

# Vanguard Model Portfolios

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This brochure describes the qualifications and business practices of Vanguard Model Portfolios, an advisory service offered through Vanguard Advisers, Inc. (VAI), which provides model portfolios to third party intermediaries for their use in managing their underlying clients' accounts. VAI does not have an advisory, fiduciary or other relationship with any underlying client of a third-party intermediary, nor are VAI's model portfolios designed to meet the needs or objectives of any underlying client of a third-party intermediary. The third-party intermediary assumes responsibility in determining the suitability of the model portfolio for their underlying client. If you have any questions about this brochure, please contact us at 800-997-2798. The information presented here has not been approved or verified by the U.S. Securities and Exchange Commission (SEC) or by any state securities authority.

Additional information about VAI is available on the SEC's website at [adviserinfo.sec.gov](https://adviserinfo.sec.gov).

VAI is registered with the SEC as an investment advisor. Registration does not imply a certain level of skill or training.

## Material changes

There have been no material changes that impact the service or existing clients utilizing the Model Portfolios since the last published brochure.

## Table of Contents

Advisory business.....	4
Fees and compensation .....	5
Performance-based fees and side-by-side management.....	6
Types of clients .....	6
Methods of analysis, investment strategies, and risk of loss.....	6
Disciplinary information.....	10
Other financial industry activities and affiliations.....	10
Code of Ethics, participation or interest in client transactions, and personal trading .....	11
Brokerage practices .....	11
Review of accounts .....	11
Client referrals and other compensation .....	12
Custody .....	12
Investment discretion .....	12
Voting client securities.....	12
Financial information .....	12
Requirements for state-registered advisers.....	12
Investment Risk .....	13

## Advisory business

VAI is a Pennsylvania corporation that provides investment advisory services to a wide variety of clients. These advisory services include:

- Stable Value: discretionary investment advisory services to separate accounts that are offered as investment options in state-sponsored education savings plans (“529 Plans”);
- Vanguard Institutional Advisory Services: discretionary and nondiscretionary advisory services and administrative services to institutional clients such as endowments, foundations, employee benefit plans and trusts, and family offices;
- Vanguard Model Portfolios: model portfolios comprised of Vanguard Funds and exchange traded funds (ETFs) (as defined below) as well as mutual funds and ETFs managed by third party asset managers that are accessed by third party intermediaries through third party platforms;
- Interactive Advice Tools: Personal Online Advisor (“POA”) is a nondiscretionary advisory service previously offered to certain retail clients. POA is sub-advised by Edelman Financial Engines Advisors L.L.C. (“FEA”), an independent investment advisory unaffiliated with VAI;
- Vanguard Personal Advisor Select (formerly branded Vanguard Personal Adviser Services: ongoing advised account services for certain retail clients and point-in-time advice services to participants in eligible employer-sponsored retirement plans;
- Vanguard Digital Advisor: discretionary advisory service offered to retail clients and to participants of eligible employer-sponsored retirement plans
- Vanguard Personal Advisor: discretionary advisory service, with access to an advisor, offered to retail clients and to participants of eligible employer-sponsored retirement plans;
- Vanguard Situational Advice: point-in-time, nondiscretionary advice services and financial planning offered to participants in certain employer-sponsored retirement plans; and
- Vanguard Managed Account Program (“VMAP”) and POA: discretionary advisory service offered to participants of eligible employer-sponsored retirement plans. POA is a nondiscretionary advisory service offered to participants of eligible employer-sponsored retirement plans. VMAP and POA are sub-advised by FE.

As an SEC-registered advisor, VAI has a fiduciary duty to act in its clients’ best interests and to abide by the duties of care and loyalty. VAI was incorporated in and has been in business since 1995. VAI is 100% owned by Goliath, Inc., a Delaware corporation. Goliath is 100% owned by The Vanguard Group, Inc. (“Vanguard”). As such, VAI is an indirect, wholly owned subsidiary of Vanguard, the sponsor and manager of the family of mutual funds and ETFs (exchange-traded funds) comprising The Vanguard Group of Investment Companies (“Vanguard® Funds”), which VAI typically recommends as investments. Please see the section of this brochure entitled “Other financial industry activities and affiliations” for more information.

