Planning Perspectives 1Q 2021

Integrity in Investing
Market Lessons With 20/20 Benefit of Hindsight

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PROFESSIONAL FINANCIAL
Purposeful Wealth Management

"It's tough to make predictions, especially about the future."
– **Yogi Berra**, American baseball's hometown philosopher

This is part of a series exploring integrity in professional wealth planning

Key takeaways:

- It's always different.
- Uncertainty and returns are related.
- Expected returns and realized returns can be very different.
- Most investing questions concern market timing.

History has shown that capital markets have rewarded long-term investing. Clients can see from their recent annual reports, and looking back a decade and longer for many, that they have been well-rewarded from investment management grounded in timeless foundational principles.

Bizarre events of 2020 will not be soon forgotten. From a supposed "black death" pandemic triggering unprecedented government shutdowns and lock downs, causing a recession, business closures and vast unemployment with attendant financial hardship and damage, and then civil unrest and protests in major cities, and replacement of a U.S. president whose re-election had seemed assured. That golden age of economic progress America enjoyed may sink into a vast ocean of debt from unprecedented government spending that threatens dead weight tax burdens.

A successful investing strategy in turbulent times requires both a planning philosophy and a management process well-grounded in modern financial science and decades of outstanding economic research. Prices represent the most complete prediction of the future available to us. Prices are updated in public securities markets in real time, all the time. The investing framework of our partners with Dimensional centers on extracting actionable information from market prices for precise decision-making, positively impacting achievable planning outcomes.

It's Always Different

When traders chasing stocks upward become surprised, confused and then fearful when market prices sharply change course either due to sudden bad news or simply stock manias, the excuse most often heard to justify a decision to sell rather than stay the course is: "It's different this time." In my long experience, it is always different every time. But human ignorance, greed and, of course, FOMO[1] can be counted upon never to be different.

As equity markets collapsed back in February and March as a global pandemic with ominous media prognostications of people dying and government lockdowns occurring, money market fund flows in those two months approached nearly $1 trillion, according to Morningstar data.[2] Those with limited investing experience or capacity learned a costly lesson in market uncertainty. Months of strong upward market momentum for FAANG and tech growth stocks, past performance was no assurance of future outcomes. In our *Global Market Review* for the

Exhibit 1: S&P 500 Index Returns During Great Market Fall

Rankings from inception of S&P simulated data (January 1928)

Monday	March 9	-7.60%	19th Worst Day
Tuesday	March 10	4.94%	87th Best Day
Wednesday	March 11	-4.89%	90th Worst Day
Thursday	March 12	-9.51%	6th Worst Day
Friday	March 13	9.29%	10th Best Day
Monday	March 16	-11.98%	3rd Worst Day
Tuesday	March 17	6.00%	49th Best Day
Tuesday	March 24	9.38%	9th Best Day

March 24 is largest gain of 2020; March 16 is largest loss of 2020.
February loss was -8.23%; March loss was -12.35%.

Sources: *Wikipedia (List of largest daily changes in the S&P 500 Index) and Yahoo!Finance. Comparative performance statements based on daily S&P 500 index returns from January 1, 1928 through December 31, 2020 Indexes are not available for direct investment. Past performance is no assurance of future returns.*

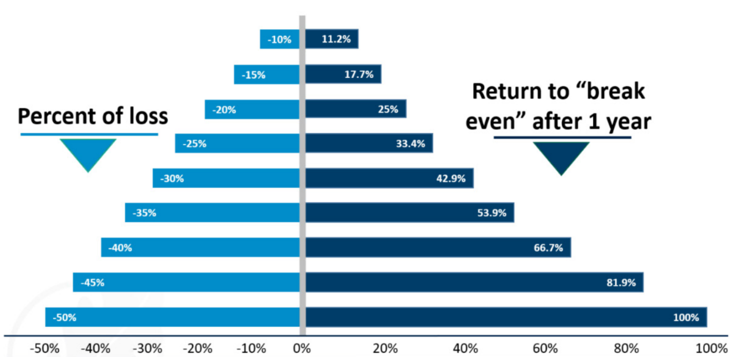
year ending 2020,[3] we show money markets soaring and that money remaining in cash equivalents even after stock market sharply recovered through May. The opportunity cost of missing that record recovery locked in losses suffered early on.

