Back From the Future

By Annie Duke
Decision strategist and former poker pro
There isn't much luck in chess. If all you know is the outcome of a game, you can confidently conclude that the winner played better than their opponent. There are no dice to roll that determine whether a bishop gets randomly added or taken off the board. The outcome of a chess match is determined by how skillfully each player moves their pieces.

Poker is not like that. With poker, the better strategy will still win in the long run, but luck comes into play in the short run. In chess, you can see all of your opponent’s pieces, but in poker, your opponent’s cards are hidden from view. There's always hidden information. As a result, you can have the best hand, play it well, and still lose. Even worse, you could have the worst hand, play it poorly, win, and think you’ve done a great job. If all you know is the outcome of a poker game, you can’t really say whether the winner played better than their opponent.

Many people think investing is like chess—if you have the right strategy, you'll win every time. But the day-to-day movements in the market can make investing feel much more like poker than chess. You can have a well-balanced portfolio with consistent positive returns, and suddenly, it plunges in value. When this happens, your results can cause you to think your strategy is wrong and be tempted to change it. In the long run, this can lead to an even worse outcome.

My years of playing poker at the highest levels and academic work in cognitive science have taught me an important lesson: The results of our decisions can be a poor indicator of the quality of our decisions. I call this “the long shadow of results” because our tendency is to evaluate our decisions by the outcomes they achieved rather than the process we used to arrive at the decision. I’ve also learned two important strategies that can help us escape the long shadow of results: using time travel to make better decisions and Ulysses Agreements to help us stick to a plan.

What we’ll cover:
1. The Long Shadow of Results
2. Using Time Travel to Make Better Decisions
3. Ulysses Agreements: The Sweet Song Of Sticking To A Plan

First, Escaping the Long Shadow of Results

Every day, we are bombarded with outcomes. We get to work on time. We get in an argument with our spouse. We get a promotion. We get laid off. Our portfolio increases in value. Our portfolio takes a turn for the worse.

With any individual outcome, we are tasked with figuring out why that outcome occurred. Was it because of a decision we made or was it luck?

“Resulting” is the process of using the quality of an outcome to judge the quality of the decision that led to that outcome.

NOT FDIC INSURED • MAY LOSE VALUE • NO BANK GUARANTEE

Annie Duke is a World Series of Poker bracelet winner, the winner of the 2004 Tournament of Champions and the only woman to win the NBC National Poker Heads Up Championship. She has authored four books on poker and in 2018 released her first book for general audiences called “Thinking in Bets: Making Smarter Decisions When You Don’t Have All the Facts,” which is a national bestseller.

As a professional speaker and decision strategist, she merges her poker expertise with her cognitive psychology graduate work at the University of Pennsylvania. She focuses on improving decision making and critical thinking skills, and developing individual and cultural supports to overcome cognitive bias.

In 2014, Annie co-founded The Alliance for Decision Education to build a national movement that empowers teachers, school administrators and policymakers to bring Decision Education to every Middle and High School student. She also serves on the National Board of After School All Stars and The Franklin Institute.
Working backward to figure out why things turned out the way they did is hard.

**Super Bowl = Super Resulting**

“Resulting” is the process of using the quality of an outcome to judge the quality of the decision that led to that outcome. For example, take the last play of Super Bowl XLIX in 2015. The Seattle Seahawks trailed by four points with 26 seconds remaining. They had the ball on the New England Patriots’ one-yard line, and they had Marshawn Lynch, one of the best running backs in the league, lined up in the backfield. Everybody expected Seahawks coach Pete Carroll to call for a hand-off.

Instead, Carroll called for a pass. New England intercepted the ball and won the Super Bowl moments later.

