



Advisory Service Disclosure



Vanguard Advisers, Inc.
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**Vanguard Managed Account Program (VMAP)
& Personal Online Advisor (POA)**

March 31, 2017

This brochure provides information about the qualifications and business practices of Vanguard's Managed Account Program and Personal Online Advisor, offered by Vanguard Advisers, Inc. (VAI). If you have any questions about the contents of this brochure, please contact us at 800-310-9228. The information in this brochure has not been approved or verified by the United States Securities and Exchange Commission (SEC) or by any state securities authority.

Additional information about VAI also is available on the SEC's website at adviserinfo.sec.gov.

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

Material Changes

There have been no material changes in VMAP’s or POA’s advisory business, fees and compensation, disciplinary information, or other practices.

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Advisory business

Vanguard Advisers, Inc. (VAI), is a Pennsylvania corporation that provides investment advisory services to a wide variety of clients. VAI was incorporated in and has been in business since 1995. VAI is 100% owned by Goliath, Inc., a Delaware corporation. As such, VAI is an indirect, wholly owned subsidiary of The Vanguard Group, Inc. (Vanguard), the sponsor and manager of the family of mutual funds that make up The Vanguard Group of Investment Companies (the Vanguard Funds), which VAI typically recommends as investments.

Vanguard Managed Account Program (VMAP or the Program)

VMAP is an investment advisory service offered by VAI. VMAP offers portfolio management services to participants of eligible employer-sponsored retirement plans who want to delegate ongoing, discretionary investment management decisions to a professional investment advisor. In making investment management decisions for participants, VAI relies exclusively on the proprietary software, systems, and methodology developed and maintained by Financial Engines Advisors L.L.C. (Financial Engines), an independent investment advisor unaffiliated with VAI, to create target allocations for participants.

Based on profile information concerning the participant, including age and current investment holdings, the Program uses Financial Engines' software to choose a default risk level for the participant based on the median risk level for the participant's peer group (a set of investors with the same investment horizon) and determines the participant's target allocation. The Program then invests the participant's account assets in accordance with the target allocation using investments selected from among the participant's retirement plan's investment options, which may include Vanguard Funds and collective investment trusts and third-party mutual funds, or collective investment trusts, but excludes investments held through any plan brokerage window or other restricted investments. Participants have the opportunity to provide VAI with additional information about their desired maximum allocation to company stock investments (not to exceed 20% of the unrestricted balance of a participant's account) if the participant's account is invested in, or eligible to invest in, such assets. Participants may also alter certain assumptions used by the Program, such as the age at which the participant plans to retire (if different from the Program's assumption) or if different from the Program's assumption, the participant's desire to take on more or less risk than the target allocation developed by the Program, and may input information regarding any savings and investments held outside of their plan that the Program may consider

when making investment decisions for the participant's plan account (although the Program will not be responsible for providing investment advice or management for such outside assets).

The Program maintains discretionary authority over each participant's account to achieve the target risk level, and provides on-going portfolio monitoring to maintain the target risk level through time. Participants are unable to independently transact on their plan accounts unless they terminate their participation in the Program. Participants receive ongoing account Progress Reports and have toll-free telephone access to a Managed Account Program specialist. Participants may terminate their Program participation at any time via telephone, but account assets remain invested in the investment options then selected for the account until the participant takes further action.

Participants enrolled in the VMAP service may also have the ability to enroll in the Income+ service. Income+ provides portfolio management and income payouts from 401(k) or similar plan accounts for retirees and near-retirees who enroll.

VMAP manages \$24.4 billion (as of 12/31/2016) on a discretionary basis. VMAP does not manage assets on a nondiscretionary basis.

Personal Online Advisor (POA)

VAI offers POA to clients who want access to online investment advice. In order to provide investment recommendations through POA, VAI relies exclusively on the proprietary software, systems, and methodology developed and maintained by Financial Engines, an independent investment advisor unaffiliated with VAI.

Financial Goal Forecasting. POA generates a forecast, or estimate, of the chance of reaching a client's financial goals. Forecasts are based on information in our systems including: (1) current account balance(s), (2) current savings or contribution rates, (3) time horizon (i.e., years until goal), and (4) investment goals (i.e., desired account balance at the close of time horizon). The forecasts generated by POA are reasonable estimates based on information supplied by clients and are not guarantees of future results. Reliance on historical and current data necessarily involves certain inherent limitations.

