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# The Financial Impact of Behavioral Biases

Understanding the extent and importance of behavioral biases.

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In a year spent grappling with uncertainty, we've all made snap decisions based on emotions like fear, elation, or anxiety. While those may seem irrational in hindsight, they're hardly uncommon in the world of behavioral finance, the branch of behavior science that aims to understand how people take mental shortcuts while making financial decisions.

In this report, we offer results from a nationwide U.S. assessment of four common biases. We rigorously analyze a nationally representative sample of Americans, connecting their demonstrated levels of bias with their assets and their overall financial health.

### We find that:

1. The majority of Americans show biases of *present bias*, *loss aversion*, *overconfidence*, and *base rate neglect*. This holds true across all age, income, and education groups, even if there are some differences by groups.
2. On average, younger people showed higher levels of overconfidence compared with older individuals. Note: these results are not indicative of a single person, but of aggregate tendencies.
3. Higher bias levels directly correlate with worse financial outcomes. We see this across a wide range of domains: from financial health, to checking and 401(k) account balances, to self-reported credit scores. These results hold true even when controlling for factors such as income, education, and financial literacy.
4. Higher bias levels also directly correlate with determinantal financial behaviors: from failing to plan ahead to failing to save and invest.
5. Some common perceptions about these biases may be misguided— for example, one gender is not more biased than the other, by and large.
6. Numerous techniques are available to individuals—and their advisors—to help combat these biases, and their negative effects on people's financial health and wealth.

## Why We're Here: The Biases We All Face

Most decisions we make on a daily basis involve some sort of a shortcut. It could be anything from an educated guess ("a brand name T-shirt is usually better than a generic one") to following a rule of thumb ("when investing, buy low and sell high"). These shortcuts, or "heuristics," may often stem from the automatic part of our brain, outside of our conscious awareness. The answers they come up with "feel" right to us. Most of the time, these answers are useful—they help us react quickly, enabling us to get to a decision without expending too much mental effort.

There are times, however, that mental shortcuts lead us astray—and that’s when they become biases. Take a typical investor, for instance. For her, the process of investing—from gathering information to choosing securities, to deciding what to do with existing securities—is full of hurdles. The complexity of these decisions means that when it comes to finances, many of the shortcuts we use in everyday life based on our intuition can bias our judgment and decision-making, leading to unhelpful and even hurtful investment errors.

For example, many investors have owned a stock that is down so much that they can’t stomach the thought of selling it. In reality, if we are in that situation and we sell, the money could be reinvested into a higher-quality stock. But since we don’t want to realize this loss, we hold on to hope that, one day, we’ll be able to break even. We know that holding on to this investment can lead to worse outcomes in the long term. But we choose to ignore this advice because our gut says not to sell. In the research community, we call this loss aversion bias (expressed as what’s known as *the disposition effect*); it can cost investors millions of dollars every year by leading them to hold on to low-quality investments.

Thankfully, researchers have spent decades trying to understand and measure such biases and what we can do to avoid them.

### **Prior Work in This Space**

Given that we may not recognize the biases we hold until they’re pointed out to us, objectively assessing biases is a useful way to determine how likely we are to have a certain bias. In the past, several researchers<sup>1</sup> have attempted to measure biases rigorously using lab-based elicitation methods and stylized tasks. These measures allow us to differentiate between degrees of a bias and can help us identify and alleviate biases when they exist.

However, what this prior research often lacks is a direct connection to real-world outcomes. In a finance context, for example, prior research has not systematically examined the effect of various biases on financial wellness and dollars in accounts. This is necessary to convince financial advisors, for example, of the economic importance of understanding and mitigating a person’s biases. In this study, we replicate academically tested measures on a nationally representative sample, while giving them real-world meaning by connecting them with specific financial outcomes.

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<sup>1</sup> E.g., Stango, V. & Zinman, J. 2019. “We Are All Behavioral, More or Less: Measuring and Using Consumer-level Behavioral Sufficient Statistics.” NBER Working Paper No. 25540.

## Our Research

Biases lead people to make similar mistakes in similar situations. Researchers have tested certain elicitation methods<sup>2</sup> that allow one to replicate these situations in a survey, wherein a person is expected to behave in a predictably ‘biased’ manner. By analyzing a person’s responses, we can tell whether a person is likely to have a bias or not.

