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CHIEF INVESTMENT OFFICE

Educational Series

Staying the Course Through Volatility: A Disciplined Financial Strategy Roadmap

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AUTHORED BY:

Chief Investment Office

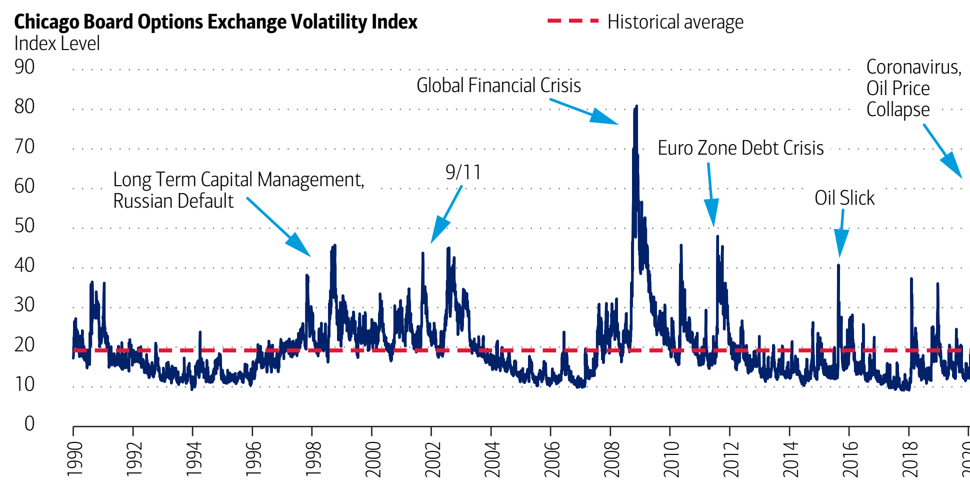
In extraordinary times, market volatility can tend to rise to extremes and create extended periods of concerns for investors. We have experienced many of these episodes just in the past two decades let alone over the course of history. With such an interconnected and, at times, unknown world, how can you plan through this period we call the valley over the bridge, and then on the way to the other side and new frontier? In this report, we discuss a number of important elements to review when assessing your portfolio and the potential adjustments to consider.

Investing would be so much easier if you could plan for your financial future against a backdrop of market and geopolitical stability. Unfortunately, the reality is far different. Industries or geographical regions that appear to be safe havens may be disrupted by a health crisis, political unrest or game-changing innovation.

In our view, the key principles that help ensure that your portfolio will remain properly aligned to your long-term financial strategy during periods of market volatility are:

- Staying disciplined with a goals-based plan
- Maintaining a diversified portfolio and adequate liquidity
- Considering a defined portfolio rebalancing strategy

Exhibit 1: Market Volatility and Times of Crisis.



Source: Bloomberg. Chief Investment Office. Data as of March 23, 2020. **Past performance is no guarantee of future results.**

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During periods of uncertainty, it is important to have a goals-based plan and stay invested

Have a goals-based plan. A 2018 Dalbar study revealed that individuals investing in equities generated a 26.3% lower average annual return relative to the S&P 500 Index, based on the tendency to exit the market at inopportune moments (often in response to bad news or volatility).[1]

A goals-based plan allows for a more disciplined approach to investing.

Investors who work with their Advisor to develop a goals-based plan, generally exercise a more disciplined approach to investing and rebalancing. By doing so, the realization of goals such as early retirement, funding a dependent's college cost or home purchase, are more likely achieved, even as markets experience episodic turbulence.

