Staying Disciplined Through Volatile Markets

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Analysis of historical market performance and investor behavior shows there are benefits to a disciplined approach, particularly one that maintains a personalized investment strategy even in times of extreme volatility. The ideal investor behavior can be summarized as maintaining a disciplined investment plan.

How and Why - Maintaining a Disciplined Investment Plan

1. Maintain an asset allocation appropriate for the goal.
2. Avoid timing markets.
3. Continue to save regularly throughout periods of market volatility.

1. Maintain an asset allocation appropriate for the goal

It is understandable that investors may question investment strategies during periods of market volatility, particularly when they generate losses. Common concerns include:

1. What is the length and potential impact of market downturns?
2. Is the asset allocation correct? Is the equity exposure too high?
3. How should the investor manage and maintain a diversified asset allocation in volatile markets?

Addressing Investor Concerns:

1. **What is the length and potential impact of market downturns?** Periods of increased volatility and losses are normal. The following notes on historical performance can be cited.

   - **Market downturns happen on a regular basis.**

     - The S&P 500 has experienced maximum drawdowns[1] of 10% or larger magnitude in 37 calendar years since the 1950s, when performance is calculated from January to December inclusively in any given year; *Endnote 1*.
     - If an investor started tracking the S&P 500 on any given day since the 1950s, picked at random, the investor would have, on average, experienced about one downturn of at least 10% over the course of a one year horizon; see *Endnote 2*.

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[1] Maximum drawdown is defined as a historical peak-to-trough decline over a specific period.

- **Most market downturns are short.**

  - For example, take maximum drawdowns of 5% or more as an indicator for US stock market downturns: These lasted for about 2 months *on average* before the market started recovering over the last 10 years; see *Figure 1* and *Endnote 3*.

- **While there are times when a downturn is longer and more pronounced, there still has been recovery of losses and growth over a reasonable time period.**

  - The S&P 500 has never taken more than 6 years to surpass the previous all-time high when looking forward from the bottom of a bear market since the 1950s; *Endnote 4*.

  - The MSCI ACWI index, which is a representation of broad global equity markets across 23 developed market countries (including the US) and 26 emerging market countries, has never taken more than 5 and a half years to surpass the previous all-time high when looking forward from the bottom of a bear market since 1987; *Endnote 5*.

- **Despite periodic market losses, the longer term trend for equities has been positive.**

  - The S&P 500 realized a positive return in 50 out of the last 69 calendar years (or 72% of the time) since the 1950s; see *Figure 2* and *Endnote 1*.

  - The annualized historic return for the S&P 500 Total Return Index (incl. dividends being reinvested) has been close to 10%, while bonds yielded approx. 6% over the last 30 years; see *Figure 3* and *Endnote 6*.

2. **Is the asset allocation correct? Is the equity exposure too high?** The goal-driven asset allocation strategy considers the investor's time horizon and capacity to weather downturns. It also addresses inflation. The following supports discussions related to time horizons and inflation.

   - **Time Horizons for retirement planning are very long because people today are living longer than previous generations.**

     - Retirement investors may underestimate their planning horizon. If the investor's assets are invested too conservatively, there is a greater chance that an investor will outlive their assets; also see the next paragraph on inflation. For example, for a typical 55 year old male investor, NextCapital recommends a planning horizon of 35 years, corresponding to an assumed life expectancy of 90, and two years longer for a female investor of the same age; see *Table 1* for more examples and *Endnote 7*.

- **Longer time horizons mean more capacity for short-term loss and likely ability to recover from losses.**

  - Many investors have the capacity to allocate a significant portion of their retirement assets to stocks because their portfolio has time to recover from potential losses even under consideration of typical withdrawals.

    By example of the S&P 500 Total Return Index over the last 45 years, the historically observed chance that an investor earned a positive return are:

    - ✓ 81% when staying invested for 1 year,
    - ✓ 90% when staying invested for 5 years,
    - ✓ 94% when staying invested for 10 years,
    - ✓ 100% when staying invested for 15 years or more.

    when being fully invested (without any diversification to bonds); see *Figure 4* and *Endnote 8*.

