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Numbers in Context

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MARKET COMMENTARY

U.S. Equity

The U.S. stock market was up 21.9% for the second quarter of 2020. Although parts of the country have begun to loosen Coronavirus-related restrictions, considerable uncertainty about 2020 economic growth prospects remain. According to a report by the Federal Reserve Bank of Philadelphia, expectations for real GDP growth this year are approximately -5% with an unemployment rate remaining above 10%.

A surprising employment report in May speaks well for an eventual recovery. Unemployment claims are beginning to point towards a bottom and perhaps the beginning of a recovery, albeit off extremely weak levels. Other signals are not as encouraging. The ratio of employed persons to the overall population stands at 52.8%, down nearly 10%-points from the beginning of the year. Taken together, it seems that robust fiscal stimulus programs, targeting both households and businesses, are working well.

Non-U.S. Equity

Employment data in the U.K. shows that nearly a third of their workforce is on furlough with the government supporting a majority of those employees' wages. Inflation statistics in Germany indicate that service providers have been able to successfully raise prices to counter Coronavirus-related restrictions. China's economic recovery continues due, in part, to government support policies and the reopening of some overseas markets.

Fixed Income

The 10-year U.S. Treasury yield ended the quarter at 0.66%, down just 4 basis points from March. The FOMC met twice during the quarter, as scheduled, with no change to their overnight rate, which they expect will be near zero until at least 2022. Credit spreads tightened significantly during the quarter, as evidenced by the double-digit return within the high yield market.

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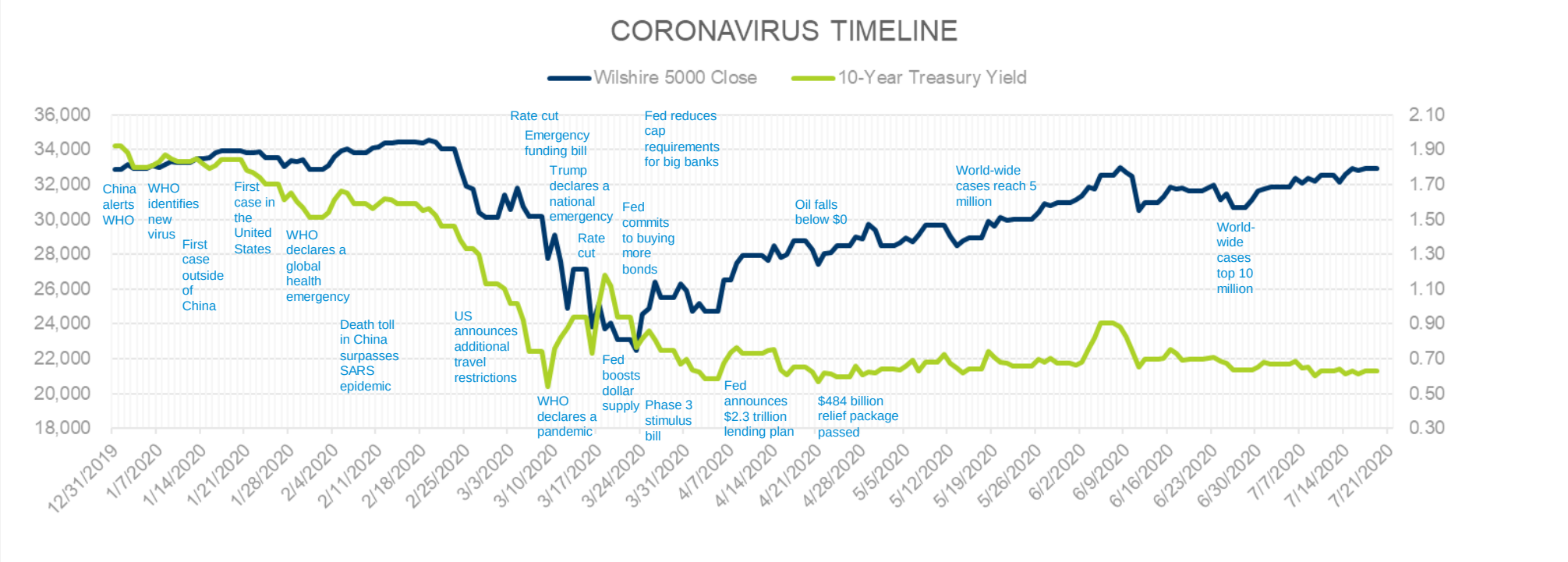
CORONAVIRUS TIMELINE

AS OF JULY 19

https://wilshire.com/covid19-timeline



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JUNE 2020 ASSET CLASS ASSUMPTIONS

	EQUITY						FIXED INCOME						REAL ASSETS					
													Real Estate					
	US Stock	Dev ex-US Stock	Emg Stock	Global ex-US Stock	Global Stock	Private Equity	Cash	Core Bond	LT Core Bond	TIPS	High Yield	Dev ex-US Bond (Hdg)	US RES	Global RES	Private RE	Cmdty	Real Assets	US CPI
COMPOUND RETURN (%)	6.00	6.50	6.50	6.75	6.45	8.15	0.75	1.25	2.10	0.30	4.00	0.40	5.10	5.30	6.80	2.25	5.45	1.50
ARITHMETIC RETURN (%)	7.30	7.95	9.45	8.35	7.80	11.50	0.75	1.40	2.55	0.50	4.50	0.45	6.45	6.45	7.70	3.30	5.80	1.50
EXPECTED RISK (%)	17.00	18.00	26.00	18.95	17.10	28.00	1.25	5.15	9.85	6.00	10.00	3.50	17.00	15.80	14.00	15.00	8.75	1.75
CASH YIELD (%)	2.00	3.00	2.50	2.85	2.40	0.00	0.75	1.85	2.65	1.15	7.00	1.10	4.00	4.00	2.60	0.75	2.25	0.00
GROWTH EXPOSURE	8.00	9.00	7.50	8.60	8.25	14.00	0.00	-0.90	-2.30	-3.00	4.00	-1.00	8.00	8.00	5.50	0.00	1.90	0.00
INFLATION EXPOSURE	0.00	3.00	12.00	5.45	2.40	1.00	0.00	-2.50	-6.70	2.50	1.00	-3.00	0.00	1.35	0.00	12.00	4.40	1.00
CORRELATIONS																		
US Stock	1.00																	
Dev ex-US Stock (USD)	0.81	1.00																
Emerging Mkt Stock	0.74	0.74	1.00															
Global ex-US Stock	0.83	0.96	0.87	1.00														
Global Stock	0.95	0.92	0.83	0.94	1.00													
Private Equity	0.74	0.64	0.62	0.67	0.74	1.00												
Cash Equivalents	-0.05	-0.09	-0.05	-0.08	-0.07	0.00	1.00											
Core Bond	0.28	0.13	0.00	0.09	0.20	0.31	0.19	1.00										
LT Core Bond	0.31	0.16	0.01	0.12	0.23	0.32	0.11	0.93	1.00									
TIPS	-0.05	0.00	0.15	0.05	0.00	-0.03	0.20	0.60	0.47	1.00								
High Yield Bond	0.54	0.39	0.49	0.45	0.51	0.34	-0.10	0.25	0.32	0.05	1.00							
Dev ex-US Bond (Hdg)	0.16	0.25	-0.01	0.18	0.18	0.26	0.10	0.67	0.66	0.39	0.26	1.00						
US RE Securities	0.59	0.47	0.44	0.49	0.56	0.50	-0.05	0.17	0.23	0.10	0.56	0.05	1.00					
Global RE Securities	0.65	0.59	0.56	0.62	0.66	0.58	-0.05	0.17	0.22	0.11	0.62	0.03	0.94	1.00				
Private Real Estate	0.54	0.44	0.44	0.47	0.52	0.51	-0.05	0.19	0.25	0.09	0.57	0.05	0.78	0.76	1.00			
Commodities	0.25	0.34	0.39	0.38	0.32	0.27	0.00	-0.02	-0.02	0.25	0.29	-0.10	0.25	0.28	0.25	1.00		
Real Assets	0.42	0.43	0.50	0.48	0.47	0.43	0.01	0.24	0.25	0.41	0.53	0.06	0.65	0.69	0.69	0.59	1.00	
Inflation (CPI)	-0.10	-0.15	-0.13	-0.15	-0.13	-0.10	0.10	-0.12	-0.12	0.15	-0.08	-0.08	0.05	0.03	0.05	0.44	0.26	1.00

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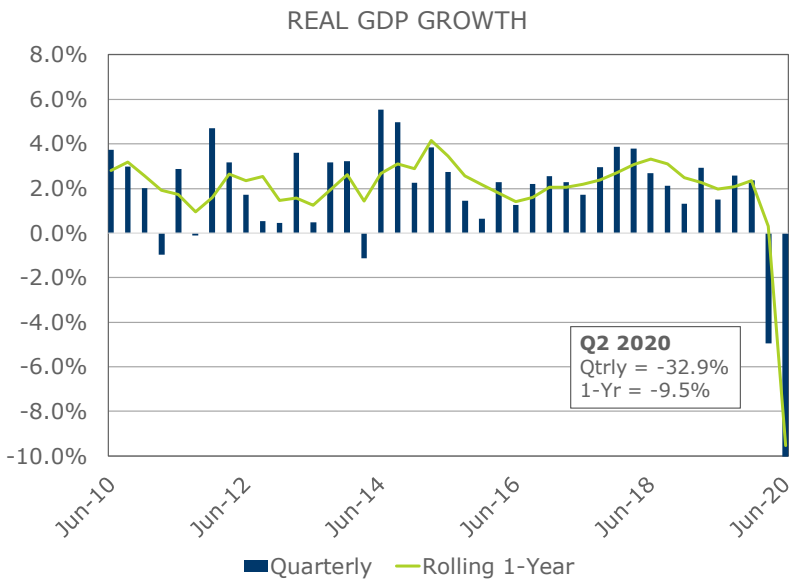
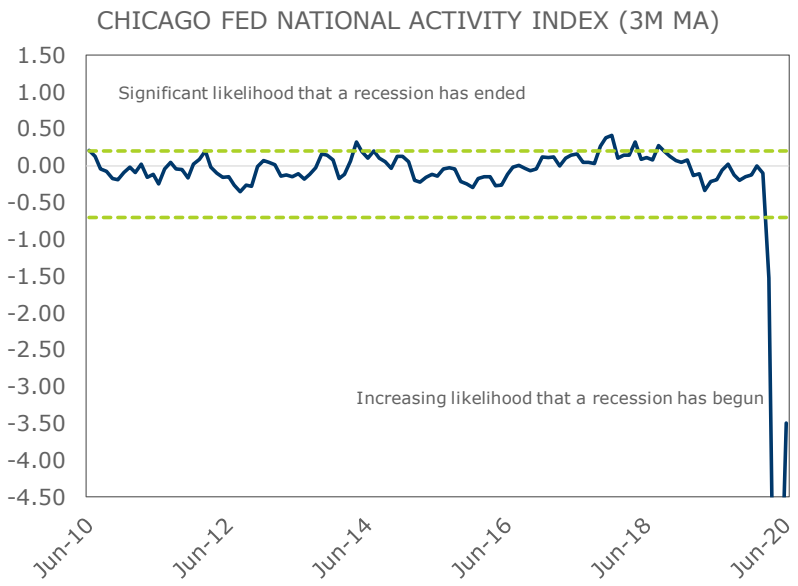
ECONOMIC GROWTH





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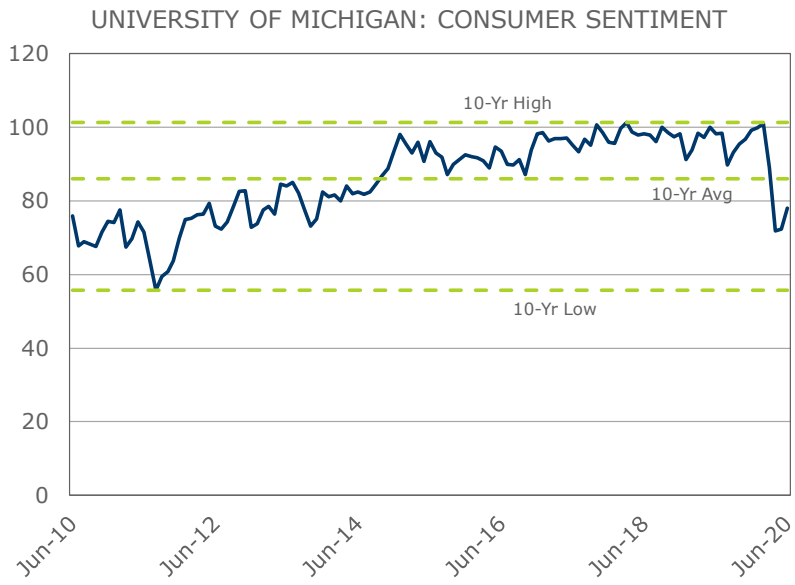
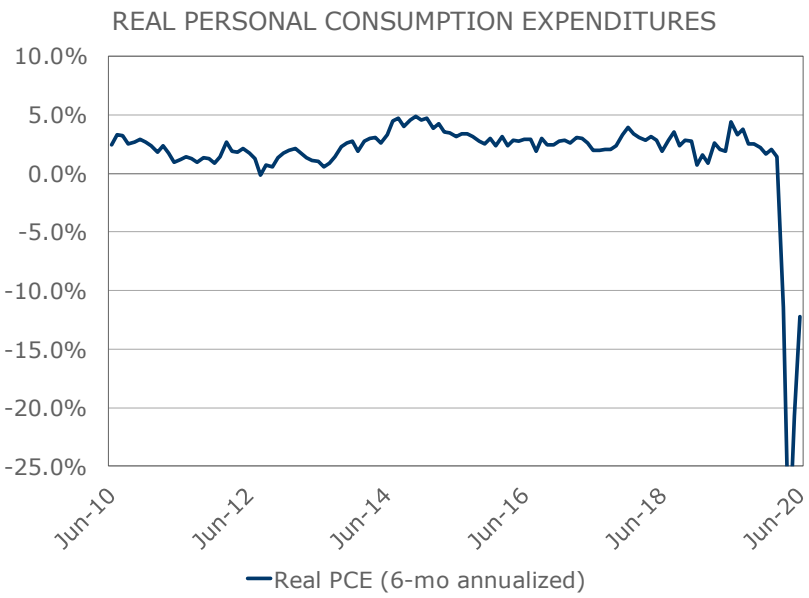
CONSUMER ACTIVITY