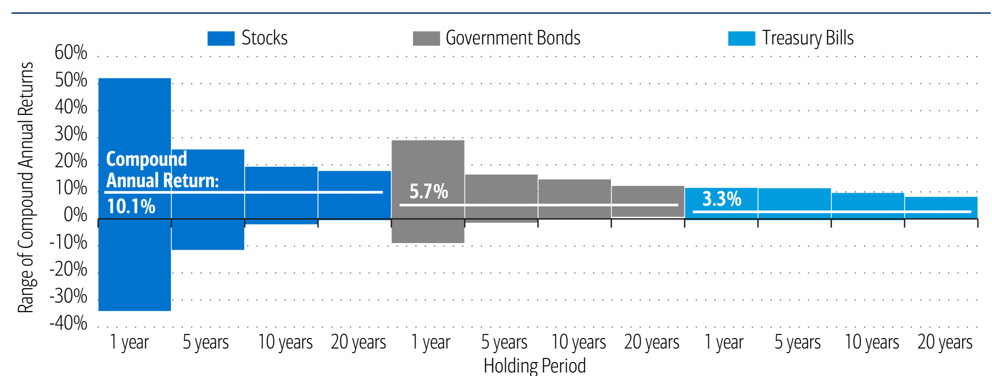
It is time in the market, not timing the market. Indiscriminately pulling back from the market due to market volatility could negatively impact your investment and financial goals. As shown in Exhibit 2a and b, in the 2010s, investors who had missed the 10 best days of returns would have only realized a 95% gain vs. 190% for the full decade.

Exhibit 2a: Missing The Ten Best Days In Any Decade Has Negatively Affected Equity Returns.

Decade	Price Return	Excluding Best 10 Days Per Decade
1930	-42%	-79%
1940	35%	-14%
1950	257%	167%
1960	54%	14%
1970	17%	-20%
1980	227%	108%
1990	316%	186%
2000	-24%	-62%
2010	190%	95%
Since 1930	**14,962%**	**91%**

Source: BofA Global Research. Data as of February 14, 2020.
Past performance is no guarantee of future results.

Exhibit 2b: Range of Compound Annual Returns (1926–2019).



Sources: Chief Investment Office, Morningstar. **Past performance is no guarantee of future results.** Each bar shows the range of historical compound annual returns of each asset class for different holding periods over the 1926-2019 period. The range within the top and bottom of each bar includes 95% of the historical compound annual returns. Stocks, Government Bonds and Treasury Bills are represented by the S&P 500 Total Return Index, the Ibbotson US Long Term Government Total Return Index and the Ibbotson US 30-Days T-Bill Total Return Index respectively. Calculations are based on monthly returns, are gross of fees and does not take into account tax implications. This is for illustrative purposes only and not indicative of any investment. An investment cannot be made directly in an index.

To further emphasize the point, Exhibit 3 shows that while exogenous shocks can have major negative impacts on equities, markets have historically rebounded once uncertainty abates and fundamentals start to improve.

Exhibit 3: Recent Historical Dislocations and Rebounds In The Equity Market.

Market Event	S&P 500 Drawdown	EPS* Contraction	Length of Drawdown (Days)	Length to Recovery (Days)
1987: Black Monday	(21%)	14%	49	321
1998: Russian Default and LTCM Collapse	(19%)	0%	45	84
2000-2002: Dot-com Bubble	(49%)	(10%)	929	1694
2001: September 11th Attacks	(12%)	(0%)	11	20
2008-2009: Global Financial Crisis	(57%)	(32%)	517	1480
2011-2012: Eurozone Debt Crisis	(19%)	5%	157	144
2015-2016: Oil Slick	(14%)	(3%)	266	151
2018: Recession Scare	(20%)	6%	95	120

Note: Drawdowns for the S&P 500 for Black Monday and 9/11 are based on the day before the event. *Earnings Per Share (EPS) Contraction captures the fluctuations in earnings growth from peak to trough, as does the change in 10-year treasury yields. The length of recovery is illustrated as the number of days it takes the broad equity market (S&P 500) to reach or surpass its previous peak from the trough level. The subsequent twelve month return depicts the performance since the equity market troughed. Sources: Chief Investment Office and Bloomberg March 12, 2020. **Past performance is no guarantee of future results.**

[1] Dalbar, Quantitative Analysis of Investor Behavior, 2018. The study uses data from the Investment Company Institute and Standard & Poor's to compare mutual fund investor returns to appropriate benchmarks. Covering the period from January 1, 1988, to December 31, 2017, the study uses monthly mutual fund sales, redemptions and exchanges to measure investor behavior. These behaviors reflect the "average investor." Based on this behavior, the analysis calculates the "investor return" for various periods.

Asset allocation and diversification can help weather periods of uncertainty

The importance of asset allocation and diversification. It has been widely recognized that asset allocation is at the heart of a successful investment strategy.[2] Asset allocation entails diversifying across asset classes to help achieve your financial goals in a manner consistent with your time horizon, risk tolerance and liquidity needs. An effective asset allocation "smoothes the ride" through diversification, which helps reduce the overall impact of a drastic increase or decline in the value of one asset class (Exhibit 4).

