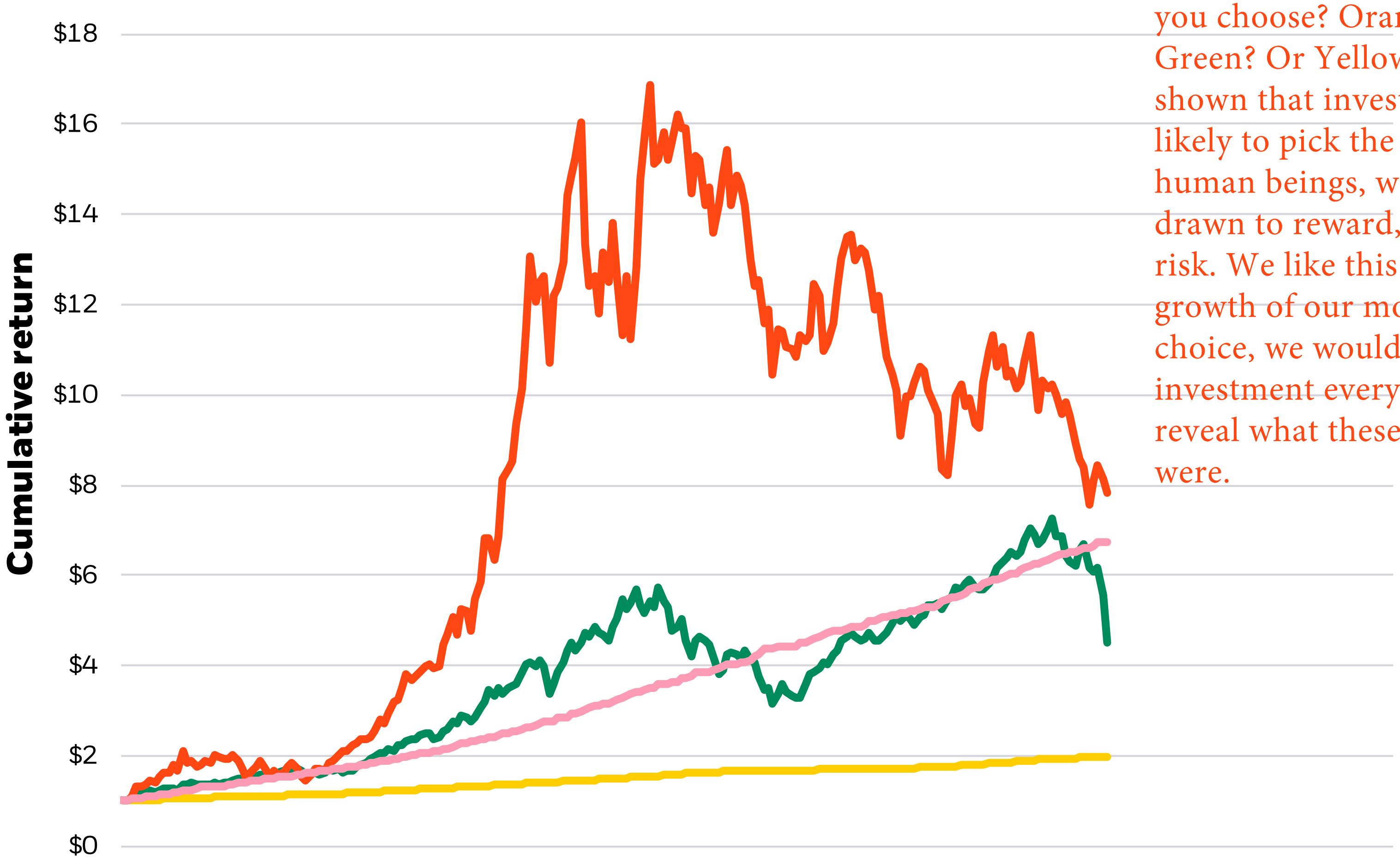
BlackRock®

The psychology of investing

Why we can be our own worst enemy

Hi everyone, thanks for your time today. I'm going to take some time and talk about how important it can be to understand what drives our actions when it comes to investing. The way you behave as an investor can often have a bigger impact on your wealth than your investments themselves. We are going to walk through some of the common mistakes that investors make, and how to prevent them.

Which would you pick?



Let's start with a poll. If you had to put your money in one investment today, which would you choose? Orange? Pink? Green? Or Yellow? Studies have shown that investors are most likely to pick the pink graph. As human beings, we are wired to be drawn to reward, and fearful of risk. We like this steady and sure growth of our money. If we had a choice, we would choose this investment every time. Now. Let's reveal what these investments were.

Lo, Andrew, 2017, *Adaptive Markets: Financial Evolution at the Speed of Thought* (Figure 10.3). Princeton University Press. For illustrative purposes only. Not meant to represent a specific recommendation for any security listed. Past performance is no guarantee of future results.

Which would you pick?

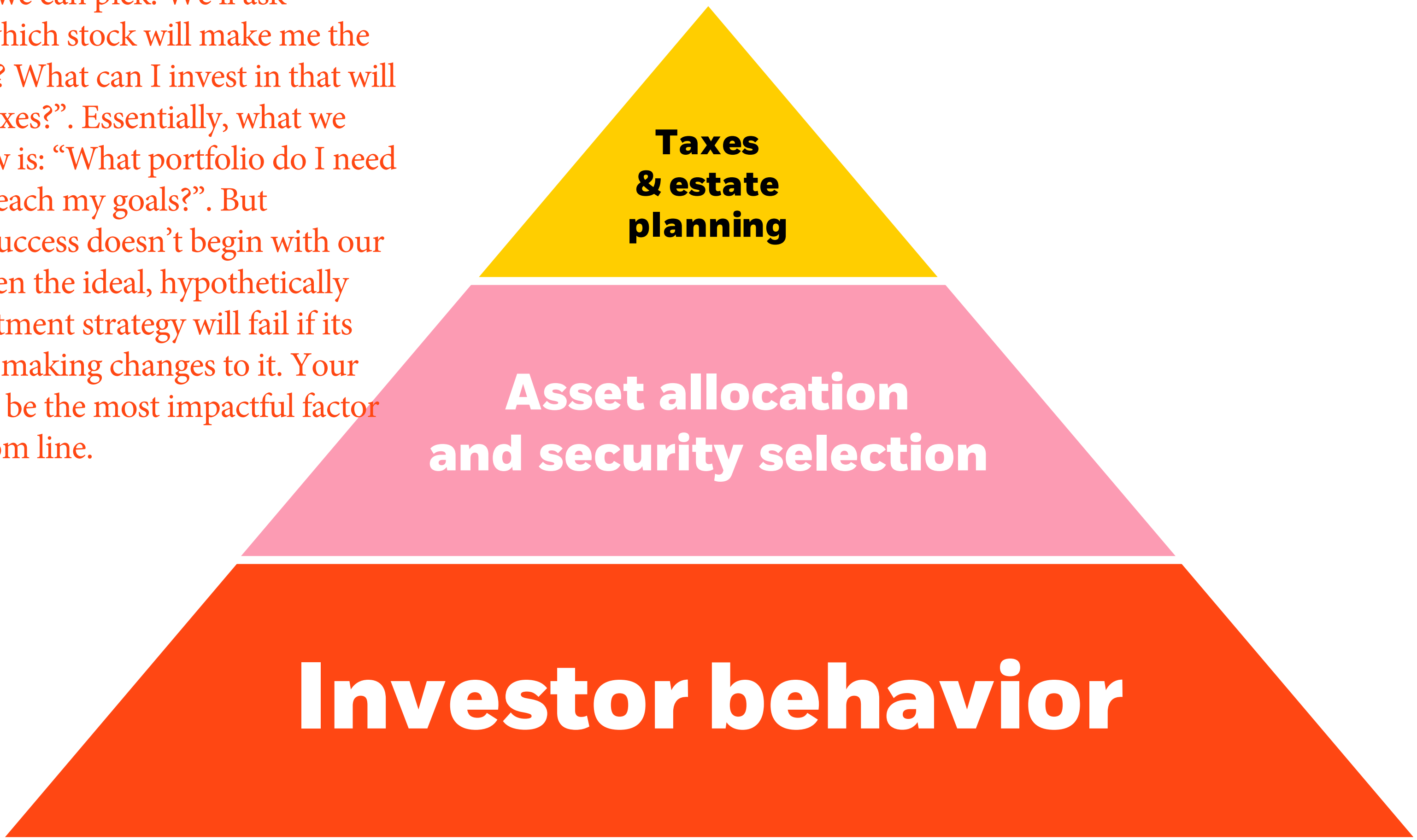
Orange represents Pfizer stock, green is the S&P 500 index, yellow represents U.S. Treasury bills, and pink represents Fairfield Sentry. Has anyone here heard of Fairfield Sentry?
How about Bernie Madoff?
Fairfield Sentry was the feeder fund to Bernie Madoff's "investment firm". The one investment that went up with seemingly no risk turned out to be one of the biggest frauds in US history.

