

BEHAVIORAL COACHING

Helping Investors Run Their Best Race

By Zar Toolan

When I ran my first marathon, I developed my own plan to run 26.2 miles in less than 4 hours. I trained regularly and felt great on race day. I finished the first half in 1:52, and I kept pushing the pace.

But about mile 20, I hit the wall. Soon I was walking. I finished in 4:14, and it wasn't pretty. What happened? My emotions got the better of me and it spiraled from there.

Similarly, lots of investors hit the wall in 2009 and moved into cash. Their emotions took over. But markets have rallied and those who quit missed out.

Investors and marathoners alike quit because of "recency bias," which amplifies recent feelings. As humans, we tend to undervalue the good moments and exaggerate the bad moments.

Just like marathoners, investors need a plan and they need to stick to it. When recency bias kicks in, investors need to be wary of acting emotionally. A plan can be as simple as managing the following five steps (figure 1):

1. Start with investor-defined goals versus market-defined goals.
2. Understand investor timeframes to help build wealth methodically over time.
3. Evaluate investor risk tolerance and ability to withstand market down-drafts that may lead to rash or overly emotional decisions.
4. Consider investor knowledge base to build the most appropriate portfolio.

Figure 1: Five Steps of Investor Behaviors



5. Ensure investor accountability to stay on track, monitor progress, and keep investments aligned with goals and risk tolerance.

When these elements are connected in a plan, an investor can increase the likelihood of achieving a financial goal. The investor owns the plan, and achieving investment performance in line with the goals in the plan beats swinging for the fences to get the best possible performance each and every year.

Through hypothetical scenarios, we examine the five steps and the pitfalls of emotional decision-making. We look at each step through the eyes of two hypothetical investors, an emotional investor named Bill and an objective investor named Sally. Bill consults online articles and friends with money in the market to create his own plan. Sally hires a coach to help her create a plan and hold her accountable for sticking to it.

Background on Our Hypothetical Investors

For simplicity, let's assume Bill and Sally are looking to retire in 15 years, have similar financial incomes and net worth, and have no dependents.

Bill is largely self-advised, meaning he does his own research about the markets, trades his own portfolio, and has sole discretion for his investment decision-making. Bill is 50 years old and looking to retire when he's 65. He has about \$500,000 total, which includes \$400,000 in his 401(k) and \$100,000 in an individual retirement account (IRA) that he trades online. He pays about 65 basis points (0.65 percent) annually in trading and account costs (about \$650 annually) for his IRA. Bill wants to be able to replace his \$80,000 annual paycheck in retirement.

Sally is advisor-led, meaning she pays a professional for financial advice that costs her 125 basis points per year (1.25 percent).

Her fees cover establishing a goals-based plan, help picking the investments to implement the plan, and monitoring of her progress. Sally typically makes financial decisions only after consulting with her financial advisor. She is 50 years old, is looking to retire at age 65, and wants to have about \$70,000 in annual retirement income. Sally has a modest pension that will pay her \$35,000 annually in retirement. She also has \$350,000, which includes \$250,000 in her 401(k) and \$100,000 in an IRA (a retirement-plan rollover from a previous employer), which her advisor manages. Sally pays about \$1,250 annually in fees. It's a little more costly than doing it alone (double Bill's annual cost), but she feels that she is paying for a customized plan and an accountability partner in her financial advisor.

Step #1: Investor-Defined Goals versus Market-Defined Goals

The first big difference we see in Bill and Sally's approaches to investing is how they define their goals. Bill is trying to beat the market and make portfolio decisions that will give him returns equal to or better than the S&P 500 Index, because that is the index with which he's most familiar. This is what we call a "market-defined goal."

Sally doesn't know as much about the markets. She knows she needs about \$70,000 in annual retirement income, and she has some uncertainty regarding unforeseen medical expenses and caring for her aging mother down the road. This is what we call an "investor-defined goal."

This distinction is important, because many investors think about themselves more in terms of their goals, dreams, and aspirations (personal and front-of-mind) rather than simply in terms of accounts, indexes, and performance (impersonal and abstract). Market movements will fluctuate, regardless of when an investor wants to retire.

To account for market fluctuation and to make the markets more personal, investors should have a plan that maps and prioritizes investor-defined goals and establishes the trade-offs necessary to achieve those goals. Trade-offs may include the following:

- forgoing something now to achieve something later;
- sequence, timing, and magnitude of goals;
- adjusting the plan when needed;
- and, above all, patience.

Why do so many plans fail? Investors tend to misjudge two critical components: timeframes and risk tolerance. It takes patience and dedication to a plan in order to achieve financial goals. By building a plan using a clear head and a defined path, emotions are less likely to come into play at critical decision points. This is how investors can minimize the impact of emotional decision-making and maximize the likelihood of successfully pushing through tough situations (see figure 2).

As important as the plan is, it's equally important to ensure the plan is reviewed, at least annually, to ensure investors are tracking toward their goals. This review allows the focus to be on where a client is in relation to achieving goals, not just against short-term market performance. In other words, is the investor focused on benchmarking to a goal (for example, the goal of buying a beach house) or outperforming an arbitrary benchmark (a market index)? Reviewing the plan at least annually, and continually monitoring and evaluating progress toward goals, allows for adjustments as necessary—all with a focus on long-term achievement of investor-defined goals and minimizing the impact of emotional investing.