Rebalancing is a critical part of our investment process.

Exhibit 4: Performance Fluctuations Across Asset Classes.

2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2010 – 2019	
										Annl. Return	Annl. Volatility
US SCG 29.08%	Govt FI 9.19%	EM Equity 18.23%	US SCG 43.30%	US LCV 13.45%	US LCG 5.67%	US SCV 31.74%	EM Equity 37.28%	Intl FI 3.17%	US LCG 36.39%	US LCG 15.22%	Cash 0.40%
US SCV 24.51%	Corp FI 7.51%	US SCV 18.05%	US SCV 34.52%	US LCG 13.05%	Mtge FI 1.46%	High Yield FI 17.34%	US LCG 30.21%	Cash 1.87%	US SCG 28.48%	US SCG 13.00%	Inflation 1.43%
EM Equity 18.88%	Mtge FI 6.14%	US LCV 17.50%	US LCG 33.48%	Intl FI 9.07%	Intl FI 1.35%	US LCV 17.34%	Intl Eq 24.21%	Inflation 1.68%	US LCV 26.54%	US LCV 11.80%	Mtge FI 2.27%
US LCG 16.71%	High Yield FI 4.50%	Intl Eq 16.41%	US LCV 32.53%	CIO Mod. Alloc. 7.95%	Govt FI 0.84%	US SCG 11.32%	US SCG 22.17%	Mtge FI 1.00%	Intl Eq 22.49%	US SCV 10.56%	Intl FI 2.91%
US LCV 15.51%	Intl FI 4.04%	High Yield FI 15.44%	Intl Eq 21.02%	Corp FI 7.51%	Inflation 0.73%	EM Equity 11.19%	US LCV 13.66%	Govt FI 0.83%	US SCV 22.39%	CIO Mod. Alloc. 8.45%	Govt FI 3.87%
High Yield FI 15.24%	Inflation 2.96%	US LCG 15.27%	CIO Mod. Alloc. 17.05%	Mtge FI 6.07%	CIO Mod. Alloc. 0.18%	CIO Mod. Alloc. 8.05%	CIO Mod. Alloc. 13.30%	US LCG -1.51%	CIO Mod. Alloc. 19.00%	High Yield FI 7.49%	Corp FI 4.13%
CIO Mod. Alloc. 12.33%	US LCG 2.64%	US SCG 14.58%	High Yield FI 7.38%	Govt FI 5.88%	Cash 0.05%	US LCG 7.08%	US SCV 7.84%	Corp FI -2.25%	EM Equity 18.42%	Corp FI 5.60%	High Yield FI 6.12%
Corp FI 9.52%	CIO Mod. Alloc. 2.08%	CIO Mod. Alloc. 11.79%	Inflation 1.51%	US SCG 5.60%	Corp FI -0.63%	Corp FI 5.96%	High Yield FI 7.48%	High Yield FI -2.26%	High Yield FI 14.40%	Intl Eq 5.32%	CIO Mod. Alloc. 7.31%
Intl Eq 8.95%	US LCV 0.39%	Corp FI 10.37%	Intl FI 1.33%	US SCV 4.22%	US SCG -1.38%	Intl FI 5.19%	Corp FI 6.48%	CIO Mod. Alloc. -4.78%	Corp FI 14.23%	Intl FI 4.38%	US LCV 12.93%
Mtge FI 5.67%	Cash 0.10%	Intl FI 6.59%	Cash 0.07%	High Yield FI 2.45%	Intl Eq -3.04%	Intl Eq 2.75%	Intl FI 2.51%	US LCV -8.27%	Intl FI 7.57%	EM Equity 3.68%	US LCG 13.88%
Govt FI 5.61%	US SCG -2.92%	Mtge FI 2.59%	Mtge FI -1.39%	Inflation 0.76%	US LCV -3.83%	Inflation 2.07%	Mtge FI 2.45%	US SCG -9.31%	Govt FI 6.95%	Mtge FI 3.18%	Intl Eq 14.18%
Intl FI 3.28%	US SCV -5.50%	Govt FI 2.19%	Corp FI -1.46%	Cash 0.03%	High Yield FI -4.55%	Mtge FI 1.67%	Govt FI 2.42%	US SCV -12.86%	Mtge FI 6.51%	Govt FI 3.13%	EM Equity 16.33%
Inflation 1.50%	Intl Eq -12.21%	Inflation 1.74%	EM Equity -2.60%	EM Equity -2.19%	US SCV -7.47%	Govt FI 1.15%	Inflation 2.24%	Intl Eq -14.09%	Inflation 2.41%	Inflation 1.76%	US SCV 16.70%
Cash 0.13%	EM Equity -18.42%	Cash 0.11%	Govt FI -3.21%	Intl Eq -4.32%	EM Equity -14.92%	Cash 0.33%	Cash 0.86%	EM Equity -14.58%	Cash 2.28%	Cash 0.58%	US SCG 18.03%