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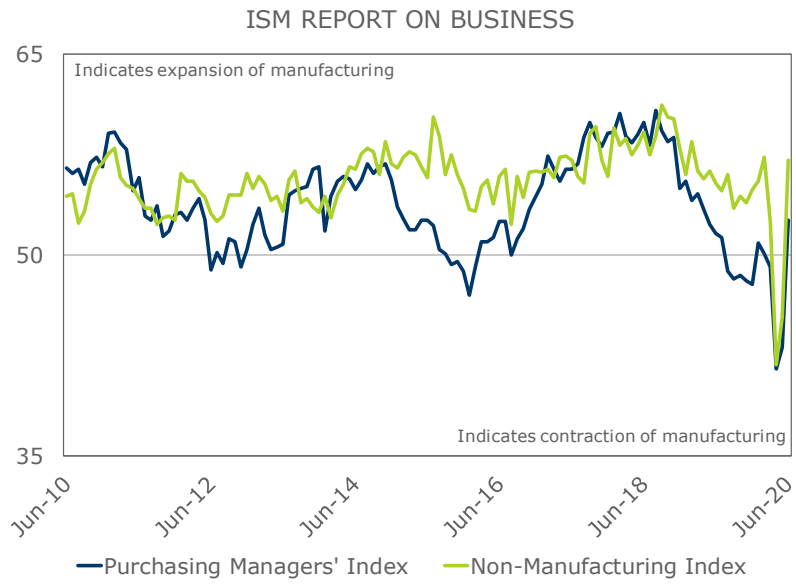
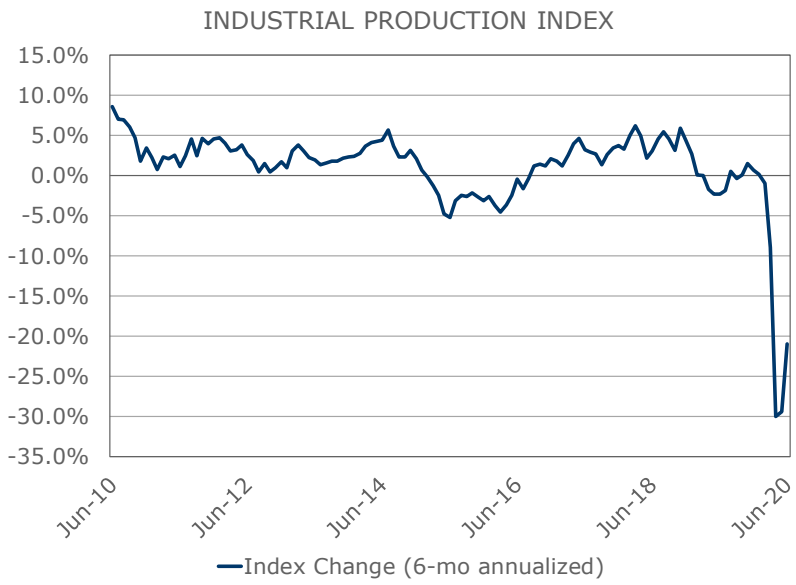
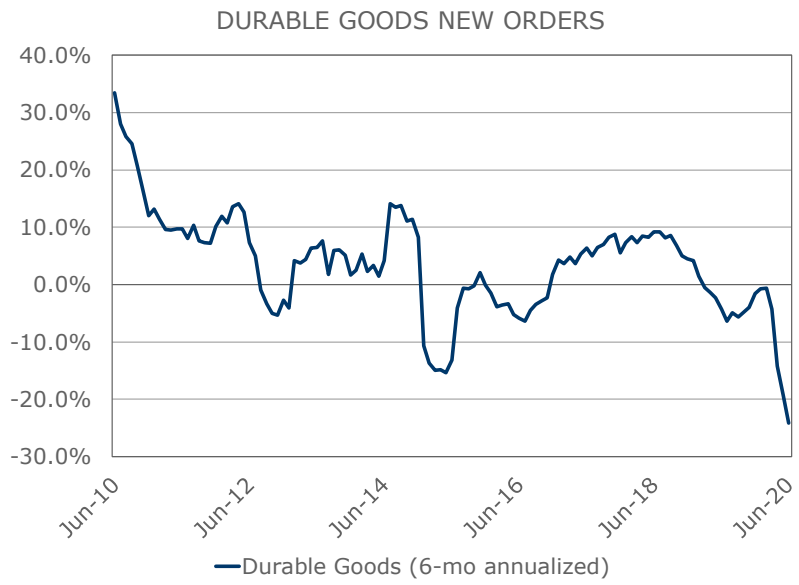
BUSINESS ACTIVITY







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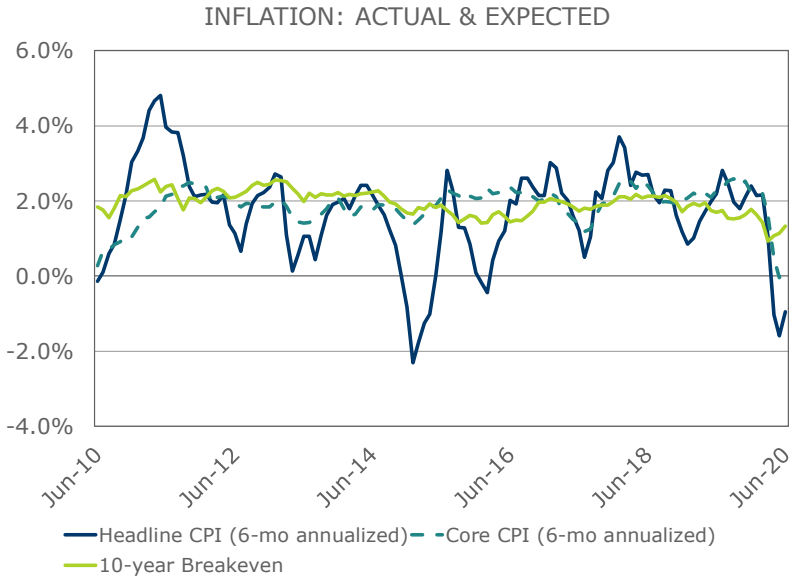
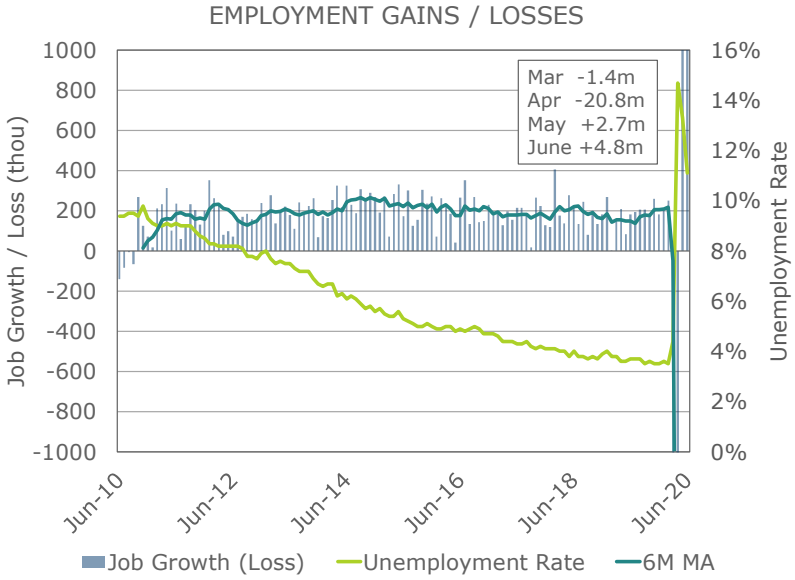
INFLATION AND EMPLOYMENT





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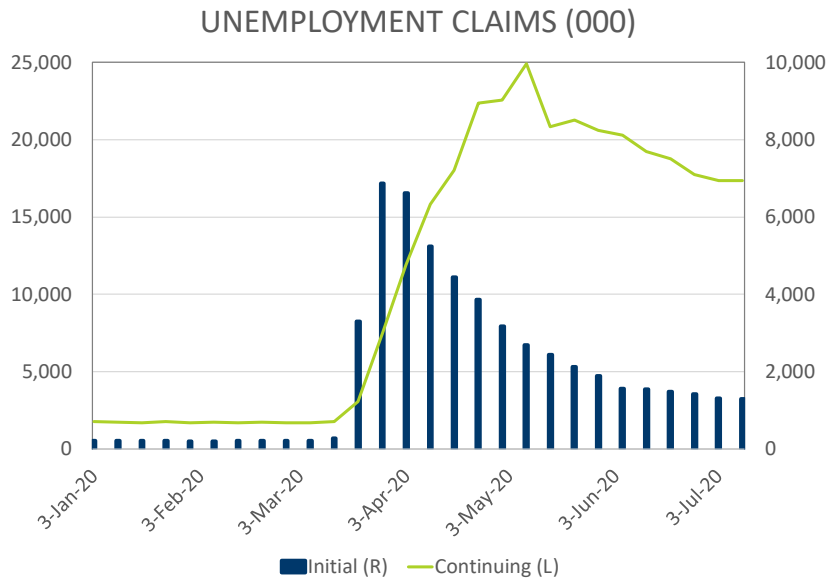
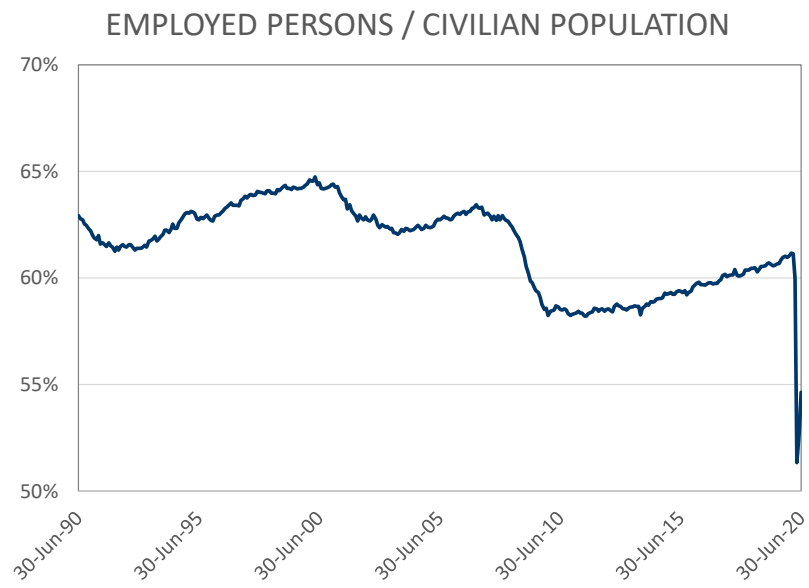
U.S. EMPLOYMENT

- Employment conditions have been volatile this year with massive gains and losses, as seen on the previous page
- Unemployment claims have been declining with continued claims currently at 17 million



- Employment as a percent of the civilian, non-institutional population dropped to nearly 50%
- The ratio has never been that low in the post-WWII history



Data sources: Federal Reserve, Bloomberg

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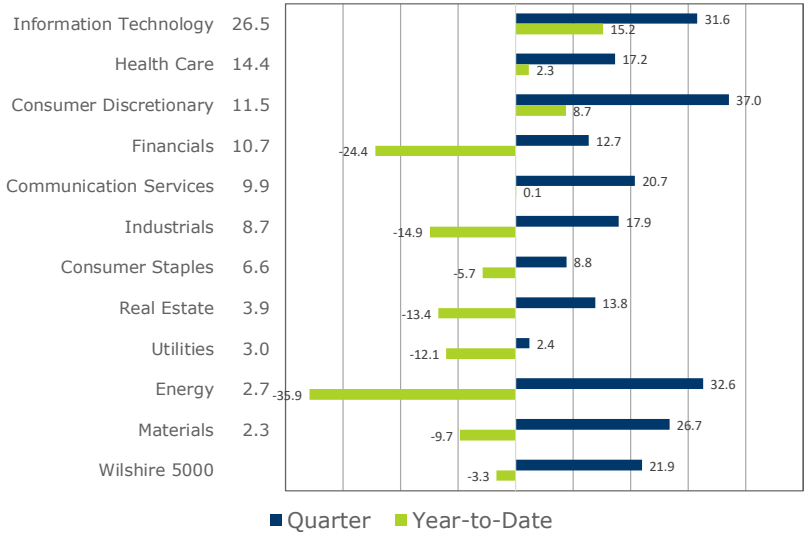
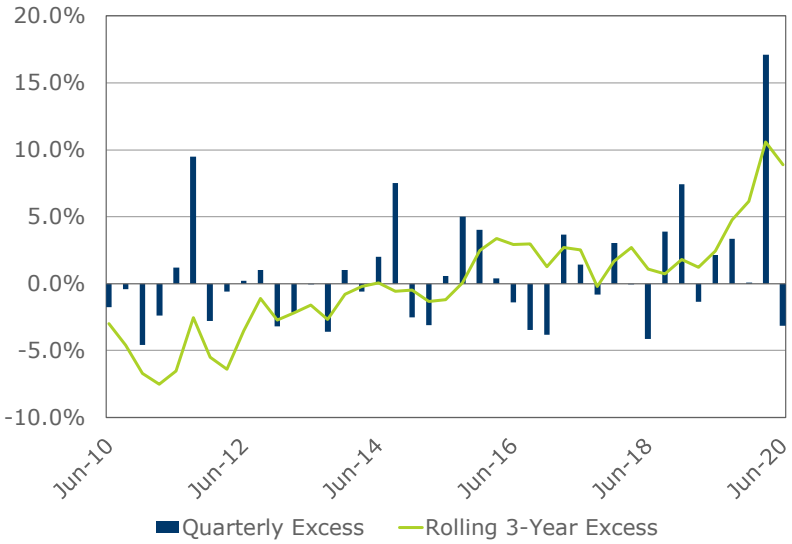
U.S. EQUITY MARKET

AS OF 6/30/2020	QTR	YTD	1 YR	3 YR	5 YR	10 YR
WILSHIRE 5000 INDEX	21.9	-3.3	6.8	10.1	10.3	13.7
WILSHIRE U.S. LARGE CAP	21.6	-2.3	8.2	11.0	10.9	14.0
WILSHIRE U.S. SMALL CAP	25.6	-13.8	-7.7	1.9	4.3	11.0
WILSHIRE U.S. LARGE GROWTH	27.3	5.5	18.3	15.9	13.7	16.2
WILSHIRE U.S. LARGE VALUE	15.6	-10.0	-1.5	6.1	7.9	11.8
WILSHIRE U.S. SMALL GROWTH	29.9	-6.7	0.0	6.6	6.2	12.6
WILSHIRE U.S. SMALL VALUE	21.3	-20.5	-14.9	-2.7	2.1	9.3
WILSHIRE REIT INDEX	10.6	-17.8	-12.3	0.2	4.0	9.2
MSCI USA MIN. VOL. INDEX	12.9	-6.5	0.5	9.8	11.0	14.0
FTSE RAFI U.S. 1000 INDEX	18.1	-13.1	-4.3	4.3	6.3	11.7

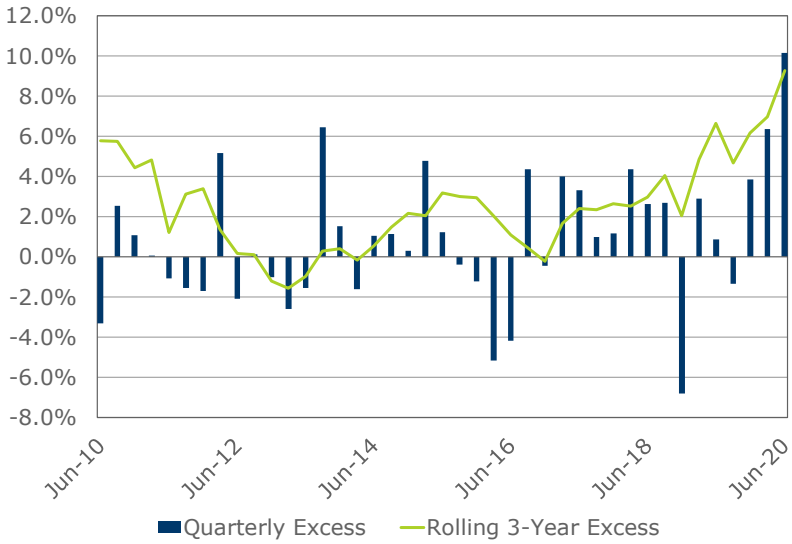
U.S. SECTOR WEIGHT AND RETURN (%)



