Vanguard

Investor expectations: A new survey

Vanguard Research

February 2020

Stephen P. Utkus and Jean A. Young

- This paper reviews some of the results of a new survey of investor expectations for stock returns, GDP growth rates, and bond returns. The bimonthly survey is based on a random sample of Vanguard retail and 401(k) individual investors. This report focuses on beliefs about the stock market during the period February 2017 to June 2019.

- As of June 2019, the typical Vanguard investor expected one-year stock market returns of about 5% and ten-year average annual returns of about 6%. These expectations are remarkably muted. What's more, these beliefs have remained remarkably consistent over the 15 survey waves conducted since 2017.

- As of June 2019, the average Vanguard investor sees a small (5%) chance of a market disaster (a one-year return below –30%) and a 14% chance of a market slump (a one-year return between –10% and –30%). Respondents see a 72% probability of conventional equity market returns over the coming year (ranging from –10% to 30%) and very small probabilities of a strong bull market (30% to 40%) or an exuberant one (greater than 40%).

- It is important to note that the period of this study, 2017 to mid-2019, was a generally benign one for U.S. equity markets. Our survey is ongoing. This paper provides a baseline for understanding individual investor market expectations today and for evaluating their evolution during future periods of market volatility and economic recession.

Acknowledgments: The authors would like to thank Sophia Bunyaraksh and Catherine Clinton for their support of the survey; Tom De Luca, John Lamancusa, and Bill Nessmith for their support of the data analysis; and Stefano Giglio, Matteo Maggiori, and Johannes Stroebel for the joint academic research this paper is based on.

Introduction

Expectations are central to economic and financial decisions. For example, investors take on equity market risk in the expectation that stocks may yield higher returns than safer investments will. Nevertheless, most of the attention in financial markets focuses on historical returns; only a few surveys attempt to gauge what investors think of the future.

This paper contributes to the discussion by describing a new bimonthly survey of expectations among Vanguard retail and 401(k) individual investors. In it, we analyze results compiled from February 2017 to June 2019. Although the survey covers expected stock market returns, GDP growth rates, and bond returns, this report focuses mainly on the stock market.

Our study is based on a larger effort by Stefano Giglio of Yale University, Matteo Maggiori of Harvard University, Johannes Stroebel of New York University, and Vanguard's Stephen Utkus. The survey results were initially analyzed in Giglio et al. (2019a), an academic paper that provides additional details.[1]

Our research is novel in a number of ways. First, our survey elicits expectations of both the stock market over various time horizons and the probability of various market scenarios. Second, it asks investors not only about market returns but also about growth rates in the real economy, which are critical determinants of long-run stock market returns.

Third, as described in detail in the academic paper, our analysis integrates survey responses with anonymized administrative data, allowing us to demonstrate the connection between actual beliefs and portfolio behaviors for the first time. We plan to review some of the findings in future Vanguard reports.

This paper begins with an overview of our study population. Next, we move to market and economic conditions during our research period. We then summarize Vanguard investor survey responses, with a focus on U.S. stock market expectations. We conclude with observations about the implications of these expectations.

Caveats on our results

Because U.S. equities exhibited relatively low volatility during the course of our study, our findings must be interpreted in light of these relatively benign market conditions. We anticipate that expectations will demonstrate greater variation during large market shocks, and we intend to report on such events as they unfold.

Also, although our findings are based on tens of thousands of individual survey respondents randomly selected from millions of individual investors, the results may be influenced by the type of investors who tend to be Vanguard clients. Particularly in the retail market, they may be drawn to Vanguard for its investment philosophy, which emphasizes the importance of asset allocation, broad market diversification, and buy-and-hold investing over security selection, market timing, and trading (Vanguard, 2017). Therefore, their beliefs may differ from those of other investors.[2]

Further, we observe only a portion of the respondents' total wealth. However, since our survey's questions are focused on market expectations and not on returns for particular holdings, this is less of a concern.

1 See Giglio et al. (2019b) for a nontechnical description of the work.

2 However, while acknowledging that the time period of the survey was short and that not all surveys ask similar questions, Giglio et al. (2019a) compared the survey results with responses to other surveys and found substantial comovement.