- **Equities are a natural hedge against inflation, which can be volatile and may impact different types of spending, like health care, in more adverse ways.**

  - In the long run, stocks tend to guard against inflation because companies' revenues and earnings rise with inflation over time, all else equal. For historical analysis, refer to ("Hedging Inflation with Equities", 2008); *Endnote 9*.

  - Focusing on inflation over the last 20 years and what it means in terms of (nominal) price evolution, also recognize that inflation rates have differed by consumer spending category; see *Figure 5*.

    - For example, the price of a Big Mac meal has more than doubled from $2.51 in April 2000 to $5.74 in July 2019, which corresponds to an annual inflation rate of 4.4%; *Endnote 10*.

    - Categories that may be more relevant for retirement including health care planning purposes have a higher inflation rate such as *Hospitals and related Services* with a realized annual inflation of 5.5% over the same time period, *Endnote 11*.

3. **How should the investor manage and maintain a diversified asset allocation in volatile markets?** During periods of market volatility, it can be difficult to maintain a diversified asset allocation at the investment level appropriate for an investor's goals. It is also important that ongoing re-balancing occurs as markets move.

   - **The asset allocation strategy is a diversified strategy across many asset classes.**

     - Diversification is a method of managing risk by allocating investments across assets with different risk factors, markets, and regions. The idea is to combine different assets that would each react differently to

the same news event and thus counterbalance poor performance in one area of your portfolio with better performance in another.

- **NextCapital implements the investor's asset allocation strategy with appropriate investments that track the benchmarks.**

  - NextCapital Advisers' provides investors with globally diversified portfolios, with investments allocated across a set of Exchange Traded Funds (ETFs) which cover a broad spectrum of asset classes.

- **The investments are automatically re-balanced as markets move. This can be very challenging for an investor to do on their own, yet it is very important to maintain the portfolio's target allocation and can improve long-run performance.**

  - NextCapital Managed Advice rebalances portfolios automatically back towards its target allocation when deviations occur due to market movements. Rebalancing algorithms are automatically *buying low* and *selling high* towards achieving your target mix of assets, whereas a typical investor may overweight or underweight certain asset classes (even *buying high* when prices are relatively more expensive and *selling low* when prices are relatively cheaper), which may pose a drag on the long-run portfolio performance.

2. Avoid timing markets.

Investor attempts to time the market can originate from a variety of causes and sources - negative market conditions, investment news and media reporting, friends and family, and many others. An investor who reacts using a market timing approach may override their advised portfolio in many ways:

1. Decreasing equity levels below what is recommended,
2. Re-allocate all, or a portion, of their account value into cash,
3. Otherwise attempt to actively manage their portfolio themselves.

Addressing Investor Concerns:

1. **Decreasing equity levels below what is recommended.** Studies have shown that investors commonly decrease equity exposure after the market performs negatively (see *Endnote 12*). There is a risk of missing out on the recovery, and in some cases, the biggest market moves to the upside. For example:

- Some of the market's best performing days have occurred in the middle, or the end, of a market downturn.

  For illustration purposes, consider the performance of the S&P 500 over the recent 10-year period ending Q2/2019 when iteratively removing more and more of the market's best performing days; *Endnote 13*:

- ○ Performance entire period: + 222%
- ○ Performance 5 best days missed: + 157%
- ○ Performance 10 best days missed: + 116%
- ○ Performance 30 best days missed: + 27%
- ○ Performance 50 best days missed: - 18%

Mathematical example: Applying a 222% return to $100 results in $322, and applying a -18% return to $100 results in $82. You cannot directly invest in an index.

2. **Re-allocate all, or a portion, of their account value into cash.** Some investors may want to avoid the markets all together. However, making this move can prove costly.

- To illustrate this point, focus on the performance of an S&P 500 tracking ETF from January 2018 until June 2019. During this timeframe, there were periods of market volatility, with the ETF returning -6.9% in October 2018 and -8.8% in December 2018.

- An investor who invested $100k into an S&P 500 tracking ETF in January 2018 and stayed invested through the market volatility until June 2019 would have largely outperformed (by approx. $6.5k) an investor who set aside 50% of their account and only invested the other 50% in the S&P 500 tracking ETF (7.71% vs 3.96% annualized return); see Table 2 and *Endnote 14.*

3. **Otherwise attempt to actively manage their portfolio themselves.** Even the pros have a tough time being an active manager. Active means trying to outperform the market with specialized asset allocation and/or investment selection strategies, including timing the market.