LARGE CAP VS SMALL CAP



LARGE GROWTH VS LARGE VALUE



Data sources: Bloomberg, Wilshire Atlas

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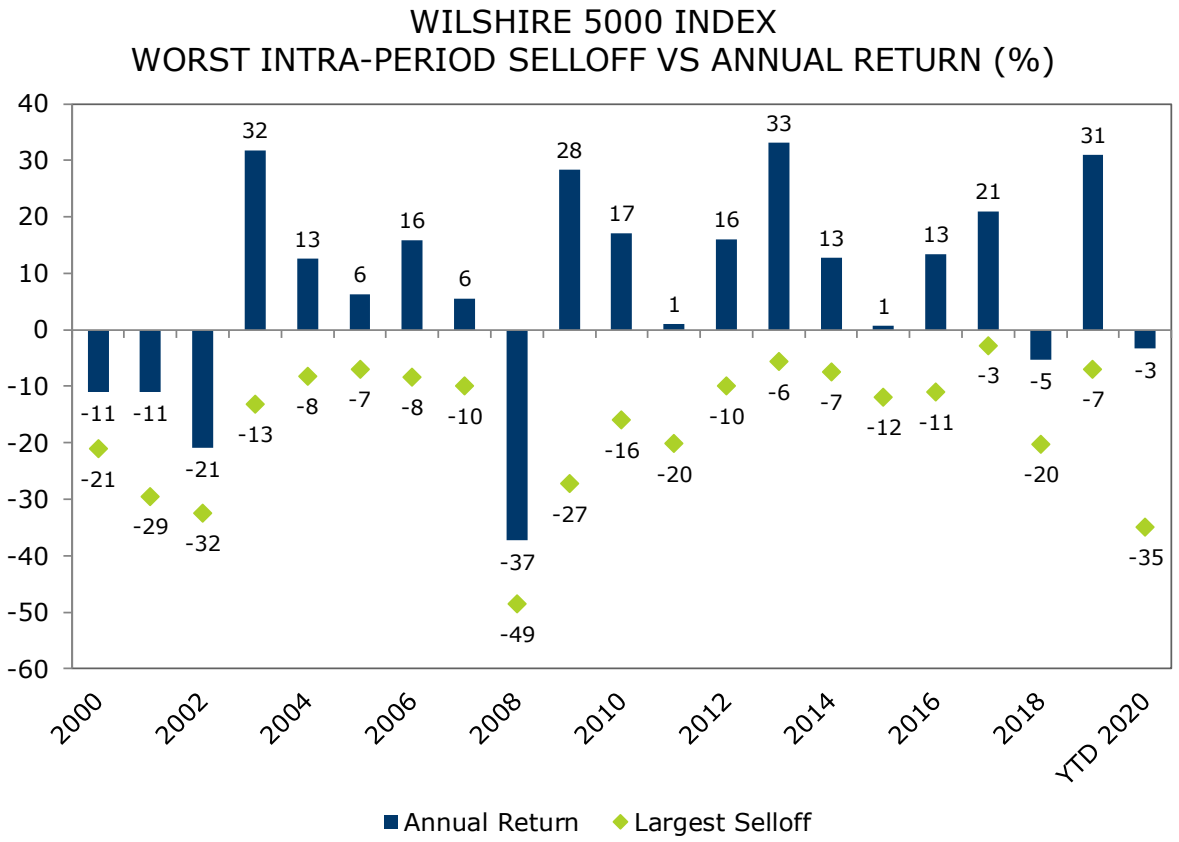
ANNUAL RETURNS

- Coronavirus sell-off began in late February and reached -35% in late March
- Q2 return of 21.9% was the strongest quarterly return in 21 years



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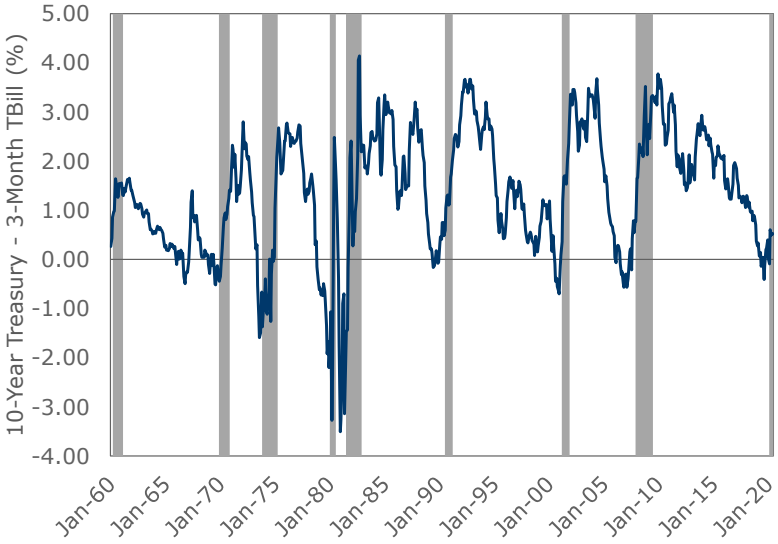
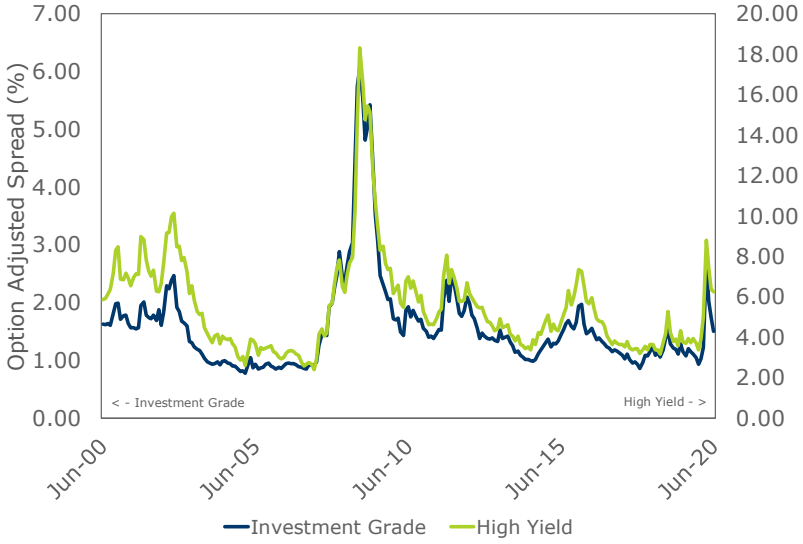
RISK MONITOR

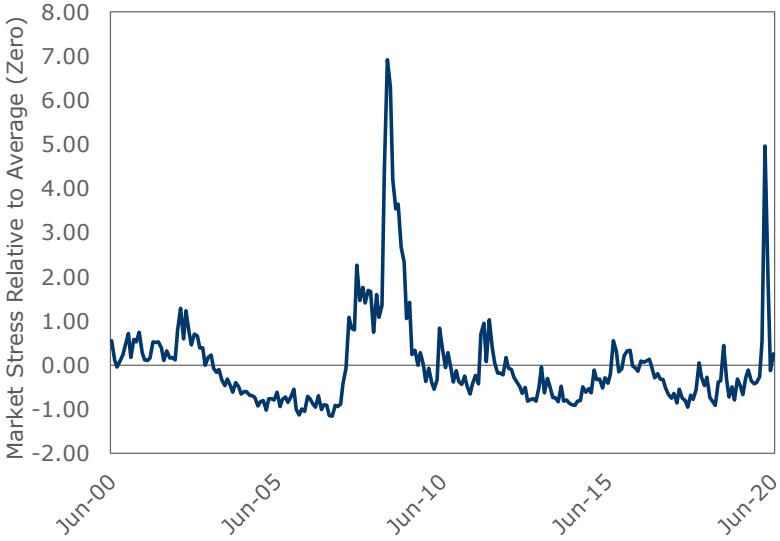
YIELD CURVE SLOPE VS RECESSIONS (IN GRAY)



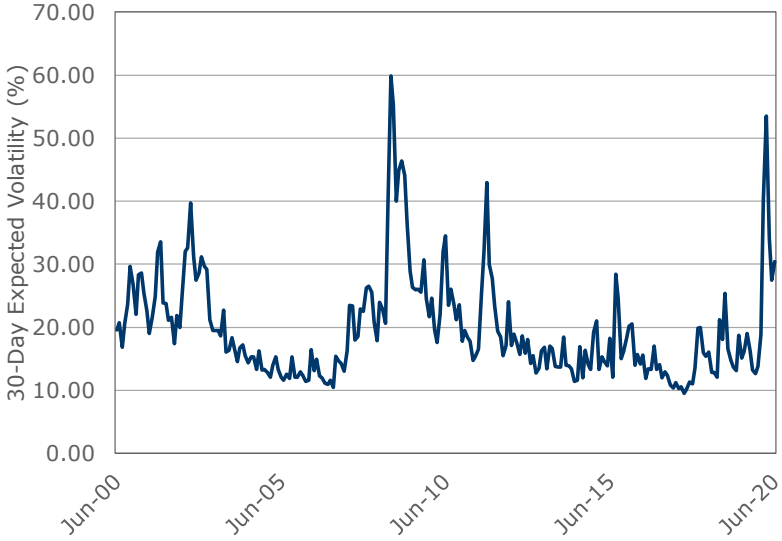
BLOOMBERG BARCLAYS CREDIT INDEXES



ST. LOUIS FED FINANCIAL STRESS INDEX



CBOE VOLATILITY INDEX



Data sources: Bloomberg

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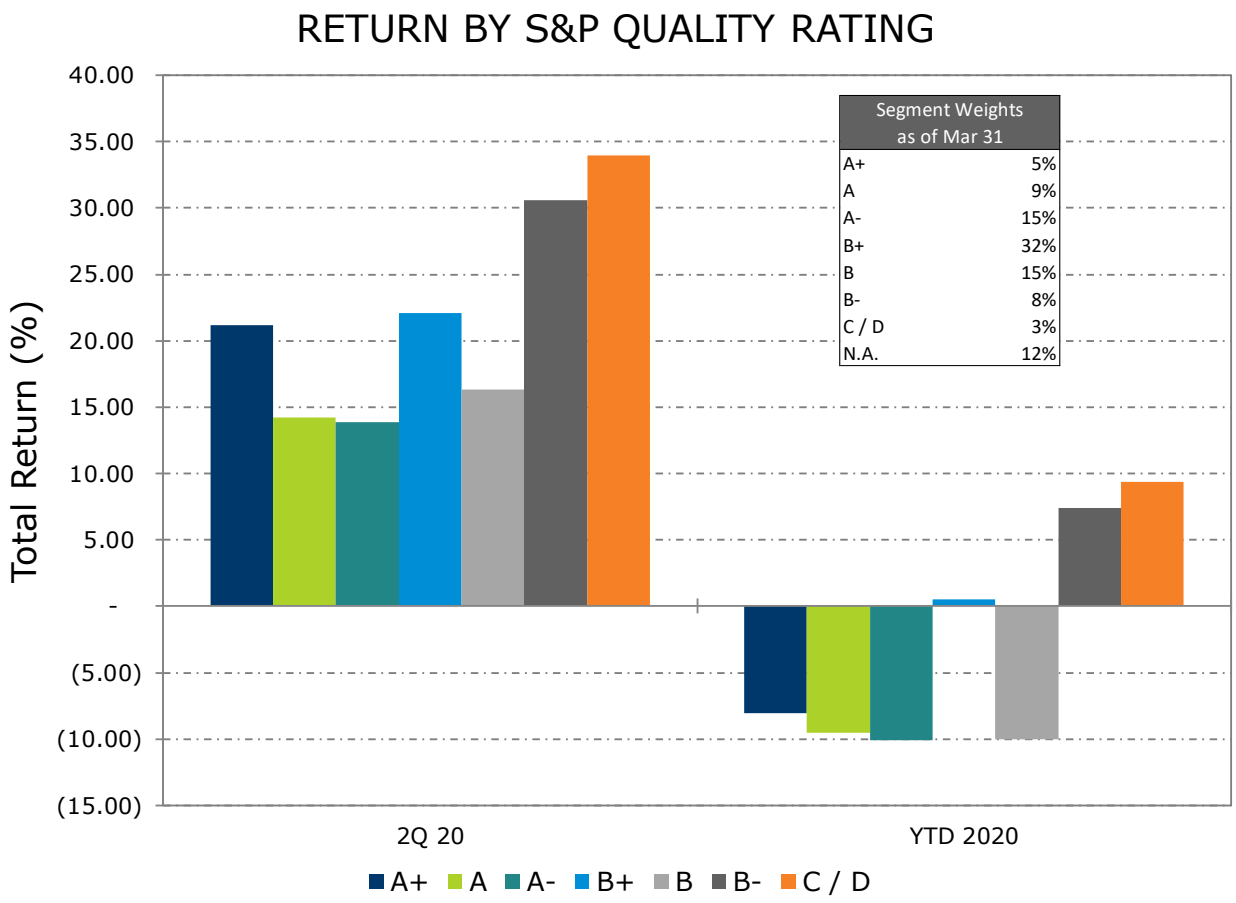
RETURNS BY QUALITY SEGMENT