Uncertainty and returns are related

Returns are earned based on the investor's willingness to bear uncertainty of market outcomes. People—particularly those in retirement who principally rely on their portfolios for income—dislike market uncertainty. Anxiety naturally occurs when markets introduce greater uncertainty associated with protracted price declines. Unconsciously inexperienced investors pay zealous attention to declining red lines on their internet screen and mentally project a drop going all the way to zero. Once people retire and cannot resume gainful employment, the more fearful they become and begin imagining either their accustomed lifestyle being jeopardized or dying broke.

Exhibit 2: The Failure of Planning Using "Average" Returns

Gain Required to Recover from Previous Market Decline



Extrapolating past performance into the future is a natural behavioral mistake. This is recency bias, and one of our biggest downfalls in the modern information age. High-speed computing and instantly available information, anytime day or night, taught powerful us lessons last year. That's why a balanced, globally diversified portfolio should be every investor's cornerstone.

Markets function and price securities "efficiently" as they systematically aggregate the opinions of participants who independently make determinations of security values. The wisdom of crowds[4] can be remarkably accurate when large numbers of differing viewpoints are collected. But when many people interconnect and rely on the same information, "groupthink" takes over and the madness of crowds begins. The itch to quick riches can lead to imitation, not education.

Individual investors have always had advantages over professionals: They can't get fired for underperformance, don't have to incur commissions and other fees, and don't have clients who give them money (and take it away) at the worst time. They can invest for the long run and ignore the short term. We select and train clients to behave with a professional-style approach.

Does crowd trading reduce uncertainty or just increase overconfidence?

While optimism was strong early in 2020, bad news by the end of March had business restricted or closed and tens of millions either unemployed or working alone at home. With too much free time, people (those not out protesting or rioting) browsed the internet and socialized on chat room with thousands or millions of others similarly situated. They collectively notice that while their jobs were not returning fast enough as they depended on government doles, stocks markets were rising up and making some people wealthy. People with no investing experience are not well-served by opening brokerage accounts to speculate in stocks and options along with others who know little more than they do. But by sharing on chat boards, newbies discovered trading against the big guys as a way to make money, shared their new-found knowledge, and millions are jumping in.

U.S. FAANG and select tech stocks today are reaching mania levels—not only driven not by hedge fund managers, but by millions of newbies trading stocks, ETFs and even options as a way to socialize.[5] "Friends" get together on Zoom to "live trade" stocks. Trading websites' leaderboards show names and gains of those making the most money. Brokerage apps display lists of favorite stocks. Suddenly amateurs are no longer afraid to trade from home. They may be clueless about risk, but they have something to talk about other than politics and pandemic.

Now, individual *traders* are asserting their unique advantages in a wired world. They can communicate instantaneously, banded together by the thousands and trade for free. Professionals, including short-selling hedge funds, are legally restricted from colluding and incur much higher brokerage costs than do individuals. But a financial flash mob of individuals trading in sync can drive a stock way up or way down even if each trader commits only a few dollars. That in turn, drives up the winner's favorite assets like Telsa or Apple or small stocks like AMC or GameStop, attracting still more attention and driving prices further up in a self-fulfilling prophesy.[6] If a stock is thinly-enough traded, the little guys can overwhelm normally powerful big institutional funds.[7] Stock manias are wonderful to be part of until they become panics.

Eventually, when markets cease rising when the hype on social media is not realized, a doom spiral of panic and losses follow. Newbies are clueless about the difference between investing and speculation or simply between skill and luck. There is no free lunch; someone will eat theirs.

I still remember a Friday afternoon when the U.S. market rose almost a record 9% a *half hour before* close after a surprise Presidential announcement at 3:30 after I had placed buy orders earlier that day. Trading lines immediately were so busy, I could not get cancel orders though. Prices collapsed the following Monday. Trading in a roaring bull market is dangerous when so many stocks change in price so fast due to automated trading algorithms—how do you admit you don't know what you are doing when you've made so much money doing it? And the less newcomers really know, the more likely they are to follow the biggest and loudest braggarts.

