Harbor™

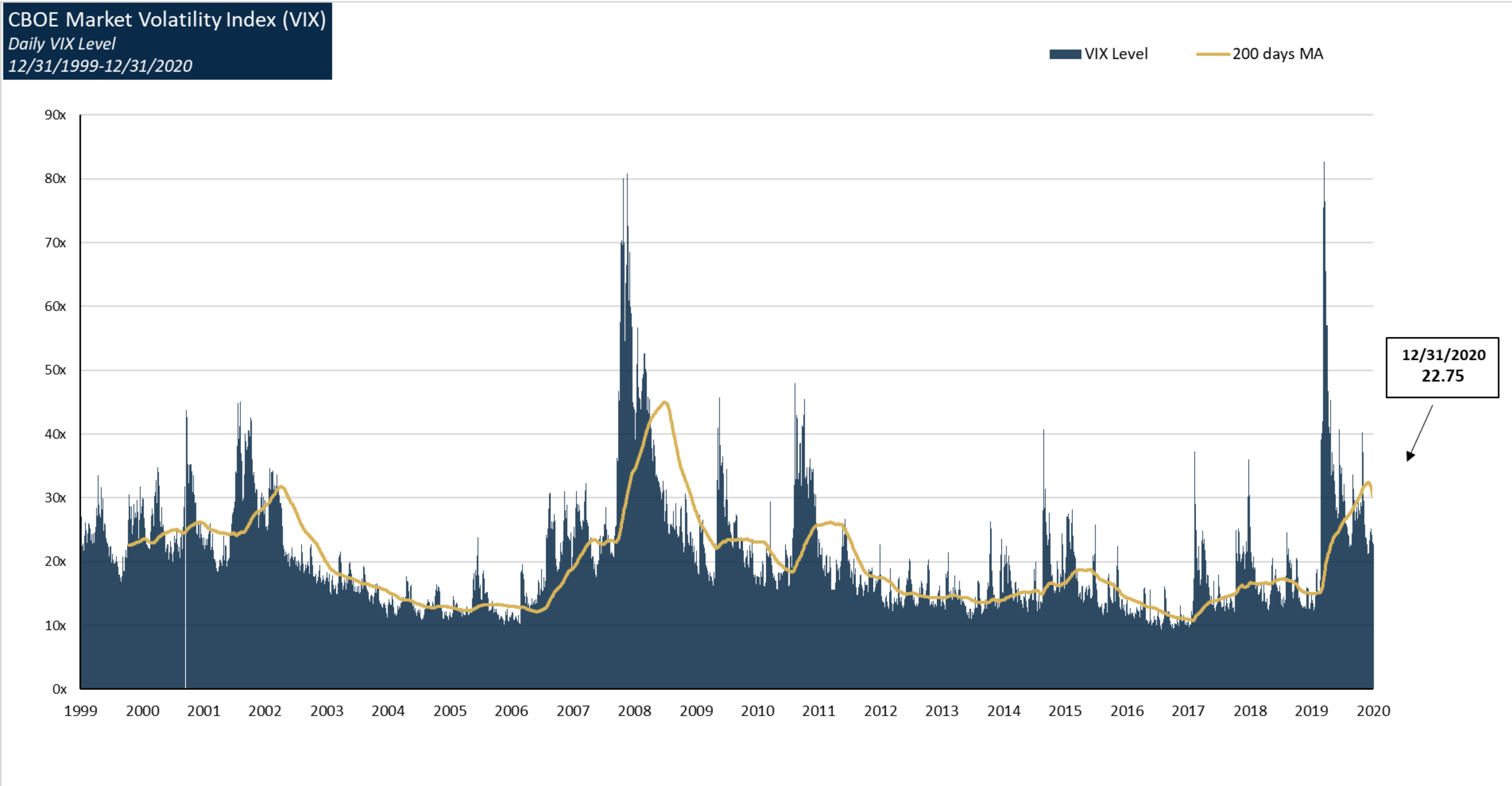
Trusted Partnerships › Trusted Solutions

Strategies for Maneuvering Through Volatility

Current State and History of Volatility

Until Recently, Volatility had been Fairly Subdued vs History

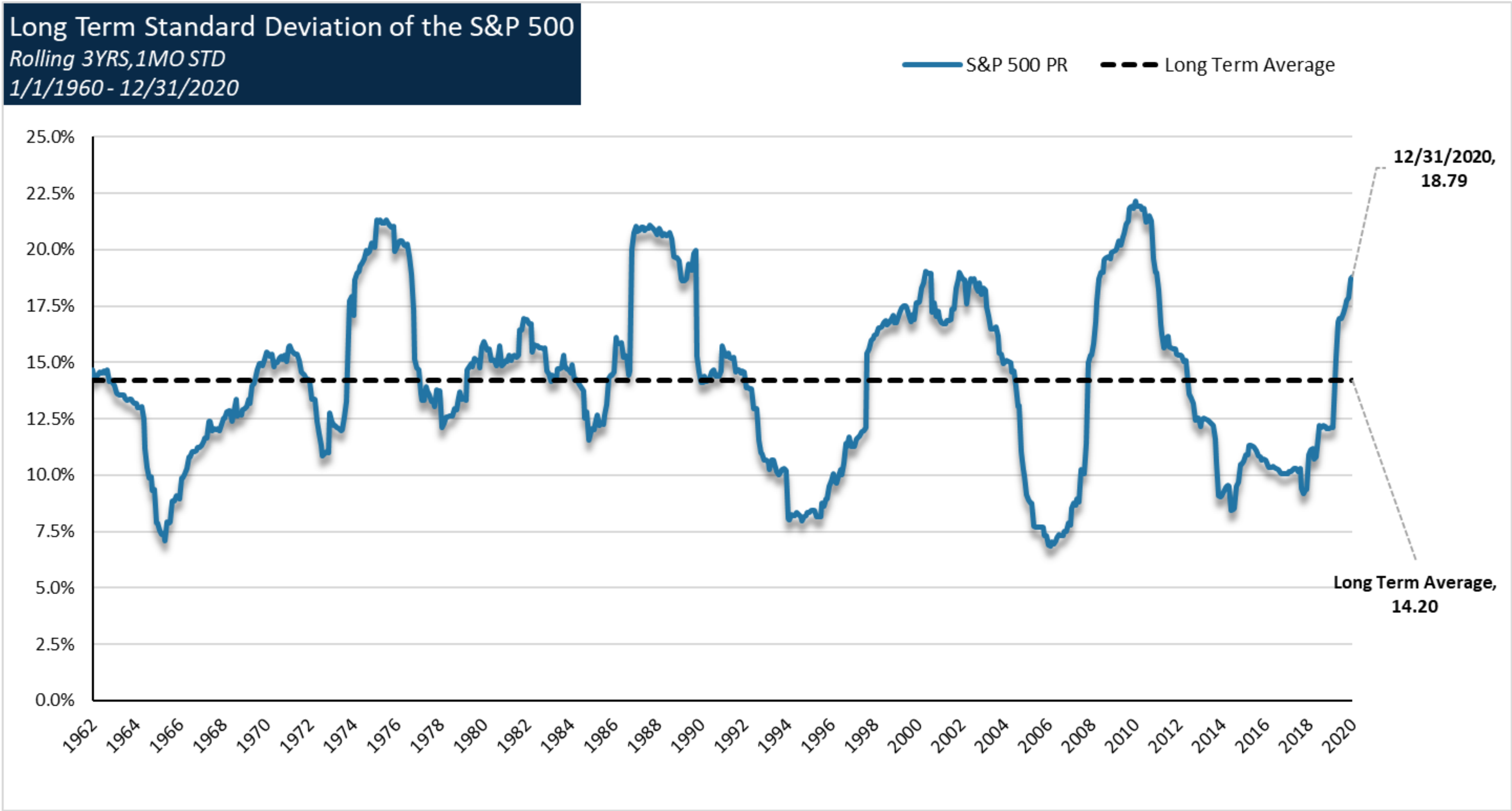
- Last 30 Years Monthly average VIX Level 12/31/20: 19.41
- Last 5 Years Monthly average VIX Level: 15.21 – (12/31/2019 21% below 30-year average)
- Monthly average VIX 2020: 30.26



Sources: Cboe Market Volatility Index (Vix), Morningstar as of 12/31/2020.

Volatility Has Been Cyclical and Was Subdued Pre-Pandemic

- *S*&P 500 Last 30 Years ending 12/31/2020 average 3-YR Rolling Standard Deviation: 13.6%
- S&P 500 Last 5 years (Pre-Pandemic ending 12/31/2019) 3-YR Rolling Standard Deviation: 10.6% -- (22% lower than 30 year average)
- 2020 average S&P 500 Standard Deviation using daily data: 41.45%



Source: Morningstar as of 12/31/2020.

Possible Drivers of Low Volatility Pre-Pandemic

- Low Variability of Monetary Policy: Relatively stable and telegraphed central bank policy, particularly in the U.S.