Lower quality names led the rebound and are up for the year



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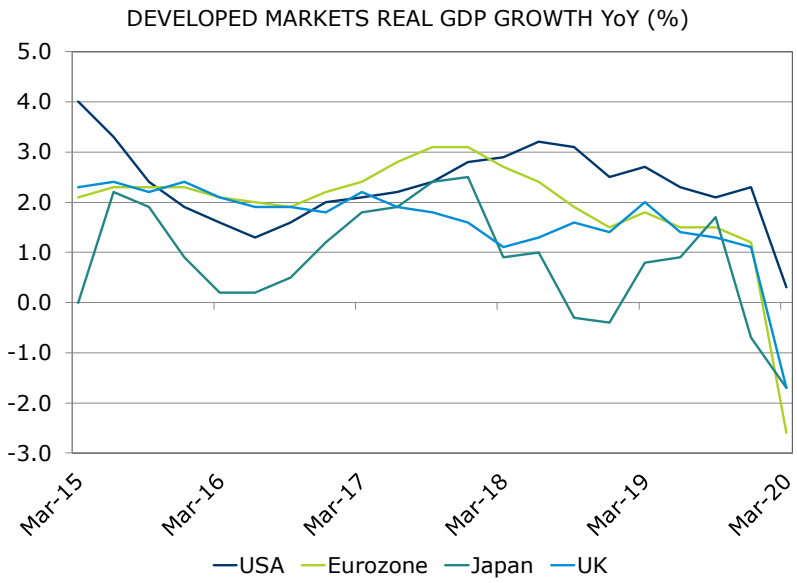
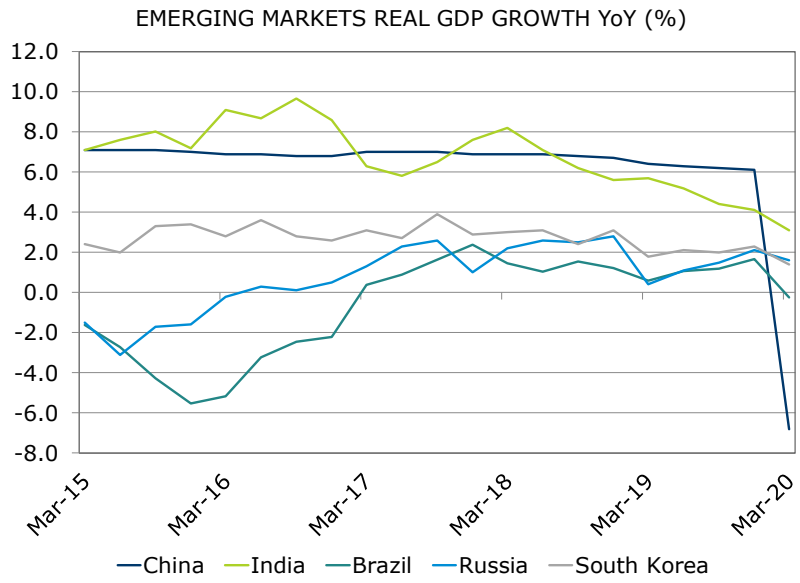
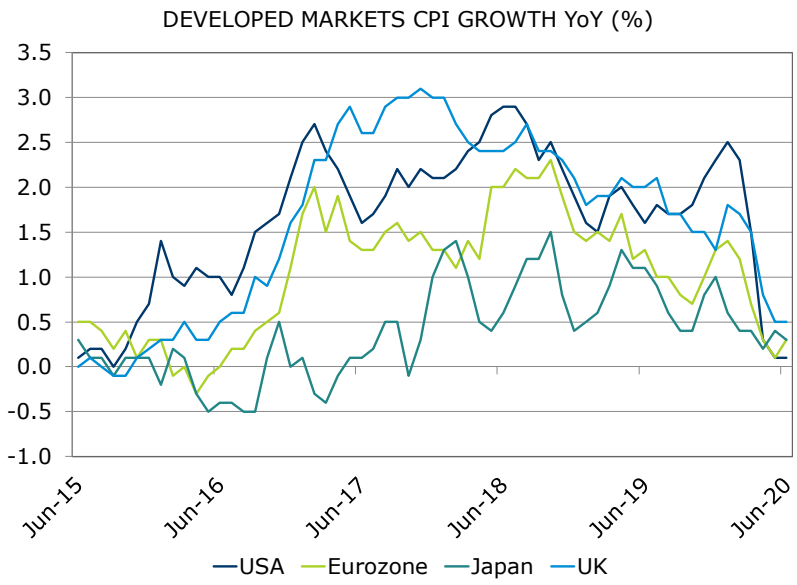
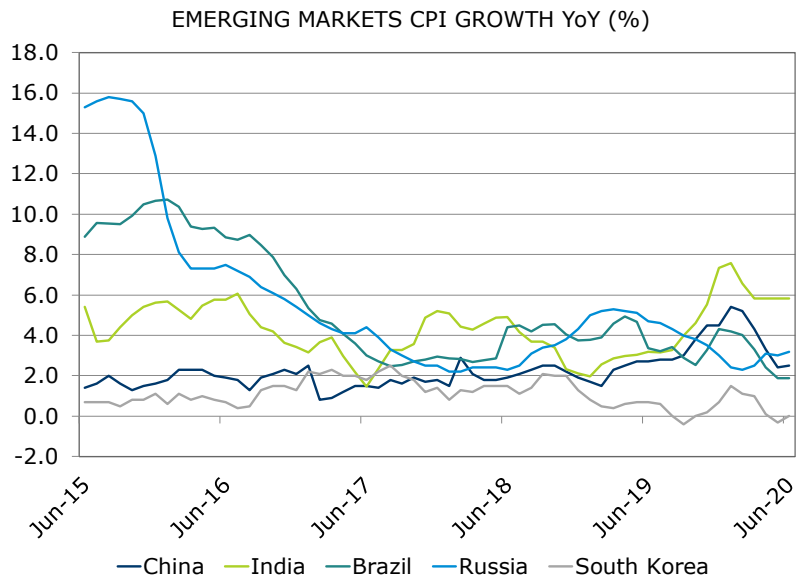
NON-U.S. GROWTH AND INFLATION









Data sources: Bloomberg

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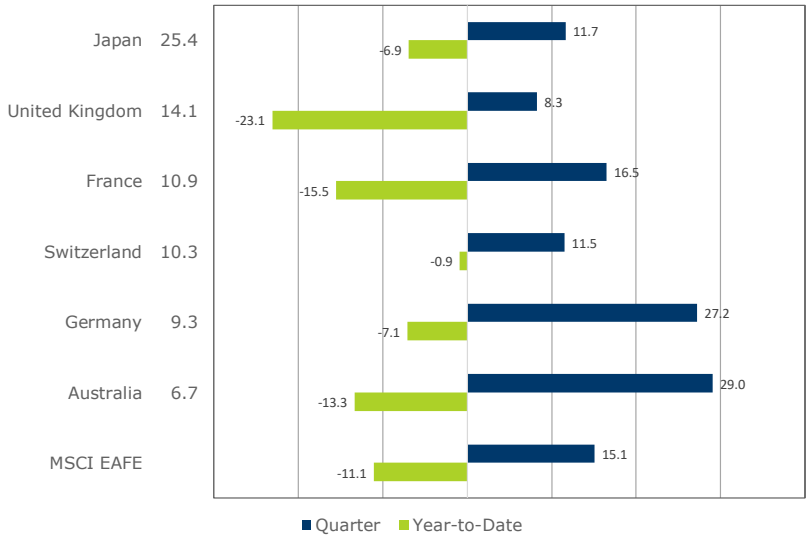
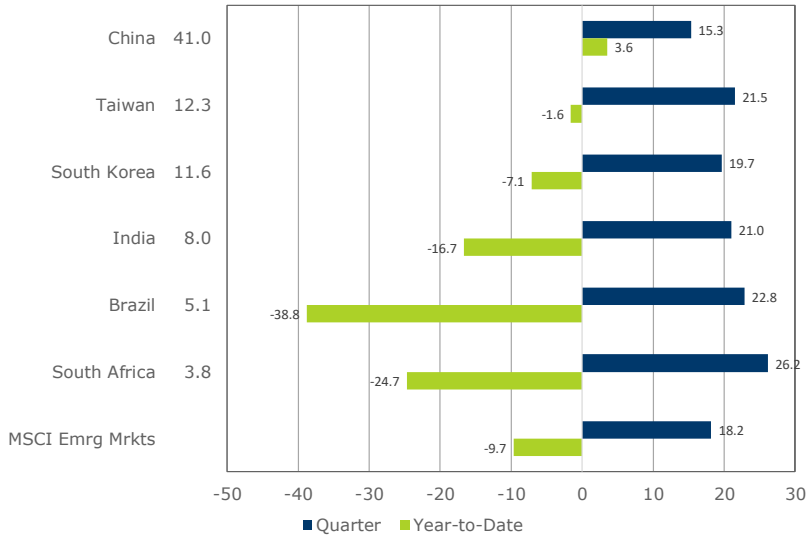
NON-U.S. EQUITY MARKET

AS OF 6/30/2020	QTR	YTD	1 YR	3 YR	5 YR	10 YR
MSCI ACWI EX-US ($G)	16.3	-10.8	-4.4	1.6	2.7	5.5
MSCI EAFE ($G)	15.1	-11.1	-4.7	1.3	2.5	6.2
MSCI EMERGING MARKETS ($G)	18.2	-9.7	-3.0	2.3	3.2	3.6
MSCI FRONTIER MARKETS ($G)	16.2	-20.4	-20.7	-4.5	-2.4	1.9
MSCI ACWI EX-US GROWTH ($G)	19.2	-2.4	6.1	6.4	6.0	7.4
MSCI ACWI EX-US VALUE ($G)	13.7	-19.2	-14.4	-3.4	-0.4	3.6
MSCI ACWI EX-US SMALL ($G)	23.0	-12.6	-4.0	0.2	2.9	6.4
MSCI ACWI MINIMUM VOLATILITY	9.9	-7.5	-1.9	6.4	7.6	10.4
MSCI EAFE MINIMUM VOLATILITY	7.5	-10.0	-5.1	2.2	4.0	7.6
FTSE RAFI DEVELOPED EX-US	13.8	-17.6	-12.1	-2.7	0.1	4.2
MSCI EAFE LC (G)	12.8	-10.3	-3.8	1.7	3.1	7.4
MSCI EMERGING MARKETS LC (G)	16.8	-5.4	1.7	4.9	5.5	6.4

DEVELOPED MARKETS WEIGHT AND RETURN (%)



EMERGING MARKETS WEIGHT AND RETURN (%)



Data sources: Bloomberg

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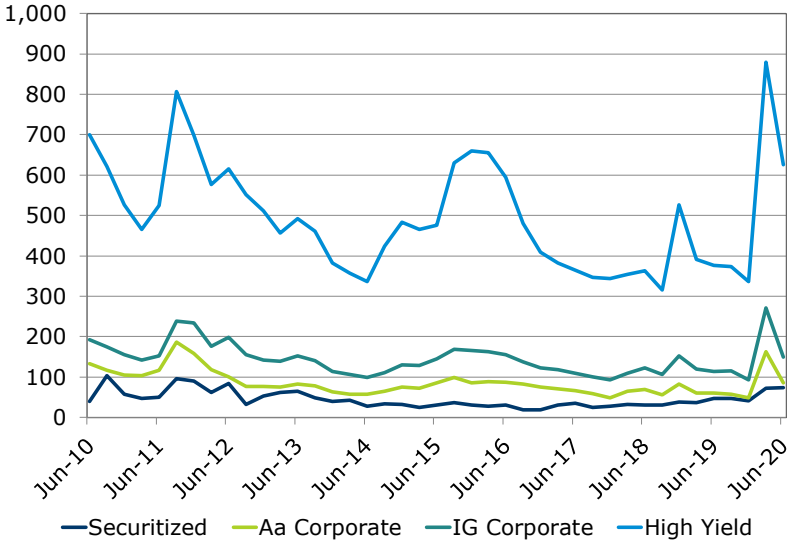
U.S. FIXED INCOME

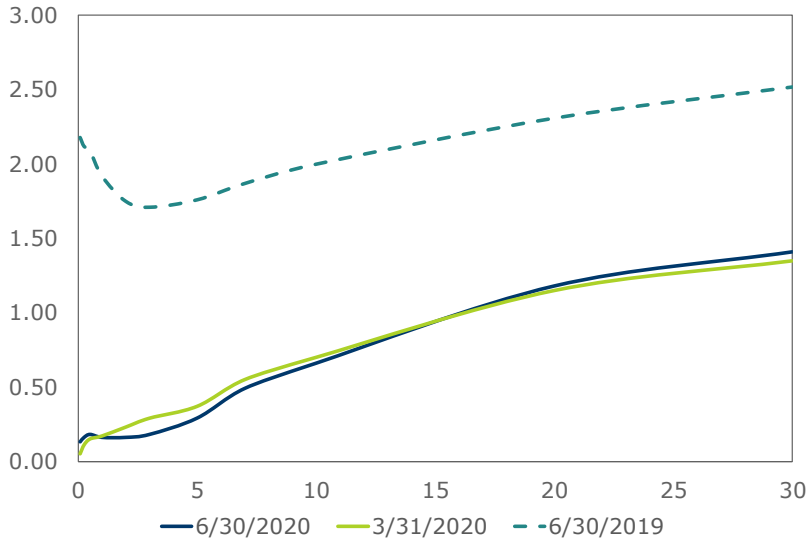
AS OF 6/30/2020	YTW	DUR.	QTR	YTD	1 YR	3 YR	5 YR	10 YR
BLOOMBERG BARCLAYS AGGREGATE	1.3	6.0	2.9	6.1	8.7	5.3	4.3	3.8
BLOOMBERG BARCLAYS TREASURY	0.5	7.2	0.5	8.7	10.4	5.6	4.1	3.4
BLOOMBERG BARCLAYS GOV'T-REL.	1.3	6.0	3.4	3.9	6.6	4.8	3.9	3.5
BLOOMBERG BARCLAYS SECURITIZED	1.4	2.3	0.9	3.6	5.7	4.0	3.3	3.2
BLOOMBERG BARCLAYS CORPORATE	2.1	8.5	9.0	5.0	9.5	6.3	5.8	5.5
BLOOMBERG BARCLAYS LT G/C	2.4	16.8	6.2	12.8	18.9	10.3	9.0	7.8
BLOOMBERG BARCLAYS LT TREASURY	1.3	19.4	0.2	21.2	25.4	12.0	9.3	7.7
BLOOMBERG BARCLAYS LT GOV't-REL.	2.9	13.5	8.2	4.3	10.0	8.0	7.1	7.2
BLOOMBERG BARCLAYS LT CORP.	3.2	15.2	11.4	6.3	13.8	8.8	8.8	7.8
BLOOMBERG BARCLAYS U.S. TIPS *	0.6	7.8	4.2	6.0	8.3	5.0	3.7	3.5
BLOOMBERG BARCLAYS HIGH YIELD	6.9	3.9	10.2	-3.8	0.0	3.3	4.8	6.7
TREASURY BILLS	0.1	0.3	0.0	0.7	1.7	1.8	1.2	0.7

* Yield and Duration statistics are for a proxy index based on similar maturity, the Bloomberg Barclays U.S. Treasury 7-10 Year Index

FIXED INCOME OPTION ADJUSTED SPREAD (BPS)



TREASURY YIELD CURVE (%)



Data sources: Bloomberg

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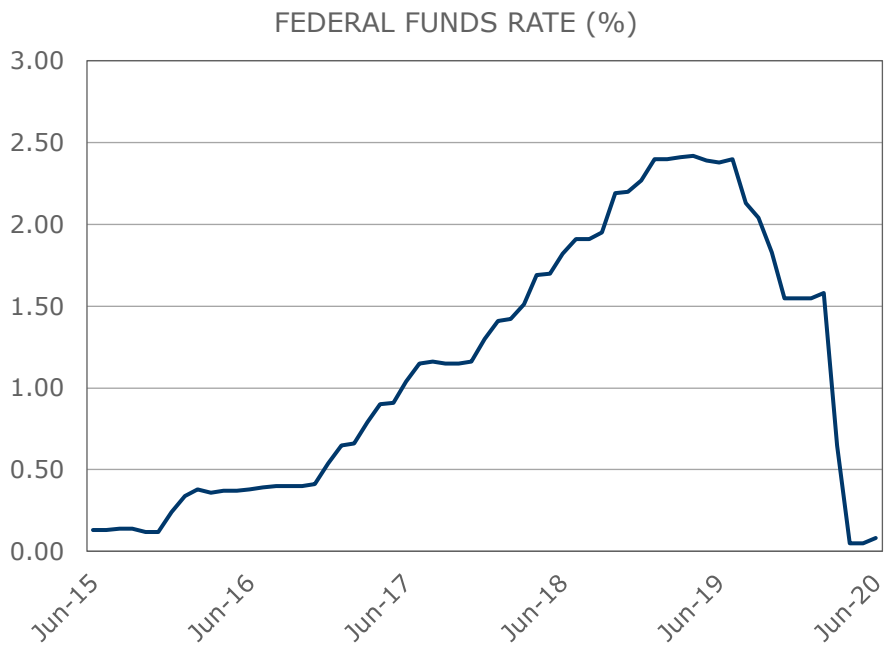
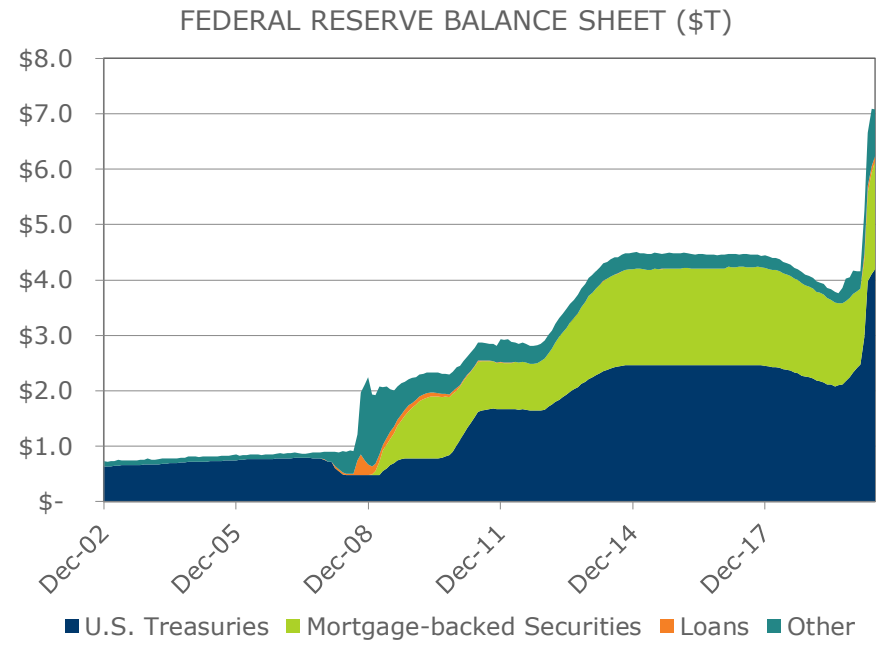
FEDERAL RESERVE