Study population

Our bimonthly online survey involves a random sample of U.S.-based Vanguard investors invited by email to participate. About 80% of the sample is drawn from our retail clients and about 20% from participants in employer-sponsored defined contribution retirement plans. To be included, investors also must have opted into receiving Vanguard statements via email, be over the age of 21, and have total Vanguard assets of at least $10,000. Overall, this group holds about $2 trillion in assets at Vanguard.

Fifteen survey waves were completed between February 2017 and June 2019. Respondents were invited to participate in subsequent surveys. Overall, 16,336 investors completed 32,207 surveys (see **Figure 1**). Respondents were on average about 60 years old and had been Vanguard clients for 17 years; 70% were male. Their median account wealth was $221,100, 72% of which was held in an equity allocation.

The median respondent traded within his or her account 0.5 times a month (six times a year).The average respondent traded 1.5 times a month (18 times a year). Median annual portfolio turnover was 10%, and average turnover was 29%. The median respondent accessed his or her account online 0.8 time per month (ten times per year) and spent 6.7 minutes per month online (one hour and 20 minutes annually). The average online account access rate was 3.5 times per month (42 times per year) and the time spent online was 26 minutes per month (slightly more than five hours annually).

Survey respondents had higher account balances, were older and longer tenured, and were more likely to trade than Vanguard households as a whole (Vanguard, 2019a). They were also more likely to log on to their account and spend more time online (Vanguard, 2019b). This suggests that they are somewhat more engaged than the typical Vanguard individual investor.

Figure 1. Respondent characteristics

Based on 16,336 respondents completing 32,207 surveys

	Mean	Median
Demographics as of June 2019		
Age	59	61
Male	70%	100%
Account wealth	$502,800	$221,100
Vanguard tenure	16.3	17.0
Portfolio allocations (averages at time of survey response)		
Equities	68%	72%
Fixed income	21%	15%
Cash	9%	1%
Other	2%	0%
Trading (monthly averages between January 2017 and June 2019)		
Trades per month	1.5	0.5
Monthly portfolio turnover	2.4%	0.8%
Attention (monthly averages between January 2017 and June 2019)		
Login days per month	3.5	0.8
Total minutes per month	26.0	6.7

Source: Vanguard, 2019.

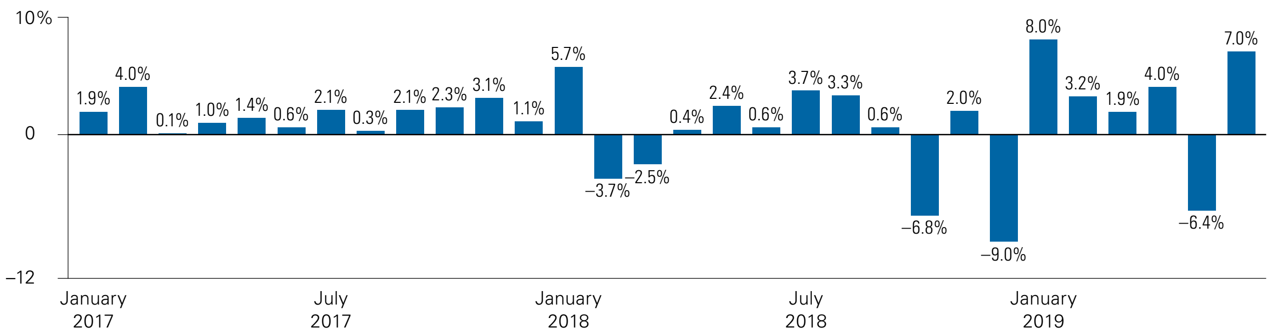
Market and economic environment

Monthly returns for U.S. equities and 10-year U.S. Treasuries along with quarterly gross domestic product (GDP) determined the overall market conditions during each of the 15 survey waves (see **Figure 2**). Monthly equity returns were mostly positive, with notable exceptions in October and December 2018 and again in May 2019.