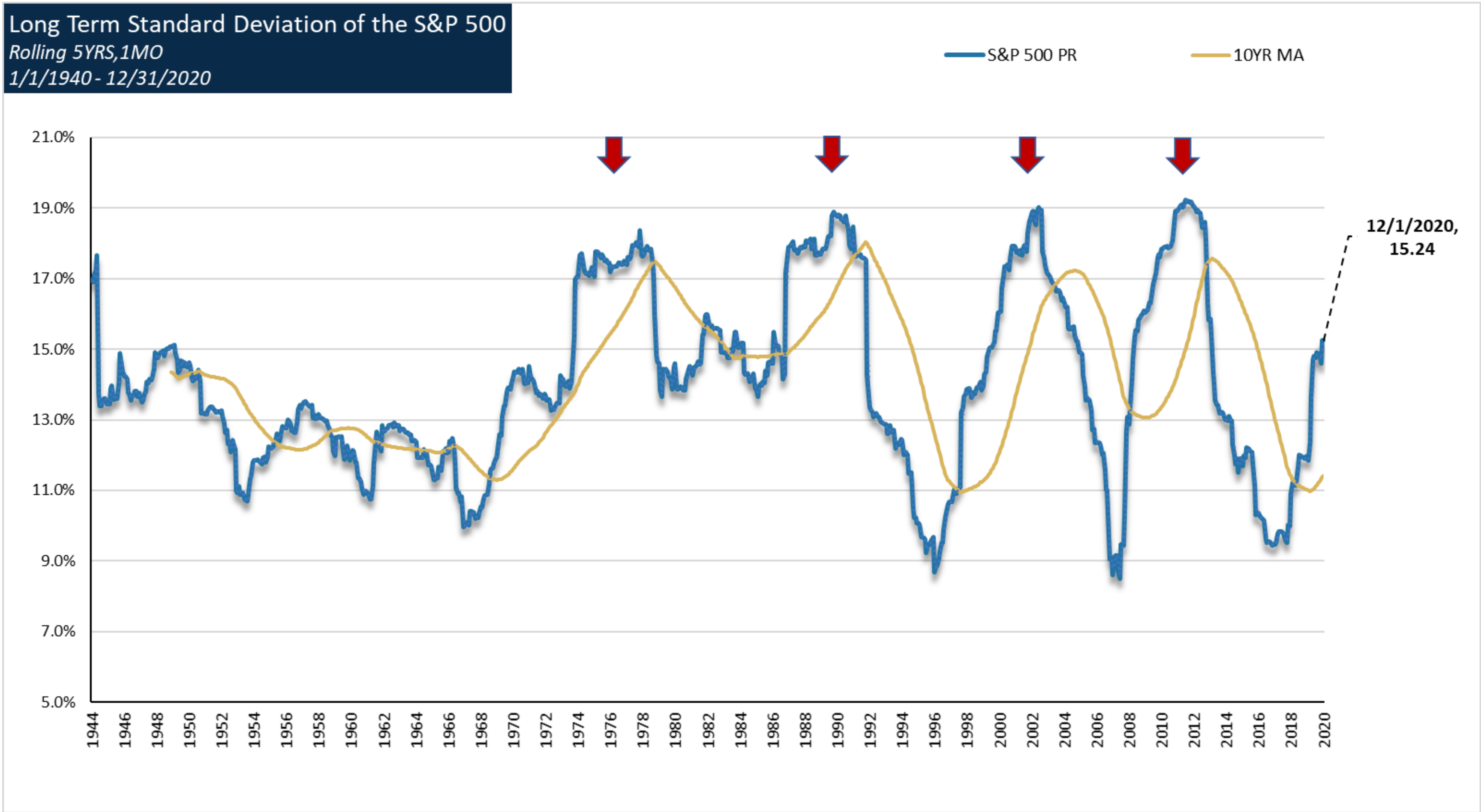
- Low Variability within the Economy: Steady economic growth (GDP), employment growth, and relatively benign inflationary pressures in the US

- Low Variability of Investor Flow Patterns: Unloved stock market, as evidenced by small but steady outflows from U.S. equity mutual funds and ETFs over the last 5 years

Harbor's View on Volatility Now and in the Future

Mean reversion: Over the last 40 years, equity volatility has tended to spike every 10-13 years

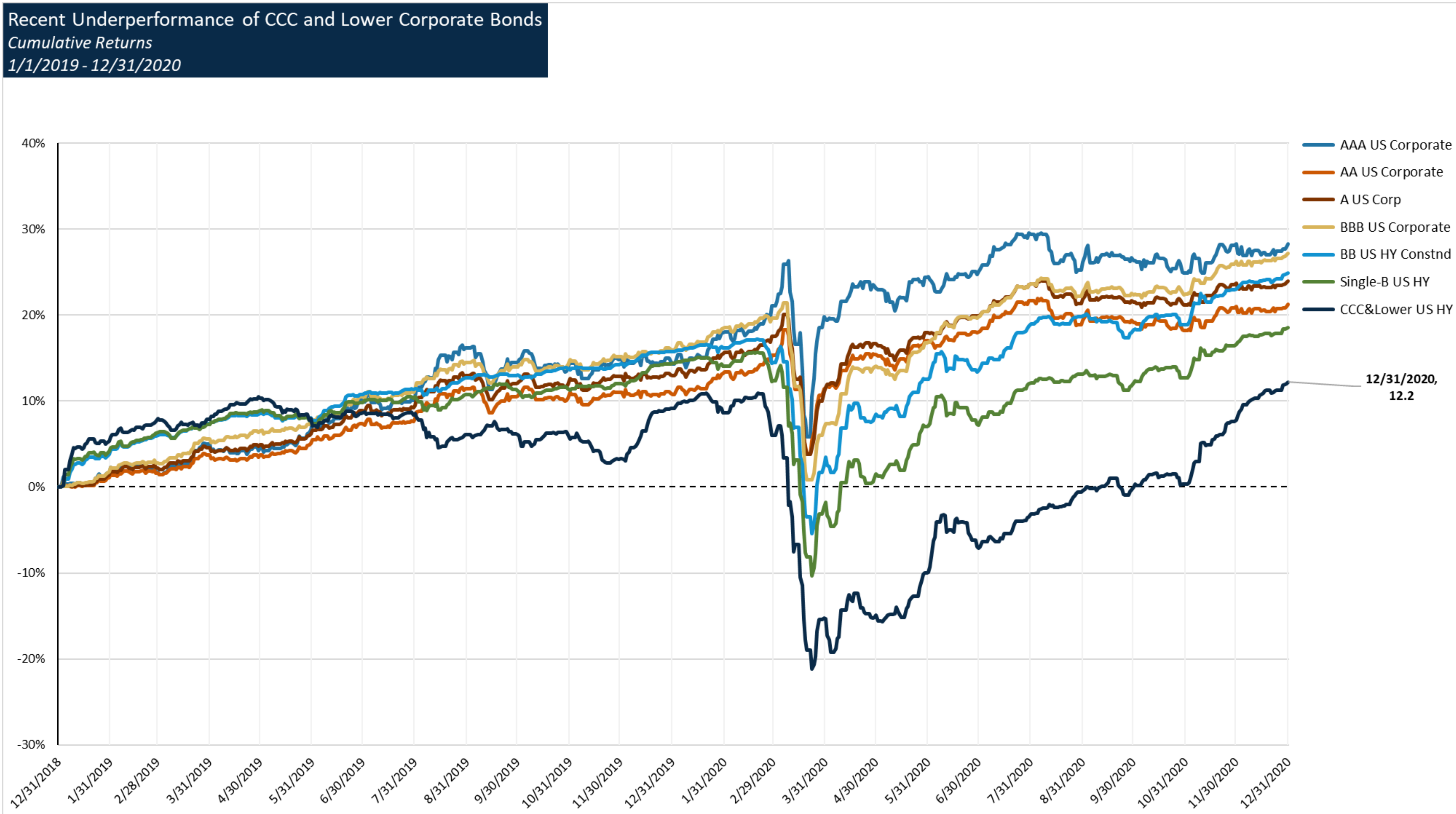
5 year periods ending:
1978 + 13 yrs = 1991
1991 + 12 yrs = 2003
2003 + 10 yrs = 2013
2013 + 10-13 yrs = 2023-2026



Source of data: Morningstar as of 12/312020.

Why We Believe That Volatility Has Returned and Why It's Here to Stay (cont.)

Warning signs in the credit markets: Lower quality bonds have historically outperformed in strong equity markets

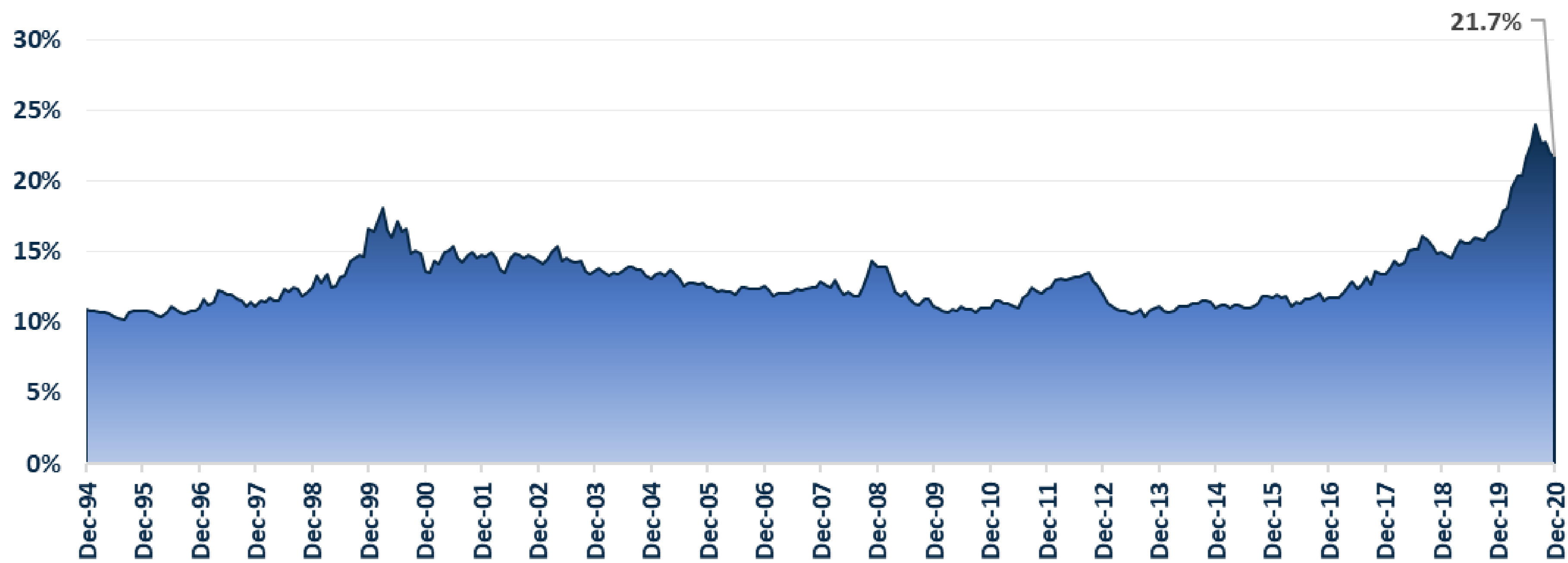


Source: Morningstar as of 12/31/2020. Credit ratings shown refer to credit ratings by Moody's, S&P and/or Fitch.