- Current expectation for the Fed-funds rate is to remain near zero through 2022
- Federal Reserve has added nearly $3 trillion in assets to their balance sheet just this year
- Unlike after the GFC, the Fed is also buying corporate and municipal bonds in addition to Treasuries and MBS

	Announced	Closed	Amount (bil)
QE1	11/25/2008	3/31/2010	$1,403
QE2	11/3/2010	6/29/2012	$568
QE3	9/13/2012	10/29/2014	$1,674
QE4	3/23/2020		$2,924





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Data Source: Bloomberg, JP Morgan

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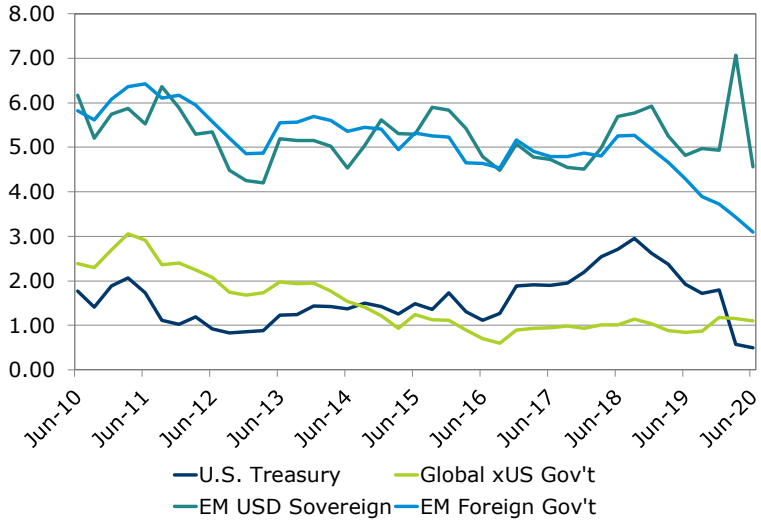
NON-U.S. FIXED INCOME

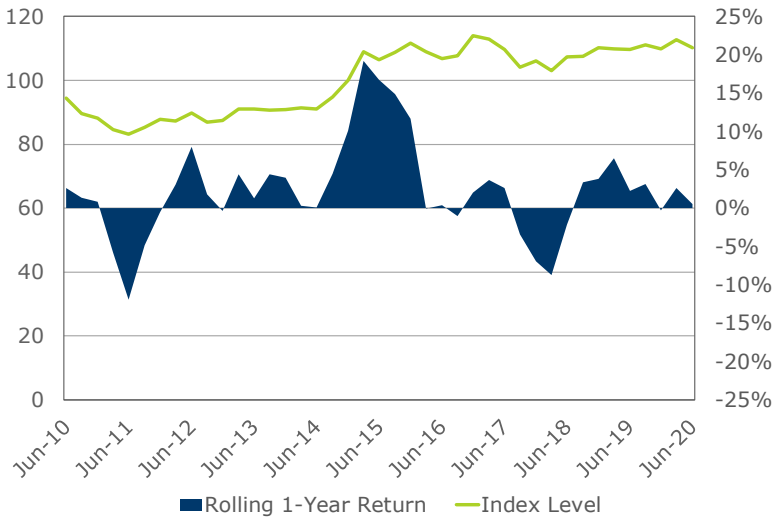
AS OF 6/30/2020	QTR	YTD	1 YR	3 YR	5 YR	10 YR
DEVELOPED MARKETS						
BLMBRG BRCLYS GLBL AGGREGATE xUS	3.4	0.6	0.7	2.5	2.9	2.0
BLMBRG BRCLYS GLBL AGGREGATE xUS *	1.8	2.3	4.0	4.9	4.5	4.2
BLMBRG BRCLYS GLOBAL INF LNKD xUS	8.3	2.0	3.4	3.5	2.8	4.2
BLMBRG BRCLYS GLOBAL INF LNKD xUS *	7.4	6.7	7.3	6.5	6.6	6.3
EMERGING MARKETS (HARD CURRENCY)						
BLMBRG BRCLYS EM USD AGGREGATE	10.0	-0.4	3.0	4.2	5.2	6.0
EMERGING MARKETS (FOREIGN CURRENCY)						
BLMBRG BRCLYS EM LOCAL CURR. GOV'T	4.5	-3.4	-0.1	2.4	2.8	2.9
BLMBRG BRCLYS EM LOCAL CURR. GOV'T *	2.2	2.9	6.3	5.0	4.2	3.6
EURO vs. DOLLAR	1.8	0.2	-1.2	-0.6	0.2	-0.9
YEN vs. DOLLAR	-0.4	0.6	-0.1	1.4	2.6	-2.0
POUND vs. DOLLAR	-0.2	-6.5	-2.3	-1.6	-4.6	-1.8

* Returns are reported in terms of local market investors, which removes currency effects.

GLOBAL FIXED INCOME YIELD TO WORST (%)



U.S. DOLLAR INDEX: ADVANCED ECONOMIES



Data sources: Bloomberg

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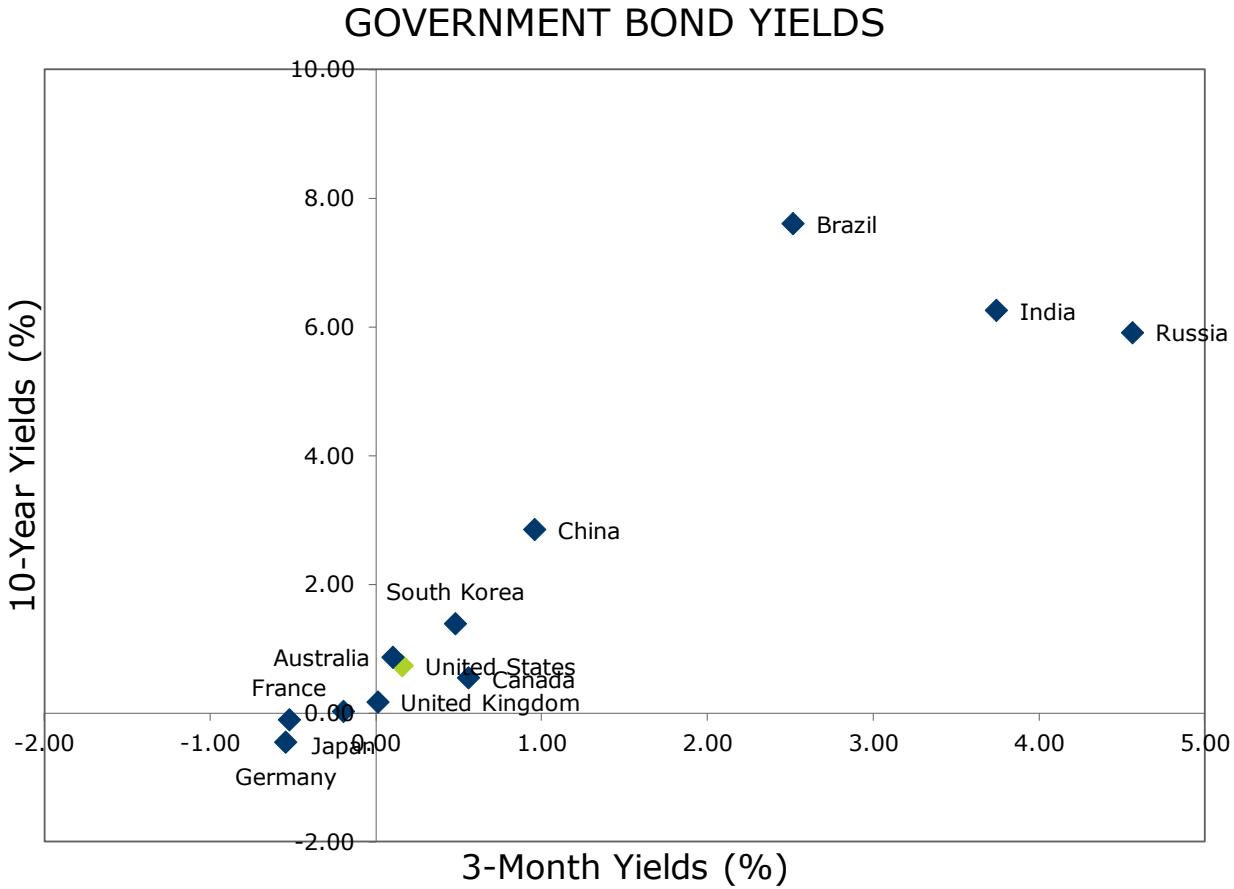
GLOBAL INTEREST RATES

Negative rates found in Germany and France; low but positive rates, and at similar levels, in the U.S. and Australia while the U.K. approaches zero in both the short and long-term



Data sources: Bloomberg

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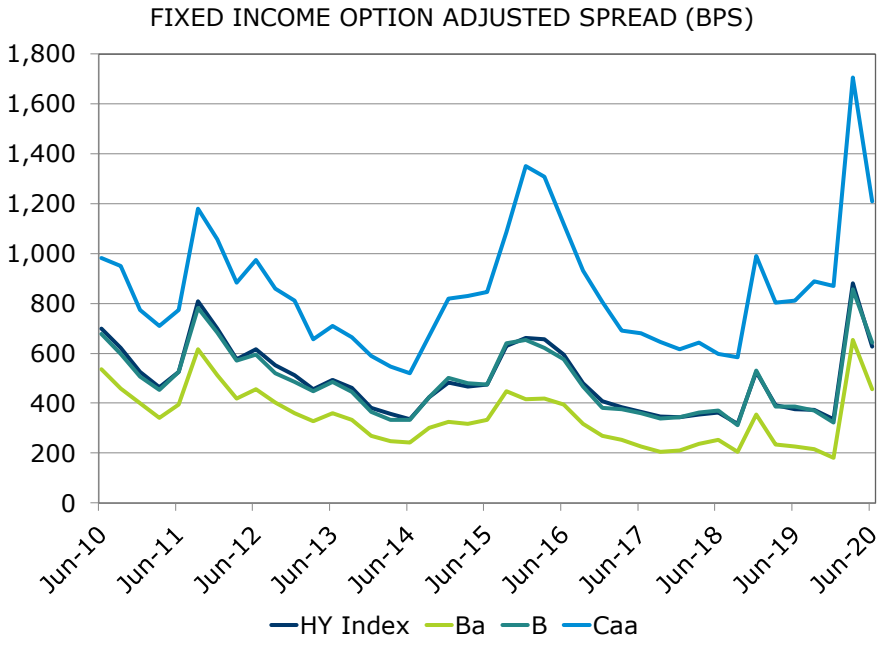
HIGH YIELD BOND MARKET

AS OF 6/30/2020		YTW	QTR	YTD	1 YR	3 YR	5 YR	10 YR
BLOOMBERG BARCLAYS HIGH YIELD		6.9	10.2	-3.8	0.0	3.3	4.8	6.7
S&P LSTA LEVERAGE LOAN INDEX		6.1	6.6	-3.9	-0.5	2.5	3.0	4.1
HIGH YIELD QUALITY DISTRIBUTION	WEIGHT							
Ba U.S. HIGH YIELD	55.2%	5.2	11.5	0.2	4.7	5.0	5.8	7.2
B U.S. HIGH YIELD	31.9%	7.1	8.6	-5.5	-1.4	3.0	4.1	6.3
Caa U.S. HIGH YIELD	12.2%	12.6	9.1	-13.3	-11.7	-1.9	2.6	5.8
Ca to D U.S. HIGH YIELD	0.7%	29.6	2.1	-28.3	-38.0	-10.3	-3.9	-5.7
Non-Rated U.S. HIGH YIELD	0.0%	0.0	6.1	-6.5	-5.2	0.4	-1.0	4.3



Data sources: Bloomberg

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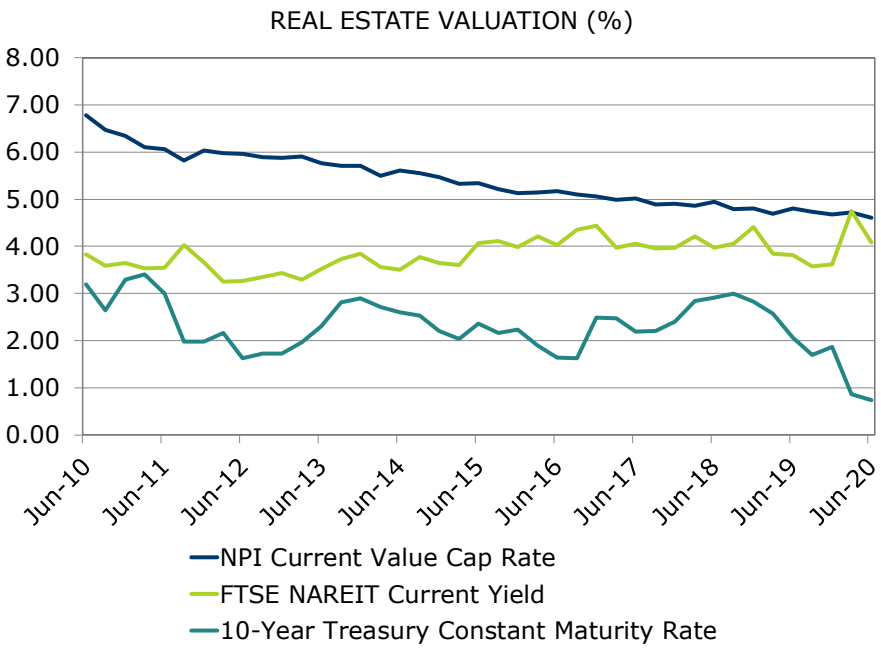
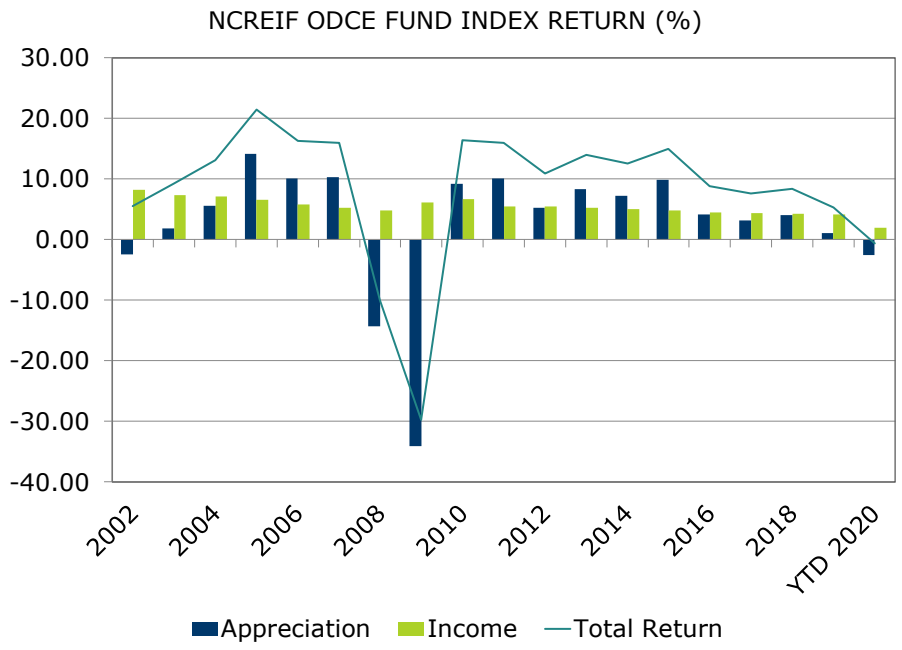
REAL ASSETS

AS OF 6/30/2020	QTR	YTD	1 YR	3 YR	5 YR	10 YR
BLOOMBERG BARCLAYS U.S. TIPS	4.2	6.0	8.3	5.0	3.7	3.5
BLOOMBERG COMMODITY INDEX	5.1	-19.4	-17.4	-6.1	-7.7	-5.8
WILSHIRE GLOBAL RESI INDEX	9.5	-20.3	-15.2	-0.7	2.6	8.3
NCREIF ODCE FUND INDEX	-1.6	-0.6	2.2	5.7	7.3	10.8
NCREIF TIMBERLAND INDEX	0.1	0.2	0.3	2.3	2.8	4.4
ALERIAN MIDSTREAM ENERGY	32.6	-29.6	-29.4	-8.9	-8.0	n.a.





