PART B

VANGUARD® STAR® FUNDS

STATEMENT OF ADDITIONAL INFORMATION

February 27, 2024

This Statement of Additional Information is not a prospectus but should be read in conjunction with a Fund's current prospectus (dated February 27, 2024). To obtain, without charge, a prospectus or the most recent Annual Report to Shareholders, which contains the Fund's financial statements as hereby incorporated by reference, please contact The Vanguard Group, Inc. (Vanguard).

Phone: Investor Information Department at 800-662-7447
Online: vanguard.com

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DESCRIPTION OF THE TRUST

Vanguard STAR Funds (the Trust) currently offers the following funds and share classes (identified by ticker symbol):

	Share Classes[1]					
Fund[2]	**Investor**	**Admiral**	**Institutional**	**Institutional Plus**	**Institutional Select**	**ETF**
Vanguard LifeStrategy® Conservative Growth Fund[3]	VSCGX	—	—	—	—	—
Vanguard LifeStrategy Growth Fund[3]	VASGX	—	—	—	—	—
Vanguard LifeStrategy Income Fund[3]	VASIX	—	—	—	—	—
Vanguard LifeStrategy Moderate Growth Fund[3]	VSMGX	—	—	—	—	—
Vanguard STAR Fund	VGSTX	—	—	—	—	—
Vanguard Total International Stock Index Fund	VGTSX	VTIAX	VTSNX	VTPSX	VTISX	VXUS[4]

1 Individually, a class; collectively, the classes.
2 Individually, a Fund; collectively, the Funds.
3 Individually, a LifeStrategy Fund; collectively, the LifeStrategy Funds.
4 Exchange: Nasdaq

The Trust has the ability to offer additional funds or classes of shares. There is no limit on the number of full and fractional shares that may be issued for a single fund or class of shares.

Throughout this document, any references to “class” apply only to the extent a Fund issues multiple classes.

Organization

The Trust was organized as a Pennsylvania business trust in 1983 and was reorganized as a Delaware statutory trust in 1998. The Trust is registered with the United States Securities and Exchange Commission (SEC) under the Investment Company Act of 1940 (the 1940 Act) as an open-end management investment company. All Funds within the Trust are classified as diversified within the meaning of the 1940 Act.

Service Providers

Custodians. JPMorgan Chase Bank, N.A. 383 Madison Avenue, New York, NY 10179 serves as the Funds’ custodian. The custodian is responsible for maintaining the Funds’ assets, keeping all necessary accounts and records of Fund assets, and appointing any foreign subcustodians or foreign securities depositories.

Independent Registered Public Accounting Firm. PricewaterhouseCoopers LLP, Two Commerce Square, Suite 1800, 2001 Market Street, Philadelphia, PA 19103-7042, serves as the Funds’ independent registered public accounting firm. The independent registered public accounting firm audits the Funds’ annual financial statements and provides other related services.

Transfer and Dividend-Paying Agent. The Funds’ transfer agent and dividend-paying agent is Vanguard, P.O. Box 2600, Valley Forge, PA 19482.

Characteristics of the Funds’ Shares

Restrictions on Holding or Disposing of Shares. There are no restrictions on the right of shareholders to retain or dispose of a Fund’s shares, other than those described in the Fund’s current prospectus and elsewhere in this Statement of Additional Information. Each Fund or class may be terminated by reorganization into another mutual fund or class or by liquidation and distribution of the assets of the Fund or class. Unless terminated by reorganization or liquidation, each Fund and share class will continue indefinitely.

Shareholder Liability. The Trust is organized under Delaware law, which provides that shareholders of a statutory trust are entitled to the same limitations of personal liability as shareholders of a corporation organized under Delaware law. This means that a shareholder of a Fund generally will not be personally liable for payment of the Fund’s debts. Some state courts, however, may not apply Delaware law on this point. We believe that the possibility of such a situation arising is remote.

Dividend Rights. The shareholders of each class of a Fund are entitled to receive any dividends or other distributions declared by the Fund for each such class. No shares of a Fund have priority or preference over any other shares of the Fund with respect to distributions. Distributions will be made from the assets of the Fund and will be paid ratably to all shareholders of a particular class according to the number of shares of the class held by shareholders on the record date. The amount of dividends per share may vary between separate share classes of the Fund based upon differences in the net asset values of the different classes and differences in the way that expenses are allocated between share classes pursuant to a multiple class plan approved by the Fund’s board of trustees.

Voting Rights. Shareholders are entitled to vote on a matter if (1) the matter concerns an amendment to the Declaration of Trust that would adversely affect to a material degree the rights and preferences of the shares of a Fund or any class; (2) the trustees determine that it is necessary or desirable to obtain a shareholder vote; (3) a merger or consolidation, share conversion, share exchange, or sale of assets is proposed and a shareholder vote is required by the 1940 Act to approve the transaction; or (4) a shareholder vote is required under the 1940 Act. The 1940 Act requires a shareholder vote under various circumstances, including to elect or remove trustees upon the written request of shareholders representing 10% or more of a Fund’s net assets, to change any fundamental policy of a Fund (please see **Fundamental Policies**), and to enter into certain merger transactions. Unless otherwise required by applicable law, shareholders of a Fund receive one vote for each dollar of net asset value owned on the record date and a fractional vote for each fractional dollar of net asset value owned on the record date. However, only the shares of the Fund or the

class affected by a particular matter are entitled to vote on that matter. In addition, each class has exclusive voting rights on any matter submitted to shareholders that relates solely to that class, and each class has separate voting rights on any matter submitted to shareholders in which the interests of one class differ from the interests of another. Voting rights are noncumulative and cannot be modified without a majority vote by the shareholders.

Liquidation Rights. In the event that a Fund is liquidated, shareholders will be entitled to receive a pro rata share of the Fund's net assets. In the event that a class of shares is liquidated, shareholders of that class will be entitled to receive a pro rata share of the Fund's net assets that are allocated to that class. Shareholders may receive cash, securities, or a combination of the two.

Preemptive Rights. There are no preemptive rights associated with the Funds' shares.

Conversion Rights. Shareholders of Vanguard Total International Stock Index Fund may convert their shares to another class of shares of the same Fund upon the satisfaction of any then-applicable eligibility requirements, as described in the Fund's current prospectus. Shareholders of Vanguard Total International Stock Index Fund may convert their shares to another class of shares of the same Fund upon the satisfaction of any then-applicable eligibility requirements, as described in the Fund's current prospectus. ETF Shares cannot be converted into conventional shares of the Vanguard Total International Stock Index Fund by a shareholder. For additional information about the conversion rights applicable to ETF Shares, please see **Information About the ETF Share Class**. There are no conversion rights associated with the other Funds.

Redemption Provisions. Each Fund's redemption provisions are described in its current prospectus and elsewhere in this Statement of Additional Information.

Sinking Fund Provisions. The Funds have no sinking fund provisions.

Calls or Assessment. Each Fund's shares, when issued, are fully paid and non-assessable.