Why We Believe That Volatility Has Returned and Why It's Here to Stay (cont.)

Growing concentration risk within major U.S. large cap indexes – both sector and security-related, will likely be a source of future volatility

S&P 500 - Weight of Top 5 Stocks
12/31/1994 - 12/31/2020



Sources: Factset, S&P as of 12/31/2020.

Solutions for Maneuvering through Volatility

Potential Solutions

Don't panic: resist the temptation to time the markets

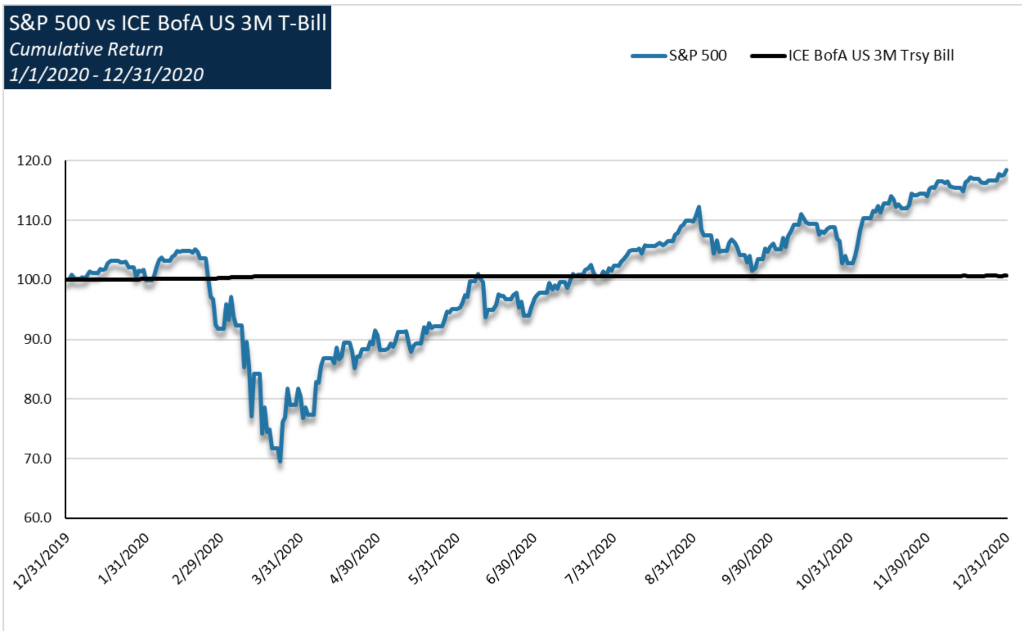
Consider conservative equity solutions that offer downside protection and a lower beta profile to navigate through volatility vs full beta passive strategies

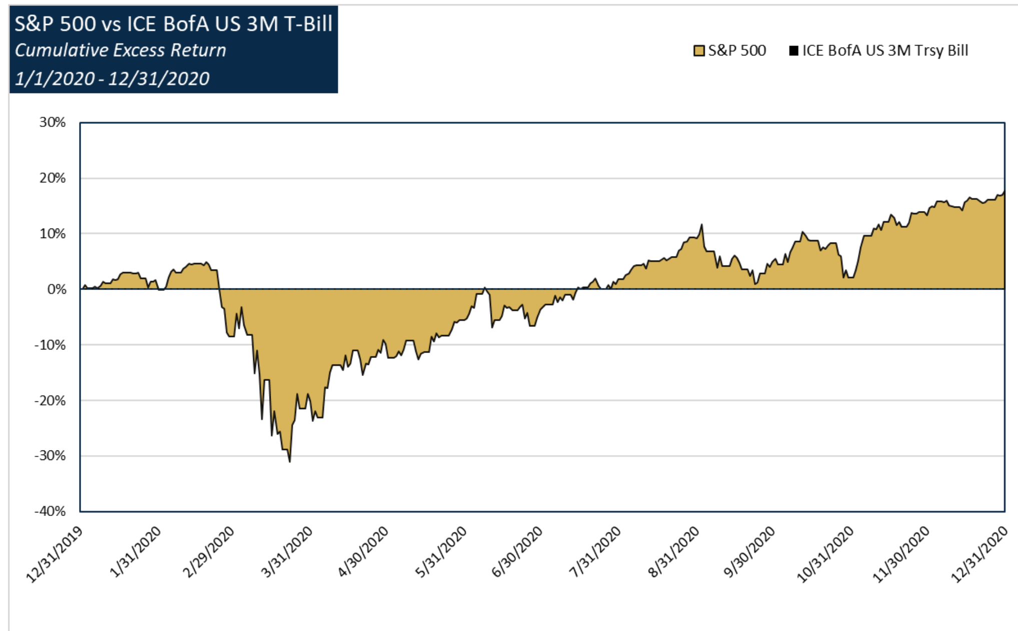
Keep **perspective** on the long-term attractiveness of equities and maintain **diversification** through choppy markets

Within fixed income, consider **alternate sources of income** and **less interest-rate sensitive bonds**

Don’t Panic: Stay Invested and Resist the Temptation to Time the Markets

- Despite unprecedented volatility, staying the course proved to be the right move for investors in 2020



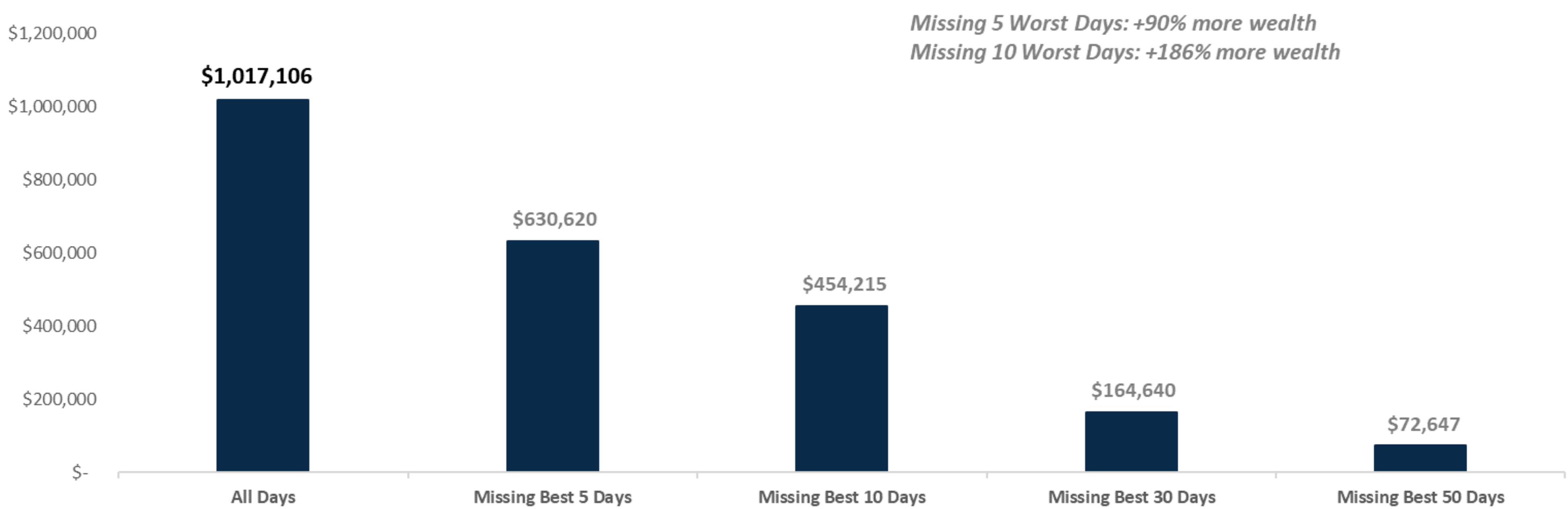


Source: Morningstar as of 12/31/2020.

Don't Panic: Stay Invested and Resist the Temptation to Time the Markets (cont.)

- Missing only a few of the best days for equity markets can have big implications for long-term wealth creation
- Conversely, sidestepping the market's worst days actually would result in greater rewards versus the penalties for missing the market's best days. As such, the desire to market time can be deemed rational

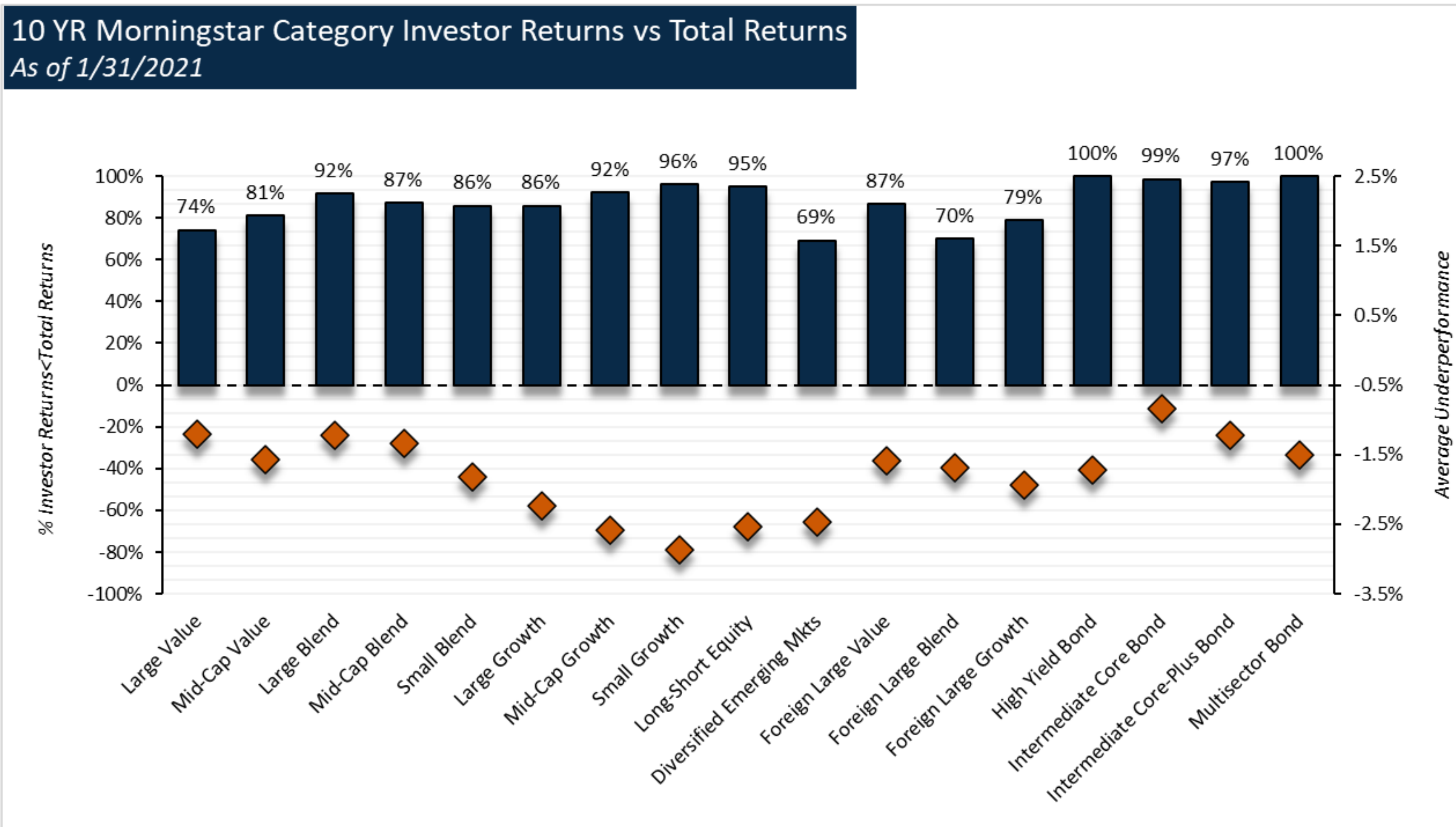
S&P 500 - Growth of $10K Invested January 1, 1980
As of 1/31/2021