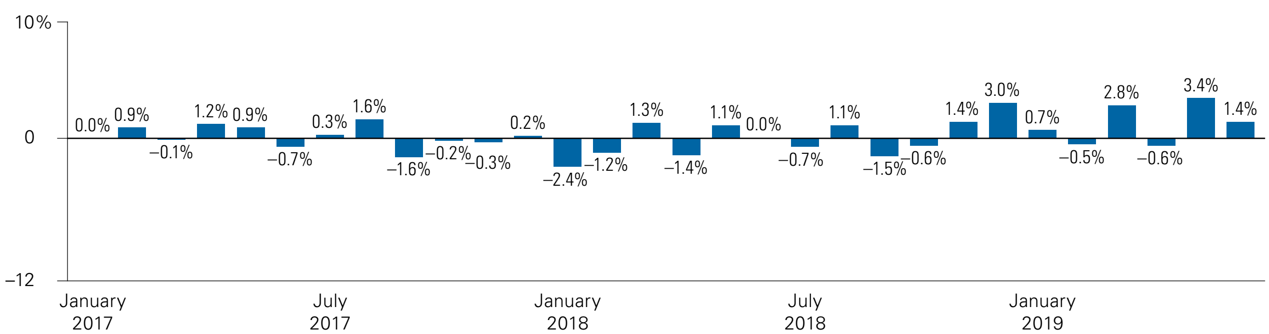
The U.S. equity market, as represented by the Standard & Poor's 500 Index's closing value, rose fairly steadily to 19% in 2017. During 2018, it reached a new peak, rising 8% year-to-date in September. However, in the fourth quarter, it fell –20% from that peak, dropping –6% for the year. Year-to-date through June 2019, the market rose 17%.

Figure 2. Market and economic environment

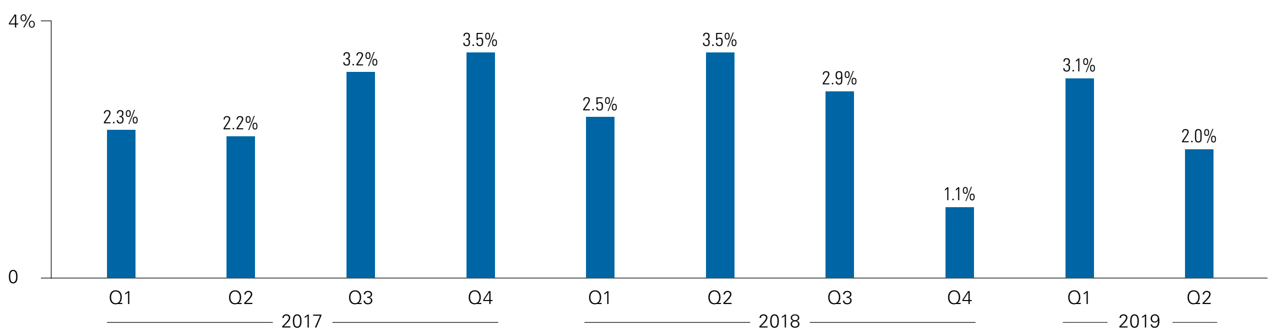
a. S&P 500 Index monthly return



b. U.S. 10-year Treasury monthly return



c. Quarterly gross domestic product



Sources: Bureau of Economic Analysis, *Gross Domestic Product, Second Quarter 2019*, BEA 19-41, August 29, 2019, www.bea.gov; Morningstar.

Top-line survey results

The first 15 waves of the survey, conducted between February 2017 and June 2019, questioned investors about their expectations for U.S. equity and bond markets and the U.S. economy (see the **Appendix** for the actual survey questions).

In the June 2019 survey, average and median expected one-year stock market returns were about 5% and expected ten-year returns about 6% (see **Figure 3**). These expectations are lower than the historical 10.6% annualized return of the past 30 years. However, they are slightly more optimistic than the central tendency of Vanguard's expected return outlook, which is in the 3% to 5% range (Vanguard, 2018). It is common for surveys to find that investors expect stock returns to be below the historical average.