An extended period of strong price appreciation that puts a firm's stock into the top ten likely has captured most of that firm's future return expectations. Continued buying of stocks like Tesla and Apple as they keep rising to drive them higher where earnings valuations are astronomical is not smart. Back in the 2000 Tech Bust, Amazon dropped 95% from its high. While it survived, it took years to come back. How many trader/speculators would hold on when 95% of all those tech highflyers back then went broke? Buying on margin, few had the capacity to stick it out.

Many studies highlight the challenges and cost for investors looking for market "mistakes" that create buying "opportunities." Academics have long documented that there's no compelling evidence to suggest that trying to find mistakes in stock prices has systematically yielded better outcomes on average other than by chance. This supports our belief that market prices are the best model we have for estimating expected returns and building strategies to survive a crisis.

Exhibit 3: FinaMetrica Risk Profile Model Returns

Comparing Return Outcomes at Annual Intervals

All Equity IPS 100	2020	2019	2018	2017	2016	*Average*
1-Year Total Return	12.0	27.8	-7.2	20.9	8.1	
10-Year Annualized Return	10.8	11.0	11.1	6.6	5.1	
20-Year Annualized Return	6.9	5.9	5.6	7.0	7.1	6.5
Balanced IPS 50						
1-Year Total Return	9.8	17.3	-2.5	11.4	5.8	
10-Year Annualized Return	7.4	7.4	7.4	5.5	4.9	
20-Year Annualized Return	6.0	5.6	5.3	6.2	6.4	5.9

All Equity IPS 100: *Index model is 60% S&P US 500 market Index, 30% MSC/ EAFE (net dividends), 10% Dow Jones US Select REIT Index, 0% Barclays US Aggregate Bond Index, 0% ICE §Qt!, Merrill Lynch 1-Yr US Treasury Bill Index, rebalanced annually.* ***Balanced IPS 50:*** *Index model is 30% S&P US 500 market Index, 15% MSC/ EAFE net dividends, 5% Dow Jones US Select REIT Index, 40% Barclays US Aggregate Bond Index, 10% ICE §Qt!, Merrill Lynch 1-Yr US Treasury Bill Index, rebalanced annually.*

Indexes are not available for direct investment; therefore, their performance does not reflect management fees, trading expenses, taxes and market impact costs associated with an actual portfolio. Hypothetical models are developed through retroactive application of a model a/location strategy from FinaMetrica Pty Ltd. which may have been developed with the benefit of hindsight. Diversification does not ensure investors a profit or protect against loss. Past performance is no assurance of future results.

Expected returns and realized returns can be very different.

Every day when we wake up, we expect positive returns for stocks. Markets are forward-looking. Prices adjust so that expectations are always positive. Models for investment strategies derived from financial science form our expectations. Yet "expected" returns and "realized" returns may differ widely in the short-term. And while returns can differ either way in the short run, outcomes of similar portfolio allocations begin to converge over the longer-term.

Investment returns have two parts: the expected return and the unexpected return. The expected return is the best guess of what will happen based on all information presently available to market participants. The unexpected return is the surprise element, the difference between what happens and what was expected. *Investors should base their portfolio planning on expected future returns, not past realized returns.* The two can differ by a lot. Newbies sitting at home often imagine how much higher their returns could be if months or years of price declines were avoided and they only invested in times of upward momentum. So do the professionals, but much research shows they can't do it except to an extent explained by luck.

Exhibit 3 is taken from index allocation models we use to explain risk-return tradeoffs of investment policies. These are updated yearly. 1-year returns vary widely year-by-year, but allowing for the Tech Bust period declines, 20-year returns are remarkably similar. While an equity premium of 6 percent plus a risk-free rate of 2 percent is assumed to be an "expected return" used by many financial advisors for planning, an 8 percent annual return for the 100 percent equity allocation model does not appear for the twenty-year periods that we see.[8]

Don't FAANG Stocks Prove a "New Normal" Exists?