Shareholder Rights. Any limitations on a shareholder's right to bring an action do not apply to claims arising under the federal securities laws to the extent that any such federal securities laws, rules, or regulations do not permit such limitations.

Tax Status of the Funds

Each Fund expects to qualify each year for treatment as a "regulated investment company" under Subchapter M of the Internal Revenue Code of 1986, as amended (the IRC). This special tax status means that the Fund will not be liable for federal tax on income and capital gains distributed to shareholders. In order to preserve its tax status, each Fund must comply with certain requirements relating to the source of its income and the diversification of its assets. If a Fund fails to meet these requirements in any taxable year, the Fund will, in some cases, be able to cure such failure, including by paying a fund-level tax, paying interest, making additional distributions, and/or disposing of certain assets. If the Fund is ineligible to or otherwise does not cure such failure for any year, it will be subject to tax on its taxable income at corporate rates, and all distributions from earnings and profits, including any distributions of net tax-exempt income and net long-term capital gains, will be taxable to shareholders as ordinary income. In addition, the Fund could be required to recognize unrealized gains, pay substantial taxes and interest, and make substantial distributions before regaining its tax status as a regulated investment company.

Dividends received and distributed by each Fund on shares of stock of domestic corporations (excluding Real Estate Investment Trusts (REITs)) and certain foreign corporations generally may be eligible to be reported by the Fund, and treated by individual shareholders, as "qualified dividend income" taxed at long-term capital gain rates instead of at higher ordinary income tax rates. Individuals must satisfy holding period and other requirements in order to be eligible for such treatment. Also, distributions attributable to income earned on a Fund's securities lending transactions, including substitute dividend payments received by a Fund with respect to a security out on loan, will not be eligible for treatment as qualified dividend income.

Taxable ordinary dividends received and distributed by each Fund on its REIT holdings may be eligible to be reported by each Fund, and treated by individual shareholders, as "qualified REIT dividends" that are eligible for a 20% deduction on their federal income tax returns. Individuals must satisfy holding period and other requirements in order to be eligible for this deduction. Without further legislation, the deduction would sunset after 2025. Shareholders should consult their own tax professionals concerning their eligibility for this deduction.

Dividends received and distributed by each Fund on shares of stock of domestic corporations (excluding REITs) may be eligible for the dividends-received deduction applicable to corporate shareholders. Corporations must satisfy certain requirements in order to claim the deduction. Capital gains distributed by each Fund are not eligible for the dividends-received deduction.

Each Fund may declare a capital gain dividend consisting of the excess (if any) of net realized long-term capital gains over net realized short-term capital losses. Net capital gains for a fiscal year are computed by taking into account any capital loss carryforwards of the Fund. Capital losses may be carried forward indefinitely and retain their character as either short-term or long-term.

FUNDAMENTAL POLICIES

Each Fund is subject to the following fundamental investment policies, which cannot be changed in any material way without the approval of the holders of a majority of the Fund's shares. For these purposes, a "majority" of shares means shares representing the lesser of (1) 67% or more of the Fund's net assets voted, so long as shares representing more than 50% of the Fund's net assets are present or represented by proxy or (2) more than 50% of the Fund's net assets.

Borrowing. Each Fund may borrow money only as permitted by the 1940 Act or other governing statute, by the Rules thereunder, or by the SEC or other regulatory agency with authority over the Fund.

Commodities. Each Fund may invest in commodities only as permitted by the 1940 Act or other governing statute, by the Rules thereunder, or by the SEC or other regulatory agency with authority over the Fund.

Industry Concentration. For the Vanguard LifeStrategy Funds and Vanguard STAR Fund: Each Fund will not concentrate its investments in the securities of issuers whose principal business activities are in the same industry or same group of industries.

For Vanguard Total International Stock Index Fund: The Fund will not concentrate its investments in the securities of issuers whose principal business activities are in the same industry or group of industries, except as may be necessary to approximate the composition of its target index.

Investment Objective. The investment objectives of Vanguard LifeStrategy Conservative Growth Fund, Vanguard LifeStrategy Growth Fund, Vanguard LifeStrategy Income Fund, Vanguard LifeStrategy Moderate Growth Fund and Vanguard STAR Fund may not be materially changed without a shareholder vote.

Loans. Each Fund may make loans to another person only as permitted by the 1940 Act or other governing statute, by the Rules thereunder, or by the SEC or other regulatory agency with authority over the Fund.

Real Estate. Each Fund may not invest directly in real estate unless it is acquired as a result of ownership of securities or other instruments. This restriction shall not prevent a Fund from investing in securities or other instruments (1) issued by companies that invest, deal, or otherwise engage in transactions in real estate or (2) backed or secured by real estate or interests in real estate.

Senior Securities. Each Fund may not issue senior securities except as permitted by the 1940 Act or other governing statute, by the Rules thereunder, or by the SEC or other regulatory agency with authority over the Fund.

Underwriting. Each Fund may not act as an underwriter of another issuer's securities, except to the extent that the Fund may be deemed to be an underwriter within the meaning of the Securities Act of 1933 (the 1933 Act), in connection with the purchase and sale of portfolio securities.

Compliance with the fundamental policies previously described is generally measured at the time the securities are purchased. Unless otherwise required by the 1940 Act (as is the case with borrowing), if a percentage restriction is adhered to at the time the investment is made, a later change in percentage resulting from a change in the market value of assets will not constitute a violation of such restriction. All fundamental policies must comply with applicable regulatory requirements. For more details, see **Investment Strategies, Risks, and Nonfundamental Policies**.

None of these policies prevents the Funds from having an ownership interest in Vanguard. As a part owner of Vanguard, each Fund may own securities issued by Vanguard, make loans to Vanguard, and contribute to Vanguard's costs or other financial requirements. See **Management of the Funds** for more information.

INVESTMENT STRATEGIES, RISKS, AND NONFUNDAMENTAL POLICIES

Some of the investment strategies and policies described on the following pages and in each Fund's prospectus set forth percentage limitations on a Fund's investment in, or holdings of, certain securities or other assets. Unless otherwise required by law, compliance with these strategies and policies will be determined immediately after the acquisition of such securities or assets by the Fund. Subsequent changes in values, net assets, or other circumstances will not be considered when determining whether the investment complies with the Fund's investment strategies and policies.

The following investment strategies, risks, and policies supplement each Fund's investment strategies, risks, and policies set forth in the prospectus. With respect to the different investments discussed as follows, a Fund may acquire such investments to the extent consistent with its investment strategies and policies.

The Vanguard LifeStrategy Funds and Vanguard STAR Fund are indirectly exposed to the investment strategies and policies of the underlying Vanguard funds in which they invest and are therefore subject to all risks associated with the investment strategies and policies of the underlying Vanguard funds. The investment strategies and policies and associated risks detailed in this section also include those to which the Vanguard LifeStrategy Funds and Vanguard STAR Fund indirectly may be exposed through their investment in the underlying Vanguard funds.