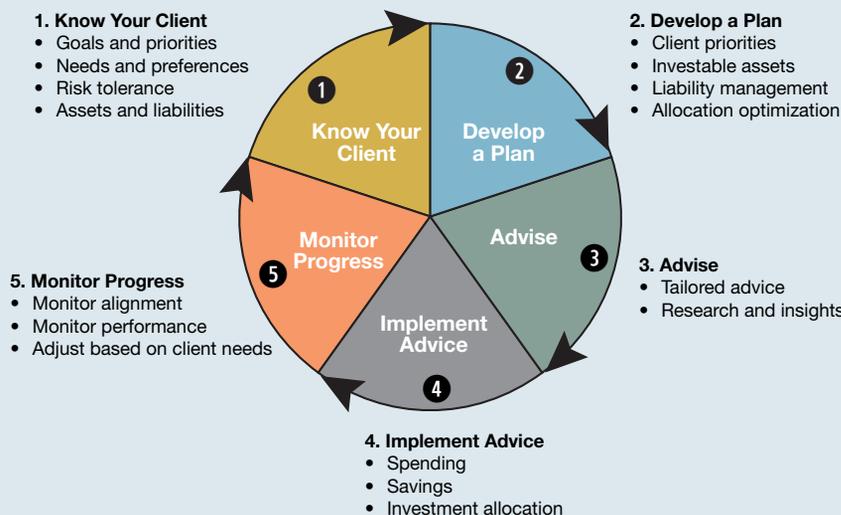
Step #2: Investor Timeframes

Bill always watches the morning market programs to see how the S&P 500 is doing, and he follows hosts such as Jim Cramer for their ideas on what to buy and sell. Bill uses his online trading account to manage his portfolio, so he has access to equity research about various stock statistics, earnings reports, and consensus price targets for a given year. He believes he can get 8 percent annually after his expenses for the next 15 years, which would mean growing his 401(k) (absent new contributions) from \$400,000 to about \$1.2 million and his IRA from \$100,000 to just more than \$300,000 over the same timeframe. That seems totally reasonable to Bill. Bill has a time horizon of 15 years, and he has primarily concerned himself with beating the S&P 500 each year.

Sally's goal is not market-defined. Rather, she consults with her financial advisor to

Figure 2: Providing a Roadmap through Planning

Planning helps clients determine whether they are on track and outlines the path to comprehensive financial success.



help her craft a plan that takes into consideration her specific situation. A key piece for Sally and her financial advisor is to quantify her goals specifically, understand the timing and magnitude of those goals, and then set a certain risk tolerance for Sally in achieving those goals.

When investors do not focus on their true risk tolerance, it can cause them to misjudge their investing timeframes. It also can cause them to act more with their emotions exactly when they shouldn't. In other words, they may end up buying high and selling low because they haven't calibrated their risk budget or their timeframes appropriately. Based on consultations with her financial advisor, Sally identifies a balanced portfolio that should generate around 6.5 percent in annual returns after fees, and that is commensurate with her timeframe and tolerance for risk.

On paper, Sally looks like she will be paying more and earning less than Bill. She's worked with her financial advisor to help define her timeframe and create expectations for what could occur within that timeframe. Sally has conversations with her financial advisor to validate her tolerance for risk, to help ensure that the portfolio she's choosing will keep her invested toward her goals—even on the downside. Bill is more focused on return and beating the market. We see this as one of the biggest pitfalls that investors face: focusing solely on certain portfolio return parameters without appropriately calibrating their timeframes or tolerance for risk. This is akin to not pacing yourself through a marathon.

Step #3: Investor Risk Tolerance

Investors don't always understand what risk tolerance means or what their true tolerance is for risk. And unfortunately, it's often not until we're really tested that investors understand the concept of risk tolerance. We saw this in 2016 when U.S. equity markets had the worst-ever beginning to the year. Investors had flashbacks to 2009 and wanted to pull out of the market. Many did, especially those who didn't have an accountability partner to keep them invested. They didn't reference their plans,

and they didn't place those plans within the context of the bull market run they had been riding the several years prior.

In practice, investors can look at risk in three quick ways:

1. Talking about risk is easier when you're not in a risky situation—when you can use the thoughtful, logical, analytical “rational brain” rather than “emotional brain,” which may lead to impulsive responses based on fear or excitement.
2. Dealing with a risky situation can be easier if someone is offering objective support and you're not going it alone.
3. Dealing with risk in the moment depends upon your ability to have simulated that risk in advance, either conceptually or in practice, training your rational brain to deal with things before your emotional brain experiences them first-hand.

All three of these elements are important for marathoners and investors alike. The rational brain's thoughtfulness, logic, and analytical tendencies are challenged by the emotional brain's split-second decisions based on fear, excitement, or exhaustion. Preparing investors for these responses well in advance of a panicked situation can

help keep them on track and on pace for their goals.