Figure 3. Summary of survey results, June 2019

	Mean	Median
Stock market return questions		
1. Expected one-year stock return	4.7%	5.0%
2. Expected ten-year stock return	6.3%	6.0%
3. Likelihood of one-year stock returns		
Less than –30%	5.0%	3.0%
Between –30% and –10%	14.0%	10.0%
Between –10% and 30%	71.8%	75.0%
Between 30% and 40%	6.7%	5.0%
More than 40%	2.5%	0.0%
4. How difficult were these questions (scale 1 to 5, *not at all* to *extremely*)	2.3	2.0
5. How confident are you in your answers (scale 1 to 5, *extremely* to *not at all*)	3.1	3.0
GDP questions		
6. Expected three-year GDP	2.7%	2.5%
7. Expected ten-year GDP	2.9%	2.5%
8. Likelihood of three-year GDP		
More than 9%	2.7%	0.0%
Between 3% and 9%	17.5%	10.0%
Between 0% and 3%	61.5%	60.0%
Between –3% and 0%	13.6%	10.0%
Less than –3%	4.7%	2.0%
9. How difficult were these questions (scale 1 to 5, *not at all* to *extremely*)	2.4	2.0
10. How confident are you in your answers (scale 1 to 5, *extremely* to *not at all*)	3.0	3.0
Bond questions		
11. Expected 10-year Treasury annual return	2.3%	2.0%
12. How difficult were these questions (scale 1 to 5, *not at all* to *extremely*)	2.9	3.0
13. How confident are you in your answers (scale 1 to 5, *extremely* to *not at all*)	2.6	3.0

Source: Vanguard, 2019.

The respondents expected three-year annualized GDP growth to be 2.5% at the median and 2.7% on average. Their expectations for ten-year annualized GDP growth were similar: 2.5% at the median and 2.9% on average. These responses were closely related to headline GDP reports: between the third quarter of 2018 and the first quarter of 2019, quarterly GDP ranged from 1.1% to 3.1%.

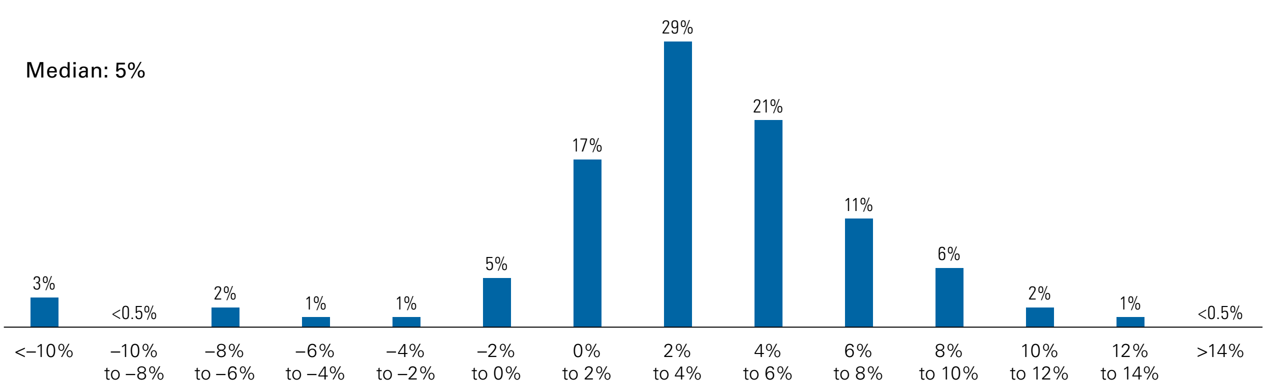
Investors were also asked how difficult they felt the questions were and how confident they were in their responses. They assessed the bond market questions as more difficult than the equity and GDP questions. Respondents at the median were somewhat confident in all their answers.

