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Catholic Community Foundation for Eastern South Dakota

Investment Review

April 21, 2020

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Market Environment

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Market performance
March 2020

COVID-19 has continued to spread at a rapid pace around the world and has now been declared a global pandemic by the WHO. This has caused a severe shock to the global economy, pushing it into a deep and far reaching recession. Financial markets have responded with huge drops in equities, a rise in credit spreads and a flight to the safety of government bonds[1].

In anticipation of the economic growth fallout, S&P Global ratings reported to lowered its forecast for global growth to just 0.4% this year and predicts a rebound to 4.9% in 2021. According to Bloomberg, the current Q2 GDP average estimate of -11.2% (annualized) would be the worst post-WWII quarter on record, surpassing the -10% in Q1 1958[2], with some forecasters anticipating declines for Q2 of an annualized -30%[3].

Unemployment spiked as companies furloughed and laid off staff as many businesses were forced to close in order to facilitate social distancing. Additionally, firms have reduced their earnings guidance for 2020, or have withdrawn it completely.

Worldwide, central banks and governments announced fiscal and monetary rescue packages to soften the economic impact of the virus and the associated business disruptions.

Global equities and other risky assets declined as well. Stocks in China and Japan held up relatively well in aggregate, while markets in Latin America, Australia, and India lost north of 25%. In Europe, stocks in Italy and Spain were hit hard, trailing US stocks by almost 10 points. Small cap and value stocks suffered more than the broader market, and energy stocks dropped 36%.

High yield and emerging market debt suffered similar declines as equities. While US Treasuries rallied, investment grade corporate bonds declined. Commodities sold off heavily in March.

The US dollar gained broadly, and the VIX soared to levels last seen during the 2008 global financial crisis.

[1] Coronavirus Outbreak Investments Implications Update March 18, 2020
[2] Source: Federal Reserve Bank of St. Louis, FRED.
[3] Source: Bloomberg, 2020 GDP estimate is the average of all contributors updated since March 15, 2020 (accessed April 1, 2020).

As of 3/31/2020	1-Week	MTD	YTD	1-Year	3-Year
MSCI ACWI	6.4%	-13.5%	-21.4%	-11.3%	1.5%
MSCI ACWI Small Cap	7.8%	-21.0%	-30.2%	-23.1%	-4.5%
MSCI World	6.5%	-13.2%	-21.1%	-10.4%	1.9%
Russell 3000	5.7%	-13.8%	-20.9%	-9.1%	4.0%
S&P 500	5.6%	-12.4%	-19.6%	-7.0%	5.1%
Russell 1000	5.7%	-13.2%	-20.2%	-8.0%	4.6%
Russell 1000 Growth	5.1%	-9.8%	-14.1%	0.9%	11.3%
Russell 1000 Value	6.5%	-17.1%	-26.7%	-17.2%	-2.2%
Russell 2500	6.2%	-21.7%	-29.7%	-22.5%	-3.1%
Russell 2500 Growth	5.3%	-17.7%	-23.2%	-14.4%	3.4%
Russell 2500 Value	7.0%	-24.9%	-34.6%	-28.6%	-8.4%
Russell 2000	5.2%	-21.7%	-30.6%	-24.0%	-4.6%
MSCI AC World ex US	7.3%	-14.5%	-23.4%	-15.6%	-2.0%
MSCI EAFE	7.8%	-13.3%	-22.8%	-14.4%	-1.8%
MSCI EAFE Small Cap	10.0%	-17.2%	-27.5%	-18.1%	-2.9%
MSCI EM	5.9%	-15.4%	-23.6%	-17.7%	-1.6%
Bloomberg Barclays T-Bill 1-3 Months	0.0%	0.2%	0.5%	2.1%	1.7%
Bloomberg Barclays Aggregate	1.8%	-0.6%	3.1%	8.9%	4.8%
Bloomberg Barclays Treasury	0.6%	2.9%	8.2%	13.2%	5.8%
Bloomberg Barclays Long Treasury	0.2%	6.1%	20.9%	32.6%	13.4%
Bloomberg Barclays Credit	5.2%	-6.6%	-3.1%	5.1%	4.2%
Bloomberg Barclays Long Credit	8.5%	-10.2%	-4.7%	9.0%	6.6%
Bloomberg Barclays High Yield	8.2%	-11.5%	-12.7%	-6.9%	0.8%
Blmbg Barc. Global EMD - Local	2.4%	-6.0%	-7.6%	-1.1%	1.5%
FTSE EPRA/NAREIT United States	11.5%	-24.1%	-29.8%	-26.8%	-7.9%
FTSE EPRA/NAREIT Developed	10.2%	-23.2%	-29.1%	-26.2%	-6.7%
Alerian Energy MLP	8.6%	-47.2%	-57.2%	-61.0%	-28.9%
FTSE Global Core Infr. 50/50	9.5%	-15.5%	-21.4%	-13.0%	1.1%
Bloomberg Commodity TR	-3.0%	-12.8%	-23.3%	-22.3%	-8.6%

Source: Bloomberg.

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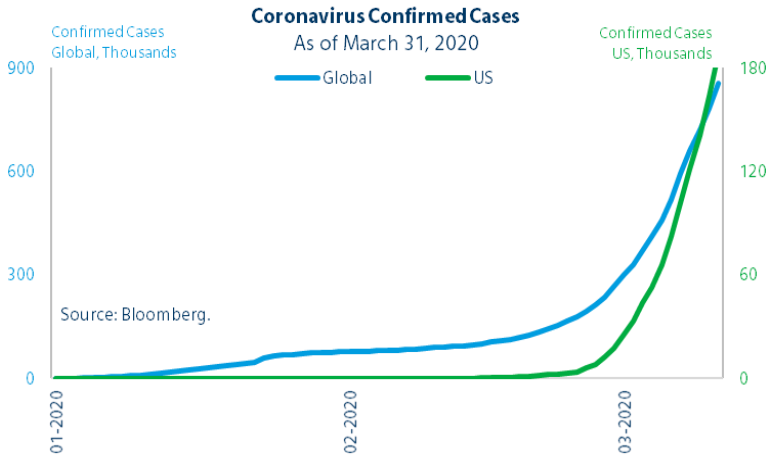
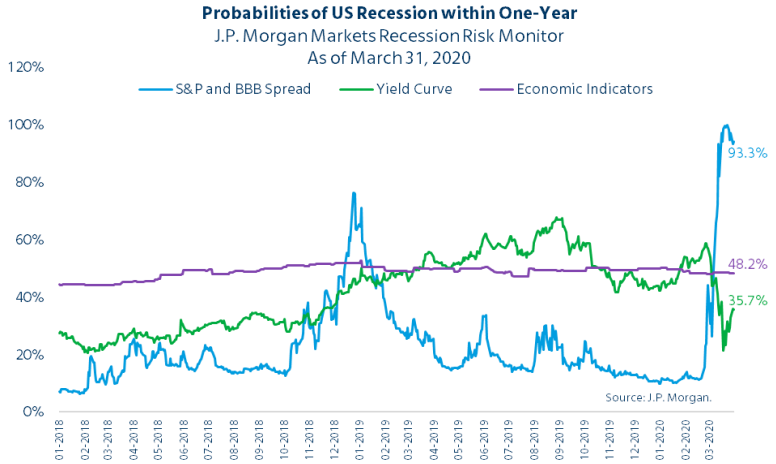
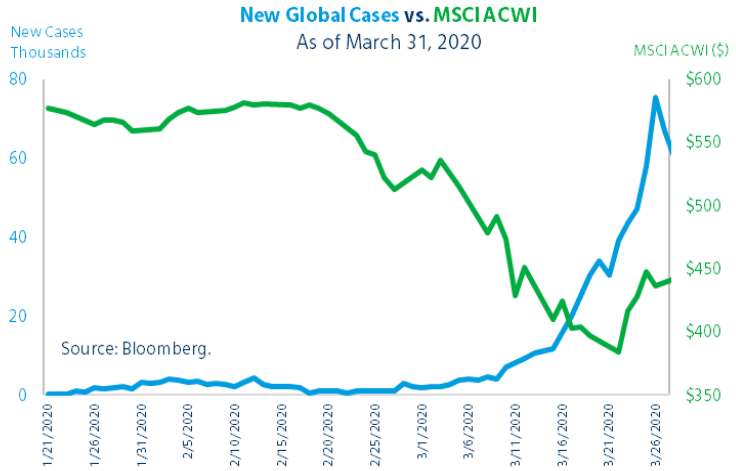
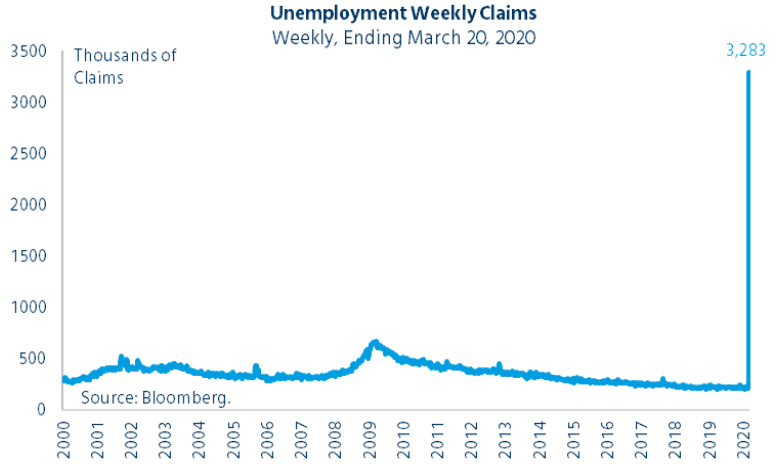
Macro view









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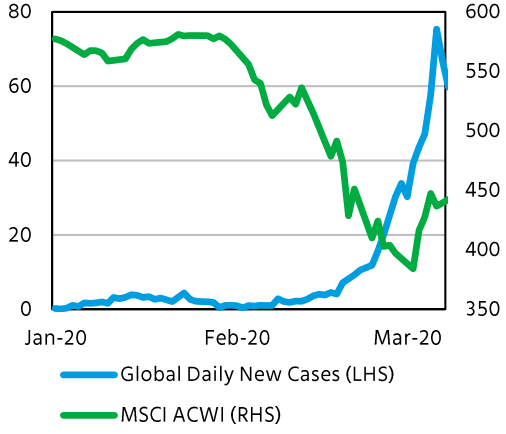
Market drivers, economy, monetary policy

Coronavirus precipitates economic collapse

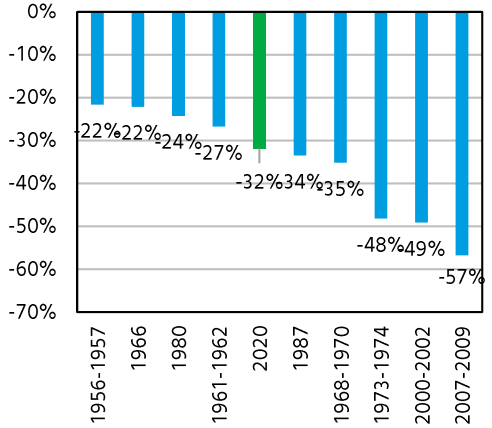
- New coronavirus cases grew at an exponential pace in March, but many countries are embracing social distancing policies in an attempt to slow the spread of the virus.
- Central banks have responded by cutting interest rates and providing liquidity to the financial system, while governments have announced unprecedented measures to support businesses. Governments and central banks have made broad statements, indicating they will do whatever is necessary to support the economy and sustain liquidity over the next few months.
- The US fiscal stimulus package approved by the Senate totals $2.2 trillion, which amounts to approximately 10% of GDP. In Europe, the EU suspended the Stability and Growth Pact, which limits fiscal deficits to 3% and total debt to 60% of GDP. Locally, governments announced economic stimulus packages. However, the EU has not issued a broader rescue plan as yet. Massive fiscal packages were also released in Japan, Australia and Singapore
- S&P Global ratings has lowered its forecast for global growth to just 0.4% this year and predicts a rebound to 4.9% in 2021. However, some forecasters are predicting significantly worse growth in 2020.
- Many firms have begun to reduce their earnings forecasts for 2020, with some removing guidance completely. Factset lowered their Q1 EPS estimates to -5.2%.
- The VIX soared close to 2008 global financial crisis levels, while interest rate and currency volatility remained relatively calm.

Global Daily New COVID-19 Cases



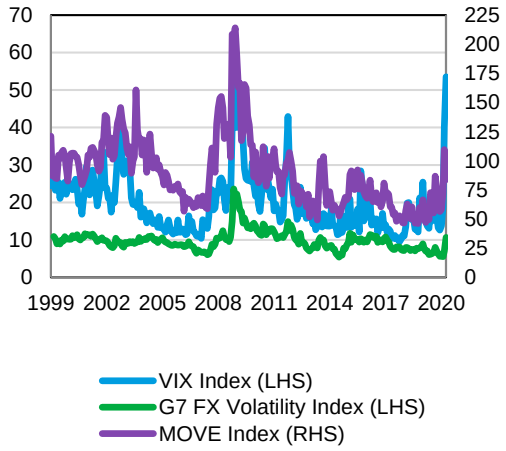
Source: Bloomberg

S&P 500 – Post WWII Bear Markets



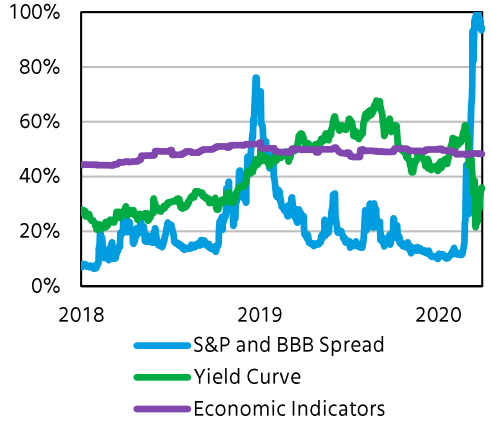
Source: Bloomberg

Equity, Interest Rate , Currency Volatility



Source: Bloomberg

Probability of a US Recession



Source: J.P. Morgan

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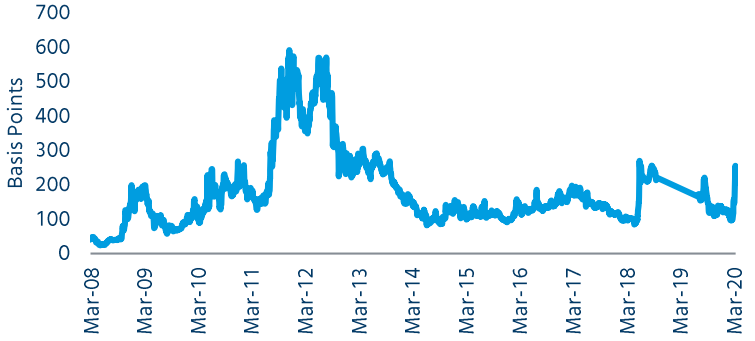
Central banks underpin financial conditions

- Central banks across the globe have cut rates to increase monetary accommodation.
- While these moves pushed rates down, aggressive moves in risk assets have increased demand for cash with ripple effects through the funding markets.
- Thus far, the Federal Reserve has been able to maintain liquidity through its open market operations, and on March 12th, it expanded its repurchase operations by $1.5 trillion[1]. So, while funding spreads remain elevated, they remain below recent stresses and significantly below the highs of the financial crisis.
- With over 17,000 cases[2], Italy represents the second largest outbreak as of March 13th, and the government response has been significant, effectively shutting down the nation. The economic impact will be great and with tourism representing a key contributor to growth, the drag is unlikely to dissipate quickly. This slowdown has resurfaced fears relating to Italian banks.
- Central banks are expected to remain vigilant, but we continue to monitor financial conditions for cues which may produce longer lasting effects.

TED Spread
As of March 12, 2020

Source: Bloomberg
TED Spread: 3-month LIBOR less 3-month treasuries

Italian CDS
As of March 13, 2020



Source: Bloomberg
Italian 5-Year credit default swaps

1. https://www.newyorkfed.org/markets/opolicy/operating_policy_200312a
2. https://www.worldometers.info/coronavirus/ as of 3/13/2020

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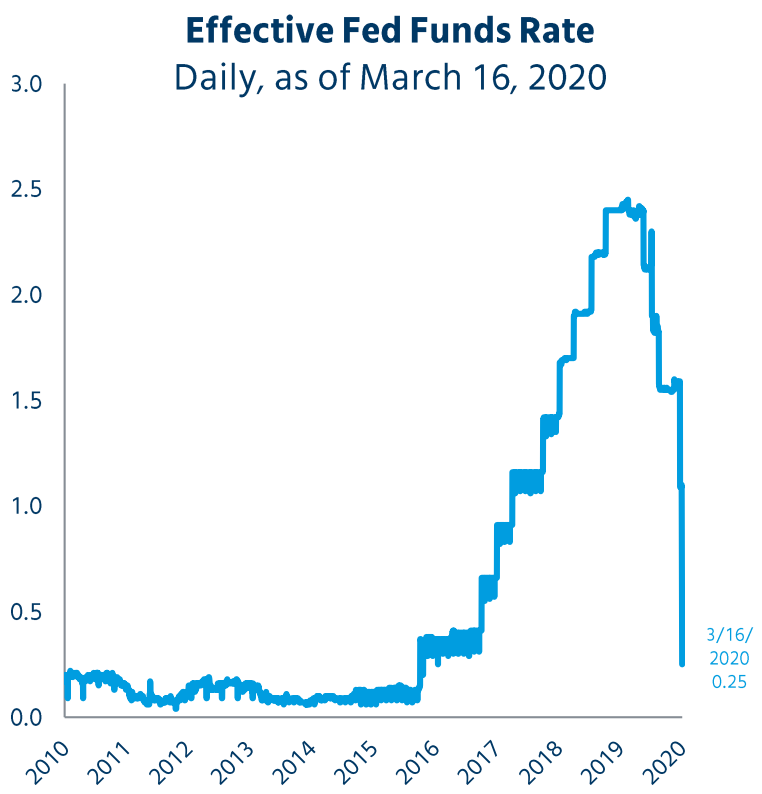
Fed Funds rate



- On Sunday, March 15, the Federal Reserve slashed interest rates by a full percentage point and announced its plan to buy $700 billion in Treasury securities in an effort to buffer losses from the coronavirus pandemic.
  - The benchmark federal fund rate is now at a range of 0-0.25%.
  - The Fed will buy at least $500 billion in Treasury securities and $200 billion in mortgage-backed securities over the coming months.
  - In a statement from the Federal Reserve: "The coronavirus outbreak has harmed communities and disrupted economic activity in many countries, including the United States. The Federal Reserve is prepared to use its full range of tools to support the flow of credit to households and businesses."[1]

1.Federal Reserve issues FOMC statement. 15 March 2020 (Press Release). https://www.federalreserve.gov/newsevents/pressreleases/monetary20200315a.htm

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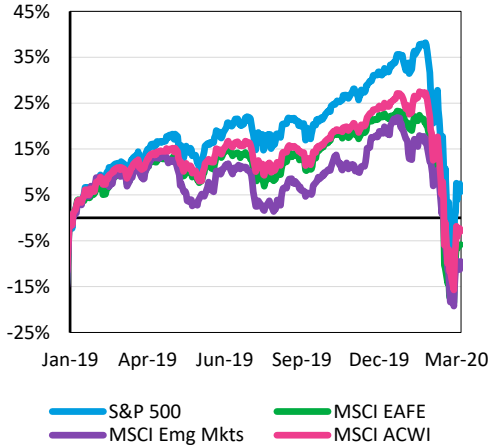
Equities

Coronavirus hammers stock markets

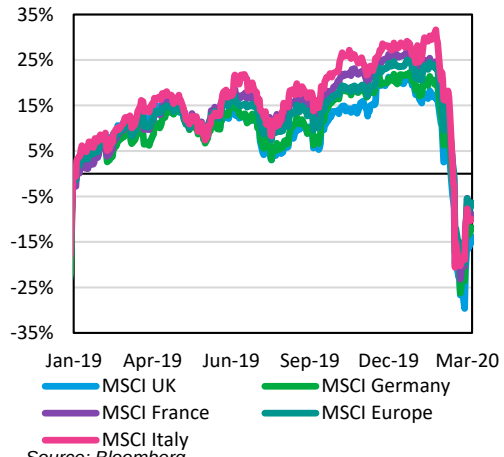
- Global equities and other risky assets lost ground around the globe over the economic fallout over COVID-19. The decline during the quarter was consistent with the drawdowns in the average recession. Equities in developed markets recovered a portion of their losses in the latter part of March. However, most markets are still down from their highs by roughly 20%
- The MSCI All Country World Index lost 13.5% for the month and 21.4% for the quarter. Technical selling (CTAs, volatility targeting and dynamic hedging) may have contributed to the decline. Factor performance signaled solid risk aversion as investors favored low volatility and low beta stocks. Performance differences across market capitalization and style varied significantly. Growth and large cap stocks continued to outperform. The MSCI ACWI value index lagged growth by over 11 percentage points for the quarter, while the MSCI ACWI small cap index trailed large cap by nearly 9 points.
- The US continued to outperform global markets. Health care, consumer staples and technology stocks held up well, posting single digit losses while energy stock were in free fall as oil prices collapsed. The energy sector fell 51.2% for the quarter.
- UK and European markets followed the "risk off" sentiment in March. In Italy and Spain, where the coronavirus epidemic is surging, equities are down by approximately 30% during Q1.
- Markets in Japan were resilient despite the fact that the country downgraded its economic outlook to "severe".
- The return dispersion in emerging markets was significant. While markets in Latin America and Russia suffered over falling commodity prices, stocks in China fell only 10.2% for the quarter. China is outperforming global markets by over 1022 basis points as the epidemic is abating and manufacturing has restarted.

Global Equity Performance (USD)



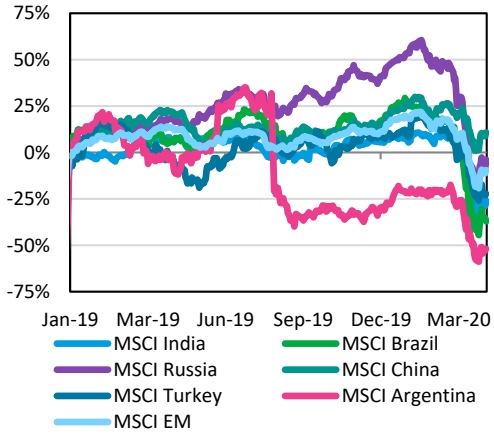
Source: Bloomberg

European Equity Performance (USD)



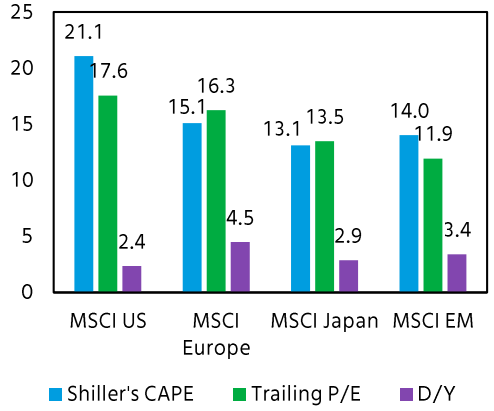
Source: Bloomberg

Emerging Market Equity Performance



Source: MSCI Bloomberg

Global Valuations



Source: Bloomberg, Datastream

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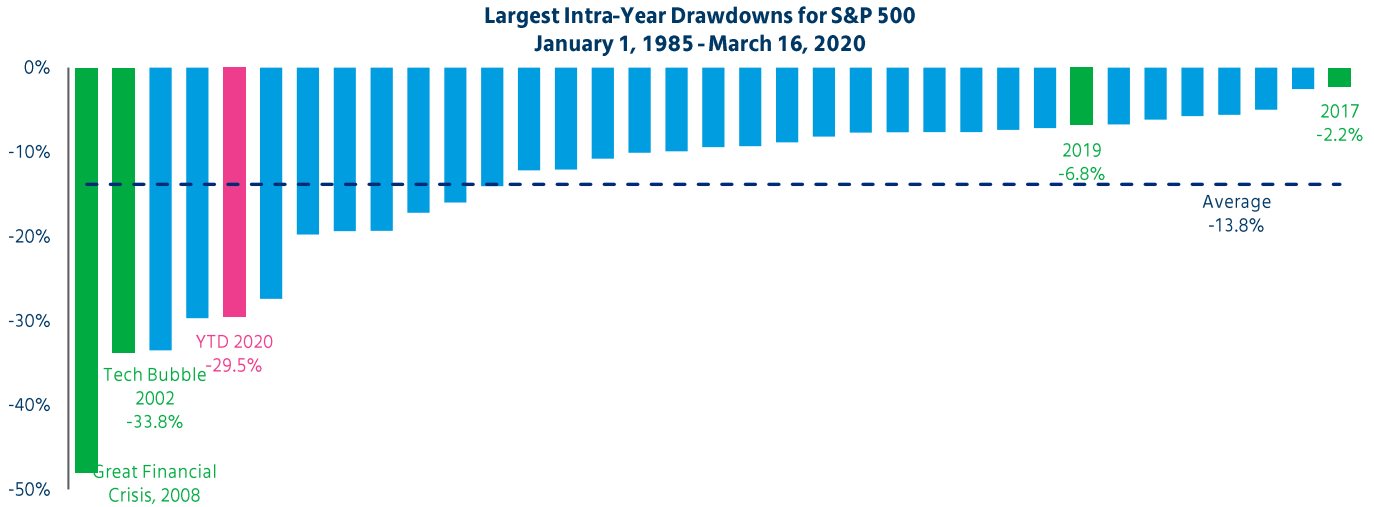
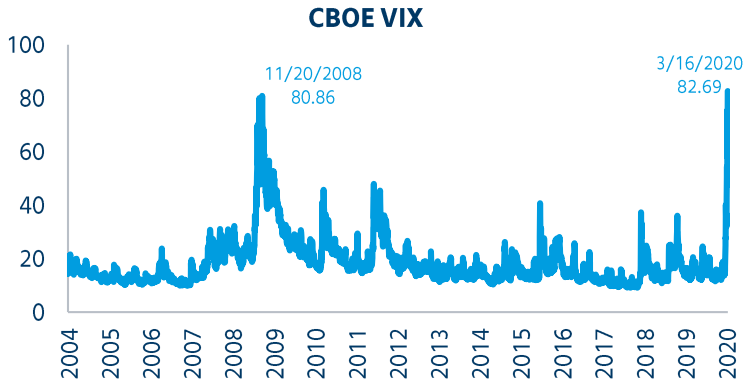
S&P drawdowns & volatility



Source: Bloomberg.