Asset-Backed Securities. Asset-backed securities represent a participation in, or are secured by and payable from, pools of underlying assets such as debt securities, bank loans, motor vehicle installment sales contracts, installment loan contracts, leases of various types of real and personal property, receivables from revolving credit (i.e., credit card) agreements, and other categories of receivables. These underlying assets are securitized through the use of trusts and special purpose entities. Payment of interest and repayment of principal on asset-backed securities may be largely dependent upon the cash flows generated by the underlying assets backing the securities and, in certain cases, may be supported by letters of credit, surety bonds, or other credit enhancements. The rate of principal payments on asset-backed securities is related to the rate of principal payments, including prepayments, on the underlying assets. The credit quality of asset-backed securities depends primarily on the quality of the underlying assets, the level of credit support, if any, provided for the securities, and the credit quality of the credit-support provider, if any. The value of asset-backed securities may be affected by the various factors described above and other factors, such as changes in interest rates, the availability of information concerning the pool and its structure, the creditworthiness of the servicing agent for the pool, the originator of the underlying assets, or the entities providing the credit enhancement.

Asset-backed securities are often subject to more rapid repayment than their stated maturity date would indicate, as a result of the pass-through of prepayments of principal on the underlying assets. Prepayments of principal by borrowers or foreclosure or other enforcement action by creditors shortens the term of the underlying assets. The occurrence of prepayments is a function of several factors, such as the level of interest rates, the general economic conditions, the location and age of the underlying obligations, and other social and demographic conditions. A fund's ability to maintain positions in asset-backed securities is affected by the reductions in the principal amount of the underlying assets because of prepayments. A fund's ability to reinvest such prepayments of principal (as well as interest and other distributions and sale proceeds) at a comparable yield is subject to generally prevailing interest rates at that time. The value of asset-backed securities varies with changes in market interest rates generally and the differentials in yields among various kinds of U.S. government securities, mortgage-backed securities, and asset-backed securities. In periods of rising interest rates, the rate of prepayment tends to decrease, thereby lengthening the average life of the underlying securities. Conversely, in periods of falling interest rates, the rate of prepayment tends to increase, thereby shortening the average life of such assets. Because prepayments of principal generally occur when interest rates are declining, an investor, such as a fund, generally has to reinvest the proceeds of such prepayments at lower interest rates than those at which the assets were previously invested. Therefore, asset-backed securities have less potential for capital appreciation in periods of falling interest rates than other income-bearing securities of comparable maturity.

Because asset-backed securities generally do not have the benefit of a security interest in the underlying assets that is comparable to a mortgage, asset-backed securities present certain additional risks that are not present with mortgage-backed securities. For example, revolving credit receivables are generally unsecured and the debtors on such receivables are entitled to the protection of a number of state and federal consumer credit laws, many of which give debtors the right to set off certain amounts owed, thereby reducing the balance due. Automobile receivables generally are secured, but by automobiles rather than by real property. Most issuers of automobile receivables permit loan servicers to retain possession of the underlying assets. If the servicer of a pool of underlying assets sells them to another party, there is the risk that the purchaser could acquire an interest superior to that of holders of the asset-backed securities. In addition, because of the large number of vehicles involved in a typical issue of asset-backed securities and technical requirements under state law, the trustee for the holders of the automobile receivables may not

have a proper security interest in the automobiles. Therefore, there is the possibility that recoveries on repossessed collateral may not be available to support payments on these securities. Asset-backed securities have been, and may continue to be, subject to greater liquidity risks when worldwide economic and liquidity conditions deteriorate. In addition, government actions and proposals that affect the terms of underlying home and consumer loans, thereby changing demand for products financed by those loans, as well as the inability of borrowers to refinance existing loans, have had and may continue to have a negative effect on the valuation and liquidity of asset-backed securities.

Bank Loans, Loan Interests, and Direct Debt Instruments. Loan interests and direct debt instruments are interests in amounts owed by a corporate, governmental, or other borrower to lenders or lending syndicates (in the case of loans and loan participations); to suppliers of goods or services (in the case of trade claims or other receivables); or to other parties. These investments involve a risk of loss in case of default, insolvency, or the bankruptcy of the borrower; may not be deemed to be securities under certain federal securities laws; and may offer less legal protection to the purchaser in the event of fraud or misrepresentation, or there may be a requirement that a purchaser supply additional cash to a borrower on demand.

Purchasers of loans and other forms of direct indebtedness depend primarily upon the creditworthiness of the borrower for payment of interest and repayment of principal. Direct debt instruments may not be rated by a rating agency. If scheduled interest or principal payments are not made, or are not made in a timely manner, the value of the instrument may be adversely affected. Loans that are fully secured provide more protections than unsecured loans in the event of failure to make scheduled interest or principal payments. However, there is no assurance that the liquidation of collateral from a secured loan would satisfy the borrower's obligation or that the collateral could be liquidated. Indebtedness of borrowers whose creditworthiness is poor involves substantially greater risks and may be highly speculative. Borrowers that are in bankruptcy or restructuring may never pay off their indebtedness, or they may pay only a small fraction of the amount owed. Direct indebtedness of countries, particularly developing countries, also involves a risk that the governmental entities responsible for the repayment of the debt may be unable, or unwilling, to pay interest and repay principal when due.

Corporate loans and other forms of direct corporate indebtedness in which a fund may invest generally are made to finance internal growth, mergers, acquisitions, stock repurchases, refinancing of existing debt, leveraged buyouts, and other corporate activities. A significant portion of the corporate indebtedness purchased by a fund may represent interests in loans or debt made to finance highly leveraged corporate acquisitions (known as "leveraged buyout" transactions), leveraged recapitalization loans, and other types of acquisition financing. Another portion may also represent loans incurred in restructuring or "work-out" scenarios, including super-priority debtor-in-possession facilities in bankruptcy and acquisition of assets out of bankruptcy. Loans in restructuring or work-out scenarios may be especially vulnerable to the inherent uncertainties in restructuring processes. In addition, the highly leveraged capital structure of the borrowers in any such transactions, whether in acquisition financing or restructuring, may make such loans especially vulnerable to adverse or unusual economic or market conditions.

Loans and other forms of direct indebtedness generally are subject to restrictions on transfer, and only limited opportunities may exist to sell them in secondary markets. As a result, a fund may be unable to sell loans and other forms of direct indebtedness at a time when it may otherwise be desirable to do so or may be able to sell them only at a price that is less than their fair value.

Investments in loans through direct assignment of a financial institution's interests with respect to a loan may involve additional risks. For example, if a loan is foreclosed, the purchaser could become part owner of any collateral and would bear the costs and liabilities associated with owning and disposing of the collateral. In addition, it is at least conceivable that, under emerging legal theories of lender liability, a purchaser could be held liable as a co-lender. Direct debt instruments may also involve a risk of insolvency of the lending bank or other intermediary.