Variations among investors and over time

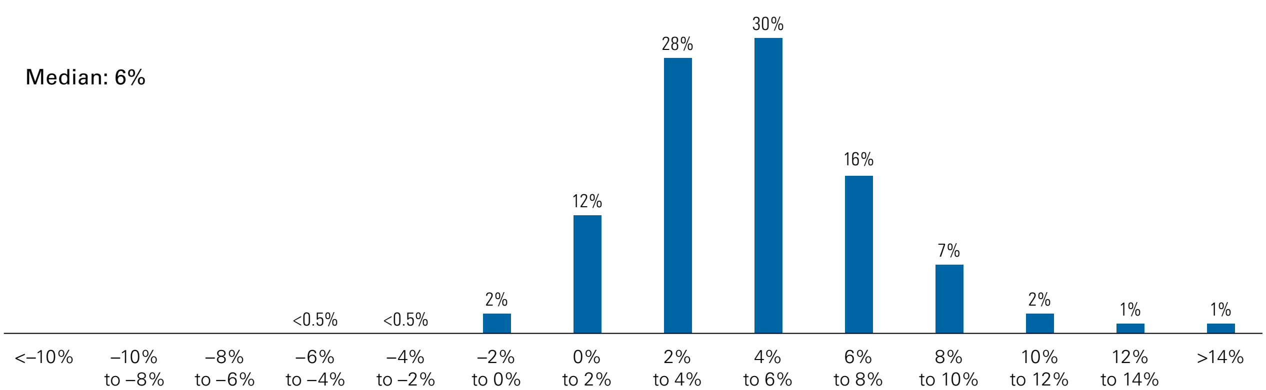
Individual respondents' beliefs about future stock market returns varied considerably. For example, nearly 10% expected one-year returns of 8% or more, whereas 12% expected negative returns (see **Figure 4a**). They were somewhat more optimistic about long-term returns, with substantially less variation. While 12% of individuals had negative expectations for one-year returns, far fewer, only 2%, had them for ten-year annualized returns (see **Figure 4b**). One- and ten-year return expectations mostly centered in the 2% to 6% range.

Figure 4. Distribution of expected market returns, June 2019

a. One-year expected returns



b. Ten-year expected returns



Source: Vanguard, 2019.

Thus far we have primarily focused on U.S. equity market expectations at a single point in time: June 2019. However, individual beliefs remained remarkably consistent through all 15 surveys (see **Figure 5**). U.S. equity markets rose by double digits in 2017 and declined by 20% toward the end of 2018. We see some evidence of a relationship between these events and the distribution of returns. The range of returns (the difference between the 90th and 10th percentiles) shifted to a more positive range in early 2018 and dropped (and widened) in December 2018.

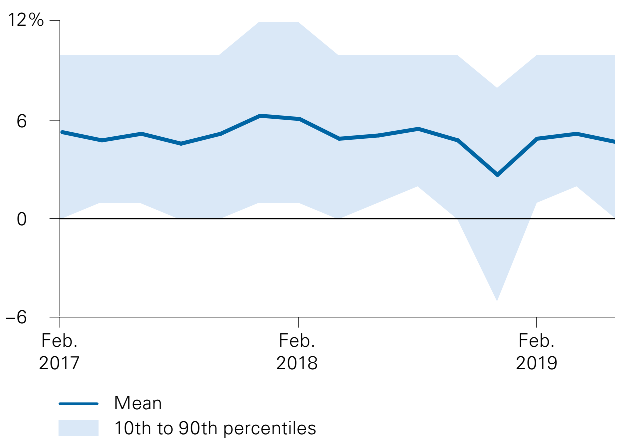
Expectations for market scenarios

One of the unique features of the survey design is that it asks respondents to assign probabilities to five possible market outcomes over the coming year. A chart displays the distribution of outcomes as each question is answered, and the probabilities must sum to 100%.

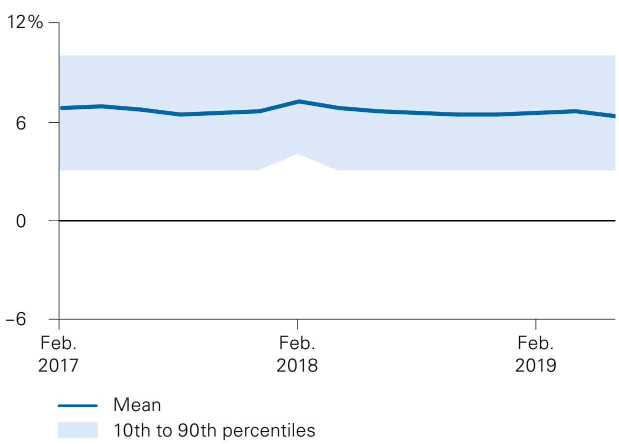
Respondents in June 2019 assigned a high probability of 72% to what we might call "normal" equity market returns of from –10% to 30% (see **Figure 6**). They saw a 14% chance of a market correction (returns from –10%