- **The ("SPIVA US Year-End 2018 Scorecard", 2018) study shows that the vast majority of active asset managers underperform their benchmark.** See *Table 3* and *Endnote 15*:

  - ○ Approx. 82% of large cap actively managed funds underperformed the S&P 500 Index over the last 5 years.

  - ○ Approx. 92% of large cap actively managed funds underperformed the S&P 500 Index after 15 years.

- **The ("2019 Mid-Year Persistence Scorecard - Key Highlights", 2019) study shows that the current ranking of top funds is not a good indicator of future results**:

  - ○ Top-performing funds in the prior five years were more likely to become the worst-performing funds than to stay at the top; *Endnote 16*:

    - ■ Approx. 32% of top-quartile funds (5-year period ending March 2014) moved to the bottom quartile during the subsequent 5-year period ending March 2019.

■ Approx. 15% of bottom-quartile domestic equity funds (5-year period ending March 2014) moved to the top performance quartile during the subsequent 5-year period ending March 2019.

3. Continue to save regularly through volatile markets.

It can be difficult for investors to continue saving money when they see losses counteracting their efforts. A common concern includes when the investor has lost a lot of the money they have saved. It is difficult to see the point of continuing to save, so what is the payoff?

Addressing Investor Concerns:

1. **The investor has lost some or all of the money they feel like they have saved. It is difficult to see the point of continuing to save, so what is the payoff?** Continuing to invest is critical. Saving is the single most important factor in reaching an investment goal. During market downturns, saving is more critical because the investor is buying in at lower levels and as discussed above, if historical patterns repeat, that savings will experience positive long term returns. For example:

   - **Contributing regularly to accounts based on the appropriate asset allocation, throughout periods of increased volatility, can greatly improve readiness for retirement.**
     - For example, an investor who contributed $1,000 over 10 years on a monthly basis towards an S&P 500 tracking ETF and stayed invested through the 2008 market crisis, would have largely outperformed (by approx. $47.8k) an investor who initially set aside their contributions and only invested after the market recovered (12.2% vs. 8.3% annual return); see *Table 4* and *Endnote 17*.

Appendix

The following figures have been prepared to help advisors visualize the examples discussed above and will be incorporated into the main text in the styled PDF of this Spotlight Series.

Figure 1: S&P 500 Price Index Downturns over Time

Market downturns are short-lived. Grey highlighting refers to periods of market downturns of 5% or more. Past performance is no guarantee of future results. The results are specific to the sampling and calculation methodology and time period here. It is not possible to invest directly in an index. Relates to → Most market downturns are short. → *Endnote 3*.
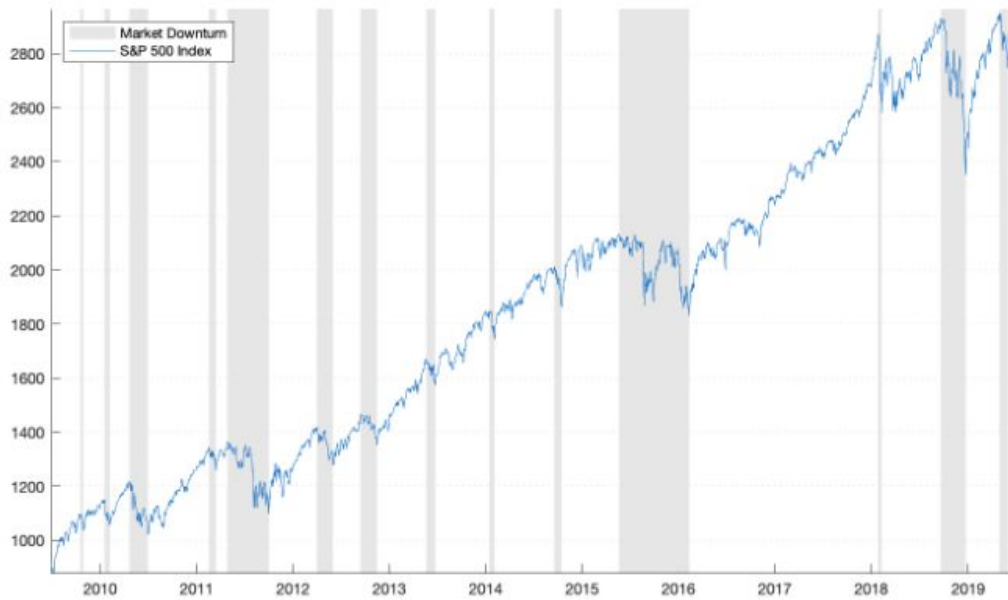
Figure 2: S&P 500 Intra-Year Maximum Drawdowns Versus Calendar Year Returns