Data sources: Bloomberg, National Council of Real Estate Investment Fiduciaries

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ASSET CLASS PERFORMANCE

ASSET CLASS RETURNS - BEST TO WORST						ANNUALIZED 5-YEAR AS OF 6/20
2015	2016	2017	2018	2019	2020 YTD	
REITs 4.2%	MLPs 18.3%	Emrg Mrkts 37.7%	T-Bills 1.9%	U.S. Equity 31.0%	Core Bond 6.1%	U.S. Equity 10.3%
U.S. Equity 0.7%	High Yield 17.1%	Developed 25.6%	Core Bond 0.0%	REITs 25.8%	U.S. TIPS 6.0%	High Yield 4.8%
Core Bond 0.6%	U.S. Equity 13.4%	U.S. Equity 21.0%	U.S. TIPS -1.3%	Developed 22.7%	T-Bills 0.7%	Core Bond 4.3%
T-Bills 0.1%	Commodities 11.8%	High Yield 7.5%	High Yield -2.1%	Emrg Mrkts 18.9%	U.S. Equity -3.3%	REITs 4.0%
Developed -0.4%	Emrg Mrkts 11.6%	REITs 4.2%	REITs -4.8%	High Yield 14.3%	High Yield -3.8%	U.S. TIPS 3.7%
U.S. TIPS -1.4%	REITs 7.2%	Core Bond 3.6%	U.S. Equity -5.3%	Core Bond 8.7%	Emrg Mrkts -9.7%	Emrg Mrkts 3.2%
High Yield -4.5%	U.S. TIPS 4.7%	U.S. TIPS 3.0%	Commodities -11.2%	U.S. TIPS 8.4%	Developed -11.1%	Developed 2.5%
Emrg Mrkts -14.6%	Core Bond 2.6%	Commodities 1.7%	MLPs -12.4%	Commodities 7.7%	REITs -17.8%	T-Bills 1.2%
Commodities -24.7%	Developed 1.5%	T-Bills 0.8%	Developed -13.4%	MLPs 6.6%	Commodities -19.4%	Commodities -7.7%
MLPs -32.6%	T-Bills 0.3%	MLPs -6.5%	Emrg Mrkts -14.2%	T-Bills 2.3%	Midstream -29.6%	MLPs -12.9%

Data sources: Bloomberg

Note: Developed asset class is developed equity markets ex-U.S., ex-Canada

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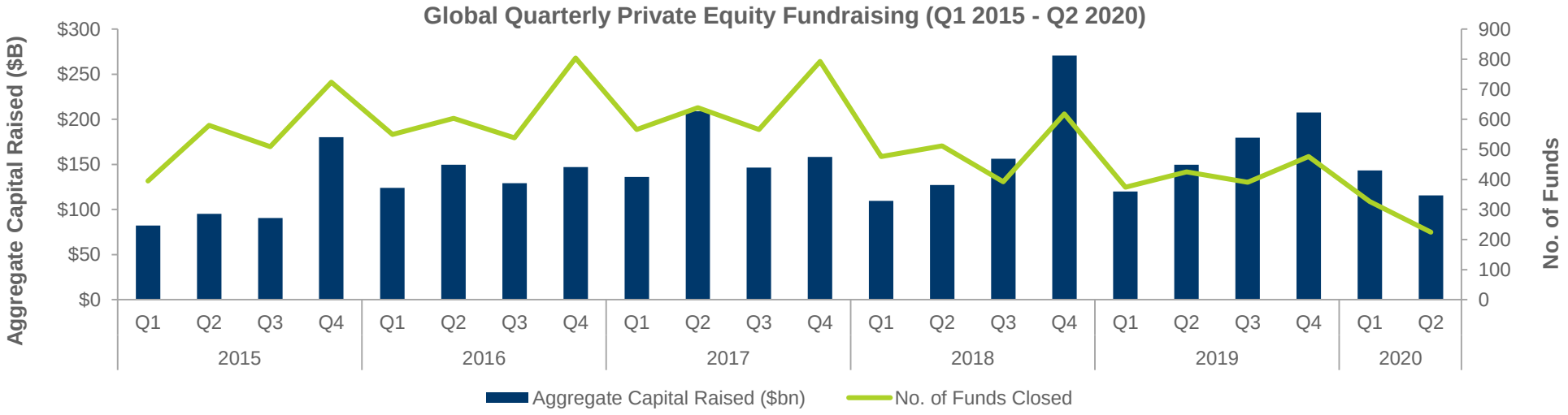
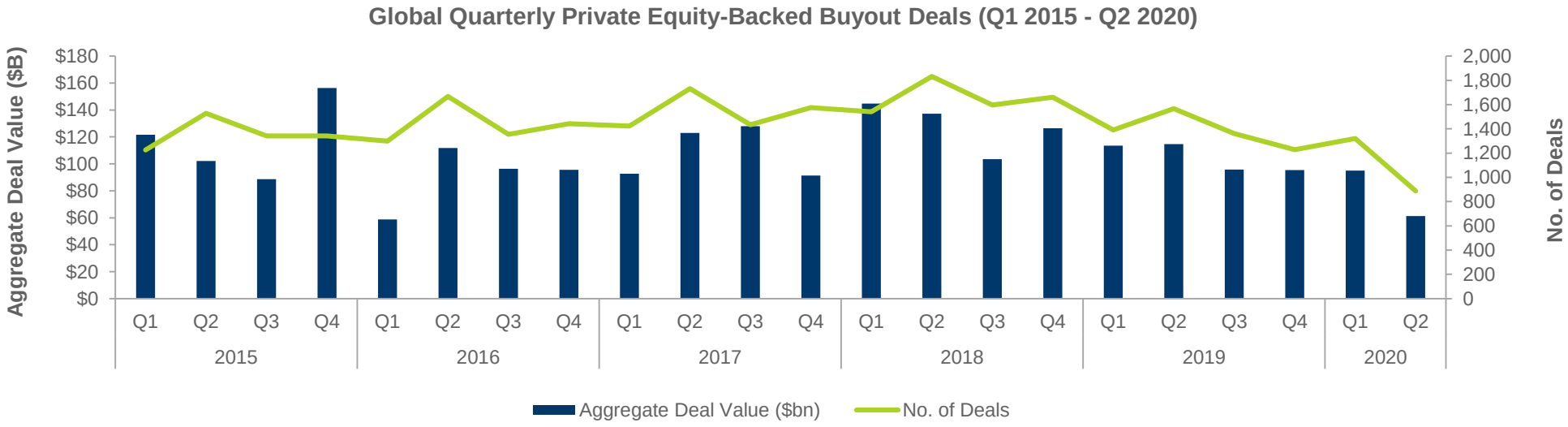
APPENDIX: PRIVATE MARKETS UPDATE

Wilshire Private Markets

PRIVATE EQUITY – FUNDRAISING & INVESTMENT ACTIVITY





Source: Preqin, as of June 30, 2020.

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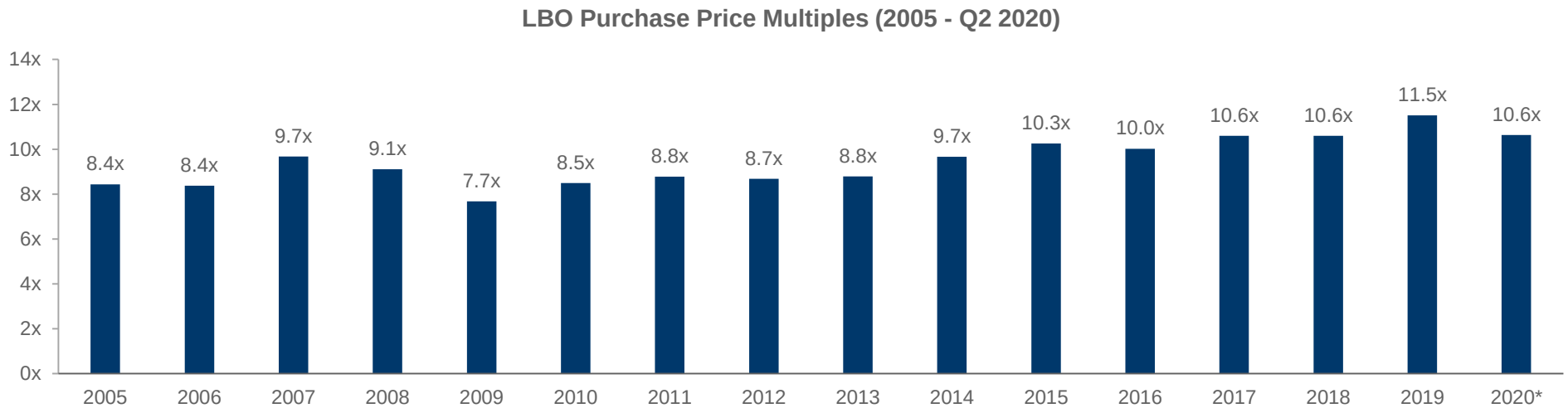
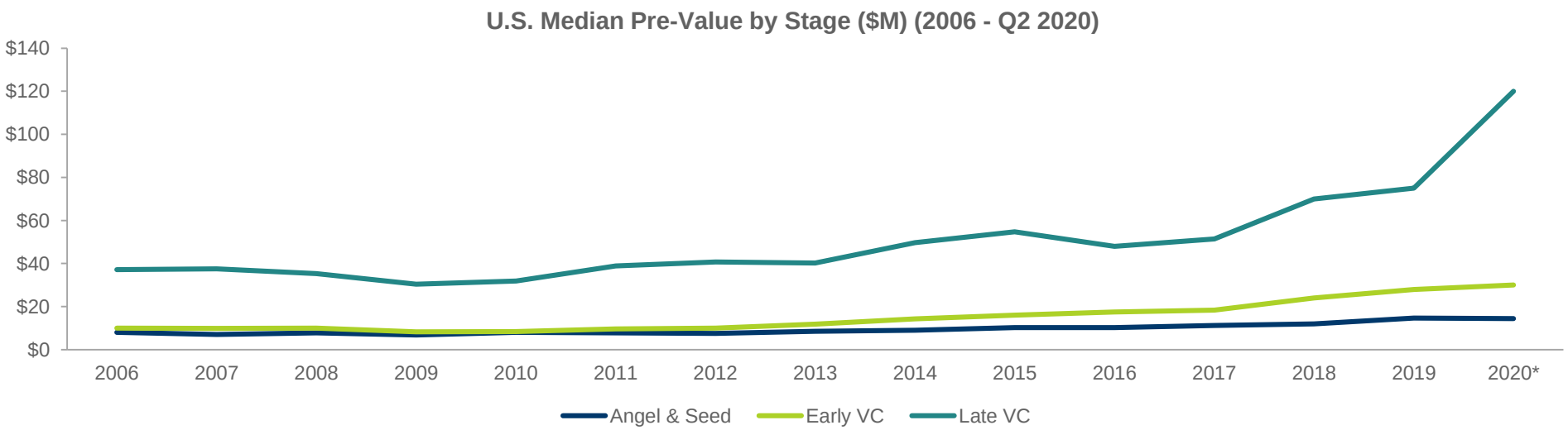
PRIVATE EQUITY – PRICING & VALUATIONS





Source: S&P LBO; PitchBook, *as of June 30, 2020.