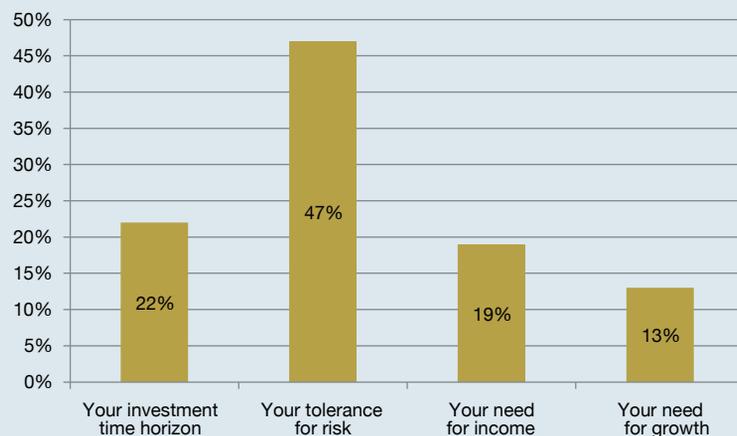
An important element of training the rational brain for investors is to keep an up-to-date risk profile.

- A client's profile can become “out of date” as a simple result of time and new life circumstances that may not be reflected in the client's investments.
- Many investors tend to think in terms of what they could have gotten versus what they should have gotten—which may be different still from what they actually got.
- Tolerance for risk is a crucial part of the conversation, but it can be forgotten in higher-return, lower-volatility markets such as the ones we've seen recently.

In August 2016, the Wells Fargo Investment Institute (WFII) asked more than 500 investors to discuss the most important factor in making investment decisions. Almost one-half of them listed “tolerance for risk” as the most important factor (see figure 3). It is important to note, however, that risk tolerance shouldn't be taken in isolation. In other words, it needs to be a core piece of investment decision-making and planning, but it also needs to be connected with timeframes and investor goals, as discussed previously.

Figure 3: WFII Attitude Survey, as of August 2016

Percentage of investors surveyed who said the factor was the most important when making investment decisions.



Source: Wells Fargo Investment Institute Investor Attitude Survey, August 2016. This figure shows results from a recent investment attitude survey conducted by TNS for Wells Fargo Investment Institute that asked a series of investment-related questions. There were 547 respondents with investable assets of \$500,000 or more.

When our hypothetical investors Bill and Sally begin their respective investment plans, they encounter risks they didn't initially foresee when they first developed their plans. That's why risk tolerance needs to be connected to other aspects of the investment plan, such as goals and timeframes, which depend largely on the knowledge base of the investor. As noted in the WFII study, "Time horizon and risk tolerance can work together—in that your tolerance for risk can increase as your time horizon lengthens. That is because historically, short-term losses often are recovered over longer periods of time" (McMillion 2016).

Yet not all investors are aware that short-term losses can be recovered in the long term or act rationally based on market history. The less knowledgeable investors are with respect to the markets, the more likely they are to make emotional decisions, which means not waiting for markets to recover. In other words, it's *time in* the markets not *timing* the markets. The deeper the investor knowledge base, the more intricate and nuanced a plan can be to potentially hedge against risk or put into place parameters for systematically dealing with that risk.

Step #4: Investor Knowledge Base

Investor knowledge base can be bucketed into three broad categories. These focal points of an investment plan can limit investors from making emotional decisions at the wrong time.

1. Investors should know their goals (e.g., retirement or caring for an aging parent).
2. Investors should know the sequence, timing, and magnitude of those goals.
3. Investors should be monitoring progress toward those goals by tracking them against where they should be in time and as part of a broader plan that may have multiple goals.

One of the biggest goals for investors is typically retirement. Although thinking about replacing your paycheck can be emotional—even terrifying, retirement is nothing more than another goal along the contin-

uum of a plan. It's important for clients to have plans in their rational brains to help them map their goals on a broader timeline. Objectively, an investor can consider these as a series of cash-flows (money in and money out). Inward cash-flows can be things such as saving for retirement in a 401(k) or IRA. Outward cash-flows could be things such as paying for an aging parent or increased healthcare expenses, which is a concern for Sally.

The plan should take into account the sequence, timing, and magnitude of those cash-flows and then be optimized to create the best likelihood of achieving those cash-flows in the future. This may include stress testing the plan and its potential for risk (down markets), and assessing how it may respond in worsened market conditions. Such exercises can help take some of the emotional elements out of play when those scenarios actually occur—they train the rational brain ahead of time so it can be knowledgeable enough to overcome the emotional brain and the recency bias that emotions can trigger.

Finally, a plan needs to have the ability to track progress and current versus projected dollar amounts against the plan. The plan needs to take into consideration where the portfolio is and where it could be in the future. That means helping the investor understand how far that portfolio, as it is constructed today, could drift from the client's plan given certain market conditions.

Those what-if scenarios can shore up investors' knowledge base to prepare them for a time when they might otherwise make an emotional decision. In other words, when will an investor rebalance and how will it be done? An investor can establish a foundation in an emotion-free environment to train the brain to overcome what likely will be emotional thoughts during periods of volatility or turmoil. This all helps create empirical knowledge and experience, so when emotions take over, investors have experienced those conditions already in their mind's eye and are less likely to make rash decisions if and when they occur.

This is where Bill and Sally's investment philosophies start to differ. Recall that Bill is self-advised and Sally has an advisor. Bill is more focused on market-defined goals whereas Sally is more interested in her own investor-defined goals. Because Bill is focused on market-defined goals, he decides to go with a copy-cat investment strategy based on what has happened previously in the markets. This is his knowledge base.