Despite drawdowns in every year, the S&P 500 Price Index ends in positive territory the majority of the time. Past performance is no guarantee of future results. It is not possible to invest directly in an index. Relates to → Despite periodic market losses, the longer term trend for equities has been positive. → *Endnote 1*.
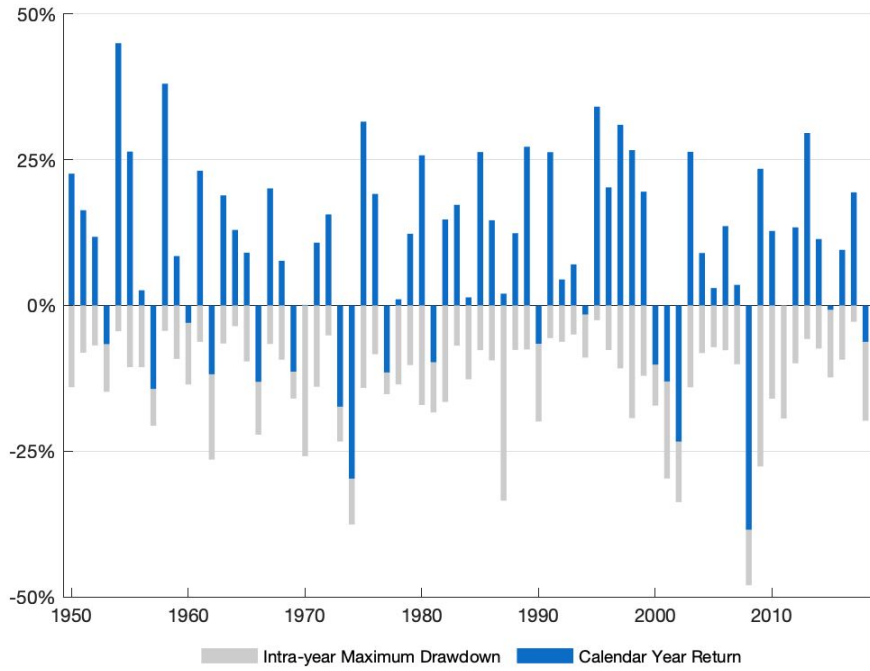
Figure 3: 30-Year Cumulative Stock and Bond Total Returns (on an Annualized Basis) over Time