To measure biases on a large scale, we surveyed a nationally representative sample of 1,211 Americans, sourced from NORC’s (University of Chicago) AmeriSpeak panel. Participants completed a “bias assessment” survey, which included questions for six biases and a measure of a person’s financial health. The biases included were:

- ▶ Present Bias: The tendency to overvalue smaller rewards in the present at the expense of long-term goals.
- ▶ Base Rate Neglect: The tendency to judge the likelihood of a situation by considering the new, readily available information about an event while ignoring the underlying probability of that event happening.
- ▶ Overconfidence: The tendency to overweigh one’s own abilities or information when making an investment decision.
- ▶ Loss Aversion: The tendency to be excessively fearful of experiencing losses relative to gains and relative to a reference point.
- ▶ Exponential Growth Bias: The tendency to underestimate the impact of compound interest.
- ▶ Gambler’s Fallacy: The tendency to believe that a random event is less (or more) likely to happen following a series of similar events—thus over (or under) predicting reversals in series like market trends.

The first four biases showed robust results, both statistically and practically significant across a range of measures. The last two—exponential growth bias and gambler’s fallacy—did not. They were of marginal or no statistical and practical significance and showed considerable instability in results across measures. For the rest of the report, we will focus on the four biases with robust results.

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<sup>2</sup> For biases like present bias and loss aversion, we replicated the questions studied by previous researchers [1, 2: below] in our survey. For biases like overconfidence and base rate neglect, we choose a set of measures from an inventory of questions designed by researchers [3] [4]. All the biases were scored using the same methodologies used by the aforementioned researchers.

[1] Goda, G. S., Levy, M., Manchester, C. F., Sojourner, A., & Tasoff, J. 2017. “The Role of Time Preferences and Exponential-Growth Bias in Retirement Savings.” NBER W/P No. 21482.

[2] Fehr, E., & L. Goette. 2007. “Do workers work more if wages are high? Evidence from a randomized field experiment.” *American Economic Review* 97(1) 298-317.

[3] Bruine de Bruin, W, Parker A.M. & Fischhoff, B. 2007. “Individual differences in Adult Decision-Making Competence”. *Journal of Personality and Social Psychology*. 92:938–956.

[4] Wolfe, C. R., & Fisher, C. R. 2013. “Individual Differences in Base Rate Neglect: A Fuzzy Processing Preference Index.” *Learning and individual differences*, 25, 1–11.

For each bias, we recorded our respondents' answers and assigned them a score to indicate the likely severity of the particular bias, if applicable. We scaled bias scores on a range of zero to 10 and assigned a bias level, with scores between 0 and 3 reflecting 'low' levels, scores between 4 and 7 reflecting 'medium' levels, and scores between 8 and 10 reflecting 'high' levels.

We also measured a person's financial health using the Financial Health Network's FinHealth Score, a widely used, holistic set of survey questions that corresponds to one of eight components of financial health, which are grouped into Saving, Spending, Borrowing, and Planning scores. The final score on this scale ranges between 0 and 100, with people falling under a score of 40 considered as 'Vulnerable,' scores from 40 to 79 considered 'Coping,' and scores 80 and above considered 'Healthy' in terms of financial health. People in the Healthy section are able to manage their day-to-day financial lives, have significant financial cushions in case of an emergency, and demonstrate the highest rates of checking account, savings account, and credit card ownership of all segments. On the other hand, people in the Vulnerable section are most likely to be struggling with their financial lives; they have the lowest income, the lowest savings, and high debt, and they are the least likely of all segments to own a credit card and the most likely to be unbanked.

Given that financial health is largely determined by classic factors like income, age, education, financial literacy, risk capacities, numeracy, and so on, we include questions for these factors in our survey as well.

## Results: What did we find?

### **Biases can cause real harm to our financial lives**

Knowing about biases—especially your own—is a great step to learning how to avoid them in our daily life. However, that may not always be enough. Biases are a complex concept to wrap our heads around, and unless we know what they mean for our finances, we may underestimate their impact.

Now, although scarce, there have been some studies showing empirical links between financial choices and outcomes in ways predicted by theory, while also proving that behavioral factors are prevalent in representative samples.<sup>3</sup>

In our research, we sought to explore the link between individual level differences in financial outcomes and bias scores. Here are some of our key results:

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<sup>3</sup> Stango, V. & Zinman, J. 2019. "We Are All Behavioral, More or Less: Measuring and Using Consumer-level Behavioral Sufficient Statistics." NBER Working Paper No. 25540.