History has shown that there are no magic bullets. Investing involves risk. And as human beings, it can be tough to manage our emotions when markets go up or go down. We want to recognize your emotions, explain why those emotions can affect your money, and how to put you in the best position to meet your financial goals.

Lo, Andrew, 2017, *Adaptive Markets: Financial Evolution at the Speed of Thought* (Figure 10.3). Princeton University Press. For illustrative purposes only. Not meant to represent a specific recommendation for any security listed. Past performance is no guarantee of future results.

Keys to investment success

When it comes to investing, most of us immediately think of the different investments we can pick. We'll ask ourselves: "which stock will make me the most money? What can I invest in that will reduce my taxes?". Essentially, what we want to know is: "What portfolio do I need to create to reach my goals?". But investment success doesn't begin with our portfolio. Even the ideal, hypothetically perfect investment strategy will fail if its owner keeps making changes to it. Your behavior can be the most impactful factor to your bottom line.



1720, Sir Isaac Newton lost a fortune in the South Sea Company, the hottest stock in England.

Investing isn't about being smart. Here's a story that illustrates what I mean.

Isaac Newton is considered one of the most important scientists in history. Even Albert Einstein said that Isaac Newton was the smartest person that ever lived.

Newton developed the theory of gravity, the laws of motion (basis for physics), new math - calculus, and made breakthroughs in developing the modern telescope.

In 1720, far before Bernie Madoff, and far before bitcoin, Sir Isaac Newton lost £20,000 (or more than $3 million in today's money) by investing in the South Sea Company.

There's more to the story. He had actually earned £7,000 (close to $1 million) from the same stock a few months earlier. But he bought back in after the stock skyrocketed thinking he was missing out, eventually leading to his tremendous losses.

Newton concluded…

[That he] 'can calculate the motions of the heavenly bodies, but not the madness of people.'

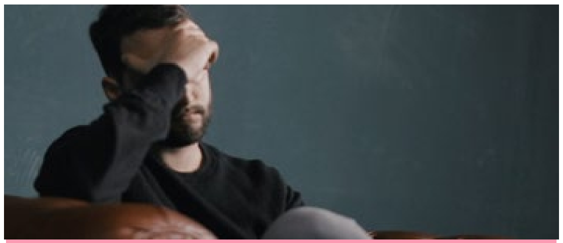
Big Take away….“**We don’t have to be smarter than the rest. We have to be more disciplined than the rest.”**

–Warren Buffett

So let's talk about the psychology of investing, and how to build that discipline.
By understanding the psychological factors of behavioral finance, we can better understand why investors often make buy/sell decisions that contradict investment best practices and rational investing. More importantly, by understanding common investor behaviors that lead us astray, we can learn how to recognize and avoid these tendencies.

1

Envy



2

Loss

3

Building discipline

Envy (fear of missing out or regret of what might have been) and Loss (losing money, losses feel twice as bad as gains feel good) are common investing challenges that prevent average investors from becoming ideal investors. Our goal is to make you aware of common behavioral biases and show you how to implement disciplined strategies for you to use with for a smoother, more disciplined approach to investing. First we'll start with Envy.

Envy

Regret

Lottery ticket effect

Miscalculating the risks

Envy is that emotion that gets us thinking "what if?". Also known as FOMO- the fear of missing out. The fact that most people regret what could have been can be very damaging if that starts to take over their emotions, affecting their thoughts about their investment plan.

Bronze medal winners are happier than silver medal winners

Happiness levels of each winner

(1 to 10 happiest)

Rational people would regret only bad final outcomes, but most people regret what could have been.

For example, a study looked at Olympic medal winners and found that bronze medal winners were happier than silver medal winners. Why?

A silver medalist likely thinks about how close he was to reaching gold. A bronze medalist, though, might imagine how close she was to not receiving any medal at all.

Depending on the alternative, a person feels either relief or regret. While relief is a positive emotion, regret can be a painful and bitter experience.

While you might not stand on a podium anytime soon, the reactions of the medal winners gives insight into a universal truth: happiness is relative.

In an ideal world, we need to imagine the regret we would feel if we had an emergency but didn't have the savings to cover it. But that can be hard to do.

Source: Journal of Personality and Social Psychology November 1995.

S&P Envy: A diversified portfolio is ripe for regret

40% U.S. stocks, 15% international stocks, 5% small cap stocks
30% U.S. bonds, 10% high yield bonds

Years	S&P 500	Diversified portfolio
2000*-2002	-40.1%	-18.6%
2003-2007	82.9%	73.8%
2008	-37.0%	-24.0%
2009-2019	351.0%	191.7%
Total Return	**211.4%**	**213.5%**
Gr $100k	***$311,420***	***$313,510***

"I lost money"

"I didn't make as much"

"I lost money"

"I didn't make as much"

"Diversification wins even when it feels like its losing"

Source: Morningstar as of 12/31/19. *Performance is from 8/1/00 to 12/31/00 to more accurately reflect the time period encompassing the previous two bull and bear markets. Past performance does not guarantee or indicate future results. Diversified Portfolio is represented by 40% S&P 500 Index, 15% MSCI EAFE Index, 5% Russell 2000 Index, 30% Bloomberg Barclays U.S. Aggregate Bond Index, and 10% Bloomberg Barclays US Corporate High Yield Index. Index performance is for illustrative purposes only. You can not invest directly in the index. **Past performance does not guarantee or indicate future results.** Diversification does not guarantee a profit or protect against a loss in a declining market.

We see a lot of regret in today's market (10 years of a bull market) with investors when they look at their portfolio vs. a US stock index. We call this S&P Envy.

And its easy to see how this S&P Envy comes about- and its more than just the last 10 years. It's the inability for investors to connect the dots of investment returns over various market cycles.

In a bear market, a diversified portfolio still loses money- that never feels good. Then in the bull market rebound you trail the index.

For example, in 2008 you lost more than 20%, one of the worst years ever for a diversified portfolio. And then in the 9 years from '09 to'19, the diversified portfolio trailed US Stocks by 160%.

You can see where this S&P Envy comes from – the diversified portfolio never feels like its winning. Lose money, trail the market, lose money, trail the market.

A diversified portfolio is difficult to own – it never feels like you are winning, often leading to a feeling of regret. We start to wonder to ourselves, "Why am I losing money? I thought my portfolio was diversified?" or "Why does my portfolio always under perform? I am leaving too much money on the table."

But the punchline is if you add up all of these periods, the diversified portfolio actually wins. It wins even though it never feels like you are winning.

This kind of regret and not understanding why we build portfolios the way we do, can lead to bad investment decisions.

Americans spend $73 billion on lottery tickets every year ($223 per person).

The odds of winning the Powerball lottery are 1 in 292,000,000.

Another example of envy: most people will tell you that buying a lottery ticket is a poor plan for financial success. But why are we willing to play even when we know the odds aren't in our favor? We are often willing to accept a high probability of poor returns for a small chance of earning large returns.

This is often called the "lottery effect." This is also why investors are willing to concentrate positions in single issue stocks or invest in the next "hot" startup company/investment trend.

The excitement of large returns clouds our better judgment and we make decisions that reduce our overall chances of success.