Investment Recommendations. POA provides specific buy and sell recommendations to help allocate assets among a limited universe of investments (generally, Vanguard Funds and other investment company securities or collective investment trusts) available for investment. In the case of eligible retirement plans, the plan's sponsor selects the universe of investments available to accounts using the POA service.

Account Reviews and Monitoring. POA enables clients to review their account(s), monitor progress toward financial goals, receive forecasts and investment recommendations, and access educational materials. Although POA updates the values of most mutual funds and stocks in a client's account(s) daily, it is the client's responsibility to review and update account(s) to adjust for significant changes in investments or personal circumstances.

POA does not recommend allocations of individual stocks, even if they are available for investment in a client's account. POA does not select the investment alternatives available for investment in a participant's plan account. By recommending allocations among the available investments, POA does not endorse the selection of particular investments as available investments for a participant's plan account.

POA will not take into consideration any favorable tax treatment on a participant's company stock investment when providing advice.

VAI only offers nondiscretionary investment advice through POA. Clients have no obligation to accept any suggestions provided by POA and neither VAI, Vanguard, nor Financial Engines is authorized to make decisions regarding client account(s) or investments. Since VAI does not provide ongoing discretionary or nondiscretionary account management services through the POA service, it does not track its assets under management.

Fees and compensation

The advice provided by the Program or POA will include recommendations to sell, hold, or purchase the Vanguard funds and/or collective investment trusts. The purchase or sale of Vanguard investments through Vanguard (whether or not suggested by VMAP or POA) is not subject to a load, sales charge, or commission. However, each Vanguard investment 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. Also, some Vanguard funds and collective investment trusts impose purchase and redemption fees. Clients that are invested in Vanguard funds and collective trusts are subject to the applicable expense ratios and any purchase and redemption fees. Thus, acting in accordance with the Program's or POA's advice to purchase Vanguard funds or collective investment trusts will result in the payment of fees to the Vanguard funds or collective investment trusts; in addition to any advisory fees assessed by VAI. Please consult the funds' prospectuses or other investment disclosures for information about a specific investment expense ratio.

Participants in employer-sponsored retirement plans may also directly or indirectly bear the fees assessed by Vanguard for recordkeeping services provided by Vanguard to a retirement plan. In connection with its services, Vanguard receives fees that are separate from and in addition to any fees assessed by VAI. Thus, retirement plan participants who are receiving advice through POA and the Program may directly or indirectly bear the fees assessed by Vanguard in connection with its services to the plan, in addition to any fees assessed by VAI. Participants in employer-sponsored retirement plans for which Vanguard provides recordkeeping services may be permitted to invest in collective trusts, company stock funds, or certain customized investment options for which Vanguard Fiduciary Trust Company (VFTC) provides services and receives compensation. Because advice provided by VAI may include recommendations to hold or purchase these investment options, acting in accordance with such advice may result in the payment of fees to VFTC.

Participants in employer-sponsored retirement plans for which Vanguard provides recordkeeping services often are permitted to invest in non-Vanguard mutual funds. Because the advice provided by VAI may include recommendations to hold or purchase non-Vanguard mutual funds, acting in accordance with such advice may result in payments to Vanguard as compensation for participant-level recordkeeping and administrative services provided by Vanguard for such funds. This payment may be made by the fund company sponsoring the non-Vanguard mutual fund, by the plan sponsor, or by the participant investing in the non-Vanguard mutual fund.

The purchase or sale of third-party fund shares through Vanguard may be subject to a load or sales charge, although VAI generally recommends the purchase of no-load mutual funds. Additionally, participant account assets that are invested in third-party mutual funds or collective investment trusts are subject to the applicable expense ratios charged by those investments. An investment expenses are detailed in the fund's prospectus or other investment disclosures. In the event that VMAP or POA recommends the purchase or sale of non-Vanguard investments, clients may incur additional fees, including transaction fees, brokerage charges, loads, sales charges, commissions, markups, or other fees or expenses. In addition, Vanguard or its affiliates may receive other compensation, including asset based sales charges, service fees, revenue sharing payments, 12b-1 fees or other fees, in connection with such investments. VAI does not take into consideration whether Vanguard or any of its affiliates would receive fees from its recommendation to purchase, hold, or sell non-Vanguard investments.