### Key Results:

- Each bias directly correlates with low financial health. Pearson correlation coefficients of overconfidence, base rate neglect, present bias, and loss aversion with financial health scores are negative 0.33 ( $p < 0.001$ ), negative 0.45 ( $p < 0.001$ ), negative 0.20 ( $p < 0.001$ ), and negative 0.15 ( $p < 0.01$ ), respectively.
- These results hold true even when controlling for demographics such as age, income, and education, and other standard correlates like cognitive ability or financial literacy.
- Biases are related to lower account balances. For example, with a standard deviation increase in bias scores, total savings account balances fall by 0.55% ( $p < 0.001$ ) for base rate neglect, 0.22% ( $p < 0.01$ ) for overconfidence bias, and 0.26% ( $p < 0.001$ ) for present bias, respectively.
- Bias measures may at times be better correlated with financial outcomes than traditional predictors of financial health, like education (27% correlation with financial health).
- Bias scores could be leading to biased behavior. In case of present bias, higher bias scores are related to having higher credit card debt, spending more than our incomes, and failing to pay bills on time.
- Biases are not an anomaly. Most of us are biased—98% of the sample exhibited at least one of our four biases.
- Significant differences exist between some groups: For instance, younger people on average tend to show higher overconfidence. We found significant differences (F value= 2.41,  $p < 0.05$ ) between gen Z, millennials, and older groups (baby boomers, for example).

We see clear signals that higher bias scores are associated with worse financial health scores, bad credit scores, and lower net worth. In the next pages, we'll dive into the detailed results for those who are interested in the details.

### Biases and Financial Health

In Table 1 below, we regress a person's Financial Health Segment (Healthy, Coping, Vulnerable) onto each bias in a logistic regression to find how likely the people with high bias levels are to fall into the financially Vulnerable segment compared with those with low bias levels. For example, the results should be interpreted as: people with high overconfidence bias are 2.20 times more likely to be financially Vulnerable, compared with people with low overconfidence bias.

Table 1

Holding age, income, and education constant, those with \_\_\_\_\_ are \_\_\_\_\_ times more likely to be in financially Vulnerable segments (than those with low bias)

High Overconfidence	2.20 ( $p < 0.001$ )
High Base Rate Neglect	1.75 ( $p < 0.001$ )
High Present Bias	1.97 ( $p < 0.05$ )
High Loss Aversion	1.33 ( $p < 0.01$ )

Diving into how each bias relates to the actual FinHealth Score with linear regression analysis, we find that, after controlling for age, income, and education:

- ▶ One standard deviation increase in the loss aversion score leads to a 0.15 standard deviation decrease in FinHealth Score ( $p < 0.001$ , adj  $R^2 = 0.18$ )
- ▶ One standard deviation increase in the overconfidence score leads to a 0.31 standard deviation decrease in FinHealth Score ( $p < 0.001$ , adj  $R^2 = 0.23$ )
- ▶ One standard deviation increase in the base rate neglect score leads to a 0.44 standard deviation decrease in FinHealth Score ( $p < 0.001$ , adj  $R^2 = 0.29$ )
- ▶ One standard deviation increase in the present bias score leads to a 0.20 standard deviation decrease in FinHealth Score ( $p < 0.001$ , adj  $R^2 = 0.20$ )