Source: Bloomberg as of 1/31/2021. Performance data shown represents past performance and is no guarantee of future results.

Don’t Panic: Stay Invested and Resist the Temptation to Time the Markets (cont.)

Although the behavioral desire to market time may be rational, investors have consistently failed to add value in their attempts to time short-term market movements.



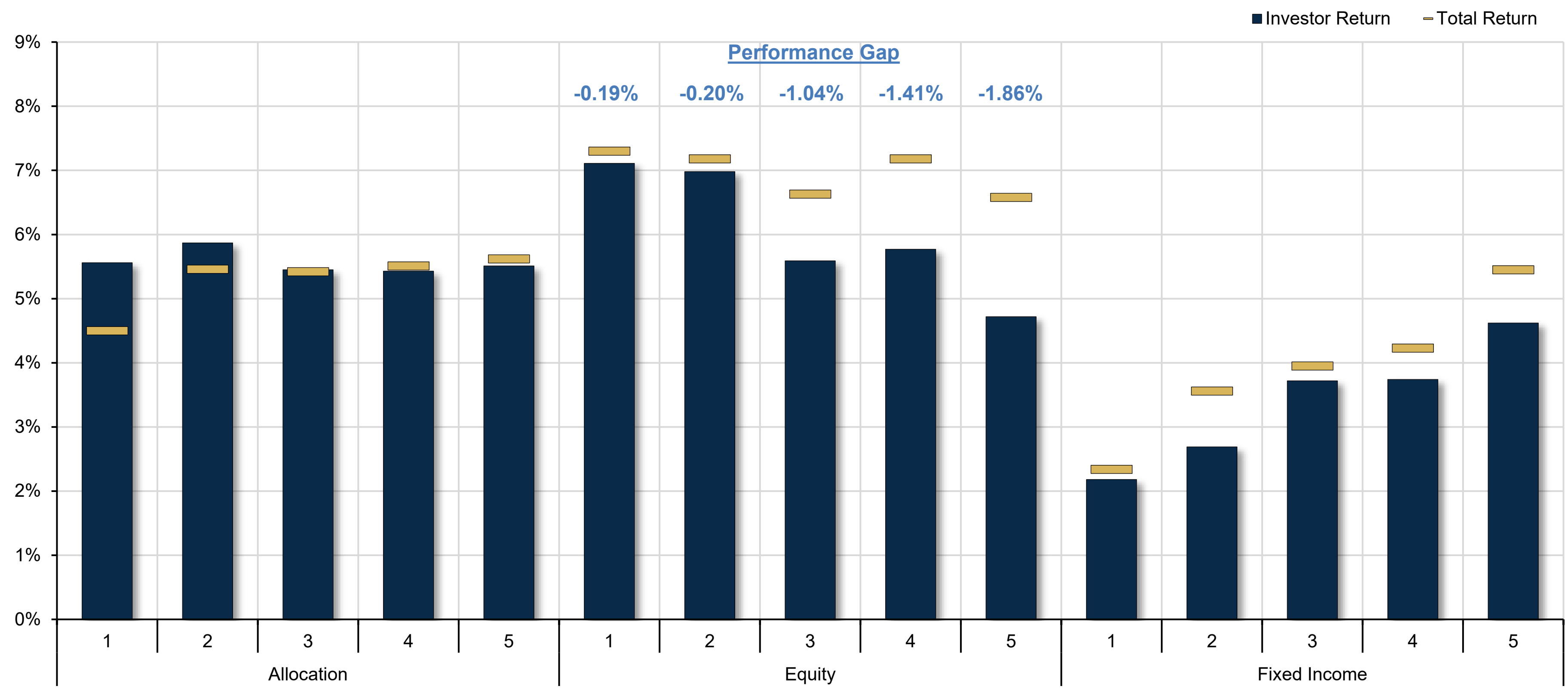
Source: Morningstar as of 1/31/2021. Performance data shown represents past performance and is no guarantee of future results.

Don’t Panic: Stay Invested & Resist the Temptation to Time the Markets (cont._

Behavioral biases can be mitigated by investing in less volatile investment products

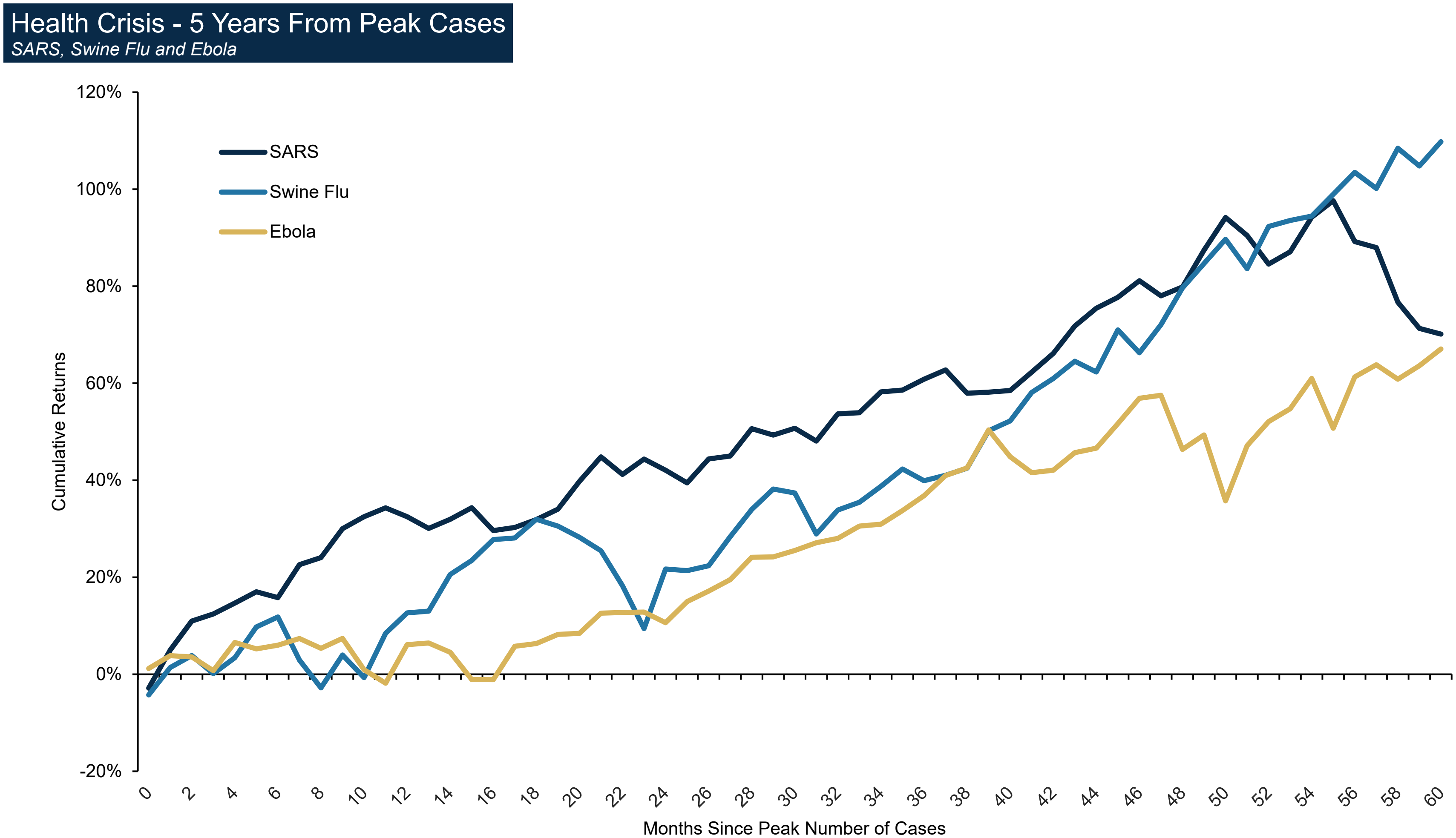
- Morningstar grouped funds by their trailing 3 year standard deviation and tracked their results over the following 10 year period
- The less volatile funds tended to have higher investor returns and smaller gaps between investor and total returns
- Less volatile investments don’t make investors behave emotionally

Investor Returns vs. Total Returns by Volatility Quintile
12/31/2018



Source: Morningstar. Data as of 12/31/2018. Performance data shown represents past performance and is no guarantee of future results.