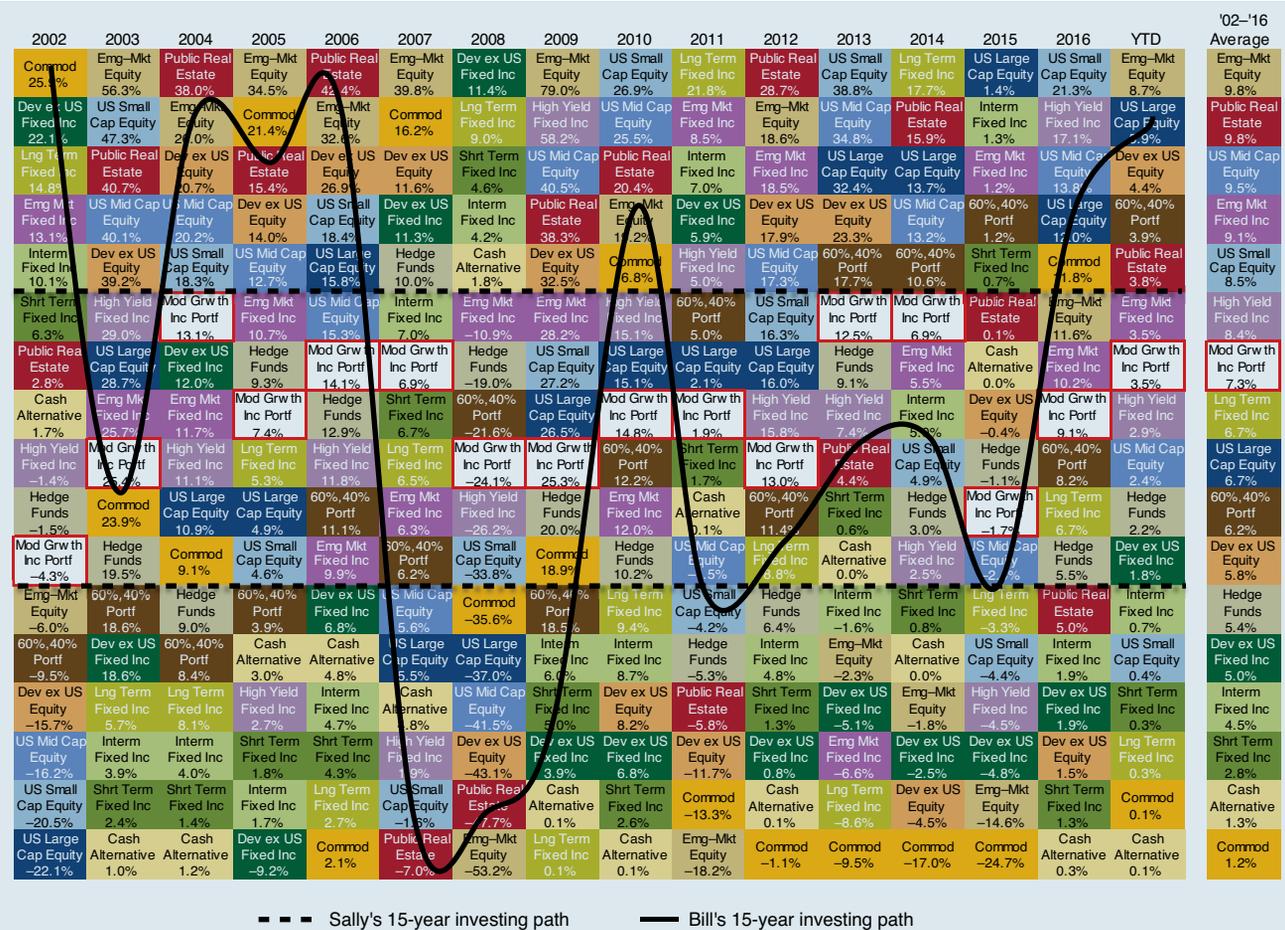
To simulate Bill's approach, let's take a basic asset class quilt chart example, beginning in 2002 (see figure 4). We determine the best asset class from the prior year and pick that asset class for next year, and we do that 15 times through year-end 2016. We assume that as the emotional investor, Bill bought the best-performing asset class of the prior year (in 2002, that was commodities), then ran that asset class all year in 2003. At the end of 2003, Bill sells out of that position entirely, checks for the best performer that year (emerging market equities in 2003). In 2004, Bill loads up on emerging market equities, and he repeats this process through year-end 2016. Because he's making these trades in his IRA, we assume there are no tax consequences.

Looking specifically at 2002–2016 and these available asset classes, running with last year's best performer, Bill winds up growing at 4-percent annually (net of 0.65-percent fees). This assumes that Bill continued to invest according to his buy-last-year's-winner plan, even after getting the worst performers two years in a row, in 2007 and 2008.

But what about Sally, who trained with a coach? That coach helped her define her goals (versus trying to beat a specific market return) and identify her true tolerance for risk. Sally was in a fully allocated moderate growth and income portfolio that returned 6 percent (net of 1.25-percent fees) over that same period. She never got the best performance of the year, but she also never got the worst.