The headlines the next day were brutal:

- USA Today: “What on earth was Seattle thinking with worst play call in NFL history?”
- The Washington Post: “Worst play-call in Super Bowl history will forever alter perception of Seahawks, Patriots”
- FoxSports.com: “Dumbest call in Super Bowl history could be beginning of the end for Seattle Seahawks”
- The Seattle Times: “Seahawks lost because of the worst call in Super Bowl history”

But was it really the worst call in Super Bowl history, or just the worst result of a call in Super Bowl history?

It’s hard to say based on most of the post-game opinion pieces. The strategic reasons for the call, or the mathematical consequences of the choice to pass, were barely mentioned. Yet, that’s exactly the information needed to properly analyze the call. Without knowing the math, it’s impossible to say if it was a good or bad decision.

But once the pass was intercepted—something that only had a 2% chance of happening—the pundits and fans immediately concluded that Carroll must have made a spectacularly bad decision.

**Different Outcome, Different Reaction**

Now imagine the reaction if the pass had been completed for a touchdown. Would the headlines still call that pass the worst play in Super Bowl history? Or would they declare Carroll’s brilliance in outsmarting Bill Belichick?

I think we all know the answer to that.

Just look at the closing moments of the first half of Super Bowl LII in 2018. Philadelphia Eagles coach Doug Pederson went for a touchdown on the Patriot’s one-yard line on fourth down—another unexpected decision.

---

**Worst Call Ever?**

Seahawks coach Pete Carroll’s decision to pass instead of run the ball from the one-yard line in Super Bowl XLIX cost his team the game. People decided that the Seahawk’s bad result meant it was a bad strategy.

**Best Call Ever?**

Eagles coach Doug Peterson called a trick play—the Philly Special—on fourth down in Super Bowl LII that resulted in a touchdown. People assumed that the Eagles good result meant it was a good strategy.
He called for the “Philly Special”—a trick play that called for the quarterback to receive a pass in the end zone. The ball was caught for a touchdown, making Pederson’s play-calling part of what ESPN characterized as “nothing less than the gutsiest coaching job in Super Bowl history.”

So what gives? Why does it seem so clear that Carroll's decision was terrible and seem so equally clear that Pederson's decision was brilliant?

**Results Don’t Come With an Answer Key**

Even after we know the outcome of a decision, it’s still difficult to determine if a decision was good or bad. That's because, after the fact, the reasons for someone's decision are usually hidden from view. What is easily seen and clear, however, is how the decision turned out.

Resulting influences us to use what we can see (outcome quality) to figure out what we can't see (decision quality). Whether a decision was good or bad is hard to see immediately after the fact. But we can clearly see whether a result is good or bad. If a pass is intercepted, it must have been a bad play-call. If a pass is caught for a touchdown, it must have been a good play-call.

Resulting creates an illusion that the relationship between outcome quality and decision quality is nearly perfect. We tend to see results as if we were playing chess: When we lose, we think it was because of bad decisions, and when we win, we think it was because of good decisions (Fig. 1). We forget that life is more like poker—good things or bad things can happen because of luck.
The Impact of Resulting on Our Investment Decisions

Investment results are like a gigantic scoreboard. As we see the results on the scoreboard changing, we judge the quality of our investment strategy based on those results.

If you have a well-balanced portfolio, you’re likely to be disappointed with some part of your portfolio at any given moment. Looking at the scoreboard, it’s easy to see what the perfect investment strategy would have been given how things actually turned out.

In August 2018, as the stock market soared, it’s clear that you would have made more money if you had all of your money in stocks and none in bonds. It can feel like it was a bad decision to have had any money in bonds.

Fast forward to December 2018. The sudden drop in stock prices made you regret the decision to have any of your portfolio in now-plummeting stock market.

A well-balanced portfolio, with diversified holdings across asset classes, is meant to maximize overall value in the face of not knowing how the market will behave during any given period. It is meant to be robust in the face of that uncertainty (Fig. 2).

Benchmarking your portfolio to how it is expected to perform given your long-term strategy is a good process.

Benchmarking to the snapshot of the market on any single day is resulting.