Sources: Morningstar Direct and Chief Investment Office. Income and dividends are included in all returns figures. Excludes alternative investments. CIO Moderate Allocation represents GWIM Investment Strategy Committee Strategic Asset Allocation for Tier 0 (Highest Liquidity) Moderate U.S. Investor. Data as of December 31, 2019. Results shown are based on an index and are illustrative; they assume reinvestment of income and no transaction costs or taxes. Indexes are unmanaged and do not take into account fees or expenses. It is not possible to invest directly in an index. **Past performance is no guarantee of future results. See Index Definitions, Asset Class Proxies and Methodology at the end of this report.**

Don't overlook liquidity. A thoughtful approach for managing liquidity is essential to fund unexpected needs, while limiting the need to sell assets at unfavorable prices and adverse tax implications. During periods of crisis, investors may find themselves in a predicament to liquidate assets for purposes of funding a gap—this may tilt correlations unfavorably higher and assets that are not supposed to move in lockstep. In periods of crisis having enough cash to meet essential living expenses and avoid liquidation of invested assets is critical. We have found that having about 18-36 months of near-term cash flow needs in a highly-liquid short duration fixed income portfolio can help overcome short-term market shocks while helping risk assets to recover.

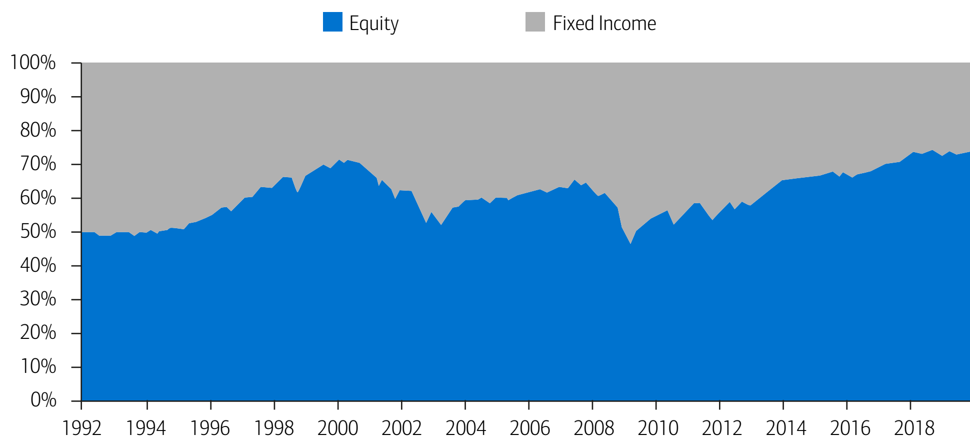
[2] Ibbotson, R. G 2010 "The Importance of Asset Allocation." Financial Analysts Journal 66(2):18-20

Monitor your portfolio and maintain a disciplined plan

Rebalancing can make a difference. Portfolio rebalancing is a critical but often overlooked part of the investment process to facilitate de-risking, as well as re-risking. Rebalancing helps portfolios maintain an appropriate risk tolerance, help lock in profits and facilitate asset purchases at potentially lower relative valuations. At the same time, rebalancing may entail certain costs, such as transaction fees, realizing capital gains and potential performance drag.