VMAP

Each VMAP participant pays fees to VAI based on a percentage of assets in each account managed by VAI (excluding loan balances) according to the following schedule:

- 40 basis points (0.4%) per year for assets up to \$100,000.
- 30 basis points (0.3%) per year for assets between \$100,000 and \$250,000.
- 20 basis points (0.2%) per year for assets between \$250,000 and \$500,000.
- 10 basis points (0.1%) per year for any assets over \$500,000.

There is a minimum annual fee of \$60 per account.

Investments held in a participant's portfolio are subject to the normal management expenses associated with ownership of mutual funds and other investments as disclosed in the prospectus or other investment disclosures. Such fees are paid at the fund or trust level and do not reduce the account level fees described on this schedule.

Generally, the fee is charged monthly for each full month a participant is enrolled in VMAP and is deducted on the 22nd of each month or the first business day thereafter. The fee is deducted proportionally from the balance invested in each mutual fund held by the participant's account. VAI reserves the right to increase or decrease the amount of the fees charged, but will notify participants enrolled in VMAP in advance of any change in the fee structure. VAI also reserves the right to offer certain retirement plan sponsors or participants discounted fees or other promotional pricing.

POA

Vanguard clients do not pay a fee to use POA.

Performance-based fees and side-by-side management

Neither VMAP nor POA receives performance-based fees for advisory services provided to clients.

Types of clients

VMAP

VMAP offers portfolio management services to participants of eligible retirement plans. If a participant's account balance is less than \$15,000, the participant may call and speak with a Managed Account Program specialist at 800-310-9228 to determine whether VMAP is right for him or her.

POA

VAI offers the Personal Online Advisor to clients, including retirement plan participants, who want access to online investment advice.

Methods of analysis, investment strategies, and risk of loss

The Program and POA generally recommend investments in mutual funds and investment company securities and/or collective investment trusts. Although the Program and POA will recommend investment strategies designed to be prudent and diversified, please remember that all investments, including mutual funds, investment company securities and collective investment trusts, involve some risk, including possible loss of the money you invest. Be aware that fluctuations in the financial markets and other factors may cause declines in the value of your account. 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. Diversification does not ensure a profit or protect against a loss in a declining market. There is no assurance that you will achieve positive investment results by utilizing the Program or POA. VAI cannot guarantee the future performance of your investments. Please consult the funds' prospectuses (or other such investment guidelines) for more information about specific risks to a fund or collective investment trust.

VMAP

The Program offers investment advice based on an investment methodology developed by Financial Engines. VMAP uses Financial Engines' proprietary software to analyze historical and current returns, volatility, cross-correlations, expenses, manager performance, and other factors to develop individualized target allocation recommendations for a participant's account.

Financial Engines' approach to portfolio construction is to recommend a consistent diversified investment strategy that is tailored to the needs and time horizon of each client. The approach explicitly avoids any form of market timing in the recommendations by using market consensus estimates of asset class expected returns. The recommendations assume that asset classes are fairly priced by the market and that market consensus expectations are the best predictor of future expected returns. Financial Engines explicitly does not attempt to identify asset classes that may be overvalued or undervalued. Rather, Financial Engines uses forward-looking risk premium assumptions that are consistent with the currently observed global market portfolio allocation. As the observed market portfolio allocation changes, the risk premium assumptions are updated. This approach prevents subjective market timing biases from entering into the investment allocation process which otherwise might introduce unwanted volatility. It also ensures that the forward-looking risk premium assumptions are more stable over time and always consistent with current market conditions.

The portfolio construction process consists of the following elements:

- Estimation of core economic expectations for interest rates, inflation, and dividend growth.
- Estimation of asset class expected returns, volatilities, and correlations.
- Modeling of specific investment alternatives available to the investor.
- Simulation of possible investment outcomes for investment strategies.
- Generation of personalized portfolio recommendations; and ongoing monitoring of portfolio efficiency and making portfolio adjustments through time as a result of a shortening of the participant's time horizon.

The main sources of information analyzed include historical returns for mutual funds, individual equities, and broad asset categories (e.g., large-capitalization U.S. equity returns, money market returns, foreign equity returns), security-specific information, such as mutual fund expense ratios, and current market data and information.