Implications:

Single stocks

Next great company

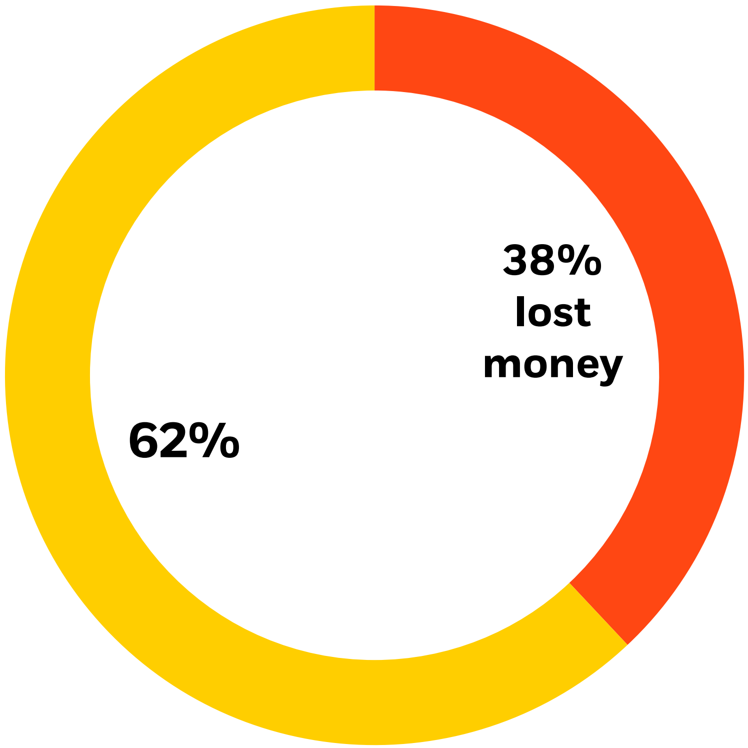
Hot investment trend

Source: US Census Bureau and North American Association of State and Provincial Lotteries as of 12/31/19. Past performance does not guarantee or indicate future results.

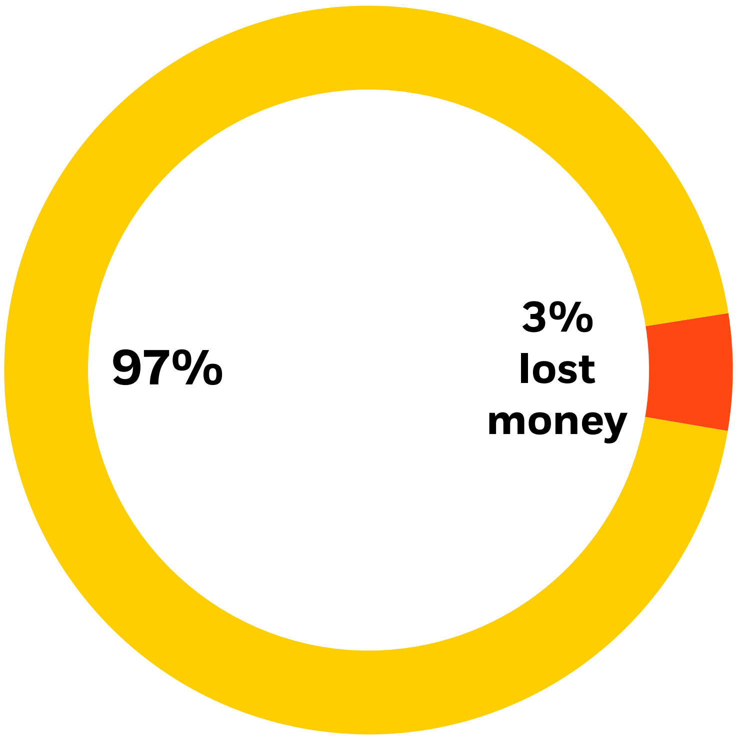
Individual U.S. stocks versus U.S. stock mutual funds

U.S. stocks are up 8.5% over the last 5 years

Individual U.S. stocks



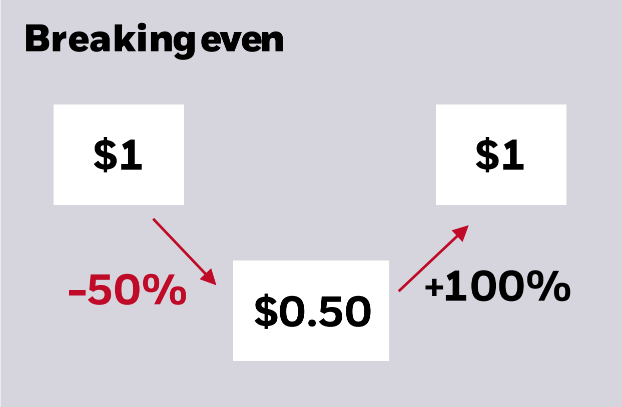
U.S. mutual funds and ETFs

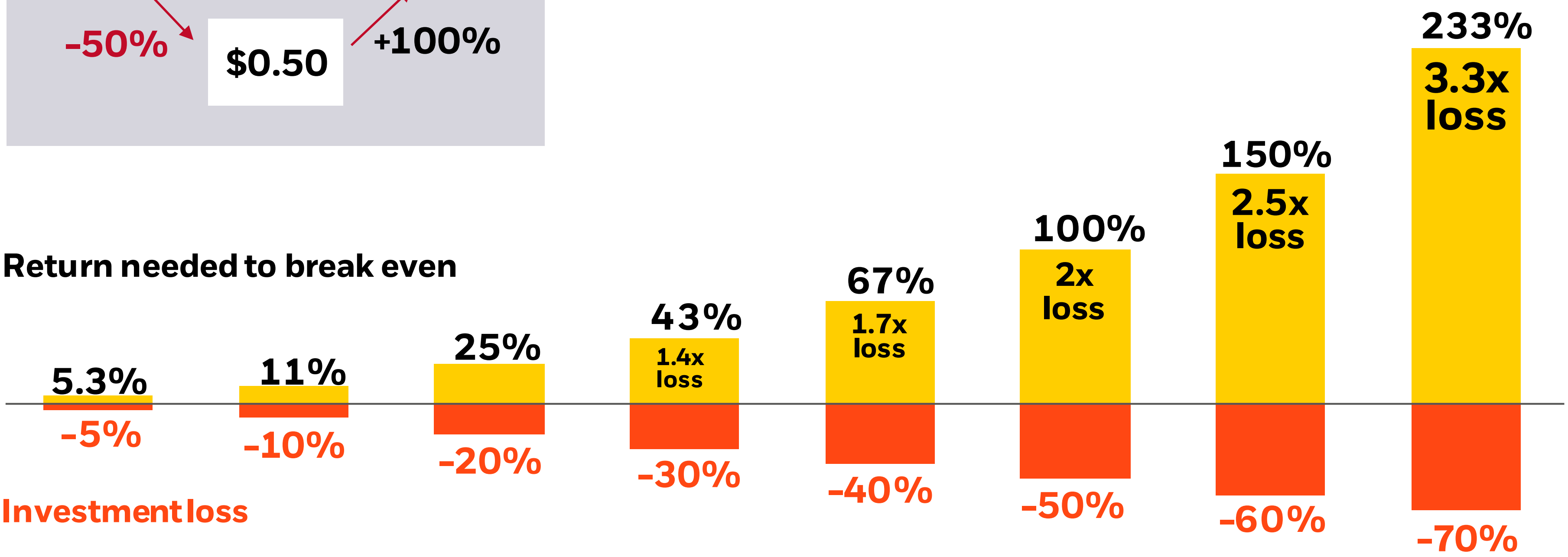


Source: Morningstar as of 12/31/18. Mutual Funds and ETFs are the Morningstar US Equity Category, oldest share class only. US Individual Stocks are the Morningstar US Stock Universe, all securities on the NYSE and NASDAQ. Analysis does not include obsolete mutual funds, ETFs or stocks as defined by Morningstar. Performance is historical and does not guarantee or indicate future results.

We run into serious risks when we get caught up in the "lottery ticket" effect. If you succumbed to S&P Envy and started "stock picking" individual stocks, there's a nearly 50/50 chance for each stock you picked to have lost money over the last 5 years, and that's during a pretty historic bull market. Just by staying in a portfolio of diversified mutual funds and ETFs, you cut your risk of unsuccessful investments to about 3%.

