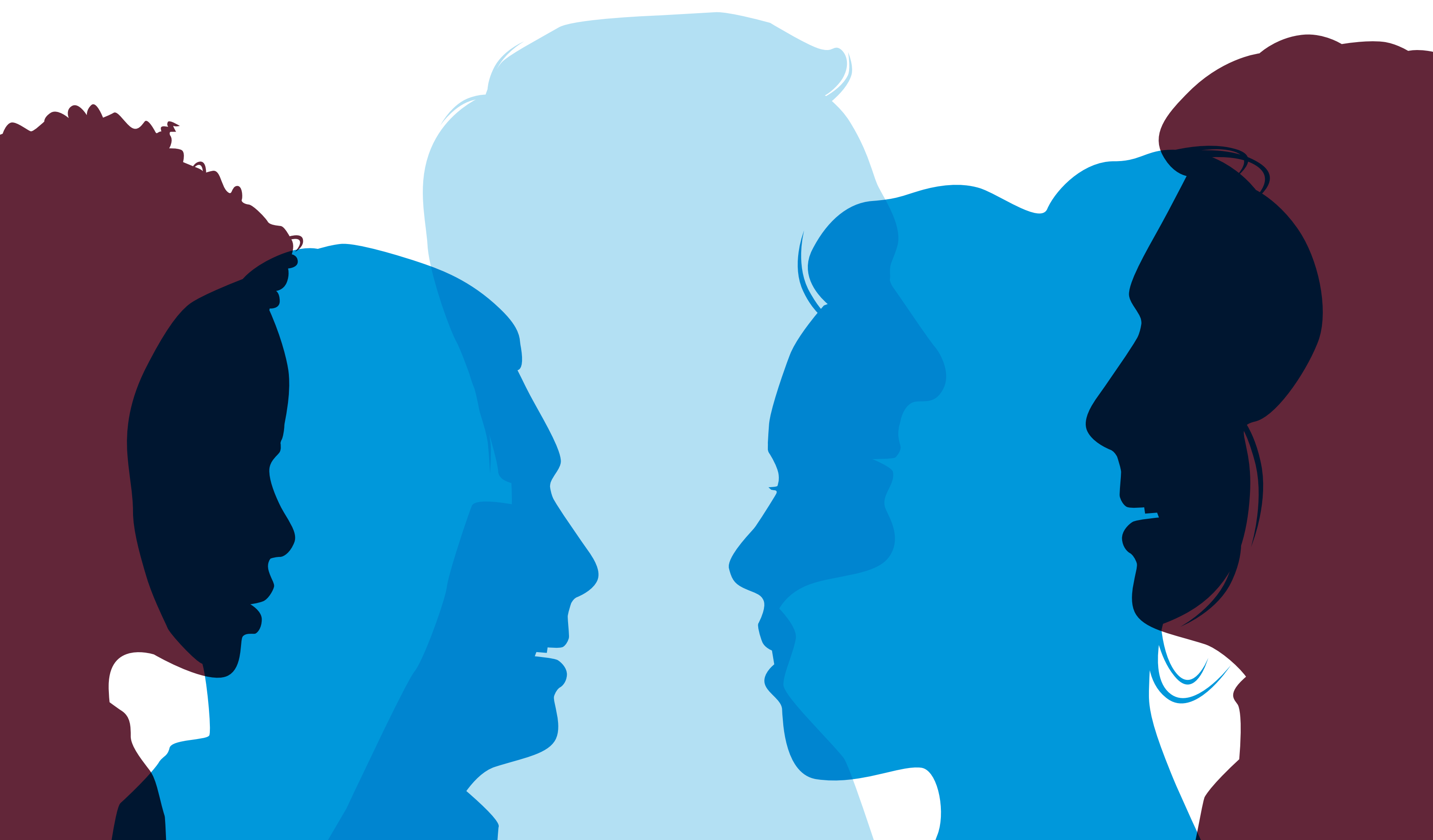
Vanguard®

HOW **AMERICA** INVESTS 2020

A look at the personal investing behavior of Vanguard's 5 million retail households



Karin Risi
Managing Director
Retail Investor Group

Vanguard is a different kind of investment company. We're owned by our funds, which in turn are owned by our investors. This unique structure allows us to prioritize our investors' needs and leads us to advocate on their behalf.

To support our mission of helping all investors build wealth and achieve investment success, it's crucial for us to understand their behavior. Vanguard has been researching investor behavior for decades. This year, we've expanded our research and thought leadership with the introduction of *How America Invests*—a comprehensive look at individual investors and an evolution in our understanding of investor behavior.

The insights we've gathered from this research, informed by more than 5 million retail households, are helping us fine-tune our investment communications, products, services, and advice offerings to better meet investor needs. On a larger scale, we hope this research sparks meaningful dialogue in the industry, prompting improvements to the products and services available to *all* investors.

Our research has allowed us to establish benchmarks and identify trends around risk exposure, use of active and passive strategies, rebalancing techniques, and trading activity. Most important, we can use these insights to better educate investors and enable them to make the best decisions for their individual goals.

How America Invests tells the story of how real people apply our investing principles—goals, balance, cost, and discipline—to their investing lives. And the story is one of remarkable resilience and steadiness, even in the face of uncertainty. We hope this information inspires others to analyze their investing strategies and take action, whether that means staying the course, adjusting their asset mix, or pursuing advice.

Publishing a study of this scope is a natural extension of our passion for developing a deeper understanding of investor behavior. *How America Saves*, which explores the investing behavior of employer-plan participants, is in its 19th year of publication. We've been taking a stand for investors since 1975, and we're committed to finding new ways to educate, inspire, and engage them.

We hope *How America Invests* accomplishes this goal for all investors.

Sincerely,

Karin A. Risi

CONTENTS

Executive summary

Investors have different levels of knowledge and interest in investing. While some are savvy enough to create their own investment strategies, others may need help. In either case, having a way to evaluate their investing behavior could be useful for managing their portfolios over time. We created this report to help investors benchmark their behavior with the end goal of giving them the best chance for investment success. This is even more important in times of market volatility, as we saw in the first half of 2020.

This report uses detailed data on the portfolio construction and trading behavior of Vanguard clients in more than 5 million retail households to provide an understanding of personal investor behavior. It covers five years of data, from 2015 through 2019, which was generally a period of robust market growth. It also provides a quick look at investor reactions to the sharp market decline in the first quarter of 2020, attributable to the COVID-19 pandemic.

Vanguard investors have a long-term risk outlook

The typical Vanguard household holds a long-term, risk-taking portfolio that's both diversified and balanced. The average portfolio consists of 63% equities (stocks), 16% fixed income (bonds), and 21% cash (short-term reserves). However, there are substantial differences in risk-taking across investors, with equity risk ranging from conservative to aggressive for investors with otherwise similar asset levels or ages. At the extremes, 16% of households hold no equities, while 22% hold very risky portfolios containing at least 98% equities.

Portfolios become more conservative with investor age

Older investors tend to have more conservative portfolios than younger investors, with investors in their late 20s and 30s investing around 90% of their portfolios in equities versus 60% for retirement-age investors. However, as with risk-taking in general, there’s substantial equity risk variation at every age.

Portfolios are becoming more index-oriented

The proportion of households building portfolios with active investments is falling, consistent with a broader shift to passive strategies that's characterized the asset management industry since the 2008 global financial crisis. The decline in use of active strategies is from a reduction in both the proportion of households building all-active portfolios and those building mixed active-passive portfolios. Active investors tend to be older and longer-tenured Vanguard households, possibly because active strategies were more popular when those accounts were initially opened.

Portfolios tend to favor domestic holdings, although there's meaningful non-U.S. exposure

On average, Vanguard retail households invest about 19% of their long-term mutual fund (stock, bond, and balanced funds with fluctuating net asset values) and ETF (exchange-traded funds) assets internationally. This is less home bias than is commonly expected for retail investors, although the high international allocation is due, in part, to global holdings being held in domestically-labeled equity funds and ETFs. Older and longer-tenured households tend to exhibit the most home bias. Advised households and those that use target-date funds exhibit the least, which is a result of Vanguard making portfolio allocation decisions as the advisor or investment manager.

Households use a mix of investment products but favor mutual funds

More than 80% of Vanguard households have assets invested in long-term mutual funds, which represents a 7-percentage-point decrease since 2015. During the same period, ETF use has doubled to 13% of households, matching the rate of individual securities. Over half of households have assets invested in money market funds.

ETFs are used generally as a noncore holding but can also be used to construct complete portfolios

Most households who currently invest in ETFs are “diversifiers,” meaning ETFs make up less than a quarter of their assets. Their ETF investments are in addition to already-diversified mutual fund portfolios. These households tend to be wealthy and long-tenured. However, there's a small but growing group of ETF “enthusiasts,” typically millennials who have been with Vanguard for only three years, who build complete portfolios from ETFs.

Individual securities are used in similar ways as ETFs

Like ETF investors, the typical household that invests in individual securities is a "diversifier," which combines individual securities with other diversified holdings. However, a small fraction of households allocate most or all of their portfolios to individual securities. The typical "individual security enthusiast" is in their mid-50s, nearly 20 years older than the typical "ETF enthusiast." Individual security enthusiast households tend to have smaller balances at Vanguard than the average household.

The use of TDFs (target-date funds) is stable, but the strategy is typically used as part of a broader portfolio rather than an all-in-one investment

Overall, about one in five households use TDFs, a number that's remained largely unchanged since 2015. Despite the fact that TDFs are designed as all-in-one retirement portfolios, most TDF-using households also hold other types of investments. Pure TDF investors—those investing exclusively in a single TDF—are almost exclusively from individual retirement account (IRA) only households.

Vanguard households trade infrequently

Fewer than one-quarter of Vanguard households trade in any given year, and those that do typically only trade twice. Most traders' behavior is consistent with rebalancing or is professionally advised. Compared with nontraders, traders tend to have multiple account types and significantly greater assets. They're also slightly older and longer-tenured.

Trading and product holdings are correlated

Households with individual securities and ETFs are more than three times as likely to trade as Vanguard households overall. This, in part, reflects the restrictions on frequent trading in mutual funds as well as traders' preferences to use vehicles where they can trade freely (and where they incur their own transaction costs). By contrast, TDF investors are slightly less likely to trade than households overall. TDF traders typically make small portfolio changes and are less likely to be frequent traders than ETF or individual security investors. In part these differences may reflect the built-in rebalancing and trading inherent in a TDF strategy.

Trading activity is mixed

About half of traders are self-directed or advised clients rebalancing accounts, yet a third are characterized as "frequent traders," trading at least seven times per year.

During a turbulent start to 2020, Vanguard households stayed the course

Twenty-two percent of households traded in the first half of 2020—a rate typical of trading for a full calendar year. Despite the increase in trading, less than 1% of households abandoned equities completely during the downturn, while just over 1% traded to extremely aggressive portfolios. The net result of the portfolio and market changes was a modest reduction in the average household equity allocation, from 63% to 62%.

Background and context

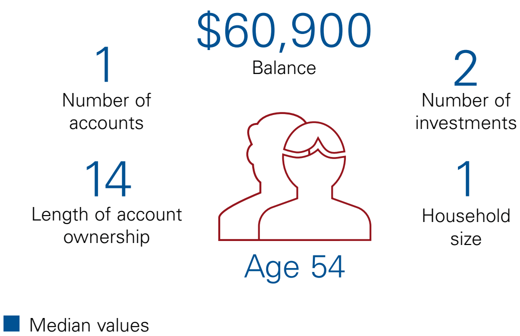
Background and context

This report covers the behavior of Vanguard investors regarding asset allocation, investment product use, and trading activity between 2015 and 2019. A supplemental analysis conducted during the first half of 2020—a period of exceptional market volatility relating to the COVID-19 pandemic—is also included.

Recognizing that the household is the primary economic unit, the focus of this analysis is at the household level. The universe for our analysis consists of 5.1 million Vanguard retail investor households.[1] The median household size is one person. Collectively, households in this report are investing close to $2 trillion in their accounts at Vanguard, with a median account balance of $60,900. Portfolio holdings are simple, with one account and two investments, at the median (**Figure 1**).[2]

Figure 1. Characteristics of Vanguard retail households

Vanguard retail households as of December 31, 2019



Source: Vanguard, 2020.

While the data we've compiled is rich in detail, it is necessary to lay out several limitations of the data provided in this report.

The first important limitation is that we observe only client assets held in Vanguard retail accounts. This rarely corresponds to a household's entire financial account wealth. Households in our sample may have financial assets in banks, in workplace retirement plans, and with other investment providers. Similarly, households may also have financial advisors outside of Vanguard, but for this report, only those enrolled in Vanguard Personal Advisor Services® (PAS) are known to be advised.

A second limitation is that we rely solely on internal client data in this report. We cannot observe important investor characteristics such as the investor's investment objectives and time horizon (whether long-term like retirement savings and intergenerational wealth transfer, versus medium-term like college savings, or short-term like home purchase or liquidity needs). In addition, we do not observe their levels of risk tolerance, investment and financial literacy, or whether an individual is prone to behavioral biases like inattention or inertia or overconfidence.

In spite of the aforementioned limitations, this report is valuable as it provides a view into how millions of retail investors structure the portion of their financial wealth that is held at Vanguard. In particular, it illustrates how they work to diversify their portfolios, in the aggregate and across different account structures; how they shape portfolio outcomes by the investment strategies they choose to hold; and how they trade in their portfolios over time, whether in response to changing life characteristics or changes in the stock and bond markets.

The goal is to provide insights that would help conceptualize potential investor motivations behind the observed data. Some of the findings may be suggestive of rational motivations, based on investment goals, for example, but other findings may suggest behavioral biases, such as procrastination or inertia. Throughout the report we highlight particular behaviors and reasons they may suggest a rational or behavioral motivation—or both.

[1] As of December 31, 2019.

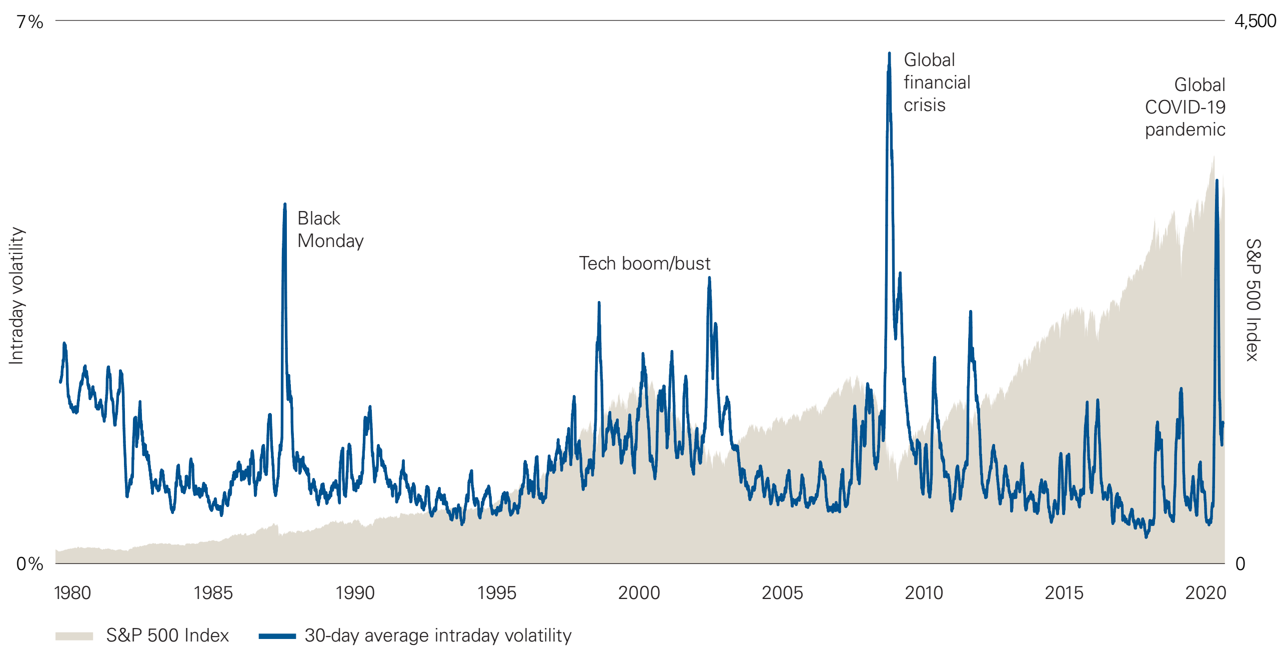
[2] Average figures: Household size is two persons. Portfolio holdings, on average, are two accounts and about five investments, with average account balance of $352,200.