- On March 13th, the Dow Jones Industrials Average Index recorded its worst one-day point drop since 1987, falling 13%.
  - The S&P finished down nearly 12%.
  - Market volatility spiked, with the VIX reaching levels comparable to the 2008 Financial Crisis.



Source: CBOE.

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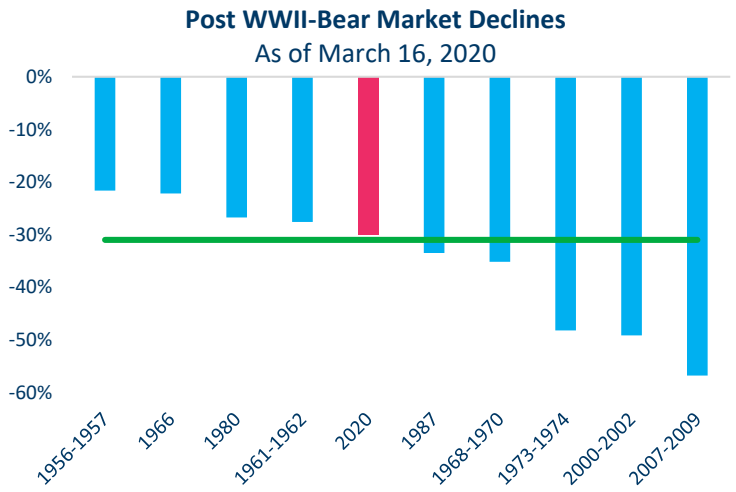
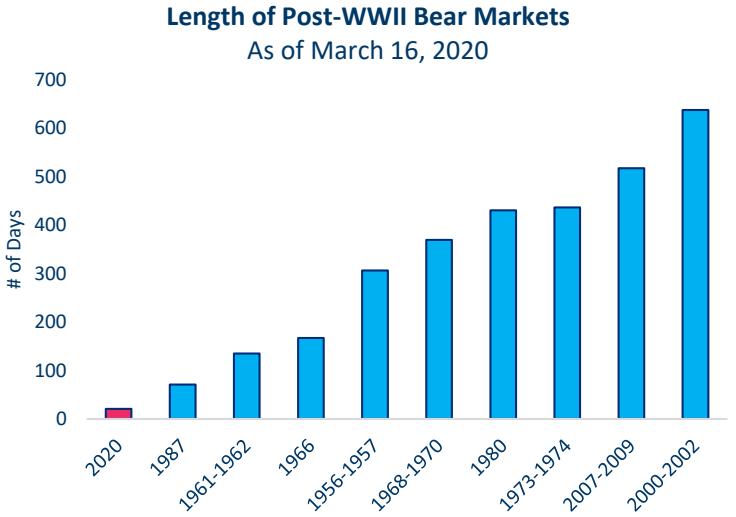
S&P drawdowns





- The S&P 500 has fallen by around 30% from its peak.
- The average post WW-II bear market has resulted in a 31% peak-to-decline.
- The tech bubble (2000-2002) and financial crisis (2007-2009) bear markets were especially deep.

- The current downturn is unusual in its speed, with the current peak-to-trough decline occurring over only just three weeks.
- The median bear market has lasted around 150 days.
- The tech bubble (2000-2002) and financial crisis bear markets were both very long.

Source: Bloomberg.

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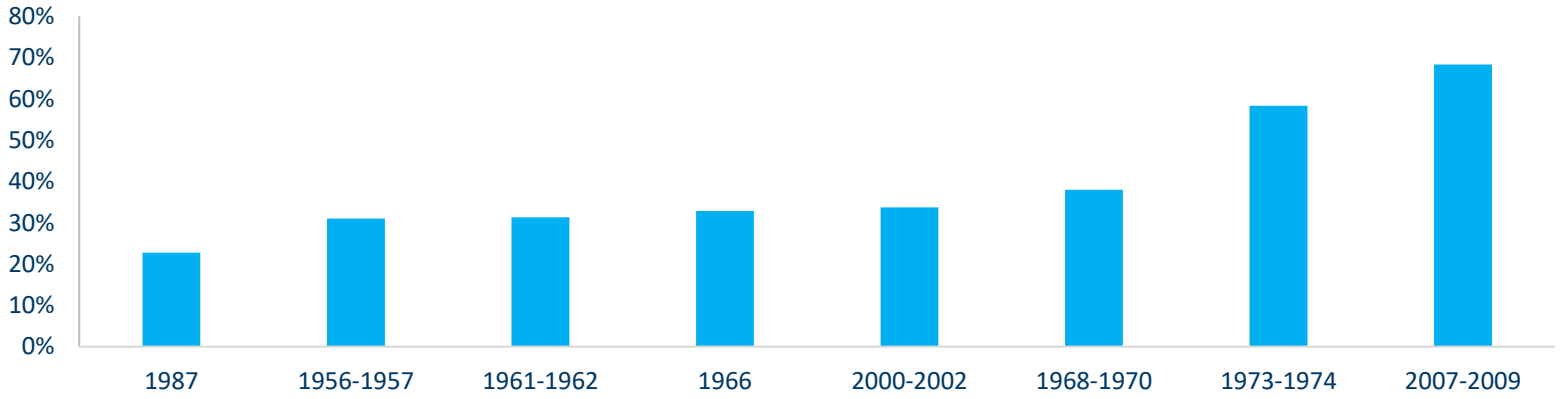
S&P drawdowns

Subsequent 12-Month Returns Post-WII Bear Markets
As of March 16, 2020



- The above chart shows the subsequent 12-month returns following the trough of the bear market.
  - Subsequent 12 month returns have been very strong, with an average gain of nearly 40%.
  - While we cannot predict what may happen over the short-term and where the bottom may be, this highlights the importance of rebalancing and maintaining a long-term time horizon in order to capture the subsequent upside.

Source: Bloomberg.

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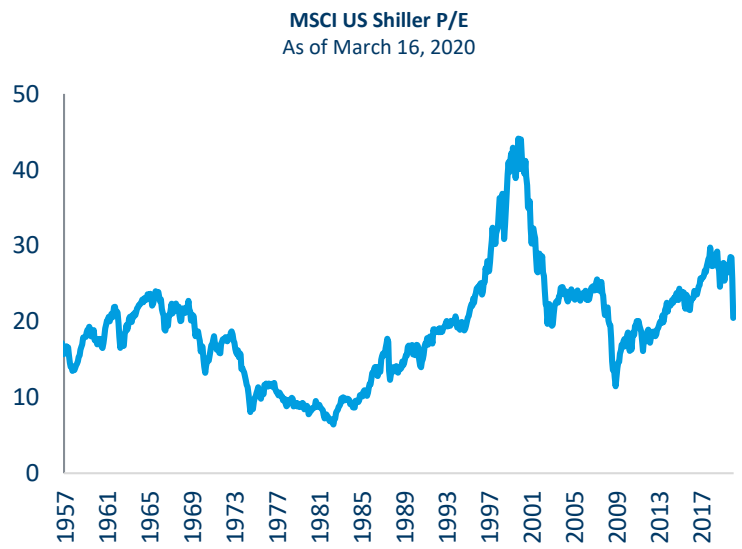
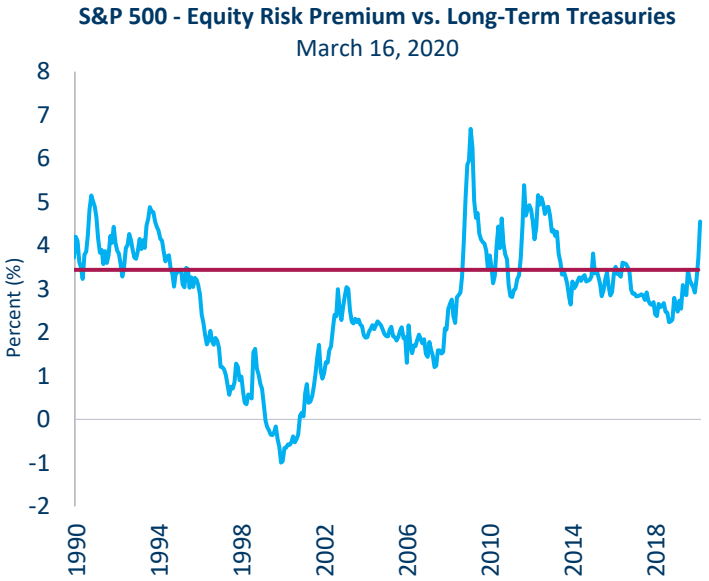
S&P valuations





- The Shiller P/E on the S&P 500 has fallen to 20.
  - The improvement in valuations coupled with the decline in bond yields has pushed the equity risk premium to nearly 4.5% over long-term Treasuries.

Source: Bloomberg.

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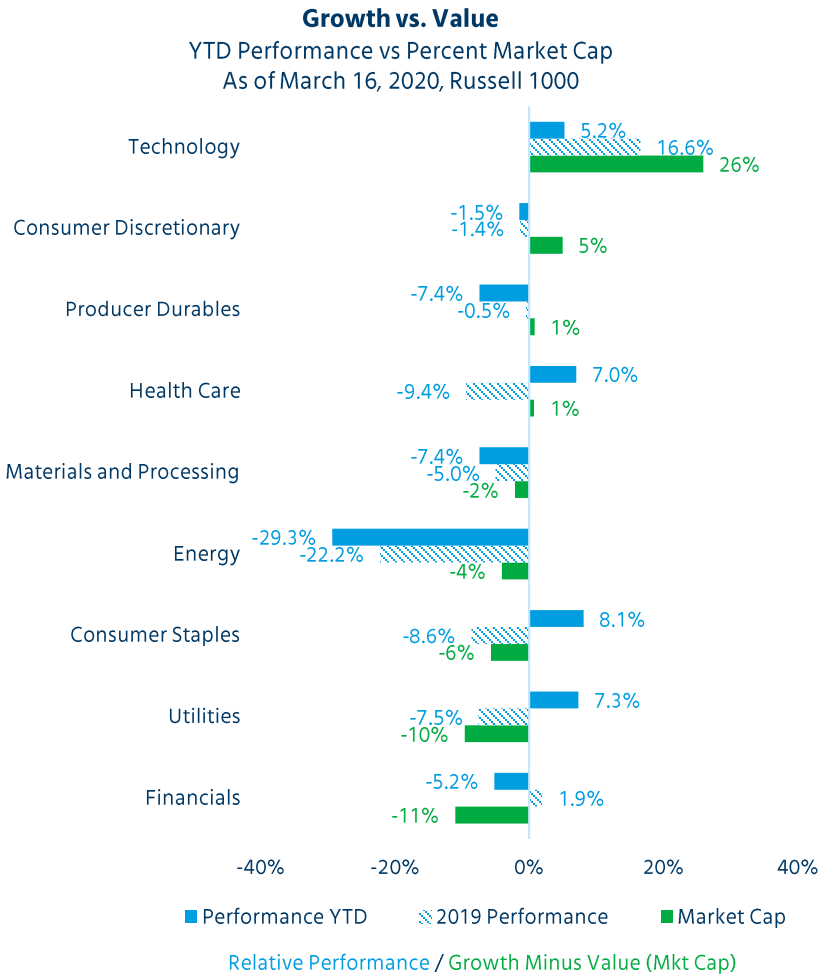
Value vs. growth

- Performance has differed significantly amongst sectors.
  - Year-to-date, value has underperformed growth, which has largely been a function of the collapse in energy.
  - Within the growth sector, Technology – the largest sector on a relative basis, has significantly outperformed the other sectors within the FTSE Russell indices.
- The value style has greater exposure to Financials, which contributed to underperformance as interest rates declined.



Source: Bloomberg.

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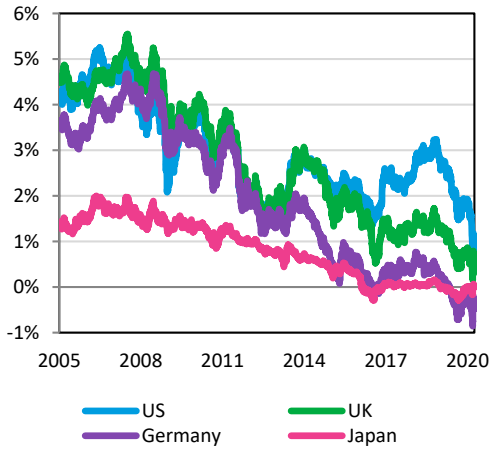
Fixed income

Risky bonds fell sharply as credit spreads spiked

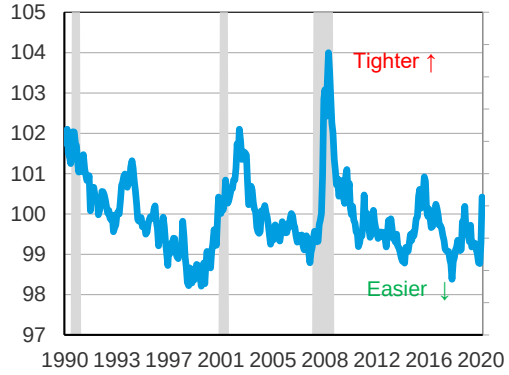
- The exponential spread of COVID-19 prompted a rally in developed government bonds. However, credit suffered as credit spreads widened.
- In the US, the 30-year Treasury yield finished March at a record low of 1.35%, while global negative yielding debt rose to 25% in early March before declining toward month-end.
- Concerns over the impacts on global supply chains and the collapse in oil weighed on inflation expectations. In the US, the 10-year breakeven inflation rate fell from 1.41% to 0.87% during March.
- Financial conditions tightened in March as equity valuations fell and credit spreads widened. The Fed cut rates twice in March, to a range of 0-0.25%, along with a series of crisis-era programs to boost liquidity, including unlimited buying of Treasury debt, mortgage securities and corporate debt. The Fed also increased short-term lending in repo markets and opened swap lines with the central banks of 15 countries. Central banks of the UK, Canada and Australia cut rates by 50bps. The ECB restarted its asset-buying program and the BoJ, BoE and RBA initiated new QE programs.
- The spread between Treasuries and investment-grade corporate bonds increased by 149 bps to 2.72%. Credit spreads for high yield bonds rose 380 bps during March and the yield difference between high-yield and US government bonds ended the month at 880 basis points. The Bloomberg Barclays US High Yield and Global High Yield Indices fell sharply, lagging investment-grade bonds, due in part to increased default risk in energy bonds.
- EM debt posted heavy losses in March. For the month, the dollar-denominated spread spiked by 245 bps to 6.30% over US Treasuries, while local currency yields rose by 41 bps to 5.36%. However, spreads remained well below 2008 levels.

10-Year Government Bond Yields



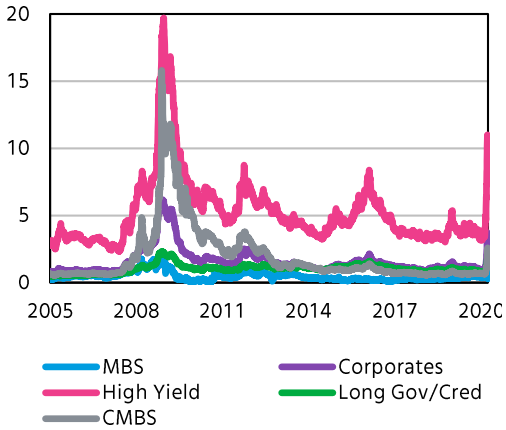
Source: Bloomberg

GS Financial Conditions Index



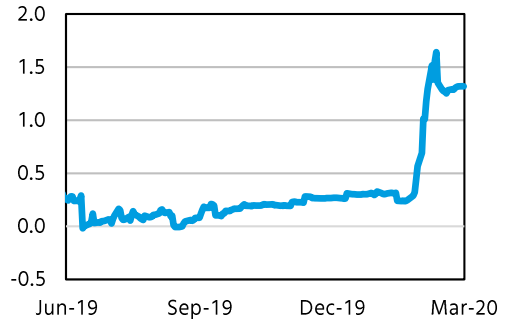
Source: Bloomberg

Credit Spreads



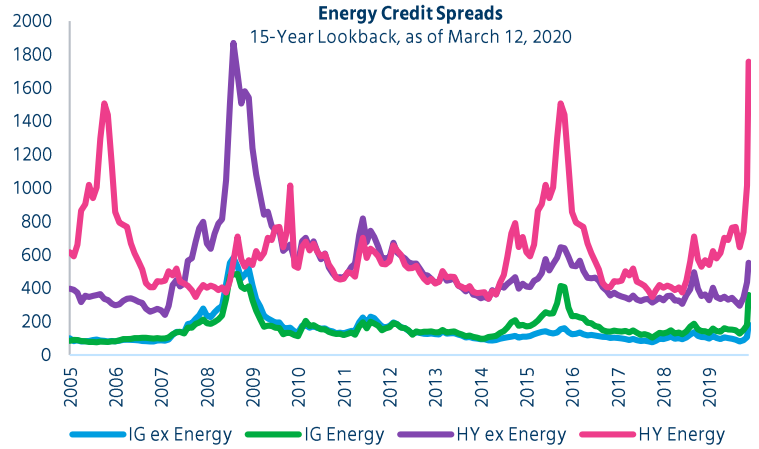
Source: Bloomberg

US LIBOR – OIS Spread



Source: Bloomberg

Credit markets

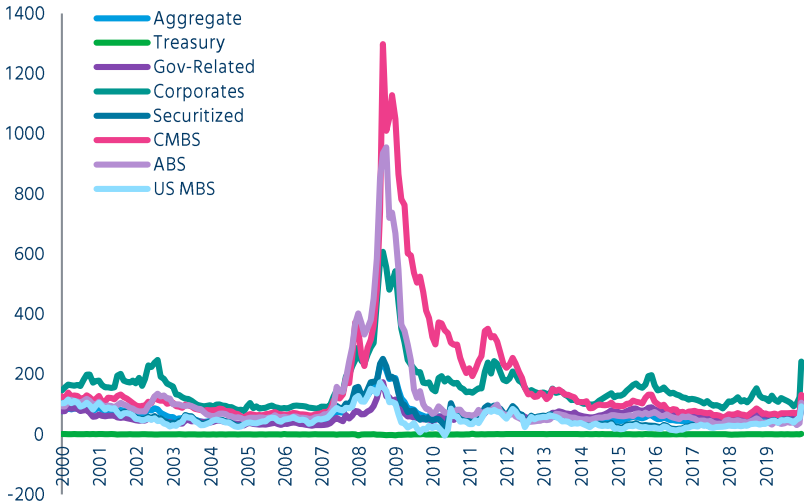


Source: Bloomberg Barclays.

	15-Year Lookback			
	Investment Grade Corporates ex Energy	Investment Grade Corporates - Energy	High Yield Fixed Income ex Energy	High Yield Fixed Income - Energy
Average Spread	148	164	519	608
Median Spread	122	143	445	544
3/12/2020 Spread	183	360	552	1757
Percentile	*82%*	*96%*	*69%*	*100%*
12/31/2019 Spread	81	128	295	646
Percentile	*3%*	*30%*	*4%*	*69%*

Source: Bloomberg Barclays

Composition of the Bloomberg Barclays US Aggregate
OAS, 20 Years Ending March 16, 2020



Source: Bloomberg Barclays.

- As the price of oil continues to fall and market concerns over the coronavirus and economic impact continue, commodity firms and energy companies with large debt holdings saw a significant upswing in spreads.
  - Defaults by energy companies could exceed levels seen in 2016. The risk of fallen angels, or companies that go from investment grade to junk, has risen.
  - Energy bonds plummeted to record lows and the amount of oil and gas debt trading at distressed levels jumped 14% on Monday.
  - The plunge in oil prices may drive a wave of bankruptcy filings.

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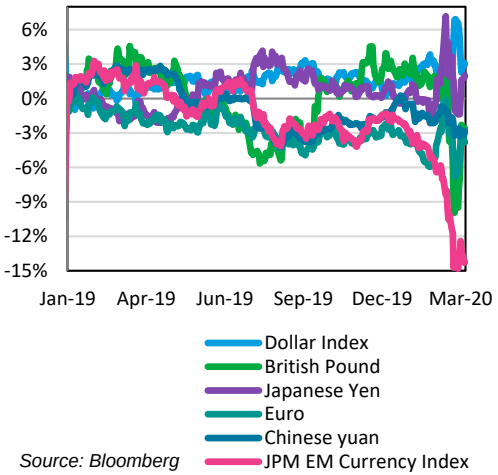
Currencies, commodities, alternatives

Safe haven demand pushes USD higher – oil falls

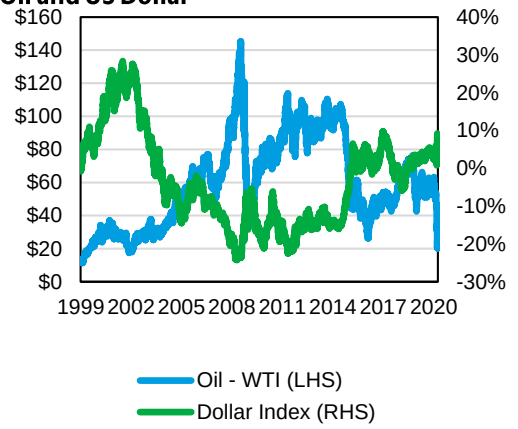
- The dollar index continued to strengthen in March against major currencies as investors favored defensive assets due the looming global recession over the coronavirus contagion. The greenback moved sharply higher against emerging market currencies, the New Zealand, Australian and Canadian dollars, as well as the British pound. The yen remained strong. For the month, the dollar index increased 0.9% while the JPM EM currency index declined 8.3%.
- Gold moved moderately higher, returning 4.8% for the quarter. US real yields have historically been highly correlated to the price of gold. Some have speculated that gold's rise was suppressed as leveraged investors were forced to raise liquidity.
- Oil dropped 54% in March to an 18-year low, incurring the largest quarterly loss on record as global demand collapsed. Oil closed March at $20.48 per bbl.
- Other commodity markets contracted in March over global economic concerns and production drags. The Bloomberg Commodity and S&P NA Natural Resources indices fell 23.3% and 43.9%, respectively, in Q1.
- REITs tumbled on concerns of non-performing leases in the commercial real state sector. US and global REITs were down 23.4% and 28.3% for the quarter.
- Hedge funds posted losses that were approximately half of the losses incurred in equity markets in March. Macro, event driven and relative value strategies held up well in this risk off environment.