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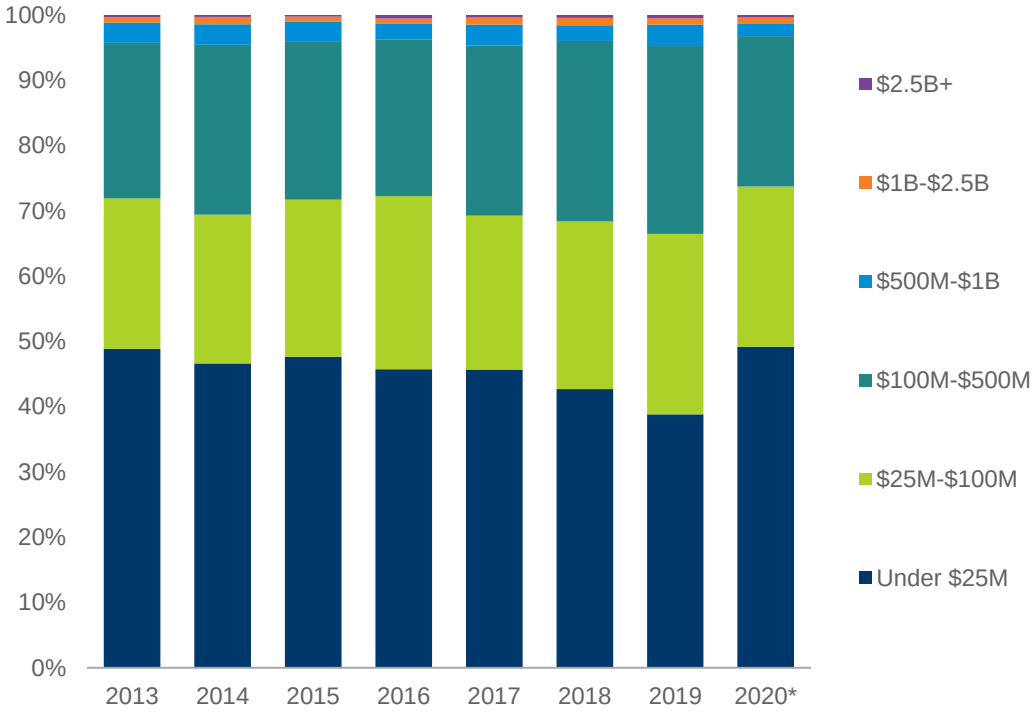
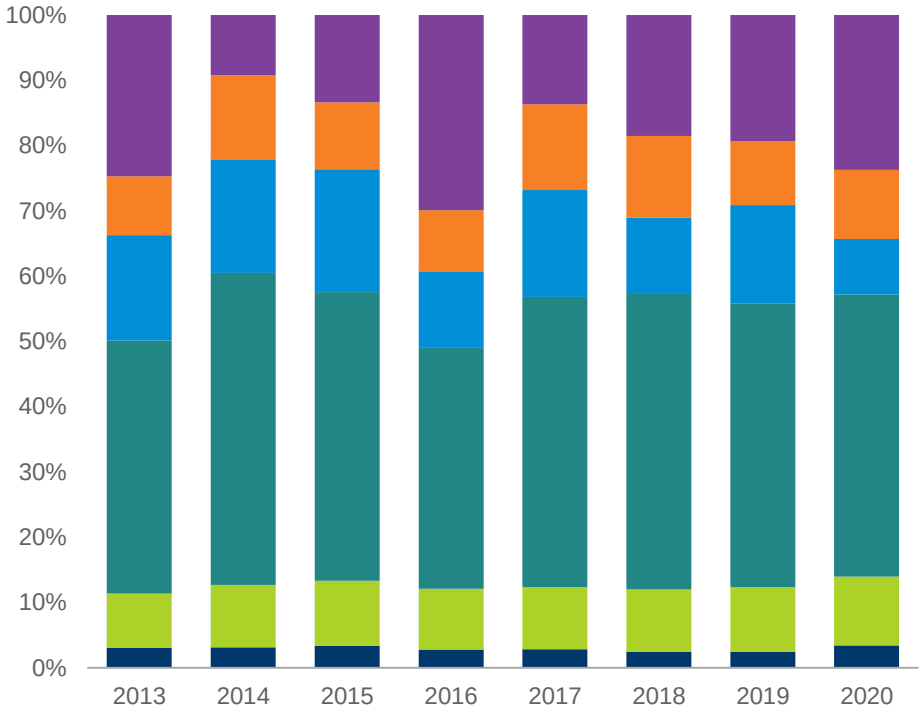
U.S. INVESTMENT ACTIVITY BY DEAL SIZE

Percentage of Deal Volume by Deal Size (by Count)*



Percentage of Deal Volume by Deal Size (by Dollars)*



- Deal volume continues to be dominated by lower middle market deals with investment sizes below $100 million through the second quarter of 2020
- However, deals with below $100 million check sizes comprised only 14% of all deal volume by amount of capital invested in the second quarter of 2020

Source: PitchBook, *as of June 30, 2020.

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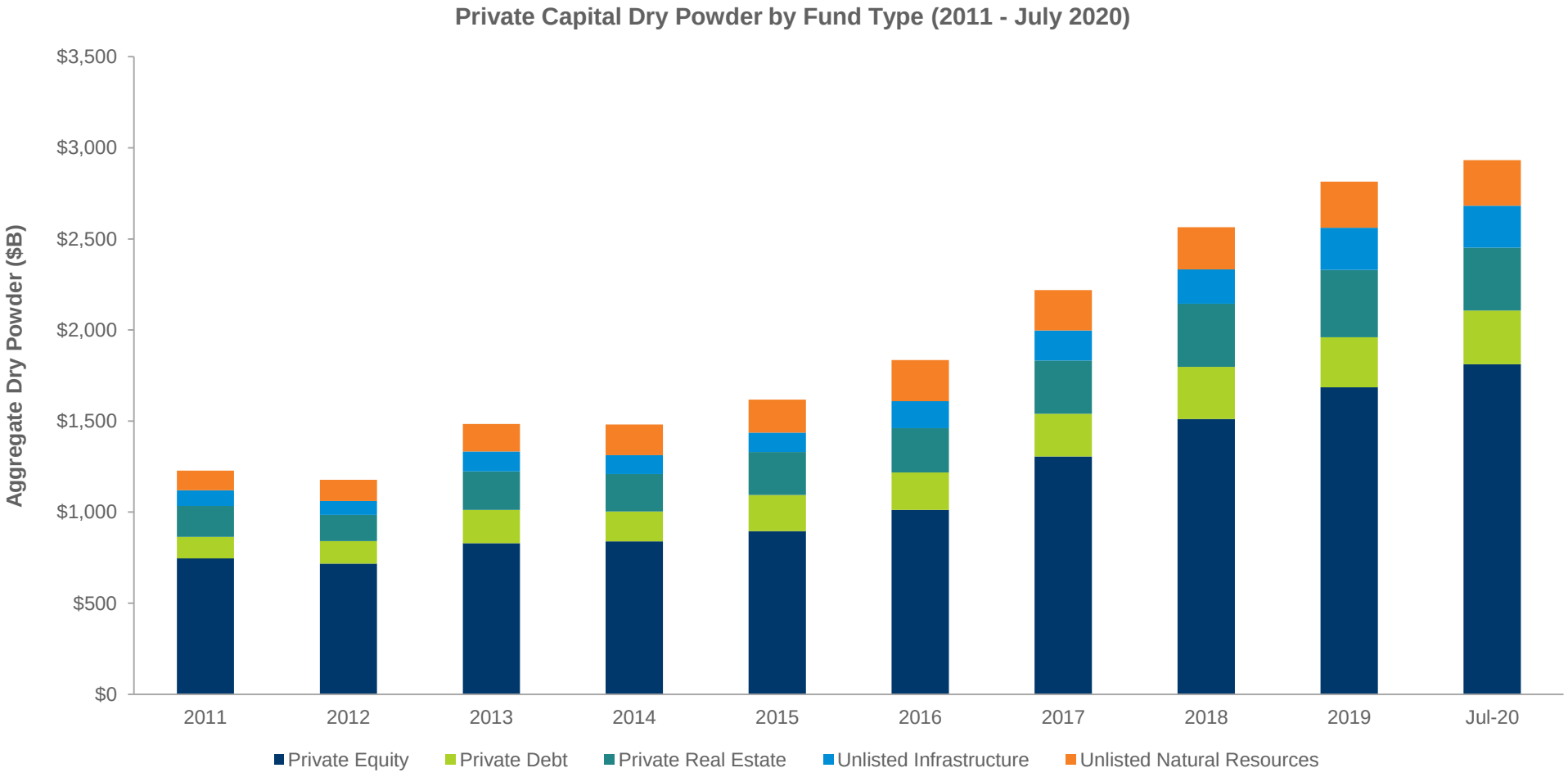
PRIVATE CAPITAL DRY POWDER



- Global private capital dry powder continues to increase, topping $2.9 trillion across all fund types
- Private equity comprises just over 60% of total dry powder in the market as of July 2020

Source: Preqin, as of July 27, 2020.

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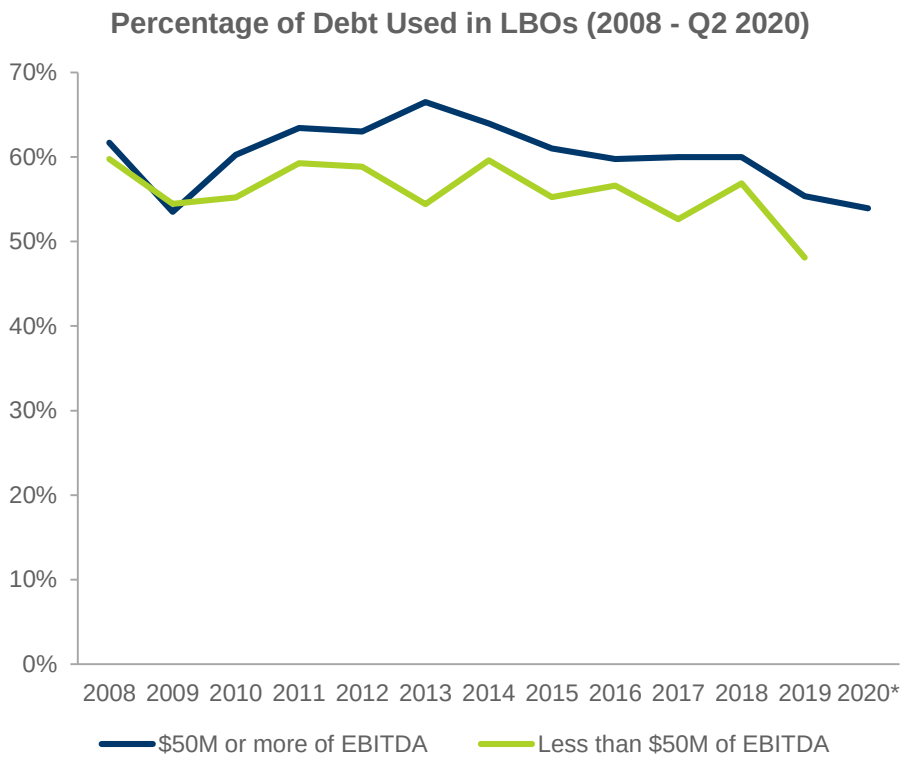
PRIVATE EQUITY - U.S. DEBT MARKETS



- 2020 has generated approximately $38 billion in loan volume so far and is on pace to see a slight decrease in loan volume from 2019
- As debt multiples continue to increase, the percentage of debt used to finance leveraged buyouts through the second quarter of 2020 has dropped from 2019 marks

Source: S&P LBO, *as of June 30, 2020. “Less than $50M of EBITDA” data for 2020 not yet available

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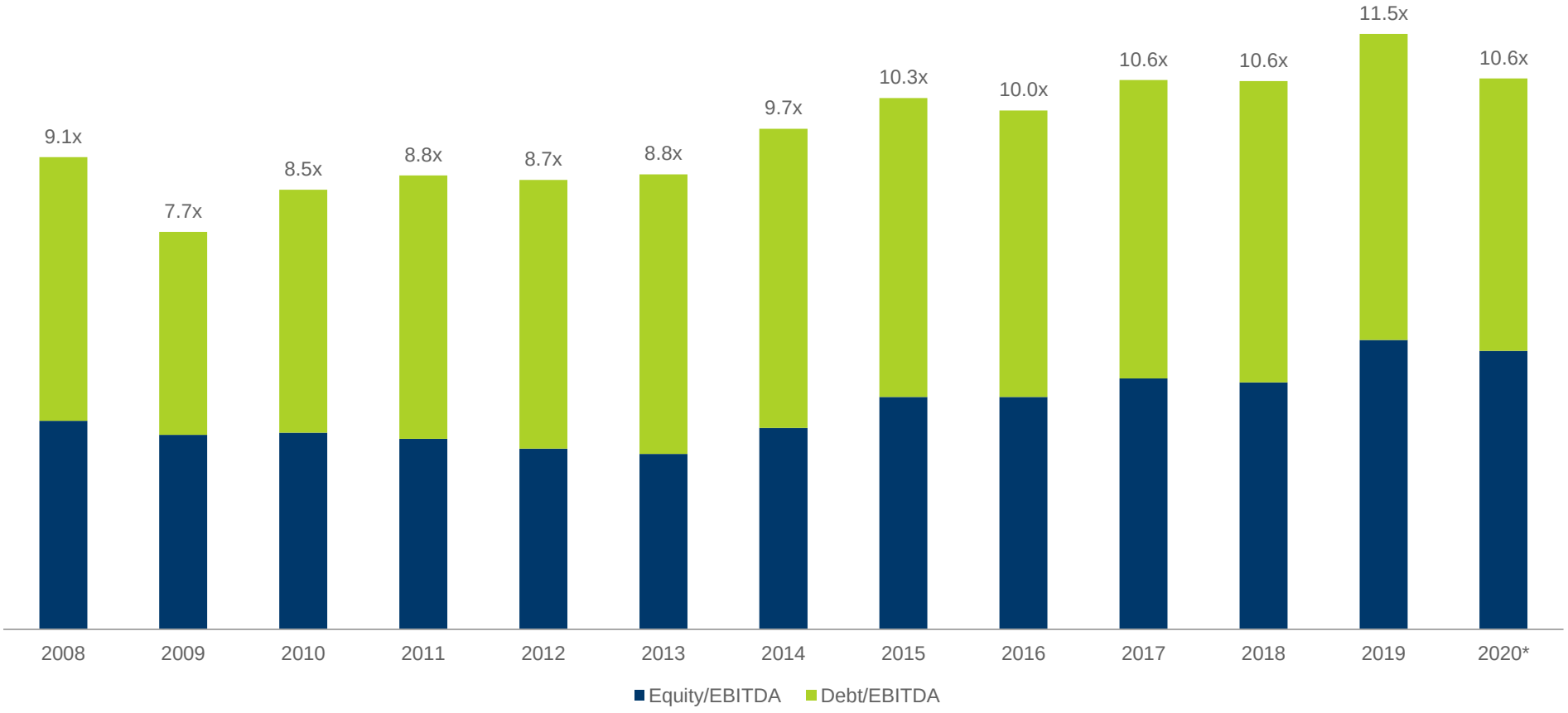
PRIVATE EQUITY - U.S. LBO PURCHASE PRICE MULTIPLES

Purchase Price Multiples of U.S. LBO Transactions (2008 - Q2 2020)



- Purchase price multiples for U.S. LBOs have slightly decreased through Q2 2020, relative to 2019 levels

Source: S&P LBO, *as of June 30, 2020.