Some argue that today's markets are a "New Normal," and that old valuation theories no longer apply. They point to the FAANG stocks–Facebook, Amazon, Apple, Netflix, and Google's parent company, Alphabet as proof. Over 10 years from September 2010 to August 2020, a portfolio of these five stocks held in proportion to their market caps would have delivered an average annual return of 34.25% per year. That means on average, the portfolio would have doubled about every 2.5 years. No wonder social and institutional investors are making big bets as these stocks continue their record rise. Option trading on them is at a breakneck pace.[9]

Given their great performance over the last decade, what is our best guess for FAANG stock performance over the next decade? Should we expect an average annual return of 35% again? **Absolutely not.** Who wouldn't buy these stocks if their expected returns were 35%? But buyers need sellers. The demand driven by such high expected returns would simply push prices up to higher prices and so drive expected returns down to level comparable to similar stocks. For the same reason, we can be confident that if we could go back to August 2010, few investors could be found predicting the FAANG stocks would do as well as they did from 2010 to 2020.

So what explains the FAANG stocks' high realized returns? Their unexpected returns. Things turned out much better for them than investors expected. The companies' cash flows over the last 10 years were much higher than investors expected 10 years ago, and their prospects looking forward are almost certainly better than investors expected they would be 10 years ago.

Stock returns are made up of two parts: the expected part—your best guess of what's will happen looking forward; and then there's the unexpected part, the deviation from your best guess of the expected return. If we look at only a relatively short period—what non-financial economists would think of as a long period—people are fooling themselves about what they can infer from what are random stock returns. FAANG stocks are a prime example.

All this unexpected, good news produced high unexpected stock returns over the last decade. It would be a mistake, however, to expect those high unexpected returns to persist. After all, it doesn't make sense to bet on good luck. *The expected value of the unexpected returns over the market premium must be zero.*

In short, the past decade of extraordinary, historic realized returns that made a few people very rich begetting madness among the social trading crowd tells us little about FAANG stocks' future expected returns. For most investment planning horizons—a month, a year, five years, even ten years—realized returns of stocks are impacted much more by unexpected return than expected return. But big winners cannot be predicted reliably and are known only by hindsight.

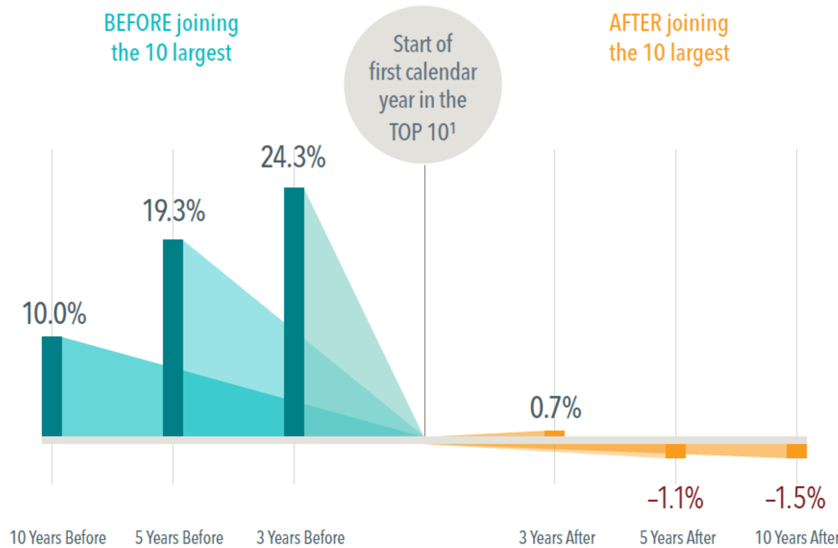
Recent Out-Performance Does Not Persist

Imagine systematically investing in what would have been each one of the 10 largest stocks at the beginning of every year and holding on until the year it drops out of the top 10, and then replaced. That strategy would have included all of the FAANG stocks for a number of years. Should we sensibly expect to earn an out-sized excess return from this technique? No. As companies grow to become among the largest firms trading on the US stock market, the returns that push them there surely can be impressive. But not long after joining the Top 10 (largest by market capitalization), these stocks begin to lag a broad market index on average.

- From 1927 to 2019, the average annualized return for the ten top stocks over the three years period prior to joining the Top 10 was nearly 25% higher than the market. Yet in the three years after joining the Top 10, the edge was less than 1%.