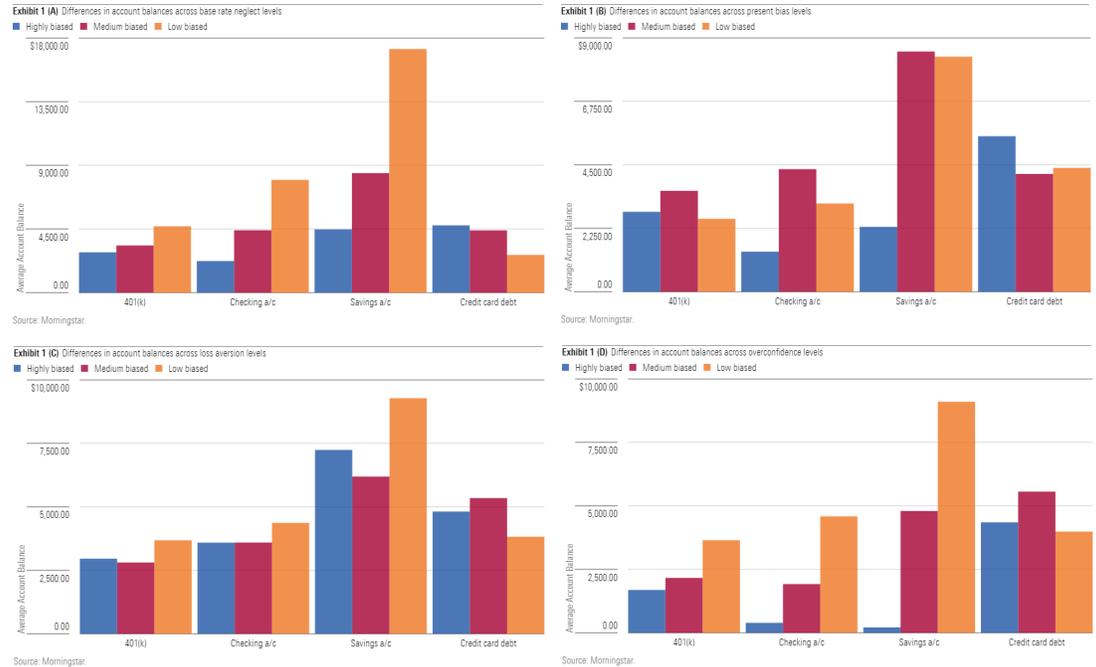
In case the concept of financial health is hard to translate to real life outcomes, we also study how investor wealth is tied to bias scores. Using Pearson's correlation, we first correlate income with each of the four biases and find that overconfidence ( $\rho = -0.23$ ,  $p < 0.001$ ), base rate neglect ( $\rho = -0.26$ ,  $p < 0.001$ ), and loss aversion ( $\rho = -0.07$ ,  $p = 0.011$ ) are significantly negatively correlated with income. Results for present bias are not significant.

Next, our sample was asked, "Suppose you were to sell all of your major possessions and pay all of your debts. Would you have money left over, break even, or be in debt?" Here, 'money left over' means positive net worth, while 'be in debt' means negative net worth. In our results, on performing a one-way ANOVA, or analysis of variance, we see that different net worth groups (positive, break-even, or negative) have significant differences ( $p < 0.05$ ) in all four biases other than loss aversion.

### **Biases and Account Balances**

Let's try to visualize what this impact means in terms of real-life account balances. As part of the AmeriSpeak panel, NORC collects information about a person's checking account balance, savings account balance, credit card debt, and workplace retirement account (for example, 401(k)).

In Exhibit 1 (A-D), we assign anyone with a bias score  $\leq 3$  as 'Low biased,' anyone 4 to 7 as 'Medium biased,' and anyone above 7 as 'Highly Biased.' We then compare average account balances for differently biased people. Generally, we saw a trend that as bias scores increase, people tend to have lower account balances and higher debt.



But account balances could be explained by a number of reasons. To really stress this relationship, we tested these balances against bias scores, while controlling for classical predictors like income and age. Again, we saw that as people tended to have higher biases, account balances were lower, and debts were higher. Table 2 shows key results:

Table 2

Holding income and age constant, as \_\_\_ bias scores increase by one standard deviation are \_\_\_ times more likely to \_\_\_\_\_

Base Rate Neglect	1.45 (p<0.001)	have lower checking account balances
Base Rate Neglect	1.67 (p<0.001)	have lower savings account balances
Present Bias	1.19 (p<0.001)	have higher credit card debt
Loss Aversion	1.32 (p<0.001)	have lower 401(k) savings
Overconfidence	1.34 (p<0.001)	have lower checking account balances
Overconfidence	1.32 (p<0.001)	have lower savings account balances

What could motivate these lower balances? Perhaps, bias-influenced behaviors might cause this. Present bias, for example, is intertemporal in nature and distorts how people perceive their financial future.<sup>4</sup> In our results, we see that as present bias scores increase, the odds of having higher debt increase 1.19 times, while the odds of having lower checking and savings account balances increase by 1.23 and 1.16 times, respectively (p<0.001 for both). In previous literature, present bias has been linked

<sup>4</sup> O'Donoghue, T. & Rabin, M. 2001. "Choice and Procrastination". *The Quarterly Journal of Economics*, Vol. 116, P. 121.

to behavior like higher credit card borrowing<sup>5</sup> and procrastinating on the decision to enroll in a tax-deferred savings plan, resulting in lower retirement savings. Our measures point to similar results.