### Vanguard Model Portfolios

Through the Vanguard Model Portfolios service (the “Service”), VAI produces model portfolios (the “Portfolios”) comprised of Vanguard mutual funds (“Funds”), Vanguard exchange traded funds (“ETFs”), and mutual funds and ETFs offered by third party asset managers (“Third Party Funds”). The Portfolios are accessed by third party intermediaries through third party platforms. Advisors from these third-party intermediaries use the Portfolios as investment strategies for managing their underlying clients’ accounts.

The Service is delivered to third party platforms, including turn-key asset management programs (TAMPs), by VAI. TAMPs are often sponsored and administered by a registered investment adviser. TAMPs allow financial advisors to outsource the management of their clients' assets. VAI may act as a sub-advisor to a registered investment adviser sponsoring a TAMP, or as a strategist to other third-party platforms through which the Portfolios are made available. **VAI does not directly provide advisory services to retail clients or manage client assets through the Service.**

VAI administers the Portfolios in accordance with pre-determined allocations that may be adjusted from time to time. VAI does not manage assets on behalf of individual financial advisors or individual clients and does not tailor the Portfolios to meet the needs of individual clients.

Most of VAI's investment strategies offered under the Service will be limited to allocations in Vanguard's proprietary Funds and ETFs. However, VAI may offer investment strategies that include allocations to Third Party Funds. The Portfolios can provide a high level of diversification through broad exposure to domestic and international markets.

VAI also may provide the Portfolios to managed account platforms. On such platforms, VAI will provide investment advice to the platform regarding the Portfolios. The administrator of the platform in turn delivers the Portfolios to financial advisors that may include the Portfolios in wrap fee or non-wrap fee managed account programs. A wrap fee program is an arrangement under which financial advisors provide investment advisory and brokerage services for a specified fee or fees not based upon transactions in their accounts. VAI does not serve as the sponsor of wrap fee programs.

The Service currently has \$0 in regulatory assets under management to report.

## Fees and compensation

VAI does not currently charge a fee for the Service. The advice provided by VAI through the Service will include Portfolios invested in Vanguard Funds or ETFs that are part of The Vanguard Group of Investment Companies®. Use of the Portfolios will result in the payment of fees to the Vanguard Funds and to Vanguard, an affiliate of VAI. The purchase or sale of Vanguard Funds or ETFs through Vanguard (whether or not suggested by the Service) is not subject to a load, sales charge, or commission. However, each Vanguard Fund incurs advisory, administrative, and custodial fees, as well as other fees and expenses that it pays out of its own assets. The advisory, administrative, custodial, and other costs make up the funds' expense ratios. Please consult the funds' prospectuses for information about a specific fund's expense ratio.

Third party intermediaries underlying clients may also purchase Vanguard Funds and ETFs through other broker-dealers or agents that are not affiliated with VAI.

Third party intermediaries underlying clients may be charged fees separate from those identified above, such as a bundled platform fee that may include transaction and custodial fees. Portfolios sold through TAMPs may also be subject to additional fees charged by the TAMP. Individual retail clients may be subject to separate fees charged by their financial advisor

## Performance-based fees and side-by-side management

VAI does not receive performance-based fees for advisory services provided to clients through this Service.

## Types of clients

VAI offers the Service to third party platforms, including TAMPs, through which financial advisors invest their clients' assets using the Portfolios.

## Methods of analysis, investment strategies, and risk of loss

In constructing Portfolios for the Service, VAI relies on information from a wide variety of sources, both public and private, regarding short-term and long-term economic and financial market characteristics and trends.

### A top-down approach

VAI's approach starts with broad asset class exposure to U.S. and international equities, and global investment-grade bonds in a long-term framework. Portfolio construction for the majority of the portfolios reflect a market-cap-weighted approach, with exposure to size and style determined by the benchmark selected for the Portfolios.

With the exception of the Dynamic ETF series, the Portfolios maintain a strategic asset allocation and therefore do not typically make tactical allocation adjustments throughout the year. For the equity portion of the Portfolio, the Portfolios' sub-asset allocations employ approximately a 60%/40% ratio of U.S. to international stocks for the stock portion of each Portfolio, as well as a 70%/30% ratio of U.S. to international bonds for the bond portion of each Portfolio.

Some of our Portfolios use multiple Funds or ETFs to capture the beta of a single asset class (e.g., U.S. equities as represented by the CRSP US Total Market Index). However, the risk and return characteristics should not meaningfully deviate from those of the asset-class benchmarks.