Exhibit 4: Outperformance Does Not Persist Forever

Annualized Excess Market Return for Stocks Once Placed in the Top 10



Source: *Dimensional, using data from CRSP. Includes all US common stocks excluding REITs. Largest stocks identified at the end of each calendar year by sorting eligible US stocks on market capitalization. Market is represented by the Fama/French Total US Market Research Index. Annualized Excess Return is the difference in annualized compound returns between the stock and the market over the 3-, 5-, and 10-year periods, before and after each stocks' initial year-end classification in the top 10. 3-, 5-, and 10-annualized returns are computed for companies with return data available for the entire 3-, 5-, and 10-year periods respectively. The number of firms included in measuring excess returns prior (subsequent) to becoming a top 10 stock consists of 38 (53) for 3-year, 37 (52) for 5-year, and 29 (47) for 10-year. Returns are measured as of the start of the first calendar year after stocks join the top 10. Market defined as Fama/French US Total Market Research Index. Average annualized outperformance of companies before and after the first year they became one of the 10 largest in the US by market capitalization.*

Past performance is not a guarantee of future results. Indices are not available for direct investment.

- Five years after joining the Top 10, these stocks underperformed market returns, on average—a stark turnaround. The underperformance gap 10 years out was even wider.

Intel, another tech stock and a major player in the past, is an illustrative example. The technology giant posted average annualized excess returns of 29% in the 10 years before the year it ascended to the Top 10. In the next decade, however, it underperformed the broad market by nearly 6% per year. Similarly, the annualized excess return of Google five years before it hit the Top 10 dropped by about half in the five years after it joined the Top 10 list.

Most investing questions concern market timing.

Investors' attention is drawn to unexpected returns, whether extremely good or extremely poor. FAANG stocks have seen their share values increase in ways that are challenging to put in perspective. Market prices show that certain companies have benefited from the way society has changed over the past twenty years. Nobel laureate Professor Eugene Fama explained:

> These firms are entirely different from one another. They are the end result of a process that started back before 2000, where companies involved in various aspects of tech, of which there were hundreds or thousands—all competing to boil to the top. And these five or so boiled to the top. Attention concentrates on them and we forget about the fact that most of this industry died along the way. If you were trying to pick out who were going to be the winners back then, you probably would have an empty sack. What we have now are the ex-post winners. But going ahead, we do not expect them to have 20% returns, never mind 34% expected returns that are out the ballpark.[10]

Expectations about a firm's prospects are already reflected in its current stock price. Positive news might lead to additional price appreciation, but unexpected changes are not predictable. Perhaps part of the FAANG stock's outsized returns is driven simply due to their institutional popularity, in the same way certain tech stocks recently have been driven up due to their social popularity in chat rooms traded by isolated people spending too much time with computers.

Stocks with big returns are always alluring to investors. This is the seductive nature of fat tail distributions. The term "fat tails" describes statistical outliers in stock return distributions. Research has shown that there are many more extremely good and extremely bad returns than you would guess. Returns are not "normally" distributed like in an ideal bell curve. Fama wrote about fat tails in his dissertation 50 years ago. 'It's not surprising that we see them, he says. "They've been around with relative high frequency for as long as there have been data."