Stock market overview

The period covered in this report is generally characterized by strong growth in equity markets in the U.S. (**Figure 2**). Over the five-year period from 2015 to 2019, inclusive, the U.S. stock market, as measured by the Standard & Poor's 500 Index, grew by 57%, with a compound annual growth rate of 9.4%. However, this period was also marked by some periods of market volatility, particularly in the fourth quarter of 2018. In 2019, following the sell-off in late 2018, the stock market grew by 29% for the year.

In contrast, stock market conditions during the period covered in our supplemental analysis exhibited extreme volatility—consisting of a sharp decline in the stock market in the initial response to the COVID-19 pandemic, followed by a sharp rise in market value. Between February 19 and March 23, 2020, the U.S. stock market fell 34%. But for the entire six-month period from January to June 2020, stock prices fell by only 4%.

Figure 2. Volatility and prices for the Standard & Poor's 500 Index, January 1, 1980, to June 30, 2020



Note: Intraday volatility is calculated as daily range of trading prices [(high-low)/opening price] for the S&P 500 Index.

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

Source: Vanguard calculations, using data from Bloomberg.

Asset allocation

Asset allocation

Asset allocation has an outsized impact on portfolio returns over time. Thus, the most important decision that investors will make may be the weighting of their portfolios. Investing in equities has the potential to deliver higher returns than bond or cash investments over time but is accompanied by a higher exposure to market risk. Investing in fixed income investments offers more modest return potential and risk exposure. Investors may also choose to invest in cash as a low-risk, low-return strategy, which is ideal for short-term savings goals or to balance out the risks of stock and bond investments. Ideally, investors' asset allocations should reflect their goals, risk tolerance, time horizon, income and wealth, and other personal factors. In practice, investors' decisions may also be affected by psychological or behavioral biases, like inertia and procrastination, inattention, or overconfidence.

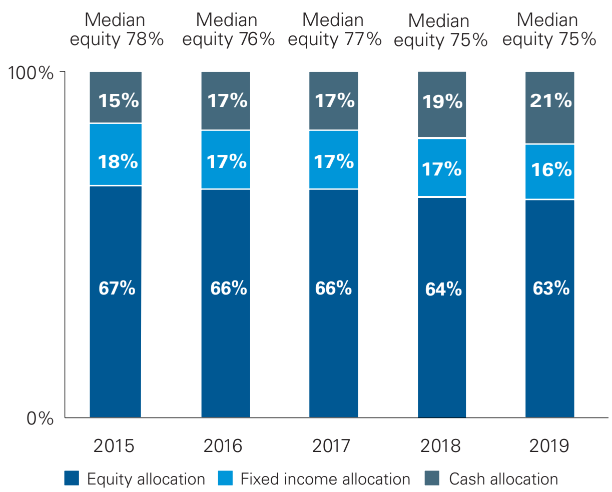
Overall asset allocation

The typical Vanguard retail investor emphasizes growth as an investment objective by taking substantial equity risk in their portfolio. The average household-weighted allocation to equities[3] was 63%, with 16% in fixed income and 21% in cash[4] in 2019. However, over the five-year period, the allocation to cash assets rose over time (Figure 3). Median equity allocations are actually significantly higher than the averages, suggesting that the typical household carries substantial portfolio risk.[5]

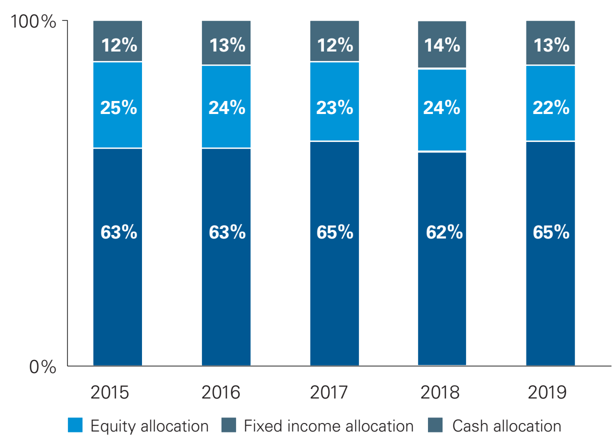
Figure 3. Portfolio allocation trends, 2015–2019

Vanguard retail households (taxable accounts and/or IRAs) as of December 31

Panel A. Household-weighted asset allocation



Panel B. Asset-weighted asset allocation



Source: Vanguard, 2020.

[3]The allocation of assets can be viewed in two ways: asset-weighted or household-weighted. In asset-weighted analyses, assets are summed across all households, giving more weight to households with more assets. On the other hand, household-weighted analyses reflect results calculated at the household level and then averaged across all the households. Allocation to equities includes the equity portion of balanced and target-date strategies.

[4]At the median, 75% is allocated to equities, 6% to fixed income, and 1% to cash.

[5]In comparison, the five-year asset-weighted allocation was more stable, suggesting that the observed shift toward cash in the household-weighted data may be due to investors with lower account balances.

Age-based equity allocation

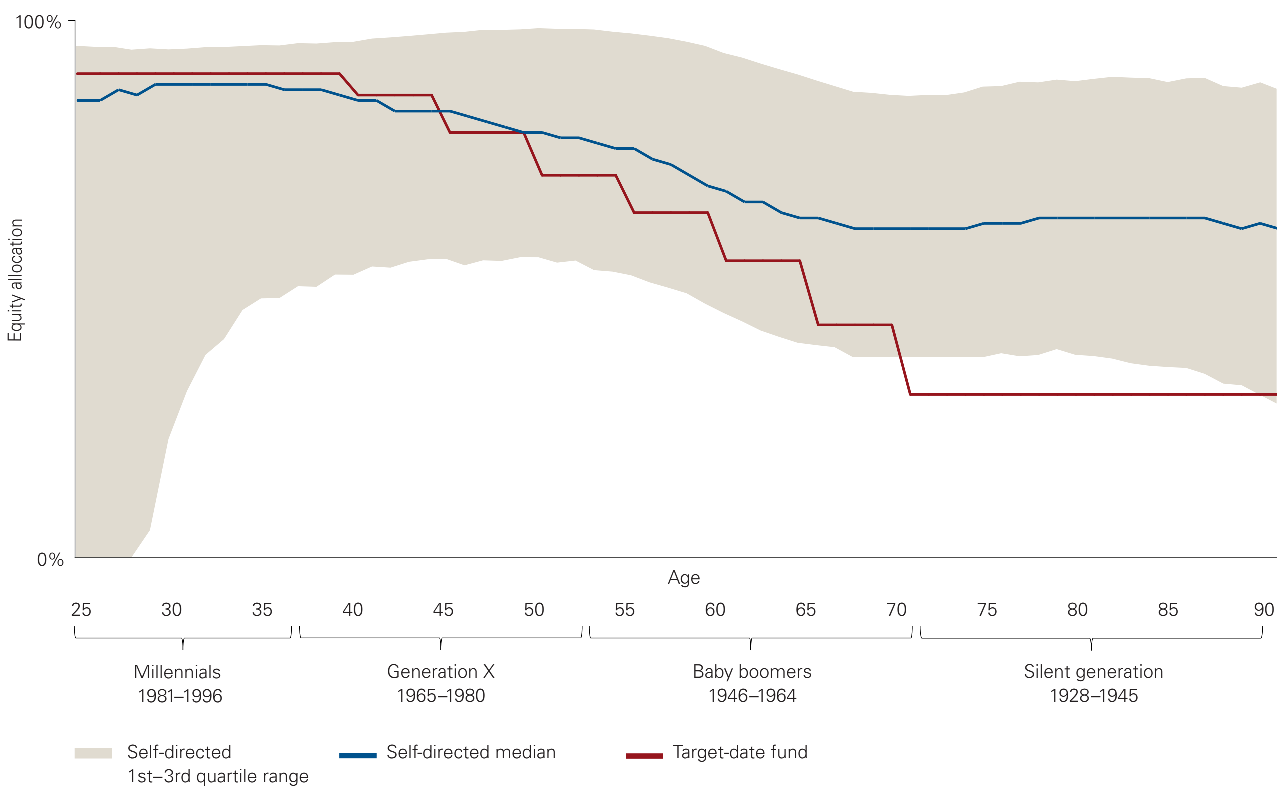
Here we look at age-based equity allocations (**Figure 4**). For each age, we show the median equity allocation, as well as the first to third quartile range. Half of households will fall into this range, while 25% will have an equity allocation at or below the bottom of the range, and 25% will be at or above.

Among Vanguard retail investors, the median allocation to equities is highest for young investors and declines with investor age. We find that the typical millennial (or younger) household takes substantial equity risk, allocating nearly 90% of portfolio assets to equity markets.[6] This level of risk-taking is consistent with certain professional portfolio recommendations, such as the glide path of the Vanguard target-date funds.[7] However, there is a notable group, at least a quarter of millennial investors, who have adopted cautious portfolios.

Certain rules of thumb regarding portfolio allocation and age in the investment industry suggest that households should meaningfully reduce equity exposure with age. More complex economic models of human and financial capital suggest the same.[8] We find, however, that among baby boomer and silent generation investors, the decrease is less substantial than might otherwise be expected. The typical boomer retail investor maintains an equity allocation of 66%; the typical silent generation household, an equity allocation of 62%.

Figure 4. Age-based equity allocations among Vanguard retail investors

Vanguard retail households (taxable accounts and/or IRAs) as of December 31, 2019



Source: Vanguard, 2020.

[6]These results are very similar to equity allocations among younger investors in defined contribution (DC) accounts. See Young, Jean A., editor, *How America Saves 2019*, Vanguard, institutional.vanguard.com.

[7]Target-date equity allocation refers to the equity allocation of the Vanguard Target Retirement Fund that most closely corresponds to the year in which the investor would reach age 65. Target-date funds are designed to provide a retirement portfolio based on a single factor, age to retirement, and not on other factors such as investment objectives, personal risk tolerance and time horizon, and other financial circumstances. Investments in Target Retirement Funds are subject to the risks of their underlying funds. The year in the fund name refers to the approximate year (the target date) when an investor in the fund would retire and leave the workforce. The fund will gradually shift its emphasis from more aggressive investments to more conservative ones based on its target date. An investment in a Target Retirement Fund is not guaranteed at any time, including on or after the target date.

[8]Viceira, Luis M., 2001. *Optimal Portfolio Choice for Long-Horizon Investors with Nontradable Labor Income*. Journal of Finance 56: 433–70.

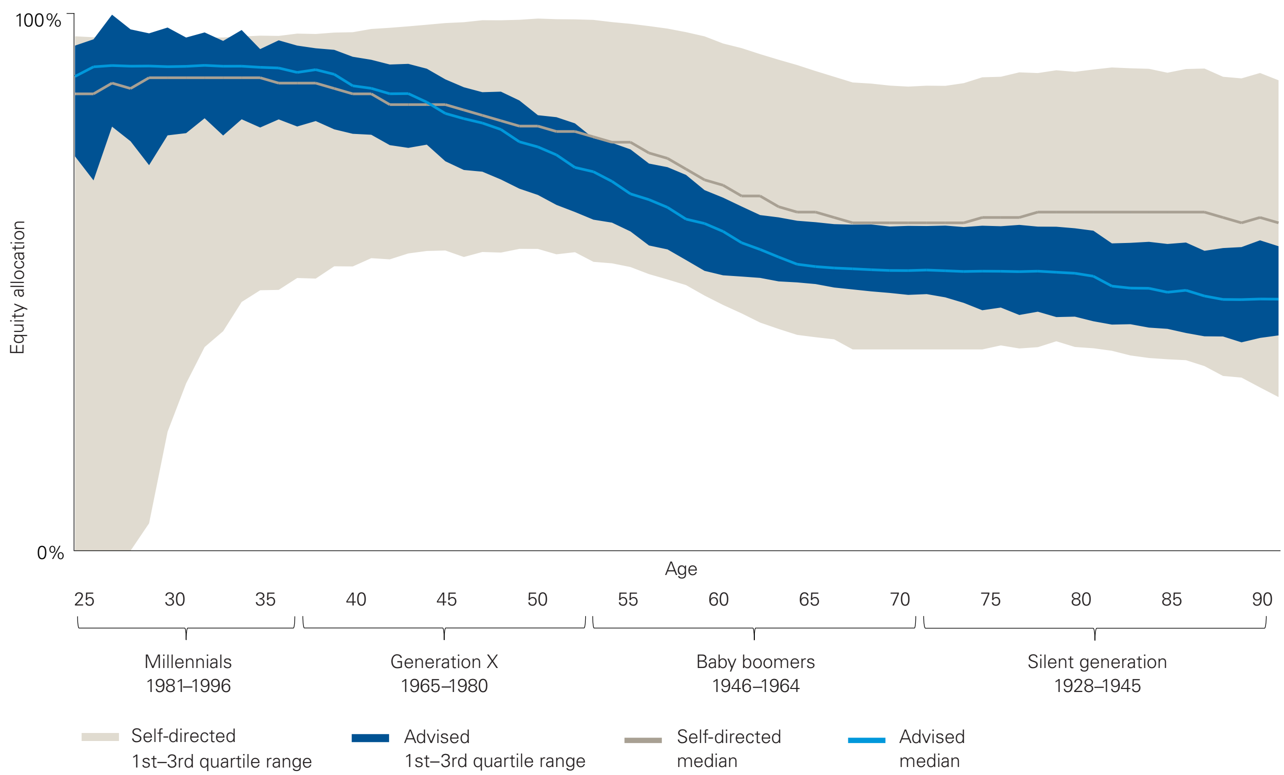
Perhaps what is more striking isn't the age-related differences in equity exposure—but the wide range of risk-taking within any given age. The range of allocations remains quite wide at any given age. It is particularly wide among the youngest households, with the interquartile range from 0% to 100% in equity exposure. The high level of low-risk investing among young households may indicate higher risk aversion, inattention and inertia, or an emphasis on short-term goals among this group of investors. In general, if investment goals were the same across the lifespan, younger investors would be expected to have a higher share of equities, reflecting a desire for portfolio growth and their longer investing horizon. However, the experience of severe market downturns like the global financial crisis may have colored their appetite for taking market risk.[9] Among older households, the interquartile range of equity allocation is still quite high—for example, ranging from 37% to 86% for investors at age 70.

Effect of advice on equity allocation

One of the central portfolio recommendations of financial advice is a recommended allocation to equities. Figure 5 shows the equity allocation of self-directed investors (blue) and advised investors (red). As noted earlier, the range of equity holdings varies substantially for self-directed investors. In comparison, advised investors have a tighter range of equity holdings, exhibiting a more disciplined approach to investing. Moreover, advised investors over age 50 typically hold lower equity allocations than their self-directed peers. A central reason for this greater discipline among advised investors is the recommendation from a Vanguard financial advisor. Other reasons include the greater affluence of advised investors and the fact that most choose retirement as their main investment goal with their advisor.[10]

Figure 5. Age-based equity allocations among Vanguard self-directed and advised retail investors

Vanguard retail households (taxable accounts and/or IRAs) as of December 31, 2019



Source: Vanguard, 2020.

[9]Millennials who started investing after the global financial crisis of 2008–2009 were more likely to hold safer investments than those who started investing before that period. See Young, Jean A., and Thomas J. De Luca, 2018. *Risk-Taking Across Generations*. Vanguard research.

[10]Pagliaro, Cynthia A. and Stephen P. Utkus, *Assessing the Value of advice*, 2019, p6.

Asset allocation and household demographics

Figure 6 shows the average household allocation to equities, fixed income, and cash, by different demographic categories, with corresponding median balances. Lower balance investors—particularly those with balances less than $10,000—have a higher allocation to cash compared with those with higher account balances. For example, investors with $500,000 or more have 13% of their portfolios allocated to cash, while those with $3,000 to $10,000 in account assets have a cash allocation that is more than twice as high. Those with account balances of less than $3,000 have a higher allocation to cash than they do to equities.[11]

New investor households also show a lower allocation to equities and a higher allocation to cash than longer-tenured ones. Investor households with less than four years of tenure have about one-third of their portfolios allocated to cash. In comparison, the longest-tenured households (25 years or more) have a cash allocation that is half of that. Low equity allocation and high cash share are notable among investor households who are young, have lower balances, and have less account tenure.

Figure 6. Asset allocation by demographic categories

Vanguard retail households (taxable accounts and/or IRAs) as of December 31, 2019

	Average equity allocation	Average fixed income allocation	Average cash allocation	Median equity allocation	Median balance
Balance					
Less than $3,000	34%	7%	59%	0%	$1,100
$3,000–$ 9,999	58%	10%	32%	76%	$5,800
$10,000–$24,999	70%	13%	17%	86%	$16,100
$25,000–$49,999	72%	14%	14%	85%	$35,600
$50,000–$99,999	71%	16%	13%	83%	$70,600
$100,000–$249,999	69%	18%	13%	78%	$156,000
$250,000–$499,999	67%	20%	13%	73%	$347,100
$500,000 and up	64%	23%	13%	66%	$1,033,600
Account tenure (years)					
<2	52%	9%	39%	65%	$8,200
2–3	58%	11%	31%	73%	$18,300
4–6	64%	13%	23%	78%	$33,900
7–9	63%	17%	20%	74%	$52,700
10–14	63%	17%	20%	73%	$61,900
15–19	65%	18%	17%	75%	$96,100
20–24	72%	16%	12%	82%	$142,600
25+	63%	23%	14%	66%	$295,600

[11] $3,000 is the minimum investment amount for most Vanguard mutual funds. Our Target Retirement Funds and STAR® Fund have lower minimums, while Vanguard ETFs® can be purchased for the cost of a single share.