The Road to Better Execution.
The obvious first step to making better decisions begins by having a good plan. The second step is to prevent resulting from undoing our plans.

A plan gives us a map, and reminds us that all four quadrants in the relationship between outcomes and decisions exist. Even though it’s tempting to look back at results and imagine what could have been had we known more, a good plan helps us overcome that feeling.

The secret to execution is to be a good time traveler.

---

**Figure 2: A Balanced Portfolio Came Out on Top**

Cumulative Returns

<table>
<thead>
<tr>
<th>Years</th>
<th>Stocks</th>
<th>Bonds</th>
<th>Balanced</th>
<th>Investor Mindset</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000-2002</td>
<td>-37.6%</td>
<td>33.5%</td>
<td>-13.3%</td>
<td>“Why do I own stocks?”</td>
</tr>
<tr>
<td>2003-2007</td>
<td>82.9%</td>
<td>24.2%</td>
<td>57.8%</td>
<td>“Why do I own bonds?”</td>
</tr>
<tr>
<td>2008</td>
<td>-37.0%</td>
<td>5.2%</td>
<td>-20.1%</td>
<td>“Why do I own stocks?”</td>
</tr>
<tr>
<td>2009-2017</td>
<td>258.8%</td>
<td>40.7%</td>
<td>152.1%</td>
<td>“Why do I own bonds?”</td>
</tr>
<tr>
<td>2018</td>
<td>-4.4%</td>
<td>0.0%</td>
<td>-2.6%</td>
<td>“Why do I own stocks?”</td>
</tr>
<tr>
<td>2019</td>
<td>31.5%</td>
<td>8.7%</td>
<td>22.4%</td>
<td>“Why do I own bonds?”</td>
</tr>
</tbody>
</table>

**Total return** 224.2% 166.9% 228.3%

**Growth of $100k** $324,209 $266,866 $328,340

From 2000–2019, a balanced portfolio outperformed stocks and bonds. But there were several time periods where a person with a balanced portfolio would have wanted to own either more stocks or more bonds.

**Stocks**—S&P 500 Index; **Balanced Portfolio**—60% S&P 500 Index and 40% Bloomberg Barclays US Aggregate Bond Index; **Bonds**—100% Bloomberg Barclays US Aggregate Bond Index.

PAST PERFORMANCE DOES NOT GUARANTEE FUTURE RESULTS. Index descriptions are included on page 16. For Illustrative purposes only.
Second, Time Travel to Better Decisions

When you're going somewhere, the way you choose to get there is a prediction. For example, if your goal is to get to work on time, the route you'll choose is a prediction about which way will be the fastest. If you're sightseeing while cycling through the Pyrenees, the route you choose won't be a prediction about which will be the fastest, but rather about which will be the most beautiful. We weigh our options, then make a prediction about which choice will turn out best given our goals.

With the scenarios above, there's no guarantee that our choices will turn out how we hoped. We can't know the best option because we can't know how the future will unfold. Sometimes there's heavy traffic on the route we choose to get to work, and sometimes it's cloudy in the Pyrenees. There are always many more possible outcomes than the one that will actually happen.

If we had a perfectly functioning crystal ball, we would always get to work on time. We could always buy at the lows, sell at the highs, and perfectly allocate our capital.

**Investment Decisions, Like All Decisions, Are Predictions**

While we can't get a perfect view of the future, we can get a view of possibilities. Imagining the future, or time traveling, can act like a crystal ball. The image in the ball might not be perfect, but it allows us to anticipate obstacles that might appear in our path.

When we're caught up in the emotions of the moment, like in the aftermath of some big upturn or downturn in our portfolio, our ability to make good decisions may be compromised. No one plans to sell in a panic, or cash out for a small gain only to miss out on sustained capital appreciation. If we could foresee these possible missteps, we could prepare for them.

One of the best ways to sharpen our view of what lies ahead is to imagine looking back on what has already happened. “Remembering the future” through mental time-travel is more effective than the traditional way of planning, which entails starting from the present and looking forward.