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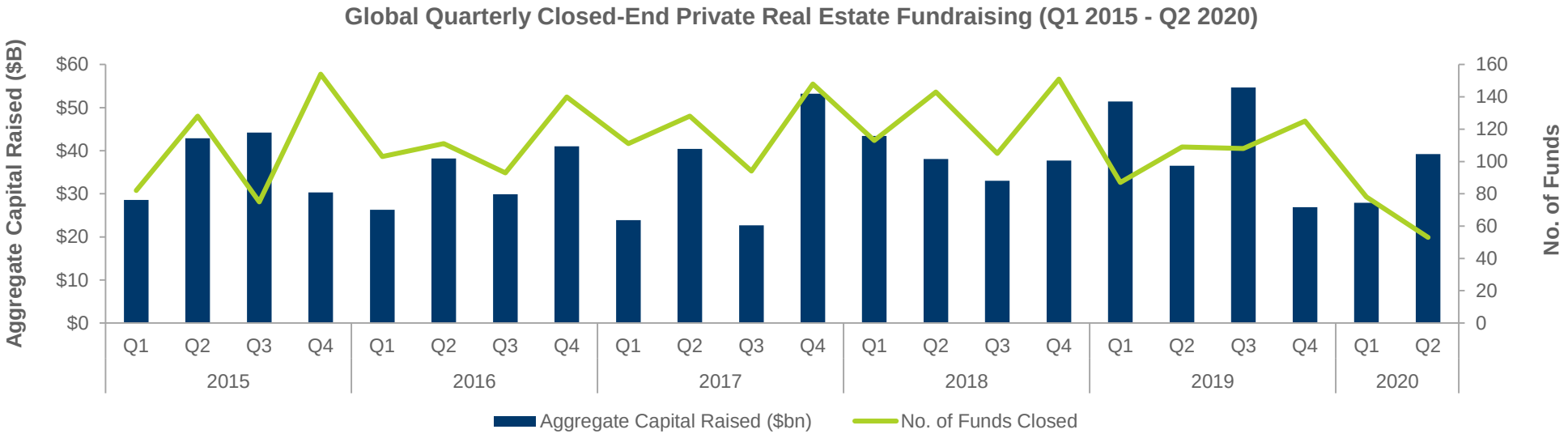
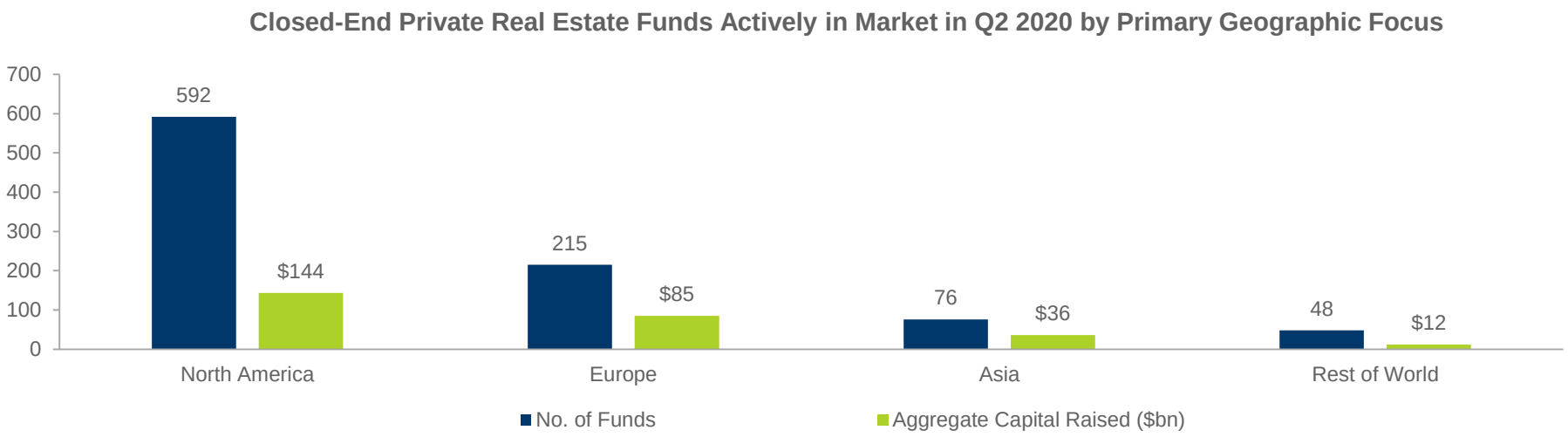
PRIVATE REAL ESTATE – FUNDRAISING ACTIVITY





Source: Preqin, as of June 30, 2020.

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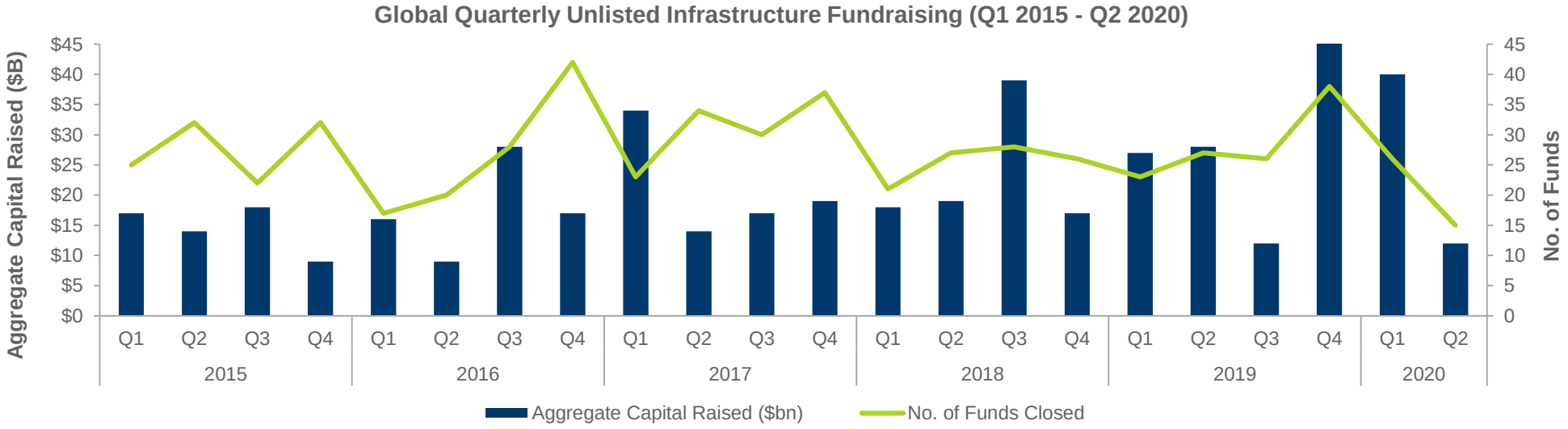
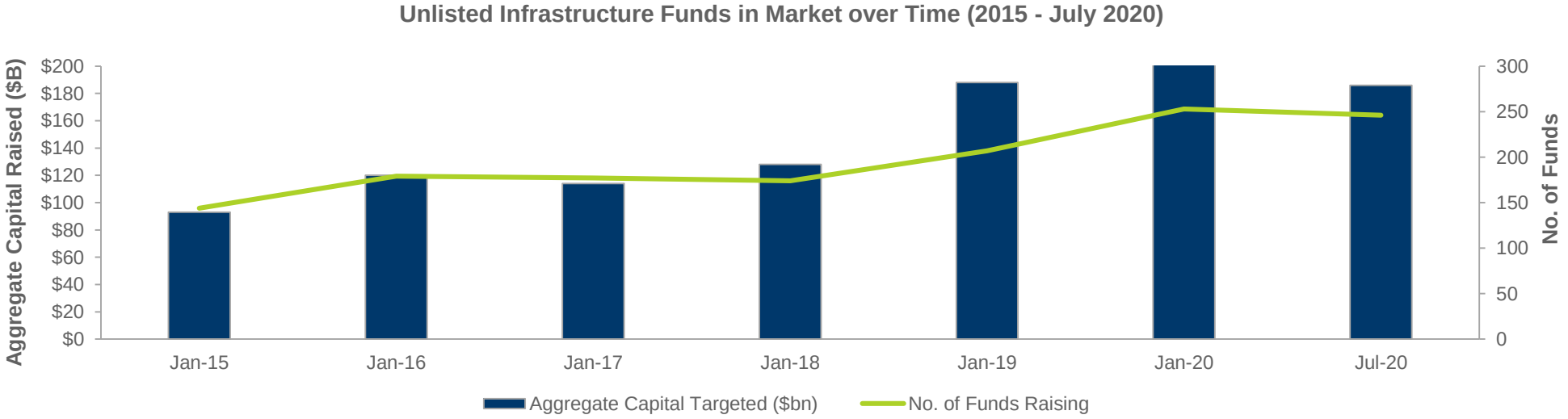
UNLISTED INFRASTRUCTURE – FUNDRAISING & INVESTMENT ACTIVITY





Source: Preqin, as of June 30, 2020.

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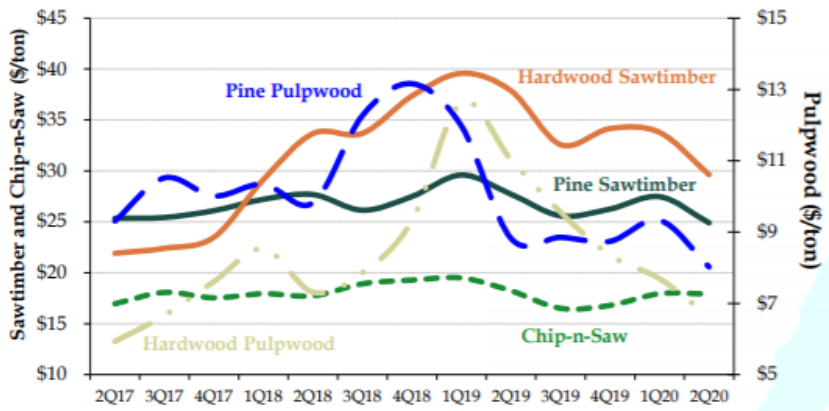
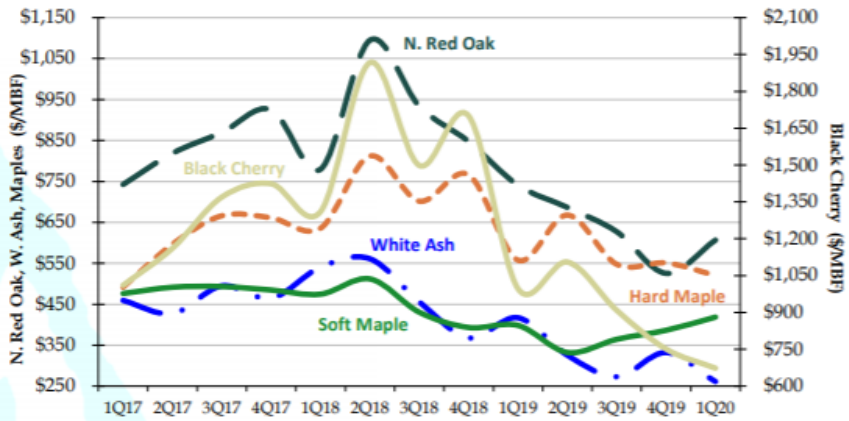
TIMBER

Southeastern Timber Prices



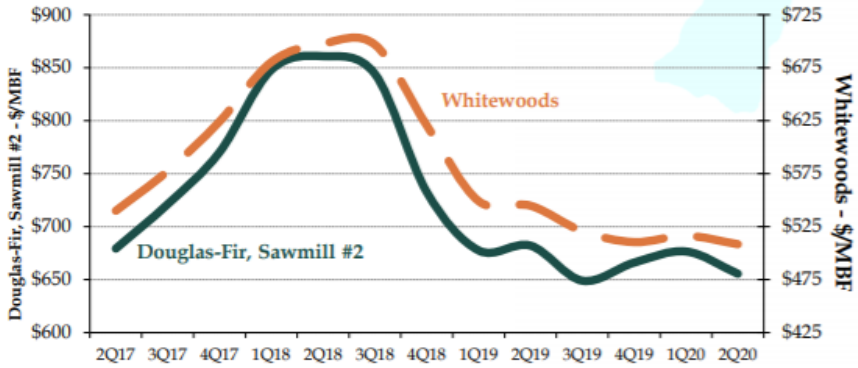
Source: Forest2Market®

Northeastern Hardwood Timber Prices



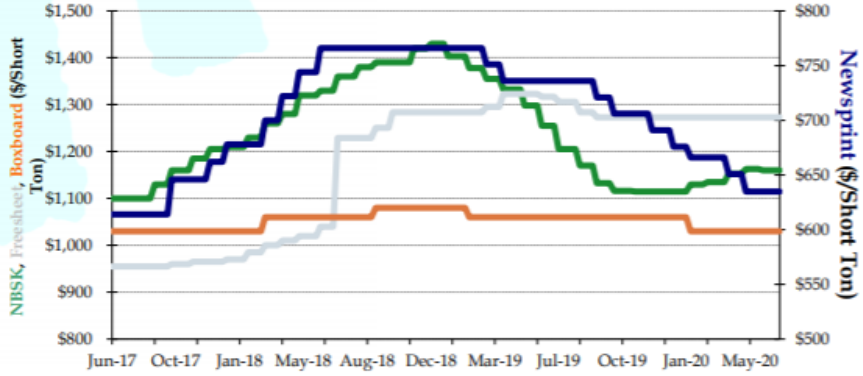
Source: Pennsylvania Woodlands Timber Market Report - Northwest Region

Pacific Northwest Timber Prices



Source: Fastmarkets RISI - Log Lines®

Pulp and Paper



Source: Fastmarkets RISI

Data sources: Forest Investment Associates

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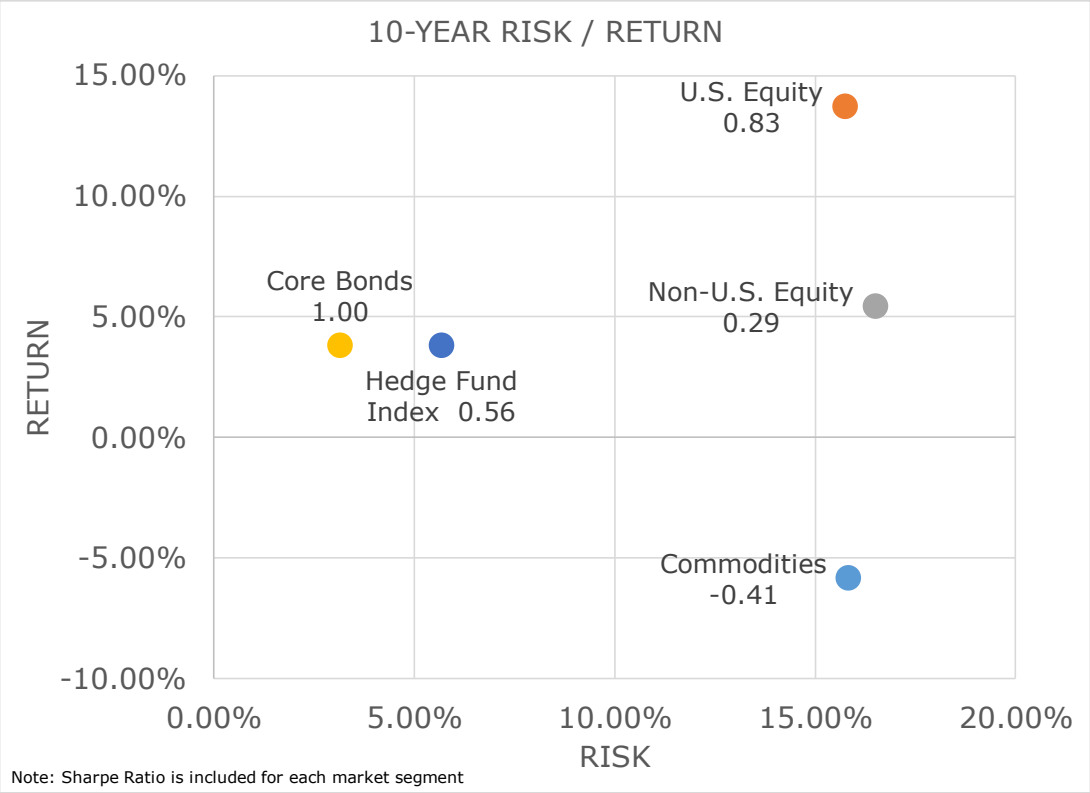
HEDGE FUND PERFORMANCE

AS OF 6/30/2020	QTR	YTD	1 YR	3 YR	5 YR	10 YR
DJ CS HEDGE FUND INDEX	6.2	-3.3	-0.7	2.1	1.6	3.8
EVENT DRIVEN	9.8	-7.6	-6.9	-0.5	-0.7	2.5
GLOBAL MACRO	4.6	-3.9	-1.1	3.2	1.8	3.9
LONG/SHORT EQUITY	9.8	-2.5	2.6	3.5	2.7	5.2
MULTI-STRATEGY	3.9	-2.8	-0.9	1.6	3.0	5.7
WILSHIRE 5000	21.9	-3.3	6.8	10.1	10.3	13.7
MSCI ACWI EX-US ($G)	16.3	-10.8	-4.4	1.6	2.7	5.5
BLOOMBERG BARCLAYS AGGREGATE	2.9	6.1	8.7	5.3	4.3	3.8
BLOOMBERG COMMODITY INDEX	5.1	-19.4	-17.4	-6.1	-7.7	-5.8



Note: Sharpe Ratio is included for each market segment

Data sources: Bloomberg

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