Portfolio "drift" can be another reason to consider rebalancing (Exhibit 5). Over time, portfolio weights often diverge or "drift" from their initial targets due to differences in asset class performance, resulting in a materially different risk profile. For some, staying the course may mean, taking no action at all and just simply allowing the portfolio risk-premiums to operate unconstrained through the diversified asset allocation. Sometimes "drift" may work to your advantage and rebalancing or attempting to time a rebalance, may prove challenging and in some cases may lock in prices before they've had an opportunity to fully appreciate.

Exhibit 5: Portfolio "Drift" and Asset Weightings (1992 to 2019).



Source: Chief Investment Office. Data as of 2019. Note: Equities: S&P 500 Total Return Index; Fixed Income: Barclays US Aggregate Total Return Bond Index.

Exhibit 6 shows the volatility and maximum drawdown of two portfolios during the period 1992 to 2019. Each portfolio starts out with an allocation of 50 percent stocks and 50 percent bonds but one is rebalanced annually, and the other is not. The rebalanced portfolio experienced lower volatility and lower maximum drawdown. This is typical during rising markets when rebalancing helps avoid an excessive increase of a portfolio's risk. The opposite happens during declining markets, when rebalancing helps avoid an excessive decrease of a portfolio's risk.

Exhibit 6: Impacts of portfolio rebalancing (1992 to 2019)

	Rebalanced Portfolio	Non-Rebalanced Portfolio
Volatility	7.2%	8.7%
Max Drawdown	25.2%	31.1%

Source: Chief Investment Office. Data as of 2019. Note: Equities and Fixed Income represented by the S&P 500 Total Return Index and Barclays US Aggregate Total Return Bond Index, respectively. Calculations are based on monthly returns, are gross of fees and does not take into account tax implications. "Volatility" is measured as the annualized standard deviation and "Max Drawdown" is the maximum peak-to-trough percentage decline in value experienced during the given period.

Another technique worth exploring is dollar-cost averaging (DCA). DCA is a technique through which a fixed dollar amount is deployed on a regular basis, thus accumulating assets without trying to time a market entry point. Many investors may not even realize that they are often already employing such a technique through regular contributions to their 401(k) or perhaps a 529 plan. The thinking being that purchasing at pre-specified intervals can smooth out the entry price of that particular asset. DCA can help investors avoid investing too much when the market is high and too little when the market is low.

In a declining market, DCA can help to preserve value but in a rising market, the technique may be less effective.[3] While DCA may not produce a higher return over a long-time horizon when compared to lump sum investing, it can help reduce investor stress during periods of market turmoil and fear which may help prevent rash decisions to sell investments at a sub-optimal time.[4]

During periods of heightened volatility, a combination of rebalancing and DCA is worth considering.

Exhibit 7: CIO Implementation Options.

	Key considerations
Periodic rebalancing	• This involves checking on your portfolio at a preset time each year or quarter and making any necessary adjustments. • Keep in mind market volatility doesn't follow a schedule—you might find yourself rebalancing after a calm period during which not much has changed or waiting too long to address a particularly volatile market.
Tolerance band rebalancing	• This involves committing to making adjustments every time an asset rises or falls outside of a limit, or tolerance band, you establish—for example, a change of 5% in either direction. • Requires more diligent monitoring of the portfolio and greater adherence to discipline. • During volatile markets, the tolerance band method can be more expensive than periodic rebalancing because you could be buying and selling more frequently and potentially incurring more in trading costs.
Dollar-cost averaging	• This involves investing a fixed dollar amount on a regular basis, thus accumulating assets without trying to time a market entry point. • In a declining market, DCA can help to preserve value but in a rising market it may be less efficient.
Portfolio "drifts"	• Involves setting the right strategic asset allocation target and rather than rebalancing, allowing the portfolio to naturally "drift". • Process is considered easy to execute and helps remove timing decisions.

It is important to keep in mind that rebalancing should be viewed as a process, not a single point in time exercise or an attempt to pick a market bottom. Also, as investing goals and time horizons change due to life events, you can work with your Advisor to adjust your target asset allocation and dollar-cost averaging practices, as appropriate.