Don't Panic: Equity Performance Post Previous Health Crisis Events

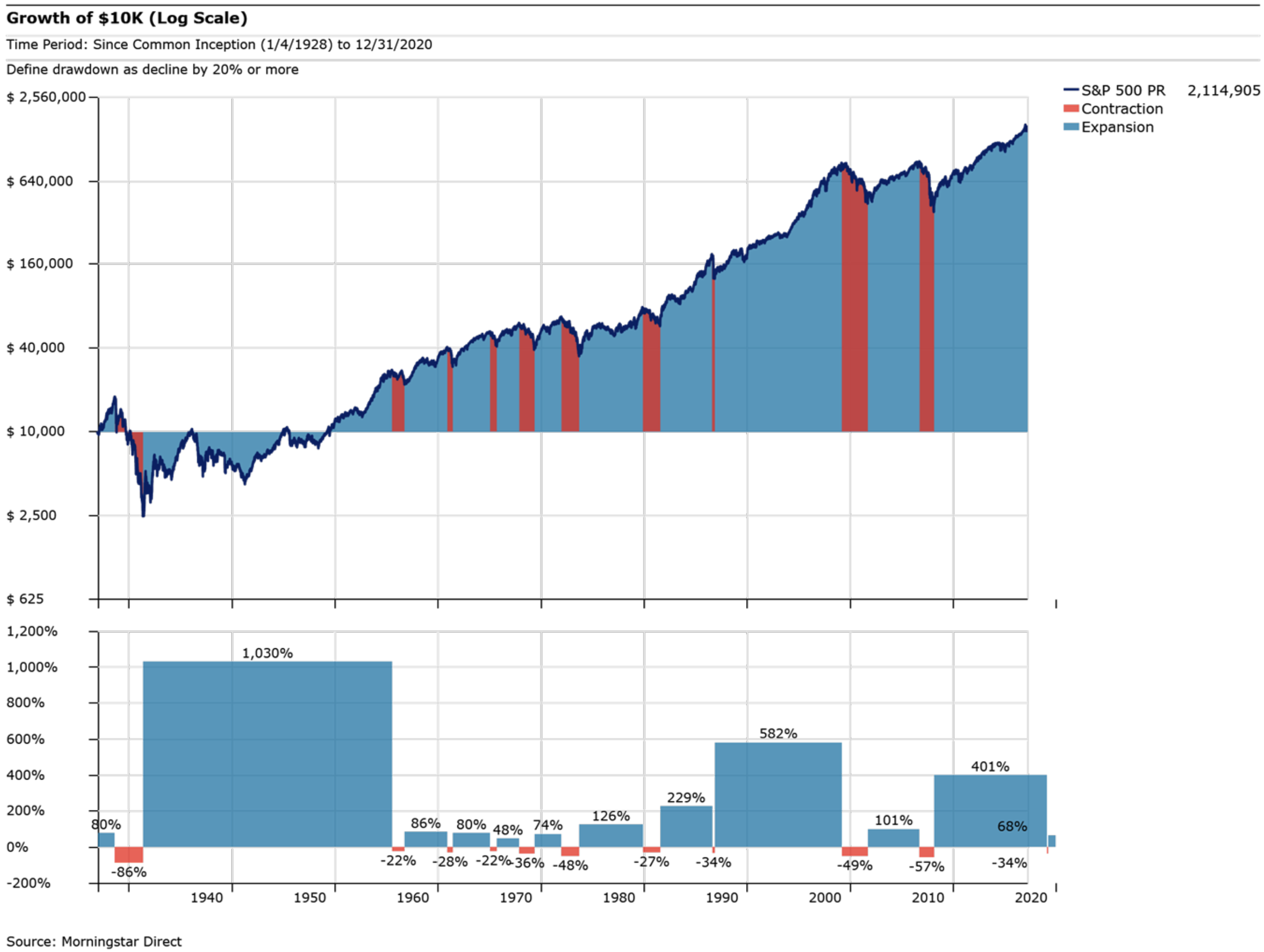


Equity performance has strongly recovered subsequent to peak cases

Source: Morningstar as of 3/26/2020. Performance data shown represents past performance and is no guarantee of future results.

Don't Panic: Equity performance post previous severe market dislocations

Despite periodic dislocations and exogenous shocks, the long-term compounding power of equities has been compelling



Source: Morningstar as of 12/31/2020. **Hypothetical example shown for illustrative purposes only.** Performance data shown represents past performance and is no guarantee of future results.

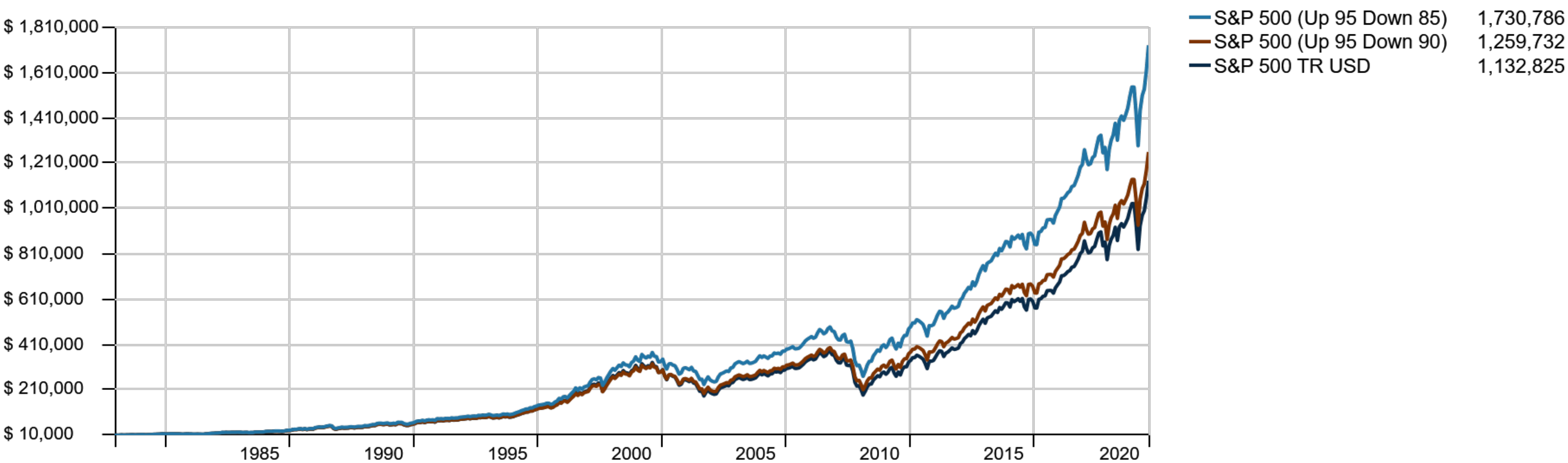
Consider Equity Solutions Offering Attractive Downside Protection

Consider equity solutions offering attractive downside protection versus full beta and passive strategies

- Preserving capital in down markets and compounding returns off a higher base often produces greater wealth than a passive 100/100 up / down strategy
- Targeting lower risk equity solutions allows clients to de-risk without altering their strategic asset allocation

Growth of $10k

Time Period: 1/1/1979 to 8/31/2020



Risk/Return

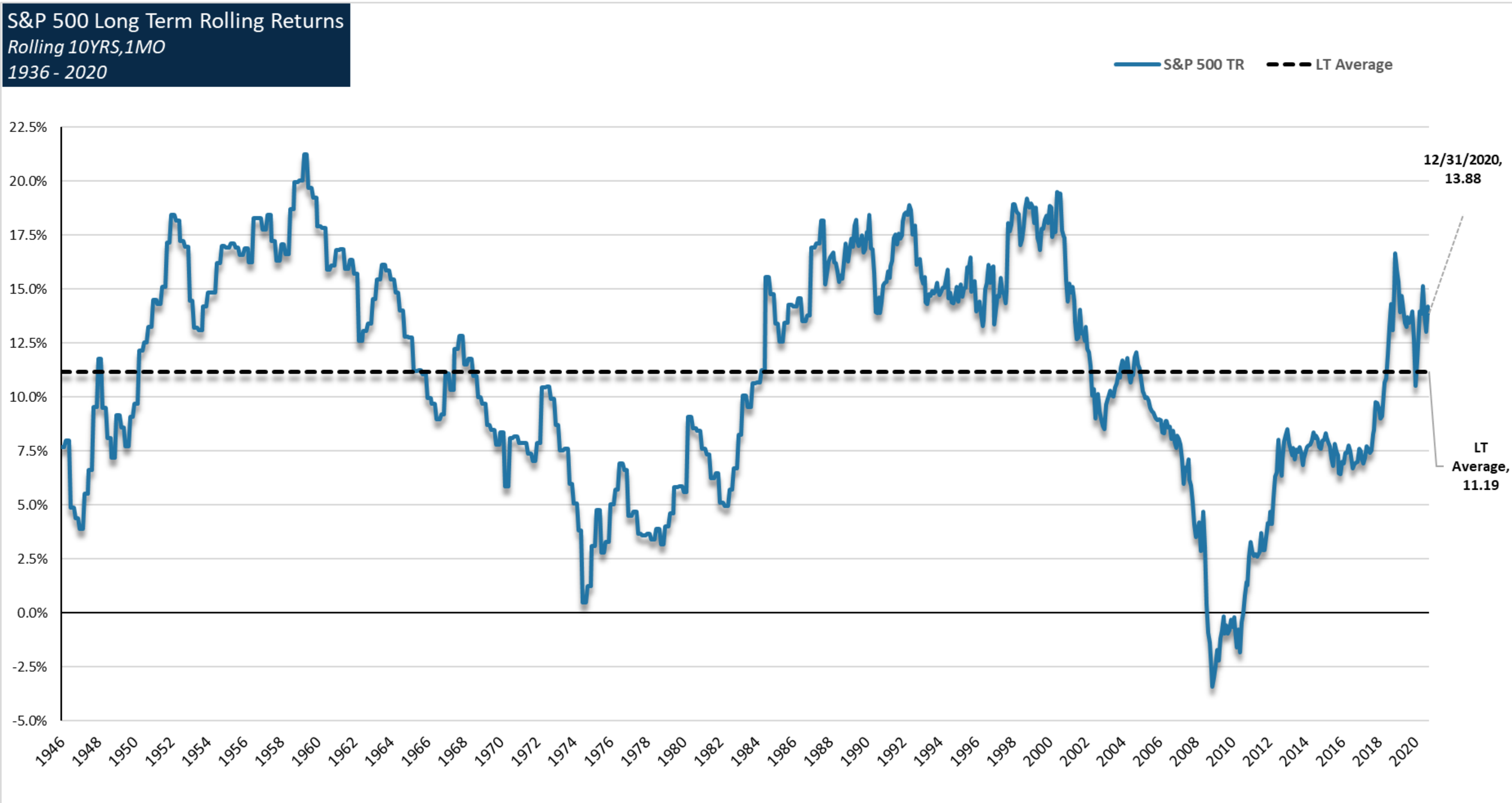
Time Period: 1/1/1979 to 8/31/2020 Calculation Benchmark: S&P 500 TR USD