In Table 3, we connect these biases to specific behaviors, captured on the survey, that would be conducive toward a successful financial future. Specifically, we see how people who scored low on present bias perform. These results should be interpreted as “People with low present bias are 7.5 times more likely to plan ahead for their future than people with high present bias.” (All results are significant at  $p < 0.05$ .)

Table 3

	are _____ times	more likely to	
	7.5	plan ahead for their future	
People	2.8	spend less than their income	than people
with low	1.64	be able to survive six months on their current savings	with high
present	2.4	pay bills on time	present
bias	2.64	save to invest	bias
	1.3	save for emergencies	

On analyzing these indicators against other biases that we measured, we saw similar results. For example, people with high overconfidence are 3.33 times less likely to save for retirement ( $p < 0.05$ ), while people with low base rate neglect are 2.85 times more likely to save for emergencies ( $p < 0.001$ ).

It seems that high bias scores are related to poor financial habits (failing to plan future finances, for example), which in turn lead to lower financial health scores and lower account balances.

### Biases and Credit Scores

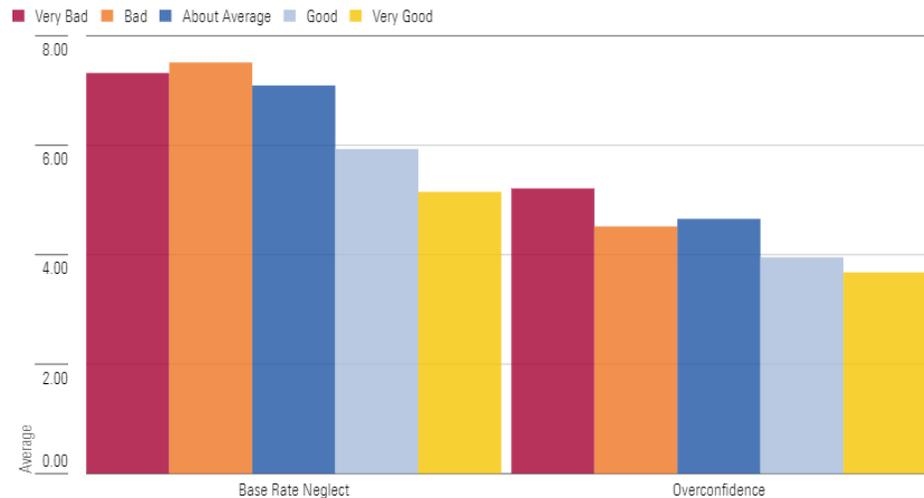
Our previous results stay true even while exploring other domains of financial health. Here, let’s look at a person’s self-reported credit score. Naturally, we can expect these scores to be tied to a person’s saving and borrowing behavior. In our sample, we see a significant trend that indicates that, as bias scores increase, people are much more likely to fall into the ‘Very Bad’ or ‘Bad’ credit score range.

For example, people with high base rate neglect bias were 11 times more likely to have a Bad or Very Bad credit score self-report ( $p < 0.01$ ), while controlling for age, income, and education. Similarly, people with high overconfidence bias were 8 times more likely to have a Bad or Very Bad credit score self-report ( $p < 0.01$ ), with the same controls. The exhibit below shows how bias score averages decrease as credit score ranges change. On ANOVA analysis, results were also significant for present bias (F stat= 8.19,  $p < 0.001$ ).

<sup>5</sup> Meier, S., & Sprengel, C. 2010. "Present-Biased Preferences and Credit Card Borrowing." *American Economic Journal: Applied Economics*, Vol 2, No. 1, P. 193.

We found this result to be true for loss aversion bias as well; as bias scores increase by a unit, people are 1.4 times more likely to have Bad or Very Bad credit scores ( $p < 0.001$ ). However, we did not find any relationships for present bias.

**Exhibit 2** Differences in base rate neglect and overconfidence bias scores across credit scores



Source: Morningstar.