**Prospective Hindsight: Things Are Always Clearer in the Rear-View Mirror**

Prospective hindsight, a process initially developed in 1989 by Professors Deborah Mitchell, J. Edward Russo, and Nancy Pennington, is the process of imagining ourselves at some point in the distant future, at the end of the time horizon for our goals. We then look back to figure out how we got there.

It's 30% more effective to work backward from an imagined goal than vice versa. Why?

If you want to summit a mountain and you're trying to plan the best route to the top, standing at the foot of the mountain doesn't give you much of a view. You can only see what lies immediately ahead of you.

But once you've gotten to the top of the mountain, you can now get a view of the entire landscape. From the summit, we can see obstacles not visible from the base, as well as alternate routes that might have been safer or more efficient.

Prospective hindsight gives us that improved perspective.

After you've selected your destination and worked with your financial advisor to identify your investment goals and time frame, you can begin the process of prospective hindsight.

When we set goals, there are two broad ways the future can unfold. There's a future in which we achieve our goals, and a future in which we fail to achieve our goals.

A good planning process imagines both.

**The Part That Comes Naturally: Backcasting**

It's fun to envision achieving our goals, so let's start there. This is called backcasting.

Imagine yourself in a future in which you've achieved a specific goal. Then imagine how and why this happened.

For example, let's say you set a goal of losing 20 pounds in six months. You now backcast by imagining yourself six months in the future having successfully lost the weight.

What did the path look like to get there?

- I stuck to my diet
- I planned each day's meals in advance, so I didn't wait until I was hungry to decide what to eat
- I ate out less
- I pre-paid and scheduled a series of personal training sessions, or I scheduled get-togethers with friends that started at the gym
- I brought healthy food to work

The list that emerges from a backcast helps us see more clearly the reasons for success. It helps us identify the things that needed to happen to get us where we wanted to go.
Backcasting—Looking Back From a Future in Which You’ve Achieved Your Goal

To do backcasting, imagine a future where you’ve achieved your financial goals. Next, with the help of your financial advisor, think about how you achieved your goal. What happened in the stock market? What decisions did you make? What actions did you take or not take?

**Hot Trends**
Hot streaks come and go. You remember back in 2017, when Bitcoin prices went from $1,025 to $20,087. People bragged about how much money they made. You were happy you stayed away because by November, 2018 the price of Bitcoin fell 80%.

**Geopolitical Events**
Grexit, Brexiti, Italexit—there’s always a new geopolitical concern to worry investors. But you stick with your strategy.

**Government Policy**
Government shutdowns are nerve-wracking, but you stuck to your plan.

**Tweets**
Tweets can have quite an impact on the market. You don’t let them phase you.

**Volatile Markets**
There can be long periods in which stocks go nowhere. You remember 2000–2010, the “lost decade,” when stocks ended that period where they began it. Times like that can be frustrating, but you stay invested.

**Bull Markets**
A bull market is a rise of 20% or more in the stock market measured from a market low point. You understand that you can’t miss them if you want to build long-term wealth.

**Bear Markets**
A bear market is a 20% drop in the stock market. We’ve had 11 bears, or near bears (nearly a 20% drop), in the last 40 years. The worst loss was -51%. Yet, somehow, you kept your cool through them all.

**Sector Shifts**
When oil prices go up, gas prices go up. As a result, it’s easy to think consumers may spend less on other things, which could cause a stock market reaction. In reality, you know there’s often not much of a correlation between the price of oil and the stock market.

**The Media**
Today’s headlines may seem scary. But you stay invested even though the media always seems to proclaim reasons not to invest.

**Rising Markets**
When the stock market is rising, you’ll hear stories about how well other people’s investments are doing. You’re tempted to adjust your portfolio to keep up with them. But, you decide to stick with your plan.