	Return	Standard Deviation	Loss Standard Deviation	Beta	Alpha	Sharpe Ratio
S&P 500 (Up 95 Down 85)	**13.17%**	**13.56%**	**9.61%**	**0.902**	**1.60%**	**0.65**
S&P 500 (Up 95 Down 90)	**12.31%**	**13.92%**	**10.17%**	**0.926**	**0.69%**	**0.59**
S&P 500 TR USD	*12.02%*	*15.03%*	*11.30%*	*1.000*	*0.00%*	*0.54*

Source: Morningstar as of 8/31/2020. **Hypothetical example shown for illustrative purposes only.** Performance data shown represents past performance and is no guarantee of future results.

Keep Perspective on Equity Returns

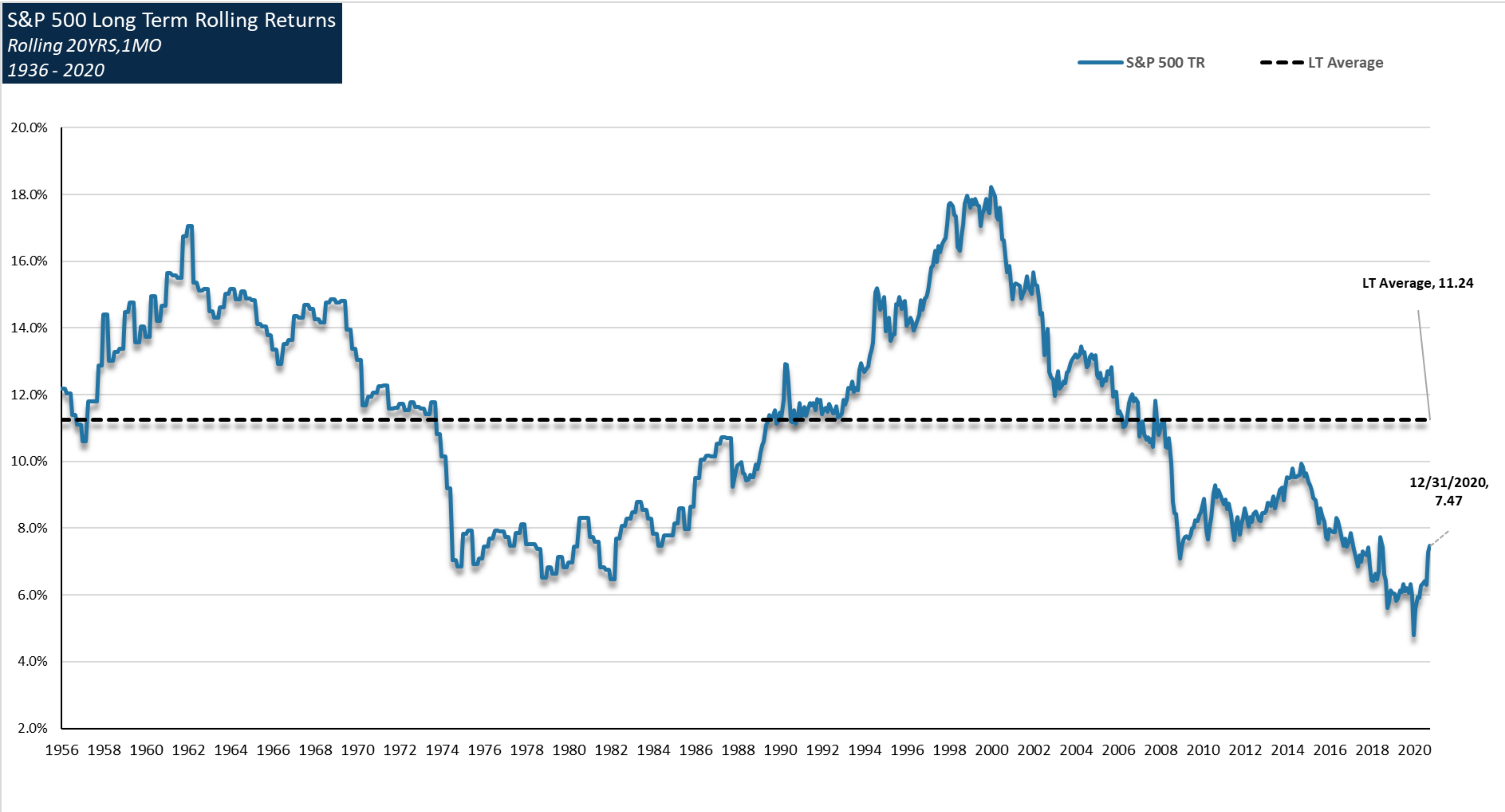
The annualized 10 year returns of the S&P 500 (ending 12/31/2020) were only moderately higher than the long-term average dating back to the 1930s



Source: Morningstart as of 12/31/2020. Performance data shown represents past performance and is no guarantee of future results.

Keep Perspective on Equity Returns

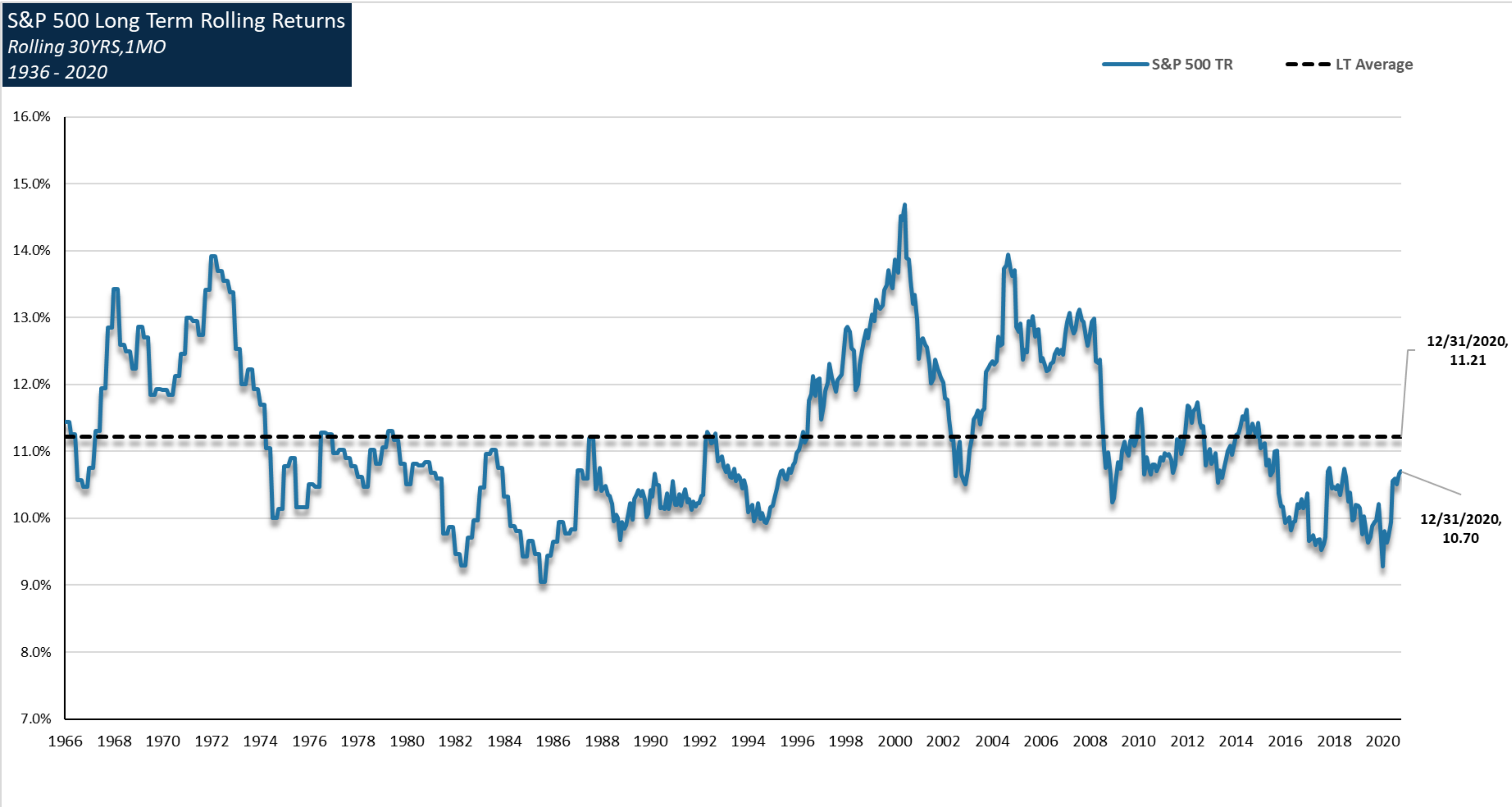
On a rolling 20 year basis, S&P 500 returns are at their lowest level since the 1930s



Source: Morningstar as of 12/31/2020. Performance data shown represents past performance and is no guarantee of future results.

Keep Perspective on Equity Returns (cont.)