### A Brief Review Thus Far

We see clear signals that higher bias scores are associated with worse financial health scores, bad credit scores, and lower net worth. These results lead us to believe that biases could be manifesting themselves in suboptimal financial choices, leading to worse financial outcomes. Further, it seems that the effect of biases on financial health can't be explained by demographics or individual characteristics like financial health or numeracy. In addition to the distinct relationship, it is important to note that bias measures are at times better correlated with financial outcomes than these traditional predictors of financial health. A person's level of education, for instance, has a 27% correlation with their financial health ( $p < 0.001$ ). In contrast, overconfidence and base rate neglect scores have a negative 33% ( $p < 0.001$ ) and negative 45% ( $p < 0.001$ ) correlation with financial health. This points to the potential of measuring behavioral factors while attempting to model financial health.

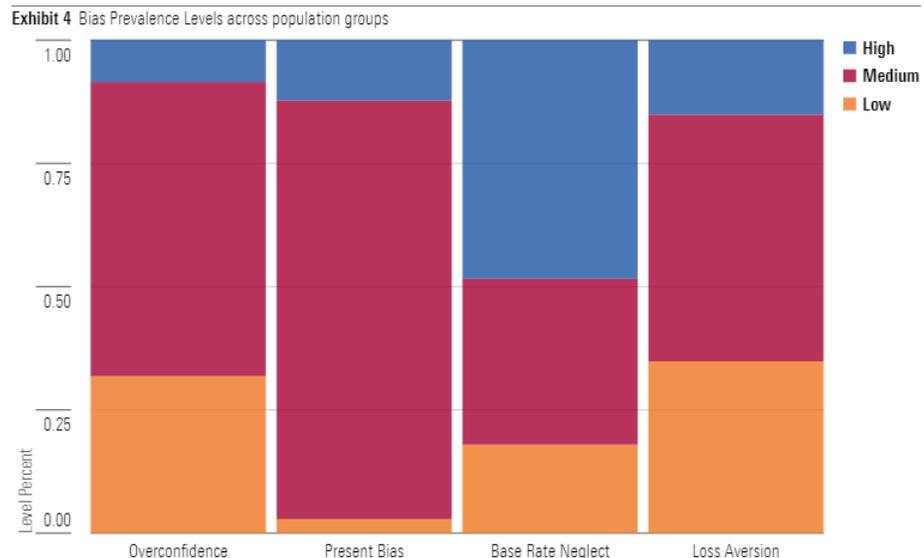
For advisors, these results are generalizable empirical foundations they can use to start incorporating behavioral coaching into their practices. Biases matter, and by testing clients for biases, advisors can help visualize their impact and thus acknowledge the ways in which biased decisions can hurt financial outcomes. Segmenting people on their risk of bias can help advisors understand who needs the most help, and they should undertake various debiasing techniques to mitigate their client's biases.

### Who Is Biased?

Now that we know biases can harm us, should we be worried? If biases were an anomaly affecting only a small percentage of the population, they probably wouldn't merit our continued time and attention. If the chances of them affecting us were low, we could just ignore them. Unfortunately, that does not seem to be the case.

Research by Stango, Yoong, and Zinman provided the first broad-based evidence on the prevalence and heterogeneity of behavioral tendencies at the person-level. They found that, in a nationally representative sample, nearly everyone showed some biased tendencies, with 98% of the sample exhibiting at least one bias. In our sample, we similarly found that biases are prevalent across the U.S. population. Biases are not an anomaly that affect investors few and far between but rather a pervasive tendency that affects so many investors that it calls for interventions.

Exhibit 4 shows the distribution of our population across the four measured biases. We see that a majority of our sample reported significant (Medium and High) levels on all four types of biases measured in our study. About 82% of our population shows signs of having a base rate neglect bias to a point where it may impact them negatively, while almost the whole sample—about 97%—showed signs of present bias.



Source: Morningstar.

### Are Some People More at Risk Than Others?

It's clear that biases seem to be a universal tendency. But are some groups more at-risk for biases than others? This research can also help dispel certain myths about biases—for example, ample economic literature suggests that there are real differences between genders when it comes to trading and investing, focusing on questions like whether one gender perceives risks differently<sup>6</sup>, or whether one gender makes more biased decisions than the other<sup>7</sup>. When it comes to the four biases we measured, we find that only loss aversion (mean difference= -0.45,  $p < 0.001$ , Hedges'  $g = 0.21$ ) showed significant differences between genders, with females seen to be higher on the bias as compared with males.