Do we really know how severe the risks can be?





Source: BlackRock. For illustrative purposes only.

Limiting losses (especially big losses) is the true key to investing success. Warren Buffet has said that the first rule of investing is not to lose money, and that rule #2 is to not forget rule #1. It's all about the math.

If you start with $1 and lose half (50%) you are left with $0.50; what do you have to be up the next year to breakeven? You need to double it or be up 100% to get back to breakeven.

But what if you are only down 10%? Most will say +20%.

Actually, a loss of 10 percent requires an 11 percent gain to recover- quite manageable. But it goes to show that it's not a linear progression like we think. In fact, as the losses grow larger, the size of the return needed to recover increases at an even faster pace.

Look back at the 50 percent loss (100 percent gain to recover) but an additional -10% loss from (-50% to -60%) requires a 150 percent gain just to get back to even. An additional 50% needed to get back to breakeven from a -50% loss to -60% loss.

With individual securities, it's very possible to see a large drop in value, but it's much less likely in a diversified portfolio. When you give into Envy, the results can make you lose sight of this important factor.

LOSS

Tendency to act

Sideline sitting

Following the herd

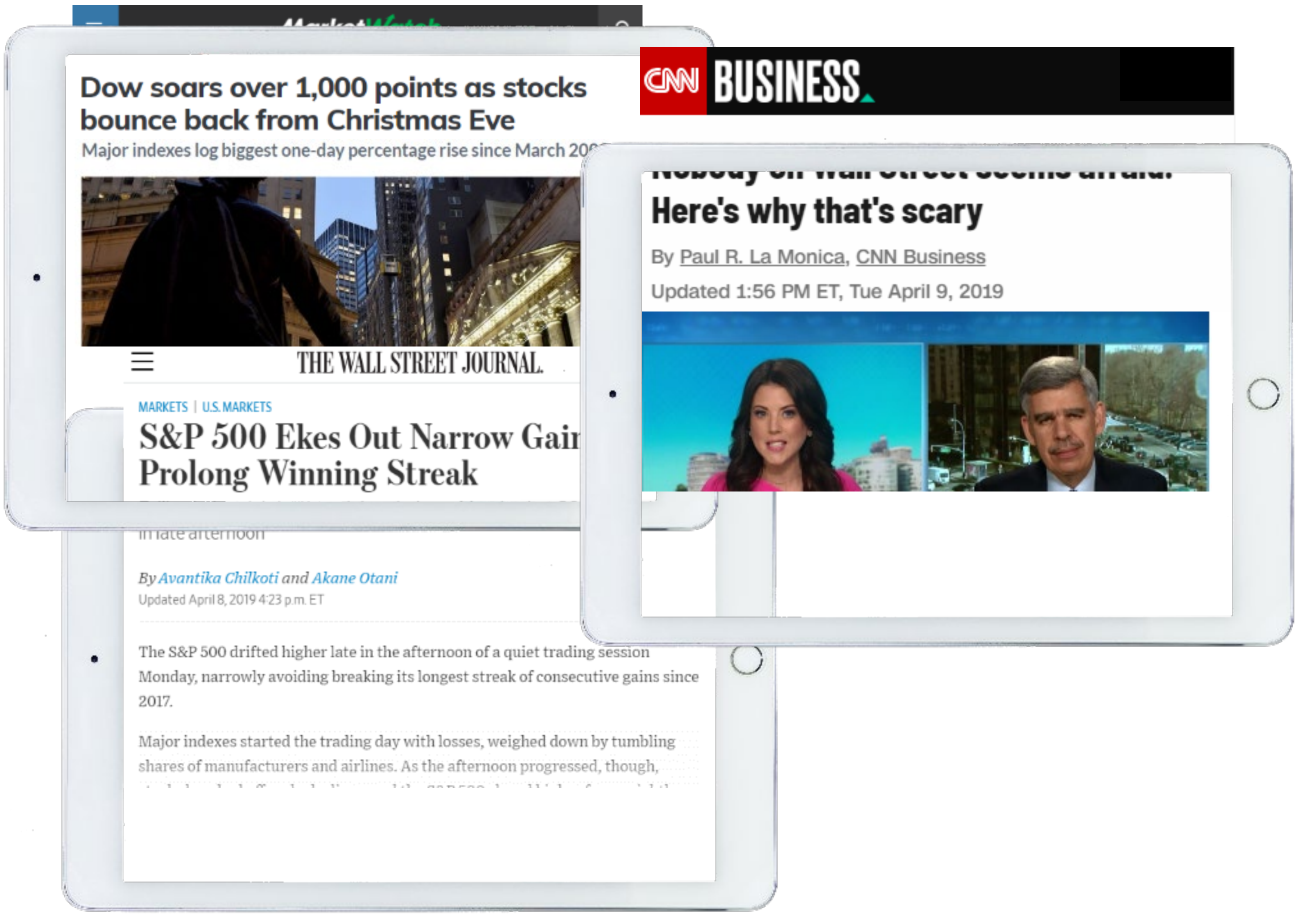
If you're not suffering from Envy, good job: you're probably constantly trying to minimize your losses. But on the other side of the spectrum, people will do irrational things to avoid losing things. This is where we run into loss. The overwhelming fear of losing your money can be just as harmful as not fearing it enough. Sometimes, it can even feel worse.

In fact, studies have shown that the pain of losing is twice as strong as the joy of winning.

When things are already looking rough, it can enhance the fear of loss that we naturally already have with our investments. If we give into it, we may start to wonder what the worst case scenario may look like.

When external factors around us are appear to be rough, it can enhance the fear of loss that we naturally have with our investments internally. All of the media we're constantly bombarded with now doesn't help, and is typically even the cause of that feeling.

Even when things are good, headlines can be confusing, and create uneasiness. If we give into the fear of loss, we may take actions to avoid it that result in more harm than good.



Our tendency to take action

Statistics show that the best penalty kick strategy for goalkeepers is to stay in the middle. But they jump left or right 94% of the time.

All of us have a natural tendency to take action and try and fix our problems, to take control, rather than do nothing. But taking action in these times isn't always the best solution.

To draw an analogy: Imagine yourself as a goalkeeper in soccer. Studies have shown that statistically, you are more likely to stop a penalty kick by staying in the middle. That's not to say you should ALWAYS stand in the middle, but we are often emotionally geared to fix or do something when we are feeling anxious.