Currency Returns



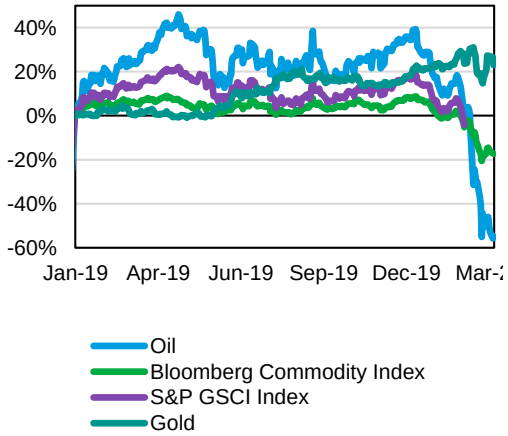
Source: Bloomberg

Oil and US Dollar



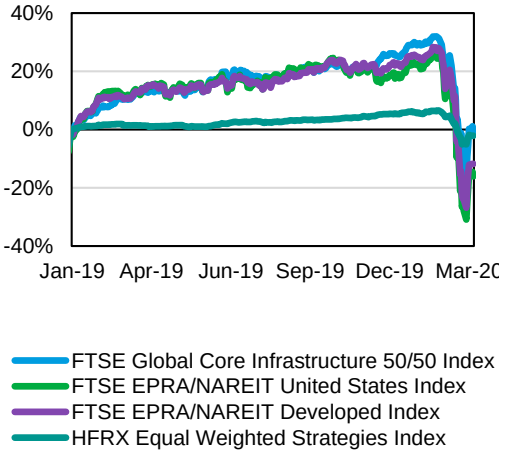
Source: Bloomberg

Commodities



Source: Bloomberg

REITs, Hedge Funds, Infrastructure



Source: Bloomberg

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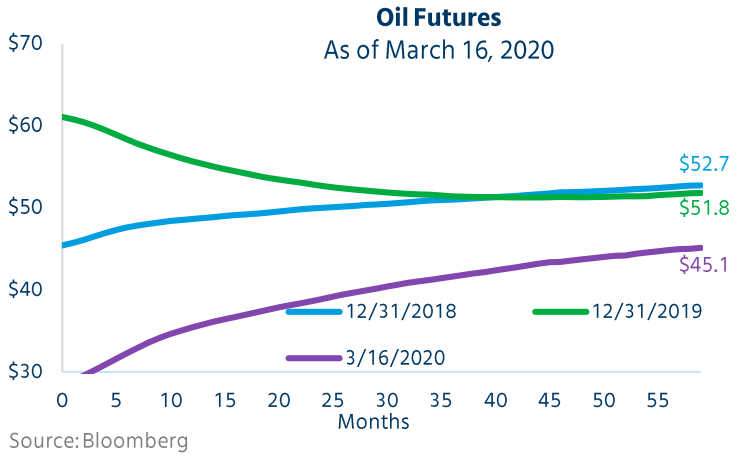
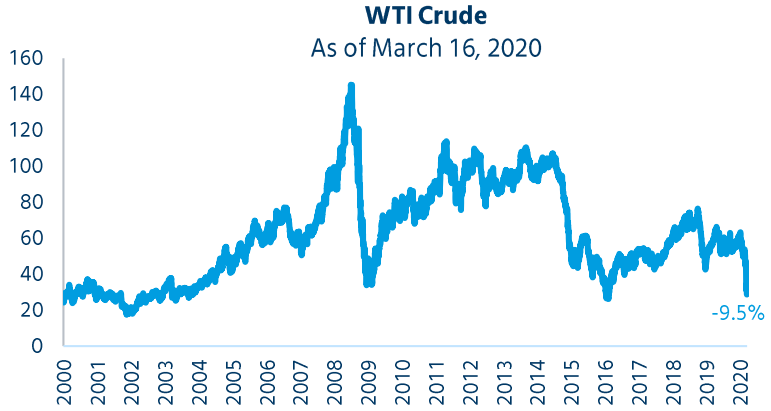
Oil prices

- On Friday, March 6th, OPEC and Russia were unable to reach an agreement on production cuts, leading to Monday's steep sell-off[1].
  - Moscow rejected the additional 1.5 mbpd production cut in response to the coronavirus, which led to the collapse of a three-year output-cutting pact between OPEC and non-member producers led by Russia[1].
    - Since the beginning of 2020, OPEC, Russia, and a handful of other producers, coined OPEC+, had implemented a deal to cut output by 1.7 mbpd to support the market[1].
- On Wednesday, March 11th, OPEC slashed its forecast for global growth in oil demand this year, driven by coronavirus. Further cuts may follow[2].
  - Demand is expected to rise by just 60,000 bpd in 2020, a reduction of 920,000 bpd from its previous forecast of just under 1 mbpd a month ago[2].
- On Monday, March 13th, Saudi Aramco reiterated its plans to boost output to record levels in an attempt to capture a larger share of the global market[3].
  - The current price war and market fears spurred by the coronavirus contributed to the price of oil falling below $30 on Monday, March 13th.[4]
  - Brent crude settled down 13% to $28.82/barrel[4].



Source: Bloomberg



Source: Bloomberg

1. *OPEC+ Talks Collapse Sending Crude Prices to 2017 Lows.* 6 March 2020. Forbes. Accessed 13 March 2020. https://www.forbes.com/sites/arielcohen/2020/03/06/opec-talks-collapse-sending-crude-prices-to-2017-lows/#698ffe27431d
2. *OPEC Slashes 2020 Oil Demand View on Coronavirus, Sees More Downside.* 11 March 2020. The New York Times. Accessed 13 March 2020. https://www.nytimes.com/reuters/2020/03/11/world/europe/11reuters-oil-opec-outlook.html
3. *Aramco's April Production to Mean No Saudi Spare Capacity.* 17, March 2020. Forbes. Accessed 17 March 2020. https://www.forbes.com/sites/ellenrwald/2020/03/17/aramcos-april-production-to-mean-no-saudi-spare-capacity/#717a87811acb
4. Bloomberg, as of March 16, 2020.

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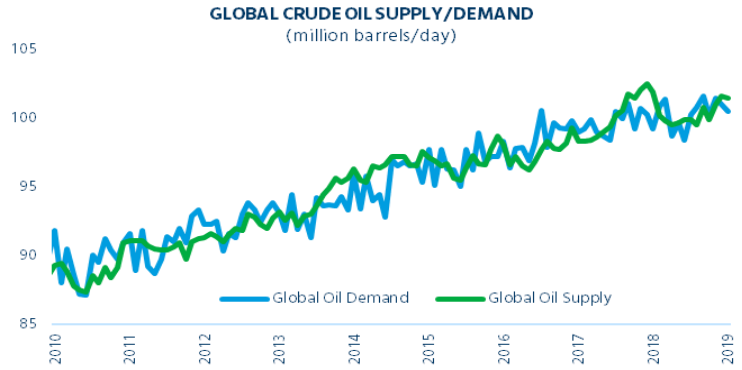
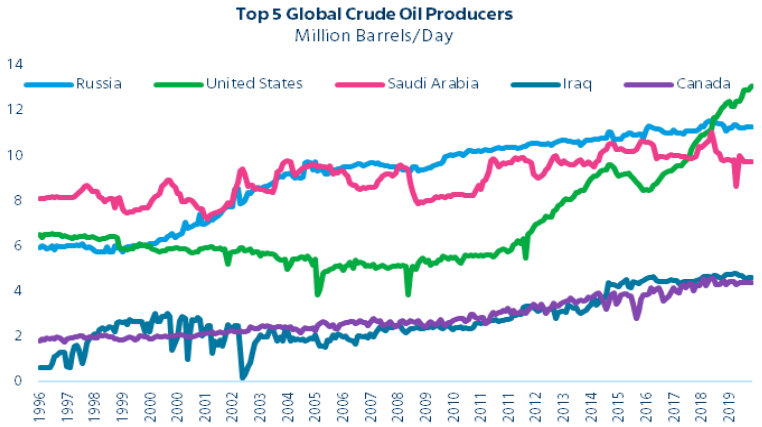
Oil markets



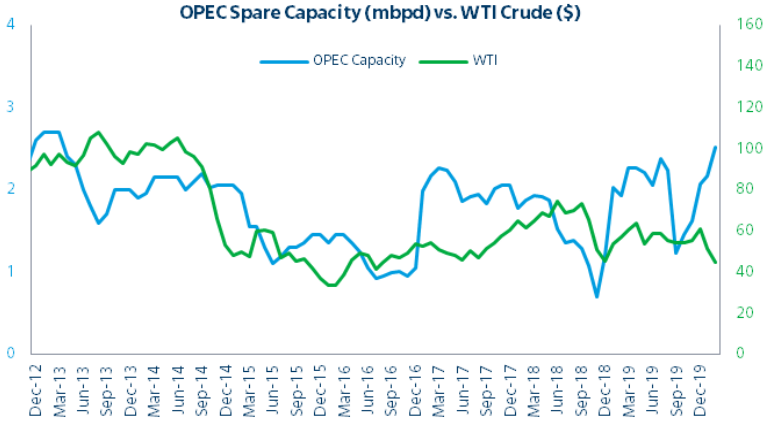
Source: Bloomberg, as of December 31, 2019.

- The Organization of the Petroleum Exporting Countries (OPEC) was founded in September 1960.
  - OPEC seeks to actively manage oil production in member countries by setting production targets, which produce approximately 40% of the world's crude oil; exports represent about 60% of total petroleum traded internationally[1].
  - Current Members as of March 2020: Algeria, Angola, Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Republic of the Congo, Saudi Arabia, UAE, Venezuela.
- Supply and demand generally move in lock-step as gaps in supply vs. demand are generally a function of delays in production.
- Saudi Arabia and Russia had long been the largest producers of crude, but over the last few years, production in the US has surpassed both countries.
  - Product as a percent of total as of February 2020: US (12.7%), Russia (11.1%), Saudi Arabia (9.6%), Iraq (4.6%), and Canada (4.3%).

Source: Bloomberg.
1. Energy Information Administration.



Source: Bloomberg, as of December 31, 2019.



Source: Bloomberg, as of December 31, 2019.

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Valuations and yields
Ending March 31, 2020

Valuations

MSCI USA	3/31/2020	12/31/2019	9/30/2019	6/30/2019
Index Level	10927.7	13599.6	12462.2	12271.6
P/E Ratio (Trailing)	18.0	23.1	21.1	20.9
CAPE Ratio	22.7	28.6	27	27.2
Dividend Yield	2.3	1.8	2	1.9
P/B	2.9	3.7	3.4	3.5
P/CF	11.3	15.8	14.3	13.9
MSCI EAFE	**3/31/2020**	**12/31/2019**	**9/30/2019**	**6/30/2019**
Index Level	4023.2	5056.4	4805	4718.8
P/E Ratio (Trailing)	12.9	16.3	15.3	15
CAPE Ratio	13.2	19.1	18.4	18.6
Dividend Yield	4.1	3.2	3.4	3.4
P/B	1.3	1.7	1.6	1.6
P/CF	8.3	10.5	9.4	9.7
MSCI EM	**3/31/2020**	**12/31/2019**	**9/30/2019**	**6/30/2019**
Index Level	403.1	527.6	471.7	492.6
P/E Ratio (Trailing)	12.5	15.0	13.2	13.5
CAPE Ratio	10.5	13.8	12.5	13.2
Dividend Yield	3.2	2.6	2.9	2.8
P/B	1.4	1.7	1.6	1.6
P/CF	7.1	10.0	8.1	8.4

Yields

Global Bonds	3/31/2020	12/31/2019	9/30/2019	6/30/2019
Germany – 10Y	-0.47	-0.19	-0.57	-0.33
France - 10Y	-0.15	0.12	-0.27	-0.01
UK - 10Y	0.36	0.82	0.49	0.83
Switzerland – 10Y	-0.33	-0.47	-0.76	-0.53
Italy – 10Y	1.52	1.41	0.82	2.10
Spain 10Y	0.68	0.47	0.15	0.40
Japan – 10Y	0.02	-0.01	-0.21	-0.16
Euro Corporate	1.85	0.51	0.40	0.54
Euro High Yield	9.62	3.46	3.76	3.89
EMD ($)	7.00	4.91	5.16	5.55
EMD (LCL)	5.36	5.22	5.21	5.69
US Bonds	**3/31/2020**	**12/31/2019**	**9/30/2019**	**6/30/2019**
3-Month T-Bill	0.11	1.55	1.88	2.12
10Y Treasury	0.70	1.92	1.68	2.00
30Y Treasury	1.35	2.39	2.12	2.52
10Y TIPS	-0.17	0.15	0.15	0.31
30Y TIPS	0.16	0.58	0.53	0.78
US Aggregate	1.59	2.31	2.26	2.49
US Treasury	0.58	1.80	1.72	1.92
US Corporate	3.43	2.84	2.91	3.16
US Corporate High Yield	9.44	5.19	5.65	5.87

Source: Bloomberg, Thomson Reuters Datastream

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Investment Update

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Performance review – Catholic Community Fdtn.
As of February 29, 2020

	Performance Returns (%)							
	Market Value ($)	1 Month	Year-to-Date	Last 1 Year	Last 3 Years	Last 5 Years	Last 10 Years	Since 6/00
Policy Return		(6.1)	(6.6)	4.1	5.7	4.2	6.0	5.3
Catholic Comm. Foundation for E. South Dakota	**$107,423,262**	**(5.6)**	**(6.2)**	**5.1**	**6.3**	**4.4**	**5.8**	**5.3**
70% S&P 500 / 30% BBgBarc Agg		(5.2)	(4.7)	9.5	8.6	7.7	10.2	5.8
60% MSCI ACWI / 40% BBgBarc Agg		(4.1)	(4.0)	7.3	6.4	5.0	6.7	5.2
S&P 500 Composite		(8.2)	(8.3)	8.2	9.9	9.2	12.7	5.7
Russell 2000		(8.4)	(11.4)	(4.9)	3.5	5.1	10.4	6.9
MSCI EAFE		(9.0)	(10.9)	(0.6)	3.9	2.0	4.8	3.0
MSCI Emerging Markets		(5.3)	(9.7)	(1.9)	4.9	2.7	3.2	7.1
Bloomberg Barclays US Aggregate		1.8	3.8	11.7	5.0	3.6	3.9	5.1
Consumer Price Index		0.3	0.7	2.3	2.0	2.0	1.8	2.1

Note: Returns beyond 1 year are annualized. All returns are net of fees.

- Foundation assets were valued at $107.4 million through February 2020 and returned 5.1% over the trailing one-year period.
- **The International Equity Composite gained 3.1%** over the past year, 380 basis points ahead of the MSCI ACWI ex-US Index as both Boston Common and CBIS outperformed.
- The **Fixed Income Composite gained 10.2%** during the trailing one-year period, 140 basis points behind the Bloomberg Barclays Aggregate.
- The **Real Assets Composite declined 3.6%** over the past year, 330 basis points ahead of its benchmark, as the infrastructure allocation helped mute weak commodity returns.
- The **Alternatives Composite gained 4.9%** over the trailing one-year period and outperformed both of its benchmarks by a significant margin.

		Returns			
Fiscal Year	Foundation	70% S&P 500 / 30% Agg	70% ACWI / 30% Agg	60% S&P 500 / 40% Agg	60% ACWI / 40% Agg
FYTD 2020	0.1	3.3	1.3	3.8	2.1
FY 2019	4.9	10.1	6.7	9.9	7.0
FY 2018	9.0	9.8	7.4	8.3	6.2
FY 2017	12.9	12.2	12.7	10.3	10.8
FY 2016	(1.9)	4.8	(0.7)	5.0	0.3
FY 2015	(3.7)	5.8	1.1	5.3	1.3
FY 2014	16.2	18.3	17.2	16.2	15.3
FY 2013	7.5	13.9	11.2	11.7	9.4
FY 2012	(3.1)	6.4	(2.0)	6.7	(0.5)
FY 2011	21.5	22.3	22.0	19.6	19.3
FY 2010	13.4	13.3	11.4	12.8	11.3
FY 2009	(19.3)	(17.1)	(19.3)	(13.9)	(15.8)
FY 2008	(0.1)	(7.2)	(4.3)	(5.3)	(2.7)
FY 2007	16.3	16.1	19.2	14.7	17.3
FY 2006	10.5	6.6	10.0	6.6	9.5
FY 2005	10.2	5.8	12.2	4.8	10.3
FY 2004	21.5	13.3	16.7	11.4	14.3
FY 2003	2.9	3.8	2.1	4.8	3.4
FY 2002	(4.9)	(10.4)	(7.8)	(7.8)	(5.5)
FY 2001	0.2	(7.3)	(11.8)	(4.8)	(8.7)

Fiscal year ends 6/30

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Manager outliers

MANAGER OUTLIERS

- *Outperformers for the past 12 months through 2/29/2020:*
  - **Boston Common International Equity** returned 4.6% vs. -0.6% for the MSCI EAFE Index.
  - **CBIS International Equity** returned 3.3% vs. -0.6% for the MSCI EAFE Index.
  - **BNY Mellon Global Real Return** returned 7.0% vs. 1.6% for the Wilshire Liquid Alternative Index and 3.4% for the HFRI Fund of Funds Composite
  - **Invesco Global Targeted Returns** returned 4.9% vs. 1.6% for the Wilshire Liquid Alternative Index and 3.4% for the HFRI Fund of Funds Composite.
- *Underperformers for the past 12 months through 2/29/2020:*
  - **DFA Emerging Markets Social Core** returned -3.3% vs. -1.9% for the MSCI Emerging Markets Index.

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Portfolio dashboard – February 29, 2020

	Market Value	1 Month (%)	3 Months (%)	YTD (%)	1 Year (%)	3 Years (%)	5 Years (%)	10 Years (%)	Since June 2000
Catholic Foundation for Eastern S.D.	**$107,423,262**	**-5.6**	**-3.8**	**-6.2**	**5.1**	**6.3**	**4.4**	**5.8**	**5.3**
Policy Return		-6.1	-4.3	-6.6	4.1	5.7	4.2	6.0	5.3
Priest Pension Plan	**$7,699,895**	**-5.1**	**-3.4**	**-5.7**	**4.8**	**5.7**	**3.8**	**5.7**	**5.2**
Policy Index		-5.6	-3.8	-5.9	4.1	5.4	3.9	5.9	5.2
S&P 500		-8.2	-5.5	-8.3	8.2	9.9	9.2	12.7	5.7
MSCI EAFE		-9.0	-8.0	-10.9	-0.6	3.9	2.0	4.8	3.0
MSCI Emerging Markets		-5.3	-3.0	-9.7	-1.9	4.9	2.7	3.2	7.1
Bloomberg Barclays Aggregate		1.8	3.7	3.8	11.7	5.0	3.6	3.9	5.1

Foundation Asset Allocation	Actual $	Actual %	Target %
U.S. Large Cap	$25,979,530	24%	24%
U.S. Large Cap Quality	$12,058,379	11%	12%
U.S. Small Cap	$3,991,609	4%	4%
International Large Cap	$23,794,688	22%	22%
Emerging Markets	$4,143,817	4%	4%
U.S. Fixed Income	$19,312,613	18%	17%
Absolute Return	$11,816,267	11%	11%
Liquid Real Assets	$6,308,450	6%	6%
Cash	$17,909	0%	0%
Total	**$107,423,262**	**100%**	**100%**

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Portfolio dashboard – February 29, 2020
Foundation

Sources of Portfolio Growth	1 Month	YTD	1 Year	5 Years
Beginning Market Value	$113,798,816	$114,568,162	$103,776,219	$75,097,833
Net Cash Flow	$0	$0	-$1,712,345	$10,655,672
Investment Earnings	-$6,375,554	-$7,144,900	$5,359,388	$21,669,756
Ending Market Value	**$107,423,262**	**$107,423,262**	**$107,423,262**	**$107,423,262**

Portfolio Objectives	
Distribution Rate	4.00%
Administrative Costs	1.75%
Real Growth	0.00%
Nominal Net Return Goal	**5.75%**
Forecasts (Foundation Policy Index)	
Return	
Long-Term Expected Return (20 years)	6.0%
10 Yr. Horizon Expected Return	**5.4%**
Risk	
1 Yr. Standard Deviation	13.1%
Sharpe Ratio	**0.25**
Probability of Achieving 5.75% Goal Return	
10 Years	46.5%
20 Years	**53.4%**

Note: Administrative Costs for Agency accounts is 0.45%.

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Review of recent actions

OCTOBER 2019

- After a strategic review of asset allocation, US and non-US stock weightings were adjusted to reflect an underweight to non-US developed markets in favor of US stocks, growth fixed income was added to diversify growth assets, the dedicated natural resource stock allocation was removed, inflation-protected bonds (TIPS) were added to the Foundation portfolio (Priest Plan already had an allocation), and liquid absolute return was trimmed.
- These changes were implemented to the extent possible until follow-up discussion on approving managers for the portfolios' new asset classes.

AUGUST 2019

- In both plans, approved an increase in US large stocks by 2%, US large quality stocks by 1%, and emerging market stocks by 1%; reduced international developed stocks by 4%.

AUGUST 2018

- Reallocated the absolute return composite: 4% Invesco, 4% Dreyfus, and 3% Lighthouse SRI Global Long / Short.

APRIL 2018

- Reduced Boston Common by 2% and CBIS International by 1% and added a 3% allocation to DFA Social Emerging Markets. The Committee approved adding DFA Social Emerging Markets to the Priest Pension Plan in place of Vanguard Emerging Markets.

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Strategic Review

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Overview of strategic review process

- At the August meeting, the Committee agreed to conduct a periodic review of investment strategy. Below is an outline of topics that were discussed at the October meeting along with the focus of this report.

TOPICS DISCUSSED AT OCTOBER MEETING

- Review key components of investment strategy:
  1. Objectives
  2. Risk
  3. Asset allocation
  4. SRI & ESG
- Incorporate Committee survey results into discussion
  - Note: The purpose of the survey was to promote dialogue and identify areas of high or low consensus regarding key aspects of oversight for the Diocese portfolios. It is also intended to assist in identifying areas for ongoing discussion.

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Overview of strategic review process

FOCUS OF THIS REPORT

- Approve revised asset allocation, incorporating removal of liquid absolute return for SRI-related purposes
- Review manager lineup
- Implement asset allocation and/or manager lineup changes

FUTURE MEETING

- Review Investment Policy Statement (IPS), incorporating relevant changes from strategic review process

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Asset allocation
Summary of approved changes

1. Adjust US vs. non-US exposure to reflect an underweight to non-US developed market stocks in favor of US stocks
   - This was implemented after the October meeting.
2. Add growth fixed income to diversify growth assets
   - Manager recommendation included in this report.
3. Remove dedicated natural resource stocks allocation
   - This was partially implemented after the October meeting and will be fully completed after manager review and follow-up discussion on asset allocation.
4. Add inflation-protected bonds (TIPS) to Foundation portfolio
   - Manager recommendation included in this report.
5. Trim liquid absolute return
   - We have included our asset allocation recommendation to remove this allocation altogether based on discussion at the October meeting.

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Strategic Review
Asset Allocation

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Asset allocation considerations
Catholic Community Foundation

	Foundation Previous Policy	Foundation Current Policy	Foundation Proposed Policy
	A	B	C
Growth Assets			
US Large Stocks	22%	24%	25%
US Large Quality Stocks	10%	12%	12%
US Small Stocks	4%	4%	4%
US Stocks	*36%*	*40%*	*41%*
Intl Large Stocks	25%	22%	22%
Emerging Market Stocks	4%	4%	5%
International Stocks	*29%*	*26%*	*27%*
Total Public Stocks	*65%*	*66%*	*68%*
Growth Fixed Income		4%	4%
Total Growth Assets	**65%**	**70%**	**72%**
Risk Reduction Assets			
US Broad Fixed Income	17%	16%	17%
US Inflation Protected Fixed		3%	3%
Liquid Absolute Return	8%	3%	
Hedge Funds	3%	3%	3%
Total Risk Reduction Assets	**28%**	**25%**	**23%**
Inflation Protection Assets			
Global REITs	2%	3%	3%
Global Listed Infrastructure	2%	2%	2%
Natural Resource Stocks	3%		
Total Inflation Protection Assets	**7%**	**5%**	**5%**
Total	**100%**	**100%**	**100%**

	A	B	C
Assumes 2.2% inflation			
Return			
Equilibrium Return	6.5%	6.5%	6.5%
Long-term Expected Return (20 years)	6.0%	6.0%	6.0%
10 Yr. Horizon Expected Return	5.5%	5.4%	5.4%
Risk (Using 10-yr Horizon Returns)			
Standard Deviation (1 Yr.)	13.2%	12.9%	13.1%
Standard Deviation (10 Yr.)	4.2%	4.1%	4.1%
Probability of Loss Year	31.7%	31.6%	31.8%
Probability of 10% or Worse Loss	10.9%	10.5%	10.8%
Lowest Likely Return (1 Yr.)	-24.5%	-23.8%	-24.3%
Sharpe Ratio	0.25	0.25	0.25

- **Portfolio A** represents the Foundation's previous policy allocation.
- **Portfolio B** represents the Foundation policy allocation that was approved at the October meeting. It was implemented to the extent possible until managers are chosen for new asset classes.
- **Portfolio C** represents Pavilion's recommended policy allocation if liquid absolute return were removed from the Foundation portfolio.

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Strategic Review Manager Review

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Survey results
Managers

TOPIC	SURVEY CONSENSUS	PAVILION'S COMMENTS
Reasons to Remove an Investment Manager	• *Style drift* ranked as most important with responses ranging between *very important* and *most important.* • *Longer-term underperformance vs. benchmark* and *vs. peers* also ranked highly with responses ranging from *somewhat important* to *most important.* • Responses for *organizational change* ranged from *neutral* to *very important.* • *Shorter-term underperformance vs. benchmark* and *vs. peers* was of less concern with responses ranging from *neutral* to *somewhat important.*	• We agree that greater emphasis should be placed on evaluating longer-term results, preferably over a full market cycle. • As the survey results suggest, an awareness of style drift is also important to ensure a manager's risk profile remains within expectations. • While shorter-term results are important to monitor, they should be placed in the appropriate context.
Level of Comfort with an Active Manager that Underperforms by 3% for Three Years in a Row	• Most responses noted this degree of underperformance is not unusual for active managers. However, some consideration was given to terminating the manager.	• While disappointing, we would consider trailing 3-year underperformance of 3% per annum to be within expectations for active management within most asset classes. • It is important to reach a comfort level with the expected degree of outperformance or underperformance when selecting a manager. To aid in this discussion, Mercer's manager ratings denote when a strategy could experience a high degree of tracking error.