A loan is often administered by a bank or other financial institution that acts as agent for all holders. The agent administers the terms of the loan, as specified in the loan agreement. Unless the purchaser has direct recourse against the borrower, the purchaser may have to rely on the agent to apply appropriate credit remedies against a borrower under the terms of the loan or other indebtedness. If assets held by the agent for the benefit of a purchaser were determined to be subject to the claims of the agent's general creditors, the purchaser might incur certain costs and delays in realizing payment on the loan or loan participation and could suffer a loss of principal and/or interest.

Direct indebtedness may include letters of credit, revolving credit facilities, or other standby financing commitments that obligate purchasers to make additional cash payments on demand. These commitments may have the effect of requiring a purchaser to increase its investment in a borrower when it would not otherwise have done so, even if the borrower's condition makes it unlikely that the amount will ever be repaid.

A fund's investment policies will govern the amount of total assets that it may invest in any one issuer or in issuers within the same industry. For purposes of these limitations, a fund generally will treat the borrower as the "issuer" of indebtedness held by the fund. In the case of loan participations in which a bank or other lending institution serves as financial intermediary between a fund and the borrower, if the participation does not shift to the fund the direct debtor-creditor relationship with the borrower, SEC interpretations require the fund, in some circumstances, to treat both the lending bank or other lending institution and the borrower as "issuers" for purposes of the fund's investment policies. Treating a financial intermediary as an issuer of indebtedness may restrict a fund's ability to invest in indebtedness related to a single financial intermediary, or a group of intermediaries engaged in the same industry, even if the underlying borrowers represent many different companies and industries.

Borrowing. A fund's ability to borrow money is limited by its investment policies and limitations; by the 1940 Act; and by applicable exemptions, no-action letters, interpretations, and other pronouncements issued from time to time by the SEC and its staff or any other regulatory authority with jurisdiction. Under the 1940 Act, a fund is required to maintain continuous asset coverage (i.e., total assets including borrowings, less liabilities exclusive of borrowings) of 300% of the amount borrowed, with an exception for borrowings not in excess of 5% of the fund's total assets (at the time of borrowing) made for temporary or emergency purposes. Any borrowings for temporary purposes in excess of 5% of the fund's total assets must maintain continuous asset coverage. If the 300% asset coverage should decline as a result of market fluctuations or for other reasons, a fund may be required to sell some of its portfolio holdings within three days (excluding Sundays and holidays) to reduce the debt and restore the 300% asset coverage, even though it may be disadvantageous from an investment standpoint to sell securities at that time.

Borrowing will tend to exaggerate the effect on net asset value of any increase or decrease in the market value of a fund's portfolio. Money borrowed will be subject to interest costs that may or may not be recovered by earnings on the securities purchased with the proceeds of such borrowing. A fund also may be required to maintain minimum average balances in connection with a borrowing or to pay a commitment or other fee to maintain a line of credit; either of these requirements would increase the cost of borrowing over the stated interest rate.

A borrowing transaction will not be considered to constitute the issuance, by a fund, of a "senior security," as that term is defined in Section 18(g) of the 1940 Act, and therefore such transaction will not be subject to the 300% asset coverage requirement otherwise applicable to borrowings by a fund, if the fund complies with Rule 18f-4 under the 1940 Act.

Common Stock. Common stock represents an equity or ownership interest in an issuer. Common stock typically entitles the owner to vote on the election of directors and other important matters, as well as to receive dividends on such stock. In the event an issuer is liquidated or declares bankruptcy, the claims of owners of bonds, other debt holders, and owners of preferred stock take precedence over the claims of those who own common stock.

Convertible Securities. Convertible securities are hybrid securities that combine the investment characteristics of bonds and common stocks. Convertible securities typically consist of debt securities or preferred stock that may be converted (on a voluntary or mandatory basis) within a specified period of time (normally for the entire life of the security) into a certain amount of common stock or other equity security of the same or a different issuer at a predetermined price. Convertible securities also include debt securities with warrants or common stock attached and derivatives combining the features of debt securities and equity securities. Other convertible securities with features and risks not specifically referred to herein may become available in the future. Convertible securities involve risks similar to those of both fixed income and equity securities. In a corporation's capital structure, convertible securities are senior to common stock but are usually subordinated to senior debt obligations of the issuer.

The market value of a convertible security is a function of its "investment value" and its "conversion value." A security's "investment value" represents the value of the security without its conversion feature (i.e., a nonconvertible debt security). The investment value may be determined by reference to its credit quality and the current value of its yield to maturity or probable call date. At any given time, investment value is dependent upon such factors as the general level of interest rates, the yield of similar nonconvertible securities, the financial strength of the issuer, and the seniority of the security in the issuer's capital structure. A security's "conversion value" is determined by multiplying the number of shares the holder is entitled to receive upon conversion or exchange by the current price of the underlying security. If the conversion value of a convertible security is significantly below its investment value, the convertible security will trade like nonconvertible debt or preferred stock and its market value will not be influenced greatly by fluctuations in the market price of the underlying security. In that circumstance, the convertible security takes on the characteristics of a bond, and its price moves in the opposite direction from interest rates. Conversely, if the conversion value of a convertible security is near or above its investment value, the market value of the convertible security will be more heavily influenced by fluctuations in the market price of the underlying security. In that case, the convertible security's

price may be as volatile as that of common stock. Because both interest rates and market movements can influence its value, a convertible security generally is not as sensitive to interest rates as a similar debt security, nor is it as sensitive to changes in share price as its underlying equity security. Convertible securities are often rated below investment-grade or are not rated, and they are generally subject to a high degree of credit risk.

Although all markets are prone to change over time, the generally high rate at which convertible securities are retired (through mandatory or scheduled conversions by issuers or through voluntary redemptions by holders) and replaced with newly issued convertible securities may cause the convertible securities market to change more rapidly than other markets. For example, a concentration of available convertible securities in a few economic sectors could elevate the sensitivity of the convertible securities market to the volatility of the equity markets and to the specific risks of those sectors. Moreover, convertible securities with innovative structures, such as mandatory-conversion securities and equity-linked securities, have increased the sensitivity of the convertible securities market to the volatility of the equity markets and to the special risks of those innovations, which may include risks different from, and possibly greater than, those associated with traditional convertible securities. A convertible security may be subject to redemption at the option of the issuer at a price set in the governing instrument of the convertible security. If a convertible security held by a fund is subject to such redemption option and is called for redemption, the fund must allow the issuer to redeem the security, convert it into the underlying common stock, or sell the security to a third party.