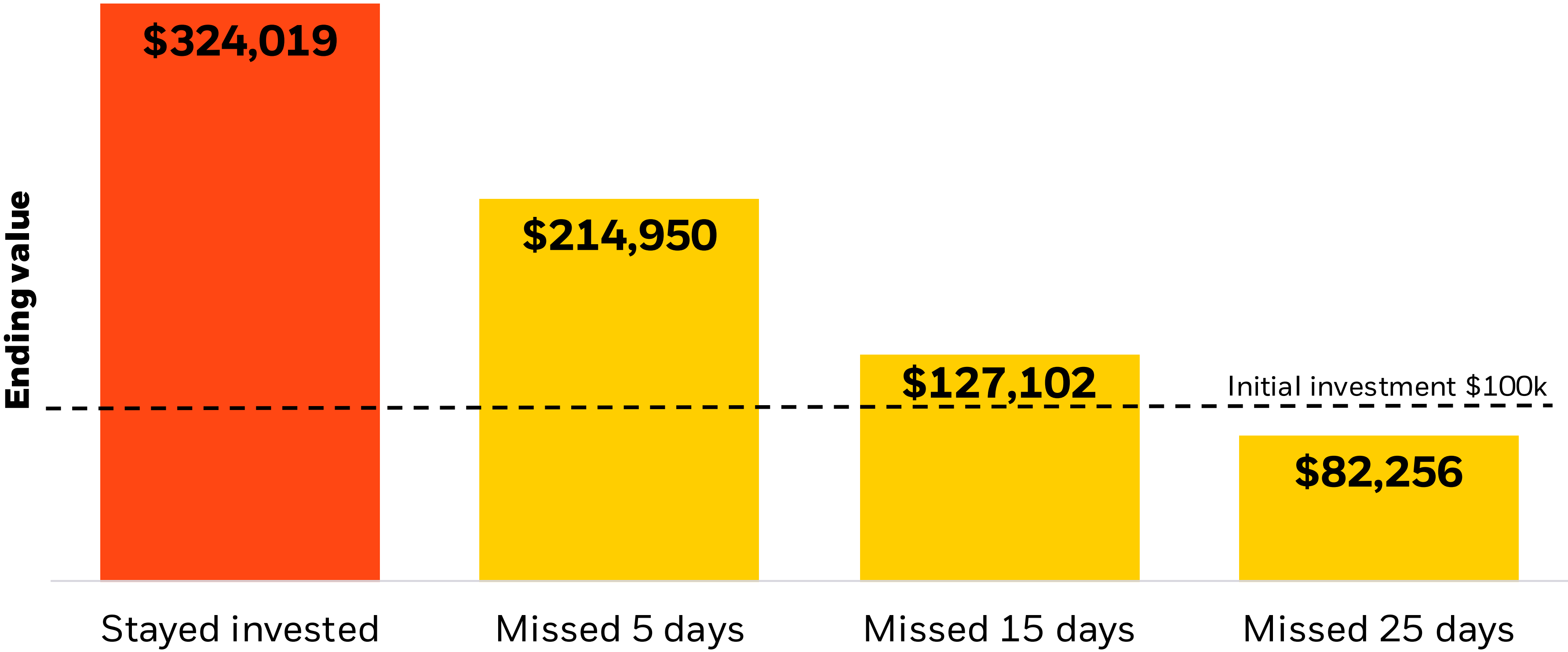
This is what behaviorists call "action bias," or thinking that value can only be realized through action, or to the tendency to act as opposed to practicing restraint.

Source: The New York Times Magazine, "Goalkeeper Science", 2008.

Time in the market vs. timing the market

Missing top-performing days can hurt your return

Hypothetical investment of $100,000 in the S&P 500 Index over the last 20 years (2000-2019)



Source: Morningstar as of 12/31/19. Past performance does not guarantee or indicate future results. Index performance is shown for illustrative purposes only. You cannot invest directly in an index.

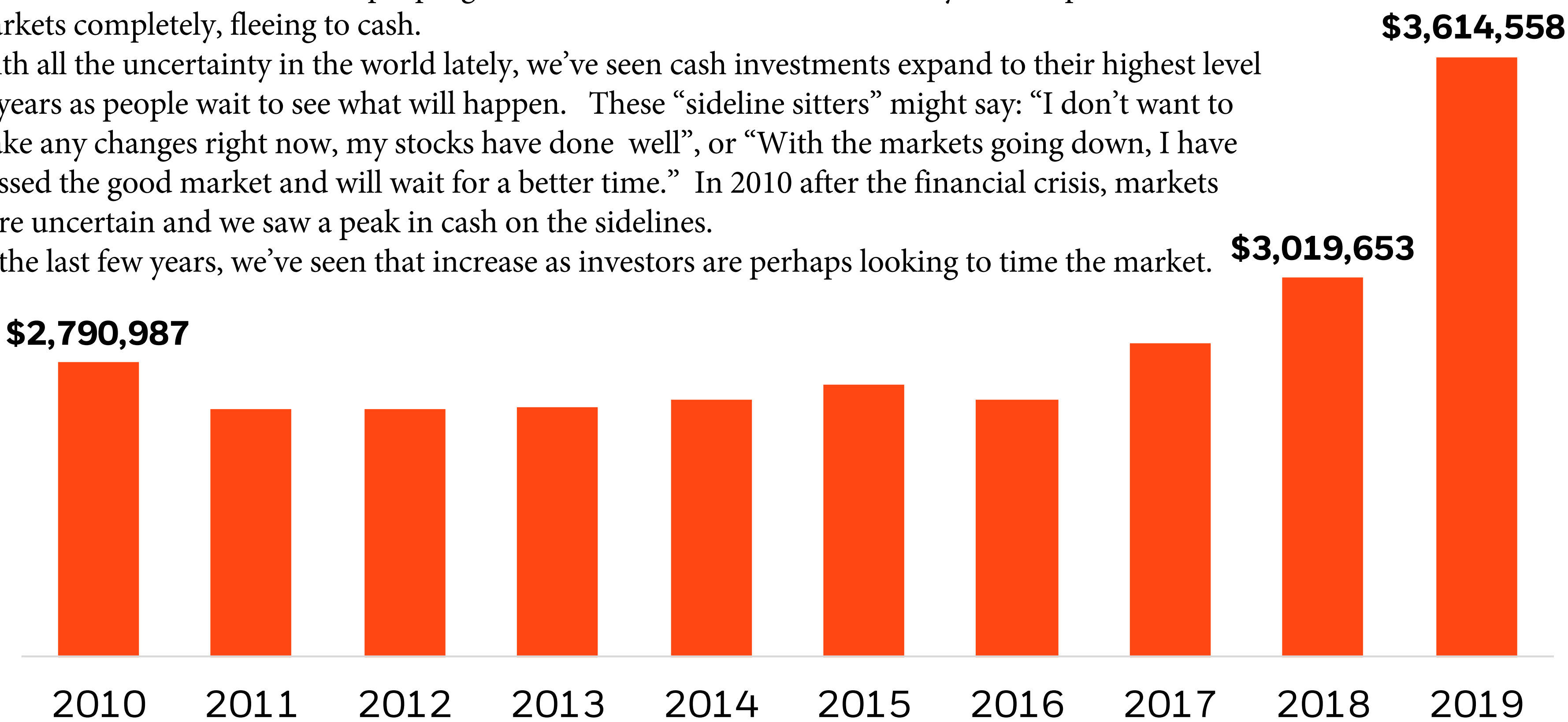
Taking action or “trying to fix” your investment portfolio often leads to investors trying to time the market. Missing just 5 of the best performing days over the last 20 years (out of 7305 total days, 0.068% of those – less than a tenth of a percent) could have cost your portfolio more than $100,000 – nearly a third of it’s potential value. And if you were unfortunate enough to miss the 25 best days, you’d have less money than you started with.

A reality to consider is that 24 out of the 25 best days in the market came within one month of one of the 25 worst days in the market. So overreact to any one bad day, and you could miss out.

So the story here is: don’t let your fear of loss drive your investment decisions. Since we can’t predict when the best days will be, staying invested is often the best strategy. It’s all about time in the market, not about timing the market.

Cash on the sidelines is near historic levels - **Assets in money market accounts** (In Millions of $)

On the other side of this, when people get fearful with their investments, they tend to pull out of markets completely, fleeing to cash.
With all the uncertainty in the world lately, we've seen cash investments expand to their highest level in years as people wait to see what will happen. These "sideline sitters" might say: "I don't want to make any changes right now, my stocks have done well", or "With the markets going down, I have missed the good market and will wait for a better time." In 2010 after the financial crisis, markets were uncertain and we saw a peak in cash on the sidelines.
In the last few years, we've seen that increase as investors are perhaps looking to time the market.