Generally, the methodology used takes a long-term view of investment management. However, it may recommend trading or short-term purchases depending on market conditions, changes in individual preferences, and other relevant criteria.

The Program will invest a participant's account assets only in investments available through the employer retirement plan, which often are primarily mutual funds but also may include collective investment trusts, exchange-listed equity securities, guaranteed investment contracts issued by insurance companies and banks, or other securities. The Program will not invest account assets in investments available through a plan's brokerage window (if applicable). The Program will not invest account assets in the following types of securities but can consider them as part of its portfolio analysis if such securities are already held in an account: securities traded over-the-counter, securities traded in foreign markets, warrants, corporate debt securities, commercial paper, certificates of deposit, municipal securities, variable life insurance products, variable annuities, U.S. Government securities, options contracts on securities, and futures contracts on intangibles.

To the extent that company stock investments are permitted in a participant's account, such investments may not exceed 20% of the unrestricted account balance (or such other maximum allocation applicable to the Program for an account). Participants may direct VAI to effect transactions involving unrestricted company stock investments in an account. However, VAI may decrease the amount of company stock investments held in an account, if any, taking into consideration any preferred maximum target allocation that the participant has specified. VAI may be precluded from making allocation changes with respect to company

stock investments at any time that VAI may have material nonpublic information about such employer or its securities. As stated above, the Program's analysis of equity securities generally assumes an efficient market in which stock prices are fairly valued. Thus, VAI does not change allocations with respect to company stock investment based on fundamental analysis of the security value compared to current prices. Instead VAI determines the allocation for company stock investments after analyzing the risk/return impact of concentrated holdings of such assets. The Program will not take into consideration any favorable tax treatment on company stock investment when providing advice.

Income+

- Prior to retirement, FE manages the member's portfolio to balance safety and growth, intended to protect the account from significant losses prior to when income is needed.
- Once retired, Income+ is designed to provide steady payments throughout a member's retirement.
- Financial Engines will calculate and facilitate withdrawals from his or her's plan account through the plan provider.
- Members pay no additional fees for the service.
- For members who desire guaranteed lifetime payments, an account balance is maintained for an optional out-of-plan annuity purchase.

POA

POA offers investment advice based on an investment methodology developed by Financial Engines. POA uses Financial Engines' proprietary software to analyze historical and current returns, volatility, cross-correlations, and other factors to develop individualized target allocation recommendations. The Financial Engines software employs returns-based style analysis and optimization, among other techniques, to develop its target allocation recommendations. The main sources of information analyzed include historical returns for mutual funds, individual securities, and broad asset categories (e.g., large-capitalization U.S. equity returns, money market returns, foreign equity returns), security-specific information (such as mutual fund expense ratios), and current market data and information.

POA generates a forecast through the use of simulations, which are hypothetical economic scenarios based upon analysis of historic and current returns, volatility, cross-correlations, and other factors. POA creates thousands of hypothetical future economic scenarios to evaluate how account investments might perform under a variety of circumstances, including changing interest rates, inflation, and market conditions. The forecast is a percentage figure representing the number of scenarios in which the client's account(s) would be sufficient to meet or exceed the investment goal at the end of the time horizon. POA also can include information about stock options in a financial goal forecast.

For more detailed information on Financial Engines and its investment methodology, please go to financialengines.com for a copy of its brochure.

Disciplinary information

VAI has no disciplinary information to disclose.

Other financial industry activities and affiliations

The Program and POA mitigate the competing interests that could arise between VAI and our clients as a result of recommendations to hold or purchase Vanguard funds or trusts and non-Vanguard mutual funds by relying exclusively on the proprietary systems and methodology developed and maintained by Financial Engines, an independent, third-party, federally registered investment advisor, to provide the Program and POA. Specific VAI affiliations follow:

The Vanguard Group, Inc. (Vanguard)

VAI is 100% owned by Goliath Inc., a Delaware corporation, which is wholly owned by 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 Vanguard Funds it services and thus, indirectly, by the shareholders in those funds. POA and the Program may recommend the purchase of Vanguard funds serviced by Vanguard. Because the advice provided by the Program and POA may include recommendations to hold or purchase Vanguard funds, acting in accordance with such advice will subject the participant to the expense ratios charged by any Vanguard funds held in the participant’s account, as well as any purchase or redemption fees assessed by those Vanguard Funds.

