
THE VANGUARD GROUP, INC.
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This brochure provides information about the qualifications and business practices of The Vanguard Group, Inc. (“VGI” or “Vanguard”). If you have any questions about the contents of this brochure, please contact us at 1-877-662-7447. 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 VGI also is available on the SEC’s website at www.adviserinfo.sec.gov.

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

MATERIAL CHANGES

The following is a summary of material changes made to this Brochure since our last annual amendment dated March 30, 2020, and amended October 20, 2020:

- Disciplinary Information: updated to disclose an administrative fine imposed on VGI by the South Korean Financial Services Commission.

CONTENTS

Material Changes	2
Advisory Business.....	3
Fees and Compensation.....	5
Performance-Based Fees and Side-By-Side Management.....	5
Types of Clients.....	5
Methods of Analysis, Investment Strategies, and Risk of Loss.....	5
Disciplinary Information.....	6
Other Financial Industry Activities and Affiliations.....	6
Code of Ethics, Participation or Interest in Client Transactions, and Personal Trading.....	7
Brokerage Practices.....	9
Review of Accounts.....	12
Client Referrals and Other Compensation.....	12
Custody.....	12
Investment Discretion.....	12
Voting Client Securities.....	13
Financial Information.....	13

ADVISORY BUSINESS

The Vanguard Group, Inc. (“Vanguard” or “VGI”), is a Pennsylvania corporation that has, since 1975, provided investment advisory services to the Vanguard family of funds. VGI is jointly owned by the U.S. funds of the Vanguard group of investment companies, including the Vanguard Index Funds. VGI’s advisory services are offered through its Equity Investment Group (“EIG”), its Fixed Income Group (“FIG”) and its Quantitative Equity Group (“QEG”). VGI serves as investment advisor to: (i) U.S.-registered Vanguard mutual funds; and (ii) pooled investment vehicles that are not U.S.-registered mutual funds (e.g., Vanguard’s offshore funds).

This brochure describes only the advisory services VGI provides to Vanguard’s non-U.S. clients, which are comprised of the following: (i) funds established as trusts under the laws of the Province of Ontario in Canada, (ii) wholly-owned subsidiaries organized under the laws of the Cayman Islands that certain Vanguard U.S.-registered mutual funds invest in and (iii) Australian-registered managed investment schemes (each, a “Vanguard offshore fund” and collectively, the “Vanguard offshore funds”). References to “client” in this brochure mean the Vanguard offshore funds. This brochure does not apply to the advisory services provided to the Vanguard U.S.-registered mutual funds because the SEC does not require delivery of a brochure to U.S.-registered mutual funds.

As of December 31, 2020, VGI provided discretionary advisory services for the Vanguard offshore funds that collectively accounted for approximately \$270 billion in assets.

VGI offers both passive (i.e., indexing) and active discretionary investment advisory services that cover the U.S. and international markets.

Indexing.

Indexing is an investment strategy for tracking the performance of a specified market benchmark, or “index.” An index is a group of securities whose overall performance is used as a standard to measure the investment performance of a particular market. There are many types of indexes. Some represent entire markets—such as the U.S. stock market or the U.S. bond market. Other indexes cover market segments—such as small-capitalization stocks or short-term bonds. An investor cannot invest directly in an index.

The index sponsor determines the securities to include in the index and the weighting of each security in the index. Under normal circumstances, the index sponsor will rebalance an index on a regular schedule. An index sponsor may carry out additional ad hoc index rebalances or delay or cancel a scheduled rebalance. Generally, the index sponsor does not provide any warranty, or accept any liability, with respect to the quality, accuracy, or completeness of either the target index or its related data. Errors made by the index sponsor may occur from time to time and may not be identified by the index sponsor for a period of time or at all. Vanguard does not provide any warranty or guarantee against such errors. Therefore, the

gains, losses, or costs associated with the index sponsor's errors will generally be borne by the index fund and its shareholders.