For comparison, a basic 60-percent equity/40-percent fixed income portfolio that was rebalanced annually returned 5 percent net

Figure 4: The Value of Asset Allocation—Moderate Growth and Income



Sources: Wells Fargo Investment Institute and Morningstar Direct as of February 28, 2017. Hypothetical and past performance is no guarantee of future results. An index is unmanaged and not available for direct investment. Please see the end of this article for definitions of the indexes, descriptions of the asset class risks, and the composition of the hypothetical moderate growth and income portfolio and hypothetical 60-percent/40-percent portfolio. The data assume the reinvestment of all income and dividends and do not account for taxes and transaction costs. The average is the 15-year compounded (geometric) annual growth rate. Information has been obtained from sources believed to be reliable, but its accuracy is not guaranteed. Average is calculated as geometric mean. Average is calculated as 15 years from 2002–2016.

of a 1.25-percent fee, right between Bill and Sally's results.

Bill's may be an extreme case, but it shows that asset classes behave differently and at different times. They have varying degrees of volatility and don't behave consistently or in patterns. Bill's experience also calls out the gravitational pull of down markets. When a portfolio is down 50 percent, an investor needs 100 percent to recover the portfolio's value (see table 1). If an investor gets emotional when the portfolio is down and sells before the market recovers, it may be extremely difficult to get back on track. Again, that's the reason why timeframe matters and why time in the market matters.

A plan can accommodate these market fluctuations. It can increase an investor's knowledge base about what they're doing, why they're doing it, and—perhaps most importantly—when they're doing it. Sally doesn't need to have the rock-star performance of any one asset class in a given year, because she's built her knowledge base to understand that when she's diversified across many asset classes, she's never going to have the worst performer. Solely having the worst-performing asset class can be far more detrimental to her long-term goals than having a diversified portfolio.

Sally's balanced portfolio was also much less volatile than Bill's, and that 6-percent return helped her grow her \$100,000 IRA

to \$241,000 (net of 1.25-percent fees) with much less emotion. In other words, her coach helped her build a rational brain knowledge base to train the emotional brain to weather the storm of 2008 and 2009 successfully, stay invested, and not get stuck in a down-market gravitational pull. As asset classes moved in different directions, Sally's portfolio was rebalanced regularly to ensure it was in line with her plan—this can also be called a systematic way to buy low and sell high.

Step #5: Investor Accountability

As we've marched through goals, timeframes, risk, and knowledge base, we've seen two different approaches to planning: self-advised and advisor-led. In our final

Table 1: How to Know If You'll Break Even

To Break Even in One Period		Periods Necessary to Break Even Given a Percentage Return		
If you lose ...	You need ...	1%	5%	10%
-10%	11.1%	10.6	2.2	1.1
-25%	33.3%	28.9	5.9	3
-50%	100%	69.7	14.2	7.3
-60%	150%	92.1	18.8	9.6
-80%	400%	161.7	33	16.9

Source: Wells Fargo Investment Institute, December 31, 2016. For illustrative purposes only. There is no guarantee it will be possible to break even. Past performance is no guarantee of future results.

step, we see how Bill and Sally do over the long run using those different approaches.

Sally's investor accountability partner can help her in the following three areas:

1. Create a plan that incorporates investor goals, timeframes, risk tolerance, and knowledge base.
2. Implement a portfolio that matches the plan and is rebalanced regularly to stay aligned with the plan.
3. Monitor the plan to ensure investors are on track for their goals and that behavioral tendencies are dampened in difficult markets.

To make this point, we look at two distinct populations of investors. The first is Bill's self-advised population, which we've proxied as 401(k) investors who select their own investments as part of their plan. The second is Sally's advisor-led population, which we've proxied with IRA investors who pay a fee to a financial professional to manage their IRA assets.

Like Sally, the advisor-led population has assistance constructing a plan and building an investment mix that aligns with that plan. The self-advised clients, like Bill, make those decisions alone as they manage their own money and follow their own plans.

It is important to note that this is not intended to be a discussion on the merits of a 401(k) versus an IRA, or on comparing one platform to another, but rather to use the data as proxies for each group to demonstrate how self-advised versus advisor-led clients perform over time. This

is a core piece of the emotional investing equation, where going it alone could mean a greater likelihood of veering from the plan. We performed the study between 2011–2015 to gain a five-year view into these two types of investors.

We found that the advisor-led population, even after paying higher fees, performed better than similar 401(k) plan participants. The differences ranged up to 2 percentage points annually and appeared to increase toward the upper end of the range as clients age. These findings were fairly consistent in the five-year periods ended 2014 and 2015 (the time periods for which comparable data was available across the platform).

The source of the performance difference is not unexpected. The advisor-led IRA population had higher equity allocations than self-directed 401(k) plan participants. As of 2015, this difference was more than 10 percentage points for clients 55+ years old. IRAs also had lower cash allocations, significantly so for clients over age 55. Although we assume that clients have similar objectives by age band, self-advised investors tended to have a very different asset allocation mix than advisor-led investors.

