	85
\$10.07	2,500	79

TRADE EXECUTION CHECKLIST

- ✓ Understand the risk-reward of limit orders and stop orders
- ✓ Look at the NAV and price!
- ✓ Consider trading times: Trading during market opens, 9:30-9:45 A.M., and market close 3:45-4:00 P.M., has historically been more volatile than during the time in between
- ✓ Analyze the bid/ask spreads – spreads above 0.75% of the ETF price should be looked at carefully
- ✓ Looking at the market depth and bid/offer sizing helps determine whether there is sufficient liquidity for placing orders
- ✓ When in doubt, email or call an ETF provider or help desk





DISCLAIMER

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1.866.641.5739



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THANK YOU



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