Figure 6. (continued)

	Average equity allocation	Average fixed income allocation	Average cash allocation	Median equity allocation	Median balance
Age					
<25	63%	7%	30%	87%	$5,800
25–34	64%	7%	29%	87%	$12,800
35–44	68%	9%	23%	85%	$31,700
45–54	68%	12%	20%	79%	$60,000
55–64	63%	18%	19%	69%	$103,600
65–74	58%	24%	18%	61%	$191,700
75–84	59%	26%	15%	63%	$240,600
85+	56%	30%	14%	61%	$224,200
Account structure					
Taxable account only	63%	16%	21%	76%	$42,500
IRA	61%	14%	25%	76%	$25,900
Taxable accounts and IRAs	68%	19%	13%	73%	$334,900

Source: Vanguard, 2020.

Asset allocation by account structure

Investors at Vanguard likely have different investment goals and time horizons. In the absence of information on specific goals, the type of accounts used by these investor households provides some indication about intentions. Investments in IRAs are more likely to be solely dedicated to retirement savings (although IRAs permit early withdrawals and use of funds for other purposes in some circumstances), and so suggest a long time horizon, particularly for younger investors. On the other hand, taxable investment accounts can be used for a number of investing goals with different time horizons and risk preferences, so asset allocations would be expected to differ based on these factors.

Vanguard retail households hold either taxable accounts or IRAs or a mixed portfolio with both account types. Moreover, households with multiple account types may invest differently in each account and account type, reflecting different goals and different tax considerations.

The asset allocation of taxable-only households mirrors that observed earlier for investor households in general, with allocations to equities, fixed income, and cash at 63%, 16%, and 21%, respectively (Figure 7). This asset mix is virtually identical to what we see in the taxable portion of those households with both IRAs and taxable accounts. In contrast, investors with traditional IRAs in IRA-only portfolios have the lowest allocation to equities and the highest allocation to cash. But the share of equities and fixed income are higher when traditional IRAs are part of a mixed portfolio. Equity allocation is highest in Roth IRAs, whether as part of an IRA-only portfolio or a mixed portfolio. Regardless, whether located in an IRA-only portfolio or in a portfolio with both taxable accounts and IRAs, Roth IRAs tend to have a median balance significantly lower than that of traditional IRAs.

Holding nonnegligible cash allocations may be reasonable depending on context. For example, some cash in taxable accounts may make sense for short-term investments, as protection from market risk, or to provide liquidity for near-term needs. Holding cash in traditional IRAs, with their implicit long-term time horizon, could point to investor risk aversion, inattention to the account, or lack of experience or knowledge in taking market risk.

Figure 7. Detailed asset allocation by account structure

Vanguard retail households (taxable accounts and/or IRAs) as of December 31, 2019

	Average equity allocation	Average fixed income allocation	Average cash allocation	Median equity allocation	Median balance
Account structure					
Taxable accounts only	63%	16%	21%	76%	$42,500
IRA only	61%	14%	25%	76%	$25,900
Traditional IRA	57%	15%	28%	66%	$30,900
Roth IRA	73%	10%	17%	90%	$16,700
Taxable accounts and IRAs	68%	19%	13%	73%	$334,900
Taxable accounts	63%	15%	22%	73%	$97,000
Traditional IRA	62%	25%	13%	69%	$177,300
Roth IRA	77%	13%	10%	90%	$49,900

Source: Vanguard, 2020.

Context is also important when interpreting overly aggressive portfolios. For example, accounts held at Vanguard may represent a partial view of a larger (unobserved) investment portfolio. So a taxable-only portfolio with a considerable equity allocation may only be part of a larger portfolio where that risk is balanced. That said, some investors in each account structure may also be suboptimally allocated due to low financial literacy or investor inattention.

Extreme allocations

One of the distinctive features of equity allocations across households is a general downward-sloping equity exposure by age. But the other is that, at any given age, there is a huge difference across households in equity risk-taking. Equity allocation in Vanguard retail investors' portfolios can range from no equities to an (almost) all-equity portfolio.[12] These two ends of the equity distribution are called extreme allocations.

In 2019, about four in ten investors held portfolios with extreme allocations. Twenty-two percent had 98% or more of their portfolio in equities, while 16% didn't hold any equities (**Figure 8**). The total percentage of investors with extreme allocations (38%) hasn't changed between 2015 and 2019. However, the composition is shifting, with 98%+ equity allocations declining and investors with zero-equity exposure increasing. Outside of these two extreme ends of the distribution, the rest of the equity distribution has remained stable over the past five years.

A lack of equity exposure hampers portfolio growth while an extreme allocation to equities carries substantial risk. The majority of equity allocations fall somewhere between these two extremes. As noted earlier, the average household-weighted equity allocation in 2019 was 63%, and the median was 75%.

Figure 8. Distribution of equity allocations, 2015–2019

Vanguard retail households (taxable accounts and/or IRAs) as of December 31

	2015	2016	2017	2018	2019
0% equity	12%	13%	14%	15%	16%
1%–30% equity	5%	5%	5%	5%	5%
31%–40% equity	4%	4%	4%	4%	4%
41%–50% equity	5%	4%	4%	5%	4%
51%–60% equity	7%	7%	7%	7%	7%
61%–70% equity	11%	11%	11%	11%	11%
71%–80% equity	9%	10%	10%	9%	9%
81%–90% equity	14%	14%	14%	14%	15%
91%–97% equity	7%	7%	7%	7%	7%
98%+ equity	26%	25%	24%	23%	22%
Average equity %	67%	66%	66%	64%	63%
Median equity %	78%	76%	77%	75%	75%
Total extreme allocations	38%	38%	38%	38%	38%

Source: Vanguard, 2020.

[12] Due to the fact that investors with brokerage accounts typically hold small amounts of cash in a settlement fund, an equity allocation of 98% or more is considered an all-equity portfolio.

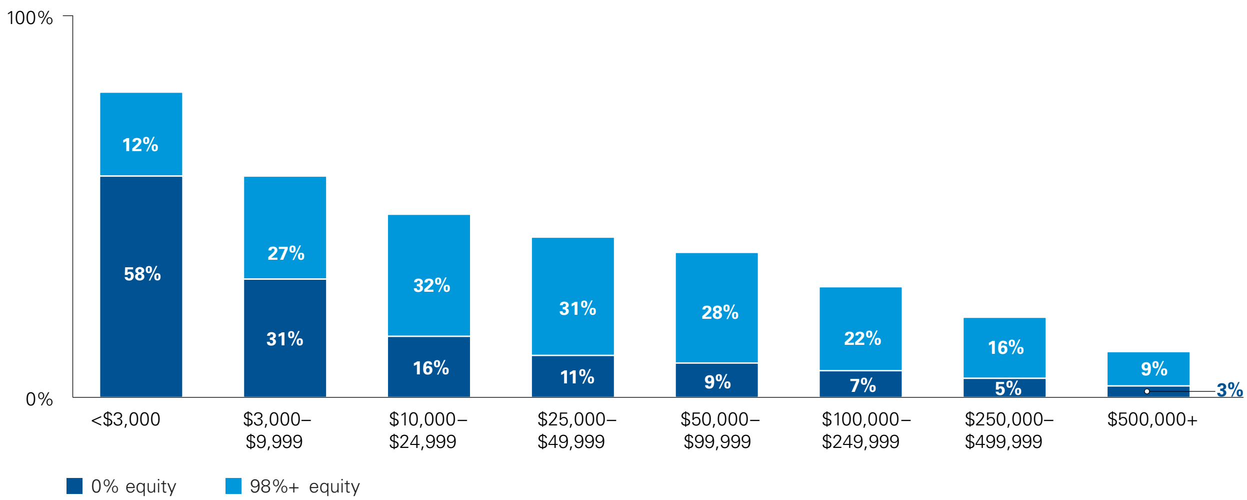
Extreme allocations by demographics

Consistent with earlier observations, low-balance, new, and young investors are driving the increased incidence of zero-equity portfolios. Specifically, more than half of investors with account balances of less than $3,000 and 31% of investor households who have had their accounts for less than two years (**Figure 9**) hold zero-equity portfolios. Furthermore, taxable-only portfolios have a higher incidence of extreme allocations, characterized by holding 98% or more of their assets in equities. The incidence of zero-equity portfolios is similar between taxable-only and IRA-only portfolios.

Figure 9. Prevalence of extreme allocations by demographics

Vanguard retail households (taxable accounts and/or IRAs) as of December 31, 2019

Panel A. Extreme allocations by account balance



Panel B. Extreme allocations by tenure

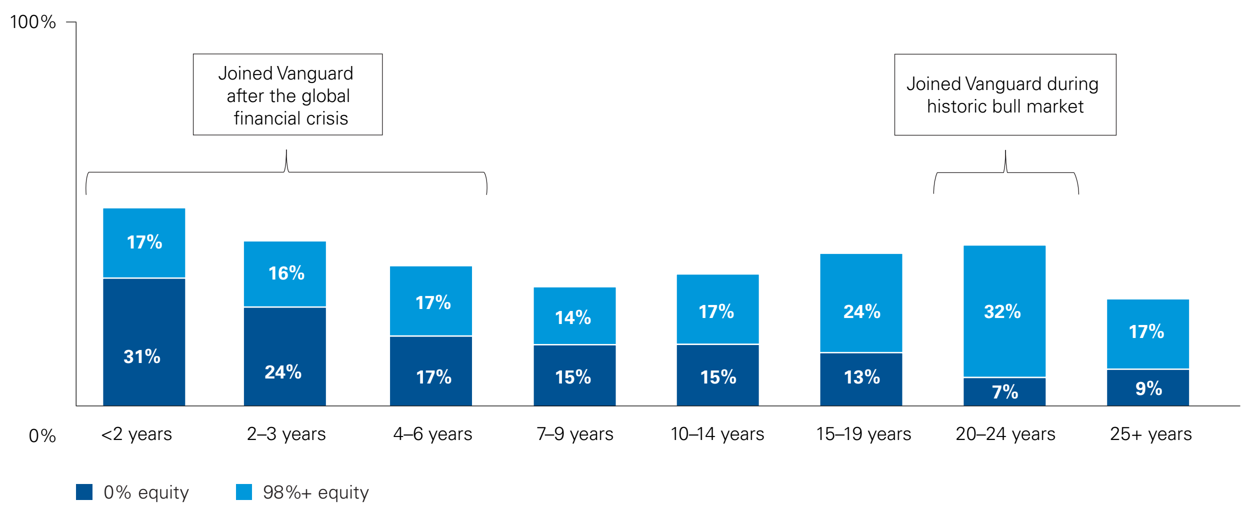
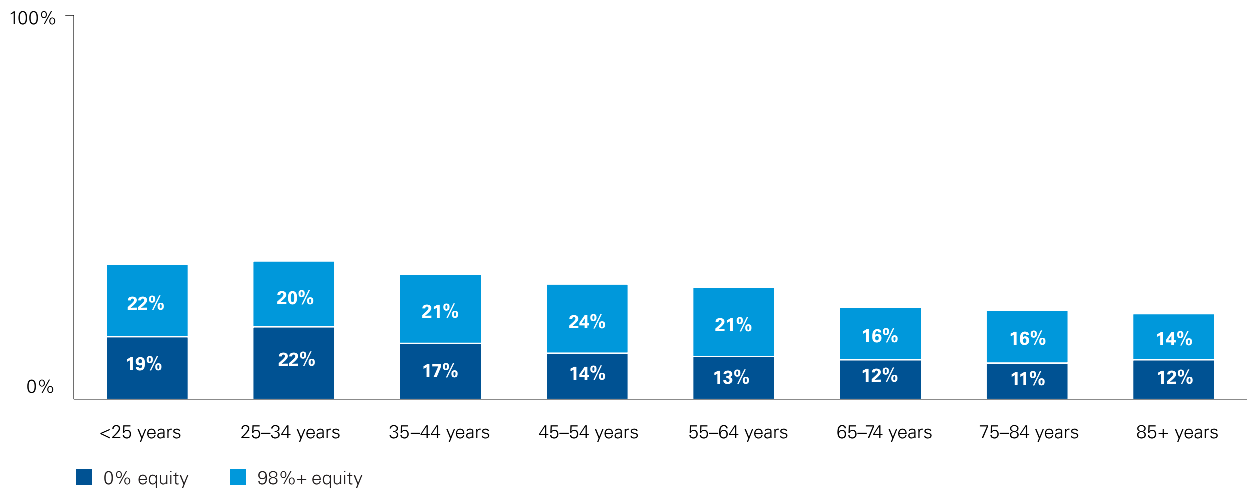
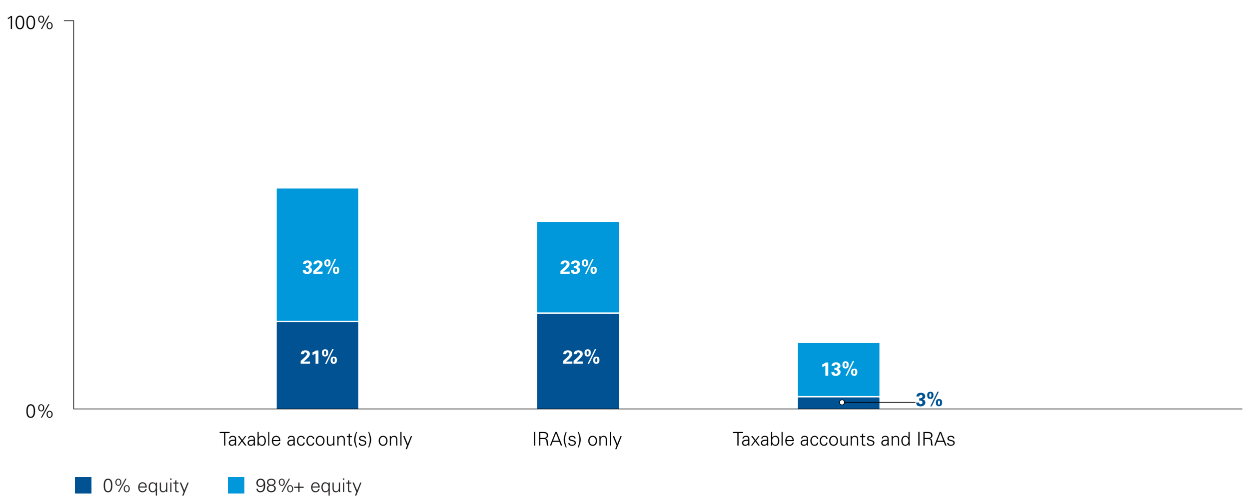


Figure 9. (continued)

Panel C. Extreme allocations by age



Panel D: Extreme allocations by account structure



Source: Vanguard, 2020.

Trends in extreme allocations

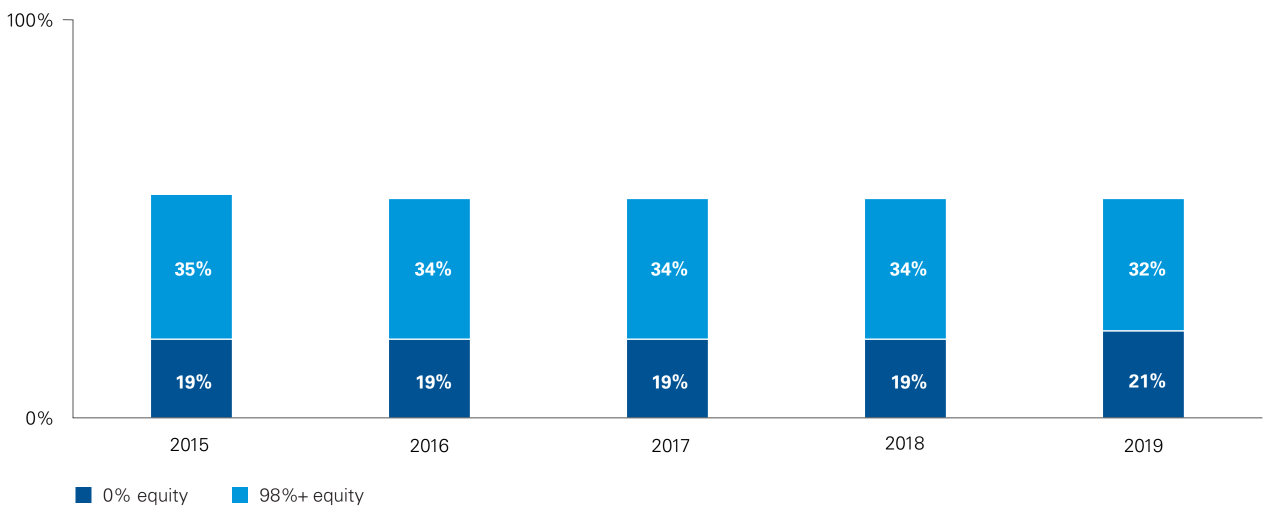
Consistent with the overall findings, the shifts in asset allocation by account structure between 2015 and 2019 are in the extremes of the equity distribution (Figure 10). Taxable-only portfolios have consistently had higher extreme allocations. About one in five investors have no equity holdings, while one-third have portfolios with more than 98% in equities, the highest among all three account structures. But for the most part, the distribution of these allocations has remained fairly stable.