<sup>6</sup> Eckel, C., & Grossman, P. 2002. "Sex differences and statistical stereotyping in attitudes toward financial risk." *Evolution and Human Behavior*, Vol. 23, No. 4, P. 281.

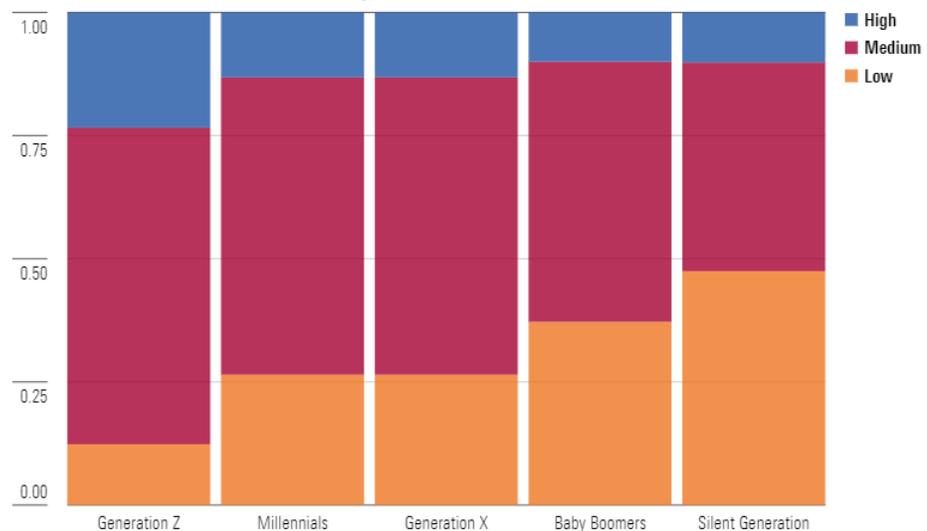
<sup>7</sup> Barber, B.M., & Odean, T. 2001. "Boys Will Be Boys: Gender, Overconfidence, and Common Stock Investment." *Quarterly Journal of Economics*, Vol. 116, P. 261.

In our research, we also see trends that indicate that biases may be generational. For instance, not much consensus has been reached on the relationship between overconfidence and age in previous research; Lin (2011), who conducted a study on the relationship between psychological traits, demographics, and financial behavioral biases for individual investors, found that older people were more overconfident than younger people. In our sample, we found that age correlated negatively with overconfidence scores ( $\rho=-0.17$ ,  $p=0.0004$ ), indicating that younger people on average demonstrate higher overconfidence scores.

Across generations, our results show significant differences (F value= 2.41,  $p<0.05$ ) between gen Z, millennials, and older groups (baby boomers and the silent generation). Here, it's possible that part of the negative influence of increased age on general ability may be compensated for by an age-related increase in domain-relevant knowledge<sup>8</sup>.

By having more experience, older people might be able to better estimate their investing abilities, bringing them closer to reality and making them less overconfident. In Exhibit 5, we show that gen Z has the highest proportion of overconfident people, while the silent generation had the lowest number of overconfident people.

**Exhibit 5** Differences in Overconfidence levels across generations



Source: Morningstar.

We see similar results for present bias; significant differences exist in present bias between millennials/gen Z, and baby boomers, with millennials having the highest proportion of people with high present bias (13%) compared with baby boomers (4%).

<sup>8</sup> Hansson, P., Juslin, P., & Winman, A. 2008. "The role of short-term memory capacity and task experience for overconfidence in judgment under uncertainty." *Journal of Experimental Psychology: Learning, Memory, and Cognition*, Vol. 34, P. 1,027.

## Discussion

A person's biases can be a significant impediment in the journey of being financially healthy. First, we found that biases aren't exactly rare — being 'biased' in a representative sample is common enough to warrant continued attention. Then, we saw that not everyone is equally biased. Substantial heterogeneity exists in bias degrees across individuals, and it's possible that these differences are a result of socioeconomic factors. All of us are biased, and it helps to be generally careful, but knowing that some groups are more at-risk is helpful information.