The annualized stock and bond total returns are based on blocks of 30-year time horizons rolled forward on a monthly basis (starting on January 1976 and ending December 2018). For example, the December 2018 stock and bond total returns of 10% and 6%, respectively, are based on data from January 1989 to December 2018. Past performance is no guarantee of future results. It is not possible to invest directly in an index. The results are specific to the sampling and calculation methodology and time period here. Relates to → Despite periodic market losses, the longer term trend for equities has been positive. → *Endnote 6*.
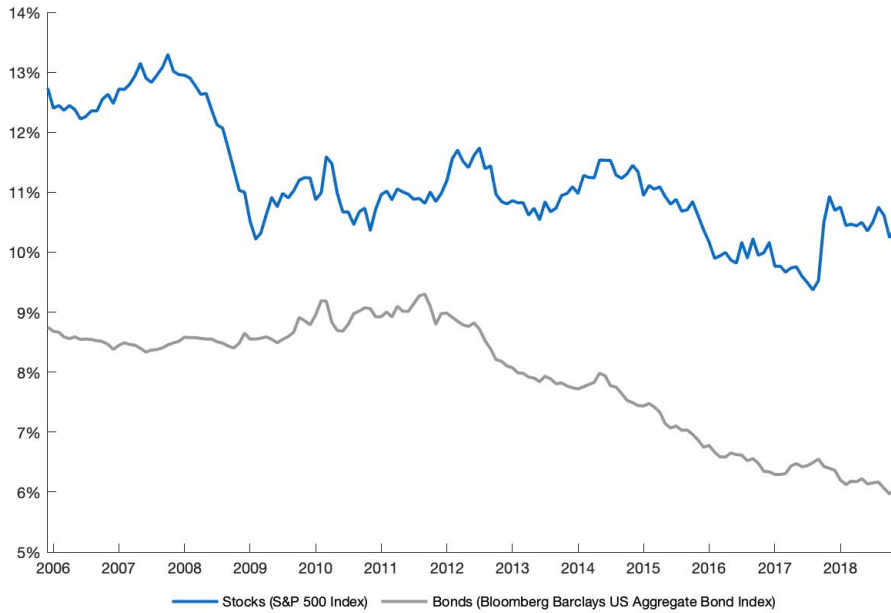

Table 1: Retirement Goal Planning Horizons across Different Ages

The Retirement Goal Planning Horizon is equal to Assumed Life Expectancy minus Current Age. Assumed life expectancy is a conservative estimate of the number of years an investor may live. This is not indicative of actual life expectancy and an investor may live longer or shorter than the values herein. Relates to → Time Horizons for retirement planning are very long because people today are living longer than previous generations. → *Endnote 7*.

Current Age	Retirement Goal Planning Horizon		Assumed Life Expectancy	
	Male	Female	Male	Female
50	40	42	90	92
55	35	37	90	92
60	30	32	90	92
65	25	27	90	92
70	21	23	91	93
75	16	18	91	93
80	12	14	92	94

Figure 4: Historical Likelihood of Positive S&P 500 Returns by Observation Period

M refers to month, and Y refers to year. Calculations are based on S&P 500 total returns data from January 1974 and June 2019. Past performance is no guarantee of future results. It is not possible to invest directly in an index. The results are specific to the sampling and calculation methodology and time period here. Relates to → Longer time horizons mean more capacity for short-term loss and likely ability to recover from losses. → *Endnote 8*.
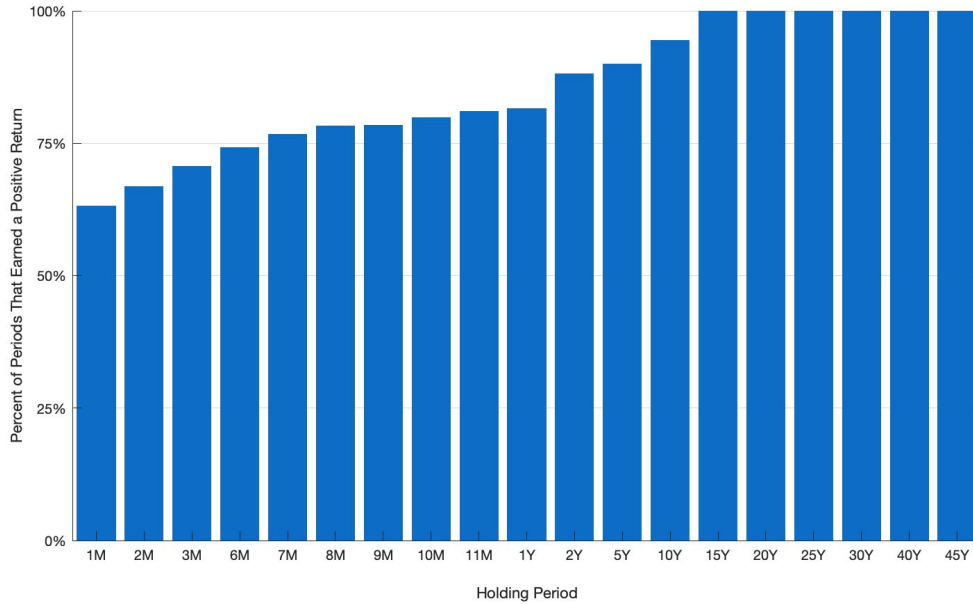
Figure 5: Annualized Inflation by Spending Category