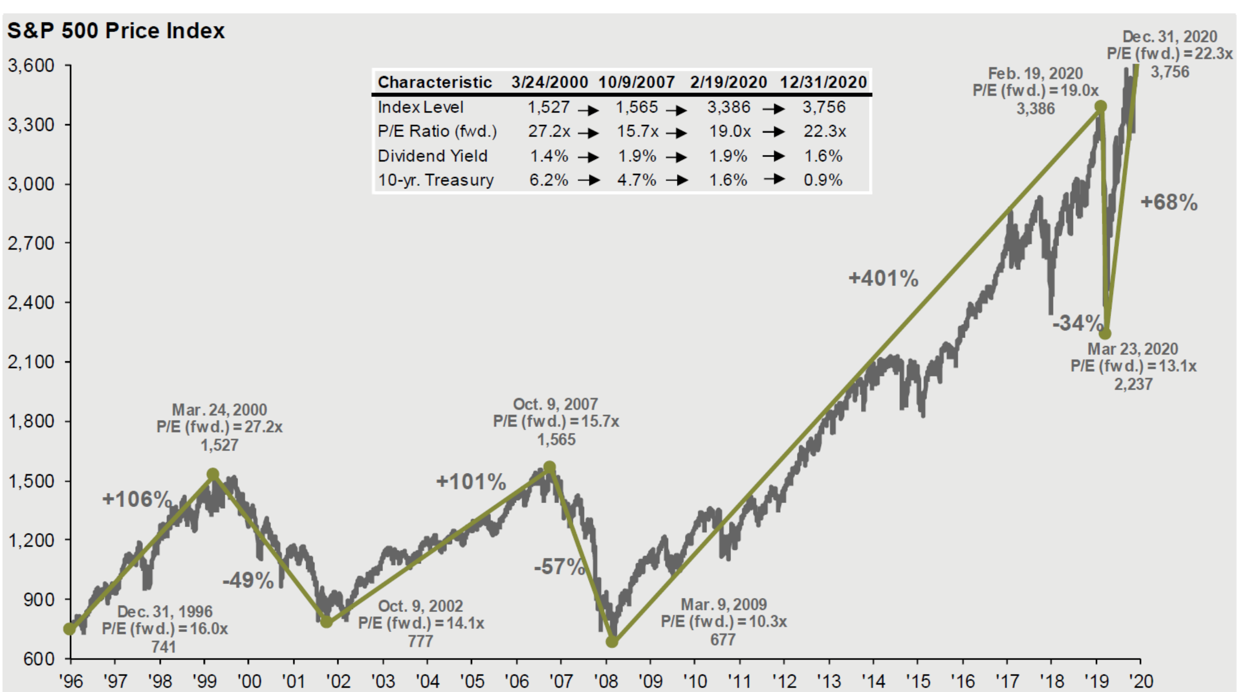
FAANG stocks may make up part of a well-diversified portfolio, but a well-diversified portfolio is much more than those five stocks. Owning only those stocks is likely to cause you to miss owning some of the biggest winners of the next ten years. While the financial media and social chat rooms focuses on U.S. companies and what affects them, indexes like the S&P 500 of large U.S. stocks are not good barometers of the world of opportunity of stock markets globally.

We believe that a diversified global market portfolio is a reliable strategy for retirement planning. We categorize differences in company size, relative price, or profitability as long-term drivers—or dimensions—because these expected returns have persisted over many years. For example, a small company trading at a relatively low price with high profitability has a higher expected return than a large company trading at a higher price with low profitability—even though realized returns may differ for years.

And while a dimensional approach seeks to outperform a market index portfolio, there can be periods of time when a particular driver does not deliver due to noise. The way we structure client strategies mitigates that risk. Our goal is to plan benefit when dimensions are realized and obtain market-like portfolio outcomes when they fall flat. Markets returns may disappoint at times, but we do not want clients surprised by outcomes.

What is the likely expected return for a U.S. large stock portfolio, like the Vanguard S&P 500 Index, as we look beyond the large growth segment of the market? **Exhibits 5** and 6 offer some insight from the data. Currently, the forward price/earnings ratio of the large U.S. stock market is very high, although not as high as the in 2000 prior to the Tech Bust resulting in the notorious "Lost Decade" for U.S stocks where the average return was close to zero. However, as the case in 1999, large growth stock valuations like those of FAANG stocks once again are stratospheric. Additionally, 10-year U.S. Treasury yields have declined from 6.2% to 0.9% or less than the current rate of inflation. Those rates are unlikely to decline lower for long. Conversely, generally rising interest rate would negatively impact S&P 500 expected returns.

Exhibit 5: US Large Stock Index and Expectations at Key Inflection Points



__Source:__ Compustat, FactSet, Federal Reserve, Standard & Poor's, J.P. Morgan Asset Management. Guide to the Markets – U.S. Data are as of December 31, 2020. Dividend yield is calculated as consensus estimates of dividends for the next 12 months, divided by most recent price, as provided by Compustat. Forward price-to-earnings ratio is a bottom-up calculation based on the most recent S&P 500 Index price, divided by consensus estimates for earnings in the next 12 months (NTM), and is provided by FactSet Market Aggregates. Returns are cumulative and based on S&P 500 Index price movement only, and do not include the reinvestment of dividends. Past performance is not indicative of future returns.