### **Vanguard Asset Allocation Model®**

Certain of the Portfolios utilize the Vanguard Asset Allocation Model (VAAM) to assist in the creation of the Portfolio allocations. VAAM is a proprietary portfolio optimization tool created to help make effective asset allocation decisions.

One of the key inputs that VAAM utilizes is the Vanguard Capital Market Model's (VCMM) forecast distributions, which are based on the empirical foundation that the returns of various asset classes reflect the compensation investors receive for bearing different types of systemic risk (or beta risk). To reasonably forecast the potential distribution of future asset returns, VCMM is designed to identify the primary macroeconomic and financial risk factors and how they influence asset returns over time. Using a long span of monthly financial and economic data from as early as 1960, the VCMM estimates a dynamic statistical relationship between risk factors and asset returns. Based on these calculations, the model uses regression-based Monte Carlo simulation methods to project these relationships in the future.

Projections generated by the VCMM are based both on estimated historical relationships and on assumptions about the risk characteristics of various asset classes. As a result, the accuracy of VCMM forecasts depends on the relevance of the historical sample in simulating future events. The VCMM's

simulated return distributions are used as inputs to construct efficient portfolio combinations in VAAM.

**IMPORTANT:** The projections or other information generated by the Vanguard Capital Markets Model regarding the likelihood of various investment outcomes are hypothetical in nature, do not reflect actual investment results, and are not guarantees of future results. Results may vary with each use and over time.

#### Portfolio-level analysis

Portfolios constructed using VAAM are intended to maximize the expected utility of wealth at maturity coming from different risk sources (systematic, alpha and factor risk), allowing the model to simultaneously consider various portfolio construction decisions. One of the key tenants underlying VAAM is utility theory, which is calculated relative to a risk aversion parameter, representing an investor's aversion to taking different types of risks (ie. systematic, alpha and factor risk) by assessing the tradeoff between expected risk, return, and uncertainty.

In addition to inputs from VCMM, VAAM also considers portfolio specific inputs such as alpha expectations and tracking error for the active funds, along with investor preferences toward uncertainty (systematic, active, and factor risk aversions), along with any additional specific preferences, such as home bias or other portfolio constraints.

The process starts by selecting a set of weights that constitute a hypothetical asset allocation. Then, given a specific level of risk-aversion, the utility function incorporates components of behavioral theory to more accurately depict the preferences of the typical investor. Given the amount and types of each risk in the various portfolio solutions, an investor can achieve a certain level of expected wealth depending on the type of risks involved, and their attitude or preference for those risks. VAAM then calculates the expected utility of the portfolio. This process is repeated thousands of times through an algorithm to choose the portfolio that has the highest utility score.

After optimizing for a range of risk aversion coefficients, VAAM determines the subset of portfolios that maximizes the distribution of wealth (return) outcomes at the end of an investment horizon for each portfolio—the efficient frontier for the client's investment portfolio. This efficient frontier quantifies the trade-offs that clients face in the portfolio selection process. More aggressive portfolios yield higher returns on average, but they are also more volatile and thus subject to more downside risk. Based on this portfolio optimization and taking into account investment horizon and risk tolerance, VAAM can narrow down the menu of possibilities to a few potential portfolios on the frontier. Several measures of expected investment performance— such as a portfolio's return, volatility, extreme-risk events, and terminal asset values—can be computed.

VAAM was not designed as a short-term tactical asset allocation model. Generally speaking, portfolio analyses based on VAAM output focus on expected long-run returns over horizons of ten years or more.

#### Risk Management of the Portfolios

The Vanguard Investment Strategy Group manages the strategy risk. Risk is primarily determined and managed through the asset allocations, extremely broad diversification, and use of investment-grade bonds within the fixed income exposure of the Portfolios.

### The Portfolios

#### Asset Allocation Based Portfolios

Vanguard's Portfolios are offered across the risk-reward spectrum from 100% fixed income up to 100% equity. These Portfolios are static asset allocations delivered via increments of 10% equity (EQ) and fixed income (FI). These asset allocations are offered for all Portfolios including the Core, CRSP, S&P, and Russell Series. Our Core lineup includes exposure to the broad asset classes using CRSP indices, while our expanded Portfolios use multiple Funds or ETFs to construct the different components of the market.