VGI employs two types of indexing strategies: replication and sampling. When using the replication methodology, VGI's portfolio managers generally will seek to hold the same stocks (or bonds) as those in the target index, and in approximately the same proportions. When using the sampling methodology, VGI portfolio managers use computer programs to select from the target index a representative sample of securities that resembles the target index in terms of key risk factors and other characteristics. Depending on the type of fund, these factors include, but are not limited to, industry weightings, country weightings, market capitalization, and other financial characteristics of stocks (for equity securities) and duration, cash flow, quality, and callability of bonds (for fixed income securities). Because a fund that samples does not hold all the securities of its target index, some of the securities are over- (or under-) weighted compared with the target index. Generally, VGI manages the weightings within specific target limits.

Active Management.

VGI also serves as investment advisor to Vanguard offshore funds that are actively managed. Actively managed funds do not seek to track the performance of a benchmark index; rather the portfolio managers try to outperform that index and peer funds through investment selection. VGI's equity active management generally employs quantitative computer modeling that seeks, depending on the particular investment mandate, to assess a number of factors when selecting a fund's securities including, but not limited to, an assessment of a stock's relative return potential, valuation, growth prospects, and risk profile.

VGI's active fixed income methodologies generally are based upon fundamental investment research, as well as research obtained from external investment organizations. VGI's portfolio managers rely on research, market forecasts, and their own judgment and experience in selecting securities to buy and sell. The methodology uses information gathered from a wide variety of sources, both public and private, regarding short-term and long-term economic and financial market characteristics and trends. VGI's investment research includes both quantitative and fundamental methods of analysis. It also incorporates VGI's own investment philosophies, beliefs, and fiduciary approach to the investment advisory process. VGI's investment strategies and recommendations are based on methodologies that are approved and reviewed by internal committees composed of senior management.

In all cases, VGI's portfolio management operates in accordance with investment guidelines outlined in a fund's governing documents.

FEES AND COMPENSATION

VGI provides advisory services to Vanguard's offshore funds pursuant to the terms of an investment advisory agreement with the sponsor, or manager, of the Vanguard offshore funds. Fees for advisory services to the offshore clients are individually negotiated and

payable in a manner and frequency according to the relevant agreement. VGI does not deduct fees directly from client accounts.

Vanguard clients also incur brokerage and trading costs that are not reflected in the advisory fee or expense ratio, but are reflected in the fund's/account's performance. A more detailed description of how VGI selects broker-dealers is included in this brochure in the section "Brokerage Practices."

PERFORMANCE-BASED FEES AND SIDE-BY-SIDE MANAGEMENT

VGI does not receive performance-based fees for advisory services provided to clients. Therefore, VGI does not engage in side-by-side management of clients with performance-based fees.

TYPES OF CLIENTS

This brochure describes the advisory services provided by VGI to the Vanguard offshore funds.

VGI has no required minimum investment amount for the Vanguard offshore funds that it advises. Underlying offshore fund investors must satisfy fund investment minimums as may be disclosed in a fund's governing documents.

METHODS OF ANALYSIS, INVESTMENT STRATEGIES, AND RISK OF LOSS

As noted previously, VGI's indexing strategies follow the principles of replication and sampling. VGI's active management equity methodology is based upon quantitative modeling; its active fixed income analysis is based upon fundamental investment research and research from external investment organizations. The fundamental research uses information gathered from a wide variety of sources, both public and private, regarding short-term and long-term economic and financial market characteristics and trends. It also incorporates VGI's own investment philosophies, beliefs, and fiduciary approach to the investment advisory relationship.

Indexing strategies generally are subject to the risks associated with the markets that such strategies track. Actively managed funds, in addition to the risks posed by the stocks or bonds themselves, are subject to the risk that poor security selection will result in underperformance compared with the relevant benchmark. All investments involve some risk, including possible loss of principal. VGI can make no guarantee that any particular asset allocation or investment strategy will meet a fund's or an account's particular investment objective, or provide a particular investment return or a given level of income. Fluctuations in the financial markets and other factors may cause declines in the value of client accounts. Diversification does not ensure a profit or protect against a loss in a declining market. VGI cannot guarantee the future performance of its funds or accounts. Each Vanguard offshore fund's prospectus/supplement

(or an account's investment guidelines) offers additional information about a particular investment strategy's specific risks.