Exhibit 6 associates historical price/earnings ratios with subsequent returns since 1995. While the statistical correlations are low for subsequent 1-year returns, the 5-year annualized returns imply future expected returns to be close to zero. The even lower future expected return for the next 5 to 10 years is not shown. This valuation analysis reinforces the necessity of a globally allocated investment portfolio based on multiple dimensions having different and lower valuations relative to U.S large cap stocks—as well as substantial fixed income allocation to mitigate the negative impact of a prolonged broad market decline. Prospects for inflation as is also factored into stock prices. What returns we might realize this year are cannot be predicted.

Key lessons to remember

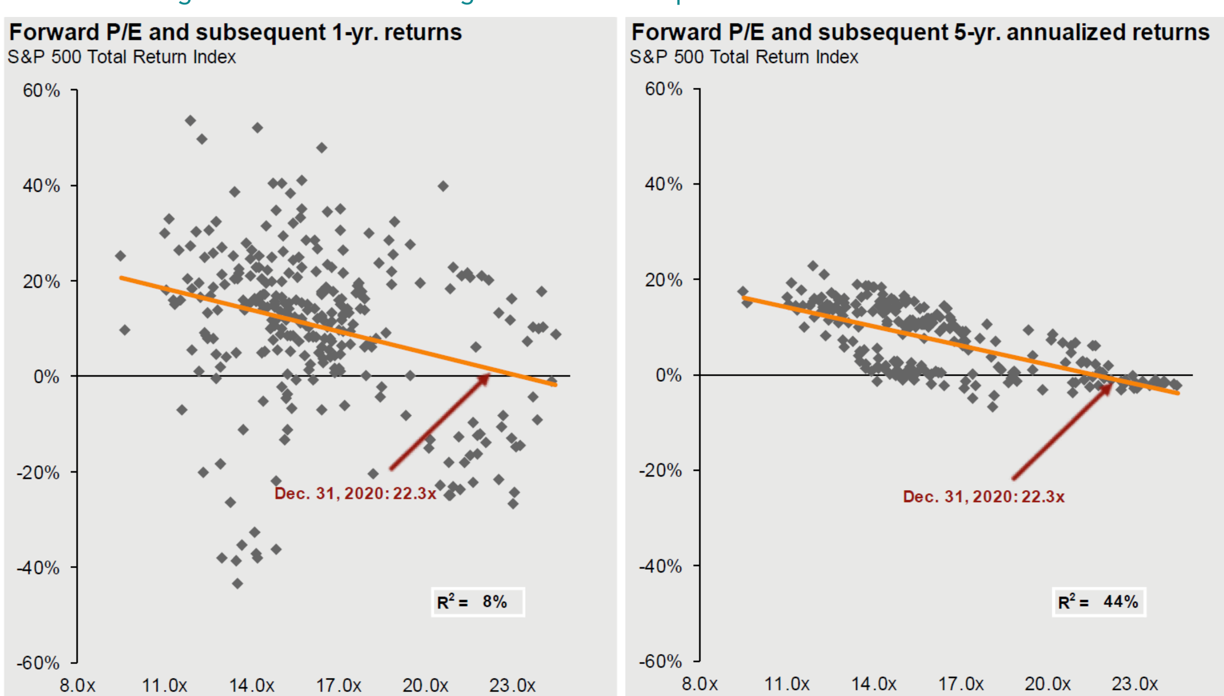
Key #1 is having an investment philosophy that you can stick with. A philosophy well-grounded in financial science serves as a compass to guide you through turbulent times. With a compass, drastic changes are rarely necessary to find your way except in a storm. Regular small adjustments keep you on course. Having mapped a plan for your goals in advance of an crisis will better enable you to remain calm and disciplined when others are losing their way.

Key #2 is having an investment strategy aligned with your risk tolerance and capacity. Risk appetites tend to change with market environments and popular opinion. You want a strategy clearly mapped in advance that ideally will achieve your needs and goals not only when a crisis occurs, but even when difficult times persist for much longer than you ever expected.