Combination strategies. During periods of heightened volatility, a combination of rebalancing and DCA is worth considering. For example, if a portfolio experiences significant "drift" due to rapidly changing market conditions, employing rebalancing and dollar-cost averaging techniques at a faster cadence and/or amplitude may help with re-risking, as well as navigation through a bottoming process (i.e. a bridge through the valley). As we have indicated, bottoming processes in markets take time and require, in our view, a period of assessment as new information and insight is realized and developed. Some more tactical investors may want to consider utilizing a combination strategy that includes an examination of volatility in the capital markets, the nature of the current business cycle, what the markets may or may not be discounting and the prospects for a potential recovery in the broader economy. A combination strategy, in our

[3] Keep in mind that dollar cost averaging cannot guarantee a profit or protect against a loss. Since such an investment plan involves continual investment in securities regardless of fluctuating price levels, you should consider your willingness to continue purchasing during periods of high or low price levels.

[4] For further discussion on DCA refer too: Smith, G and Artigue H. M, "Another Look at Dollar Cost Averaging." Journal of Investing, Summer 2018.

opinion, should still maintain discipline, diversification characteristics, and components that are consistent with your overall risk profile and objectives.

CONCLUSION

Given the “borderless” walls of finance, the perpetual changes in the investment landscape and the potential for periods of extreme volatility to occur without notice, we believe it is important for investors to be prepared well ahead of the development of a potential “valley”, so as you work through the bridge period to the other side, you can potentially take advantage of the opportunities that unfold over time.

To recap, although geopolitical events and market volatility are beyond our control, there are steps that investors can take to weather periods of turbulence:

- Develop a goals-based plan and stay invested
- Maintain a well-diversified portfolio and adequate liquidity
- Adjust and rebalance your portfolio to align with your target asset allocation and goals

Your Advisor can help guide you through these steps and the “all-season” resources of the Chief Investment Office that can be utilized to keep you on track.

Index Definitions

Securities indexes assume reinvestment of all distributions and interest payments. Indexes are unmanaged and do not take into account fees or expenses. It is not possible to invest directly in an index.

Indexes are all based in dollars.

S&P 500 is a stock market index that measures the stock performance of 500 large companies listed on stock exchanges in the United States.

Chicago Board Options Exchange's CBOE Volatility Index is a popular measure of the stock market's expectation of volatility based on S&P 500 index options.

S&P 500 Total Return measures the performance of a group of components by assuming that all cash distributions are reinvested, in addition to tracking the components' price movements.

Bloomberg Barclays US Aggregate Bond Index is a broad base, market capitalization-weighted bond market index representing intermediate term investment grade bonds traded in the United States.

Bloomberg Barclays US Aggregate Total Return Index is a broad-based flagship benchmark that measures the investment grade, US dollar-denominated, fixed-rate taxable bond market.

Asset Class Proxies

Inflation IA SBBI US Inflation The Consumer Price Index for All Urban Consumers, or CPI-U, is used by IA SBBI to measure inflation, which is the rate of change of consumer goods prices. All inflation measures are constructed by the U.S. Department of Labor, Bureau of Labor Statistics, Washington.

Cash IA SBBI US 30 Day TBill TR USD & BofA U.S. Treasury Bills 3 months For the IA SBBI U.S. Treasury Bill Index, the CRSP U.S. Government Bond File is the source from 1926 to 1976. Each month a one-bill portfolio containing the shortest-term bill having not less than one month to maturity is constructed. (The bill's original term to maturity is not relevant). The ICE BofA Global Research US 3-Month Treasury Bill Index is comprised of a single issue purchased at the beginning of the month and held for a full month. At the end of the month that issue is sold and rolled into a newly selected issue. The issue selected at each month-end rebalancing is the outstanding Treasury Bill that matures closest to, but not beyond, three months from the rebalancing date. To qualify for selection, an issue must have settled on or before the month-end rebalancing date.

US Large Cap Growth Russell 1000 Growth Total Return Russell 1000 Growth Total Return measures the performance of the large-cap growth segment of the U.S. equity universe. It includes those Russell 1000 companies with higher price-to-book ratios and higher forecasted growth values.

US Large Cap Value Russell 1000 Value Total Return Russell 1000 Value Total Return measures the performance of the large-cap value segment of the U.S. equity universe. It includes those Russell 1000 companies with lower price-to-book ratios and lower expected growth values.