The ability of VGI to purchase or dispose of certain fund client investments, or to exercise rights on behalf of clients, may be restricted or impaired because of limitations imposed by law, regulation, or by certain regulators or issuers. As a result, VGI on behalf of a client may be required to limit purchases, sell existing investments, or otherwise limit the exercise of shareholder rights by the client, including voting rights. These ownership limitations can impact a client's performance. For index fund clients, 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 fund clients, this impact can result, for example, in missed investment opportunities otherwise desired by VGI. If a client is required to limit its investment in a particular issuer, then VGI on behalf of the client may seek to obtain regulatory or corporate consents or ownership waivers. Other options VGI, on behalf of a client, may pursue include seeking to obtain economic exposure to that issuer through alternative means, such as through a derivative, which may be more costly than owning securities of the issuer directly, or through investment in a wholly-owned subsidiary.

DISCIPLINARY INFORMATION

On September 24, 2020, the South Korean Financial Services Commission imposed an administrative fine in the amount of \$104,575 (KRW 120 Million) on VGI, related to three instances during 2018 and 2019 in which VGI sold two Korean-listed securities without corresponding ownership of the position, a practice which is prohibited under South Korean law.

OTHER FINANCIAL INDUSTRY ACTIVITIES AND AFFILIATIONS

VGI is a Pennsylvania corporation and provides significant non-advisory services to the Vanguard offshore funds, as well as to its U.S.-based mutual fund business. Only a small percentage of VGI personnel are engaged in providing investment advisory services through EIG, QEG and FIG.

Vanguard devotes the majority of its time and resources to the provision of corporate management, administrative, and distribution services to certain of its advisory clients. These services may include, as applicable: (1) accounting and financial services; (2) legal and regulatory support; (3) shareholder account maintenance (transfer agency); (4) monitoring and control of custodian relationships; (5) shareholder reporting; (6) review and evaluation of advisory and other services provided to the funds by third parties; and (7) trust services through VGI's wholly owned subsidiary, Vanguard Fiduciary Trust Company, a Pennsylvania non-depository trust company.

Vanguard Marketing Corporation ("VMC") is a Pennsylvania corporation and a registered broker-dealer that is a wholly-owned subsidiary of VGI. VMC markets and distributes shares

of Vanguard's U.S. funds. VMC also provides marketing services and support to the Vanguard complex and products. VMC's services to the U.S. funds are conducted in accordance with the terms and conditions of an SEC exemptive order, which permits the U.S. funds to internalize and jointly finance such activities. VMC does not receive transaction-based compensation in connection with the distribution of the U.S. funds. Certain members of VGI's management team and advisors are registered representatives of VMC.

Vanguard Investments Canada Inc. ("VIC") is a Canadian company and an indirect wholly owned subsidiary of VGI. VIC serves as trustee and investment fund manager of Canadian-domiciled Exchange-Traded Funds ("ETFs") that are listed on the Toronto Stock Exchange and available for sale in Canada. VIC also serves as trustee and investment fund manager of a number of Canadian-domiciled pooled funds and mutual funds. VIC has appointed VGI to provide portfolio management to such ETFs and pooled funds pursuant to a sub-advisory agreement between VIC and VGI. VIC's principal regulator is the Ontario Securities Commission. VIC is an "exempt reporting adviser" registered in the U.S. with the SEC under registration number 802-107926.

Vanguard Investments Australia Ltd ("VIA") is an Australian corporation that is regulated by the Australian Securities and Investments Commission. VIA manages and administers unit trusts for Australian individual and institutional investors and separately managed accounts for institutional investors. VIA has appointed VGI to provide portfolio management services pursuant to a sub-advisory agreement between VIA and VGI. VIA is a "registered investment adviser" registered in the U.S. with the SEC under registration number 801-107761.

VGI has other financial industry affiliations and subsidiaries. However, these other affiliations are not material to the advisory services VGI provides to the Vanguard offshore funds.