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Survey results
Managers

TOPIC	SURVEY CONSENSUS	PAVILION'S COMMENTS
Opinion on Active Managers Outperforming Index Funds Over a Full Market Cycle	• Survey results erred toward difficulty for active management with responses including *rarely* and *less than half the time*. However, some consideration was given to active manager success depending on the asset class.	• We believe most US equity asset classes are highly efficient, especially when net of fee results are considered. Within non-US equities and fixed income, active management may have more appeal for both return and risk reasons. • The current market cycle has been a protracted one and difficult for active management. The next downturn may be a telling one for many active managers.
Level of Passive Management Within Various Asset Classes	• For US equities and non-US equities (developed markets), responses ranged from *up to 50%* to *more than 50%*. • For emerging markets, responses ranged from *25% or less* to *more than 50%*. • *For fixed income*, responses ranged from *25% or less* to *up to 50%*.	• We generally have a preference for predominately passive management within US equities and a more favorable view toward active management within non-US equities and fixed income.

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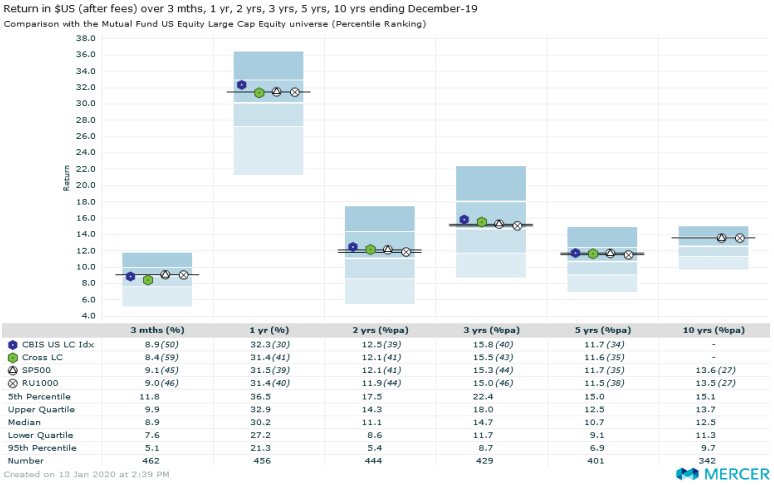
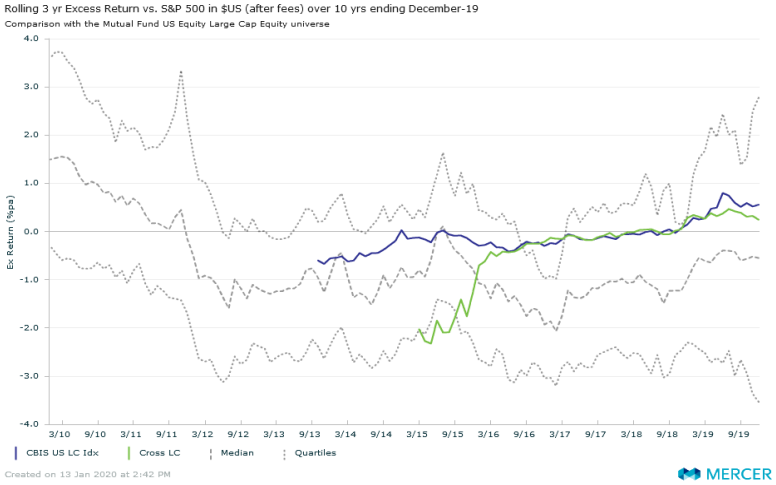
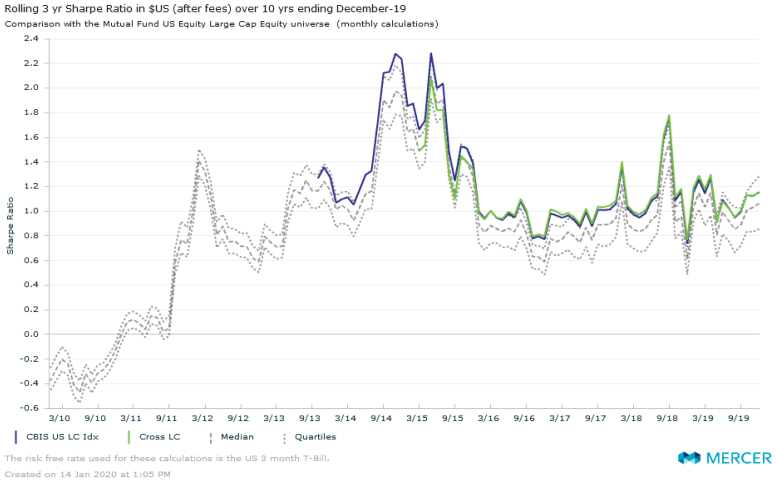
US large stocks





- The policy allocation to US large stocks is 24% in the Foundation and 19% in the Priest Pension.
- We generally recommend low-cost, passive management within US large-cap due to the efficiency of the asset class.
- The allocation is managed passively by **Christian Brothers Investment Services (CBIS)** and **Crossmark**. Both strategies are fully SRI-screened portfolios.
- Overall, both strategies have tracked their benchmark by an acceptable margin. On a peer-relative basis, passive management has ranked well over various time frames.
- **We recommend no manager changes at this time.**



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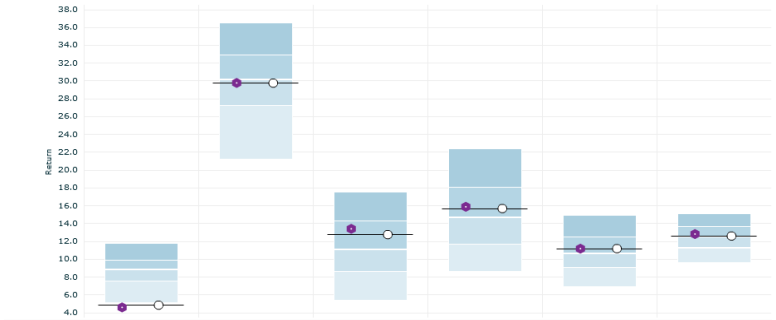
US large quality stocks

Return in $US (after fees) over 3 mths, 1 yr, 2 yrs, 3 yrs, 5 yrs, 10 yrs ending December-19

Comparison with the Mutual Fund US Equity Large Cap Equity universe (Percentile Ranking)



	3 mths (%)	1 yr (%)	2 yrs (%pa)	3 yrs (%pa)	5 yrs (%pa)	10 yrs (%pa)
Cross LCQ	4.6 *(96)*	29.8 *(53)*	13.4 *(31)*	15.9 *(39)*	11.2 *(43)*	12.8 *(43)*
Div Achiev	4.9 *(96)*	29.8 *(53)*	12.8 *(36)*	15.7 *(42)*	11.2 *(43)*	12.6 *(48)*
5th Percentile	11.8	36.5	17.5	22.4	15.0	15.1
Upper Quartile	9.9	32.9	14.3	18.0	12.5	13.7
Median	8.9	30.2	11.1	14.7	10.7	12.5
Lower Quartile	7.6	27.2	8.6	11.7	9.1	11.3
95th Percentile	5.1	21.3	5.4	8.7	6.9	9.7
Number	462	456	444	429	401	342

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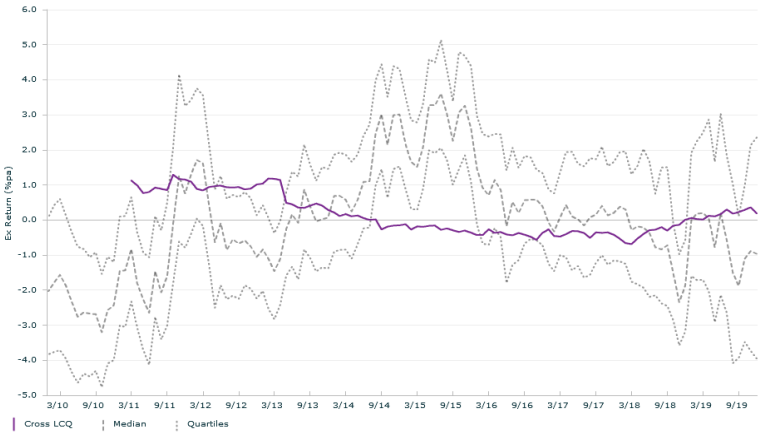
Rolling 3 yr Excess Return vs. NASDAQ US Dividend Achievers Select in $US (after fees) over 10 yrs ending December-19

Comparison with the Mutual Fund US Equity Large Cap Equity universe



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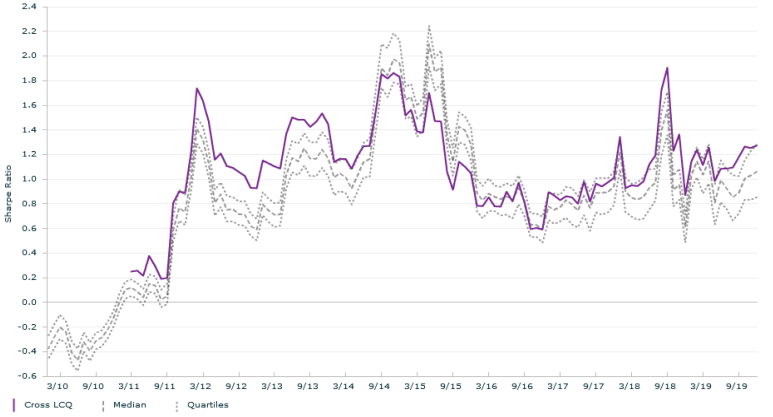
- The policy allocation to US large quality stocks is 12% in both portfolios.
- The allocation is managed passively by **Crossmark** on a fully-screened basis and seeks to track the NASDAQ US Dividend Achievers Select index.
- Overall, the strategy has tracked its benchmark by an acceptable margin. On a peer-relative basis, the strategy has ranked at or above median over most trailing time frames. Rolling 3-year returns have periodically ranked below median in periods when lower quality / higher beta stocks have rallied.
- **We recommend no manager changes at this time.**

Rolling 3 yr Sharpe Ratio in $US (after fees) over 10 yrs ending December-19

Comparison with the Mutual Fund US Equity Large Cap Equity universe (monthly calculations)



The risk free rate used for these calculations is the US 3 month T-Bill.

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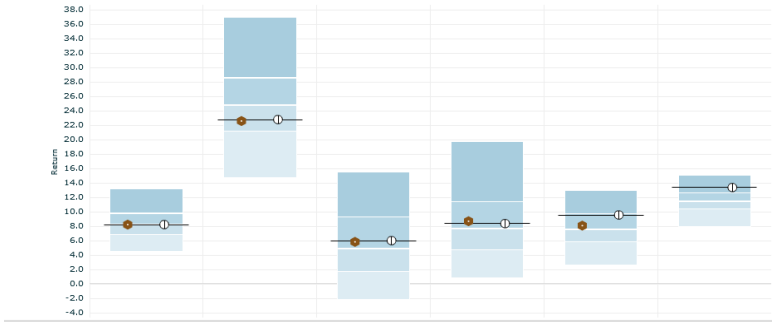
US small stocks

Return in $US (after fees) over 3 mths, 1 yr, 2 yrs, 3 yrs, 5 yrs, 10 yrs ending December-19

Comparison with the Mutual Fund US Equity Small Cap universe (Percentile Ranking)



	3 mths (%)	1 yr (%)	2 yrs (%pa)	3 yrs (%pa)	5 yrs (%pa)	10 yrs (%pa)
CBIS SC Idx	8.2 *(51)*	22.6 *(65)*	5.8 *(42)*	8.7 *(41)*	8.1 *(43)*	-
SP600SC	8.2 *(51)*	22.8 *(63)*	6.0 *(41)*	8.4 *(44)*	9.6 *(27)*	13.4 *(17)*
5th Percentile	13.2	37.0	15.5	19.8	13.0	15.0
Upper Quartile	9.8	28.6	9.3	11.4	9.8	12.7
Median	8.3	24.8	4.9	7.7	7.6	11.5
Lower Quartile	6.8	21.2	1.7	4.7	5.9	10.4
95th Percentile	4.5	14.7	-2.1	0.9	2.7	7.9
Number	497	492	476	461	423	340

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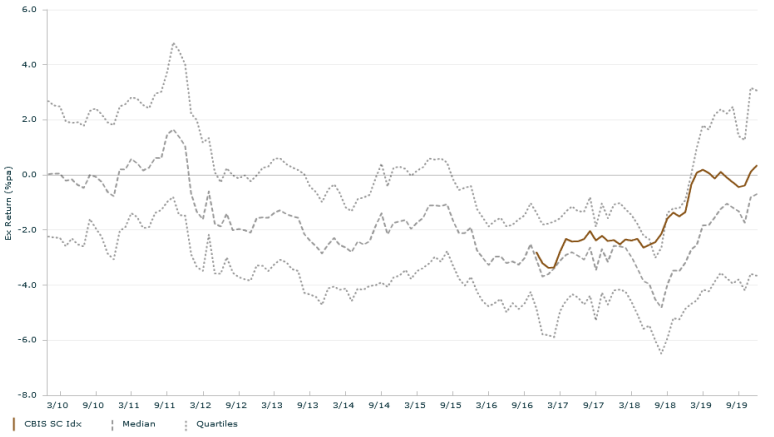
Rolling 3 yr Excess Return vs. S&P 600 Small Cap in $US (after fees) over 10 yrs ending December-19

Comparison with the Mutual Fund US Equity Small Cap universe



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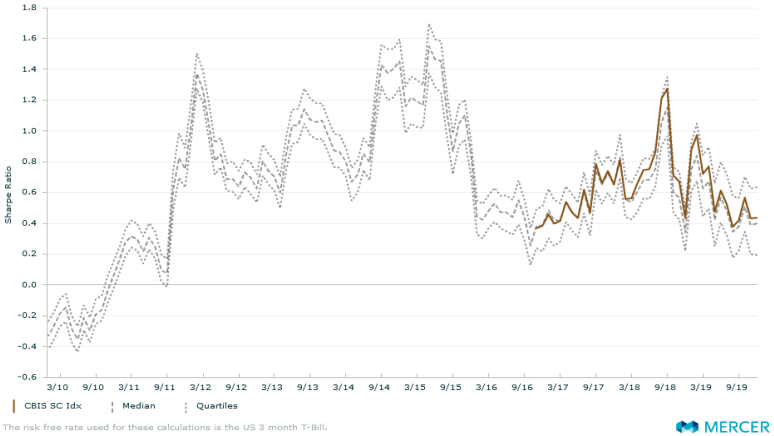
- The policy allocation to US small stocks is 4% in the Foundation and 3% in the Priest Pension.
- While there is potential for active management to add value within this asset class, historical results are mixed. Given the size of the allocation, we believe a passive approach is a reasonable approach.
- The allocation is managed passively by **CBIS** on a fully-screened basis and seeks to track the S&P 600 index.
- Overall, the strategy has consistently ranked at or above its peer universe median over various time frames.
- **We recommend no manager changes at this time.**

Rolling 3 yr Sharpe Ratio in $US (after fees) over 10 yrs ending December-19

Comparison with the Mutual Fund US Equity Small Cap universe (monthly calculations)



The risk free rate used for these calculations is the US 3 month T-Bill.

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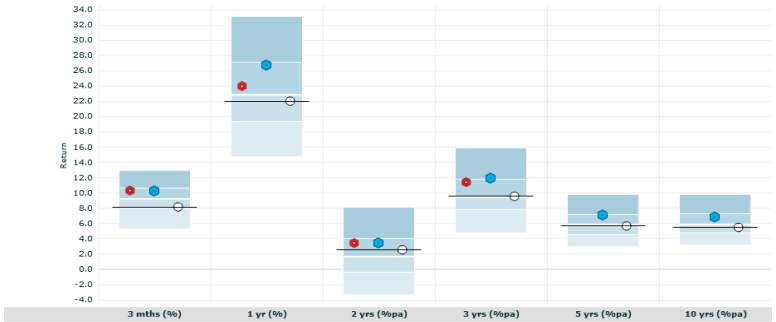
International large stocks

Return in $US (after fees) over 3 mths, 1 yr, 2 yrs, 3 yrs, 5 yrs, 10 yrs ending December-19
Comparison with the Mutual Fund World ex US/EAFE Equity universe (Percentile Ranking)



	3 mths (%)	1 yr (%)	2 yrs (%pa)	3 yrs (%pa)	5 yrs (%pa)	10 yrs (%pa)
BC Cath Int Eq	10.3 (29)	24.0 (41)	3.4 (32)	11.4 (29)	-	-
CBIS Int Eq	10.3 (30)	26.8 (26)	3.5 (31)	12.0 (24)	7.1 (25)	6.9 (30)
MSEAFEN	8.2 (72)	22.0 (57)	2.6 (39)	9.6 (49)	5.7 (53)	5.5 (59)
5th Percentile	12.9	33.1	8.1	15.9	9.8	9.8
Upper Quartile	10.6	27.1	4.0	11.8	7.2	7.3
Median	9.2	22.9	1.6	9.5	5.8	5.9
Lower Quartile	8.0	19.4	-0.4	7.8	4.6	4.8
95th Percentile	5.3	14.8	-3.3	4.8	3.0	3.2
Number	477	457	433	412	342	268

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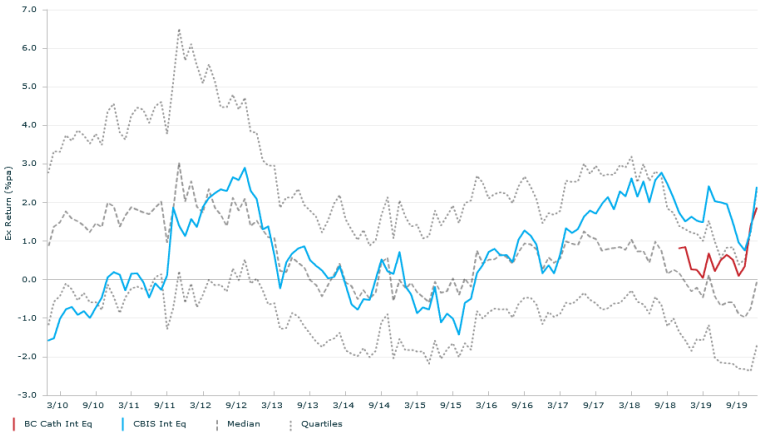
Rolling 3 yr Excess Return vs. MSCI EAFE (Net) in $US (after fees) over 10 yrs ending December-19
Comparison with the Mutual Fund World ex US/EAFE Equity universe



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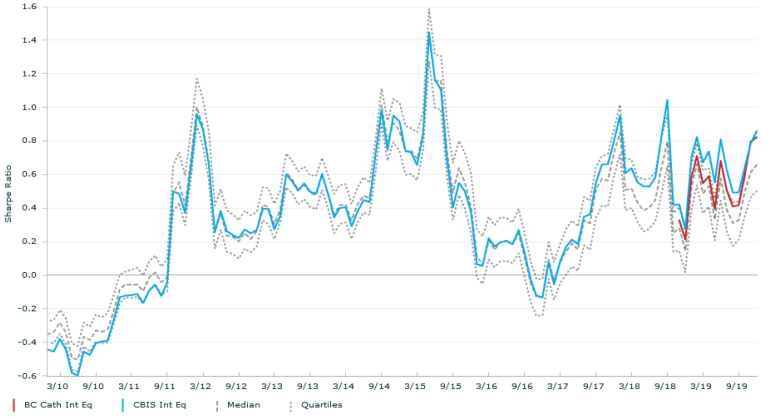
- The policy allocation to international large stocks is 22% in the Foundation and 19% in the Priest Pension.
- This allocation is divided between **Boston Common** and **CBIS** – both are USCCB compliant.
- We like the use of two actively managed funds in this space, as the diverse nature of the asset class provides a wider opportunity set for active managers. **Both funds have performed well and we do not recommend a change.**

Rolling 3 yr Sharpe Ratio in $US (after fees) over 10 yrs ending December-19
Comparison with the Mutual Fund World ex US/EAFE Equity universe (monthly calculations)



The risk free rate used for these calculations is the US 3 month T-Bill.
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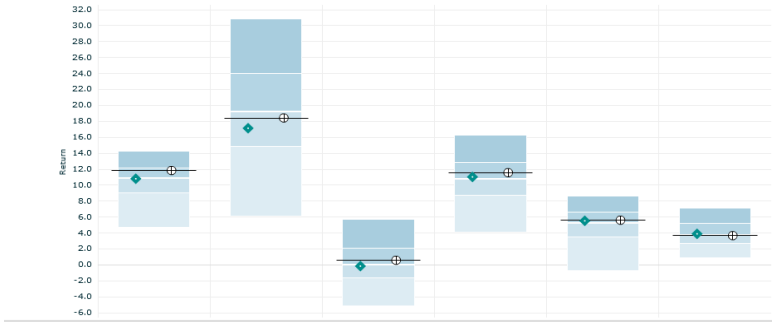
Emerging market stocks

Return in $US (after fees) over 3 mths, 1 yr, 2 yrs, 3 yrs, 5 yrs, 10 yrs ending December-19

Comparison with the Mutual Fund Emerging Markets Equity universe (Percentile Ranking)



	3 mths (%)	1 yr (%)	2 yrs (%pa)	3 yrs (%pa)	5 yrs (%pa)	10 yrs (%pa)
DFA Social EM	10.8 (52)	17.1 (66)	-0.1 (53)	11.0 (45)	5.5 (43)	3.9 (47)
MSEMFN	11.8 (31)	18.4 (55)	0.6 (41)	11.6 (38)	5.6 (41)	3.7 (52)
5th Percentile	14.2	30.9	5.8	16.3	8.6	7.1
Upper Quartile	12.1	24.0	2.1	12.9	6.7	5.2
Median	10.9	19.2	0.0	10.8	5.3	3.8
Lower Quartile	9.1	14.8	-1.6	8.7	3.5	2.7
95th Percentile	4.7	6.1	-5.1	4.1	-0.7	0.9
Number	305	292	268	251	212	107

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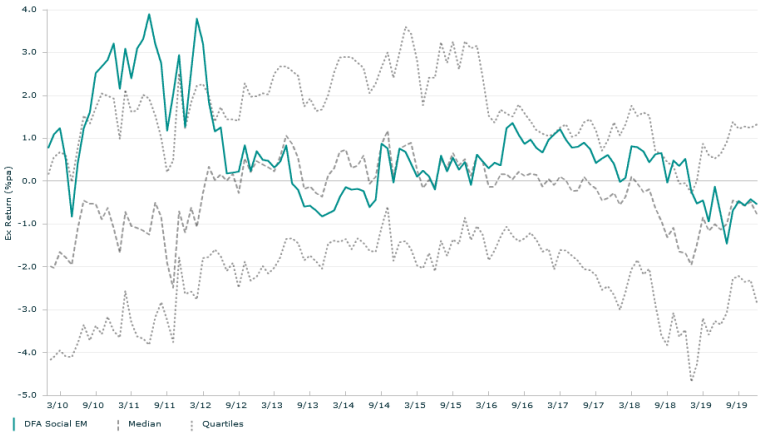
Rolling 3 yr Excess Return vs. MSCI EM (Net) in $US (after fees) over 10 yrs ending December-19

Comparison with the Mutual Fund Emerging Markets Equity universe



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- The policy allocation to emerging market stocks is 4% in both portfolios.
- **DFA** manages this allocation in a fully screened portfolio.
- While emerging markets is a space where we believe active management can add value, active funds in this space often have fees of 1% or more.
- Given the size of the allocation, we believe DFA's low-cost, diversified approach is a good starting point for gaining asset class exposure. DFA seeks to add value over time by providing exposure to size, value, and profitability factors.
- **We recommend no manager changes at this time.**

Rolling 3 yr Sharpe Ratio in $US (after fees) over 10 yrs ending December-19

Comparison with the Mutual Fund Emerging Markets Equity universe (monthly calculations)

The risk free rate used for these calculations is the US 3 month T-Bill.