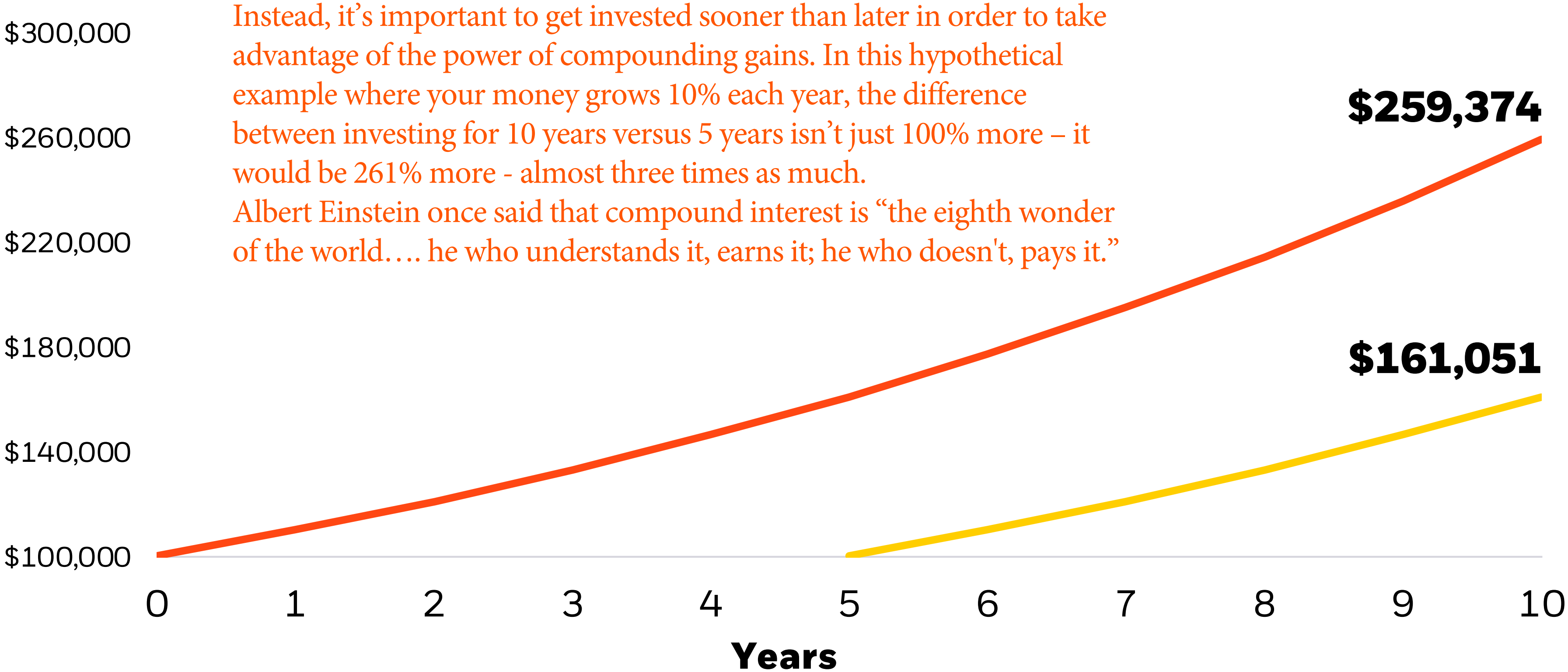
Source: Morningstar as of 12/31/19. Past performance does not guarantee or indicate future results.

Waiting for the "right time to invest" can leave you behind

Compound interest… ***"The eighth wonder of the world"*** **– Albert Einstein**

Hypothetical growth of $100,000 assuming 10% annual yield

But there is no "best time" to invest (unless you're a fortune teller). Instead, it's important to get invested sooner than later in order to take advantage of the power of compounding gains. In this hypothetical example where your money grows 10% each year, the difference between investing for 10 years versus 5 years isn't just 100% more – it would be 261% more - almost three times as much.
Albert Einstein once said that compound interest is "the eighth wonder of the world…. he who understands it, earns it; he who doesn't, pays it."

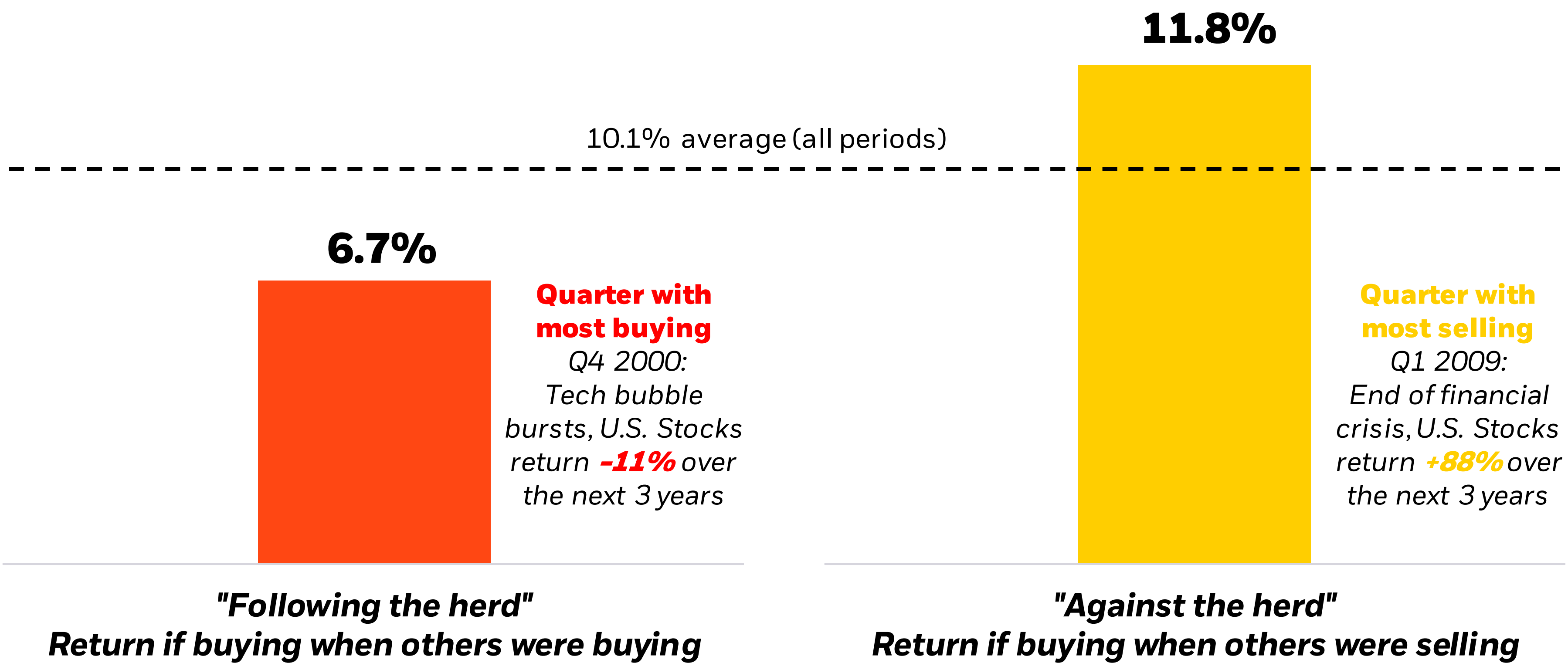


Source: BlackRock as of 12/31/19. For illustrative purposes only.

“Herding”: We confuse the actions of others with the right actions

The crowd often gets the timing wrong

Quarterly U.S. equity mutual funds and ETFs flows with 3-year performance average of the S&P 500 (1993–2019)



Source: Morningstar as of 12/31/19. “Following the Herd” represents the average of the following 3-year returns of the S&P 500 Index for each of the largest 20 quarters of inflows for US equity mutual funds and ETFs, as defined by Morningstar. “Against the Herd” represents the average of the following 3-year returns of the S&P 500 Index for each of the largest 20 quarters of outflows for US Equity mutual funds and ETFs, as defined by Morningstar. Past performance does not guarantee or indicate future results. Index performance is shown for illustrative purposes only. You cannot invest directly in an index.

When you’re in for the long term, though, it’s important that you realize just how much influence the market can have over you. Humans are social creatures; There’s a comfort in crowds. Herd behavior (going with what everyone else is doing i.e. the market) can cause investors to buy investments they would have never considered. In fact, following the crowds often leads investors to chase strong past performance. People pile into the markets when they are doing well and they see “everyone else” doing it.

This chart shows equity mutual fund flows and the performance of the S&P 500. It essentially represents how much money is invested in conjunction with the performance of the stock market.

In the upturns, gradually investors begin dipping their toes in. Eventually, others catch on and invest more in the market. The herd follows the behavior and the fund flows turn positive.

When investors herd, they are chasing performance. They are trying to invest when they know they are in upturns and pulling out of the market when they realize they are in downturns. What ends up happening, is that investors are pulling out of the market right at the start of a market rally and are increasing their investments right at the start of a market downturn. By trying to “time” the market, investors are actually increasing and decreasing their investments at the most inopportune times.