Key #3 is knowing the essentials of your portfolio structure. Not the technical details, but investment vehicles employed should be transparency constructed so that you (or an advisor you trust) understands them and can explain them in a way you understand. Avoid "black box" solutions. You also want robust risk controls that offer automatic downside protection for rebalancing to keep you on track throughout a dramatic series of events should they occur.

Key #4 is having investment vehicles with a flexible process. This is crucial. Trading processes were adversely affected last year with unprecedented high demand as market volatility multiplied and challenged existing systems. Dimensional has a trading process designed to work robustly in periods of very high demand and volatility, allow fast changes in liquidity, that adapt to sharp market movements adding value and delivering outperformance.

Exhibit 6: US Large Stock Index Price/Earnings Ratios and Subsequent Returns



Source: *FactSet, Standard & Poor's, Thomson Reuters, J.P. Morgan Asset Management. Guide to the Markets – U.S. Data are as of December 31, 2020. Returns are 12-month and 60-month annualized total returns, measured monthly, beginning November 30, 1995. R^2 represents the percent of total variation in total returns that can be explained by forward P/E ratios.*

Key #5 is stay the course when you know your strategy is scientific and sound. The 2020 market downturn is a prime example of how the cycle of fear and greed drives reactive decisions with huge opportunity costs for investors who panic and abandon their plan in a crisis. Despite abhorrent events, don't lose sight of the long-term expected benefits of simply staying invested and maintaining a disciplined management process through market highs and lows.

Logic + Evidence + Diversification + Long-Term Approach

Markets and economic research are constantly evolving, but the logical financial principles underpinning professional investment strategies are evergreen. Enormous evidence supports our philosophy that market prices contain the latest information and forward-looking expectations of market participants. Prices are set such that expected premiums are always positive. A broadly diversified and globally allocated approach remains a reliable way to confidently achieve lifetime retirement goals and have peace of mind in the long-term outcome.

Sir John Templeton, an investment legend long before Dimensional Fund Advisors was formed, was known for his generosity and philanthropy. He joked about "helping people" at difficult market times: *When people are desperately trying to sell, help them and buy. When people are enthusiastically trying to buy, help them and sell.* For uninformed investors with short horizons and limited capacity for risk, these are the worst of times. Markets we experienced this past year are the best of times for those with long view and informed strategies. The worse markets get, the better your expected returns are so stick with your strategy and manage equity and fixed income allocations through rebalancing back to targets just as you had planned when markets were good.

Your positive equity and fixed income outcome for 2020 should not really surprise you. With an informed investment approach and a commitment to staying the course with a trusted advisor, our goal is to help you focus on living out the lifestyle you always planned, and still have confidence and peace of mind during these changing times even as an uncertain future reveals a new world.

Endnotes

1 Fear Of Missing Out. To have an experience different from all their buddies and Facebook "friends."

2 See Market Review commentary from our recent *2020 Annual Markets Review, page 5.*

3 Paul Byron Hill, *2020 Annual Market Review (Professional Financial Strategies, January 2021), page 5.*

4 See James Surowiecki, *The Wisdom of Crowds (Doubleday, 2004) for a classic discussion.*

5 Jason Zweig, "Even Warren Buffett Needs 'The Abominable No-Man'", The Intelligent Investor, *Wall Street Journal (January 23-24, 2021), B5.*

6 "Individual Investors Rout Hedge Funds," *Wall Street Journal (January 28, 2021), A1.*

7 Jason Zweig, "Bulls, Bears and Starlings", The Intelligent Investor, *Wall Street Journal (January 27, 2021).*

8 I recall a highly controversial paper written by Eugene Fama and Kenneth French back around 2000 that suggested, based on the old Gordon Dividend Discount model, that the forward-looking equity premium was 4 percent. Given the actual inflation rate for the period (about 2.5%) unknowable at the time, they appear to have been right. Getting a higher result would have to be due to capturing other dimensional premiums in a strategy.

9 WSJ Wealth Adviser Briefing; Small Investor Surge, *Wall Street Journal (Tuesday, January 26, 2021)*

10 "The Seductive Nature of Fat-Tailed Distributions," Dimensional video with David Booth, posted December 15, 2020. Facebook, Amazon, Apple, Netflix, and Google (a subsidiary of Alphabet) are referred to as FAANG stocks.