##### 1. Core Series

Vanguard's Core strategic model portfolios provide broad asset class exposure to U.S. and international stocks, and global investment-grade bonds in a strategic, index-centric framework. To ensure broad diversification

within each asset class, the model portfolios are comprised of funds that track broad- market indexes. Each index is capitalization-weighted, meaning that its components are weighted according to their market capitalization and reflect the makeup of the market it tracks.

## 2. Center for Research in Security Prices (CRSP) Series

Vanguard's CRSP strategic model portfolios provide broad asset class exposure to U.S. and international stocks, and global investment-grade bonds in a strategic, index-centric framework. To ensure broad diversification within each asset class, the model portfolios are comprised of funds that track broad- market or market segment indexes. Each index is capitalization-weighted, meaning that its components are weighted according to their market capitalization and reflect the makeup of the market or market segment it tracks. The CRSP series of models are distinguished by their tracking of CRSP benchmarks for the domestic equity allocation.

## 3. Standard & Poor's (S&P) Series

Vanguard's S&P strategic model portfolios provide broad asset class exposure to U.S. and international stocks, and global investment-grade bonds in a strategic, index-centric framework. To ensure broad diversification within each asset class, the model portfolios are comprised of funds that track broad- market or market segment indexes. Each index is capitalization-weighted, meaning that its components are weighted according to their market capitalization and reflect the makeup of the market or market segment it tracks. The S&P series of models are distinguished by their tracking of S&P benchmarks for the domestic equity allocation.

## 4. Russell Series

Vanguard's Russell strategic model portfolios provide broad asset class exposure to U.S. and international stocks, and global investment-grade bonds in a strategic, index-centric frameworks. To ensure broad diversification within each asset class, the model portfolios are comprised of funds that track broad-market or market segment indexes. Each index is capitalization-weighted, meaning that its components are weighted according to their market capitalization and reflect the makeup of the market or market segment it tracks. The Russell series of models are distinguished by their tracking of Russell benchmarks for the domestic equity allocation.

US Equity Allocations: US Equity allocations targeted by the Service are weighted according to target sub-allocations described above and are adjusted to remain on target by making modifications due to prevailing market capitalizations. Applicable Portfolios will have exposure to all segments of the broad U.S. Stock market (large, mid, and small-cap stocks; growth and value stocks) in the exact proportion in which they are represented in the market.

International Equity Allocations: The Service will also diversify a U.S. stock portfolio with international stocks equal to 40% of the total equity allocation. This represents a conscious "home bias" relative to global market-cap weighted benchmarks. Non-US stocks are represented by market- cap-weighted Funds or ETFs that seek to track the performance of a benchmark index that measures the investment return of stocks in developed and emerging markets, excluding the United States.

US Fixed Income Allocations: The Service follows a market-proportional approach, consistent with the target sub-allocations described above, within the U.S. investment-grade bond market to match the market's risk and return characteristics. We focus fixed income allocations on investment-grade bonds to provide diversification to the primary risk of equity exposure.

Hedged International Fixed Income Allocations: The Service follows a market-proportional approach within the investment-grade international bond market. Since currency fluctuations account for a significant portion of the volatility in international bonds, we mitigate this volatility by hedging to the US dollar. This asset class represents 30% of the applicable Portfolios' fixed income exposure, based on the belief that such an exposure can potentially have long-term diversification benefits.



### Vanguard Objective Based Portfolios

Vanguard's Objective Based Portfolios are offered across the risk-reward spectrum. These Portfolios are static asset allocations delivered via increments of 10% equity (EQ) and fixed income (FI). Our Objective Based lineup includes exposure to the broad market-cap weighted asset classes using our Asset Allocation Based Models as the foundation.

#### 1. Income Series

Vanguard's Income Series model portfolios provide broad asset class exposure to U.S. and international stocks, and global investment-grade bonds in a strategic, index-centric framework. To ensure broad diversification within each asset class, the model portfolios include an allocation to ETFs that track broad-market indexes. Each index is capitalization-weighted, meaning that its components are weighted according to their market capitalization and reflect the makeup of the market it tracks. In addition, the models will incorporate an allocation to ETFs which invest in common stocks of companies characterized by high dividend yields across the globe and a broadly diversified exposure to the investment-grade U.S. corporate bond market. These models will target a higher yield or income generation than their Asset Allocation Based Portfolio counterparts. The Income Series is delivered via increments of 10% equity and fixed income for a total of eleven asset allocation options.