Figure 5. Expected stock market returns over time

a. One-year expected returns

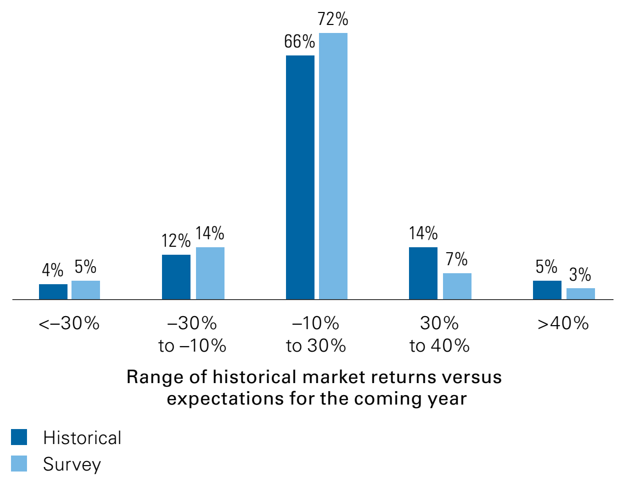


b. Ten-year expected returns



Source: Vanguard, 2019.

Figure 6. Expectations for various one-year U.S. stock market outcomes, June 2019, compared to historical averages



Notes: These buckets were chosen such that the tails correspond to extreme historical events. Between 1927 and 2014, annualized U.S. stock market returns were lower than –30% 3.7% of the time, between –30% and –10% 11.6% of the time, between –10% and 30% 65.9% of the time, between 30% and 40% 13.8% of the time, and more than 40% 5.0% of the time.

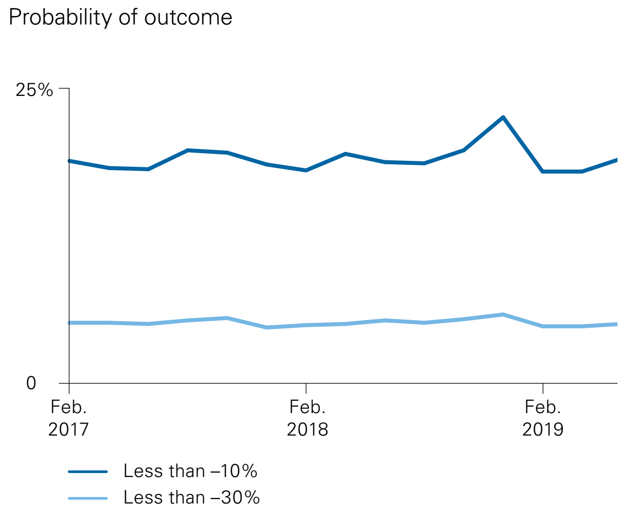
Source: Vanguard, 2019.

to –30%) and a 5% chance of a market meltdown or disaster (less than –30%). In total, then, they saw a nearly one in five chance of a market decline exceeding –10%.

On the positive side, respondents thought there was a nearly 7% chance of a strong bull market (30% to 40%) and a nearly 3% chance of a market blowout (greater than 40%). Overall, they assigned slightly higher probabilities to adverse market events and underweighted very positive ones, expecting a somewhat higher chance of more benign markets.

Over time, throughout all 15 surveys, the expected risks of the two down-market scenarios were similar (see **Figure 7**). Only the December 2018 survey seemed to show a reaction to the market decline and volatility of the fourth quarter of 2018. It was most apparent in the one-year expected returns and was quite a small probability change. The average expectation through all surveys of a bear market scenario (–10% to –30%), about 14%, jumped to about 17% in December 2018.

Figure 7. Expectations for one-year market downturn over time



Source: Vanguard, 2019.

Implications

Vanguard investor U.S. equity market expectations were remarkably muted overall, and the results are surprising in a number of ways. One-year expected returns remained at a single-digit level despite double-digit stock returns in recent years. Ten-year expected returns were also in the single digits despite long-term double-digit returns. Expectations varied only slightly through the 15 surveys, which may reflect the relatively benign economic and market environment in which they were conducted.

Nonetheless, there was some evidence of waves of optimism and pessimism. Investors became more optimistic in early 2018 after a strong market year in 2017 and somewhat more pessimistic in December 2018 after the –20% peak-to-trough price decline. At that time, they saw a probability of just under 20% that the market would fall more than –10%.