**Fund Ratings**
We all like top-performing funds. But you don’t chase them. You know 5-star funds may wind up with fewer stars in the future.
The Hard Part: Pre-mortem

Backcasting is a good first step, but it doesn’t create a complete picture of the future because it can miss the things that might go wrong—the obstacles that intrude on the path. To become better decision makers, we need to fill in the negative space in our image of future.

Psychologist Gary Klein coined the term “pre-mortem” to describe this process of mental time travel into the future to figure out what went wrong. 12

It’s uncomfortable to consider the possibility that we won’t reach our goals, so we avoid it. But in avoiding that discomfort, we give up the chance to delve into the reasons why we might fail, many of which are avoidable if we anticipate them.

Anticipating Obstacles Keeps Them From Stopping Us

Imagining failure is more effective for achieving success than imagining the success itself.

For people trying to exercise and eat healthier, those who identified and addressed reasons for failure were more successful than those who didn’t. 13 The people who imagined their specific challenges exercised twice as much and ate significantly more fruits and vegetables. 14

Doing a pre-mortem for a goal of losing 20 pounds in six months would mean imagining yourself six months in the future having not lost the weight.

What might derail our weigh-loss plan?

- My kids have chips and cookies in their lunch, so that stuff is always around the house
- I lost control of my eating when I was up late at night
- I went on a vacation and gave myself permission to break my diet the whole time
- I didn’t have time in the morning to exercise and was too tired by the time I got home in the evening

When we identify things that can go wrong, it becomes easier to develop ways to remove these obstacles from our path.

Operation Overlord: Imagining Failure to Achieve Military Success

D-Day, the turning point World War II, succeeded in large part because the Allied forces, in planning Operation Overlord, focused on all the things that could go wrong. What were all the ways the landing could fail? Planners included, among many others, forces being delayed by bad weather, difficulty communicating by radio due to terrain, paratroopers being blown off course, currents interfering with beach landings, and the inability to join the forces landing on separate beaches.

Those things did go wrong (along with many others), but the Normandy landings succeeded. Imagining so many specific reasons for failure helped analyze those failures and, thereby, prevent or address them.

The Same Is True for Each of Us

By working with an advisor to prepare for future scenarios, especially the bad ones, you’re doing something difficult that most people avoid.

Meeting that challenge, as only the most diligent and successful investors do, is a standard that’s worth setting and worth feeling good about pursuing. That feeling more than outweighs the discomfort of visualizing an unhappy future. 15

And, most importantly, it can lead to better investment results.
Pre-mortem: Looking Back From a Future Where You Don’t Achieve Your Goal

To do a pre-mortem, imagine a future where you don’t reach your financial goals. Make a sober assessment of what went wrong. What decisions did you make? What actions did you take? What role did chance play in the outcome? When we identify things that could go wrong, it becomes easier to anticipate those obstacles and overcome them.
In Homer’s *The Odyssey*, the hero, Odysseus, was warned of the danger of the Island of the Sirens, which he must sail past to return home. The Sirens’ song is entrancing but deadly. Any man who hears the song will be unable to resist steering their ship toward the song and the rocky shore, meaning certain death.

Before approaching the island, Odysseus softened beeswax to fill the ears of his crew to stop them from hearing the song. Because he wanted to hear the Sirens’ song, he had his now-deafened crew lash his hands to the mast so he couldn’t act on his desire and steer to his death.

Likewise, pre-committing can help us avoid making bad decisions when we’re tempted to, just as Odysseus did.

Once you’ve looked back from the future by time traveling, you now have two lists: things that happened on the way to achieving your goals and things that happened on the way to falling short. Some will be things in your control (your own actions) and some will be out of your control (e.g. movements of the market).

These lists form the basis for developing pre-commitment agreements (primarily with ourselves, but with help in enforcement from your financial advisor). They’re called Ulysses Agreements because Ulysses is the Roman name for Odysseus, after whom the agreement is named. A Ulysses Agreement is a pre-commitment agreement to take—or not take—certain actions in the future to help you reach your goals.