In contrast, most of the shifting allocation to cash is observed in households with only IRAs. For this group, the incidence of zero-equity portfolios increased by 7 percentage points, from 15% to 22%, while those with 98%+ equities decreased from 29% to 24% of such households. Consistent with our other findings, these households tend to be younger and newer to Vanguard. On the other hand, mixed account households—typically older and wealthier—didn't show any notable changes in equity allocation in five years and maintain the lowest incidence of extreme portfolios overall.

Figure 10. Extreme allocations by account structure, 2015–2019

Vanguard retail households (taxable accounts and/or IRAs) as of December 31

Panel A. Taxable account(s) only



Panel B. IRA(s) only

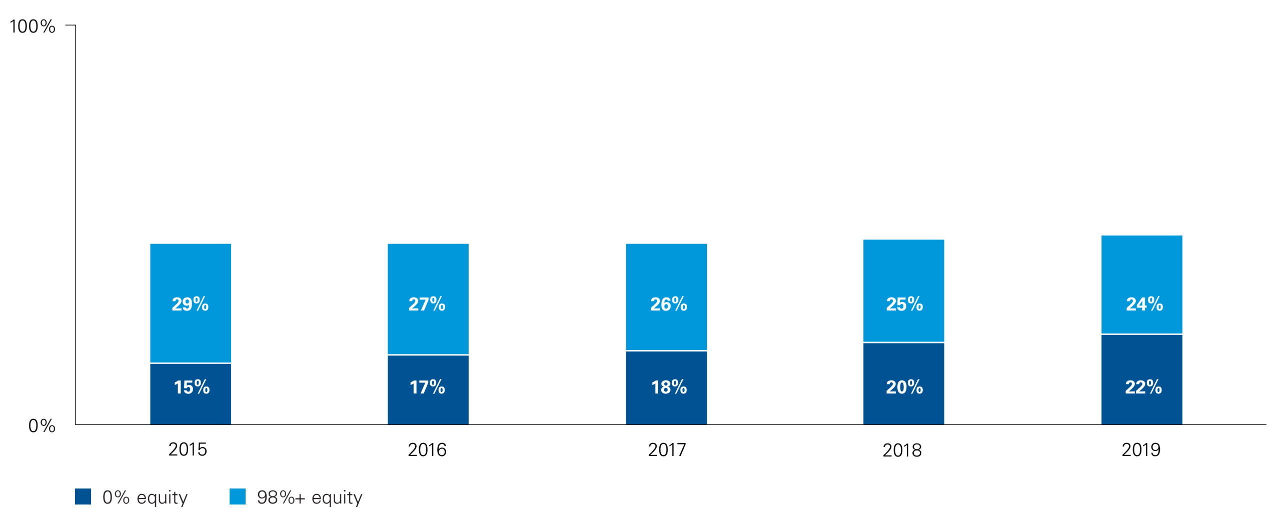
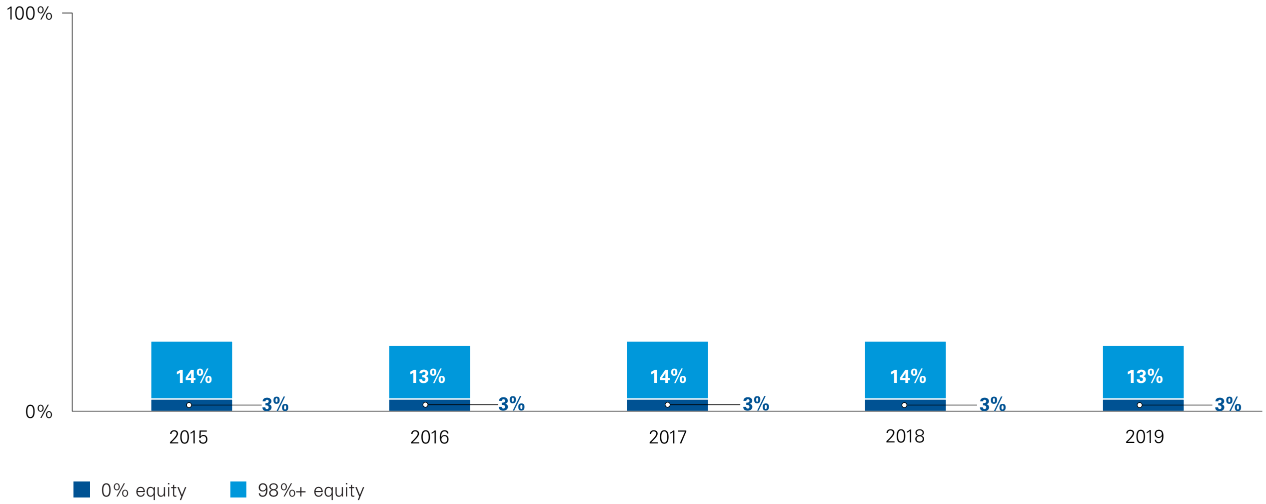


Figure 10. (continued)

Panel C. Taxable accounts and IRAs



Source: Vanguard, 2020.

Index versus active investing

Another important decision in allocating a portfolio is the use of active and passive strategies in portfolios. In this analysis, we classify index mutual funds and ETFs as index products, and active mutual funds and individual securities as active products. Mutual funds that hold only other index funds (as in a fund-of-funds structure) are considered to be index funds themselves. Investors can take an all-index, an all-active, or a mixed approach. Or households may simply hold cash, which is unclassified.

Since 2015, 71% of households have held index products, but the number of households using active products has declined from 57% to 49% (Figure 11). The decline in the use of active strategies is observed by a reduction in both the proportion of households building all-active portfolios and in the use of active versus passive strategies generally.

Figure 11. Index and active usage trends, 2015–2019

Vanguard retail households (taxable accounts and/or IRAs) as of December 31

	2015	2016	2017	2018	2019
Any index	71%	71%	71%	71%	71%
Any active	57%	55%	54%	52%	49%
All active	20%	19%	18%	17%	15%
All index	34%	35%	35%	36%	37%
Mixed active/index	37%	36%	36%	35%	34%
All cash	9%	10%	11%	12%	14%

Source: Vanguard, 2020.

Characteristics of index and active investors

Households with all-active portfolios tend to be older and long-tenured (**Figure 12**). Half of these households only hold IRAs. Meanwhile all-index households are younger and have a median account tenure about half that of all-active households, yet they have similar balances and are also likely to have an IRA-only account structure, suggesting that a preference for active strategies may have a generational component. Households with both active and index products tend to also have multiple account types and higher balances. All-cash holders tend to be young, new, and with modest balances.

Figure 12. Demographics by index/active product usage

Vanguard retail households (taxable accounts and/or IRAs) as of December 31, 2019

	All active	All index	Mixed active/index	All cash
Proportion	15%	37%	34%	14%
Median values				
Age	61	46	60	44
Length of account ownership	18	9	18	5
Balance	$41,600	$37,000	$271,400	$3,700
Equity allocation	66%	90%	76%	0%
Average active percentage*	100%	0%	44%	0%
Taxable only	33%	19%	14%	21%
IRA only	50%	62%	32%	75%
Taxable and IRA	17%	19%	54%	4%

*Percentage of assets in active mutual funds and individual securities, excluding cash holdings.

Source: Vanguard, 2020.

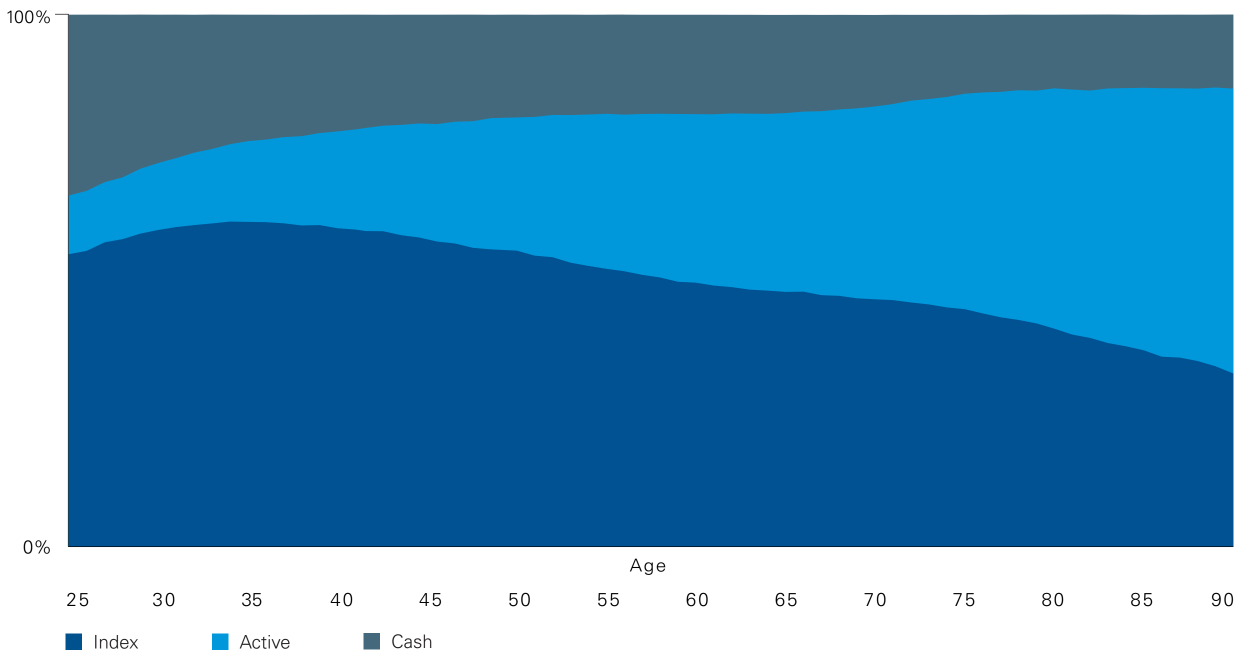
Effect of age and tenure on active share

We look at index versus active usage by age and tenure and notice a strong trend (**Figure 13**). The older or longer-tenured a household is, the higher the average active allocation. Further, when we look by tenure, the plot looks choppy. The small peaks and valleys may represent a cohort effect (**Figure 13**). These changes appear to be reflective of a demographic cohort shift in preferences, with those investors with more than 20 years of Vanguard tenure more likely to hold active strategies than more recent investors.

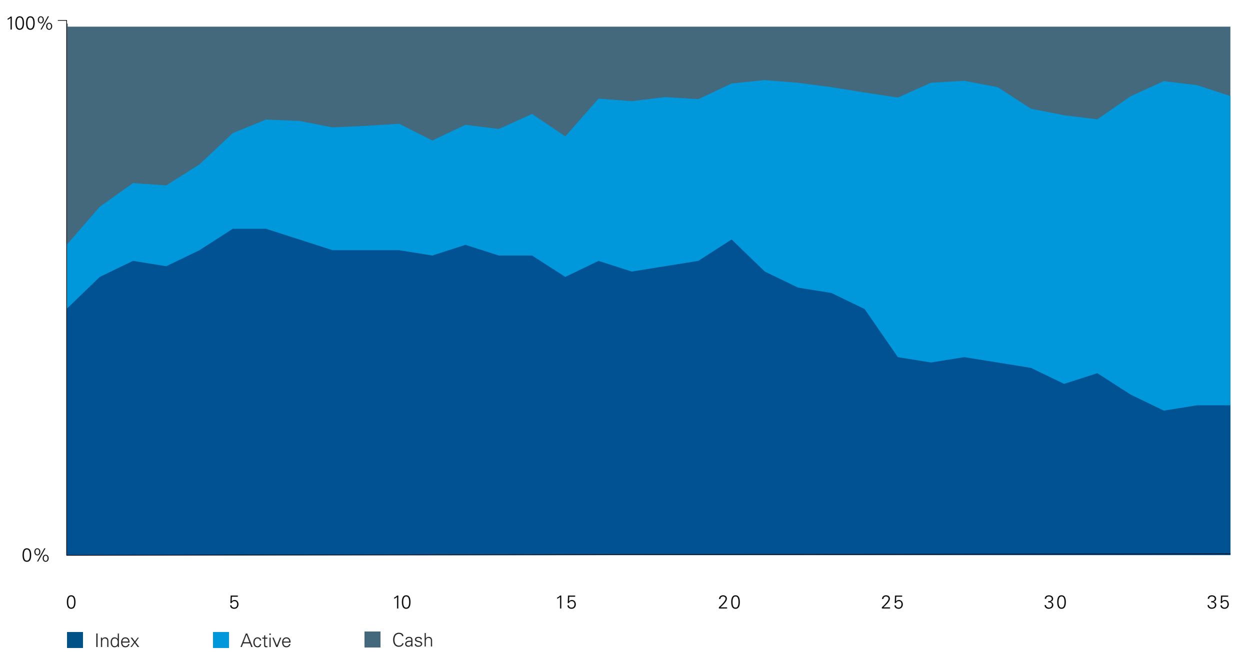
Figure 13. Average index/active usage by age and account tenure

Vanguard retail households (taxable accounts and/or IRAs) as of December 31, 2019

Panel A. Product preference by age



Panel B. Product preference by length of account ownership



Source: Vanguard, 2020.

International investing and home bias

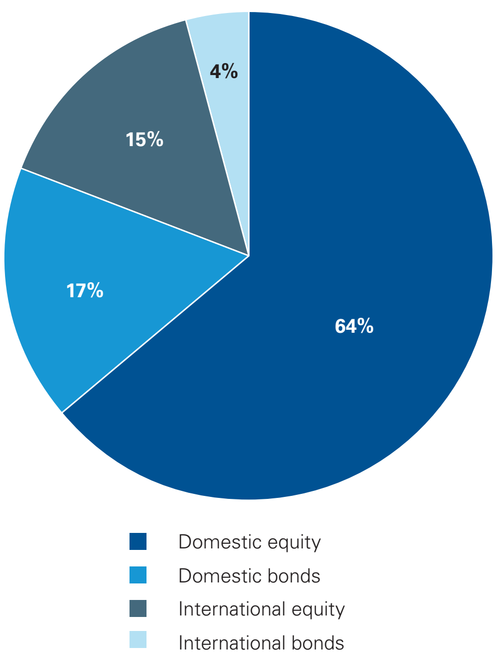
Another measure of diversification is the balance of domestic versus international holdings. Investors who concentrate all or most of their portfolios in companies based in their home country are said to exhibit "home bias."

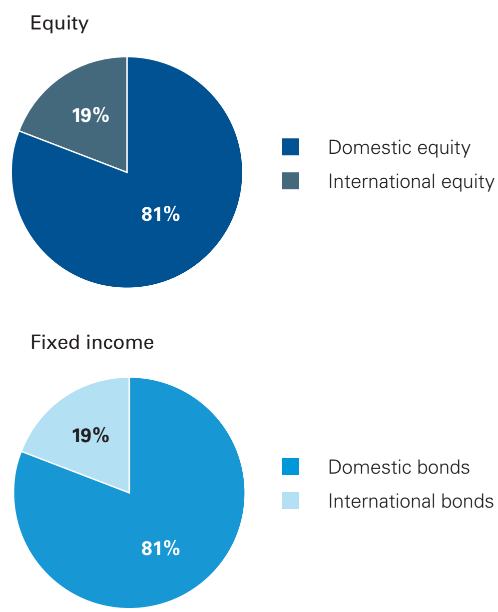
Here we look at international diversification for U.S.-based investors. For this analysis, we are only considering the assets held in pooled investments—mutual funds and ETFs. We look "under the hood" of each of the funds, so these allocations are based on actual fund holdings and not their investment objectives. A domestic fund may hold a small portion of international assets, and vice versa.

Overall, Vanguard retail households show moderate levels of international diversification. On average, 19% of mutual fund and ETF assets are invested internationally, 15% in international equities, and only 4% in international bonds (**Figure 14**). The average domestic to international ratio is the same for equity and fixed income investments, about 4:1.