This paper provides a baseline for understanding individual investor market expectations. It remains to be seen, through ongoing surveys, whether and how expectations evolve during periods of market volatility or economic recession.

References

Bureau of Economic Analysis, 2019. *Gross Domestic Product, Second Quarter 2019 (Second Estimate)*, available at bea.gov/news/2019/gross-domestic-product-2nd-quarter-2019-second-estimate-corporate-profits-2nd-quarter.

Giglio, Stefano, Matteo Maggiori, Johannes Stroebel, and Stephen Utkus, 2019a. *Five Facts About Beliefs and Portfolios*, National Bureau of Economic Research Working Paper 24744, available at nber.org/papers/w25744.

Giglio, Stefano, Matteo Maggiori, Johannes Stroebel, and Stephen Utkus, 2019b. *Beliefs and Portfolios: New Measurements and Facts*, SUERF Policy Note, Issue 92, available at suerf.org/policynotes/7099/beliefs-and-portfolios-new-measurement-and-facts.

The Vanguard Group, 2019b. *Introduction to Digital Financial Attention*. Valley Forge, Pa.: The Vanguard Group.

The Vanguard Group, 2019a. *Understanding Household Trading Behavior 2011–2018*. Valley Forge, Pa.: The Vanguard Group.

The Vanguard Group, 2018. *Vanguard Economic and Market Outlook for 2019: Down but Not Out*. Valley Forge, Pa.: The Vanguard Group.

The Vanguard Group, 2017. *Vanguard's Principles for Investing Success.* Valley Forge, Pa.: The Vanguard Group.

Appendix: About the survey

We conduct a bimonthly online survey of Vanguard individual investors to elicit expectations and beliefs about stock and bond returns and GDP growth rates. We also ask respondents how confident they are about their answers and how difficult they found the questions.

Whether respondents see the questions about stock market returns or GDP first is randomized. The bond questions are always presented last. The ordering of the response buckets is randomized for all distribution questions.

Survey questions

Dear Investor,

Thank you for participating in this study.

At Vanguard we are interested in understanding investor views on the future of the stock market, the economy, and interest rates. We plan to create an investor sentiment index to share these findings with the investing public.

This is a short survey that should take you no more than five to ten minutes to complete.

The survey does not collect any personal information. It relies on your general knowledge.

If you feel you are not familiar with a topic, that is fine. Please just give us your best prediction.

Please do not use the browser's navigation button to move through the survey.

Expected stock market return questions

For these questions, we would like to know what you are expecting the future returns of the U.S. stock market will be.

1. What do you expect the return of the U.S. stock market to be **over the next 12 months?**

   Note: This expected return is the percentage change in value that you expect to receive **over the next 12 months** from investing in a portfolio that holds all of the stocks listed on the U.S. stock market. This includes both dividends and capital gains/losses.

   (Please answer only with a positive or negative numeric value, with at most one decimal.)

   [ ] % over the next 12 months

2. What do you expect the **average** annual return of the U.S. stock market to be **over the next ten years?**

   Note: This expected return is the percentage change in value that you expect to receive **each year on average over the next ten years** from investing in a portfolio that holds all of the stocks listed on the U.S. stock market. This includes both dividends and capital gains/losses.

   (Please answer only with a positive or negative numeric value, with at most one decimal.)

   [ ] % over the next ten years

3. In this question we present you with five possible scenarios for U.S. stock market returns **over the next 12 months**:

The U.S. stock market return will be . . .

- Scenario 1: **more than 40%** over the next year.
- Scenario 2: **between 30% and 40%** over the next year.
- Scenario 3: **between –10% and 30%** over the next year.
- Scenario 4: **between –30% and –10%** over the next year.
- Scenario 5: **less than –30%** over the next year.

Please let us know how likely you think it is that each scenario will occur.

Please type in the number to indicate the percentage probability that you attach to each scenario. The probabilities of the five scenarios have to sum up to 100%. The graphic bar chart on the right updates automatically to reflect your answers.