CODE OF ETHICS, PARTICIPATION OR INTEREST IN CLIENT TRANSACTIONS, AND PERSONAL TRADING

Code of Ethics.

VGI 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 Advisers Act of 1940.

The Code sets forth fiduciary standards that apply to all personnel, incorporates an insider trading policy, and governs outside employment and receipt of gifts. The Code requires all U.S. VGI personnel to conduct their trading of stocks, bonds, and ETFs through a Vanguard brokerage account. In addition to these safeguards, personnel that have access to information about Vanguard fund trading activity or client trading activity are subject to stringent trading restrictions described in more detail below and that are designed to ensure that VGI personnel do not misuse fund and/or client information for their own benefit.

VGI 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 VGI’s affiliations with other Vanguard entities, and how those affiliations may impact clients of VGI.

Personal Trading.

All VGI personnel are prohibited from taking personal advantage of their knowledge of recent or pending securities activities of Vanguard U.S. and offshore funds. In particular, VGI personnel are prohibited from purchasing or selling, directly or indirectly, any security or related security when they know that the security or related security is being purchased or sold, or considered for purchase or sale, by a Vanguard U.S. or offshore fund. This prohibition applies to all securities in which the person has acquired or will acquire beneficial ownership. These policies are set forth in both the Code of Ethics and the insider trading policy, which are subject to annual certification and to ongoing oversight by VGI’s Compliance Department. All VGI personnel and their spouses, unless otherwise exempted under the Code of Ethics, are required to maintain their personal brokerage accounts through Vanguard Brokerage Services so any trading can be monitored by VGI’s Compliance Department.

Transactions in Vanguard offshore funds.

VGI personnel are generally prohibited from purchasing shares of Vanguard offshore funds pursuant to the terms of the funds’ prospectuses and policies, as well as applicable law.

General trading restrictions for access persons.

VGI officers and all personnel who are involved in making securities recommendations, including the purchase or sale of securities for Vanguard U.S. and offshore funds, are deemed to be investment persons or fund access persons (“access persons”) and are subject to additional trading and reporting restrictions. These restrictions include a requirement to pre-clear their personal transactions in covered securities or obtain prior approval from VGI’s Compliance Department in accordance with exemptions under the Code of Ethics. Investment persons are also required to pre-clear transactions in Vanguard ETFs. The Code of Ethics places additional limitations on the ability to purchase private placements. Access persons cannot sell any security that the access person does not own or otherwise engage in “short-selling” activities. Access persons are prohibited from purchasing and then selling at a profit, or selling and then repurchasing at a lower price, any covered security or related security within 60 calendar days. Investment persons are also required to abide by the 60 calendar day requirement when buying or selling Vanguard ETFs. If an access person realizes profits on such short-term trades, the access person must relinquish the profits to The Vanguard Group Foundation®, a charitable organization established by VGI.

All access persons are subject to trading restrictions when their purchases and sales of covered securities coincide with trades by a Vanguard U.S. or offshore fund. The Compliance Department reserves the right to exempt from these restrictions access person trades that coincide with trading by certain Vanguard offshore funds (e.g., index funds). Generally, access persons are prohibited from purchasing or selling any security that a Vanguard fund has also purchased or sold within seven days of such Vanguard fund trade. If such prohibited transaction occurs, the access person must relinquish any gain from the transaction to The Vanguard Group Foundation.

Conflicts of Interest.

VGI seeks to avoid or minimize conflicts of interest through business and investment practices that are subject to policies and procedures designed to protect the interest of clients while maintaining VGI's fiduciary obligations.

Portfolio managers may manage multiple accounts for multiple clients. Managing multiple accounts may give rise to potential conflicts of interest, including, for example, conflicts among investment strategies and conflicts in the allocation of investment opportunities. Managing multiple accounts also can raise concerns that some accounts would be favored over others. VGI manages these types of potential conflicts between funds or with other types of accounts through its policies and procedures, which include allocation policies and procedures, internal trading review processes, compliance department trading oversight and oversight by directors and independent third parties.