The risk we consider here is not the risk of the underlying investments themselves that self-advised investors picked, but rather the risk of choosing the wrong strategy. We found for most clients, an advisor-led IRA ends up being 50–100 basis points (bps) more expensive annually (like Bill's 65 bps versus Sally's 125 bps). However, we also found that the difference in the best and

worst asset allocations chosen by investors had a spread between 400–500 bps annually (see figure 5).

In other words, choosing a bad strategy can be far more costly than the cost of advice (e.g., holding too much cash, which can dilute longer-term performance to goals). When self-advised investors got it wrong, they experienced much more of the gravitational pull of underperformance, making it more difficult to recover.

The chronic underperformance across each of the self-directed investor age bands can be attributed largely to the emotional impact of investing, trying to time the market, selling when the markets bottom, and then chasing returns. Each of these is a classic symptom of not having an investment coach to keep an investor on track—and on pace—with a plan.

Conclusion

Although it is certainly possible for investors to be self-advised and successfully track against their goals, the reality we see is that investors find it difficult to resist the forces of emotional decision-making and the qualms of in-the-moment behavior.

I now have run more than 35 marathons, and I've learned that it's not a matter of if you will hit the wall but when you will hit it. And when you hit it, whether you're running or investing, what will you do about it? Will your rational brain be built-up to overpower your emotional brain? Did you work hard to set your goals and build a knowledge base to help you achieve those goals? Did you prepare for those final miles with the right timeframes and risk tolerance in mind? Will you push through with the help of your accountability partner—that cheering kid on the side of the road at mile 21—or the notion of your investment coach holding your hand through tough markets?

It is inevitable that investors will hit an emotional wall where they may be down and may feel like their goals are slipping away because the markets aren't quite behaving the way they should. But having a

plan and knowing objectively ahead of time that hitting the wall is inevitable can help investors finish the race.

It's up to investors to choose which race they want to run. Having a coach to help them stay the course, align their investments to their plans, and review progress regularly can increase the likelihood that they finish the race—on pace and in line with their goals. ●

Zar Toolan is head of advice quality for Wells Fargo Advisors. He earned a BS in mechanical engineering from Columbia University in the City of New York and an MBA in finance from William & Mary. Contact him at zar.toolan@wellsfargoadvisors.com.

Reference

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To take the CE quiz online, visit www.IMCA.org/IWMquiz

Index Definitions

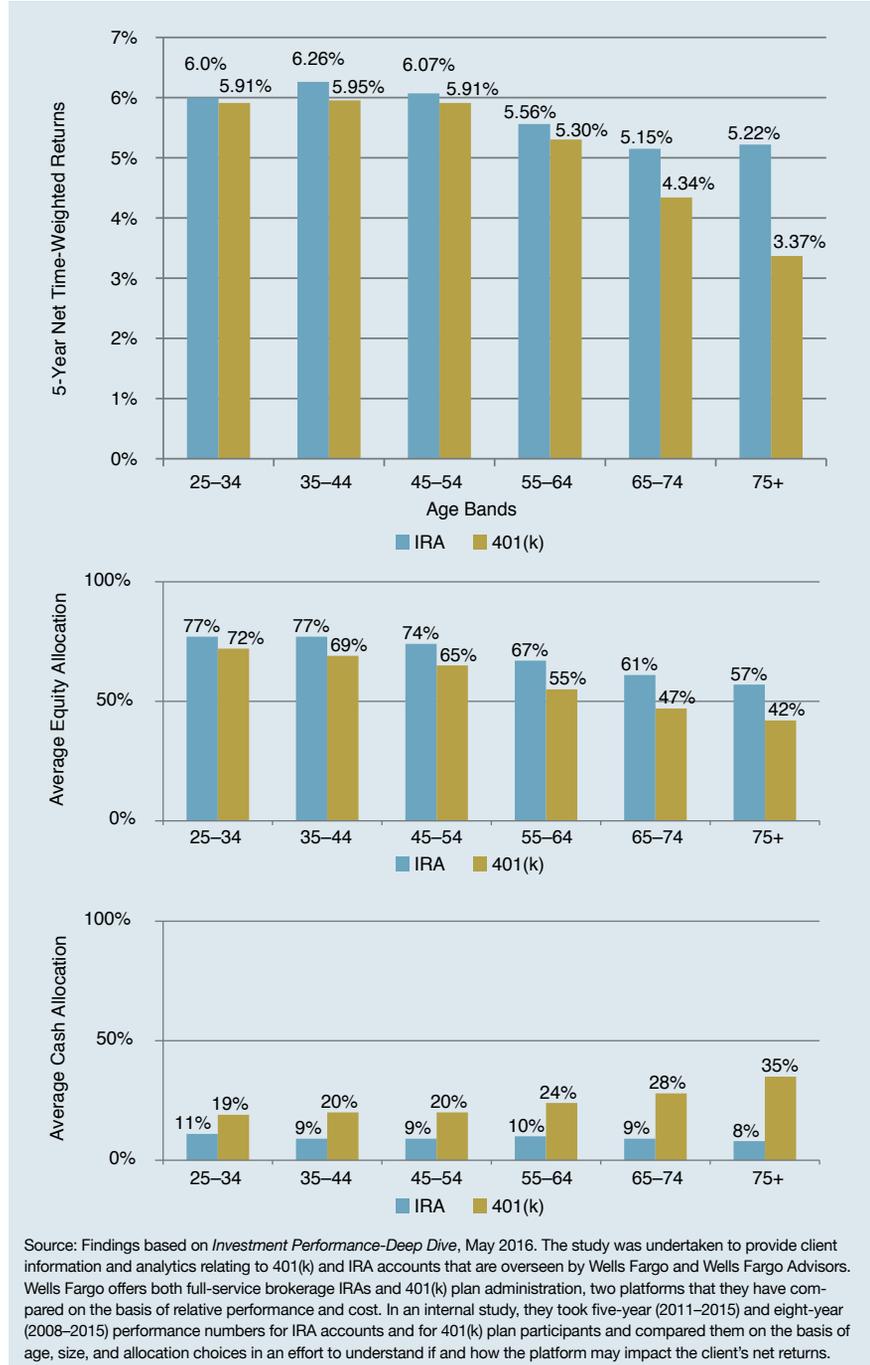
Hypothetical Moderate Growth & Income Portfolio (3 Asset Groups): Bloomberg Barclays U.S. Treasury Bills (1–3M): 3%, Bloomberg Barclays U.S. Aggregate (1–3Y): 4%, Bloomberg Barclays U.S. Aggregate (5–7Y): 16%, Bloomberg Barclays U.S. Aggregate (10+Y): 7%, JPM GBI Global Ex-US: 3%, Bloomberg Barclays U.S. Corporate High-Yield Bond: 6%, JPM EMBI Global Index: 5%, FTSE EPRA/NAREIT Developed: 5%, S&P 500: 21%, Russell Midcap®: 9%, Russell 2000®: 8%, MSCI EAFE: 6%, MSCI Emerging Markets: 5%, Bloomberg Commodity: 2%