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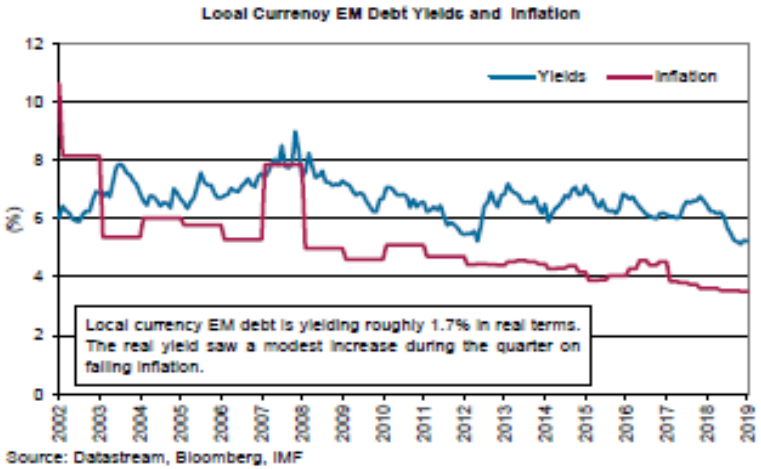
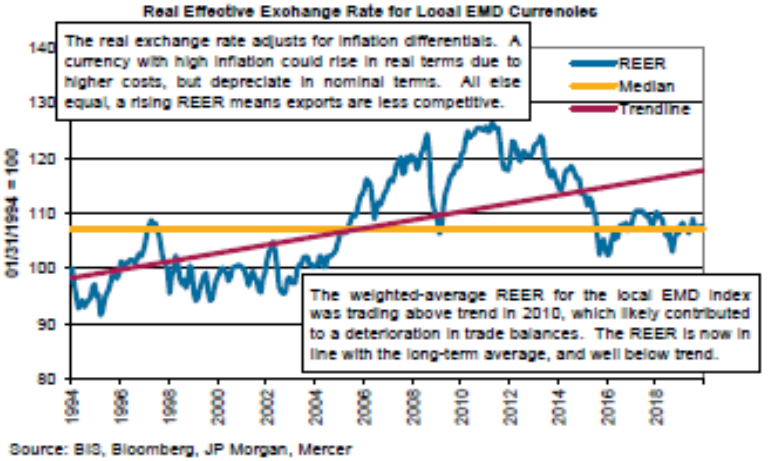
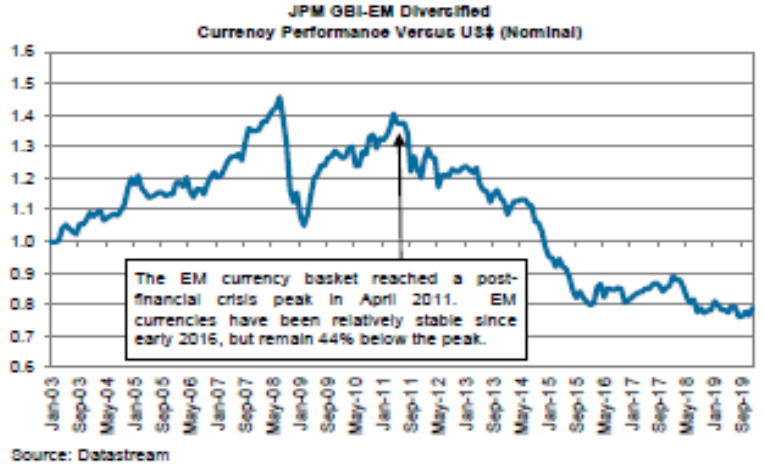
Add growth fixed income





- An allocation to growth fixed income was approved at the October meeting (4% in the Foundation and 3% in the Priest Pension). **We have included manager options to implement the allocation.**
- Growth fixed income typically consists of emerging market debt and high yield fixed income. Emerging market debt is our preference for implementation. Emerging market debt yields are attractive and emerging currencies should appreciate over the long-term.
- While high yield has become more attractive recently, it presents potential Catholic responsible investment issues while EMD is government bond-focused.



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Growth fixed income manager options
Emerging market debt

- We have included three local currency, sovereign emerging market debt strategies for consideration: **Ashmore**, **Hartford** (sub-advised by Wellington), and **Prudential**.

- **Ashmore** is an EM specialist, benefitting from on-the-ground presence. The fund has a long-term oriented, value-driven, qualitative approach. This results in a high-conviction strategy that can lead to higher levels of volatility. We have been monitoring the strategy's size which could potentially hinder performance. Fees are also fairly high relative to peers.

- Wellington (sub-advisor of **Hartford**) is a well-resourced strategy that can leverage the resources of its broader organization. It combines top-down views with bottom-up fundamental research on both a quantitative and qualitative basis. The fund follows a benchmark-aware approach to portfolio construction which should lead to modest tracking error. Fees are reasonable relative to peers.

- **Prudential** incorporates both top-down and bottom-up views and results in a relatively concentrated portfolio of around 50 issuers. One of the strategy's two co-PM's is retiring; however, we remain confident in the remaining team. The strategy typically holds 90%+ in local market sovereign bonds, but can opportunistically include corporate exposure which *could potentially create SRI-related issues*. Fees are reasonable versus peers.

- **Overall, Hartford has modestly more favorable risk metrics (for example, upside & downside capture ratios) and its lower tracking error approach may be preferable.**

As Of December 31, 2019	*Managers for Consideration*		
	Ashmore	**Hartford**	**Prudential**
Mercer Manager Ratings	A (T)	A	A
Mutual Fund Ticker Symbol	ELBIX	HLDYX	EMDZX
Stated Minimum Initial Investment ($)	$1 million	$250,000	N/A
Assets Under Management (mutual fund, $)	$44.8 million	$141.6 million	$75.0 million
Assets Under Management (all vehicles, $)	$19.5 billion	$5.8 billion	$3.0 billion
Annual Fee (%)	0.97%	0.89%	0.72%
Strategy Inception Date	1/31/2011	6/30/2011	4/30/2011
Universe	Mutual Fund Emerging Markets Bond Universe		
Index	JP Morgan GBI-EM Global Diversified		
3-Year Excess Return vs. Index (%)	-0.4	0.1	0.0
5-Year Excess Return vs. Index (%)	-0.1	0.2	-0.1
Confidence Level for Significance – 3 Year (%)	38	57	52
Confidence Level for Significance – 5 Years (%)	50	60	47
Up Market Outperformance (%)	60	40	51
Down Market Outperformance (%)	36	60	44
Upside & Downside Capture (%)	109.01 / 105.36	96.49 / 97.07	104.69 / 103.12
Tracking Error – 5 Years (%)	1.78	1.39	1.45
Volatility vs Index – 5 Years (%)	11.61 v 10.84	10.66 v 10.84	11.3 v 10.84
Information Ratio – 5 Years (%)	-0.05	0.12	-0.07
R^2 to Index – 5 Years (%)	97.97	98.37	98.46
Peer Return Rank – 3 Year (%)[1]	28	11	16
Peer Return Rank – 5 Years (%)[1]	83	76	83
Peer Risk Rank – 3 Year (%)[1]	2	13	4
Peer Risk Rank – 5 Years (%)[1]	2	13	5
Three Months	5.4	5.7	5.3
One Year	12.1	14.4	15.1
Three Years	6.6	7.1	7.0
Five Years	2.7	3.0	2.7
2019	12.1	14.4	15.1
2018	-7.1	-8.0	-8.4
2017	16.4	16.9	16.2
2016	12.4	9.9	7.9
2015	-16.2	-14.4	-13.7
2014	-6.2	-5.1	-4.5
2013	-11.1	-7.4	-11.1
2012	18.7	22.5	19.2
2011	-3.1	na	na

[1]Peer Return Rank - Lower the rating the better, Peer Risk Rank - Higher the rating the better

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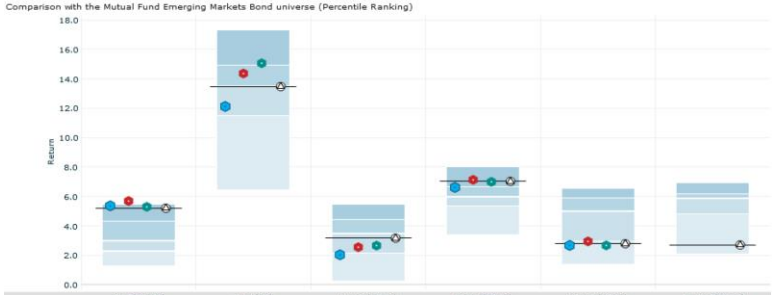
Growth fixed income manager options
Emerging market debt

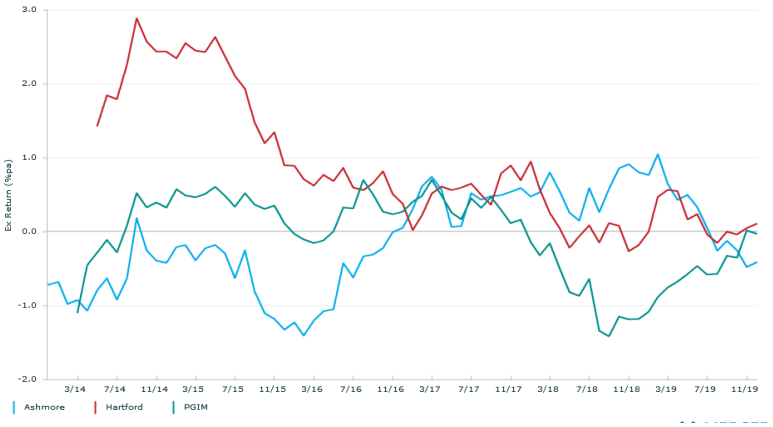
Return in $US (after fees) over 3 mths, 1 yr, 2 yrs, 3 yrs, 5 yrs, 10 yrs ending December-19

Comparison with the Mutual Fund Emerging Markets Bond universe (Percentile Ranking)



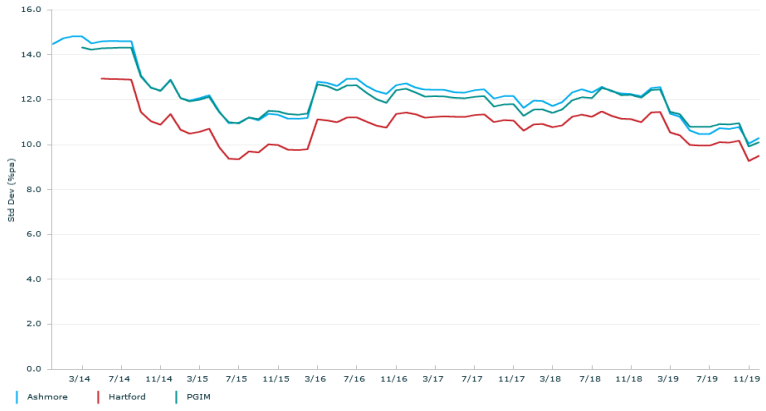
	3 mths (%)	1 yr (%)	2 yrs (%pa)	3 yrs (%pa)	5 yrs (%pa)	10 yrs (%pa)
Ashmore	5.37 (6)	12.12 (69)	2.04 (79)	6.62 (28)	2.68 (83)	-
Hartford	5.70 (4)	14.36 (31)	2.55 (70)	7.14 (11)	2.95 (76)	-
PGIM	5.30 (9)	15.05 (22)	2.66 (66)	7.00 (16)	2.68 (83)	-
JPM GBI-EM	5.20 (13)	13.47 (50)	3.16 (56)	7.03 (15)	2.78 (81)	2.71 (92)
5th Percentile	5.45	17.34	5.45	8.03	6.56	6.92
Upper Quartile	4.31	14.91	4.43	6.67	5.88	6.17
Median	3.03	13.48	3.46	6.00	5.03	5.88
Lower Quartile	2.29	11.52	2.17	5.37	2.99	4.81
95th Percentile	1.28	6.44	0.23	3.40	1.41	2.08
Number	112	109	101	97	89	28

Rolling 3 yr Excess Return vs. JP Morgan GBI-EM Global Diversified in $US (after fees) over 6 yrs and 1 mth ending December-19



Rolling 3 yr Std Deviation in $US (after fees) over 6 yrs and 1 mth ending December-19

(monthly calculations)



Rolling 3 yr Sharpe Ratio in $US (after fees) over 6 yrs and 1 mth ending December-19

(monthly calculations)

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Growth fixed income manager options
Emerging market debt

Candidate	Mercer Rating	Overall Assessment
Ashmore Emerging Markets Local Currency Bond	**A(T)**	Ashmore has a team of experienced and capable investors. The six-person investment committee headed by CEO/CIO Mark Coombs makes all key decisions from a top-down perspective, and we have a high regard for these investors. These key investment decision-makers are well connected individuals, lending credibility to the process and also enabling access to senior level policy makers of emerging countries. Ashmore's ability to leverage their market presence with issuing governments and companies appears unparalleled. Given full flexibility, Ashmore will make significant use of off benchmark sources of return, and have a contrarian style at times, which leads us to place a (T)racking error designation on this strategy.
Hartford Emerging Markets Local Debt (Sub-Advised by Wellington)	**A**	Wellington's fixed income group is deep and boasts expertise in many areas. The emerging market debt team is no exception and is led by an experienced and pragmatic investor in Jim Valone. The research process is comprehensive and repeatable; regular communication with local market contacts and other specialist teams at Wellington benefits idea generation. Portfolio construction is benchmark relative, but the portfolio is not overly constrained, allowing the team to exercise conviction in their best country and security ideas. We recommend Wellington to clients seeking a core style emerging market debt manager. However, we note that capacity across the product line is carefully managed and core products are generally closed at the current time.
PGIM Emerging Markets Debt Local Currency	**A**	PGIM Fixed Income has an experienced and cohesive emerging markets debt team. David Bessey and Cathy Hepworth are capable leaders who have a solid tenure managing assets together through multiple market environments although we have to consider the impact of Bessey's impending retirement. The Newark, London, and Singapore-based teams are fully integrated; and are further supported by Prudential Financial subsidiaries located in multiple emerging markets globally, which we believe to be a competitive advantage in terms of sources of input. In addition, we view the team's process of separating its views on rates and currency as a benefit. By separating rates and currency, the team can effectively isolate its specific desired characteristics of the country. The team also seeks input from consultants and other external sources to complement proprietary research. Finally, PGIM's risk management systems are extensive, providing detailed output in a timely and consistent manner.

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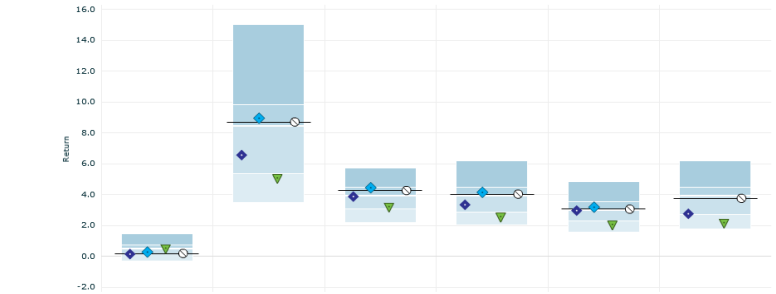
US broad fixed income

Return in $US over 3 mths, 1 yr, 2 yrs, 3 yrs, 5 yrs, 10 yrs ending December-19
Comparison with the Mutual Fund US Fixed Core universe (Percentile Ranking)



	3 mths (%)	1 yr (%)	2 yrs (%pa)	3 yrs (%pa)	5 yrs (%pa)	10 yrs (%pa)
FNB Bond	0.1 (78)	6.6 (68)	3.9 (52)	3.3 (65)	3.0 (51)	2.8 (74)
CBIS Intermed	0.3 (68)	9.0 (42)	4.5 (26)	4.1 (40)	3.2 (41)	-
BofA GC 1-5 Yr	0.5 (45)	5.1 (77)	3.2 (70)	2.6 (82)	2.1 (81)	2.2 (87)
BCUSAG	0.2 (75)	8.7 (46)	4.3 (35)	4.0 (46)	3.1 (48)	3.8 (55)
5th Percentile	1.4	15.0	5.7	6.2	4.8	6.2
Upper Quartile	0.7	9.8	4.5	4.5	3.5	4.5
Median	0.5	8.5	3.9	3.9	3.0	3.9
Lower Quartile	0.2	5.4	3.1	2.9	2.3	2.7
95th Percentile	-0.3	3.5	2.2	2.0	1.6	1.8
Number	483	474	435	415	372	287

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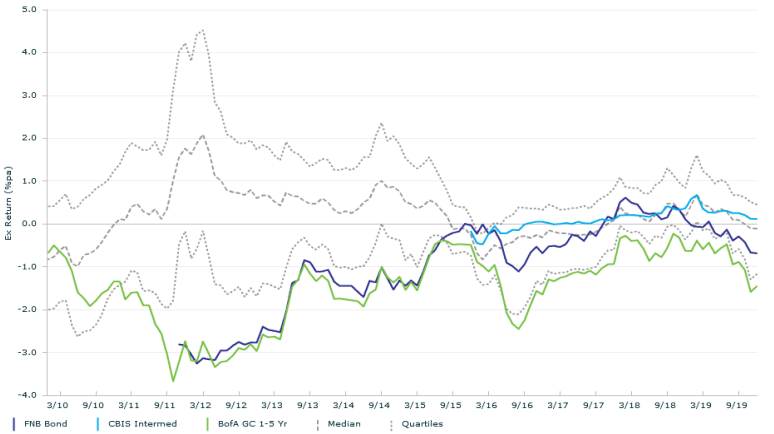
Rolling 3 yr Excess Return vs. Bloomberg Barclays US Aggregate in $US over 10 yrs ending December-19
Comparison with the Mutual Fund US Fixed Core universe



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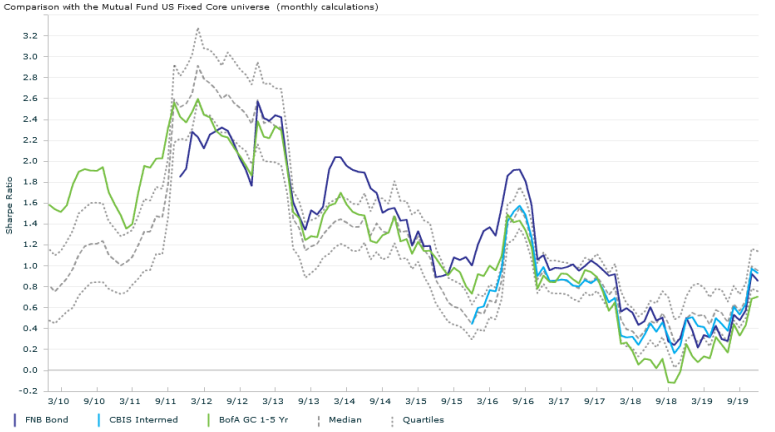
- The policy allocation to US broad fixed income is 16% in the Foundation and 24% in the Priest Pension. This allocation is divided between **First National Bank** (~50/50 short-term / intermediate term) and **CBIS Intermediate Diversified Bond** (fully screened).
- CBIS has slightly outperformed the Bloomberg Barclays Aggregate index, net of fees, and has ranked well above its peer universe median over most time frames.
- The FNB Strategy has generated performance in-line with its risk profile (for comparison purposes, we included returns for the BofA 1-5 Year Gov't / Credit index).
- **We recommend no manager changes at this time.**

Rolling 3 yr Sharpe Ratio in $US over 10 yrs ending December-19
Comparison with the Mutual Fund US Fixed Core universe (monthly calculations)



The risk free rate used for these calculations is the US 3 month T-Bill.
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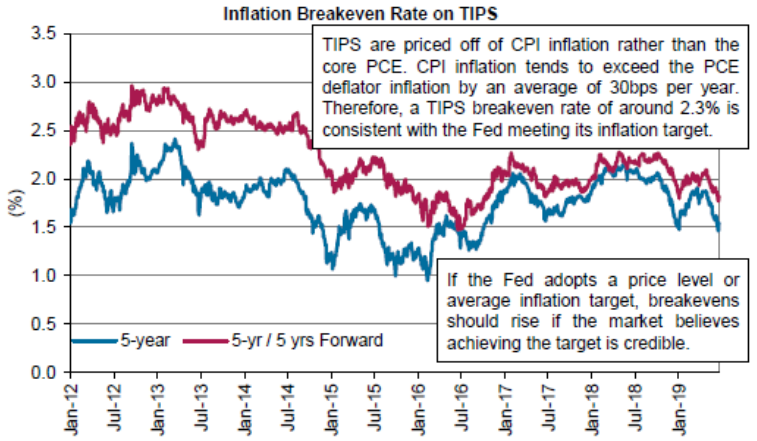
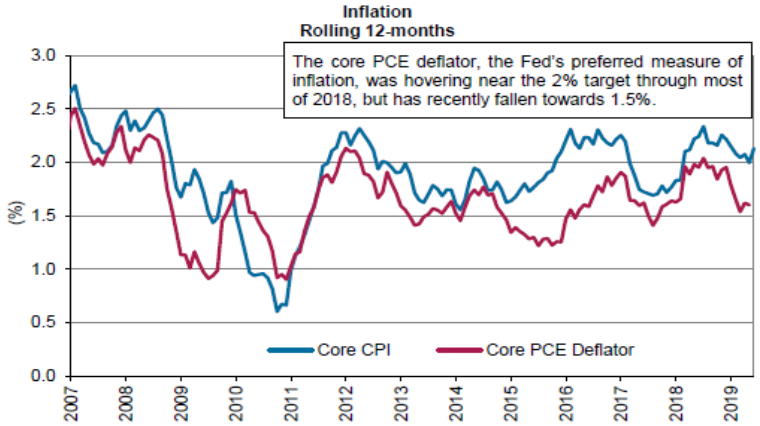
Add inflation-protected bonds (TIPS)

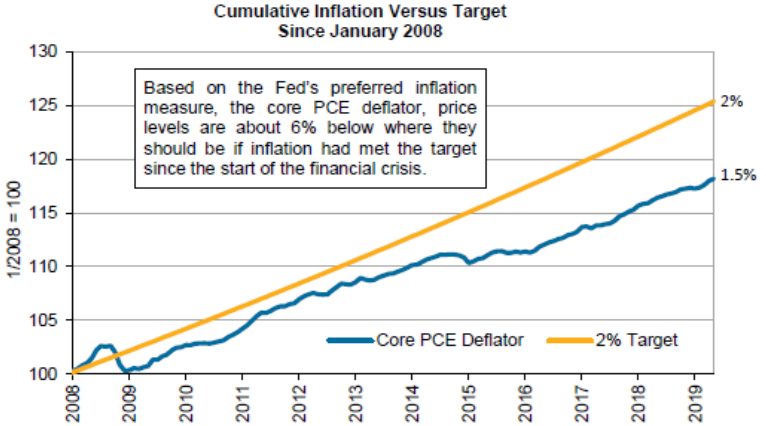
- An 3% allocation to inflation-protected bonds (TIPS) was approved for the Foundation portfolio at the October meeting (note: the Priest Pension already contains a 3% allocation). **We have included our recommended manager option to implement the allocation.**
- The addition of TIPS helps maintain a meaningful inflation-protection element within the portfolios since allocations to natural resource stocks have been removed.
- Given that inflation is barely reaching target levels, it is likely that central banks will continue to be biased toward generating inflation (or increasing expectations).
- The inflation breakeven rate on TIPS has been below the Fed's 2% target.