US Small Cap Growth Russell 2000 Growth Total Return Russell 2000 Growth Total Return measures the performance of the broad growth segment of the U.S. equity universe. It includes those Russell 2000 companies with higher price-to-book ratios and higher forecasted growth values.

US Small Cap Value Russell 2000 Value Total Return Russell 2000 Value Total Return measures the performance of the large-cap value segment of the U.S. equity universe. It includes those Russell 2000 companies with lower price-to-book ratios and lower expected growth values.

International Equity MSCI Daily TR Net World Ex USA USD The MSCI World ex USA Index captures large and mid cap representation across 22 of 23 Developed Markets (DM) countries – excluding the United States. The index covers approximately 85% of the free float-adjusted market capitalization in each country.

Emerging Markets MSCI Daily TR Net EM USD The MSCI Emerging Markets (EM) Index captures large and mid cap representation across 23 Emerging Markets countries and targets coverage of approximately 85% of the free float adjusted market capitalization in each country.

U.S. Mortgage Backed ICE BofA Mortgage Master The ICE BofA US Mortgage Backed Securities Index tracks the performance of US dollar denominated fixed rate and hybrid residential mortgage pass-through securities publicly issued by US agencies in the US domestic market. 30-year, 20-year, 15-year and interest-only fixed rate mortgage pools are included in the Index provided they have at least one year remaining term to final maturity and a minimum amount outstanding of at least $5 billion per generic coupon and $250 million per production year within each generic coupon.

USD High Yield ICE BofA High Yield Cash Pay The ICE BofA US Cash Pay High Yield Index tracks the performance of US dollar denominated below investment grade corporate debt, currently in a coupon paying period, that is publicly issued in the US domestic market.

International Fixed Income ICE BofA Global Broad Market TR ex USD (Hedged) The ICE BofA Global Broad Market Excluding US Dollar Index tracks the performance of investment grade debt publicly issued in the major domestic and eurobond markets, including sovereign, quasi-government, corporate, securitized and collateralized securities, excluding all securities denominated in US dollars.

Global Governments ICE BofA Global Govt Bond Index + ICE BofA Global Large Cap Quasi-Govt Index (Hedged) (i) The ICE BofA Global Government Index tracks the performance of publicly issued investment grade sovereign debt denominated in the issuer's own domestic currency. (ii) The ICE BofA Global Large Cap Quasi-Government Index tracks the performance of large capitalization investment grade quasi-government debt publicly issued in the major domestic and euro-bond markets, including agency, foreign government, local government, supranational and government guaranteed securities. Qualifying securities must have an investment grade rating (based on an average of Moody’s, S&P and Fitch).

Global Corporates ICE BofA Global Broad Market Corp (Hedged) The ICE BofA Global Corporate Index tracks the performance of investment grade corporate debt publicly issued in the major domestic and euro-bond markets. Qualifying securities must have an investment grade rating (based on an average of Moody’s, S&P and Fitch), at least 18 months to final maturity at the time of issuance, at least one year remaining term to final maturity as of the rebalancing date and a fixed coupon schedule.

Global Mortgages ICE BofA Global Broad Market Collateralized (Hedged) The ICE BofA Global Collateralized Index tracks the performance of investment grade securitized andcollateralized debt, including mortgage backed, asset backed, commercial mortgage backed, covered bond, and US mortgage pass-through securities publicly issued in the major domestic and euro-bond markets. Qualifying securities must have an investment grade rating (based on an average of Moody’s, S&P and Fitch).

Global HY / EM ICE BofA Global HY Country External Corp & Govt + ICE BofA Global High Yield (Unhedged) (i) The ICE BofA Global High Yield Country External Corporate & Government Index tracks the performance of USD and EUR denominated emerging market debt, including sovereign, quasi-government and corporate securities. (ii) The ICE BofA Global High Yield Index tracks the performance of USD, CAD, GBP and EUR denominated below investment grade corporate debt publicly issued in the major domestic or euro-bond markets.