The "All" category refers to an estimate of the overall average inflation. Relates to → Equities are a natural hedge against inflation, which can be volatile and may impact different types of spending, like health care, in more adverse ways.→ *Endnote 10* and *Endnote 11*.
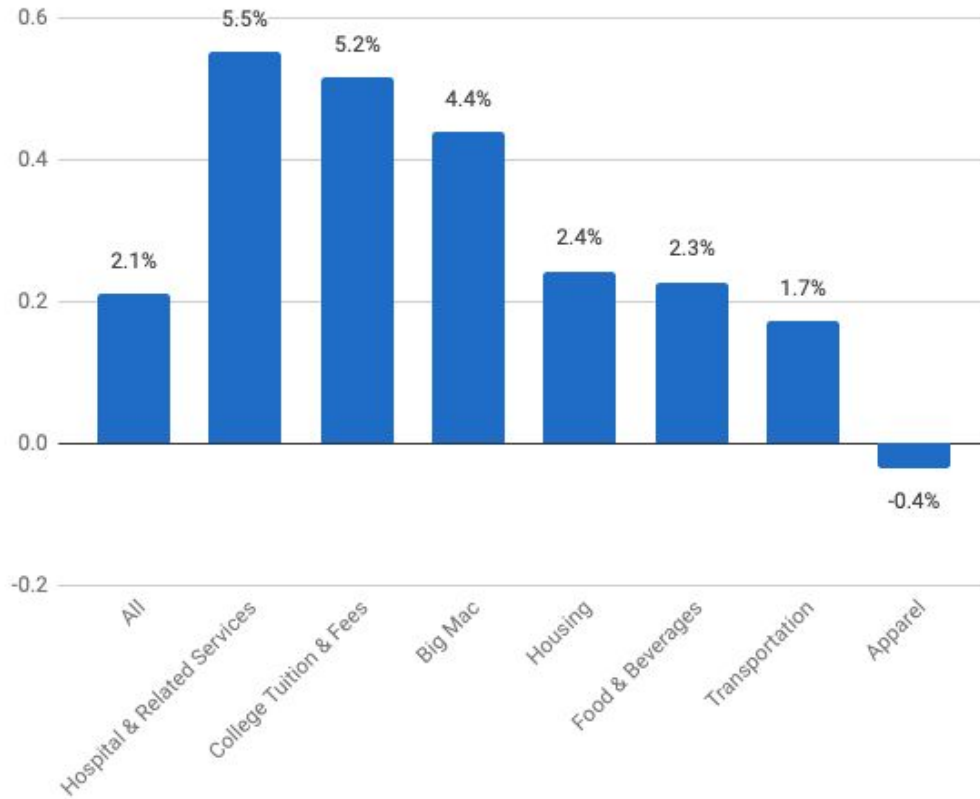

Table 2: Wealth and Returns when Fully Investing in the Market vs Allocating 50% to Non-interest Bearing Cash

Calculations are **hypothetical** and are based on monthly SPY total returns with dividends reinvested based on SPY market prices from January 2018 to June 2019. SPY is an ETF which tracks the S&P 500 Index. Past performance is no guarantee of future results. The results are specific to the sampling and calculation methodology and time period here. Relates to → Re-allocate all, or a portion, of their account value into cash. → *Endnote 14*.

Scenarios	Hypothetical Accumulated Wealth	Hypothetical Annualized Money Weighted Return
Invest 100% of Portfolio in S&P 500 Tracking Fund (SPY ETF)	$112,933	7.71%
Allocate 50% of Portfolio to Cash and 50% to S&P 500 Tracking Fund (SPY ETF)	$106,466	3.96%

Table 3: Percentage of U.S. Equity Funds Outperformed by Benchmarks

The Year (%) columns represent the probability that a fund within a fund category outperforms its comparison index over the specified historical observation period. Past performance is no guarantee of future results. Relates to → The ("SPIVA US Year-End 2018 Scorecard", 2018) study shows that the vast majority of active asset managers underperform their benchmark. → *Endnote 15*.