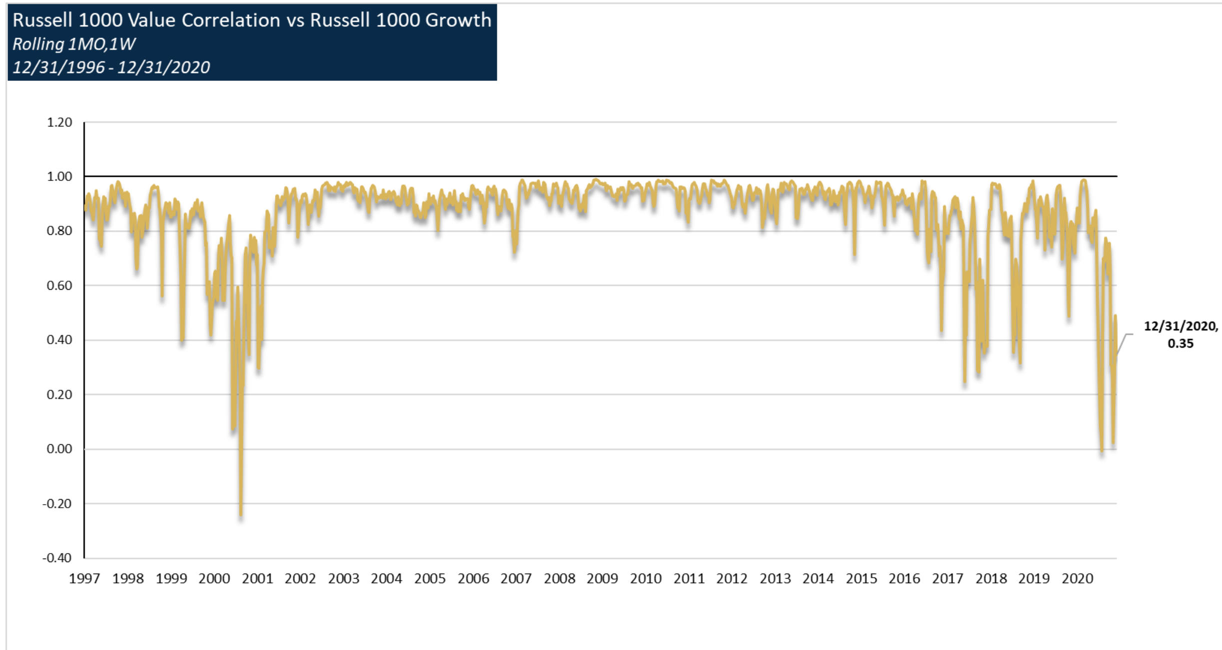
On a rolling 30 year basis, (which includes the excellent returns of the 90s and 2010s), S&P 500 returns are still below their long-term average



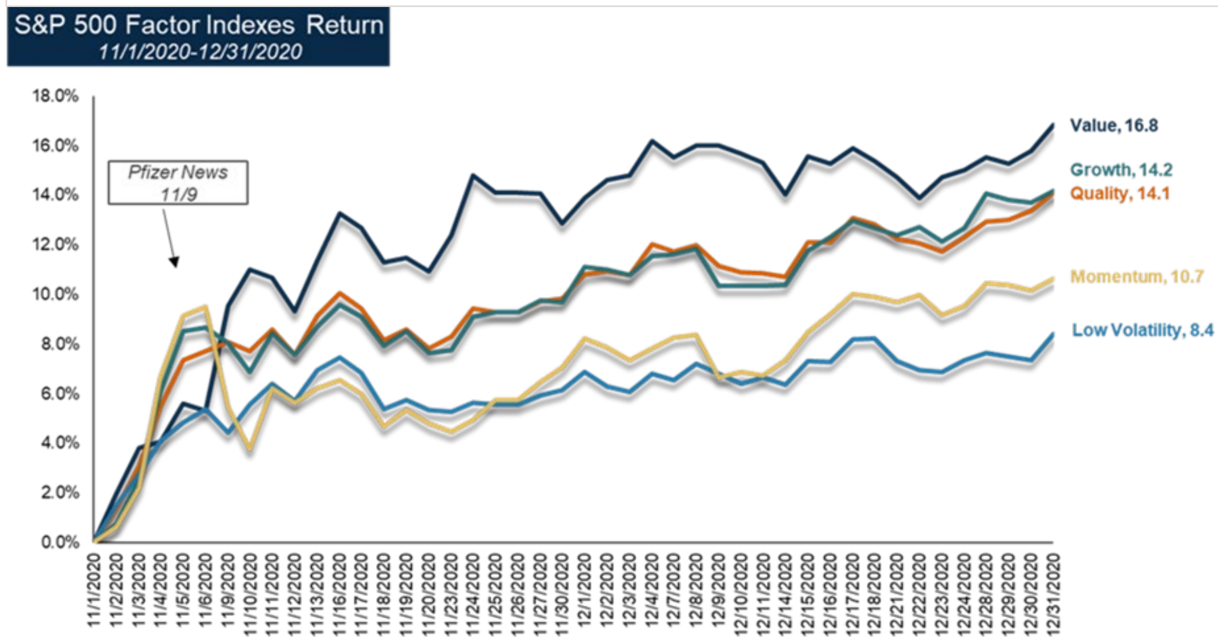
Source: Morningstar. Performance data shown represents past performance and is no guarantee of future results.

Stay Diversified and Remember that Many out of Favor Areas Such as Value and Non-U.S. Equities Still Serve Useful Purposes in Client Portfolios

Value has recently exhibited lower levels ofcorrelation vs growth than any time in the last 20+ years



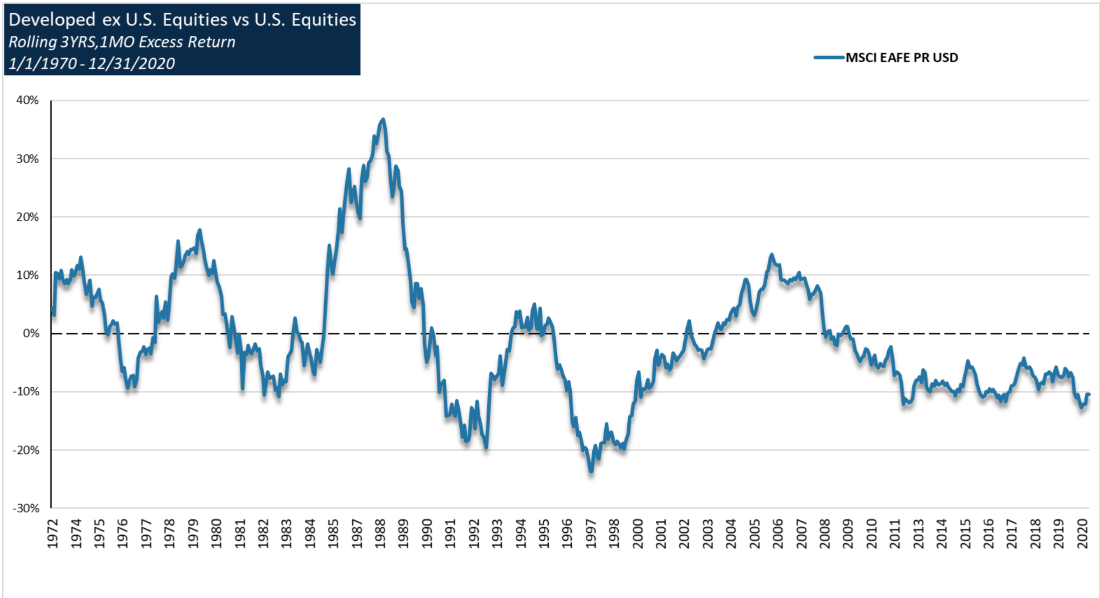
A more durable rotation to value may already be under way



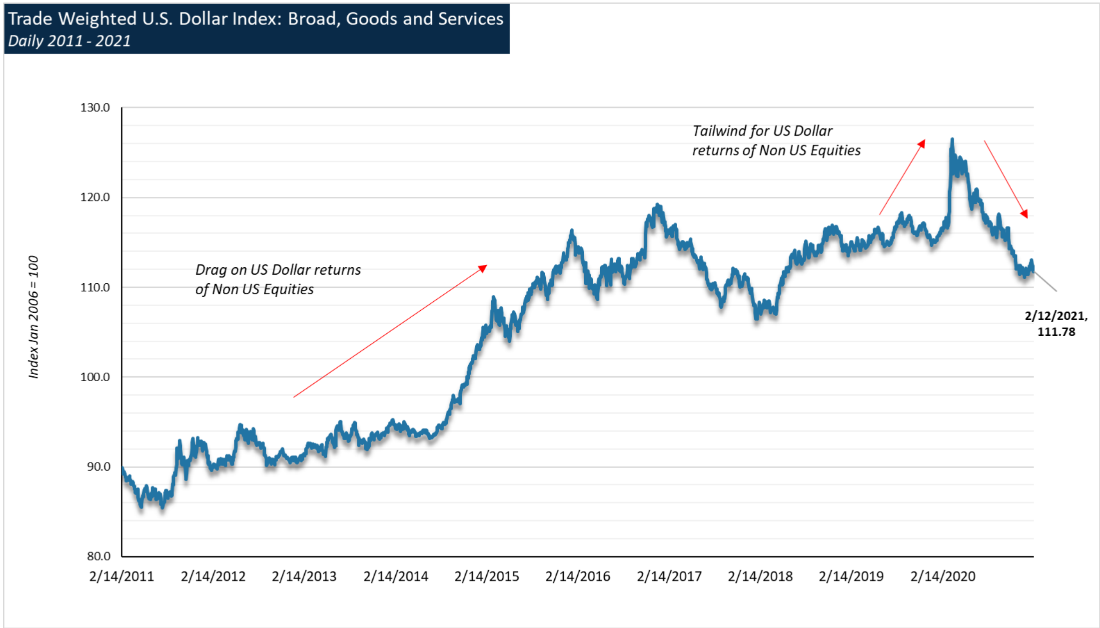
Source: Morningstar as of 12/31/2020. Performance data shown represents past performance and is no guarantee of future results.

Stay Diversified and Remember that Many out of Favor Areas Such as Value and Non-U.S. Equities Still Serve Useful Purposes in Client Portfolios (cont.)

Historically Developed Non-U.S. Equities and U.S. Equities have traded leadership positions from a performance standpoint as well as providing complementary performance patterns



Currency effects tend to wash out over the long term; however, U.S. Dollar strength vs many Non-U.S. currencies has been a headwind to dollar-based returns of Non-US equities, until recently….