Vanguard Marketing Corporation (VMC)

Shares of the Vanguard Funds are marketed and distributed by 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.

Vanguard Fiduciary Trust Company (VFTC)

VAI is also affiliated with VFTC, a limited-purpose trust company incorporated under the banking laws of the Commonwealth of Pennsylvania and a wholly owned subsidiary of Vanguard. VFTC serves as trustee and investment advisor for certain collective investment trusts offered by Vanguard as eligible investments options by some retirement plans. POA and the Program may recommend the purchase of Vanguard collective investment trusts serviced by VAI’s affiliate, VFTC. Because the advice provided by the Program and POA may include recommendations to hold or purchase Vanguard collective investment trusts, acting in accordance with such advice will subject the participant to the expense ratios charged by any Vanguard collective investment trusts held in the participant’s account, as well as any purchase or redemption fees assessed by those Vanguard collective investment trusts.

Financial Engines Advisors L.L.C. (Financial Engines)

The Vanguard Group has engaged Financial Engines to provide subadvisory services to the Program and POA. Financial Engines is an independent, third-party, federally registered investment advisor that does not sell investments or receive commission for the investments it recommends.

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 titled “Other Financial Industry Activities and Affiliations” for a discussion of VAI’s affiliations with other Vanguard entities, and how those affiliations may impact clients of VAI.

Brokerage practices

VMAP and POA do not provide recommendations on individual securities. Therefore, VAI does not select or recommend broker-dealers for client transactions in connection with these services.

Review of accounts

The Vanguard Managed Account Program provides clients with automatically generated quarterly progress reports that show transactions, if any, and account performance. The Program also provides ongoing monitoring of portfolio efficiency and makes portfolio adjustments through time as a result of a shortening of the participant's time horizon. The investment allocations will generally not rebalance to fixed proportions, but instead to proportions that vary depending on those observed in the composition of the global market portfolio. For an investor with average risk tolerance who is invested in a portfolio that replicates the market portfolio, there will generally be minimal rebalancing required. Their portfolio allocations will have shifted due to market movements in the same proportions as their preferences.

POA reviews accounts in accordance with the forecasting and monitoring services mentioned above.

As owners of Vanguard fund shares through an employer-sponsored retirement plan, VAI clients will receive or have access to communications with respect to those funds.

These communications include transaction confirmations, quarterly account statements, prospectus updates, annual and semiannual reports, and proxy statements relating to their fund holdings (as appropriate), as well as general Vanguard newsletters, e-mails, and other communications.

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 to the services offered herein.

Custody

The Vanguard Group, Inc., the transfer agent of the Vanguard Funds, acts in the capacity of a qualified custodian for those funds and sends quarterly, or more frequent, account statements directly to VAI clients. For participants enrolled in VMAP in employer-sponsored retirement plans for which Vanguard provides recordkeeping services and VFTC provides trustee services, custody services are provided through VFTC and participants receive quarterly, or

more frequent, plan account statements from Vanguard.

Clients may also receive statements and reports or progress reports from the VMAP service. Clients should carefully review and compare these account statements and contact VAI with any questions.

Investment discretion

VMAP

VMAP is a discretionary service in which participants allow VAI full authority to invest their retirement plan account assets from among the participant's retirement plan's investment options as the Program deems advisable relying on the proprietary software, systems, and methodology developed and maintained by Financial Engines. Participants grant VAI discretion by agreeing to the terms of the VMAP Service Agreement. The Program has the discretionary authority (subject to the terms of the participant's plan) to (1) invest any monies that the participant designates for inclusion within their plan account; and (2) initiate exchange transactions among the participant's retirement plan's eligible investment options.

VAI's discretionary authority to buy or sell securities, including the amount to be bought or sold, is based on the participant's risk preferences, restricted plan account positions, participant specified constraints, outside account information (if provided), or other factors determined by the Program to be appropriate.

POA

POA does not have discretion over clients' accounts.

Voting client securities

VAI will not vote or exercise similar rights for client securities. For participants in employer-sponsored retirement plans, the responsibility for the exercise of all voting or similar rights associated with any security or other property held in the portfolio shall be outlined by the plan. 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. Proxies related to plan holdings will be delivered directly by the issuer of the security, the custodian or its agent.

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 advisors

VAI is a federally registered investment advisor.



Participant Education

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