Cybersecurity Risks. The increased use of technology to conduct business could subject a fund and its third-party service providers (including, but not limited to, investment advisors, transfer agents, and custodians) to risks associated with cybersecurity. In general, a cybersecurity incident can occur as a result of a deliberate attack designed to gain unauthorized access to digital systems. If the attack is successful, an unauthorized person or persons could misappropriate assets or sensitive information, corrupt data, or cause operational disruption. A cybersecurity incident could also occur unintentionally if, for example, an authorized person inadvertently released proprietary or confidential information. Vanguard has developed robust technological safeguards and business continuity plans to prevent, or reduce the impact of, potential cybersecurity incidents. Additionally, Vanguard has a process for assessing the information security and/or cybersecurity programs implemented by a fund's third-party service providers, which helps minimize the risk of potential incidents that could impact a Vanguard fund or its shareholders. Despite these measures, a cybersecurity incident still has the potential to disrupt business operations, which could negatively impact a fund and/or its shareholders. Some examples of negative impacts that could occur as a result of a cybersecurity incident include, but are not limited to, the following: a fund may be unable to calculate its net asset value (NAV), a fund's shareholders may be unable to transact business, a fund may be unable to process transactions, or a fund may be unable to safeguard its data or the personal information of its shareholders.

Debt Securities. A debt security, sometimes called a fixed income security, consists of a certificate or other evidence of a debt (secured or unsecured) upon which the issuer of the debt security promises to pay the holder a fixed, variable, or floating rate of interest for a specified length of time and to repay the debt on the specified maturity date. Some debt securities, such as zero-coupon bonds, do not make regular interest payments but are issued at a discount to their principal or maturity value. Debt securities include a variety of fixed income obligations, including, but not limited to, corporate bonds, government securities, municipal securities, convertible securities, mortgage-backed securities, and asset-backed securities. Debt securities include investment-grade securities, non-investment-grade securities, and unrated securities. Debt securities are subject to a variety of risks, such as interest rate risk, income risk, call risk, prepayment risk, extension risk, inflation risk, credit risk, liquidity risk, and (in the case of foreign securities) country risk and currency risk. The reorganization of an issuer under the federal bankruptcy laws or an out-of-court restructuring of an issuer's capital structure may result in the issuer's debt securities being cancelled without repayment, repaid only in part, or repaid in part or in whole through an exchange thereof for any combination of cash, debt securities, convertible securities, equity securities, or other instruments or rights in respect to the same issuer or a related entity.

Debt Securities—Inflation-Indexed Securities. Inflation-indexed securities are debt securities, the principal value of which is periodically adjusted to reflect the rate of inflation as indicated by the Consumer Price Index (CPI). Inflation-indexed securities may be issued by the U.S. government, by agencies and instrumentalities of the U.S. government, and by corporations. Two structures are common. The U.S. Treasury and some other issuers use a structure that accrues inflation into the principal value of the bond. Most other issuers pay out the CPI accruals as part of a semiannual coupon payment.

The periodic adjustment of U.S. inflation-indexed securities is tied to the CPI, which is calculated monthly by the U.S. Bureau of Labor Statistics. The CPI is a measurement of changes in the cost of living, made up of components such as

housing, food, transportation, and energy. Inflation-indexed securities issued by a foreign government are generally adjusted to reflect a comparable inflation index, calculated by that government. There can be no assurance that the CPI or any foreign inflation index will accurately measure the real rate of inflation in the prices of goods and services. Moreover, there can be no assurance that the rate of inflation in a foreign country will correlate to the rate of inflation in the United States.

Inflation—a general rise in prices of goods and services—erodes the purchasing power of an investor's portfolio. For example, if an investment provides a "nominal" total return of 5% in a given year and inflation is 2% during that period, the inflation-adjusted, or real, return is 3%. Inflation, as measured by the CPI, has generally occurred during the past 50 years, so investors should be conscious of both the nominal and real returns of their investments. Investors in inflation-indexed securities funds who do not reinvest the portion of the income distribution that is attributable to inflation adjustments will not maintain the purchasing power of the investment over the long term. This is because interest earned depends on the amount of principal invested, and that principal will not grow with inflation if the investor fails to reinvest the principal adjustment paid out as part of a fund's income distributions. Although inflation-indexed securities are expected to be protected from long-term inflationary trends, short-term increases in inflation may lead to a decline in value. If interest rates rise because of reasons other than inflation (e.g., changes in currency exchange rates), investors in these securities may not be protected to the extent that the increase is not reflected in the bond's inflation measure.

If the periodic adjustment rate measuring inflation (i.e., the CPI) falls, the principal value of inflation-indexed securities will be adjusted downward, and consequently the interest payable on these securities (calculated with respect to a smaller principal amount) will be reduced. Repayment of the original bond principal upon maturity (as adjusted for inflation) is guaranteed in the case of U.S. Treasury inflation-indexed securities, even during a period of deflation. However, the current market value of the inflation-indexed securities is not guaranteed and will fluctuate. Other inflation-indexed securities include inflation-related bonds, which may or may not provide a similar guarantee. If a guarantee of principal is not provided, the adjusted principal value of the bond repaid at maturity may be less than the original principal.

The value of inflation-indexed securities should change in response to changes in real interest rates. Real interest rates, in turn, are tied to the relationship between nominal interest rates and the rate of inflation. Therefore, if inflation were to rise at a faster rate than nominal interest rates, real interest rates might decline, leading to an increase in value of inflation-indexed securities. In contrast, if nominal interest rates were to increase at a faster rate than inflation, real interest rates might rise, leading to a decrease in value of inflation-indexed securities.

Coupon payments that a fund receives from inflation-indexed securities are included in the fund's gross income for the period during which they accrue. Any increase in principal for an inflation-indexed security resulting from inflation adjustments is considered by Internal Revenue Service (IRS) regulations to be taxable income in the year it occurs. For direct holders of an inflation-indexed security, this means that taxes must be paid on principal adjustments, even though these amounts are not received until the bond matures. By contrast, a fund holding these securities distributes both interest income and the income attributable to principal adjustments each quarter in the form of cash or reinvested shares (which, like principal adjustments, are taxable to shareholders). It may be necessary for the fund to liquidate portfolio positions, including when it is not advantageous to do so, in order to make required distributions.

Debt Securities—Non-Investment-Grade Securities. Non-investment-grade securities, also referred to as "high-yield securities" or "junk bonds," are debt securities that are rated lower than the four highest rating categories by a nationally recognized statistical rating organization (e.g., lower than Baa3/P-2 by Moody's Investors Service, Inc. (Moody's) or below BBB–/A-2 by Standard & Poor's Financial Services LLC (Standard & Poor's)) or, if unrated, are determined to be of comparable quality by the fund's advisor. These securities are generally considered to be, on balance, predominantly speculative with respect to capacity to pay interest and repay principal in accordance with the terms of the obligation, and they will generally involve more credit risk than securities in the investment-grade categories. Non-investment-grade securities generally provide greater income and opportunity for capital appreciation than higher quality securities, but they also typically entail greater price volatility and principal and income risk.

Analysis of the creditworthiness of issuers of high-yield securities may be more complex than for issuers of investment-grade securities. Thus, reliance on credit ratings in making investment decisions entails greater risks for high-yield securities than for investment-grade securities. The success of a fund's advisor in managing high-yield securities is more dependent upon its own credit analysis than is the case with investment-grade securities.