Pre-scheduling and pre-paying for personal training sessions when we have trouble following through on exercising, or asking our closest colleagues at work to keep us away from the donuts in the breakroom, are Ulysses Agreements.
How Ulysses Agreements Can Help Us With Investing

Whether they realize it or not, people already use Ulysses Agreements to reach their financial goals. Those who arrange to make automatic deposits or transfers into their investment or retirement accounts save substantially more than people who have identical goals but rely on themselves to periodically make such deposits.\(^{16}\)

In the wake of an outcome, like a sudden downturn in the market, we won’t be in our best decision-making frame of mind. Once we acknowledge that, and have a Ulysses Agreement in place, it will increase the chances we succeed and avoid behaviors that will reduce our chances of success.\(^{17}\)

The Siren’s Call of Hot Trends

When different categories of investments, such as tech, oil, or bitcoin, are zooming, we don’t want to be left behind. When we hear stories about people doubling or tripling their money over a short period, we can feel like there’s only one thing to do—join in. Just like Ulysses as he got closer to the Island of Sirens, the temptation to invest in these trends is most enticing near the trend’s peak.

However, many of these hot trends come down as fast as they go up. Sure, there are probably a few investors who were lucky enough to invest in these trends and get out before the bottom dropped out. Most other investors get caught up in the frenzy, invest near the top, and lose big when the trend fizzles.

PAST PERFORMANCE DOES NOT GUARANTEE FUTURE RESULTS. Index descriptions are included on page 16. For Illustrative purposes only. The performance shown is index performance and is not indicative of any Hartford mutual fund. Investors cannot invest directly in an index. Unmanaged index returns do not reflect any fees, expenses or sales charges.
We need to be rational, forward-thinking goal-setters to anticipate such situations and strengthen our ability to commit in advance. That combination minimizes the chance that in-the-moment irrational behavior can steer us off course.

The leading reason investors underperform the market is failure to stick with a plan. Discuss your backcasting and pre-mortem results with your financial professional. They can help you identify market events that could tempt you to change your investment strategy. Awareness of these obstacles and how you’ll respond become the key parts of your Ulysses Agreement:

- Actions you will take when there is a significant market upturn or an upturn in a certain asset class tempts you to change your strategy because of it;
- Actions you will take when there are significant market downturns, potentially causing you to panic;
- Not ticker-watching (checking your portfolio too frequently); and
- At regular intervals, checking in with your advisor to look at progress compared to your plan.

When Bear Markets Happen, It’s Very Difficult to Stick With Your Strategy

Bear markets are 20% drops, or more, in the market. They can happen quickly and unexpectedly, or slowly and over time.

**Bear Markets Recruit Our Reflexive Mind**

In a bear market, our reflexive mind warns us that we’re losing money and need to do something before things get worse. Even though we might understand that choosing safer investments could hurt our long-term results, we choose immediate safety because behavioral research shows investment losses hurt twice as much as gains.⁷

**Our Deliberative Mind Tries to Keep Us on Track**

This system is in charge of reasoning and thinking long term. It’s willing to put up with short-term losses, since it knows they’re required for long-term gains.⁷

**Which Mind Wins?**

It depends on each investor. We all have different tolerances for losses. We’ve had 11 bear markets, or near bears, over the past 40 years. But when these bears are roaring, the alarm in the reflexive mind goes off automatically, even unconsciously. This recruits our reflexive mind which can overpower the rational decision-making in our deliberative mind.

By contrast, when you resist the urge to panic or act rashly, you can thank your deliberative mind for keeping the impulses of your reflexive mind in check.