In fact, performance in an upturn is often strongest in the beginning. And when you are simply following a herd, you miss the upturn.

“Be fearful when others are greedy. Be greedy when others are fearful.”

–Warren Buffett

It may seem counterintuitive, but it can be helpful sometimes to take a contrarian approach. As Warren Buffett put it, “be fearful when others are greedy. Be greedy when others are fearful.” This was especially true before and after the financial crisis in 2008-2010. Investors lost as they rode the highs of the market in 2007, and pulled out of markets during the depths of the crisis and in uncertainty – but potentially missed out on a historic bull market.

Building Discipline

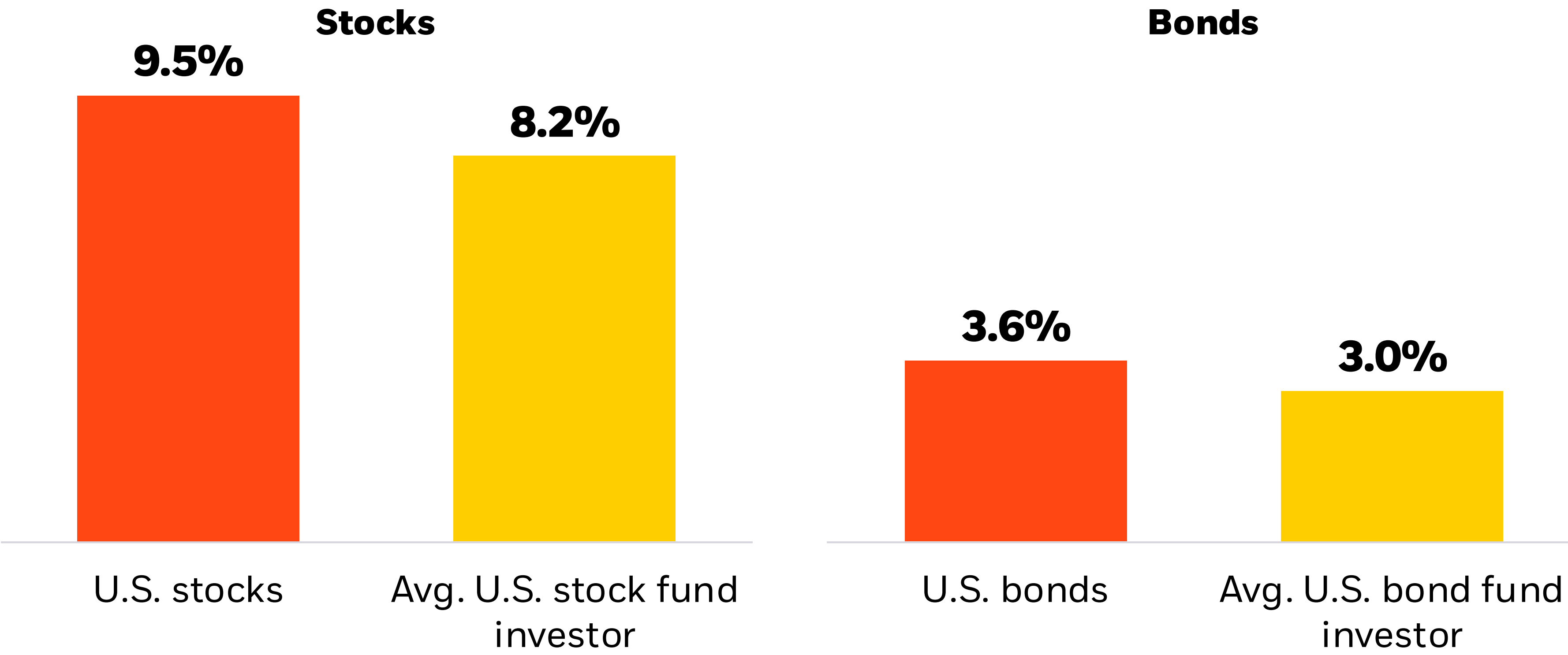
So, it's easy to lose ourselves in our emotions. If we go one way and get too aggressive and risk-taking, we can really harm ourselves. At the same time, it's just as easy and just as harmful to be too conservative. That just leaves a very narrow, disciplined middle-ground for us to navigate.

So let's explore why it's so important to be disciplined, and what we can do to get there.

A lack of discipline erodes investment results

The average investor trails the market

Morningstar's "Mind the Gap" study annualized returns (2008-2018)*



Sources: BlackRock, Morningstar, Informa Investment Solutions; *Morningstar returns based on performance between 4/1/2008 to 3/31/2018. Asset classes represented by the following indexes: U.S. stocks by the S&P 500 Index, Average U.S. stock fund investor by the Morningstar "Mind the Gap" Study U.S. stock s & sector fund average, U.S. bonds by the U.S. Aggregate Bond Index and Average U.S. bond fund investor by the Morningstar "Mind the Gap" Study U.S. taxable bond fund average. For illustrative purposes only. **Index performance returns do not reflect any management fees, transaction costs, or expenses. Indexes are unmanaged and one cannot invest directly in an index. Past performance does not guarantee future results.**

First, as they say, don't try this at home.
As we already established, investor behavior is often illogical and based on emotion, which means that it is hard for people to find that middle-ground approach that is so ideal. Compounding the problem, we don't even know that we're acting emotionally the majority of the time that we are.

Talk to us - your financial coach

Experts typically suggest that when you're trying to break a bad habit, it's extremely helpful to tell someone else so that they hold you accountable. They can keep you disciplined and on-schedule when you may feel like deviating. When it comes to investing, the perfect person for that job is a financial advisor.

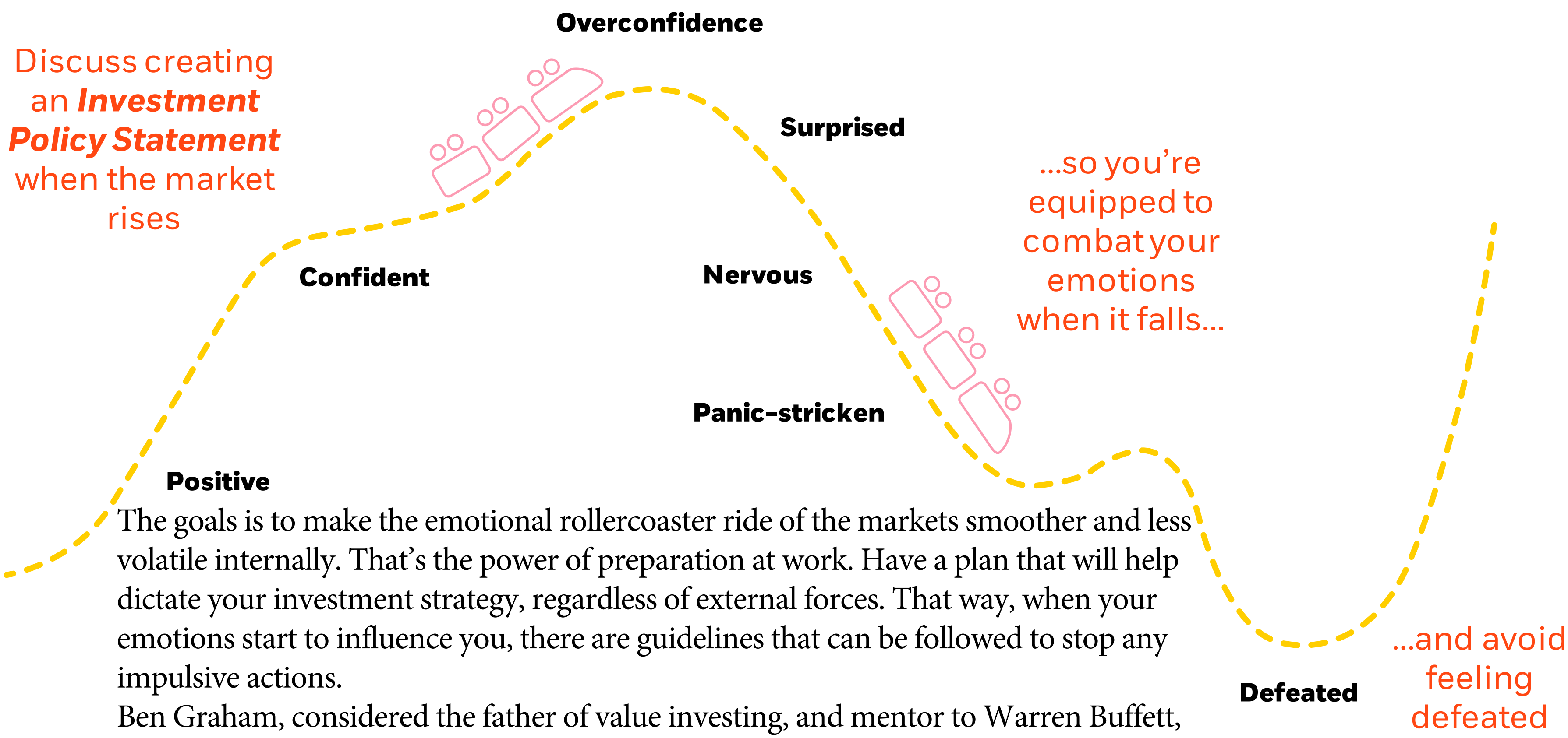
Many people think of advisors as "money managers": people who can make your money work as well as possible. That's true. But just as importantly, they act as an intermediary, a stop gap, between you and your investments. In reality, an advisor's primary job is not to worry about your portfolio, but to guide you through the wealth-building process by helping you avoid common mistakes; to advise.