Some high-yield securities are issued by smaller, less-seasoned companies, while others are issued as part of a corporate restructuring such as an acquisition, a merger, or a leveraged buyout. Companies that issue high-yield

securities are often highly leveraged and may not have more traditional methods of financing available to them. Therefore, the risk associated with acquiring the securities of such issuers generally is greater than is the case with investment-grade securities. Some high-yield securities were once rated as investment-grade but have been downgraded to junk bond status because of financial difficulties experienced by their issuers.

The market values of high-yield securities tend to reflect individual issuer developments to a greater extent than do investment-grade securities, which in general react to fluctuations in the general level of interest rates. High-yield securities also tend to be more sensitive to economic conditions than are investment-grade securities. An actual or anticipated economic downturn or sustained period of rising interest rates, for example, could cause a decline in junk bond prices because the advent of a recession could lessen the ability of a highly leveraged company to make principal and interest payments on its debt securities. If an issuer of high-yield securities defaults, in addition to risking payment of all or a portion of interest and principal, a fund investing in such securities may incur additional expenses to seek recovery.

The secondary market on which high-yield securities are traded may be less liquid than the market for investment-grade securities. Less liquidity in the secondary trading market could adversely affect the ability of a fund's advisor to sell a high-yield security or the price at which a fund's advisor could sell a high-yield security, and it could also adversely affect the daily net asset value of fund shares. When secondary markets for high-yield securities are less liquid than the market for investment-grade securities, it may be more difficult to value the securities because such valuation may require more research, and elements of judgment may play a greater role in the valuation of the securities.

Except as otherwise provided in a fund's prospectus, if a credit rating agency changes the rating of a portfolio security held by a fund, the fund may retain the portfolio security if the advisor deems it in the best interests of shareholders.

Debt Securities—Structured and Indexed Securities. Structured securities (also called "structured notes") and indexed securities are derivative debt securities, the interest rate or principal of which is determined by an unrelated indicator. Indexed securities include structured notes as well as securities other than debt securities. The value of the principal of and/or interest on structured and indexed securities is determined by reference to changes in the value of a specific asset, reference rate, or index (the reference) or the relative change in two or more references. The interest rate or the principal amount payable upon maturity or redemption may be increased or decreased, depending upon changes in the applicable reference. The terms of the structured and indexed securities may provide that, in certain circumstances, no principal is due at maturity and, therefore, may result in a loss of invested capital. Structured and indexed securities may be positively or negatively indexed, so that appreciation of the reference may produce an increase or a decrease in the interest rate or value of the security at maturity. In addition, changes in the interest rate or the value of the structured or indexed security at maturity may be calculated as a specified multiple of the change in the value of the reference; therefore, the value of such security may be very volatile. Structured and indexed securities may entail a greater degree of market risk than other types of debt securities because the investor bears the risk of the reference. Structured or indexed securities may also be more volatile, less liquid, and more difficult to accurately price than less complex securities or more traditional debt securities, which could lead to an overvaluation or an undervaluation of the securities.

Debt Securities—U.S. Government Securities. The term "U.S. government securities" refers to a variety of debt securities that are issued or guaranteed by the U.S. Treasury, by various agencies of the U.S. government, or by various instrumentalities that have been established or sponsored by the U.S. government. The term also refers to repurchase agreements collateralized by such securities.

U.S. Treasury securities are backed by the full faith and credit of the U.S. government, meaning that the U.S. government is required to repay the principal in the event of default. Other types of securities issued or guaranteed by federal agencies and U.S. government-sponsored instrumentalities may or may not be backed by the full faith and credit of the U.S. government. The U.S. government, however, does not guarantee the market price of any U.S. government securities. In the case of securities not backed by the full faith and credit of the U.S. government, the investor must look principally to the agency or instrumentality issuing or guaranteeing the obligation for ultimate repayment and may not be able to assert a claim against the United States itself in the event the agency or instrumentality does not meet its commitment.

Some of the U.S. government agencies that issue or guarantee securities include the Government National Mortgage Association, the Export-Import Bank of the United States, the Federal Housing Administration, the Maritime Administration, the Small Business Administration, and the Tennessee Valley Authority. An instrumentality of the U.S. government is a government agency organized under federal charter with government supervision. Instrumentalities issuing or guaranteeing securities include, among others, the Federal Deposit Insurance Corporation, the Federal Home

Loan Banks, and the Federal National Mortgage Association. From time to time, uncertainty regarding the status of negotiations in the U.S. government to increase the statutory debt ceiling could increase the risk that the U.S. government may default on payments on certain U.S. government securities, cause the credit rating of the U.S. government to be downgraded, increase volatility in the stock and bond markets, result in higher interest rates, reduce prices of U.S. Treasury securities, and/or increase the costs of various kinds of debt. If a U.S. government-sponsored entity is negatively impacted by legislative or regulatory action, is unable to meet its obligations, or its creditworthiness declines, the performance of a fund that holds securities of the entity may be adversely impacted.

Debt Securities—Variable and Floating Rate Securities. Variable and floating rate securities are debt securities that provide for periodic adjustments in the interest rate paid on the security. Variable rate securities provide for a specified periodic adjustment in the interest rate, while floating rate securities have interest rates that change whenever there is a change in a designated benchmark or reference rate (such as the Secured Overnight Financing Rate (SOFR) or another reference rate) or the issuer's credit quality. There is a risk that the current interest rate on variable and floating rate securities may not accurately reflect current market interest rates or adequately compensate the holder for the current creditworthiness of the issuer. Some variable or floating rate securities are structured with liquidity features such as (1) put options or tender options that permit holders (sometimes subject to conditions) to demand payment of the unpaid principal balance plus accrued interest from the issuers or certain financial intermediaries or (2) auction-rate features, remarketing provisions, or other maturity-shortening devices designed to enable the issuer to refinance or redeem outstanding debt securities (market-dependent liquidity features). Variable or floating rate securities that include market-dependent liquidity features may have greater liquidity risk than other securities. The greater liquidity risk may exist, for example, because of the failure of a market-dependent liquidity feature to operate as intended (as a result of the issuer's declining creditworthiness, adverse market conditions, or other factors) or the inability or unwillingness of a participating broker-dealer to make a secondary market for such securities. As a result, variable or floating rate securities that include market-dependent liquidity features may lose value, and the holders of such securities may be required to retain them until the later of the repurchase date, the resale date, or the date of maturity. A demand instrument with a demand notice exceeding seven days may be considered illiquid if there is no secondary market for such security.

Debt Securities—Zero-Coupon and Pay-in-Kind Securities. Zero-coupon and pay-in-kind securities are debt securities that do not make regular cash interest payments. Zero-coupon securities generally do not pay interest. Zero-coupon Treasury bonds are U.S. Treasury notes and bonds that have been stripped of their unmatured interest coupons, or the coupons themselves, and also receipts or certificates representing an interest in such stripped debt obligations and coupons. The timely payment of coupon interest and principal on these instruments remains guaranteed by the full faith and credit of the U.S. government. Pay-in-kind securities pay interest through the issuance of additional securities. These securities are generally issued at a discount to their principal or maturity value. Because such securities do not pay current cash income, the price of these securities can be volatile when interest rates fluctuate. Although these securities do not pay current cash income, federal income tax law requires the holders of zero-coupon and pay-in-kind securities to include in income each year the portion of the original issue discount and other noncash income on such securities accrued during that year. Each fund that holds such securities intends to pass along such interest as a component of the fund's distributions of net investment income. It may be necessary for the fund to liquidate portfolio positions, including when it is not advantageous to do so, in order to make required distributions.