#### 2. Tax-Efficient Series

Vanguard's Tax-Efficient Series model portfolios provide broad asset class exposure to U.S. and international stocks, and U.S. investment-grade bonds in a strategic, index-centric framework. To ensure broad diversification within each asset class, the model portfolios include an allocation to ETFs that track the broad-market indexes. Each index is capitalization-weighted, meaning that its components are weighted according to their market capitalization and reflect the makeup of the market it tracks. In addition, the entire fixed income allocation of the models will utilize ETFs which invest in broadly diversified exposure to the investment-grade U.S. municipal bond market. These models will target a higher level of tax-efficiency than their Asset Allocation Based Model counterparts. The Tax-Efficient Series is delivered via increments of 10% from 10% equity/90% income to 90% equity/10% income for a total of nine asset allocation options.

### Vanguard's Hybrid Asset Allocation Based Portfolios

Vanguard's Hybrid Series portfolios seek long-term capital appreciation with varying risk targets. The model portfolios include an allocation to ETFs that track the broad-market indexes. Each index is capitalization-weighted, meaning that its components are weighted according to their market capitalization and reflect the makeup of the market it tracks. In addition, the model portfolios include an allocation to actively managed funds, including those managed by third party asset managers, in effort to outperform the relative benchmarks.

#### 1. Low Tax-Sensitivity Model

The Hybrid Low Tax-Sensitivity Model includes four sub-asset classes: US equity, non-US equity, US fixed income, non-US fixed income. The sub-asset class weights are guided by the prevailing market capitalizations.

#### 2. Tax-Aware Model

The Hybrid Tax-Aware includes three sub-asset classes: US equity, non-US equity, and US fixed income. The sub-asset class weights are guided by the prevailing market capitalizations. Only tax-exempt fixed income funds are considered for the fixed income components of the model.

#### 3. Strategic Active-Passive Total Return Model

The Strategic Active-Passive Total Return Model includes four sub-asset classes: US equity, non-US equity, US fixed income, and non-US fixed income. The sub-asset class weights are determined by VAAM.

### Dynamic ETF Portfolios

Vanguard's Dynamic ETF portfolios provide diversified exposure to the global stock and bond market using a

dynamic asset allocation strategy to capture Vanguard's changing market forecasts. The portfolios seek to outperform benchmarks by using low-cost Vanguard index-based ETFs. Portfolio adjustments are driven by Vanguard's quarterly economic and market outlook. VCOMM and VAIM account for changing economic drivers, valuation, risk and other attributes that can impact returns and volatility. Stock/bond reallocations are limited to 5% shifts from the target weight each quarter, to help manage overall portfolio risk and variability of returns. The portfolios are available in five different mixes of stocks and bonds.

Conservative 25/75  
Moderately Conservative 42/58  
Moderate 55/45  
Moderately Aggressive 70/30  
Aggressive 85/15

VAI may in its sole discretion make changes to the asset allocations of the Portfolios to add new asset classes in order to provide additional diversification benefits.

Under this Service, VAI recommends investments that include Vanguard Funds and ETFs. Although VAI will recommend investment strategies designed to be prudent and diversified, please remember that all investments, including ETFs, involve some risk, including possible loss of principal. Be aware that fluctuations in the financial markets and other factors may cause declines in the value of the Portfolios.

There is no guarantee that any particular asset allocation or mix of funds will meet stated investment objectives or provide a given level of income. Diversification does not ensure a profit or protect against a loss in a declining market.

There is no assurance that positive investment results will be achieved by using the Service. VAI cannot guarantee the future performance of investments. Please consult a fund's prospectus for more information about fund-specific risks.

## Disciplinary information

VAI has no disciplinary information to disclose.

## Other financial industry activities and affiliations

### The Vanguard Group

Through an intermediary entity, VAI is 100% owned by The Vanguard Group, Inc. (Vanguard). Vanguard, also a registered investment advisor, provides a range of investment advisory and administrative services to the Vanguard family of mutual funds (Vanguard Funds). Vanguard is truly a mutual mutual fund company. It is owned jointly by the funds it services and thus indirectly by the shareholders in those funds. Most other mutual funds are operated by management companies that may be owned by one person, by a private group of individuals, or by public investors who own the management company's stock. The management fees charged by these companies include a profit component over and above the companies' cost of providing these services. By contrast, Vanguard provides services to its member funds on an at-cost basis<sup>1</sup>, with no profit component, which helps to keep the funds' expenses low.