---

**Reflexive Thinking Can Dominate During Bear Markets**

When volatility spikes or bear markets occur, the reflexive parts of our brain, which are driven by an aversion to loss, tend to overpower the deliberative part of our brain, which performs rational thinking. The result—we may be tempted to change our portfolio to avoid further losses.
Our Deliberate Mind Helps Us Think Long-Term

- **Consistent Contributor** (60% S&P 500 Index and 40% Bloomberg Barclays US Aggregate Bond Index; Adds $100 extra each month)
- **Balanced Investor** (60% S&P 500 Index and 40% Bloomberg Barclays US Aggregate Bond Index)*
- **Apprehensive Investor** (100% Bloomberg Barclays US Aggregate Bond Index)*

Bear Markets (and Near Bear Markets)

*No further investments were made

PAST PERFORMANCE DOES NOT GUARANTEE FUTURE RESULTS. Index descriptions are included on page 16. For Illustrative purposes only. The performance shown is index performance and is not indicative of any Hartford mutual fund. Investors cannot invest directly in an index. Unmanaged index returns do not reflect any fees, expenses or sales charges.
Your Financial Professional Can Help You Keep Your Pre-commitments
In addition to helping you develop your overall goals and initial investments, your financial professional can help you create a Ulysses Agreement. They can remind you of this agreement when you are tempted to break it. In fact, a condition of the agreement should be that you won’t make a significant decision about your finances before reviewing and discussing these lists and agreements with your financial professional.

The Power of Accountability
A financial professional can provide accountability. Not only can they suggest that you stop doing something against your stated long-term interests, but merely the prospect of that interaction favorably affects your behavior.

For example, if our investing plan includes a diversified portfolio, we’ll know in advance that when the market is soaring, we will be disappointed with our bond and cash holdings and have the urge to sell them and buy equities.

A Ulysses Agreement will remind our future-self: “The market is soaring, we may underperform the S&P 500 because our portfolio is diversified across bonds, cash, and stocks chosen for robustness across market conditions. Survey the whole landscape rather than just the base of the mountain right in front of us.” (We should have the same kind of reminders in the opposite situation, to remember why we’re not entirely in bonds and cash during a significant downturn.)

Ulysses Agreements help us to stay the course, and to remember that we knew in advance that we would feel this way, making us less likely to give in to those irrational urges.

After I started playing poker, I identified two conditions that could play a big role in keeping me from being successful:

A Big Market Drop and Negative Headlines Can Tempt Us to Change Course

- Balanced Investor (60% S&P 500 Index and 40% Bloomberg Barclays U.S. Aggregate Bond Index)
- Reactionary Investor (Invests as a balanced investor, then moves 100% into 3-month T-Bills when the market dropped 30%)

The news channels tend to amplify the negative economic news during a bear market. Like the sirens in the story of Ulysses, a 30% drop and negative headlines can tempt us to make our portfolios safer. The reactionary investor moved all his money to safety, and missed out on a strong recovery.

PAST PERFORMANCE DOES NOT GUARANTEE FUTURE RESULTS. Index descriptions are included on page 16. For Illustrative purposes only. The performance shown is index performance and is not indicative of any Hartford mutual fund. Investors cannot invest directly in an index. Unmanaged index returns do not reflect any fees, expenses or sales charges.
playing tired and continuing to play after a large loss. I made a pre-commitment to myself that I would quit a game after I had lost a certain amount or after playing six to eight hours. I shared this agreement with my mentors. They held me accountable, which made me more likely to follow through on my pre-commitment.

Having those rules in place is not easy. It involves recognizing that we are capable of resulting and acting against our carefully determined long-term plans. It also involves pre-experiencing the pain of failure: imagining those moments, so we can prevent them.

But that’s what the truly successful investors do. And doing this yourself could make you stand out from the crowd. You won’t be perfect. You may still react to momentary turns of fortune. But you will be much less likely to make a bad decision in the shadow of that momentary change.

That can pay big dividends in your decision quality in the long run.