Talk to them about your goals, and trust their expertise in navigating markets. They can help you stick to the plan that will give you the best chance to reach your goal.

Nobel laureate, psychologist, and economist Daniel Kahneman said, "Financial advising is a prescriptive activity whose main objective should be to guide investors to make decisions that serve their best interest."

Prepare for the worst before it happens

Riding the ups and downs of the market



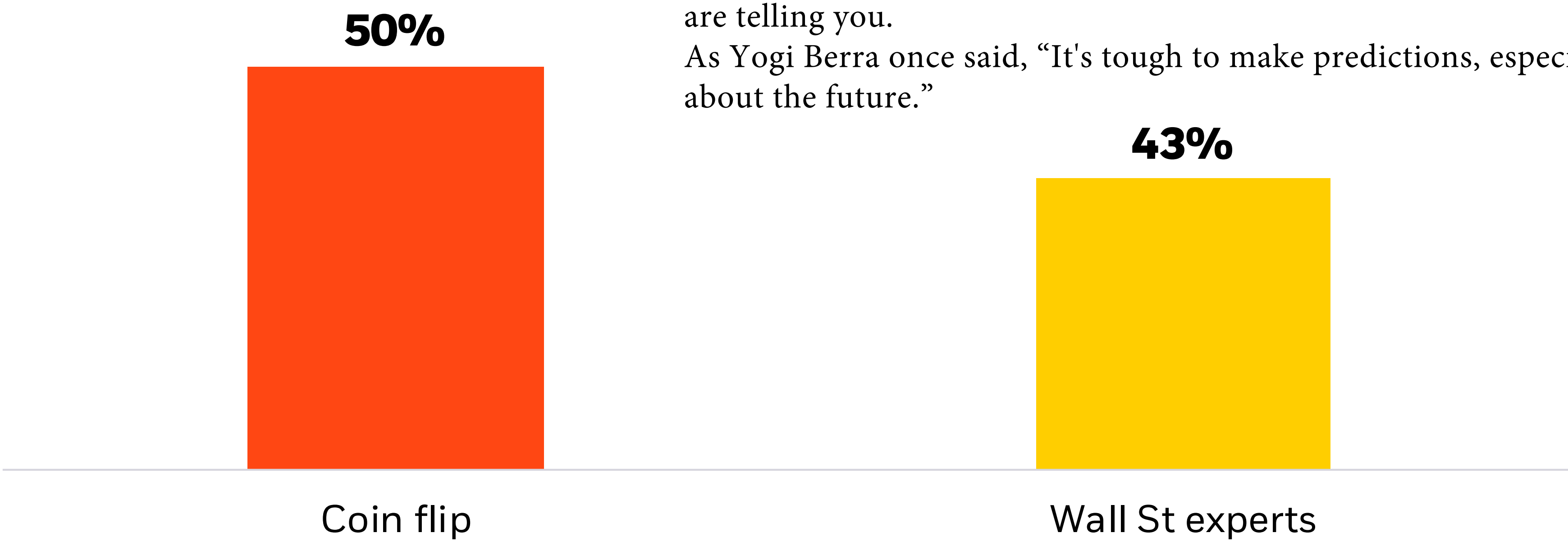
The goals is to make the emotional rollercoaster ride of the markets smoother and less volatile internally. That's the power of preparation at work. Have a plan that will help dictate your investment strategy, regardless of external forces. That way, when your emotions start to influence you, there are guidelines that can be followed to stop any impulsive actions.

Ben Graham, considered the father of value investing, and mentor to Warren Buffett, said, "For indeed, the investor's chief problem, and even his worst enemy, is likely to be himself.“

Hypothetical example.

Forecasting folly: Turn off financial TV & news

Predicting the direction of interest rates



As we mentioned, no one can predict what will happen next in the markets, not even expert analysts on Wall Street and TV. In a survey, only 43% correctly predicted whether interest rates would go up or down, less than the chance of getting heads from a coin flip. We can't control the future, only ourselves and how prepared we are to face it.

So turn off the TV, or at least don't overweigh what news sources are telling you.

As Yogi Berra once said, "It's tough to make predictions, especially about the future."

"It's tough to make predictions, especially about the future." — *Yogi Berra*

Morningstar, Federal Reserve Bank of Philadelphia as of 12/31/19. Past performance does not guarantee or indicate future results. Median annual forecast used; the median forecast for the direction of the 10 yr US Treasury Bond was correct in 12 of 28 years. "Wall Street experts" refers to the 40+ financial professionals and professors surveyed by the Federal Reserve Bank of Philadelphia.

The psychology of investing

1 **Proper investor behavior is critical to investment success**

2 **Common investor biases are a challenge** (for everyone)

- **ENVY:** Regret, S&P Envy, Lottery Ticket Effect
- **LOSS:** Compounding, Time vs Timing, Following the Herd

3 **Work with your financial advisor to build in discipline and ensure you are reacting to the market rationally**

- Be critical, even when times are good
- Be opportunistic, even when times seem bad

Become a disciplined investor, the sooner the better.

So to recap:
Recognize these common mistakes and the tendency to repeat them.
Be willing to be critical, even when times are good and opportunistic when times are bad.
Invest for the long term –don't try to time the market.
Work with us to keep you in check and ensure you are reacting to the market rationally. Create an investment strategy that you can live with. Call us to keep yourself in check and ensure you are reacting as rationally as possible.

In the end, how we behave has a huge impact on how our portfolios behave, and often times the more we try to step in the worse we can make it. Work to mitigate the impact your emotions have on your investments, so that you can save them for when they really matter.

Save your emotions for the moments that really matter.

Important notes

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Investment involves risks. International investing involves additional risks, including risks related to foreign currency, limited liquidity, less government regulation and the possibility of substantial volatility due to adverse political, economic or other developments. The two main risks related to fixed income investing are interest rate risk and credit risk. Typically, when interest rates rise, there is a corresponding decline in the market value of bonds. Credit risk refers to the possibility that the issuer of the bond will not be able to make principal and interest payments. Index performance is shown for illustrative purposes only. Commodities' prices may be highly volatile. Prices may be affected by various economic, financial, social and political factors, which may be unpredictable and may have a significant impact on the prices of precious metals. Concentrated investments in specific industries, sectors, markets or asset classes may underperform or be more volatile than other industries, sectors, markets or asset classes and the general securities market. A significant portion of the aggregate world gold holdings is owned by governments, central banks and related institutions. One or more of these institutions could sell in amounts large enough to cause a decline in world gold prices. Should there be an increase in the level of hedge activity of gold producing companies, it could cause a decline in world gold prices. Should the speculative community take a negative view towards gold, it could cause a decline in world gold prices. You cannot invest directly in an index.

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