### **What This Means for Individuals and Advisors**

We know most people aren't great at recognizing their own biases. It's common to have a bias blind spot (the tendency to recognize the impact of biases on the judgment of others, while failing to note one's own). Factors like overconfidence and cognitive dissonance distort our perception of our biases<sup>9</sup>. This finding, compared with our empirical results to show how common biases really are, is especially pertinent when it comes to investing, where a belief in the superiority of our own reasoning and the perception of bias in others can directly result in ill-timed market decisions, skewed asset allocations, and more.<sup>10</sup> Recognizing that we are biased can help in realizing how exactly our biases distort our vision of the world and how we can start to correct it. This finding also highlights the significant opportunity for financial-services providers to address unmet needs in the market with high-quality bias assessment and mitigation services. When it comes to their clients, advisors might have room for interventions that can help investors better understand their biases, while avoiding any behavioral pitfalls that might be caused as a result of these biases.

Further, having proved that biases are correlated with certain demographic variables, advisors can take it upon themselves to reach out to people who may be more vulnerable to biases and help them self-monitor their own decisions. The fact that biases are not neutralized by market forces might be an indicator for advisors that current bias-mitigation techniques — if they exist — are not enough, and that there is value in dedicated approaches like behavioral coaching or specific bias interventions to help debias their clients.

### **What This Means About the Future of Investing**

The last few years have seen a huge influx of new (often unexperienced) investors on low or zero cost fintech platforms, which sometimes offer investing experiences designed to appeal to our biases. For example, research shows that overconfidence bias is tied to overtrading.<sup>11</sup> In the past, trading fees acted as a deterrent for overconfident people to act on their bias. How would these people now fare in a zero-fee trading world?

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<sup>9</sup> Pronin, E, Lin, D., & Ross, L. 2002. "The Bias Blind Spot: Perceptions of Bias in Self Versus Others." *Personality and Social Psychology Bulletin*. Vol. 28, P. 369.

<sup>10</sup> Barber, B. M. and Odean, T. 2013. "The Behavior of Individual Investors". *Handbook of the Economics of Finance*. Vol. 2, P.1533-1570.

<sup>11</sup> Odean, T. 1999. "Do Investors Trade Too Much?" *American Economic Review*, Vol. 89, No.5, P. 1,279.

Gamifying investing can train us to rely on our intuitions instead of on the facts, so it's no surprise that we've all seen news stories about how these platforms facilitate herding or speculative investing, which may lead to grim financial outcomes for some traders. Apart from the ethical debate surrounding consumer protections, what does that mean for the future of investing? For example, investing apps now have a list of securities ranked on how much attention each of them is receiving from traders. For some people, popular investments might signal good quality and instill in them a false sense of confidence that investing in such securities will lead to good returns. Although we might not be able to point to exactly whom these overconfident people are, from the methods described in this study, we can use aggregate level results to generalize the segments most at risk (here, younger people). For these segments, we must learn to employ common techniques that can help mitigate their biases.

### **Simple Techniques of Mitigating biases**

Here are a few quick habits we can start incorporating into our lives to avoid our biases.

- Slow down the decision-making process by setting up decision-making "speed bumps." These help us avoid impulsive decisions and let us take a step back from our emotions. For example, work to create a three-day wait rule (where you can't act on a decision for three days) or decide that a loved one or spouse must sign off on any decision before you act.
- Set objective trading rules that never change. For example, if the stock rises above a certain level, set a trailing stop that will lock in gains if the trade loses a certain amount of gains. Consider working with a fee-only advisor to formulate a written investment policy statement. This can prevent you from making irrational decisions during times of economic stress or euphoria.
- Try to ignore the daily news. Make the effort to ignore irrelevant information, particularly short-term price movements. Keep your eye on the bigger picture—and seek out information that lends itself to making that bigger picture clearer.

## **Conclusion**

Most of us are biased in different ways. Biases are a natural part of how our minds are wired and so broadly prevalent in the American population that they don't disappear with different socioeconomic backgrounds. More important, though, these biases can do real harm. We've found ways in which high bias scores can affect credit scores, net worth, saving and spending habits, and so on, but it's always possible that they also impact the broader way in which we think about and judge the world around us. We must recognize biases for what they are and take active steps to avoid them in our financial lives.

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