Hypothetical 60%/40% Portfolio: 60% S&P 500 Index, 40% Bloomberg Barclays Aggregate Bond Index

Performance results for the Moderate Growth & Income and the 60/40 Portfolios are hypothetical and for illustrative purposes only. Hypothetical results do not represent actual trading and the results achieved do not represent the experience of any individual investor. In addition, hypothetical results do not reflect the impact of any fees, expenses or taxes applicable to an actual investment. The indices reflect the historical performance of the represented assets and assume the reinvestment of dividends and other distributions. An index is unmanaged and not available for direct investment. Hypothetical and past performance does not guarantee future results. Different investments offer different levels of potential return and market risk. Please see below for the definitions and risks associated with the representative indices.

Bloomberg Barclays U.S. Aggregate Bond Index is unmanaged and is composed of the Bloomberg Barclays U.S. Government/Credit Index and the Bloomberg Barclays U.S. Mortgage-Backed Securities Index, and includes Treasury issues, agency issues, corporate bond issues, and mortgage-backed securities. The Bloomberg Barclays U.S. Government/Credit Bond Index is an unmanaged, market-weighted index generally representative of intermediate and long-term government and investment grade corporate debt securities having maturities of greater than one year. The Bloomberg Barclays U.S. Mortgage

Figure 5: 2015 Performance Differences



Backed Securities Index is an unmanaged index of mortgage pools of the Government National Mortgage Association, Federal Home Loan Mortgage Corporation and Federal National Mortgage Association.

Short Term Fixed Income: Bloomberg Barclays U.S. Aggregate 1–3 Year Bond Index is unmanaged and is composed of the Bloomberg Barclays U.S. Government/Credit Index and the Bloomberg Barclays U.S. Mortgage-Backed Securities Index, and includes Treasury issues, agency issues, corporate bond issues, and mortgage-backed securities with maturities of 1–3 years.

Intermediate Term Fixed Income: Bloomberg Barclays U.S. Aggregate 5–7 Year Bond Index is unmanaged and is composed of the Bloomberg Barclays U.S. Government/Credit Index and the Bloomberg Barclays U.S. Mortgage-Backed Securities Index, and includes Treasury issues, agency issues, corporate bond issues, and mortgage-backed securities with maturities of 5–7 years.

Long Term Fixed Income: Bloomberg Barclays U.S. Aggregate 10+ Year Bond Index is unmanaged and is composed of the Bloomberg Barclays U.S. Government/Credit Index and the

Bloomberg Barclays U.S. Mortgage-Backed Securities Index, and includes Treasury issues, agency issues, corporate bond issues, and mortgage-backed securities with maturities of 10 years or more.

High Yield Fixed Income: Bloomberg Barclays U.S. Corporate High-Yield Bond Index covers the U.S. dollar-denominated, non-investment grade, fixed-rate, taxable corporate bond market. Securities are classified as high-yield if the middle rating of Moody's, Fitch, and S&P is Ba1/BB+/BB= or below. Included issues must have at least one year until final maturity.

Cash Alternatives/Treasury Bills: Bloomberg Barclays U.S. Treasury Bills (1–3M) Index is representative of money markets.

Commodities: Bloomberg Commodity Index is a broadly diversified index comprised of 22 exchange-traded futures on physical commodities and represents 20 commodities weighted to account for economic significance and market liquidity.

Public Real Estate: FTSE EPRA/NAREIT Developed Index is designed to track the performance of listed real-estate companies and REITs in developed countries worldwide.