Fund Category	Comparison Index	1-Year (%)	3-Year (%)	5-Year (%)	10-Year (%)	15-Year (%)
All Domestic Funds	S&P Composite 1500	69	81	88	84	89
All Large-Cap Funds	S&P 500	64	79	82	85	92
All Mid-Cap Funds	S&P MidCap 400	46	74	80	88	93
All Small-Cap Funds	S&P SmallCap 600	68	84	89	86	97

Table 4: Accumulated Wealth and Returns when Regularly Investing into the Market vs Waiting to Invest

Calculations are **hypothetical** and are based on monthly SPY total returns with dividends reinvested based on SPY market prices from November 2007 to December 2017. The SPY fund is an ETF which tracks the S&P 500 Index. Single asterisk (*) indicates that the investor in this scenario waited until July 2013 (when SPY recovered to the same value it had as of November 2007) to enter the market. Past performance is no guarantee of future results. The results are specific to the sampling and calculation methodology and time period here. Relates to → Contributing regularly to accounts based on the appropriate asset allocation, throughout periods of increased volatility, can greatly improve readiness for retirement. → *Endnote 17*.

Scenarios	Hypothetical Accumulated Wealth	Hypothetical Annualized Money Weighted Return
Continually Invest Throughout the Downturn	$235,283	12.2%
Wait to Invest Until the Market Has Recovered*	$187,477	8.3%

Endnotes

1. Calculation is based on the daily price returns of the S&P 500 Index between January 1950 and December 2018. Intra-year maximum drawdowns are defined as the maximum decline from peak-to-trough in a given calendar year. Past performance is no guarantee of future results. It is not possible to invest directly in an index. Source: NextCapital Advisers, Inc. © NextCapital Advisers, Inc. 2019. All rights reserved.

2. Calculation is based on the daily returns of the S&P 500 Price Index for 1-year holding observation periods that are rolled forward on a daily basis from January 1950 to September 2019. The frequency of market downturns for an observation period is calculated as the number of instances the cumulative return for a subperiod (within the observation period) is below 10%, where the subperiods do not overlap: a 1-year observation period that hypothetically has a -25% cumulative return would have two instances where a 10% market downturn was experienced; in other words, the investor can experience multiple 10% downturns within the same observation period. It is not possible to invest directly in an index. Source: NextCapital Advisers, Inc. © NextCapital Advisers, Inc. 2019. All rights reserved.

3. Calculations are based on the daily returns of the S&P 500 Price Index over the 10-year period starting June 30, 2009. Market downturns in this example are defined by a maximum drawdown of 5% or more. Past performance is no guarantee of future results. It is not possible to invest directly in an index. Source: NextCapital Advisers, Inc. © NextCapital Advisers, Inc. 2019. All rights reserved.

4. Calculation is based on the daily returns of the S&P 500 Price Index between January 1950 and June 2019. Past performance is no guarantee of future results. It is not possible to invest directly in an index. Source: NextCapital Advisers, Inc. © NextCapital Advisers, Inc. 2019. All rights reserved.

5. Calculation is based on the daily returns of the MSCI ACWI Price Index between December 1987 and October 2019. Past performance is no guarantee of future results. It is not possible to invest directly in an index. Source: NextCapital Advisers, Inc. © NextCapital Advisers, Inc. 2019. All rights reserved.

6. Calculations are based on the monthly returns of the S&P 500 Total Return Index and Bloomberg Barclays US Aggregate Bond Index over 30-year rolling observation periods between January 1976 to December 2018. Past performance is no guarantee of future results. It is not possible to invest directly in an index. Source: NextCapital Advisers, Inc. © NextCapital Advisers, Inc. 2019. All rights reserved.

7. Calculations are based on equally-weighted average of White and Blue Collar tables based on the Society of Actuaries' Retirement Plan Mortality Table. Source: NextCapital Advisers, Inc. © NextCapital Advisers, Inc. 2019. All rights reserved.

8. Calculations are based on the monthly returns of the S&P 500 Total Return Index over monthly rolling observation periods between January 1974 and June 2019. Past performance is no guarantee of future results. It is not possible to invest directly in an index. Source: NextCapital Advisers, Inc. © NextCapital Advisers, Inc. 2019. All rights reserved.