Depositary Receipts. Depositary receipts (also sold as participatory notes) are securities that evidence ownership interests in a security or a pool of securities that have been deposited with a "depository." Depositary receipts may be sponsored or unsponsored and include American Depositary Receipts (ADRs), European Depositary Receipts (EDRs), and Global Depositary Receipts (GDRs). For ADRs, the depository is typically a U.S. financial institution, and the underlying securities are issued by a foreign issuer. For other depositary receipts, the depository may be a foreign or a U.S. entity, and the underlying securities may have a foreign or a U.S. issuer. Depositary receipts will not necessarily be denominated in the same currency as their underlying securities. Generally, ADRs are issued in registered form, denominated in U.S. dollars, and designed for use in the U.S. securities markets. Other depositary receipts, such as GDRs and EDRs, may be issued in bearer form and denominated in other currencies, and they are generally designed for use in securities markets outside the United States. Although the two types of depositary receipt facilities (sponsored and unsponsored) are similar, there are differences regarding a holder's rights and obligations and the practices of market participants.

A depository may establish an unsponsored facility without participation by (or acquiescence of) the underlying issuer; typically, however, the depository requests a letter of nonobjection from the underlying issuer prior to establishing the facility. Holders of unsponsored depositary receipts generally bear all the costs of the facility. The depository usually

charges fees upon the deposit and withdrawal of the underlying securities, the conversion of dividends into U.S. dollars or other currency, the disposition of noncash distributions, and the performance of other services. The depository of an unsponsored facility frequently is under no obligation to distribute shareholder communications received from the underlying issuer or to pass through voting rights to depositary receipt holders with respect to the underlying securities.

Sponsored depositary receipt facilities are created in generally the same manner as unsponsored facilities, except that sponsored depositary receipts are established jointly by a depository and the underlying issuer through a deposit agreement. The deposit agreement sets out the rights and responsibilities of the underlying issuer, the depository, and the depositary receipt holders. With sponsored facilities, the underlying issuer typically bears some of the costs of the depositary receipts (such as dividend payment fees of the depository), although most sponsored depositary receipt holders may bear costs such as deposit and withdrawal fees. Depositories of most sponsored depositary receipts agree to distribute notices of shareholder meetings, voting instructions, and other shareholder communications and information to the depositary receipt holders at the underlying issuer's request.

For purposes of a fund's investment policies, investments in depositary receipts will be deemed to be investments in the underlying securities. Thus, a depositary receipt representing ownership of common stock will be treated as common stock. Depositary receipts do not eliminate all of the risks associated with directly investing in the securities of foreign issuers.

Derivatives. A derivative is a financial instrument that has a value based on—or "derived from"—the values of other assets, reference rates, or indexes. Derivatives may relate to a wide variety of underlying references, such as commodities, stocks, bonds, interest rates, currency exchange rates, and related indexes. Derivatives include futures contracts and options on futures contracts, certain forward-commitment transactions, options on securities, caps, floors, collars, swap agreements, and certain other financial instruments. Some derivatives, such as futures contracts and certain options, are traded on U.S. commodity and securities exchanges, while other derivatives, such as swap agreements, may be privately negotiated and entered into in the over-the-counter market (OTC Derivatives) or may be cleared through a clearinghouse (Cleared Derivatives) and traded on an exchange or swap execution facility. As a result of the Dodd-Frank Wall Street Reform and Consumer Protection Act (the Dodd-Frank Act), certain swap agreements, such as certain standardized credit default and interest rate swap agreements, must be cleared through a clearinghouse and traded on an exchange or swap execution facility. This could result in an increase in the overall costs of such transactions. While the intent of derivatives regulatory reform is to mitigate risks associated with derivatives markets, the regulations could, among other things, increase liquidity and decrease pricing for more standardized products while decreasing liquidity and increasing pricing for less standardized products. The risks associated with the use of derivatives are different from, and possibly greater than, the risks associated with investing directly in the securities or assets on which the derivatives are based.

Derivatives may be used for a variety of purposes, including—but not limited to—hedging, managing risk, seeking to stay fully invested, seeking to reduce transaction costs, seeking to simulate an investment in equity or debt securities or other investments, and seeking to add value by using derivatives to more efficiently implement portfolio positions when derivatives are favorably priced relative to equity or debt securities or other investments. Some investors may use derivatives primarily for speculative purposes while other uses of derivatives may not constitute speculation. There is no assurance that any derivatives strategy used by a fund's advisor will succeed. The other parties to a fund's OTC Derivatives contracts (usually referred to as "counterparties") will not be considered the issuers thereof for purposes of certain provisions of the 1940 Act and the IRC, although such OTC Derivatives may qualify as securities or investments under such laws. A fund's advisor(s), however, will monitor and adjust, as appropriate, the fund's credit risk exposure to OTC Derivative counterparties.

Derivative products are highly specialized instruments that require investment techniques and risk analyses different from those associated with stocks, bonds, and other traditional investments. The use of a derivative requires an understanding not only of the underlying instrument but also of the derivative itself, without the benefit of observing the performance of the derivative under all possible market conditions.

When a fund enters into a Cleared Derivative, an initial margin deposit with a Futures Commission Merchant (FCM) is required. Initial margin deposits are typically calculated as an amount equal to the volatility in market value of a Cleared Derivative over a fixed period. If the value of the fund's Cleared Derivatives declines, the fund will be required to make additional "variation margin" payments to the FCM to settle the change in value. If the value of the fund's Cleared Derivatives increases, the FCM will be required to make additional "variation margin" payments to the fund to settle the change in value. This process is known as "marking-to-market" and is calculated on a daily basis.

For OTC Derivatives, a fund is subject to the risk that a loss may be sustained as a result of the insolvency or bankruptcy of the counterparty or the failure of the counterparty to make required payments or otherwise comply with the terms of the contract. Additionally, the use of credit derivatives can result in losses if a fund's advisor does not correctly evaluate the creditworthiness of the issuer on which the credit derivative is based.

Derivatives may be subject to liquidity risk, which exists when a particular derivative is difficult to purchase or sell. If a derivative transaction is particularly large or if the relevant market is illiquid (as is the case with certain OTC Derivatives), it may not be possible to initiate a transaction or liquidate a position at an advantageous time or price.

Derivatives may be subject to pricing or "basis" risk, which exists when a particular derivative becomes extraordinarily expensive relative to historical prices or the prices of corresponding cash market instruments. Under certain market conditions, it may not be economically feasible to initiate a transaction or liquidate a position in time to avoid a loss or take advantage of an opportunity.