VGI has trade allocation procedures and controls to ensure that all funds'/accounts' aggregated orders are conducted in a fair and equitable manner. These allocation policies address potential conflicts through a number of different practices including, but not limited to, pro rata allocation and specific procedures for the allocation of partially filled aggregated orders.

BROKERAGE PRACTICES

Broker Selection and Best Execution.

VGI has adopted a policy for best execution that is consistent with guidance from the SEC that an advisor has a fiduciary duty to achieve best execution for its clients. VGI decides which securities to buy and sell on behalf of clients and selects brokers or dealers that will execute the trades on an agency basis, or the dealers with whom the trades will be effected on a principal basis. VGI selects the broker-dealer that VGI believes will provide "best execution." Best execution does not necessarily mean paying the lowest spread or commission rate available. It means executing client transactions so that the client's total cost (in the case of a purchase) or net proceeds (in the case of a sale) are the most favorable under the circumstances.

In seeking best execution, VGI may consider the full range of the firm's services and other relevant factors as appropriate under the circumstances, such as the following:

- The costs associated with the transaction.
- The execution price of the transaction.
- The execution capabilities required by the size of transaction.
- The financial responsibility of the firm.
- The ability and willingness of the firm to commit capital to facilitate the client's portfolio transactions.
- The timing and speed of execution and confidentiality.
- The firm's use of automation.
- The apparent familiarity of the firm with sources from which or to whom particular securities might be purchased or sold.
- The firm's access to underwritten offerings and secondary markets.
- The firm's ability to provide access to company management.
- The trading expertise, responsiveness, reputation, integrity, and perceived soundness of the firm.
- The market impact of the transaction.
- The reliability and accuracy of the firm's communications and settlement processing.
- Other matters relevant to the selection of a broker-dealer for portfolio transactions for any client.

VGI evaluates best execution for client transactions by conducting a periodic analysis of the quality of brokerage executions for funds/accounts. VGI considers both the volume of shares and dollars traded per firm and where relevant the corresponding commissions paid. VGI reviews trading reports for evidence of suspicious activity including, but not limited to, unusual trading allocations across broker-dealers; abnormal commission rates; or allocations that could be evidence of a *quid pro quo* for other business relationships between VGI and the broker-dealer.

Soft Dollar Practices.

Client commission arrangements (also known as "soft dollar" arrangements) are used to describe the practice of advisors using trading commissions to acquire products and services from brokers in addition to the execution of trades. An advisor's use of client assets to acquire these products and services for the advisor's own benefit creates a conflict of interest and, if not appropriately circumscribed, could violate an advisor's duty to obtain best execution.

VGI has adopted a policy for client commission arrangements that is consistent with guidance from the SEC that an advisor does not violate its fiduciary duty solely by causing a client to pay a broker or dealer a commission for effecting a transaction that exceeds the amount another broker or dealer would have charged for effecting the same transaction (paying up) if the advisor determines in good faith that the amount of the commission is reasonable in relation to the value of the brokerage and research services provided by the broker or dealer, viewed in terms of either that particular transaction or the advisor's overall responsibilities with

respect to the account. Although not prohibited from doing so under this policy, VGI generally would not cause a client or account to pay a higher commission rate or spread (i.e., pay up) in order to obtain products or services in addition to execution of the trade. VGI may receive benefits from brokers that are provided at no charge in recognition of the volume of trades directed to the broker. If VGI believes that more than one broker can provide best execution, VGI may select the broker that, in addition to executing the trade, will provide products or services at no additional cost.

VGI does not enter into arrangements whereby brokers provide services, including materials or hardware or discounted rates, in consideration for a specified amount of brokerage, although it is legal to do so.

VGI's client commission policy is subject to the following additional requirements:

- Research and brokerage products and services obtained by VGI using client or account commissions must be used directly or indirectly for the benefit of the fund or account.
- If products or services are used to benefit more than one client, VGI must allocate the benefits over time in a manner that is reasonably related to the trading commissions generated by each client.
- If VGI receives from a broker-dealer a "mixed use" product or service -- one that can be used both to benefit clients and for other purposes that benefit only VGI -- VGI may use client commissions to pay only for that portion of the product or service that is used to benefit clients. The remainder must be paid for with hard dollars (cash). (An example of a mixed use product would be portfolio performance reports used for both investment research and marketing purposes.)