When giving advice to clients, VAI will recommend the purchase of Vanguard Funds serviced by VAI's corporate parent, Vanguard. VAI addresses the competing interests that could arise between us and our clients as a result of recommending proprietary funds by relying on our time-tested investment philosophies and beliefs—such as the benefits of low costs, diversification, and indexing—when formulating target allocations for clients. VAI discloses to prospective clients that it recommends Vanguard Funds prior to or at the establishment of the advisory relationship. Although acting in accordance with VAI's advice to purchase Vanguard's proprietary funds will result in the payment of fees to the Vanguard Funds and ETFs that are separate from, and in

addition to, any fees assessed by VAI, any competing interests that could arise are mitigated by the at-cost nature of Vanguard's services to the funds.

#### Vanguard Marketing Corporation

Shares of the Vanguard Funds are marketed and distributed by Vanguard Marketing Corporation (VMC), a registered broker-dealer that is a wholly owned subsidiary of Vanguard and an affiliate of VAI.

VMC's marketing and distribution services are conducted on an at-cost basis in accordance with the terms and conditions of a 1981 exemptive order from the Securities and Exchange Commission, which permits Vanguard Funds to internalize and jointly finance such activities. Each Vanguard Fund (other than a fund of funds) or each share class of a fund (in the case of a fund with multiple share classes) pays its allocated share of VMC's marketing costs. VMC does not receive transaction-based compensation in connection with the distribution of the Vanguard Funds.

When giving advice to clients, VAI will recommend the purchase of Vanguard Funds distributed by VAI's affiliate, VMC. Since VMC performs its marketing and distribution services on an at-cost basis and does not receive transaction-based compensation in connection with the distribution of the Vanguard Funds, no competing interests arise from VAI's affiliation with VMC. Certain members of VAI's management are registered representatives of or are affiliated with VMC.

## Code of Ethics, participation or interest in client transactions, and personal trading

VAI operates under a Code of Ethics that complies with Rule 17j-1 of the Investment Company Act of 1940 and Rule 204A-1 of the Investment Advisers Act of 1940.

The Code sets forth fiduciary standards that apply to all employees, incorporates Vanguard's insider trading policy, and governs outside employment and receipt of gifts. Additionally, the Code imposes restrictions on the personal securities trading of Vanguard employees, as well as reporting requirements. The trading restrictions and reporting requirements are more involved for employees that have access to information about Vanguard Fund trading activity or Vanguard client trading activity and are designed to ensure that Vanguard employees do not misuse fund and/or client information for their own benefit.

Vanguard will provide a copy of its Code of Ethics to any client or prospective client upon request at no charge.

Please see the section of this Brochure entitled "Other financial industry activities and affiliations" for a discussion of VAI's affiliations with other Vanguard entities and how those affiliations may affect clients of VAI.

## Brokerage practices

Under this Service, VAI does not recommend broker-dealers in connection with investing in the strategies.

## Review of accounts

VAI does not review the accounts of retail clients as part of the Service. Financial advisors are responsible for reviewing their clients' portfolios on an individual client basis, given the client's specific circumstances.

On a monthly basis, VAI recalibrates the Portfolios based on market cap weightings. For third party platforms that do not allow financial advisors to individually rebalance client accounts, VAI will recommend

that the third-party platforms rebalance the Portfolios on an annual basis. On a quarterly basis, VAI will monitor asset allocation drift of each portfolio. If the portfolio is outside of the threshold, VAI may recommend a rebalance back to target. TAMPs using the Service may impose their own tolerance parameters which could trigger the Portfolios to be rebalanced without a rebalancing recommendation by VAI.

#### Vanguard Strategic Asset Allocation Committee (“SAA Committee”)

The SAA Committee has overall responsibility for the investment methodology of certain VAI advisory services. The purpose of the SAA Committee is to conduct an ongoing review and analysis of the investment methodology of VAI’s advisory solutions with the aim of ensuring that consistent investment methodologies are employed that incorporate market considerations.