Source: Bloomberg, Mercer



Source: Bloomberg



Source: Bureau of Economic Analysis

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Inflation-protected bonds (TIPS)

- We compared the TIPS strategy currently utilized in the Priest Pension (**iShares 0-5 Year TIPS**) to our recommended implementation option (**Vanguard Inflation-Protected Securities**). By nature, both strategies do not violate SRI guidelines.
- The primary difference between the two strategies is a focus on shorter-term maturities for iShares; whereas, Vanguard has an intermediate-term focus. We are comfortable shifting to an intermediate focus.
- While technically an active approach, Vanguard uses a "style pure", risk-controlled approach that is expected to closely follow the Bloomberg Barclays US Treasury Inflation Protected Securities index.
- The fund has consistently ranked in the top half of its peer universe over various trailing time frames on a net of fee basis.
- We also reviewed actively managed funds, but did not find compelling options given the higher fee hurdle.
- **We recommend using Vanguard in both the Foundation and the Priest Pension as the sole manager in the US TIPS allocation.**

As of December 31, 2019	*Managers for Consideration*	
	iShares	Vanguard
Mercer Manager Ratings	N	A
Ticker Symbol	STIP	VAIPX
Stated Minimum Initial Investment ($)	NA	NA
Assets Under Management ($)	$2.4 billion	$28.0 billion
Annual Fee (%)	0.06%	0.10%
Strategy Inception Date	12/31/2010	7/31/2005
Universe	Mutual Fund US Fixed Inflation Protected Universe	
Index	Bloomberg Barclays US TIPS	
Effective Duration (years)	2.4	7.4
Effective Maturity (years)	2.5	8.3
3-Year Excess Return vs. Index (%)	-0.6	-0.1
5-Year Excess Return vs. Index (%)	-1.2	0.0
10-Year Excess Return vs. Index (%)	NA	0.0
Confidence Level for Significance – 3 Year (%)	32	25
Confidence Level for Significance – 5 Years (%)	13	42
Confidence Level for Significance – 10 Years (%)	NA	41
Up Market Outperformance (%)	6	44
Down Market Outperformance (%)	88	42
Upside & Downside Capture (%)	32.27 / 28.33	100.7 / 101.93
Tracking Error – 5 Years (%)	2.49	0.46
Volatility vs Index – 5 Years (%)	1.43 v 3.51	3.57 v 3.51
Information Ratio – 5 Years (%)	-0.5	-0.09
R^2 to Index – 5 Years (%)	65.48	98
Peer Return Rank – 3 Year (%)[1]	77	45
Peer Return Rank – 5 Years (%)[1]	88	20
Peer Return Rank – 10 Years (%)[1]	NA	23
Peer Risk Rank – 3 Year (%)[1]	100	29
Peer Risk Rank – 5 Years (%)[1]	100	41
Peer Risk Rank – 10 Years (%)[1]	NA	33
Three Months	0.4	1.5
One Year	3.4	7.1
Three Years	1.6	2.1
Five Years	1.2	2.4
Ten Years	na	3.4
2019	3.7	7.6
2018	0.5	-1.4
2017	0.8	3.0
2016	2.8	4.6
2015	-0.1	-1.7
2014	-1.3	4.1
2013	-1.7	-8.8
2012	2.2	6.9
2011	4.3	13.4
2010	NA	6.3

[1]Peer Return Rank - Lower the rating the better, Peer Risk Rank - Higher the rating the better

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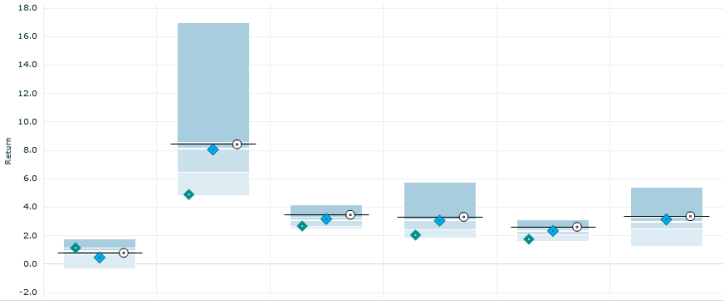
Inflation-protected bonds (TIPS)

Return in $US (after fees) over 3 mths, 1 yr, 2 yrs, 3 yrs, 5 yrs, 10 yrs ending December-19

Comparison with the Mutual Fund US Fixed Inflation Protected universe (Percentile Ranking)



	3 mths (%)	1 yr (%)	2 yrs (%pa)	3 yrs (%pa)	5 yrs (%pa)	10 yrs (%pa)
iSh 0-5 TIPS	1.1 *(28)*	4.9 *(92)*	2.7 *(77)*	2.0 *(88)*	1.8 *(88)*	-
VG TIPS	0.5 *(88)*	8.1 *(55)*	3.2 *(40)*	3.1 *(52)*	2.3 *(48)*	3.1 *(36)*
BCUSTIPS	0.8 *(57)*	8.4 *(31)*	3.5 *(19)*	3.3 *(24)*	2.6 *(19)*	3.4 *(19)*
5th Percentile	1.8	17.0	4.2	5.8	3.1	5.4
Upper Quartile	1.2	8.5	3.3	3.3	2.5	3.3
Median	0.9	8.1	3.1	3.1	2.3	3.0
Lower Quartile	0.7	6.4	2.7	2.4	2.1	2.5
95th Percentile	-0.3	4.8	2.5	1.8	1.6	1.3
Number	49	48	44	43	41	29

The information contained within the exhibit was derived by Mercer using content supplied by Lipper, a Thomson Reuters Company.

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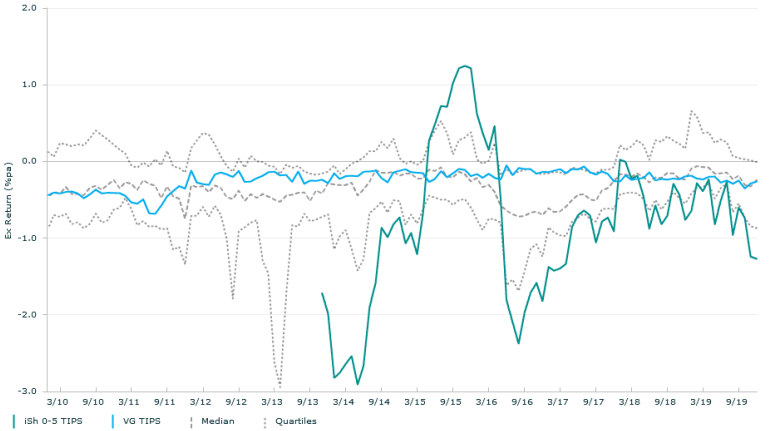
Rolling 3 yr Excess Return vs. Bloomberg Barclays US TIPS in $US (after fees) over 10 yrs ending December-19

Comparison with the Mutual Fund US Fixed Inflation Protected universe



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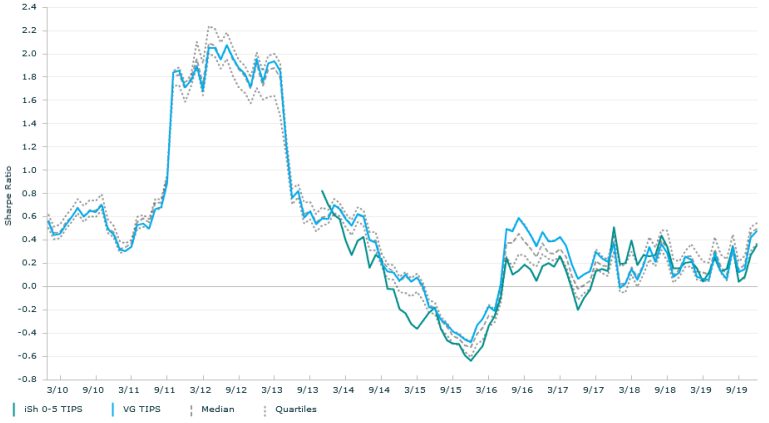
- Relative performance between the iShares and Vanguard strategies is primarily attributable to their short-term vs. intermediate-term focus, respectively.
- Vanguard has consistently ranked near the top half of its peer universe.

Rolling 3 yr Sharpe Ratio in $US (after fees) over 10 yrs ending December-19

Comparison with the Mutual Fund US Fixed Inflation Protected universe (monthly calculations)



The risk free rate used for these calculations is the US 3 month T-Bill. The information contained within the exhibit was derived by Mercer using content supplied by Lipper, a Thomson Reuters Company.

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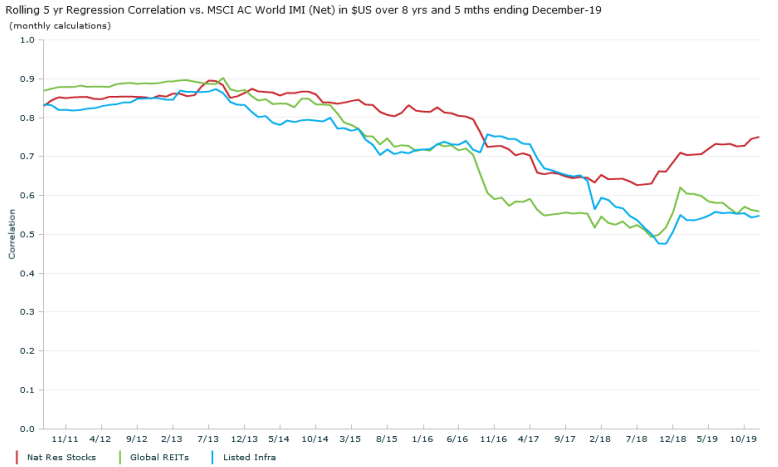
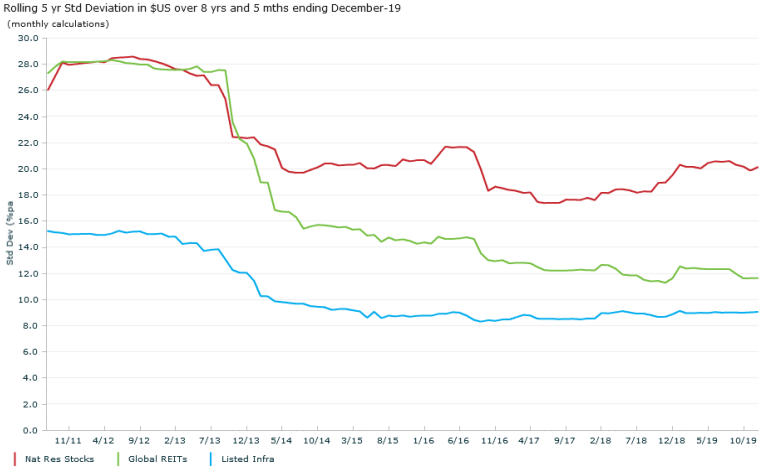
Liquid real assets

Remove natural resource stocks

ROLLING CORRELATION VS. GLOBAL STOCKS



ROLLING VOLATILITY



- At the October meeting, the Committee approved removing the natural resource stock allocation.
- Real assets represent "hard" assets and are expected to provide a hedge against inflation. In contrast, many other financial assets such as stocks and bonds can be negatively impacted by inflation.
- Like all asset classes, real assets are cyclical in nature which can impact short-term performance. This argues for a diversified approach with a longer-term focus.
- CFESD's real assets exposure has consisted of natural resource stocks, global REITs, and listed infrastructure. The allocation will consist of real estate and listed infrastructure going forward.
- Given the publicly-listed nature the current allocation, we expect some degree of correlation to stocks. However, the natural resources component has shown the highest correlation, limiting its diversification potential, and its volatility profile has been noticeably higher than REITs and infrastructure.

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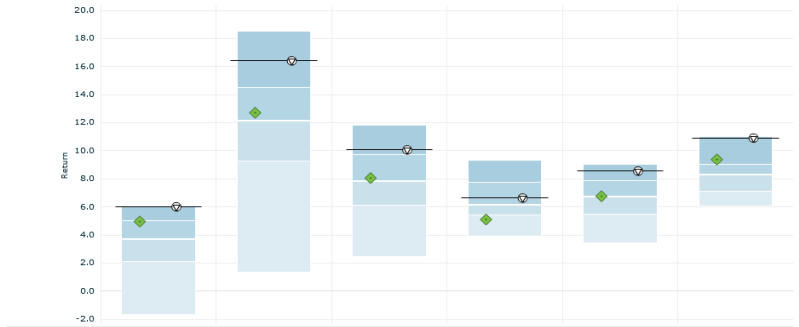
Liquid real assets
Global real estate (REITS)

Return in $US (after fees) over 3 mths, 1 yr, 2 yrs, 3 yrs, 5 yrs, 10 yrs ending September-19
Comparison with the Mutual Fund Global Real Estate universe (Percentile Ranking)



	3 mths (%)	1 yr (%)	2 yrs (%pa)	3 yrs (%pa)	5 yrs (%pa)	10 yrs (%pa)
DJ Glb RE ETF	5.0 *(26)*	12.7 *(46)*	8.1 *(47)*	5.1 *(81)*	6.8 *(50)*	9.4 *(19)*
SPCBMIREIT	6.0 *(5)*	16.4 *(16)*	10.1 *(21)*	6.6 *(44)*	8.5 *(16)*	10.9 *(6)*
5th Percentile	6.0	18.5	11.9	9.3	9.0	11.0
Upper Quartile	5.0	14.5	9.7	7.8	7.9	9.1
Median	3.7	12.1	7.9	6.2	6.8	8.3
Lower Quartile	2.1	9.2	6.1	5.4	5.5	7.1
95th Percentile	-1.7	1.4	2.5	3.9	3.5	6.1
Number	69	68	65	63	55	44

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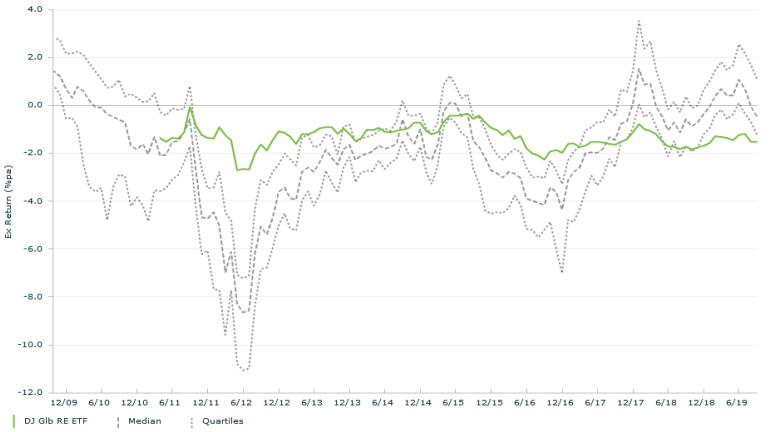
Rolling 3 yr Excess Return vs. S&P Global REIT in $US (after fees) over 10 yrs ending September-19
Comparison with the Mutual Fund Global Real Estate universe



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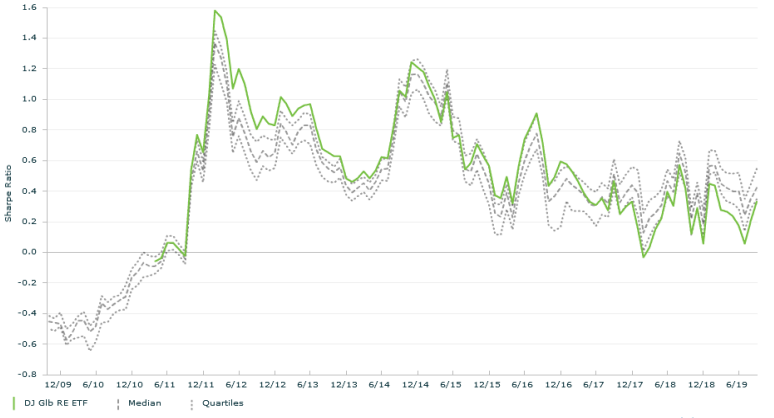
- The policy allocation to global REITs is 3% in the Foundation and 4% in the Priest Pension.
- **SPDR Dow Jones** manages the allocation passively. By nature of the asset class, we do not expect the fund to violate SRI guidelines.
- The fund has ranked in the top half of its peer universe over most time frames.
- **We recommend no manager changes at this time.**

Rolling 3 yr Sharpe Ratio in $US (after fees) over 10 yrs ending September-19
Comparison with the Mutual Fund Global Real Estate universe (monthly calculations)



The risk free rate used for these calculations is the US 3 month T-Bill.

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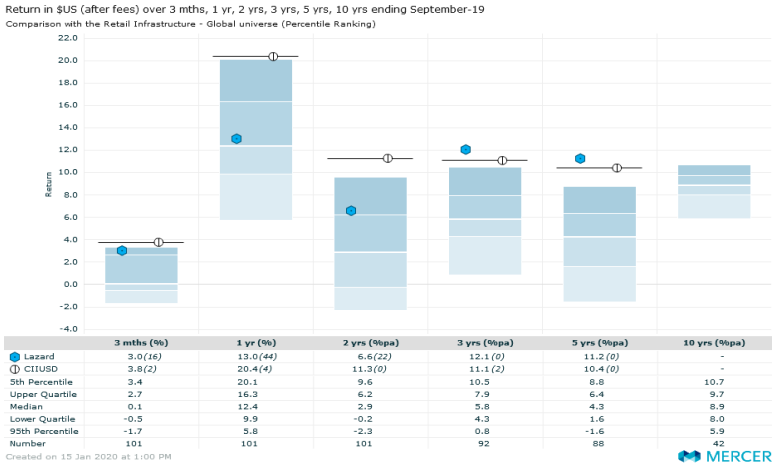
Liquid real assets
Listed infrastructure



	3 mths (%)	1 yr (%)	2 yrs (%pa)	3 yrs (%pa)	5 yrs (%pa)	10 yrs (%pa)
Lazard	3.0(16)	13.0(44)	6.6(22)	12.1(0)	11.2(0)	-
CIIUSD	3.8(2)	20.4(4)	11.3(0)	11.1(2)	10.4(0)	-
5th Percentile	3.4	20.1	9.6	10.5	8.8	10.7
Upper Quartile	2.7	16.3	6.2	7.9	6.4	9.7
Median	0.1	12.4	2.9	5.8	4.3	8.9
Lower Quartile	-0.5	9.9	-0.2	4.3	1.6	8.0
95th Percentile	-1.7	5.8	-2.3	0.8	-1.6	5.9
Number	101	101	101	92	88	42

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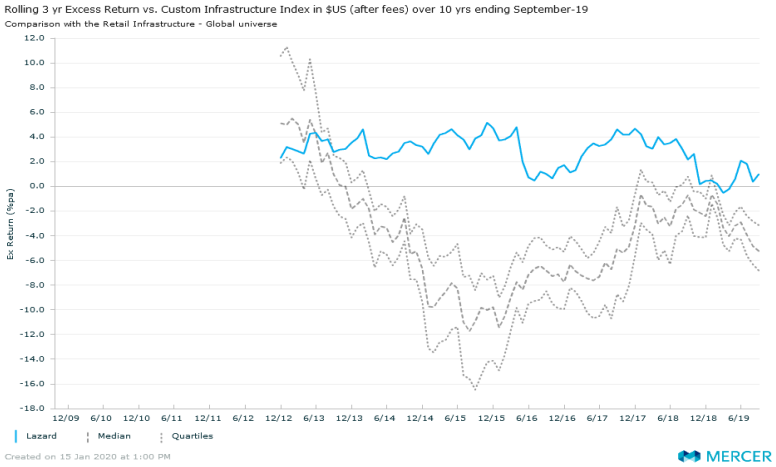
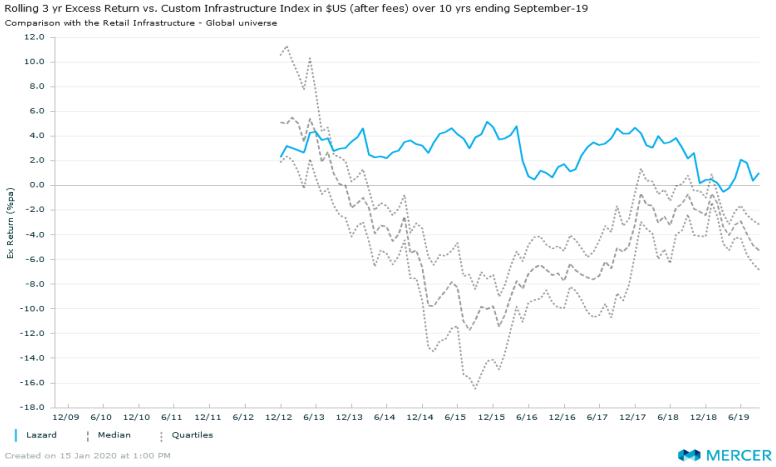


- The policy allocation to listed infrastructure is 2% in the Foundation and 3% in the Priest Pension.
- **Lazard** manages the allocation actively. By nature of the asset class, we do not expect the fund to violate SRI guidelines.
- The fund has ranked in the top quartile of its peer universe over most time frames.
- **We recommend no manager changes at this time.**



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Eliminate liquid absolute return

OVERVIEW OF HEDGED STRATEGIES

- Collectively, liquid absolute return and hedge funds could be considered "hedged strategies". The purpose of hedged strategies is to:
  - Generate returns that are competitive with equities and volatility that is closer to fixed income.
  - Provide diversification from equity and interest rate risks that dominate most traditional portfolios.
  - Serve as an alternative to fixed income within risk reduction assets.
- Our preferred method of implementation is through the use of hedge fund strategies that align with our approach to hedge fund investing. However, in lieu of hedge funds, some clients have utilized liquid absolute return strategies which are expected to achieve a similar objective.
- While the opportunity set for liquid absolute return managers is broader than traditional stock or bond managers, it is limited when compared to hedge funds, due to limitations of the mutual fund structure.

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Eliminate liquid absolute return (cont.)

- At the October meeting, the allocation to liquid absolute return was reduced to 3% and 6% in the Foundation and Priest Pension portfolios, respectively. **Discussion included potentially removing the allocation altogether since SRI screening cannot be implemented.**
- The liquid absolute return allocation consists of two managers (**BNY Mellon Global Real Return** and **Invesco Global Targeted Returns**). Given the small allocation and the Committee's preference for fully screened portfolios, **we recommend eliminating the liquid absolute return allocation entirely**.
  - These funds have exposure to both stocks and bonds, so we recommend re-allocating these dollars across the portfolio.
- The Foundation portfolio's 3% hedge fund allocation (**Lighthouse SRI Global Long/Short Equity**) would be maintained.

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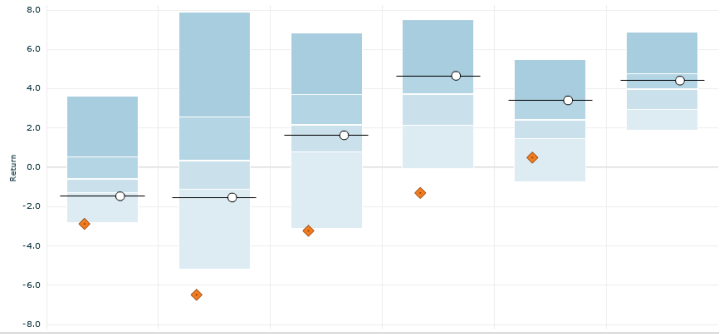
Hedge funds

Return in $US (after fees) over 3 mths, 1 yr, 2 yrs, 3 yrs, 5 yrs, 10 yrs ending September-19

Comparison with the Funds of Hedge Funds (Net) universe (Percentile Ranking)



	3 mths (%)	1 yr (%)	2 yrs (%pa)	3 yrs (%pa)	5 yrs (%pa)	10 yrs (%pa)
Lighthouse SRI	-2.9 *(96)*	-6.5 *(98)*	-3.2 *(97)*	-1.3 *(98)*	0.5 *(89)*	-
HFRIEQH	-1.5 *(83)*	-1.5 *(77)*	1.6 *(61)*	4.7 *(24)*	3.4 *(26)*	4.4 *(38)*
5th Percentile	3.6	7.9	6.8	7.5	5.5	6.9
Upper Quartile	0.5	2.6	3.7	4.6	3.4	4.8
Median	-0.6	0.3	2.2	3.7	2.4	4.0
Lower Quartile	-1.3	-1.1	0.8	2.2	1.5	3.0
95th Percentile	-2.8	-5.2	-3.1	-0.1	-0.7	1.9
Number	99	89	82	79	77	52

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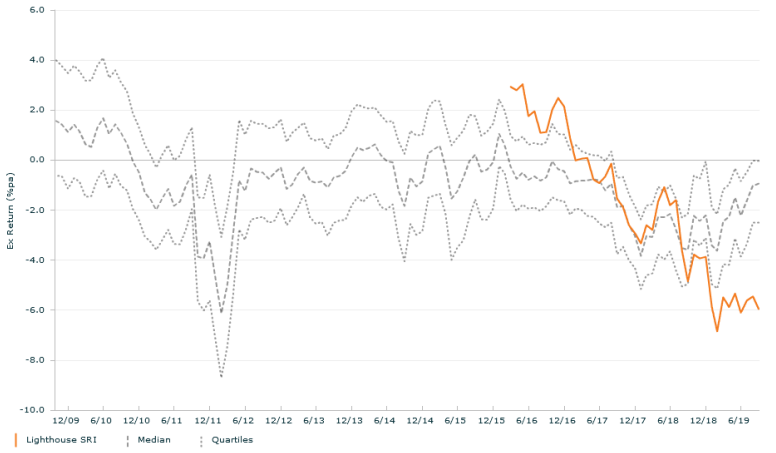
Rolling 3 yr Excess Return vs. HFRI Equity Hedge (Total) in $US (after fees) over 10 yrs ending September-19

Comparison with the Funds of Hedge Funds (Net) universe



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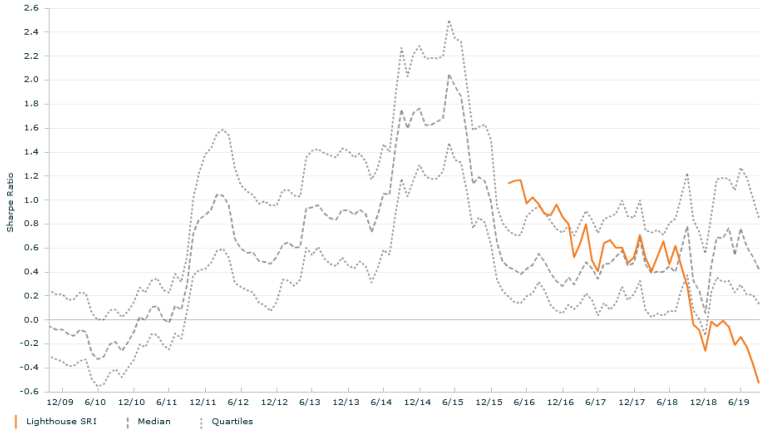
- The Foundation portfolio has a 3% allocation to hedge funds, managed by **Lighthouse SRI Global Long / Short Equity**, a strategy that complies with USCCB guidelines.
- Performance has been below expectations with recent returns weighing on longer-term results. However, the strategy has been in the portfolio for just over a year, making it tough to draw definitive conclusions. Additionally, Lighthouse recently announced changes to its approach to broaden its opportunity set.
- **We recommend monitoring the strategy closely and reassessing in the future.**

Rolling 3 yr Sharpe Ratio in $US (after fees) over 10 yrs ending September-19

Comparison with the Funds of Hedge Funds (Net) universe (monthly calculations)



The risk free rate used for these calculations is the US 3 month T-Bill.