Trade Aggregation.

Based on the investment mandates of the funds or accounts it manages, VGI may seek to achieve best execution by "batching" or aggregating the orders of two or more funds or accounts when it reasonably believes that aggregating is in the best interest of those funds or accounts.

By combining orders, VGI may be able to obtain better trade executions and prices. Purchased securities or sale proceeds that result from aggregation will be allocated among the participating funds and accounts in an equitable manner. Although there may be no specified formula for allocating transactions, the allocation methods used (e.g., pro rata), and the results of such allocations, are subject to an internal order aggregation and allocation policy and procedures that are designed to ensure that all funds and accounts are treated in a fair and equitable manner.

REVIEW OF ACCOUNTS

VGI provides monthly written reports to Vanguard offshore fund clients that contain detailed information about each fund's trading and performance. The reports examine, as applicable, investment restriction monitoring, pricing accuracy, and fund compliance reporting. VGI also

meets on an at-least annual basis with offshore fund clients as part of the fund manager's investment management evaluations.

CLIENT REFERRALS AND OTHER COMPENSATION

VGI receives no economic benefits from persons that are not clients for providing investment advisory services to its clients.

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

CUSTODY

VGI in its capacity as investment advisor does not retain custody of client funds or securities. Vanguard offshore funds have a custodian that is listed in the relevant fund's governing documents. Separate account assets are maintained by a qualified custodian bank selected by the client. Such qualified custodian is responsible for safeguarding client assets and sending any relevant client statements. Clients should carefully review and compare any account statements they may receive from their custodian with any account statements they may receive from VGI.

INVESTMENT DISCRETION

VGI provides discretionary advisory services to Vanguard offshore funds based on investment guidelines that are set forth in the offshore fund's governing documents (i.e. prospectuses and supplements). Any limitations on VGI's discretionary authority are set forth in those guidelines.

Please also see the description of VGI's advisory services under the heading "Advisory Business."

VOTING CLIENT SECURITIES

Each Vanguard offshore fund advised by Vanguard retains the authority to vote proxies with respect to the shares of equity securities held in a portfolio advised by VGI. The Board of the trustee of each Vanguard offshore fund (the "Board") that invests in stocks has adopted proxy voting procedures and guidelines to govern proxy voting by each fund. The Board has delegated oversight of proxy voting administration to a Proxy Voting Group that is made up of VGI personnel that are not part of the investment advisory business. The Proxy Voting Group is subject to oversight by the Proxy Oversight Committee (the "Committee"), which is composed of senior officers of VGI. This Committee reports directly to the Board of VGI. VGI is subject to the Board's guidelines to the extent that the guidelines call for VGI to administer the voting process and implement the resulting voting decisions. Accordingly, VGI, in its role as investment advisor, does not exercise discretionary proxy voting authority with respect to

the securities held by the Vanguard offshore funds. VGI offshore fund clients may obtain information about how the Vanguard offshore funds voted on any individual proxy, or obtain a copy of the proxy voting policy and procedures, by submission of a written request to VGI through the client relationship manager.

VGI takes seriously its commitment to avoid potential conflicts of interest. The procedures require that voting personnel act as fiduciaries, and must conduct their activities at all times in accordance with the following standards: (i) fund shareholders' interests come first; (ii) conflicts of interest must be avoided; (iii) and compromising situations must be avoided. VGI maintains an important separation between the Proxy Voting Group and other groups within Vanguard that are responsible for sales, marketing, client service, and vendor/partner relationships. Proxy voting personnel are required to disclose potential conflicts of interest, and must recuse themselves from all voting decisions and engagement activities in such instances. In certain circumstances, Vanguard may refrain from voting shares of a company, or may engage an independent third-party fiduciary to vote proxies

FINANCIAL INFORMATION

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