Figure 14. Domestic and international allocation of mutual fund and ETF assets

Fund-level allocations. Vanguard retail households (taxable accounts and/or IRAs) as of December 31, 2019





Source: Vanguard, 2020.

Home bias and demographics

When we look at international diversification by various demographic characteristics, some patterns emerge. With respect to balance, investors with less than $10,000 seem to allocate a little more internationally than other investors; however, there is no notable trend for those households with more than $10,000 (Figure 15).

Home bias seems to be strongest among our oldest and longest-tenured investors. On the other hand, investors between 25 and 44 years of age, and those who have been investing at Vanguard between 4 and 14 years, allocate the most internationally. With respect to account structure, IRA-only households exhibit the least home bias, while taxable-only households exhibit the most. For virtually all demographic categories, the domestic to international ratio is very similar for the equity and fixed income portion of the portfolio.

Figure 15. Domestic and international allocation of mutual fund and ETF assets by demographics

Fund-level allocations. Vanguard retail households (taxable accounts and/or IRAs) as of December 31, 2019

Panel A. Allocation by balance

	<$3,000	$3,000 to $9,999	$10,000 to $24,999	$25,000 to $49,999	$50,000 to $99,999	$100,000 to $249,999	$250,000 to $499,999	$500,000+
Domestic equity	62%	67%	68%	68%	67%	65%	62%	59%
Domestic bonds	15%	13%	13%	14%	15%	17%	20%	23%
International equity	19%	17%	16%	15%	15%	14%	14%	13%
International bonds	4%	3%	3%	3%	3%	4%	4%	5%
Domestic total	77%	80%	81%	82%	82%	82%	82%	82%
Equity								
Domestic	77%	80%	81%	82%	82%	82%	82%	81%
International	23%	20%	19%	18%	18%	18%	18%	19%
Fixed income								
Domestic	81%	81%	81%	82%	82%	82%	82%	81%
International	19%	19%	19%	18%	18%	18%	18%	19%

Figure 15. (continued)

Panel B. Allocation by tenure

	<2 years	2–3 years	4–6 years	7–9 years	10–14 years	15–19 years	20–24 years	25+ years
Domestic equity	70%	66%	64%	60%	60%	65%	70%	60%
Domestic bonds	12%	13%	14%	18%	18%	18%	15%	24%
International equity	15%	17%	18%	18%	18%	13%	12%	12%
International bonds	3%	4%	4%	4%	4%	4%	3%	4%
Domestic total	82%	79%	78%	78%	78%	83%	85%	84%
Equity								
Domestic	82%	80%	78%	77%	77%	83%	86%	83%
International	18%	20%	22%	23%	23%	17%	14%	17%
Fixed income								
Domestic	79%	78%	77%	79%	80%	82%	84%	86%
International	21%	22%	23%	21%	20%	18%	16%	14%

Panel C. Allocation by age

	<25 years	25–34 years	35–44 years	45–54 years	55–64 years	65–74 years	75–84 years	85+ years
Domestic equity	74%	71%	69%	68%	64%	57%	57%	55%
Domestic bonds	9%	8%	10%	13%	18%	25%	27%	32%
International equity	15%	19%	19%	16%	14%	12%	11%	9%
International bonds	2%	2%	2%	3%	4%	6%	5%	4%
Domestic total	83%	79%	79%	81%	82%	82%	84%	87%
Equity								
Domestic	83%	79%	79%	81%	82%	83%	84%	85%
International	17%	21%	21%	19%	18%	17%	16%	15%
Fixed income								
Domestic	81%	78%	80%	80%	81%	81%	84%	88%
International	19%	22%	20%	20%	19%	19%	16%	12%

Figure 15. (continued)

Panel D. Allocation by account structure

	Taxable account(s) only	IRA(s) only	Taxable accounts and IRAs
Domestic equity	67%	64%	63%
Domestic bonds	19%	15%	19%
International equity	11%	17%	14%
International bonds	3%	4%	4%
Domestic total	86%	79%	82%
Equity			
Domestic	86%	79%	82%
International	14%	21%	18%
Fixed income			
Domestic	88%	78%	82%
International	12%	22%	18%

Source: Vanguard, 2020.

Professionally managed allocations and home bias

One way to counter home bias is through the use of professionally managed allocations—by retaining a financial advisor or investing in a multiasset class fund that is diversified internationally (such as many balanced strategies, including target-date funds). Here we look at Vanguard households who invest in target-date funds, and those who work with a Vanguard advisor.

Target-date investors may put all of their money in a single TDF (pure TDF investor) or in a mix of TDFs and/or other investments (mixed TDF investor). We look at these households in depth in later sections, but here we note that all types of TDF investors exhibit lower home bias than noninvestors, and that pure TDF investors invest substantially more internationally than mixed investors (Figure 16). Moreover, among pure TDF investors, we see the most significant deviation in the domestic to international ratio in the equity and fixed income portion of their portfolios—a larger portion of equities than fixed income are allocated internationally.

Advised households also invest significantly more in international investments than their nonadvised peers. Advised investors allocated their equities and bonds in similar domestic to international ratios.

Figure 16. Domestic and international allocation of mutual fund and ETF assets in professional allocations

Fund-level allocations. Vanguard retail households (taxable accounts and/or IRAs) as of December 31, 2019

Panel A. Allocation by target date usage

	Non-TDF investor	Pure TDF investor	Mixed TDF investor
Domestic equity	68%	48%	58%
Domestic bonds	18%	14%	15%
International equity	11%	32%	22%
International bonds	3%	6%	5%
Domestic total	86%	62%	73%
Equity			
Domestic	86%	60%	72%
International	14%	40%	28%
Fixed income			
Domestic	85%	67%	75%
International	15%	33%	25%

Panel B. Allocation by advised status

	Self-directed	Advised
Domestic equity	65%	39%
Domestic bonds	17%	26%
International equity	15%	22%
International bonds	3%	14%
Domestic total	82%	65%
Equity		
Domestic	82%	64%
International	18%	36%
Fixed income		
Domestic	83%	65%
International	17%	35%

Source: Vanguard, 2020.

Product choice

Product choice

In this section we examine the types of investment products that investors use in constructing their portfolios. Vanguard retail investors have a wide range of investments to choose from. Investors may access bond and equity markets using diversified, pooled investments like mutual funds and ETFs, or they may invest directly in individual stocks and bonds. Investors may also hold cash in the form of money market funds.

Mutual funds (excluding money market funds) are the most common investment type, used by four out of five Vanguard retail households (Figure 17). In recent years, there has been growing interest in ETFs. Though still at 13% of households in 2019, the fraction of households using ETFs has nearly doubled since 2015, while mutual fund usage decreased. Associated with the declining use of mutual funds are lower proportions of households investing in active and balanced funds.

Figure 17. Product choice trends, 2015–2019

Vanguard retail households (taxable accounts and/or IRAs) as of December 31

	2015	2016	2017	2018	2019
Proportion using					
Mutual funds	88%	87%	85%	83%	81%
ETFs	7%	8%	9%	11%	13%
Individual securities	11%	11%	12%	13%	13%
Money market funds	39%	43%	47%	52%	57%
Target-date funds	20%	20%	20%	21%	21%
Balanced funds	30%	29%	29%	27%	25%
Index mutual funds	69%	68%	68%	67%	66%
Active mutual funds	53%	51%	49%	46%	44%

Source: Vanguard, 2020.

Some products are more common in certain account types. Target-date funds, for example, are more commonly held by households with IRAs, likely due to their retirement focus (Figure 18). ETFs and individual securities, on the other hand, are more commonly used by households with taxable accounts. Overall, households with both taxable accounts and IRAs are most likely to hold any of the investment types, though these households also have the highest balances to invest.

Figure 18. Product choice by account structures

Vanguard retail households (taxable accounts and/or IRAs) as of December 31, 2019

	Taxable account(s) only	IRA(s) only	Taxable accounts and IRAs
Proportion using			
Mutual funds	75%	76%	94%
ETFs	13%	7%	24%
Individual securities	11%	6%	27%
Money market funds	52%	47%	77%
Target-date funds	5%	26%	25%
Balanced funds	22%	19%	38%
Index mutual funds	51%	61%	84%
Active mutual funds	43%	32%	66%

Source: Vanguard, 2020.

ETF investors

A total of 13% of Vanguard retail investors hold ETFs. These households tend to be slightly younger than non-ETF investors but have significantly higher balances (Figure 19). ETF investors are twice as likely to hold both taxable accounts and IRAs compared with noninvestors.

Not all households use ETFs in the same way. We identify three categories, depending on the proportion of the household portfolio invested in ETFs. Households with 1% to 25% of their portfolios invested in ETFs are "diversifiers," while those who hold at least 75% of their household portfolios in ETFs are considered "enthusiasts." All three of the categories have grown since 2015 (Figure 20).

Figure 19. Characteristics of households by ETF usage

Vanguard retail households (taxable accounts and/or IRAs) as of December 31, 2019

	Non-ETF investors	ETF investors
Proportion of households	87%	13%
Median values		
Age	54	50
Length of account ownership	14	9
Balance	$53,500	$166,500
Equity allocation	73%	80%
ETF allocation	0%	25%
Taxable account(s) only	20%	20%
IRA(s) only	55%	27%
Taxable accounts and IRAs	25%	53%

Source: Vanguard, 2020.

Figure 20. ETF usage trends, 2015–2019

Vanguard retail households (taxable accounts and/or IRAs) as of December 31

Proportion of portfolio invested in ETFs	2015	2016	2017	2018	2019
0%	93%	92%	91%	89%	87%
1%–25% (“diversifiers”)	4%	5%	5%	6%	6%
26%–74%	2%	2%	2%	3%	4%
75%+ (“enthusiasts”)	1%	1%	2%	2%	3%

Source: Vanguard, 2020.

Characteristics of ETF investors

The characteristics of ETF investor types vary greatly. Diversifiers hold a small proportion of ETFs as part of a diversified portfolio. They tend to be older, have a longer account tenure, and hold high balances (Figure 21). These investors typically have both taxable accounts and IRAs. At the other end of the spectrum are the ETF enthusiasts. These investors tend to be young, are new to Vanguard, and have modest balances and simpler account structures.

Median equity allocations for non-ETF investors and those with 75%+ of their portfolios in ETFs are similar across ages, but ETF enthusiast households tend to hold high equity allocations regardless of age (Figure 22). In fact, ETF enthusiast portfolios hold 5 to 28 percentage points more in equities than non-ETF portfolios of investors the same age. This may suggest that ETF enthusiasts are coming to Vanguard principally for equity ETF exposure, regardless of age.

Figure 21. Characteristics of ETF investors

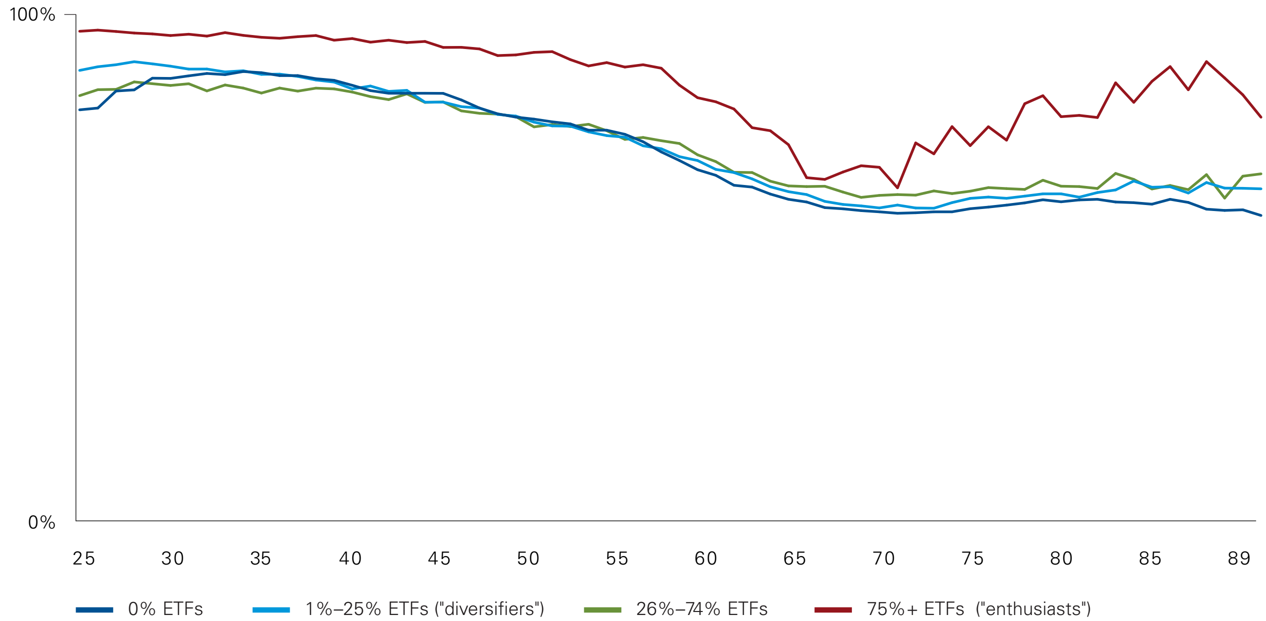
Vanguard retail households (taxable accounts and/or IRAs) as of December 31, 2019

	1%–25% ETFs (“diversifiers”)	26%–74% ETFs	75%–100% ETFs (“enthusiasts”)
Proportion of households	6%	4%	3%
Median values			
Age	57	48	37
Length of account ownership	15	7	3
Balance	$368,900	$116,600	$22,000
Equity allocation	74%	76%	92%
ETF allocation	7%	45%	97%
Taxable account(s) only	13%	21%	35%
IRA(s) only	19%	29%	42%
Taxable accounts and IRAs	68%	50%	23%

Source: Vanguard, 2020.

Figure 22. Median equity allocation by ETF usage and age

Vanguard retail households (taxable accounts and/or IRAs) as of December 31, 2019



Source: Vanguard, 2020.

Target-date fund investors

About one in five households use target-date funds, a number that has remained stable since 2015. Overall, TDF investors tend to be younger and have shorter account tenure but their median balances are comparable (Figure 23). TDF investors are much more likely to have IRAs, and very few have only taxable accounts.

We define two types of TDF investors. Pure TDF investors have all of their assets invested in a single target-date fund, although these households may have the same target-date fund in more than one account. Mixed TDF investors have a combination of TDFs and other investments or more than one TDF. Overall, the incidence of mixed TDF investors has increased, while pure TDF use has decreased slightly (Figure 24).

Figure 23. Characteristics of households by target-date usage

Vanguard retail households (taxable accounts and/or IRAs) as of December 31, 2019

	Non-TDF investors	TDF investors
Proportion of households	79%	21%
Median values		
Age	56	45
Length of account ownership	15	9
Balance	$61,400	$59,100
Equity allocation	70%	82%
Target-date allocation	0%	74%
Taxable account(s) only	24%	4%
IRA(s) only	49%	63%
Taxable accounts and IRAs	27%	33%

Source: Vanguard, 2020.

Figure 24. Target-date usage trends, 2015–2019

Vanguard retail households (taxable accounts and/or IRAs) as of December 31

	2015	2016	2017	2018	2019
Non-TDF investors	80%	80%	80%	79%	79%
Pure TDF investors	8%	8%	7%	7%	6%
Mixed TDF investors	12%	12%	13%	14%	15%

Source: Vanguard, 2020.

We note significant differences between the two types of TDF investors. Pure TDF investors tend to be young, have modest balances, and are almost exclusively IRA investors (Figure 25). Mixed TDF investors tend to hold less than half of their portfolios in TDFs. They tend to be older than pure TDF investors, although they're still typically younger than Vanguard households overall. They also have higher balances than both pure TDF investors and non-TDF investors. Again, almost all mixed TDF investors have IRAs, although about half also have taxable accounts.

We look at age-based allocations for TDF and non-TDF investors (Figure 26). For each age, we show the median equity allocation, as well as the first to third quartile range. Half of households will fall into this range, while 25% will have an equity allocation at or below the bottom of the range, and 25% will be at or above.

Equity exposure among TDF investors exhibits much less variance than among noninvestors. For both TDF investors and noninvestors, median equity allocations decline with age through age 70. However, the range of allocation for TDF investors is much smaller than it is for non-TDF investors. Older TDF investors, however, have a wider range of equity allocations than younger ones, and equity allocation begins to increase around age 70. This could be the result of some older TDF investors picking TDFs with a target date that is further out, or by mixing TDFs with other investments, perhaps due to lower risk aversion or a longer time horizon, such as a desire to use the asset as part of an inheritance.