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Objectives

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Investment policy statement excerpts
Objectives

- **Return:** The long-term objective of the Foundation is to provide reliable and sustainable income for the current needs of beneficiaries and to perpetuate the resources of the Foundation for future generations. Therefore, the minimum investment return from the Foundation's portfolio needs to be sufficient to offset spending and expenses. The fund has adopted a "total return" investment approach. Current income is considered a secondary consideration.
- **Risk:** The Diocesan Investment Committee will permit the Fund to experience an overall level of risk consistent with the risk generally associated with such Committee's policy asset allocation.

Objectives	
Distribution Rate	4.00%
Administrative Costs	1.75%
Real Growth	0.00%
Nominal Net Return Goal	5.75%

Note: Administrative costs for Agency accounts is 0.45%.

- The minimum return needs were determined by the Foundation, as detailed in the table shown above.
- Returns above the minimum are deemed applied towards inflation.

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Investment policy statement excerpts
Spending

- The Foundation's policy shall be that a Spending Rate not to exceed 4.0% is appropriate to meet the needs of the beneficiaries. This Spending Rate will be reviewed periodically by the Board and its Finance Committee in light of evolving trends with respect to the economic cycle, investment outlook, investment/market returns, as well as the needs of beneficiaries.

SPENDING RATE CALCULATION

- It shall be the policy of the Foundation to distribute annually, an amount equal to the product of the most recent twelve-quarter moving average of the investment portfolio's market value, multiplied by the Spending Rate. This amount shall not exceed the product of the spending rate plus 1%, multiplied by the investment portfolio's current market value.

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Investment policy statement excerpts
Constraints

- **Liquidity:** Due to the long term investment horizon of the fund, liquidity is of secondary concern. The Foundation should maintain sufficient funds to provide for annual spending and expenses.
- **Time Horizon:** The Foundation has an infinite life and should be managed with a time horizon of fifty to one-hundred years.
- **Taxes:** The Foundation fund has a tax-exempt status. All actions of the Diocesan Investment Committee should be taken in recognition and preservation of this status.
- **Legal and Regulatory:** Must comply with applicable laws and regulations, plus fiduciary standard of care.
- **Unique Circumstances:** Investments shall be made not only to meet the objectives of investment and economic performance, but also to meet the objectives of social and moral responsibility and of supporting business that is in harmony with moral and social teachings of the Catholic Church.

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Investment policy statement excerpts
Asset allocation

- The single most important decision made by the Foundation is the Policy Asset Allocation decision.
- The Policy Asset Allocation of the Foundation is designed to give balance to the overall structure of the Foundation's investment program over the Time Horizon. However, some factors may impact the Policy Asset Allocation, thereby requiring an asset allocation review and possible rebalancing. Some of these factors include:

  1. The Diocesan Investment Committee's assessment of the intermediate or long term outlook for different types of asset classes and styles;
  2. The Consultant's assessment of the intermediate or long term outlook for different types of asset classes and styles;
  3. Divergence in the performance of the different asset classes and styles from the Policy Asset Allocation; and
  4. In responding to the changing outlook for the asset classes, the Diocesan Investment Committee may from time to time recommend to the Board revisions to the Policy Asset Allocation.

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Asset Allocation

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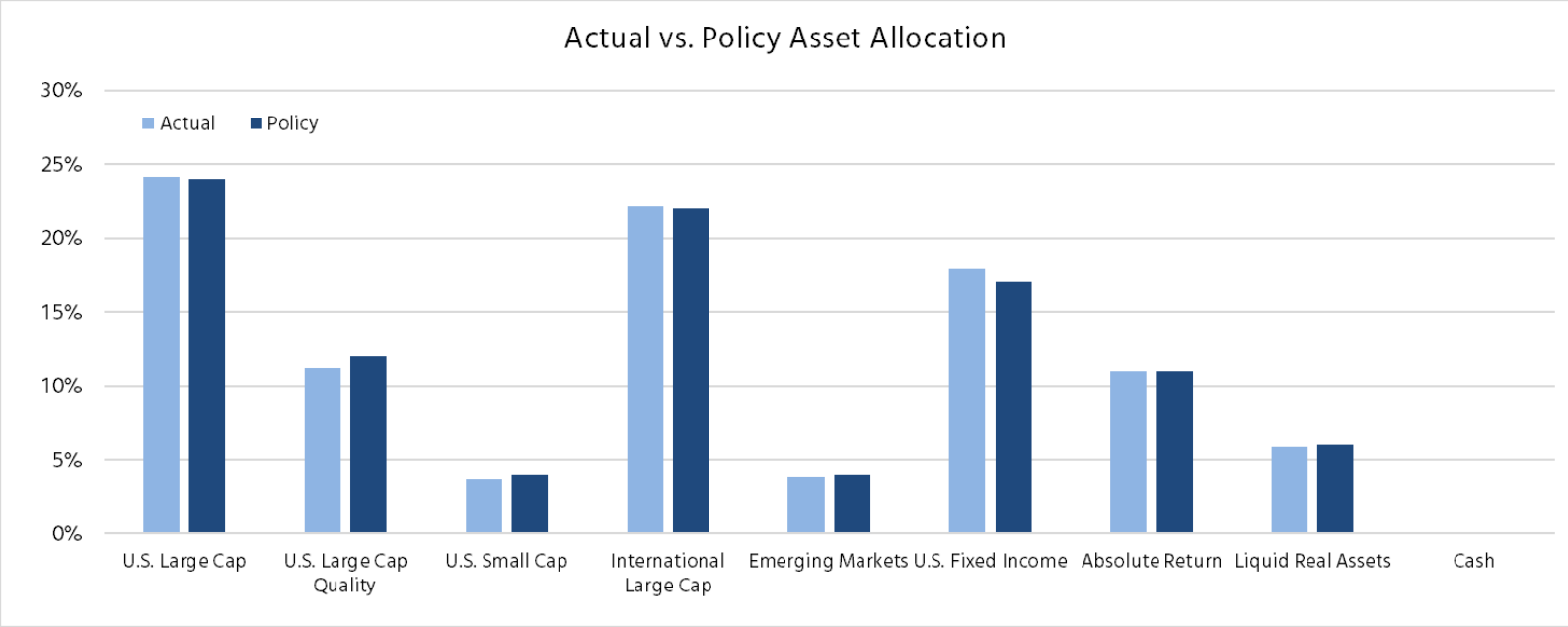
Actual vs. policy allocation
As of February 29, 2020



- The chart above shows the Catholic Community Foundation's current actual and policy target allocations.

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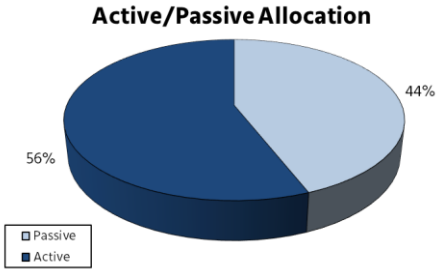
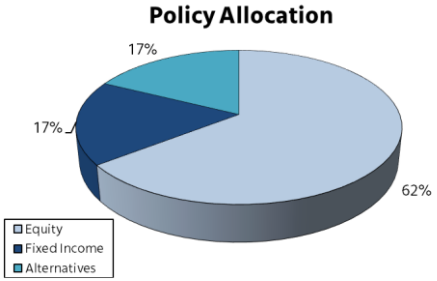
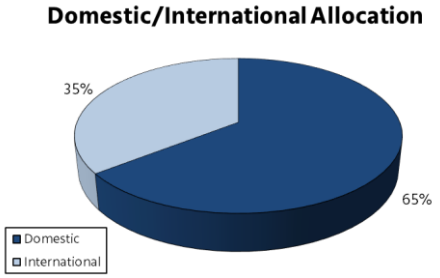
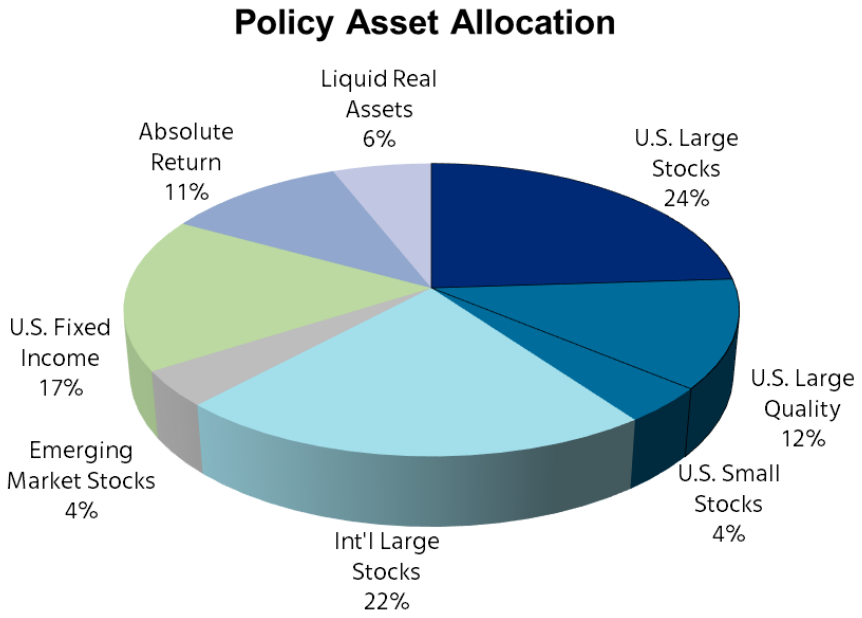
Asset Allocation Policy
Catholic Community Foundation







Portfolio Objectives	
Distribution Rate	4.00%
Administrative Costs	1.75%
Real Growth	0.00%
Nominal Net Return Goal	**5.75%**
Forecasts (Foundation Policy Index)	
Return	
Long-Term Expected Return (20 years)	6.0%
10 Yr. Horizon Expected Return	**5.4%**
Risk	
1 Yr. Standard Deviation	13.1%
Sharpe Ratio	**0.25**
Probability of Achieving 5.75% Goal Return	
10 Years	46.5%
20 Years	**53.4%**



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Performance

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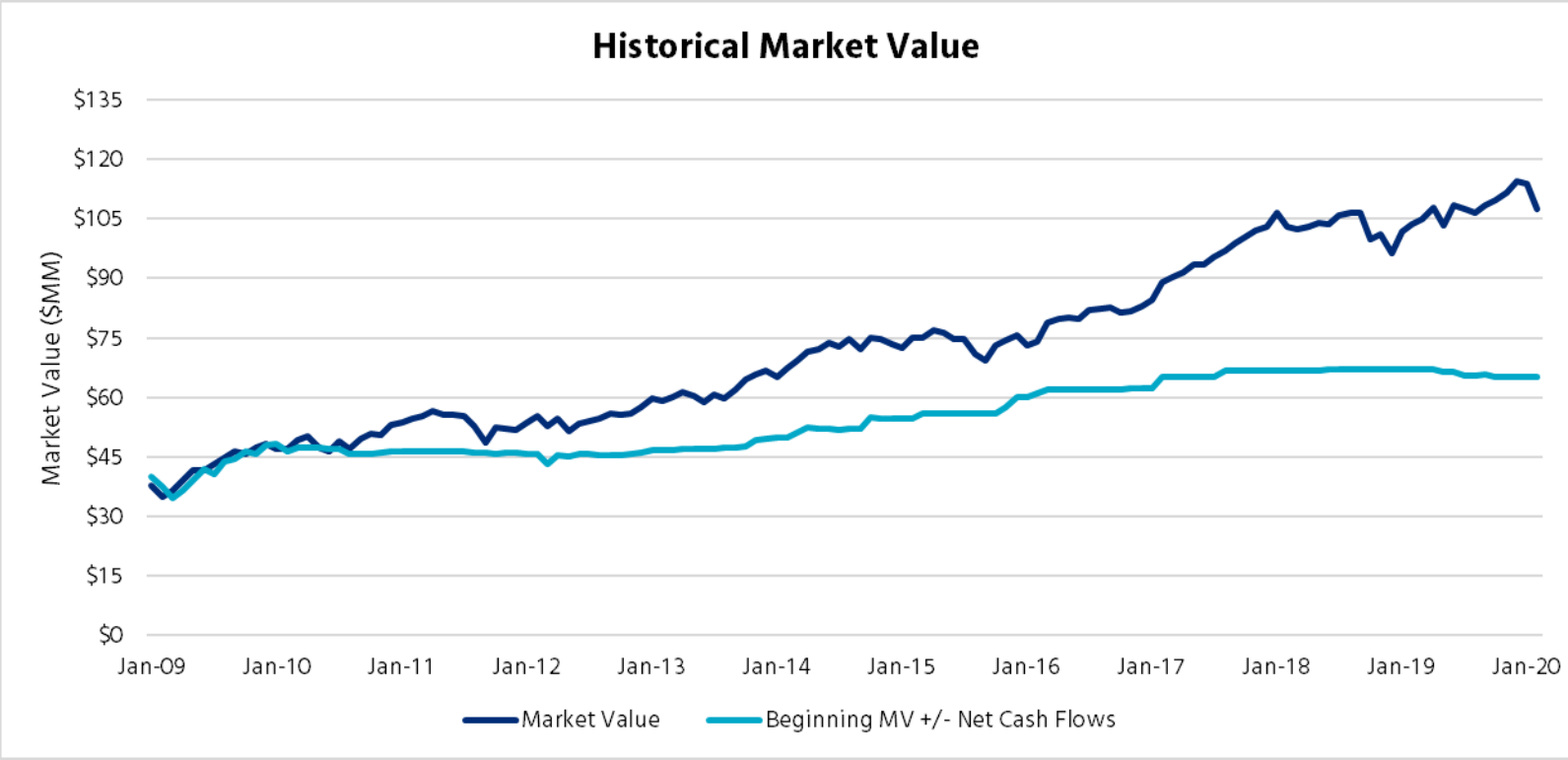
Historical market value review

- In the chart below, we review the Foundation's monthly market value (dark blue line) since January 1, 2009 compared with the Foundation's market value at that time adjusted for the cash flows (light blue line).
- Over this time frame, the Foundation's market value has increased, net of all cash flows, by $68.0 million.



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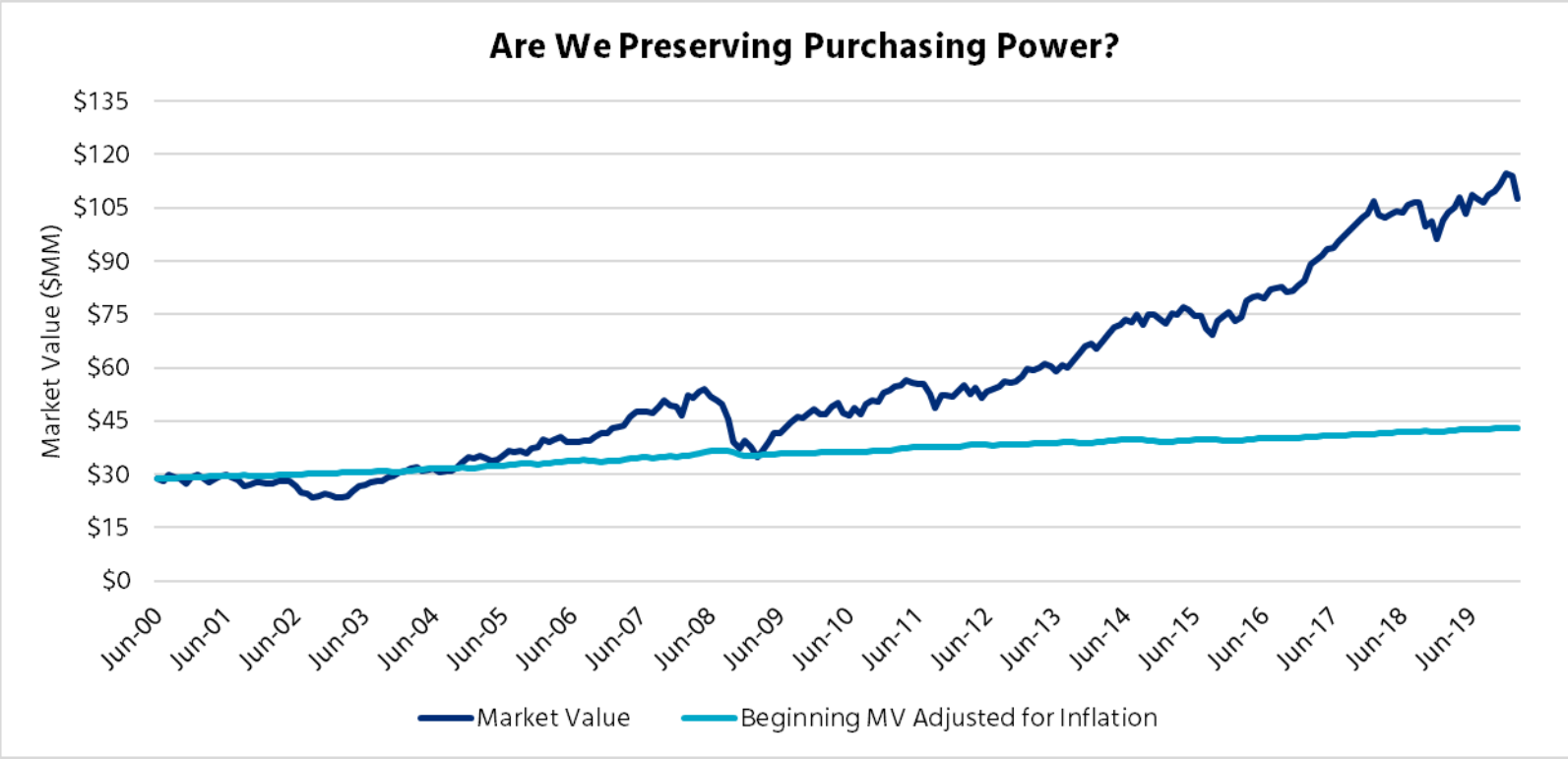
Are we preserving purchasing power?

- Here, we review the portfolio's market value to the earliest data point we have on file (June 30, 2000) and adjust that value each month to account for inflation.
- The portfolio's market value has grown from $28.7 million to $114.6 million while funding the spending needs of the Foundation. The initial $28.7 million in June 2000 would be worth $43.1 million today.



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Current trust accounts & balances

As of February 29, 2020

Name	Period Ending 02/29/20	Performance Since Inception	Inception Date
Trust #1	$560,076	4.9%	6/30/06
Trust #2	$466,491	5.0%	6/30/06
Trust #3	$52,263	4.5%	6/30/06
Trust #4	$196,471	4.7%	6/30/06
Trust #5	$75,570	4.3%	8/31/06
Trust #6	$537,756	4.7%	8/31/06
Trust #7	$237,989	3.9%	4/30/07
Trust #8	$198,486	4.0%	8/31/07
Trust #9	$1,054,956	4.2%	1/31/08
Trust #10	$182,807	4.2%	12/31/12
Trust #11	$182,447	4.2%	12/31/12
Trust #12	$85,039	3.7%	12/31/13
Trust #13	$211,425	3.4%	7/31/14

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Trust management specifications
As of February 29, 2020

Accounts	Policy	Schwab Proxy		Proxy Min ($)	Proxy Fees (%)
CBIS Core Equity Index	11%	VFIAX	Vanguard 500 Index	10,000	0.04
Crossmark Large-Cap Core	13%	VFIAX	Vanguard 500 Index	10,000	0.04
Crossmark Large Quality	12%	VDADX	Vanguard Dividend Appreciation	3,000	0.08
CBIS Small Cap Index	4%	VSMAX	Vanguard Small Cap Index	--	0.05
Total US Stocks	**40%**				
Boston Common Catholic Int'l Equity	11%	VTMGX	Vanguard Dev. Mkt Idx	3,000	0.07
CBIS International Equity	11%	VTMGX	Vanguard Dev. Mkt Idx	3,000	0.07
DFA Emerging Markets Social Core	4%	EEM	iShares MSCI Emerging Markets	--	0.68
Total Int'l Stocks	**26%**				
Total Growth	**66%**				
First National Bank Bond	7%	NERYX	Loomis Sayles	100,000	0.48
CBIS Intermediate Div. Bond	10%	NERYX	Loomis Sayles	100,000	0.48
Invesco Global Targeted Returns	6%	GLTYX	Invesco Global Targeted Returns	1,000	1.19
JHancock Global Absolute Return Inst.	5%	JHAIX	JHancock Global Absolute Return Inst.	250,000	1.15
Total Risk Reduction	**28%**				
SPDR DJ Global Real Estate ETF	2%	RWO	SPDR DJ Global Real Estate ETF	--	0.50
iShares S&P NA Nat Resources	2%	IGE	iShares S&P NA Nat Resources	--	0.46
Lazard Global Listed Infrastructure	2%	GLIFX	Lazard Global Listed Infrastructure	1,000,000	0.96
Total Inflation Protection	**6%**				
Total Portfolio	**100%**				

The Table to the left shows the Foundation's current manager roster based on the policy allocation, along with the mutual fund proxy manager used in each of the Trust accounts custodied at Charles Schwab.

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Manager Review

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Catholic responsible summary

Asset Class	Product Name	Format	SRI	Note on Screening
U.S. Large Cap	Crossmark - Large-Cap Core	Separate	Yes	Screened per the IPS guidelines for ethical Catholic investing
	Crossmark - Large-Cap Quality	Separate	Yes	Screened per the IPS guidelines for ethical Catholic investing
	CBIS Core Equity Index Fund	Commingled	Yes	Consistent with the guidelines for ethical Catholic investing
U.S. Small Cap	CBIS Small Cap Index Fund	Commingled	Yes	Consistent with the guidelines for ethical Catholic investing
Int'l Large Cap	Boston Common International Equity	Separate	Yes	Screened per the IPS guidelines for ethical Catholic investing
	CBIS International Equity	Commingled	Yes	Screened per the IPS guidelines for ethical Catholic investing
Int'l Emerging Mkts	DFA Emerging Markets Social Core	Mutual Fund	Yes	Consistent with the guidelines for ethical Catholic investing
Domestic Fixed Income	First National Bank Bond	Separate	N/A	U.S. Treasury investments
	iShares 0-5 Year TIPS ETF*	ETF	N/A	U.S. Treasury investments
	CBIS Intermediate Div. Bond	Mutual Fund	Yes	Consistent with the guidelines for ethical Catholic investing
Real Assets	SPDR DJ Global Real Estate ETF	ETF	Yes	Invests in sectors with companies that do not violate IPS guidelines
	iShares S&P N.A. Natural Resources	ETF	Yes	Invests in sectors with companies that do not violate IPS guidelines
	Lazard Global Listed Infrastructure	Mutual Fund	Yes	Invests in sectors with companies that do not violate IPS guidelines
Alternative Assets	Invesco Global Targeted Returns	Mutual Fund	N/A	N/A due to limited screening availability and exposure in this sector
	Dreyfus Global Real Return	Mutual Fund	N/A	N/A due to limited screening availability and exposure in this sector
	Lighthouse SRI Global Long / Short	Commingled	Yes	Consistent with the guidelines for ethical Catholic investing

- The Foundation currently has twelve mandates that adhere to the investing guidelines set forth by the Foundation Investment Policy Statement (IPS) and one that invests in U.S. Treasury securities.
- The three Real Assets managers invest in sectors (real estate, commodities, natural resources, infrastructure) that, by their nature, do not violate the IPS investment guidelines.
- Pavilion reviews the manager holdings annually to verify compliance with the CFESD IPS guidelines, which in turn are based on the USCCB ethical investing guidelines.

*Only held in Priest Pension Plan

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Catholic Community Foundation Managers
As of February 29, 2020

Name	$(000) Value	% of Fund	YTD	1 Year	3 Yrs	5 Yrs	10 Yrs	Since Inception	Inception Date
Catholic Community Fdtn. for Eastern South Dakota	**107,423**	**100.0**	**-6.2**	**5.1**	**6.3**	**4.4**	**5.8**	**5.3**	**Jan-00**
Domestic Equity Composite	**42,030**	**39.1**	**-8.7**	**6.3**	**9.5**	**8.5**	**11.7**	**6.4**	**Jun-00**
CBIS Core Equity Index Fund 'B'	11,775	11.0	-8.2	8.9	10.4	9.3	-	12.5	Oct-10
S&P 500			*-8.3*	*8.2*	*9.9*	*9.2*	-	*12.6*	
Crossmark Large Cap	14,205	13.2	-8.3	8.1	10.1	9.2	-	11.4	Mar-12
Blended Index			*-8.1*	*7.8*	*9.7*	*9.0*	-	11.4	
S&P 500			*-8.3*	*8.2*	*9.9*	*9.2*	-	*12.6*	
Crossmark Large Cap Quality	12,058	11.2	-8.0	7.6	10.6	8.9	11.9	9.3	Mar-08
Dividend Achievers Select Index			*-7.9*	*7.4*	*10.5*	*9.0*	*11.7*	*9.0*	
S&P 500			*-8.3*	*8.2*	*9.9*	*9.2*	*12.7*	*9.3*	
CBIS Small Cap Index Fund 'B'	3,992	3.7	-13.4	-7.9	2.9	4.5	-	5.1	Nov-13
Russell 2000/S&P 600 Spliced Index			*-13.2*	*-7.7*	*3.2*	*4.9*	-	*5.5*	
International Equity Composite	**27,939**	**26.0**	**-9.7**	**3.1**	**6.1**	**2.5**	**3.8**	**4.3**	**Jun-00**
Boston Common Catholic Int'l Equity	12,014	11.2	-8.9	4.6	6.3	-	-	5.3	Nov-15
MSCI EAFE			*-10.9*	*-0.6*	*3.9*	-	-	*3.7*	
CBIS Int'l Equity Fund 'B'	11,781	11.0	-10.0	3.3	6.3	-	-	6.0	Nov-15
MSCI EAFE			*-10.9*	*-0.6*	*3.9*	-	-	*3.7*	
DFA Emerging Markets Social Core	4,144	3.9	-10.9	-3.3	-	-	-	-6.4	Apr-18
MSCI EM			*-9.7*	*-1.9*	-	-	-	*-5.3*	

Note: Returns beyond 1 year are annualized. All return are net of fees.