Source: Morningstar as of 12/31/2020 (top), FRED as of 2/28/2021 (bottom). Performance data shown represents past performance and is no guarantee of future results.

Rethink the Role of Bonds in Client Portfolios

- Consider **less interest rate sensitive areas** of fixed income markets, like convertibles
- Identify **low risk sources of income inside and outside of traditional fixed income sectors**. For example, conservative high yield and conservative equity
- Be **skeptical** that bonds will continue to remain negatively correlated with equities

Why?

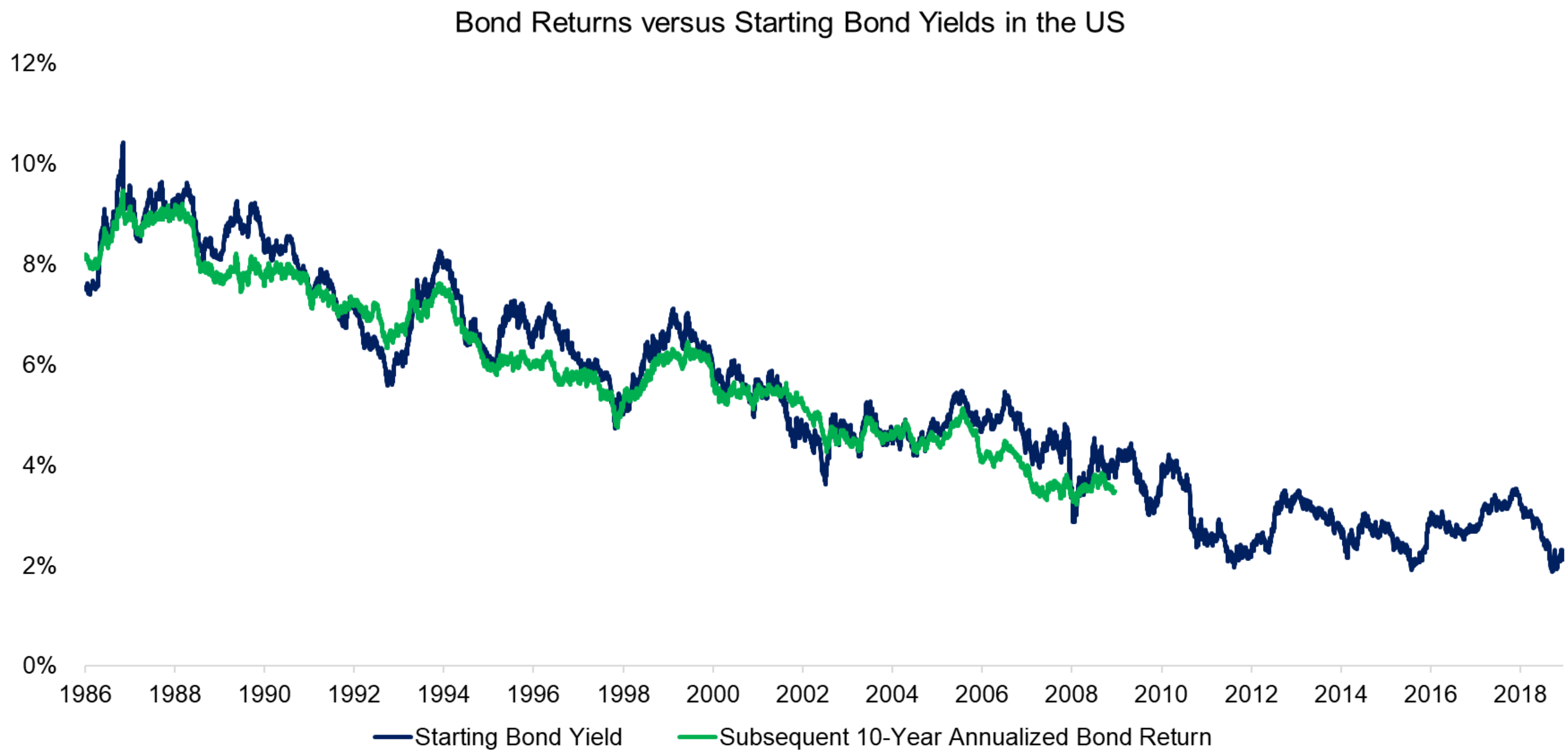
As we navigate through 2021 and beyond, bonds may be challenged to deliver:

- ✓ **Safety**
- ✓ **Yield and returns**
- ✓ **Diversification**

Rethinking the Role of Bonds in Client Portfolios (cont.)

Safety: The effective duration on the Barclays Aggregate Index has roughly doubled over the last 10 years, which has meaningfully increased interest rate risk – low rates has resulted in issuers extending their maturities

Yield and return: The starting bond yield largely determines the nominal total return over the next decade…what you see is what you get

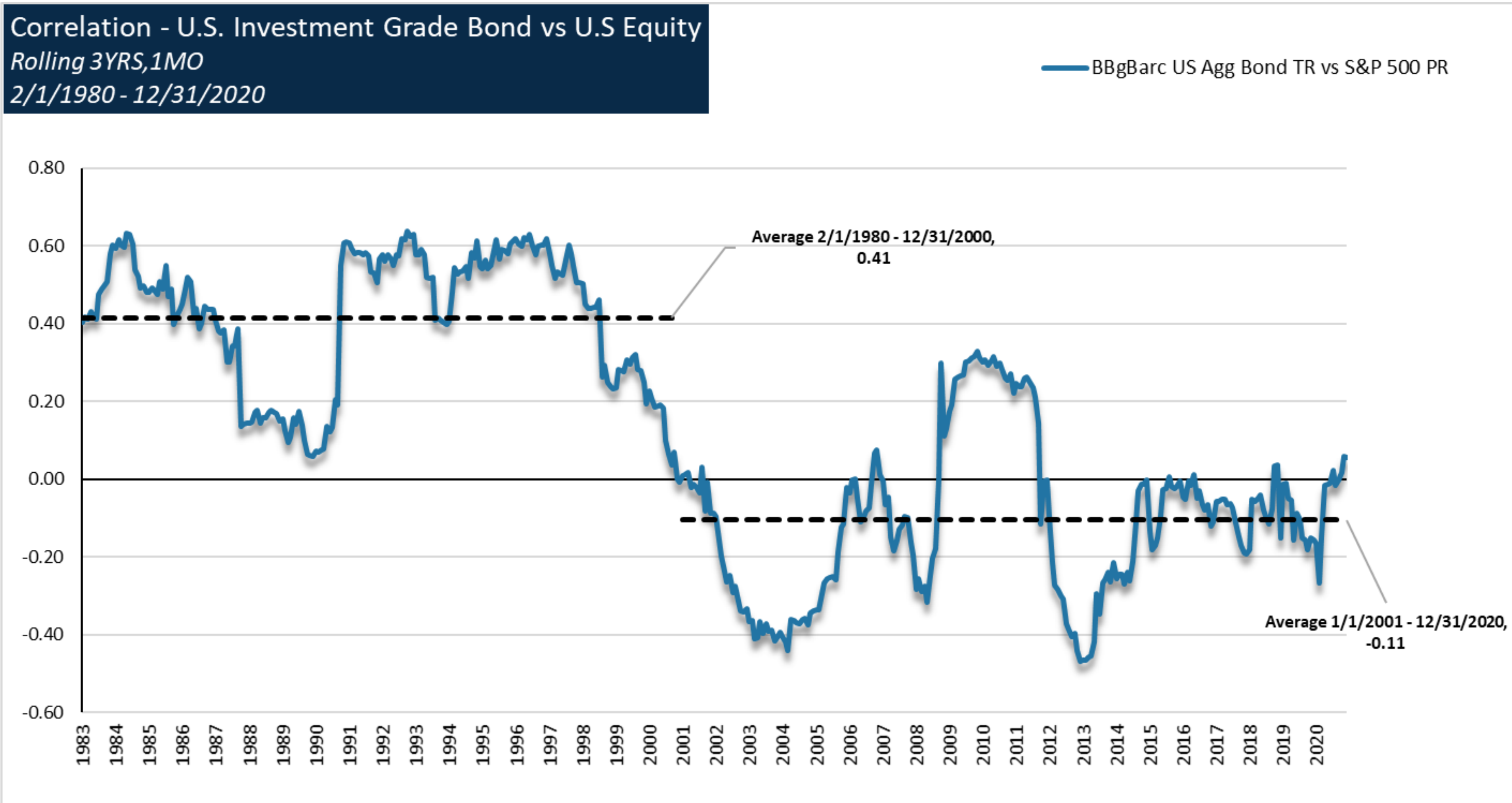


Source: FactorResearch. Bonds returns are represented by the Vanguard Total Bond Market Index Fund (VBMFX) and bond yields by a combination of US 10-year Treasury notes (70%) and US corporate investment-grade bonds (30%).

The relationship between valuation and subsequent returns is not as statistically meaningful for equities as it is for fixed income. Stocks only have a 0.55 correlation compared to 0.97 for bonds. Nevertheless, historically the lower the earnings yield – calculated as the inverse of the cyclically-adjusted price-to-earnings ratio (CAPE) – at the time of the investment, the lower the subsequent returns.

Rethinking the Role of Bonds in Client Portfolios (cont.)

Diversification: Conventional wisdom that stocks and bonds are negatively correlated hasn't always been true



Source: Morningstar as of 12/31/2020..

Summary

Many investors are concerned about their portfolios and the risk of heightened and sustained market volatility.

- Prior to COVID-19, volatility had been fairly subdued by historical standards
- Volatility can appear out of nowhere, leading to undesirable behavioral biases
- Harbor believes that market volatility will stay elevated given substantial economic, financial market, and central bank uncertainties

Thoughtful solutions exist for maneuvering through volatility:

- ✓ **Don't panic**: resist the temptation to time the markets
- ✓ **Consider conservative equity solutions** that offer downside protection and a lower beta profile to navigate through volatility vs full beta passive strategies
- ✓ Keep **perspective** on the long-term attractiveness of equities and maintain **diversification** through choppy markets
- ✓ Within fixed income, **consider alternate sources of income and less interest-rate sensitive bonds**

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