Figure 25. Characteristics of target-date households

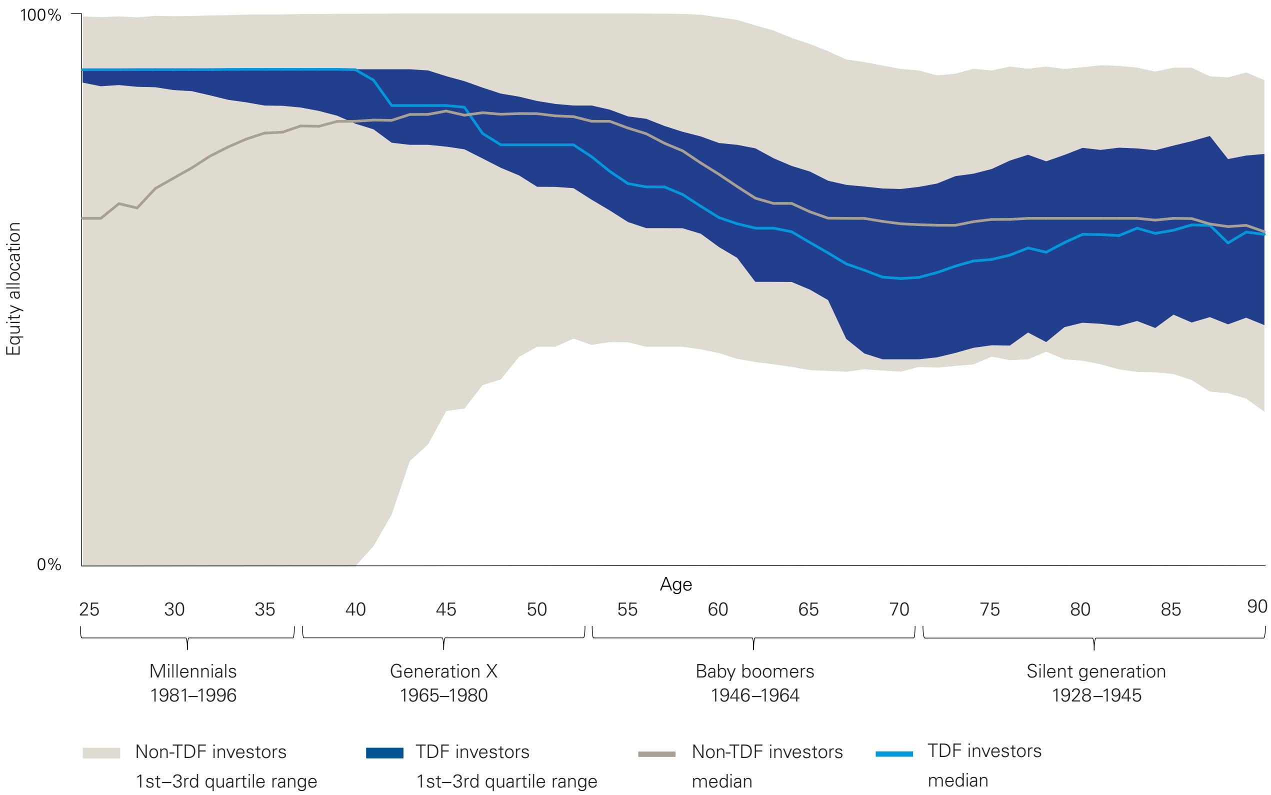
Vanguard retail households (taxable accounts and/or IRAs) as of December 31, 2019

	Pure TDF investors	Mixed TDF investors
Proportion of households	6%	15%
Median values		
Age	40	48
Length of account ownership	7	12
Balance	$16,000	$110,700
Equity allocation	90%	79%
Target-date allocation	100%	39%
Taxable account(s) only	4%	5%
IRA(s) only	95%	48%
Taxable accounts and IRAs	1%	47%

Source: Vanguard, 2020.

Figure 26. Age-based equity allocations among Vanguard retail investors by TDF usage

Vanguard retail investors (taxable accounts and/or IRAs) as of December 31, 2019



Source: Vanguard, 2020.

Individual security investors

About 13% of households hold individual securities–stocks or bonds–up slightly since 2015. These households tend to be older, longer-tenured, and hold higher balances (Figure 27).[13] Individual security investors are likely to have both taxable accounts and IRAs. Typically, they put about 16% of their assets into individual securities.

We again group individual security investors by the amount of the portfolio invested in these securities. There has been little change in the makeup of these groups (Figure 28). Most individual security investors hold less than 25% of assets in individual securities, but a few households use them as the primary portfolio component.

There are notable differences between the groups (Figure 29). Investors with 1% to 25% individual securities and those with 26 to 74% look similar demographically, although the former have nearly twice the account balance. These investors are more likely than not to hold both taxable accounts and IRAs and typically have 11 distinct investments. These characteristics are indicative of sophisticated households using individual securities in conjunction with other investments to build a diversified portfolio.

Investors using individual securities as the main component of their Vanguard portfolio look quite different. These "enthusiasts" have age and tenure

[13] One reason for this low incidence is that before 2015, the default platform for new investors was a mutual fund transfer agency system; a brokerage account had to be actively elected. As of 2015, the default system for new investors is a brokerage account.

characteristics similar to other non-individual security investors but have lower balances than other individual security investors. They typically have only an IRA or a taxable account but are equally likely to have either type. Moreover, they typically hold only four unique investments, suggesting these portfolios are not diversified.

Investors with no individual securities have similar equity allocations at a given age to those who hold less than 25% of their portfolios into individual securities (Figure 30). As individual security usage increases, so does equity allocation. Those with 26% to 74% in individual securities take more risk, while those with 75% or more in individual securities are building portfolios that are almost all equity, regardless of age.

Figure 27. Characteristics by individual security usage

Vanguard retail households (taxable accounts and/or IRAs) as of December 31, 2019

	Non-individual security investors	Individual security investors
Proportion of households	87%	13%
Median values		
Age	53	58
Length of account ownership	13	16
Balance	$49,600	$291,100
Equity allocation	74%	78%
Individual security allocation	0%	16%
Number of holdings	2	10
Taxable account(s) only	20%	17%
IRA(s) only	56%	23%
Taxable accounts and IRAs	24%	60%

Source: Vanguard, 2020.

Figure 28. Individual security usage trend, 2015–2019

Vanguard retail households (taxable accounts and/or IRAs) as of December 31

	2015	2016	2017	2018	2019
0% individual securities	89%	89%	88%	87%	87%
1%–25% individual securities (“diversifiers”)	7%	7%	7%	8%	8%
26%–74% individual securities	3%	3%	3%	3%	3%
75%+ individual securities (“enthusiasts”)	1%	1%	2%	2%	2%

Source: Vanguard, 2020.

Figure 29. Characteristics of individual security investors

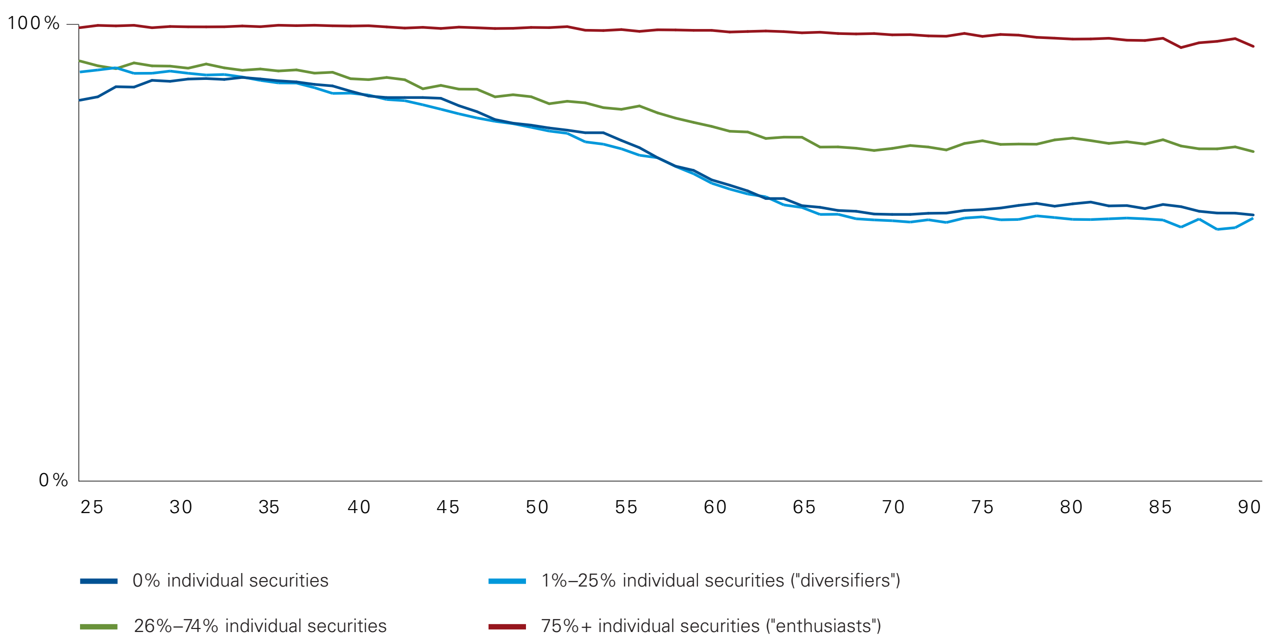
Vanguard retail households (taxable accounts and/or IRAs) as of December 31, 2019

	1%–25% individual securities ("diversifiers")	26%–74% individual securities	75%+ individual securities ("enthusiasts")
Proportion	8%	3%	2%
Median values			
Age	59	59	54
Length of account ownership	17	15	11
Balance	$427,000	$228,900	$34,900
Equity allocation	70%	80%	98%
Individual security allocation	6%	43%	95%
Number of holdings	11	11	4
Taxable accounts(s) only	12%	20%	38%
IRA(s) only	18%	25%	38%
Taxable accounts and IRAs	70%	55%	24%

Source: Vanguard, 2020.

Figure 30. Median equity allocation by individual security usage

Vanguard retail households (taxable accounts and/or IRAs) as of December 31, 2019



Source: Vanguard, 2020.

Trading

Trading

This section examines the trading behavior of Vanguard households over the 2015–2019 period. We define "trading" as the act of moving money from one investment option to another within an account.

We examine trading behavior at the household level to better understand the decisions Vanguard households are making, which isn't evident in typical trading measures based on dollar flows. We exclude households who have been with Vanguard for less than four months to allow new investors ample time to create their initial portfolios.

Trading overview

Overall, trading among Vanguard households is low and has remained stable. Less than a quarter of households traded each year between 2015 and 2019 (Figure 31). Of those households that did trade, the typical household traded on only two days a year and moved about a fifth of their assets overall.

Figure 31. Trading trends, 2015–2019

Vanguard retail households (taxable accounts and/or IRAs) as of December 31

	2015	2016	2017	2018	2019
Proportion trading	21%	20%	22%	23%	21%
Median values, household level, conditional on trading					
Trading days	2	2	2	2	2
Percentage of assets traded*	20%	20%	18%	21%	17%

*Calculated as assets traded/average end-of-month balance.

Source: Vanguard, 2020.

The typical trading household looks quite different than their nontrading counterpart. Trading households are slightly older and longer-tenured, but the biggest differences are seen in terms of account wealth and structure (Figure 32). Trading households typically have multiple account types and a median balance more than six times greater than that of nontrading households.

We also note that trading activity has been fairly consistent month over month, with about 5% to 7% percent of households trading each month (Figure 33). The highest trading month was January 2018, when 9% of households traded.

Figure 32. Demographic profile by trade status

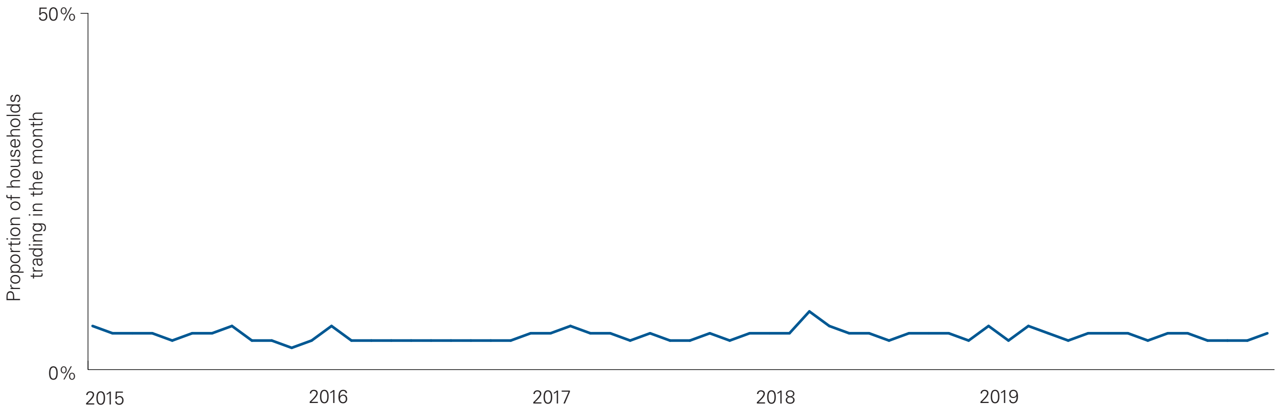
Vanguard retail households (taxable accounts and/or IRAs) as of December 31, 2019

	Nontraders	Traders
Proportion	79%	21%
Median values		
Age	53	57
Length of account ownership	14	15
Balance	$43,500	$269,000
Taxable account(s) only	21%	16%
IRA(s) only	57%	29%
Taxable accounts and IRAs	22%	55%

Source: Vanguard, 2020.

Figure 33. Trading incidence, 2015–2019

Vanguard retail households (taxable accounts and/or IRAs) trading each month



Source: Vanguard, 2020.

Distribution of trading activity

Trading activity can vary. While some investors trade often, others modify their portfolios infrequently, if at all. In 2019, of those Vanguard households that traded, 38% traded on only one day, compared with 22% who had trades on seven or more days (Figure 34).

When households trade, they sell one investment to buy another. Often, but not always, the new investment is in a different asset class than the sold investment. When an investor trades from one asset class to another, they change the risk profile of their portfolio.

To determine trading direction, we look at cumulative asset movement into (or out of) equities over the year. Households trading into equities are increasing the risk in their portfolios, while those trading out of equities (and into cash or fixed income) decrease risk.

From 2015 to 2019, around two-thirds of traders traded on three days or fewer. The most common action for trading households has been to shift into equities. Typically, around half of households move into equities while another four in ten are net sellers of equities. About 10% trade but do not change asset class. When measured in terms of asset movements, as opposed to at the household level, there has been only a marginal net shift of account assets into equities.

We look deeper into the characteristics of traders, first by examining trading frequency. Age and time with Vanguard are similar, regardless of trading frequency, but there is a notable relationship of increasing balance with increasing trade frequency (Figure 35). Those who trade more frequently also tend to trade a larger percentage of their assets.

When viewed by trading direction, we see that net buyers of equities tend to be younger, have shorter account tenure, and have lower balances than those who are net sellers or neutral on equities (Figure 36). Net buyers of equities tend to trade more frequently than net sellers but trade a similar portion of assets.

Figure 34. Distribution of trading activity, 2015–2019

Vanguard retail households (taxable accounts and/or IRAs) with a trade during the year

	2015	2016	2017	2018	2019
1 trading day in year	38%	39%	40%	36%	38%
2–3 trading days in year	26%	26%	26%	26%	26%
4–6 trading days in year	14%	14%	13%	14%	14%
7+ trading days in year	22%	21%	21%	23%	21%
Net buyer of equities	57%	49%	52%	54%	50%
Net seller of equities	33%	41%	39%	37%	42%
Traded within asset class	10%	10%	9%	9%	8%
Median net asset movement to (from) equity*	1%	<0.5%	<0.5%	1%	<0.5%

*Calculated as assets traded/average end-of-month balance.

Source: Vanguard, 2020.

Figure 35. Demographic profile of trading households by trading frequency

Vanguard retail households (taxable accounts and/or IRAs) with a trade during 2019

	1 trading day in year	2–3 trading days in year	4–6 trading days in year	7+ trading days in year
Proportion of trading households	38%	26%	14%	22%
Median values				
Age	57	58	58	58
Length of account ownership	15	15	15	16
Balance	$173,200	$244,300	$294,100	$368,100
Trading days	1	2	5	13
Percentage of assets traded*	7%	14%	21%	40%
Taxable account(s) only	16%	15%	15%	15%
IRA(s) only	35%	28%	24%	20%
Taxable accounts and IRAs	49%	57%	61%	65%

*Calculated as assets traded/average end-of-month balance.

Source: Vanguard, 2020.

Figure 36. Demographic profile of trading households by trading direction

Vanguard retail households (taxable accounts and/or IRAs) with a trade during 2019

	Net buyer of equities	Net seller of equities	Traded within asset class
Proportion of trading households	50%	42%	8%
Median values			
Age	52	61	62
Length of account ownership	12	17	18
Balance	$153,100	$327,700	$306,700
Trading days	3	2	1
Percentage of assets traded*	18%	16%	11%
Taxable account(s) only	17%	14%	16%
IRA(s) only	31%	27%	30%
Taxable accounts and IRAs	52%	59%	54%

*Calculated as assets traded/average end-of-month balance.