- Individual manager underperformance by more than 1.5% relative to their respective benchmark is highlighted in red above.
- Individual manager outperformance by more than 1.5% relative to their respective benchmark is highlighted in green above.

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Catholic Community Foundation Managers
As of February 29, 2020

Name	$(000) Value	% of Fund	YTD	1 Year	3 Yrs	5 Yrs	10 Yrs	Since Inception	Inception Date
Catholic Community Fdtn. for Eastern South Dakota	**107,423**	**100.0**	**-6.2**	**5.1**	**6.3**	**4.4**	**5.8**	**5.3**	**Jan-00**
Fixed Income Composite	**19,313**	**18.0**	**3.1**	**10.2**	**4.7**	**3.2**	**3.7**	**4.9**	**Jun-00**
First National Bank Bond*	7,980	7.4	2.8	8.7	4.2	3.4	2.9	3.3	Nov-08
50% BBgBarc Agg/50% Merrill 1-5 Yr GC			*2.8*	*9.0*	*4.0*	*3.0*	*3.1*	*3.6*	
CBIS Intermediate Diversified Bond Fund 'B'	11,333	10.5	3.3	11.2	5.0	3.6	-	3.2	Dec-12
Bloomberg Barclays US Aggregate			*3.8*	*11.6*	*5.0*	*3.6*	-	*3.2*	
Real Assets Composite	**6,308**	**5.9**	**-10.0**	**-3.6**	**0.7**	**1.5**	**4.1**	**6.4**	**Jun-00**
SPDR Dow Jones Global Real Estate ETF	2,147	2.0	-7.8	1.1	3.2	2.6	-	3.5	Aug-14
DJ Global Select Real Estate Securities Index			*-8.2*	*0.5*	*2.8*	*2.3*	-	*3.2*	
iShares S&P NA Natural Resources Index	1,860	1.7	-19.6	-17.5	-8.2	-6.2	-1.0	1.8	Mar-05
S&P NA Natural Resources Index			*-19.5*	*-17.1*	*-7.7*	*-5.8*	*-0.5*	*2.3*	
Lazard Global Listed Infrastructure Portfolio	2,301	2.1	-2.9	9.5	9.6	9.0	-	12.0	Jun-11
Custom Infrastructure Index (USD Hedge)			*-4.9*	*8.2*	*8.9*	*7.3*	-	*10.5*	
Alternatives Composite	**11,816**	**11.0**	**-0.2**	**4.9**	**2.7**	**-0.7**	**2.9**	**3.6**	**Apr-05**
Invesco Global Targeted Returns	4,304	4.0	1.0	4.9	-	-	-	1.1	Nov-17
Wilshire Liquid Alternative Index			*-2.3*	*1.6*	-	-	-	*0.1*	
Dreyfus Global Real Return	4,278	4.0	-2.0	7.0	-	-	-	4.6	Nov-17
Wilshire Liquid Alternative Index			*-2.3*	*1.6*	-	-	-	*0.1*	
Lighthouse Global Long / Short SRI	3,235	3.0	0.6	2.0	-	-	-	3.5	Nov-18
HFRI Equity Hedge			*-3.8*	*2.1*	-	-	-	*4.1*	

* Prior to 4/08 this was a Treasury-only mandate, with a 9/1999 inception. Returns beyond one year are annualized. All returns are net of fees.

- Individual manager underperformance by more than 1.5% relative to their respective benchmark is highlighted in red above.
- Individual manager outperformance by more than 1.5% relative to their respective benchmark is highlighted in green above.

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Portfolio fee analysis – Foundation

As of February 29, 2020

Manager	Policy	Market Value ($)	Expense Ratio (%)	Estimated Annual Fee ($)	Morningstar Category Avg. (%)[3]
CBIS Core Equity Index	11%	11,774,691	0.18	21,194	0.87
Crossmark Large Cap	13%	14,204,838	0.17	24,307	0.87
Crossmark Large Cap Quality	12%	12,058,379	0.17	21,088	0.87
CBIS Small Cap Index	4%	3,991,609	0.26	10,378	1.10
Boston Common Catholic Int'l Equity[1]	11%	12,013,914	0.80	96,111	0.97
CBIS International Equity Fund 'B'	11%	11,780,774	0.89	104,849	0.97
DFA Emerging Markets Social Core	4%	4,143,817	0.53	21,962	1.20
First National Bank Bond[1]	7%	7,979,776	0.10	7,980	0.64
CBIS Intermediate Diversified Bond Fund[1]	10%	11,332,837	0.38	43,065	0.64
Invesco Global Targeted Returns[1]	4%	4,303,821	1.19	51,215	1.59
Dreyfus Global Real Return[1]	4%	4,277,805	0.80	34,222	1.59
Lighthouse SRI Global Long / Short	3%	3,234,642	1.00	32,346	
Lazard Global Listed Infrastructure[1]	2%	2,301,181	0.96	22,091	1.02
SPDR Dow Jones Global Real Estate ETF	2%	2,147,406	0.50	10,737	1.02
iShares S&P NA Natural Resources	2%	1,859,862	0.46	8,555	1.02
Cash Account	0%	17,909	-	-	-
Total Weighted Average		**107,423,261**	**0.47**	**510,103**	**0.92**
Weighted Average Custody Fees[2]			0.01	7,980	
Consulting Fees			0.09	100,000	
Portfolio Total			**0.58%**	**$618,082**	

Fee Analysis: The portfolio weighted total estimated fee is 58 basis points.

[3] Category average fees are based on Morningstar categories as of 12/31/2018.

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Liquidity analysis – asset classes
As of February 29, 2020

Asset Class						
Domestic Equity	**Liquidity**	**Days Notice**	**CCF Actual Allocation**	**CCF Policy Allocation**	**PP Actual Allocation**	**PP Policy Allocation**
CBIS Core Equity Index Fund 'B'	Daily	1	11.0%	11.0%	17.0%	19.0%
Crossmark Large Cap	Daily (T+3)	1	13.2%	13.0%		
Crossmark Large Cap Quality	Daily (T+3)	1	11.2%	12.0%	12.1%	12.0%
CBIS Small Cap Index Fund	Daily	1	3.7%	4.0%	3.3%	3.0%
International Equity	**Liquidity**	**Days Notice**	**CCF Actual Allocation**	**CCF Policy Allocation**	**PP Actual Allocation**	**PP Policy Allocation**
Boston Common Catholic Int'l Equity	Monthly	5	11.2%	11.0%	8.2%	10.0%
CBIS Int'l Equity Fund 'B'	Daily	1	11.0%	11.0%	9.6%	9.0%
DFA Emerging Markets Social Core	Daily	1	3.9%	4.0%	4.0%	4.0%
Fixed Income	**Liquidity**	**Days Notice**	**CCF Actual Allocation**	**CCF Policy Allocation**	**PP Actual Allocation**	**PP Policy Allocation**
First National Bank Bond	Daily	1	7.4%	7.0%	8.6%	8.0%
CBIS Intermediate Diversified Bond Fund 'B'	Daily	1	10.5%	10.0%	11.8%	11.0%
iShares Barclays 0-5 Year TIPS ETF	Daily	1			3.3%	3.0%
Schwab Money Market Fund	Daily	1	0.0%	0.0%	0.0%	0.0%
Real Assets	**Liquidity**	**Days Notice**	**CCF Actual Allocation**	**CCF Policy Allocation**	**PP Actual Allocation**	**PP Policy Allocation**
SPDR Dow Jones Global Real Estate ETF	Daily (T+2)	1	2.0%	2.0%	4.1%	4.0%
iShares S&P NA Natural Resources ETF	Daily (T+2)	1	1.7%	2.0%	2.8%	3.0%
Lazard Global Listed Infrastructure Portfolio	Daily	1	2.1%	2.0%	3.5%	3.0%
Absolute Return	**Liquidity**	**Days Notice**	**CCF Actual Allocation**	**CCF Policy Allocation**	**PP Actual Allocation**	**PP Policy Allocation**
Invesco Global Targeted Returns	Daily	1	4.0%	4.0%	6.3%	6.0%
Dreyfus Global Real Return	Daily	1	4.0%	4.0%	5.2%	5.0%
Lighthouse SRI Global Long / Short	Monthly	90	3.0%	3.0%		

Note: Numbers may not add to 100% due to rounding. Boston Common requests a notice of redemption five business days before the first of the month

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Appendix I

Asset Allocation Assumptions

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Dynamic asset allocation summary

Return expectations (January 2020)

	Equilibrium Return	Standard Deviation	20-Year Horizon Return	10-Year Horizon Return	High Vol Standard Deviation	Lowest Likely Return
Growth Assets						
US Large Stocks	6.6	18.0	6.1	5.7	27.1	-34.8
US Large Value Stocks	6.6	18.0	6.1	5.7	27.1	-34.8
US Large Growth Stocks	6.6	18.0	6.1	5.7	27.1	-34.8
US Large Quality Stocks	6.6	13.7	6.1	5.7	20.6	-25.4
US Mid Stocks	6.8	19.6	6.6	6.1	29.5	-37.8
US Small Stocks	7.1	22.2	6.8	6.6	33.2	-42.8
Intl Large Stocks	6.5	20.2	6.8	6.8	30.3	-38.3
Intl Large Quality Stocks	6.5	13.2	6.4	6.2	19.9	-23.8
Intl Small Stocks	6.9	22.4	7.2	7.2	33.6	-42.7
Emerging Market Stocks	7.7	26.5	8.0	8.0	39.8	-50.7
Global Stocks	6.8	18.5	6.8	6.6	27.7	-34.9
Emerging Market Debt (Local)	5.7	11.2	5.6	5.6	16.9	-20.0
US High Yield Fixed	5.7	10.0	4.6	3.6	15.0	-19.3
Private Debt	6.3	10.3	5.8	5.3	15.5	-18.2
Private Equity / Special Situations	9.7	24.4	9.6	9.5	36.6	-44.8
Risk Reduction Assets						
Cash	2.7	2.0	2.3	2.0	3.1	-2.8
US Treasuries	3.6	5.2	2.5	1.4	7.7	-10.5
US Short Duration Fixed Income	3.8	4.5	3.0	2.1	6.7	-8.2
US Long Treasuries	3.7	12.9	1.9	0.2	19.4	-29.0
US I/G Corporate Bonds	4.3	6.9	3.2	2.0	10.3	-13.7
US Long I/G Corp	4.3	10.1	2.8	1.3	15.1	-21.7
US MBS	4.1	5.6	2.9	1.7	8.4	-11.1
US Broad Fixed Income	4.0	5.3	2.9	1.8	7.9	-10.4
US Municipal Bonds	3.9	6.3	2.9	1.7	9.4	-12.7
Global Fixed Income	3.7	6.5	2.2	0.7	9.8	-14.2
Defensive Hedge Funds	5.7	7.4	5.4	5.0	11.0	-11.9
Liquid Absolute Return	5.2	8.9	5.2	4.5	13.3	-15.7
Inflation Protected Assets						
US Inflation Protected Fixed	3.4	5.6	2.7	2.1	8.4	-10.8
Global Real Estate - Private	7.6	15.9	7.1	6.6	23.9	-29.4
Global Real Estate - REITS	6.4	21.6	6.3	6.2	32.5	-42.0
Infrastructure - Listed	6.5	16.2	6.1	5.7	24.4	-30.9
Infrastructure - Private	8.1	17.8	7.9	7.7	26.7	-32.2
Natural Resources - Listed	7.0	24.7	6.5	6.0	37.1	-48.8
Natural Resource Stocks - Private	8.8	25.3	8.6	8.3	38.0	-47.9
Liquid Real Assets	6.8	17.2	6.6	6.3	31.1	-32.3
Private Real Assets	8.7	15.2	8.4	8.0	29.2	-26.3

Equilibrium Expected Return: The long-term expectations represent the expected returns of asset classes at equilibrium. They are an estimate of what investors require to invest in each asset class, given the risk, in a normal interest rate environment. They are not affected by current valuations.

10-Year Horizon Return: The 10-year mean reversion return represents Mercer's best estimate of returns over the next 10 years. We assume that normalized P/E ratios and interest rates revert to their equilibrium levels over the next 10-years.

20-Year Horizon Return: Our long-term expected returns are based on what asset classes are expected to return over the next 20 years. They incorporate current interest rates and assume rates return to equilibrium over five years.

Standard Deviation: This statistic quantifies the expected variability of returns around their mean. Both returns above and below the expected return are included in this risk measure. There is roughly a two out of three chance that the return in any given year will fall within the range bounded by the expected return plus or minus the standard deviation. The standard deviation expectations are based on a combination of realized historical results and an examination of current conditions. The high volatility regime expectations represent our estimate of risk in an environment where volatility spikes and correlations between assets increase significantly.

Mercer's approach to developing equilibrium expected returns blends realized historical results and an examination of current conditions. In developing the forecasts, we begin by averaging historical data for the longest period available to determine how much investors have been rewarded for exposure to risk factors in the past. We then use internal and external research to identify structural reasons that risk premiums in the future might be different than those experienced in the past, and adjust our forecasts accordingly. This methodology generally results in lower return forecasts, particularly for equity asset classes, than have been experienced in the past. The return expectations do not include manager alpha except for absolute return strategies. The expected return in excess of cash for absolute return strategies consists mostly of expected alpha.

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Correlation assumptions

	US Large Stocks	US Mid Stocks	US Small Stocks	Intl Large Stocks	Intl Small Stocks	Emerging Market Stocks	Global Stocks	US Broad Fixed Income	US High Yield Fixed	US Municipal Bonds	US Inflation Protected Fixed	Cash	Emerging Market Debt (Local)	Global Fixed Income	Global Real Estate - Private	Global Real Estate - REITS	Private Equity / Special Situations	Infrastructure - Listed	Infrastructure - Private	Defensive Hedge Funds	Natural Resources- Listed	Natural Resource Stocks - Private	Private Debt
US Large Stocks	1.00	0.97	0.91	0.77	0.74	0.73	0.95	0.11	0.64	0.11	0.11	-0.01	0.52	0.07	0.41	0.64	0.95	0.70	0.71	0.70	0.70	0.70	0.68
US Mid Stocks		1.00	0.98	0.75	0.79	0.71	0.94	0.10	0.62	0.11	0.11	-0.01	0.51	0.07	0.40	0.66	0.93	0.68	0.69	0.68	0.68	0.68	0.66
US Small Stocks			1.00	0.70	0.80	0.66	0.89	0.10	0.58	0.10	0.10	-0.01	0.48	0.06	0.38	0.65	0.87	0.64	0.64	0.64	0.63	0.64	0.63
Intl Large Stocks				1.00	0.94	0.78	0.92	0.03	0.55	0.06	0.03	-0.11	0.56	0.29	0.48	0.69	0.72	0.64	0.64	0.56	0.65	0.67	0.54
Intl Small Stocks					1.00	0.74	0.89	0.04	0.53	0.06	0.04	-0.01	0.53	0.27	0.46	0.71	0.69	0.61	0.62	0.53	0.62	0.64	0.53
Emerging Market Stocks						1.00	0.85	-0.03	0.50	0.02	-0.01	-0.03	0.78	0.14	0.39	0.58	0.68	0.56	0.56	0.53	0.63	0.65	0.51
Global Stocks							1.00	0.07	0.64	0.09	0.08	-0.02	0.62	0.17	0.47	0.71	0.89	0.71	0.72	0.67	0.72	0.74	0.65
US Broad Fixed Income								1.00	0.54	0.57	0.67	0.15	0.32	0.73	0.31	0.26	0.10	0.11	0.11	0.05	0.02	-0.02	0.14
US High Yield Fixed									1.00	0.36	0.32	0.05	0.54	0.39	0.41	0.53	0.60	0.50	0.50	0.49	0.44	0.43	0.57
US Municipal Bonds										1.00	0.41	0.09	0.22	0.43	0.21	0.18	0.10	0.10	0.10	0.07	0.07	0.05	0.13
US Inflation Protected Fixed											1.00	0.11	0.23	0.50	0.23	0.20	0.11	0.10	0.10	0.06	0.14	0.12	0.11
Cash												1.00	0.04	0.02	0.05	0.03	-0.01	0.00	0.00	-0.02	-0.02	-0.03	0.00
Emerging Market Debt (Local)													1.00	0.44	0.40	0.50	0.49	0.40	0.40	0.37	0.46	0.47	0.40
Global Fixed Income														1.00	0.43	0.38	0.06	0.09	0.09	0.03	0.15	0.13	0.10
Global Real Estate - Private															1.00	0.91	0.39	0.45	0.45	0.29	0.35	0.35	0.30
Global Real Estate - REITS																1.00	0.60	0.59	0.59	0.45	0.51	0.52	0.46
Private Equity / Special Situations																	1.00	0.66	0.67	0.67	0.65	0.66	0.65
Infrastructure - Listed																		1.00	0.94	0.50	0.49	0.50	0.49
Infrastructure - Private																			1.00	0.50	0.49	0.50	0.49
Defensive Hedge Funds																				1.00	0.49	0.50	0.49
Natural Resources- Listed																					1.00	0.80	0.48
Natural Resource Stocks - Private																						1.00	0.48
Private Debt																							1.00

Correlation coefficients measure the degree of co-movement between two asset classes. A correlation of 1.00 indicates that both assets move in lock-step with one another, while a correlation of (1.00) suggests that the assets move in opposite directions. A correlation of 0 means that there is no relation.

Diversified portfolios take advantage of the tendency of asset classes to behave in different ways relative to each other. Asset classes with low correlations to one another can be combined to produce portfolios with less risk than any specific asset class displays on a stand-alone basis.

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Glossary of terms

- **10-Yr Horizon Return** - The 10-year mean reversion return represents our best estimate of returns over the next 10 years. We assume that normalized P/E ratios and interest rates revert to their equilibrium levels over the next 10-years.
- **Standard Deviation** - This statistic simply quantifies the expected variability of returns around their mean. Both returns above and below the expected return are included in this risk measure. There is roughly a two out of three chance that the return in any given year will fall within the range bounded by the expected return plus or minus the standard deviation.
- **Sharpe Ratio** - The Sharpe Ratio is a measure of risk-adjusted returns. It is the amount of return obtained (above the risk-free rate) for each unit of risk incurred; therefore, higher Sharpe Ratios indicate a more favorable reward/risk tradeoff. Mathematically, it is the expected return of the portfolio less the risk-free rate divided by the standard deviation.
- **Lowest Likely Return** – Also known as the Value at Risk (VAR), VAR indicates the lowest return we would expect from the portfolio in 99 periods out of 100. In one period out of 100, we would expect the return to be worse.
- **Downside Probability** - The probability of missing the goal return over the period. A 20 year downside probability of 33% indicates that there is a one in three chance of missing the goal return over a twenty- year horizon.

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Benchmark definitions

US Equity

- **S&P 500 Index** is a capitalization-weighted index of 500 U.S. stocks published by Standard and Poor's. The index, which is heavily dominated by the largest stocks in the U.S. market, contains about 80% of the total stock market capitalization and is widely used as a benchmark of the largest U.S. stocks.
- **Russell 1000 Index** is an index of approximately 1,000 of the largest companies in the U.S. equity market.
- **NASDAQ US Dividend Achievers Select** is comprised of a select group of securities with at least ten consecutive years of increasing annual regular dividend payments.
- **Russell 2000 Index** is a capitalization-weighted index that measures the performance of the small-cap segment of the U.S. equity universe, created by Russell Investments. It includes approximately 2,000 of the smallest securities within the 3,000 largest securities in the U.S. equity universe.

International Equity

- **MSCI EAFE (Europe, Australasia and Far East) Index** is a standard, capitalization-weighted representation of developed equity markets excluding the U.S. and Canada. As of December 2015 the MSCI EAFE Index consisted of 21 developed countries. The index includes MSCI's assessment of the most "investable" stocks, determined by size, trading volume, and free float. Performance is shown net of foreign withholding tax on the dividends paid.
- **MSCI ACWI ex US Index** captures large and mid cap representation across 22 of 23 Developed Markets countries (excluding the US) and 26 Emerging Markets countries. The Index is designed to measure equity market performance in these countries, excluding the US and certain market segments unavailable to US-based investors. The index covers approximately 85% of the global equity opportunity set outside the US.
- **MSCI Emerging Markets Free Index** is A Morgan Stanley Capital International index created to track stock markets in selected emerging markets that are open to foreign investment like Argentina, Chile, Jordan, Malaysia, Mexico, Philippines, and Thailand.

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Benchmark definitions (cont.)

Real Assets

- **Dow Jones Global Select Securities Index** tracks the performance of equity real estate investment trusts (REITs) and real estate operating companies (REOCs) traded globally. The index is designed to serve as a proxy for direct real estate investment, in part by excluding companies whose performance may be driven by factors other than the value of real estate
- **S&P North American Natural Resources** provides investors with a benchmark that represents U.S. traded securities that are classified under the GICS® energy and materials sector excluding the chemicals industry; and steel sub-industry.
- **Lazard Custom Infrastructure Index** included the UBS Global 50/50 Infrastructure & Utilities Index (USD Hedged) from inception through March 31, 2015 and the FTSE Developed Core Infrastructure 50/50 100% Hedged to USD Net Tax Index afterwards. The FTSE Developed Core Infrastructure 50/50 Index gives participants an industry-defined interpretation of infrastructure and adjusts the exposure to certain infrastructure sub-sectors. The constituent weights for these indexes are adjusted as part of the semi-annual review according to three broad industry sectors – 50% Utilities, 30% Transportation including capping of 7.5% for railroads/railways and a 20% mix of other sectors including pipelines, satellites and telecommunication towers. Company weights within each group are adjusted in proportion to their investable market capitalization.

Fixed Income

- **Bloomberg Barclays U.S. Aggregate Index** represents securities that are SEC-registered, taxable, and dollar denominated. The index covers the U.S. investment grade fixed rate bond market, with index components for Treasury, government agencies, corporate securities, mortgage pass-through securities, commercial mortgage-backed securities and asset-backed securities. These major sectors are subdivided into more specific indices that are calculated and reported on a regular basis. The U.S. Aggregate Index was created in 1986 with history backfilled to January 1, 1976.
- **Merrill Lynch 1-5 Year Government / Credit** includes publicly issued U.S. Treasury debt, U.S. government agency debt, taxable debt issued by U.S. states and territories and their political subdivisions, debt issued by U.S. and non-U.S. corporations, non-U.S. government debt and supranational debt.

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Benchmark definitions (cont.)

Alternatives

- **Wilshire Liquid Alternatives** measures the collective performance of the five Wilshire Liquid Alternative strategies that make up the Wilshire Liquid Alternative Universe. The Wilshire Liquid Alternative Index is designed to provide a broad measure of the liquid alternative market by combining the performance of the Wilshire Liquid Alternative Equity Hedge Index, Wilshire Liquid Alternative Global Macro Index, Wilshire Liquid Alternative Relative Value Index, Wilshire Liquid Alternative Multi-Strategy Index, and Wilshire Liquid Alternative Event Driven Index.
- **HFRI Fund of Funds Composite** Fund of Funds invest with multiple managers through funds or managed accounts. The strategy designs a diversified portfolio of managers with the objective of significantly lowering the risk (volatility) of investing with an individual manager. The Fund of Funds manager has discretion in choosing which strategies to invest in for the portfolio. A manager may allocate funds to numerous managers within a single strategy, or with numerous managers in multiple strategies. The minimum investment in a Fund of Funds may be lower than an investment in an individual hedge fund or managed account. The investor has the advantage of diversification among managers and styles with significantly less capital than investing with separate managers.
- **HFRI Equity Hedge (Total) Index** is comprised of investment managers who maintain positions both long and short in primarily equity and equity derivative securities. A wide variety of investment processes can be employed to arrive at an investment decision, including both quantitative and fundamental techniques; strategies can be broadly diversified or narrowly focused on specific sectors and can range broadly in terms of levels of net exposure, leverage employed, holding period, concentrations of market capitalizations and valuation ranges of typical portfolios. EH managers would typically maintain at least 50% exposure to, and may in some cases be entirely invested in, equities, both long and short.

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