9. Hedging Inflation with Equities. (2008, July). MSCI Barra. Retrieved from
https://www.msci.com/documents/10199/76960d74-0f2c-4f74-9e3c-66f2087b709e

10. The Big Mac Index. (2019, July 10). The Economist. Retrieved from https://github.com/TheEconomist/big-mac-data

11. Calculations are based on CPI-U (Consumer Price Index for All Urban Consumers) monthly index data between December 1987 and December 2018 from U.S. Bureau of Labor Statistics. Source: NextCapital Advisers, Inc. © NextCapital Advisers, Inc. 2019. All rights reserved.

12. Kinnel, Russel. (2019, August 15). Morningstar. *Mind the Gap 2019*. Retrieved from
https://www.morningstar.com/articles/942396/mind-the-gap-2019

13. Calculations are based on the daily returns of S&P 500 Price Index over the 10-year period starting June 30, 2009. It is not possible to invest directly in an index. Source: NextCapital Advisers, Inc. © NextCapital Advisers, Inc. 2019. All rights reserved.

14. Calculation is based on the monthly SPDR S&P 500 ETF Trust (SPY) market price total return data from January 2018 to June 2019. The SPY fund is an ETF which tracks the S&P 500 Index. In the scenario where the investor only invests 50% of their initial portfolio in SPY, it is assumed that the portion of their portfolio that is not invested in the market is allocated to non-interest bearing cash. Past performance is no guarantee of future results. Source: NextCapital Advisers, Inc. © NextCapital Advisers, Inc. 2019. All rights reserved.

15. SPIVA US Year-End 2018 Scorecard. (2019, March 11). S&P Dow Jones Indices LLC. Retrieved from
https://www.spglobal.com/_assets/documents/corporate/us-spiva-report-11-march-2019.pdf

16. 2019 Mid-Year Persistence Scorecard - Key Highlights. (2019, July 15). S&P Dow Jones Indices LLC. Retrieved from
https://www.spglobal.com/en/research-insights/articles/2019-mid-year-persistence-scorecard-key-highlights

17. Calculations are based on monthly SPY market price total return data from November 2007 to December 2017. The SPY fund is an ETF which tracks the S&P 500 Index. In the scenario where the investor waits to invest in the market, it is assumed that the investor invests on July 2013 (which is when SPY recovered to the same value it had as of November 2007). Past performance is no guarantee of future results. Source: NextCapital Advisers, Inc. © NextCapital Advisers, Inc. 2019. All rights reserved.

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Past performance is no guarantee of future results. The results are specific to the sampling and calculation methodology and time period described herein.

All investments involve risk, including loss of principal, and there is no guarantee of profits. Investors should carefully consider their objectives, risk tolerance, and time horizon before investing.

An index is a statistical measure of change which is often used to indicate the performance of a basket of securities intended to represent a particular market or a segment thereof. Thus, indexes are often used as benchmarks against which to measure the performance of ETFs. An index does not take into account the fees and expenses associated with a managed investable product such as an ETF, so performance will differ. **It is not possible to invest directly in an index.**

> The S&P 500® Index is a broad based unmanaged index of 500 stocks, which is widely recognized as representative of the US equity market in general.

> The Bloomberg Barclays U.S. Aggregate Bond Index is an index of the U.S. investment-grade fixed-rate bond market, including both government and corporate bonds, and is widely recognized as representative of the US fixed income market.

The return of an index-linked ETF is usually different from that of the index it tracks because of fees, expenses, and tracking error. **Past performance is no guarantee, no promise or even an estimate of future results.**

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There are no adjustments made to the monthly total return index and investment vehicle performance data series utilized as noted above. NextCapital Advisers, Inc. uses total return benchmark index and investment vehicle performance series, which account for the reinvestment of dividends and other income per methodologies defined and implemented by the index and 3rd party data providers. There are no adjustments made to the constituent benchmark index or investment vehicle returns, as applicable and noted per example, to account for the effects of taxes or any applicable transaction costs. This assumption means that the results realized would likely be lower if subjected to taxation and renders all examples **hypothetical** in nature.

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