Source: Vanguard, 2020.

There are many reasons a household may trade into or out of equities. One common reason is to rebalance the portfolio. As market prices change, so does the overall equity allocation of a portfolio. In this scenario, an investor buys or sells equities to return the portfolio to a target asset allocation. This behavior helps ensure that a portfolio maintains a desired risk level.

There are other reasons that households trade, however. Households may engage in market-timing in the hopes of selling high and buying low. They may also chase hot investments or panic in times of volatility and sharply reduce or eliminate their equity market exposure. Prior research has shown these types of behaviors can hurt performance.[14]

[14]Barber, Brad M., and Terrance Odean, 2001. *Boys Will Be Boys: Gender, Overconfidence, and Common Stock Investment*. The Quarterly Journal of Economics 115(1): 261–292.

We analyze trading behavior by looking at equity allocations at the beginning and end of the year for those households who placed at least one trade during the year, and classify them based on their trading behavior (Figure 37). First, we identify those households who move into an extreme portfolio, defined as either 0% equity or 98%+ equity. For those households who trade but do not build an extreme portfolio, we look at the net change in equity allocation. If the net equity change is less than 10 percentage points, we make a simplifying assumption that the household appears to be rebalancing their portfolio. If a household trades seven or more days a year, we categorize them separately as a frequent trader. Advised traders (those who work with a financial advisor) are also treated separately.

We found that, in each year from 2015, about half of traders were rebalancers, suggesting that changes in risk levels were modest. On the other hand, 1% to 2% of households moved out of equities completely, while 2% to 3% moved to very aggressive portfolios. Another 20% or so of trading households made changes of more than 10 percentage points to their equity allocations. Finally, more than one in five trading households was classified as a frequent trader, potentially suggesting an attempt to time the market.

Figure 37. Types of trading households, 2015–2019

Vanguard retail households (taxable accounts and/or IRAs) who traded during the year

	2015	2016	2017	2018	2019
Traded to 0% equities	2%	2%	1%	2%	2%
Decreased equities by more than 10 percentage points	9%	12%	9%	12%	10%
Rebalancer	51%	50%	49%	46%	49%
Increased equities by more than 10 percentage points	10%	9%	12%	9%	10%
Traded to 98%+ equities	3%	2%	3%	3%	2%
Other measures:					
Frequent trader	22%	22%	21%	23%	21%
Advised traders	3%	3%	5%	5%	6%

Note: Equity change measured from beginning to end of year.

Source: Vanguard, 2020.

We look deeper into the characteristics of each trading type. Those trading to 98%+ equity tend to be significantly younger, have shorter account tenure, and hold smaller balances than other traders (Figure 38). Advised traders tend to be the oldest and longest-tenured households, and they also hold the highest balances. Frequent traders and rebalancers also tend to have high balances and longer account tenure. Those going to 0% equity tend to trade nearly all of their portfolios in a single day.

Figure 38. Demographic profile of trading households by trading type

Vanguard retail households (taxable accounts and/or IRAs) with a trade during 2019

	Traded to 0% equities	Decreased equities by more than 10 percentage points	Rebalancer	Increased equities by more than 10 percentage points	Traded to 98%+ equities	Frequent trader	Advised traders
Proportion	2%	10%	49%	10%	2%	21%	6%
Median values							
Age	54	55	57	53	42	58	65
Length of account ownership	11	14	15	11	6	16	16
Balance	$50,400	$131,100	$249,300	$95,000	$28,500	$352,700	$690,200
Trading days	1	2	2	2	1	13	2
Percentage of assets traded*	95%	33%	8%	28%	57%	41%	7%
Taxable account(s) only	30%	18%	15%	21%	23%	15%	6%
IRA(s) only	46%	37%	28%	39%	51%	21%	20%
Taxable accounts and IRAs	24%	45%	57%	40%	26%	64%	74%

*Calculated as assets traded/average end-of-month balance.

Source: Vanguard, 2020.

Trading and account structure

Trading incidence is highly related to account structure, and this trend has remained stable since 2015. IRA-only households trade the least, with 11% to 13% of such households trading in a given year (**Figure 39**). This is consistent with IRAs being used for long-term holdings. Taxable-only households trade slightly more, with 15% to 18% trading in a year.

Households with both taxable accounts and IRAs, however, are nearly as likely to trade as not, with 41% to 44% of these households trading in a given year.

Despite being much more likely to trade, households with both taxable accounts and IRAs trade a smaller proportion of assets (**Figure 40**). The typical trading household with both account types traded 11% of assets across three trading days in 2019. Single account type holders typically traded 28% to 31% of assets over two trading days.

Figure 39. Trading trends by account structure, 2015–2019

Vanguard retail households (taxable accounts and/or IRAs) as of December 31

	2015	2016	2017	2018	2019
Proportion trading					
All households	21%	20%	22%	23%	21%
Taxable account(s) only	15%	15%	16%	18%	17%
IRA(s) only	12%	11%	13%	13%	12%
Taxable accounts and IRAs	42%	41%	43%	44%	42%

Source: Vanguard, 2020.

Figure 40. Trading statistics by account structure

Vanguard retail households (taxable accounts and/or IRAs) as of December 31, 2019

	Taxable account(s) only	IRA(s) only	Taxable accounts and IRAs
Proportion trading	17%	12%	42%
Median values, household level, conditional on trading			
Trading days	2	2	3
Percentage of assets traded*	28%	31%	11%

*Calculated as assets traded/average end-of-month balance.

Source: Vanguard, 2020.

We look at the distribution of trading frequency and direction and find that traders with both taxable accounts and IRAs are most likely to trade often, while IRA-only traders are most likely to trade only once (Figure 41). We also note that households with a single account type are more likely than not to be buyers of equities. Fifty-four percent of taxable-only and 52% of IRA-only households were buyers of equities. Another 9% of these households traded within the same asset class. Households with both account types were about equally likely to be buyers as they were to be sellers of equities, and 8% were neutral.

Figure 41. Distribution of trading activity by account structure

Vanguard retail households (taxable accounts and/or IRAs) with a trade during 2019

	Taxable account(s) only	IRA(s) only	Taxable accounts and IRAs
Proportion of trading households	16%	28%	56%
1 trading day in year	39%	47%	33%
2–3 trading days in year	26%	26%	27%
4–6 trading days in year	14%	12%	15%
7+ trading days in year	21%	15%	25%
Net buyer of equities	54%	52%	47%
Net seller of equities	37%	39%	45%
Traded within asset class	9%	9%	8%
Median net asset movement to (from) equity*	2%	1%	<0.5%

*Calculated as net dollars to equity/average end-of-month balance.

Source: Vanguard, 2020.

Trading by product usage

Here we examine trading behavior related to specific products: target-date funds, ETFs, and individual stocks and bonds. Unlike other sections in this chapter, these categories are not exclusive or comprehensive. A household could hold more than one of these product types, or none of them.

Overall, investors of target-date funds are slightly less likely to trade than the overall population, but ETF and individual security investors are much more likely to trade (Figure 42). Trading incidence among target-date and individual security users has remained stable, while trading incidence among ETF investors has trended down.

Individual security investors, at the median, trade the most frequently, with four trading days per year (Figure 43). The typical individual security investor trades 15% of assets. The typical ETF investor trades the largest proportion of assets, at 21%. Target-date households that trade do so less frequently and with a smaller portion of their portfolios.

Figure 42. Trading trends by product use, 2015–2019

Vanguard retail households (taxable accounts and/or IRAs) as of December 31

	2015	2016	2017	2018	2019
Proportion trading					
All households	21%	20%	22%	23%	21%
Target-date investors	20%	18%	21%	21%	19%
ETF investors	77%	73%	74%	74%	68%
Individual security investors	66%	64%	66%	68%	65%

Source: Vanguard, 2020.

Figure 43. Trading statistics by product use

Vanguard retail households (taxable accounts and/or IRAs) as of December 31, 2019

	Target-date investors	ETF investors	Individual security investors
Proportion trading	19%	68%	65%
Median values, household level, conditional on trading			
Trading days	2	3	4
Percentage of assets traded*	13%	21%	15%

*Calculated as assets traded/average end-of-month balance.

Source: Vanguard, 2020.

With respect to trading frequency and direction, ETF holders were more likely to trade over four or more days, while the majority of target-date households traded on three or fewer days (Figure 44). TDF and ETF households were net buyers of equities, while individual security investors were about equally likely to be buyers or sellers of equities.

Figure 44. Distribution of trading activity by product usage

Vanguard retail households (taxable accounts and/or IRAs) with a trade during 2019

	Target-date investors	ETF investors	Individual security investors
1 trading day in year	41%	23%	25%
2–3 trading days in year	26%	25%	25%
4–6 trading days in year	14%	18%	17%
7+ trading days in year	19%	34%	33%
Net buyer of equities	57%	56%	47%
Net seller of equities	37%	42%	49%
Traded within asset class	5%	2%	4%
Median net asset movement to (from) equity*	1%	4%	1%

*Calculated as net dollars to equity/average end-of-month balance.

Source: Vanguard, 2020.

Investor behavior during the COVID-19 pandemic

Investor behavior during the COVID-19 pandemic

The first half of 2020 saw unusual market volatility, triggered by the global COVID-19 pandemic. This pandemic and its associated lockdowns caused the sharpest and deepest short-term economic downturn in modern history.[15] Following its peak on February 19, 2020, the U.S. market fell 34% in subsequent weeks, bottoming out on March 23, then rising 39% by the end of June.[16] In this section, we look at the effect of the pandemic on the portfolios and behavior of Vanguard retail households.

From December 31, 2019, to March 31, 2020, median balances fell from nearly $61,000 to just over $50,000, a drop of 18% (Figure 45). By June 30, 2020, the median balance had risen significantly, to $56,300.

Overall asset allocation

Portfolio risk allocations remained mostly unchanged during the first half of 2020. The average household-weighted equity allocation remained between 61% and 63% during the period (Figure 46). Median allocations ranged from 70% to 75%. Meanwhile, asset-weighted allocations experienced a more notable drop, from 65% to 59% between December 2019 and March 2020, but rose to 62% by June 2020 (Figure 46).

Age-based equity allocation

Among Vanguard retail investors, the median allocation to equities is highest for young investors and declines with investor age. From December 2019 to June 2020, median equity allocations remained stable for all ages, with no age group experiencing a drop of more than 3 percentage points (Figure 47).

One of the distinctive features of equity allocations across households is a general downward-sloping equity exposure by age, and this general pattern remained unchanged as of June 2020. Another feature is that at any given age, there is a huge variation across households in equity risk-taking. In the first half of 2020, the range of equity allocations widened further, particularly to the downside. The effect was most notable among generation Xers and older millennials, where the 25th percentile equity allocation dropped between 4 and 8 percentage points.

Figure 45. Characteristics of Vanguard retail households, December 2019 to June 2020

Vanguard retail households (taxable accounts and/or IRAs) as of month-end

	December 2019	March 2020	June 2020
Number of households	5.1M	5.2M	5.3M
Median values			
Age	54	53	53
Length of account ownership	14	13	13
Balance	$60,900	$50,100	$56,300
Number of accounts	1	1	1
Number of investments	2	2	2
Household size	1	1	1

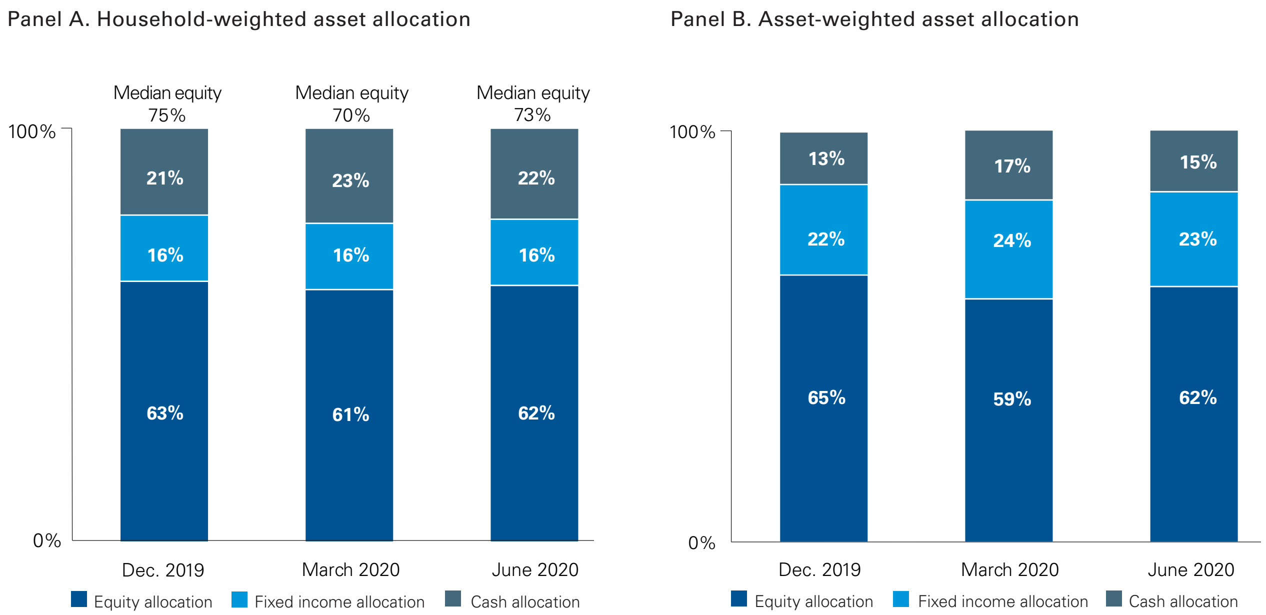
Source: Vanguard, 2020.

[15] Vanguard's 2020 midyear update, *Vanguard Economic and Market Outlook: Forecasting in the Time of Coronavirus,* available at vanguard.com.

[16] As measured by the S&P 500. *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.*

Figure 46. Portfolio allocation trends, December 2019 to June 2020

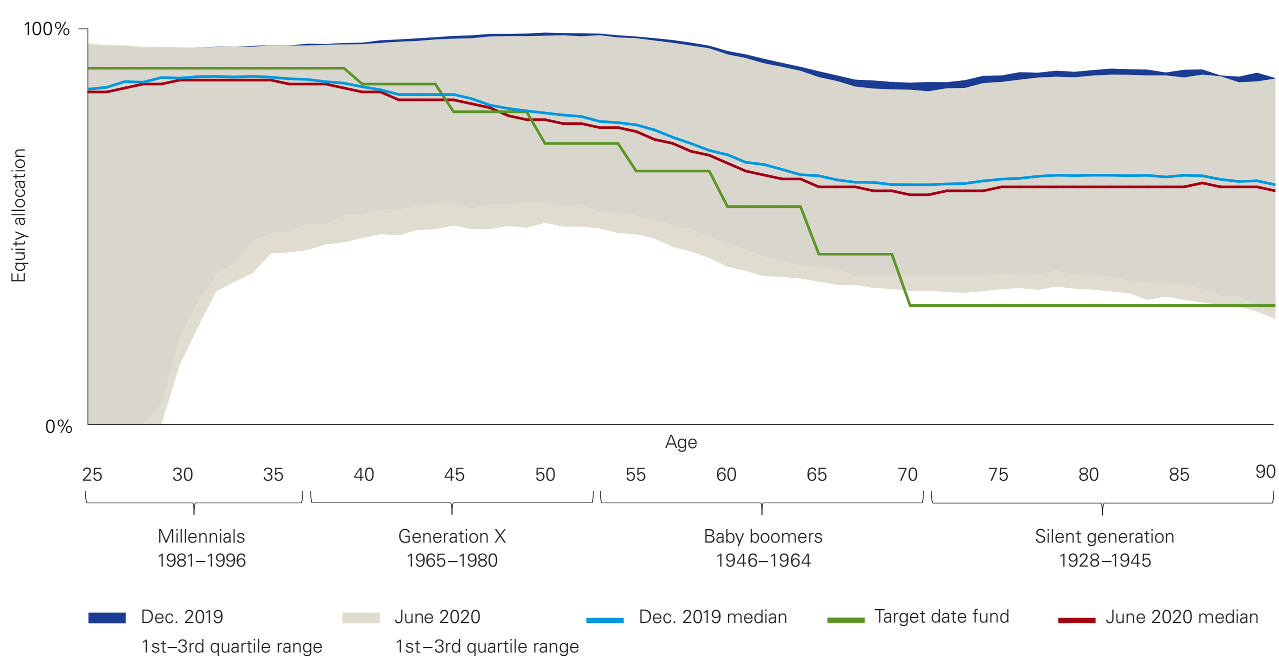
Vanguard retail investors (taxable accounts and/or IRAs) as of month-end



Source: Vanguard, 2020.