The SAA Committee may review and reconcile asset allocation strategies used by VAI’s advisory services. Based on any review and reconciliation process, the SAA Committee may also recommend asset allocation changes for the Service.

### **Client referrals and other compensation**

VAI receives no economic benefits from persons who are not clients for providing investment advice or advisory services to its clients.

VAI does not directly or indirectly compensate any person who is not a supervised person for client referrals.

### **Custody**

VAI does not have custody of client assets through the Service.

### **Investment discretion**

VAI does not have any investment discretion over assets held in the Vanguard Funds and ETFs associated with the Portfolios or the Service. VAI sets the allocations of the Vanguard Funds or ETFs underlying the Portfolios as VAI deems advisable. The Portfolios are made available through third party platforms, including TAMPs.

### **Voting client securities**

VAI will not vote or exercise similar rights for client securities. The exercise of all voting rights associated with any security or other property held in the portfolio shall be the responsibility of the client. Proxies will be delivered to the client by the issuer of the security, the custodian or its agent.

VAI will not advise or act for the client in any legal proceedings, including bankruptcies or class actions, involving securities held or previously held by the portfolio or the issuers of those securities.

### **Financial information**

VAI is not aware of any financial condition that is reasonably likely to impair its ability to meet contractual commitments to clients.

### **Requirements for state-registered advisers**

VAI is a federally registered investment advisor.

# Investment Risk

The following summarizes the risks associated with the mutual funds and ETFs (these investments are collectively referred to herein as “funds”) recommended by the Service:

## **Discretionary manager risk**

It is possible that poor security selection or focus on securities in a particular sector, category, or group of companies will cause one or more of the funds or underlying funds—and, thus, the fund—to underperform relevant benchmarks or other funds with a similar investment objective.

## **Index sampling risk**

There is the chance that the securities selected for a fund in the aggregate won’t provide investment performance matching the fund’s target index.

## **ETF risk**

Vanguard ETF shares are not redeemable directly with the issuing fund other than in very large aggregations worth millions of dollars. ETFs are subject to market volatility. When buying or selling an ETF, you will pay or receive the current market price, which may be more or less than net asset value.

## **Stock market risk**

Funds that invest in stocks are subject to the chance that stock prices overall will decline. Stock markets tend to move in cycles, with periods of rising prices and periods of falling prices.

## **Asset concentration risk**

Funds that invest a high percentage of their assets in a few companies are subject to the chance that their performance may be hurt disproportionately by the poor performance of relatively few investments.

## **Sector risk**

Funds that invest all or substantially all of their assets in a particular sector are subject to the chance that significant problems will affect a particular sector or that returns from that sector will trail returns from the overall stock market. Daily fluctuations in specific market sectors are often more extreme than fluctuations in the overall market. If a fund invests all, or substantially all, of its assets in a particular sector, the fund’s performance largely depends—for better or for worse—on the general condition of that sector.

## **Company stock funds**

Funds that are invested exclusively in a single stock are concentrated and therefore considered riskier than diversified stock funds.

## **Investment-style risk**

Funds that invest in companies based on their level of capitalization are subject to the chance that returns from large-, mid-, and small-capitalization stocks will trail returns from the overall stock market. Large- and mid-cap stocks each tend to go through cycles of doing better—or worse—than other segments of the stock market or the stock market in general. These periods have, in the past, lasted for as long as several years. Historically, mid- and small-cap stocks have been more volatile in price than large-cap stocks. The stock prices of mid- and small-size companies tend to experience greater volatility because, among other things, these companies tend to be more sensitive to changing economic conditions.

## **International risk or country/regional risk**

Funds that invest in international securities are subject to the chance that world events—such as political upheaval,

financial troubles, or natural disasters—will adversely affect the value of securities issued by companies in foreign countries or regions. If a fund invests a large portion of its assets in securities of companies located in any one country or region, including emerging markets, its performance may be hurt disproportionately by the poor performance of its investments in that area. Country/Regional risk is especially high in emerging markets.

**Emerging markets risk**

Funds that invest in securities of companies that are located in developing nations are subject to the chance that the prices of these securities will be substantially more volatile, and substantially less liquid, than the securities of companies located in more developed foreign markets.

**Currency risk**

Funds that invest in international securities are subject to the chance that the value of a foreign investment, measured in U.S. dollars, will decrease because of unfavorable changes in currency exchange rates. Currency risk is especially high in emerging markets.