Hedge Funds: HFRI Fund Weighted Index is a fund-weighted (equal-weighted) index designed to measure the total returns (net of fees) of the approximately 2,000 hedge funds that comprise the Index. Constituent funds must have either \$50 million under management or a track record of greater than 12 months. Sub-strategies include: HFRI Event-Driven, Distressed/Restructuring Index, and HFRI Event-Driven (Total) Index.

Emerging Market Fixed Income: JPMorgan EMBI Global Index is a U.S. dollar-denominated, investible, market cap-weighted index representing a broad universe of emerging market

sovereign and quasi-sovereign debt. While products in the asset class have become more diverse, focusing on both local currency and corporate issuance, there is currently no widely accepted aggregate index reflecting the broader opportunity set available, although the asset class is evolving. By using the same index provider as the one used in the developed-market bonds asset class, there is consistent categorization of countries among developed international bonds (ex. U.S.) and emerging market bonds.

Developed Market Ex-U.S. Fixed Income: JPMorgan Global Ex United States Index (JPM GBI Global Ex-US) is a total return, market capitalization weighted index, rebalanced monthly, consisting of the following countries: Australia, Germany, Spain, Belgium, Italy, Sweden, Canada, Japan, United Kingdom, Denmark, Netherlands, and France.

Developed Market Ex-U.S. Equities: MSCI EAFE Index (Europe, Australasia, Far East) Index (MSCI EAFE) is a free float-adjusted market capitalization index designed to measure the equity market performance of developed markets, excluding the U.S. and Canada. The index consists of the following 21 developed-market country indexes: Australia, Austria, Belgium, Denmark, Finland, France, Germany, Hong Kong, Ireland, Israel, Italy, Japan, the Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, and the United Kingdom.

Emerging Market Equities: MSCI Emerging Markets Index (MSCI EM) is a free float-adjusted market capitalization index designed to measure equity market performance of emerging markets. The index consists of the following 23 emerging market country indexes: Brazil, Chile, China, Colombia, Czech

Republic, Egypt, Greece, Hungary, India, Indonesia, Korea, Malaysia, Mexico, Peru, Philippines, Poland, Qatar, Russia, South Africa, Taiwan, Thailand, Turkey, and United Arab Emirates.

U.S. Small Cap Equities: Russell 2000® Index measures the performance of the 2,000 smallest companies in the Russell 3000® Index, which represents approximately 8% of the total market capitalization of the Russell 3000 Index.

Russell 3000® Index measures the performance of the 3,000 largest U.S. companies based on total market capitalization, which represents approximately 98% of the investable U.S. equity market.

U.S. Mid Cap Equities: Russell Midcap® Index measures the performance of the 800 smallest companies in the Russell 1000 Index, which represent approximately 25% of the total market capitalization of the Russell 1000® Index.

Russell 1000® Index measures the performance of the 1,000 largest companies in the Russell 3000 Index, which represents approximately 92% of the total market capitalization of the Russell 3000 Index.

U.S. Large Cap Equities: S&P 500 Index is a market capitalization-weighted index composed of 500 widely held common stocks that is generally considered representative of the US stock market.

Asset Class Risks

Asset allocation is an investment method used to help manage risk. It does not ensure a profit or protect against a loss.

Bonds: Investments in fixed-income securities are subject to market, interest rate, credit and other risks. Bond prices fluctuate.

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ate inversely to changes in interest rates. Therefore, a general rise in interest rates can result in the decline in the bond's price. Because bond prices generally fall as interest rates rise, the current low interest rate environment can increase the bond's interest rate risk. Credit risk is the risk that an issuer will default on payments of interest and principal. This risk is higher when investing in high yield bonds, also known as junk bonds, which have lower ratings and are subject to greater volatility. If sold prior to maturity, fixed income securities are subject to market risk. All fixed income investments may be worth less than their original cost upon redemption or maturity.

Commodities: Investing in commodities is not suitable for all investors. Exposure to the commodities markets may subject an investment to greater share price volatility than an investment in traditional equity or debt securities. Investments in commodities may be affected by changes in overall market movements, commodity index volatility, changes in interest rates or factors affecting a particular industry or commodity. Products that invest in commodities may employ more complex strategies which may expose investors to additional risks.

Foreign: Foreign investing involves risks not typically associated with U.S. investing, including currency fluctuations, political instability, uncertain economic conditions and different accounting standards. These risks are heightened in emerging markets.

Hedge Funds: Hedge funds trade in diverse complex strategies that are affected in different ways and at different times by changing market conditions. Investing in hedge funds involves the risks inherent in an investment in securities, as well as specific risks associated with limited liquidity, the use of leverage, short sales, options, futures, derivative instruments, and investments in non-U.S. securities, "junk" bonds, illiquid investments and arbitrage methodologies.

REITs: There are special risks associated with an investment in real estate, including the possible illiquidity of the underlying properties, credit risk, interest rate fluctuations and the impact of varied economic conditions.

Stocks: Stocks are subject to market risk which means their value may fluctuate in response to general economic and market conditions, the prospects of individual companies, and industry sectors. The prices of small/mid-company stocks are generally more volatile than large company stocks. They often involve higher risks because of smaller and mid-sized companies may

lack the management expertise, financial resources, product diversification and competitive strengths to endure adverse economic conditions.

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