Next Steps

1. Assess your susceptibility to resulting. Do you question your strategy during market downturns?
2. Schedule a meeting with your financial professional to do a time travel session including backcasting and pre-mortem exercises (pages 6-9)
3. Ask your financial professional about setting up a Ulysses Agreement

The Impact of the Sirens’ Call: Individual Investors Have Underperformed Market Indices

Average Annual Returns for the 30 Year Period Ending 12/31/2019

<table>
<thead>
<tr>
<th></th>
<th>Average Equity Investor</th>
<th>Average Fixed-Income Investor</th>
</tr>
</thead>
<tbody>
<tr>
<td>S&amp;P 500 Index</td>
<td>5.04%</td>
<td>0.38%</td>
</tr>
<tr>
<td>Bloomberg Barclays US Aggregate Bond Index</td>
<td>9.96%</td>
<td>5.91%</td>
</tr>
</tbody>
</table>

Past performance does not guarantee future results. Performance data for indices represents a lump sum investment in January 1990 to December 2019 with no withdrawals. Stocks are represented by the S&P 500 Index. Bonds are represented by the Bloomberg Barclays US Aggregate Bond Index. Indices are unmanaged, unavailable for direct investment, and do not reflect fees, expenses, or sales charges.

Unmanaged index returns do not reflect any fees, expenses, or sales charges. Index performance is not indicative of any Hartford fund.

See back cover for index descriptions.

Dalbar’s Quantitative Analysis of Investor Behavior Methodology - Dalbar’s Quantitative Analysis of Investor Behavior uses data from the Investment Company Institute (ICI), Standard & Poor’s, and Barclays Index Products to compare mutual fund investor returns to an appropriate set of benchmarks. Covering the period from January 1, 1990 to December 31, 2019, the study utilizes mutual fund sales, redemptions and exchanges each month as the measure of investor behavior. These behaviors reflect the “average investor.” Based on this behavior, the analysis calculates the “average investor return” for various periods. These results are then compared to the returns of respective indices.

Average equity investor and average bond investor performance results are calculated using data supplied by the Investment Company Institute. Investor returns are represented by the change in total mutual fund assets after excluding sales, redemptions, and exchanges. This method of calculation captures realized and unrealized capital gains, dividends, interest, trading costs, sales charges, fees, expenses, and any other costs. After calculating investor returns in dollar terms, two percentages are calculated for the period examined: total investor return rate and annualized investor return rate. Total investor return rate is determined by calculating the investor return dollars as a percentage of the net of the sales, redemptions, and exchanges for each period.
Investing involves risk, including the possible loss of principal. Diversification does not ensure a profit or protect against a loss in a declining market. Fixed income security risks include credit, liquidity, call, duration, and interest-rate risk. As interest rates rise, bond prices generally fall.

The views and opinions expressed herein are those of the author, who is not affiliated with Hartford Funds. The information contained herein should not be construed as investment advice or a recommendation of any product or service nor should it be relied upon to replace the advice of an investor’s own professional legal, tax and financial advisors.

Additional Information Regarding Bloomberg Barclays Indices Source: Bloomberg Index Services Limited. BLOOMBERG® is a trademark and service mark of Bloomberg Finance L.P. and its affiliates (collectively “Bloomberg”). BARCLAYS® is a trademark and service mark of Barclays Bank Plc (collectively with its affiliates, “Barclays”), used under license. Bloomberg or Bloomberg’s licensors, including Barclays, own all proprietary rights in the Bloomberg Barclays Indices. Neither Bloomberg nor Barclays approves or endorses this material, or guarantees the accuracy or completeness of any information herein, or makes any warranty, express or implied, as to the results to be obtained therefrom and, to the maximum extent allowed by law, neither shall have any liability or responsibility for injury or damages arising in connection therewith.

References to third party marks and content are for illustrative purposes only. No endorsement or association with a third party is intended unless otherwise disclosed. Copyright © 2019 by Hartford Funds

Hartford Funds Distributors, LLC, Member FINRA. MAI165 0720 218258