**Call risk**

Funds that invest in bonds are subject to the chance that during periods of falling interest rates, issuers of callable bonds may call (redeem) securities with higher coupons or interest rates before their maturity dates. The fund would then lose any potential price appreciation above the bond's call price and would be forced to reinvest the unanticipated proceeds at lower interest rates, resulting in a decline in the fund's income. Call risk is generally low for short-term bond funds, moderate for intermediate-term bond funds, high for long-term bond funds, and high for high-yield bond funds.

**Prepayment risk**

Funds that invest in bonds are subject to the chance that during periods of falling interest rates, homeowners will refinance their mortgages before their maturity dates, resulting in prepayment of mortgage-backed securities held by the fund. The fund would then lose any price appreciation above the mortgage's principal and would be forced to reinvest the unanticipated proceeds at lower interest rates, resulting in a decline in the fund's income.

**Extension risk**

Funds that invest in bonds are subject to the chance that, during periods of rising interest rates, certain debt securities will be paid off substantially more slowly than originally anticipated, and the value of those securities may fall. This will lengthen the duration or average life of those securities and delay a fund's ability to reinvest proceeds at higher interest rates, making a fund more sensitive to changes in interest rates. For funds that invest in mortgage-backed securities, extension risk is the chance that, during periods of rising interest rates, homeowners will repay their mortgages at slower rates.

**Credit risk**

Funds that invest in bonds are subject to the chance that the issuer of a convertible security will fail to pay interest or dividends and principal in a timely manner or that negative perceptions of the issuer's ability to make such payments will cause the price of that security to decline.

**Income risk**

Funds that invest in bonds are subject to the chance that the fund's income will decline because of falling interest rates. Income risk is generally high for short-term bond funds, low for long-term bond funds, and high for limited-term bond funds.

**Interest rate risk**

Funds that invest in bonds are subject to the chance that bond and loan prices overall will decline because of rising interest rates.

**State-specific risk**

Funds that invest in bonds from a specific state or municipality are subject to the chance that developments in that state or municipality will adversely affect the securities held by the fund. Because the fund invests primarily in securities issued by the state and its municipalities, it's more vulnerable to unfavorable developments in the state than are funds that invest in municipal securities of many states. Unfavorable developments in any economic sector may have far-reaching ramifications on the overall state municipal market.

**Liquidity risk**

Funds that invest in bonds are subject to the chance that the fund may not be able to sell a security in a timely manner at a desired price. Liquidity risk is generally low for short-term bond funds, moderate for intermediate-term bond funds, and high for long-term bond funds.

**Currency hedging risk**

Funds that invest in bonds are subject to the risk that the currency hedging transactions entered into by a fund may not perfectly offset the fund's foreign currency exposure.

**Ownership Limitations and Regulatory Relief**

The ability of Vanguard and external advisors to purchase or dispose of certain fund investments, or to exercise rights on behalf of a fund, is or may be restricted or impaired because of limitations imposed by law, regulation, or by certain regulators or issuers. As a result, Vanguard and external advisors, on behalf of certain funds currently and other funds potentially in the future, are required to limit purchases, sell existing investments, or otherwise limit the exercise of shareholder rights by a fund, including voting rights. These ownership restrictions and limitations can impact a fund's performance. For index funds, this impact generally takes the form of tracking error, which can arise when a fund is not able to acquire its desired amount of a security. For actively managed funds, this impact can result, for example, in missed investment opportunities otherwise desired by a fund's investment advisor. If a fund is required to limit its investment in a particular issuer, then a fund may seek to obtain regulatory or corporate consents or ownership waivers. Other options a fund may pursue include seeking to obtain economic exposure to that issuer through alternative means, such as through a derivative or through investment in a wholly owned subsidiary, both of which may be more costly than owning securities of the issuer directly. In the event a derivative, such as a swap, is used as an alternative means of exposure, Vanguard and external advisors on behalf of a fund are not able to guarantee the availability of derivatives necessary to allow economic exposure to the security, sector, or industry. This limited availability may have additional impacts to fund performance. Additionally, use of derivatives as an alternative means of exposure subjects a fund to derivatives-related risks. Ownership restrictions and limitations could result in unanticipated tax consequences to a fund that may affect the amount, timing, and character of distributions to shareholders.