Methodology

CIO Moderate Allocation USSAA The hypothetical historical returns are based on the US-biased Tier 0 Strategic Asset Allocation and proxy indices as of March 2018. The calculations are performed in Morningstar using daily returns and monthly rebalancing. Results shown are based on indexes and are illustrative; they assume reinvestment of income and no transaction costs or taxes. Indexes are unmanaged. Direct investment cannot be made in an index. It is composed as follows:

From 12/19/2017 through current quarter end: 12% Russell 1000 Growth | 19% Russell 1000 Value | 2% Russell 2000 Growth | 2% Russell 2000 Value | 14% MSCI World ex USA NR | 5% MSCI EM NR | 11% BofA US MBS | 13% BofA US Corporate | 14% BofA US Trsy&Agcy | 2% BofA GblBrd Mkt xUS HUSD | 4% BofA US Cash Pay HY | 2% BofA US 3M Trsy Bill. **From 01/10/2017 through 12/18/2017:** 12% Russell 1000 Growth | 19% Russell 1000 Value | 2% Russell 2000 Growth | 2% Russell 2000 Value | 13% MSCI World ex USA NR | 5% MSCI EM NR | 11% BofA US MBS | 14% BofA US Corporate | 14% BofA US Trsy&Agcy | 2% BofA GblBrd Mkt xUS HUSD | 4% BofA US Cash Pay HY | 2% BofA US 3M Trsy Bill. **From 04/14/2009 through 01/09/2017:** 23% Russell 1000 Growth | 23% Russell 1000 Value | 2% Russell 2000 Growth | 2% Russell 2000 Value | 8% MSCI EAFE NR | 2% MSCI EM NR | 9% BofA US MBS | 13% BBgBarc US Govt | 9% BBgBarc US Credit | 2% BofA GblBrd Mkt xUS Loc | 2% BofA US Cash Pay HY | 5% IA SBBI US 30 Day Tbill. **From 04/04/2007 through 04/13/2009:** 23% Russell 1000 Growth | 23% Russell 1000 Value | 2% Russell 2000 Growth | 2% Russell 2000 Value | 10% MSCI EAFE NR | 9% BofA US MBS | 13% BBgBarc US Govt | 9% BBgBarc US Credit | 2% BofA GblBrd Mkt xUS Loc | 2% BofA US Cash Pay HY | 5% IA SBBI US 30 Day Tbill.

CIO Moderate Allocation Global SAA The hypothetical historical returns are based on the Globally-biased Tier 0 Strategic Asset Allocation and proxy indices as of March 2018. The calculations are performed in Morningstar using daily returns and monthly rebalancing. Results shown are based on indexes and are illustrative; they assume reinvestment of income and no transaction costs or taxes. Indexes are unmanaged. Direct investment cannot be made in an index. It is composed as follows: **From 12/19/2017 through current quarter end:** 29% MSCI North America | 8% MSCI Europe Ex UK | 5% MSCI United Kingdom | 2% MSCI Japan | 3% MSCI Pacific Ex Japan | 5% MSCI EM NR | 23% BofA GblGovt TR HUSD + BofA GblLC Qsi-Govt TR | 9% BofA Global Corporate TR HUSD | 10% BofA GblColl TR HUSD | 4% BofA GblHY Conty ExCp&Gv TR + BofA GblHY TR | 2% BofA US 3M Trsy Bill. **From 01/10/2017 through 12/18/2017:** 30% MSCI North America | 7% MSCI Europe Ex UK | 5% MSCI United Kingdom | 2% MSCI Japan | 3% MSCI Pacific Ex Japan | 5% MSCI EM NR | 23% BofA GblGovt TR HUSD + BofA GblLC Qsi-Govt TR | 9% BofA Global Corporate TR HUSD | 10% BofA GblColl TR HUSD | 4% BofA GblHY Conty ExCp&Gv TR + BofA GblHY TR | 2% BofA US 3M Trsy Bill. **From 07/13/2010 through 01/09/2017:** 28% MSCI North America | 11% MSCI Europe Ex UK | 5% MSCI United Kingdom | 5% MSCI Japan | 3% MSCI Pacific Ex Japan | 8% MSCI EM NR | 24% BofA GblGovt TR HUSD + BofA GblLC Qsi-Govt TR | 7% BofA Global LC Corporate TR USD | 6% BofA GblLC Coll TR USD | 1% BofA GblHY Conty ExCp&Gv TR + BofA GblHY TR | 2% BofA US 3M Trsy Bill.

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