Figure 47. Change in age-based equity allocations among Vanguard retail investors from December 2019 to June 2020

Vanguard retail investors (taxable accounts and/or IRAs) as of month-end



Source: Vanguard, 2020.

Extreme allocations

Despite the market volatility, the incidence of extreme portfolios was mostly unchanged. The proportion of investors holding no equities increased by 1 percentage point, to 17%, while the proportion holding 98%+ equities in their portfolios decreased by the same amount, to 21% (Figure 48). Overall, 38% of investors held an extreme allocation, the same number as in December 2019.

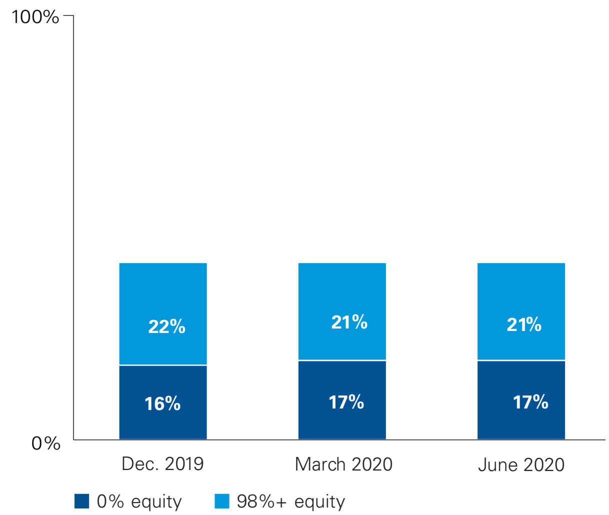
Index versus active investing

Another important decision in allocating a portfolio is the use of active and index strategies. In this analysis, we classify index mutual funds and ETFs as index products, and active mutual funds and individual securities as active products. Mutual funds that hold only other index funds (as in a fund-of-funds structure) are considered to be index funds themselves. Investors can take an all-index, an all-active, or a mixed approach. Or households may simply hold cash, which is unclassified.

Little change was noted in the aggregate use of active versus index products. The proportion of households using active products remained stable at 49%, while the proportion using index products dropped only 1 percentage point, from 71% to 70% (Figure 49). The ways in which active and index products are used—either one type exclusively or mixed—were also little changed.

Figure 48. Prevalence of extreme allocations, December 2019 to June 2020

Vanguard retail households (taxable accounts and/or IRAs) as of month-end



Source: Vanguard, 2020.

Figure 49. Index and active usage, December 2019 to June 2020

Vanguard retail households (taxable accounts and/or IRAs) as of month-end

	Dec. 2019	March 2020	June 2020
Any index	71%	71%	70%
Any active	49%	49%	49%
All active	15%	15%	15%
All index	37%	37%	36%
Mixed active/index	34%	34%	34%
All cash	14%	14%	15%

Source: Vanguard, 2020.

International investing and home bias

Here we look at international diversification for U.S.-based investors. For this analysis, we are only considering the assets held in pooled investments—mutual funds and ETFs. We look "under the hood" of each of the funds, so these allocations are based on actual fund holdings and not their investment objectives. A domestic fund may hold a small portion of international assets, and vice versa.

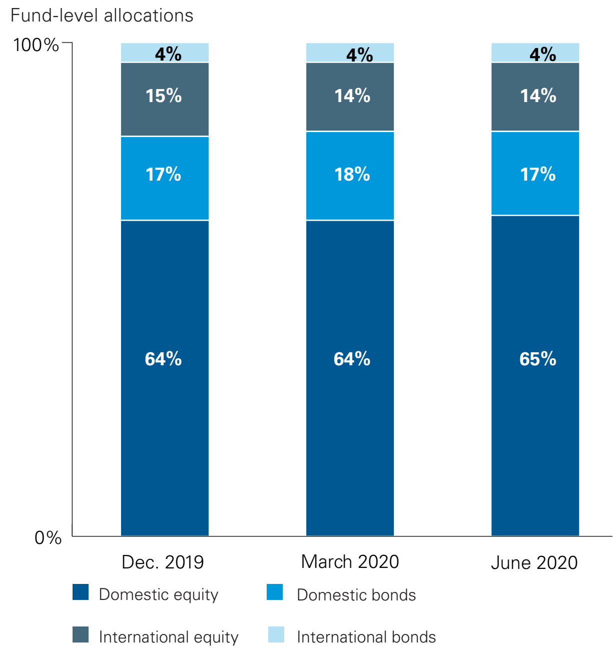
Once again, little change was noted in the aggregate portfolios of Vanguard households (Figure 50). Domestic equity holdings ticked up 1 percentage point to 65% of the average portfolio. International equity holdings fell by the same amount, from 15% in December 2019 to 14% in June 2020.

Product choice

Mutual funds remain the most popular investment choice among Vanguard retail households, with 79% investing in mutual funds as of June 2020 (Figure 51). This is a decrease of 2 percentage points from December 2019, which reflects a continuing trend. Both active and index mutual fund use declined. Meanwhile, ETF use continued to increase, with 15% of households using ETFs in June 2020, an increase of 2 percentage points from December 2019. Individual security use also rose 2 percentage points, and target-date fund use was unchanged.

Figure 50. Domestic and international allocation of mutual fund and ETF assets, December 2019 to June 2020

Vanguard retail households (taxable accounts and/or IRAs) as of month-end



Source: Vanguard, 2020.

Figure 51. Product choice, December 2019 to June 2020

Vanguard retail households (taxable accounts and/or IRAs) as of month-end

	Dec. 2019	March 2020	June 2020
Proportion using			
Mutual funds	81%	79%	79%
ETFs	13%	14%	15%
Individual securities	13%	14%	15%
Money market funds	57%	59%	60%
Target-date funds	21%	21%	21%
Balanced funds	25%	24%	24%
Index mutual funds	66%	65%	64%
Active mutual funds	44%	43%	42%

Source: Vanguard, 2020.

Figure 52. Product choice category trends, December 2019 to June 2020

Vanguard retail households (taxable accounts and/or IRAs) as of month-end

	December 2019	March 2020	June 2020
0% ETFs	87%	86%	85%
1%–25% ETFs ("diversifiers")	6%	7%	7%
26%–74% ETFs	4%	4%	4%
75%+ ETFs ("enthusiasts")	3%	3%	4%
Non-TDF investors	79%	79%	79%
Pure TDF investors	6%	6%	6%
Mixed TDF investors	15%	15%	15%
0% individual securities	87%	86%	85%
1%–25% individual securities ("diversifiers")	8%	8%	9%
26%–74% individual securities	3%	4%	4%
75%+ individual securities ("enthusiasts")	2%	2%	2%

Source: Vanguard, 2020.

Looking at how specific product types—ETFs, TDFs, and individual securities—are used in portfolios also shows little movement (Figure 52). ETFs and individual securities are still typically used to make up less than a quarter of portfolios, while TDFs are typically used in conjunction with other investments.

Trading

In this section, we examine trading behavior at the household level to better understand the decisions that Vanguard households are making. We exclude from this analysis households who have been with Vanguard for less than four months to allow new investors ample time to move assets to Vanguard and create their initial portfolios.

Overall, the trading incidence among Vanguard households remained low but increased substantially in 2020. Through the first half of 2020, 22% of households had made at least one trade (Figure 53). While still a minority, this number is 1 percentage point higher than the proportion of households trading throughout all of 2019, indicating a substantial uptick in trading activity. Moreover, by June 2020, the typical trading household had moved 19% of their assets, 2 percentage points more than what was observed for all of 2019.

Looking at the monthly trend shows a notable spike in March 2020, indicating that much of this activity happened during the initial market volatility (Figure 54). While trading incidence dropped somewhat in the following months, it remains higher than what was seen during the past five years.

Figure 53. Trading activity, 2019 compared with first half 2020

Vanguard retail households (taxable accounts and/or IRAs). Entire year unless otherwise noted

	2019	2020 (through June)
Proportion trading	21%	22%
Median values, household level, conditional on trading		
Trading days	2	2
Percentage of assets traded*	17%	19%

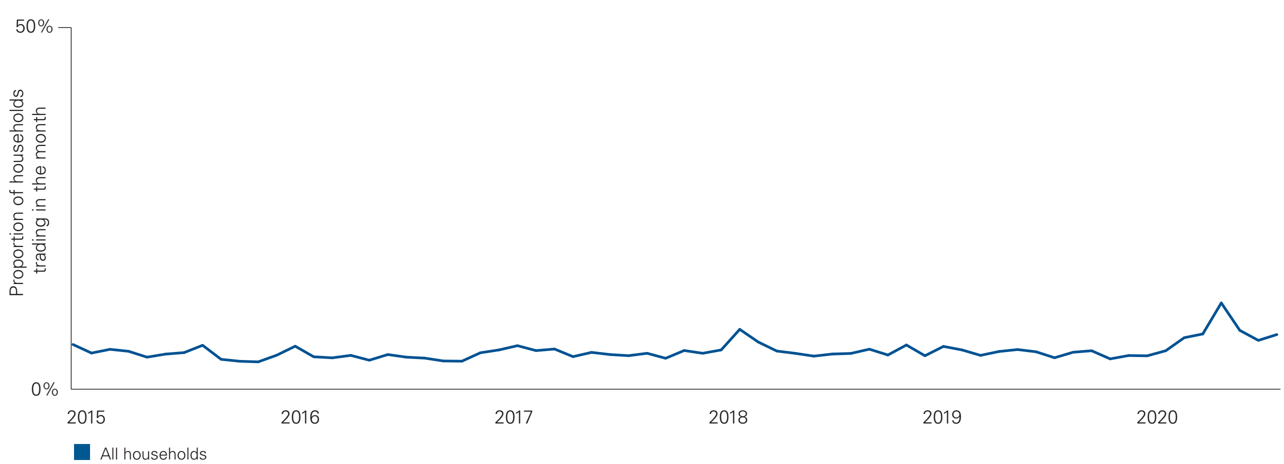
*Calculated as assets traded/average end-of-month balance.

Source: Vanguard, 2020.

Figure 54. Monthly trading incidence, January 2015 to June 2020

Vanguard retail households with at least 4 months tenure

Proportion of Vanguard retail households trading each month



Source: Vanguard, 2020.

Looking deeper into the trading activity, we find that, so far in 2020, households who traded were also trading more often. While 38% of traders only traded on one day in 2019, that is true of only 33% of traders so far in 2020 (Figure 55). Moreover, 24% of traders have already traded seven or more times through the first half of 2020. In 2019, that number was 21% for the entire year. Some of this trading appears to be opportunistic. So far in 2020, 62% of traders have moved assets into equities, while only half did so in 2019.

We analyze trading behavior by looking at the beginning and end of the year equity allocations for those households who placed at least one trade during the year and classify them based on their trading behavior (Figure 56). First, we identify those households who move into an extreme portfolio, defined as either 0% equity or 98%+ equity. For those households who trade but do not build an extreme portfolio, we look at the net change in equity allocation. If the net equity change is less than 10 percentage points, we make a simplifying assumption that the household appears to be rebalancing their portfolio. If a household trades seven or more days in a year, we categorize them separately as a frequent trader. Advised traders (those who work with a financial advisor) are also treated separately.

Despite the increased trading incidence, most traders are not making large allocation shifts. The largest group of traders, 44%, were classified as rebalancers, while only 11% made a change of 10 percentage points or more. Five percent shifted to an extreme allocation, although that activity was split, with 3% trading completely out of equities, while 2% took on an extremely aggressive allocation.

We look deeper into the characteristics of each trading type. Those trading to 98%+ equity tend to be significantly younger, have shorter account tenure, and hold smaller balances than other traders (Figure 57). Advised traders tend to be the oldest and longest-tenured households, and they also hold the highest balances. Frequent traders and rebalancers also tend to have high balances and long account tenure. Those going to 0% equity tend to trade over 90% of their portfolios in a single day.

Figure 55. Distribution of trading activity, 2019 to June 2020

Vanguard retail households (taxable accounts and/or IRAs) with a trade during the year

	2019	2020 (through June)
1 trading day in year	38%	33%
2–3 trading days in year	26%	27%
4–6 trading days in year	14%	16%
7+ trading days in year	21%	24%
Net buyer of equities	50%	62%
Net seller of equities	42%	33%
Traded within asset class	8%	5%
Median net asset movement to (from) equity*	<0.5%	2%

*Calculated as net dollars to equity/average end-of-month balance.

Source: Vanguard, 2020.

Figure 56. Trading during the first half of 2020

Vanguard retail households with at least four months tenure that traded from January 1, 2020, to June 30, 2020

Proportion trading	22%
Traded to 0% equities	3%
Decreased equities by more than 10 percentage points	12%
Rebalancer	44%
Increased equities by more than 10 percentage points	8%
Traded to 98%+ equities	2%
Other measures:	
Frequent trader	23%
Advised traders	8%

Note: Equity change measured from beginning to end of year.

Source: Vanguard, 2020.

Figure 57. Demographic profile of households during the pandemic, by trading type

Vanguard retail households with at least four months tenure that traded between January 1, 2020, and June 30, 2020

	Traded to 0% equities	Decreased equities by more than 10 percentage points	Rebalancer	Increased equities by more than 10 percentage points	Traded to 98%+ equities	Frequent trader	Advised traders
Proportion	3%	12%	44%	8%	2%	23%	8%
Median values							
Age	57	57	55	47	40	54	65
Length of account ownership	13	15	15	7	5	14	16
Balance	$92,600	$209,800	$256,100	$62,100	$25,400	$282,200	$739,100
Trading days	1	2	2	2	2	13	2
Percentage of assets traded*	91%	32%	7%	35%	67%	53%	9%

*Calculated as assets traded/average end-of-month balance.

Source: Vanguard, 2020.

Methodology

This report uses detailed data on the portfolio construction and trading behavior of Vanguard clients in over 5 million retail households. Households include accounts controlled by individuals and exclude those accounts controlled by corporate or other entities. In addition, we use data from Morningstar and Vanguard for certain characteristics of investments held by households.

Household definition

For our analysis, we present all analyses at the household level. We identify households using demographic characteristics such as family name, address, and shared financial relationships. In households with multiple members, the age and account tenure of the oldest member is used to represent that of the household. Household assets are by definition only those assets held in Vanguard's retail division. In this report, while the data is at the household level, we use the terms "investor households" and "investors" interchangeably.

Account structure

Vanguard households can hold taxable investment accounts, traditional and/or Roth IRAs, or a combination. Just over half of households are IRA-only households, while one-fifth have only taxable accounts, and the remainder a combination of taxable accounts and IRAs.

Investment platform

Accounts may reside on a mutual fund transfer agency, allowing investment only in Vanguard mutual funds, or on a brokerage platform. As of 2019, more than 60% of all households held a brokerage account, either exclusively or in combination with a mutual fund transfer agency account. Prior to 2015, new Vanguard households were defaulted into mutual fund transfer agency accounts and had to positively elect a brokerage option. Currently, most new households are defaulted into a brokerage account, and many existing households have converted to the brokerage platform.

Data presentation

Each yearly snapshot is a time-varying cross section of accounts with a nonzero balance as of December 31 of a given year, unless otherwise noted. Values are rounded to whole numbers unless additional precision is required. A small fraction of assets, less than 2%, cannot be clearly classified as equity, fixed income, or cash investments, and are excluded in determining portfolio risk composition, but included in calculating account balances.

Acknowledgments

Thank you to the following Vanguard crew members who made this publication possible:

Authors:
Thomas J. De Luca, Research Lead
Anna Madamba
Yan Zilbering

P.O. Box 982901
El Paso, TX 79998-2901

Connect with Vanguard® > investor.vanguard.com
global.vanguard.com (non-U.S. investors)

For more information about Vanguard funds or Vanguard ETFs®, visit vanguard.com to obtain a prospectus or, if available, a summary prospectus. Investment objectives, risks, charges, expenses, and other important information about a fund are contained in the prospectus; read and consider it carefully before investing.

Vanguard ETF Shares are not redeemable with the issuing fund other than in very large aggregations worth millions of dollars. Instead, investors must buy and sell Vanguard ETF Shares in the secondary market and hold those shares in a brokerage account. In doing so, the investor may incur brokerage commissions and may pay more than net asset value when buying and receive less than net asset value when selling.

All investing is subject to risk, including the possible loss of the money you invest. 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.

Bond funds are subject to the risk that an issuer will fail to make payments on time and that bond prices will decline because of rising interest rates or negative perceptions of an issuer's ability to make payments. Investments in stocks and bonds issued by non-U.S. companies are subject to risks including country/regional risk and currency risk.

Diversification and rebalancing do not ensure a profit or protect against a loss.