(Please answer only with a positive or negative numeric value, with at most one decimal.)

more than **40%**	%
between **30%** and **40%**	%
between **–10%** and **30%**	%
between **–30%** and **–10%**	%
less than **–30%**	%
Total	0.0%

Remaining probability to fill in: 100.0%

4. How difficult were the questions about the stock market that you were just asked?

○ Not at all difficult

○ Not very difficult

○ Somewhat difficult

○ Very difficult

○ Extremely difficult

5. How confident are you in your answers to the questions about the stock market that you were just asked?

○ Extremely confident

○ Very confident

○ Somewhat confident

○ Not very confident

○ Not at all confident

Expected GDP questions

For the next questions, we would like to know what you are expecting the future economic growth in the U.S. to be.

Again, even if you feel that you are not familiar with the topic, please give us your best prediction.

6. What do you expect the **average** annual growth rate of real gross domestic product (GDP) in the U.S. to be **over the next three years?**

   Note: Real GDP is a measure of economic activity. Real GDP is the total real value of goods and services produced in the U.S. in a year.

   (Please answer only with a positive or negative numeric value, with at most one decimal.)

   ______ % over the next three years

7. What do you expect the **average** annual growth rate of real GDP in the U.S. to be **over the next ten years?**

   Note: Real GDP is a measure of economic activity. Real GDP is the total real value of goods and services produced in the U.S. in a year.

   (Please answer only with a positive or negative numeric value, with at most one decimal.)

   ______ % over the next ten years

8. In this question we present you with five possible scenarios for U.S. real GDP **average annual growth rate, over the next three years:**

   U.S. real GDP average annual growth rate over the next three years will be . . .

   - Scenario 1: **more than 9%** per year.
   - Scenario 2: **between 3% and 9%** per year.
   - Scenario 3: **between 0% and 3%** per year.
   - Scenario 4: **between –3% and 0%** per year.
   - Scenario 5: **less than –3%** per year.

   Please let us know how likely you think it is that each scenario will occur.

   Please type in the number to indicate the percentage probability that you attach to each scenario. The probabilities of the five scenarios have to sum up to 100%. The graphic bar chart on the right updates automatically to reflect your answers.

   (Please answer only with a positive or negative numeric value, with at most one decimal.)

more than **9%**	%
between **3%** and **9%**	%
between **0%** and **3%**	%
between **–3%** and **0%**	%
less than **–3%**	%
Total	0.0%

Remaining probability to fill in: 100.0%

9. How difficult were the questions about real GDP growth that you were just asked?

- ○ Not at all difficult
- ○ Not very difficult
- ○ Somewhat difficult
- ○ Very difficult
- ○ Extremely difficult

10. How confident are you in your answers to the questions about real GDP growth that you were just asked?

- ○ Extremely confident
- ○ Very confident
- ○ Somewhat confident
- ○ Not very confident
- ○ Not at all confident

Expected bond market return questions

In these final questions, we would like to know what you are expecting future returns on U.S. bonds and future U.S. interest rates to be.

Again, even if you feel that you are not familiar with the topic, please give us your best prediction.

11. Suppose that you were to buy a 10-year U.S. Treasury bond today that makes all of its payments at maturity ten years from now.

    Suppose that you were to sell this bond a year from today. What do you expect the return from the bond investment to be **over the next 12 months?**

    Note: The expected return is the change in price of the bond that you expect to occur during the next 12 months.

    (Please answer only with a positive or negative numeric value, with at most one decimal.)

    [ ]% over the next 12 months

12. How difficult were the questions about bonds and interest rates that you were just asked?

- ○ Not at all difficult
- ○ Not very difficult
- ○ Somewhat difficult
- ○ Very difficult
- ○ Extremely difficult

13. How confident are you in your answers to the questions about bonds and interest rates that you were just asked?

- ◯ Extremely confident
- ◯ Very confident
- ◯ Somewhat confident
- ◯ Not very confident
- ◯ Not at all confident

Connect with Vanguard® > vanguard.com

All investing is subject to risk, including the possible loss of the money you invest. Diversification does not ensure a profit or protect against a loss.

There is no guarantee that any particular asset allocation or mix of funds will meet your investment objectives or provide you with a given level of income.

Past performance is no guarantee of future returns. The performance of an index is not an exact representation of any particular investment, as you cannot invest directly in an index.

Vanguard®

Vanguard Research

P.O. Box 2600
Valley Forge, PA 19482-2600

Vanguard Marketing Corporation, Distributor.

ISGIES 022020