Because certain derivatives have a leverage component, adverse changes in the value or level of the underlying asset, reference rate, or index can result in a loss substantially greater than the amount invested in the derivative itself. Certain derivatives have the potential for unlimited loss, regardless of the size of the initial investment. A derivative transaction will not be considered to constitute the issuance, by a fund, of a "senior security," as that term is defined in Section 18(g) of the 1940 Act, and therefore such transaction will not be subject to the 300% asset coverage requirement otherwise applicable to borrowings by a fund, if the fund complies with Rule 18f-4.

Like most other investments, derivative instruments are subject to the risk that the market value of the instrument will change in a way detrimental to a fund's interest. A fund bears the risk that its advisor will incorrectly forecast future market trends or the values of assets, reference rates, indexes, or other financial or economic factors in establishing derivative positions for the fund. If the advisor attempts to use a derivative as a hedge against, or as a substitute for, a portfolio investment, the fund will be exposed to the risk that the derivative will have or will develop imperfect or no correlation with the portfolio investment. This could cause substantial losses for the fund. Although hedging strategies involving derivative instruments can reduce the risk of loss, they can also reduce the opportunity for gain or even result in losses by offsetting favorable price movements in other fund investments. Many derivatives (in particular, OTC Derivatives) are complex and often valued subjectively. Improper valuations can result in increased cash payment requirements to counterparties or a loss of value to a fund.

On October 28, 2020, the Securities and Exchange Commission adopted new regulations governing the use of derivatives by registered investment companies ("Rule 18f-4"). The Funds were required to implement and comply with Rule 18f-4 by August 19, 2022. Rule 18f-4 imposes limits on the amount of derivatives a fund can enter into, eliminates the asset segregation framework currently used by funds to comply with Section 18 of the 1940 Act, as amended, treats derivatives as senior securities, and requires funds whose use of derivatives is more than a limited specified exposure amount to establish and maintain a comprehensive derivatives risk management program and appoint a derivatives risk manager.

Each Fund intends to comply with Rule 4.5 under the Commodity Exchange Act (CEA), under which a fund may be excluded from the definition of the term Commodity Pool Operator (CPO) if the fund meets certain conditions such as limiting its investments in certain CEA-regulated instruments (e.g., futures, options, or swaps) and complying with certain marketing restrictions. Accordingly, Vanguard is not subject to registration or regulation as a CPO with respect to each Fund under the CEA. Each Fund will only enter into futures contracts and futures options that are traded on a U.S. or foreign exchange, board of trade, or similar entity or that are quoted on an automated quotation system.

Environmental, Social, and Governance (ESG) Considerations. Vanguard's Investment Stewardship Team, on behalf of the Board of Trustees of each Vanguard-advised U.S. fund, administers proxy voting for the equity holdings of the Vanguard-advised funds. The Investment Stewardship Team may engage with issuers to better understand how they are addressing material risks, including material environmental, social, or governance risks. Specifically, the Investment Stewardship Team may engage with company leaders and directors to understand how they oversee, mitigate, and disclose material risks to shareholders. With respect to material human-rights-related risks, where such matters are not addressed by applicable sanctions laws and regulations that restrict specific investments, the Investment Stewardship Team employs procedures to identify and monitor material human-rights-related risks to long-term shareholder returns at portfolio companies held by the Vanguard-advised funds and to understand how portfolio company boards are overseeing any such risks.

Exchange-Traded Funds. A fund may purchase shares of exchange-traded funds (ETFs). Typically, a fund would purchase ETF shares for the same reason it would purchase (and as an alternative to purchasing) futures contracts: to

obtain exposure to all or a portion of the stock or bond market. ETF shares enjoy several advantages over futures. Depending on the market, the holding period, and other factors, ETF shares can be less costly and more tax-efficient than futures. In addition, ETF shares can be purchased for smaller sums, offer exposure to market sectors and styles for which there is no suitable or liquid futures contract, and do not involve leverage.

An investment in an ETF generally presents the same principal risks as an investment in a conventional fund (i.e., one that is not exchange-traded) that has the same investment objective, strategies, and policies. The price of an ETF can fluctuate within a wide range, and a fund could lose money investing in an ETF if the prices of the securities owned by the ETF go down. In addition, ETFs are subject to the following risks that do not apply to conventional funds: (1) the market price of an ETF's shares may trade at a discount or a premium to their net asset value; (2) an active trading market for an ETF's shares may not develop or be maintained; and (3) trading of an ETF's shares may be halted by the activation of individual or marketwide trading halts (which halt trading for a specific period of time when the price of a particular security or overall market prices decline by a specified percentage). Trading of an ETF's shares may also be halted if the shares are delisted from the exchange without first being listed on another exchange or if the listing exchange's officials determine that such action is appropriate in the interest of a fair and orderly market or for the protection of investors.

Most ETFs are investment companies. Therefore, a fund's purchases of ETF shares generally are subject to the limitations on, and the risks of, a fund's investments in other investment companies, which are described under the heading *"Other Investment Companies."*

Foreign Securities. Typically, foreign securities are considered to be equity or debt securities issued by entities organized, domiciled, or with a principal executive office outside the United States, such as foreign corporations and governments. Securities issued by certain companies organized outside the United States may not be deemed to be foreign securities if the company's principal operations are conducted from the United States or when the company's equity securities trade principally on a U.S. stock exchange. Foreign securities may trade in U.S. or foreign securities markets. A fund may make foreign investments either directly by purchasing foreign securities or indirectly by purchasing depositary receipts or depositary shares of similar instruments (depositary receipts) for foreign securities. Direct investments in foreign securities may be made either on foreign securities exchanges or in the over-the-counter (OTC) markets. Investing in foreign securities involves certain special risk considerations that are not typically associated with investing in securities of U.S. companies or governments.

Because foreign issuers are not generally subject to uniform accounting, auditing, and financial reporting standards and practices comparable to those applicable to U.S. issuers, there may be less publicly available information about certain foreign issuers than about U.S. issuers. Evidence of securities ownership may be uncertain in many foreign countries. As a result, there are risks that could result in a loss to the fund, including, but not limited to, the risk that a fund's trade details could be incorrectly or fraudulently entered at the time of a transaction. Securities of foreign issuers are generally more volatile and less liquid than securities of comparable U.S. issuers, and foreign investments may be effected through structures that may be complex or confusing. In certain countries, there is less government supervision and regulation of stock exchanges, brokers, and listed companies than in the United States. The risk that securities traded on foreign exchanges may be suspended, either by the issuers themselves, by an exchange, or by government authorities, is also heightened. In addition, with respect to certain foreign countries, there is the possibility of expropriation or confiscatory taxation, political or social instability, war, terrorism, nationalization, limitations on the removal of funds or other assets, or diplomatic developments that could affect U.S. investments in those countries. Additionally, the imposition of economic or other sanctions on the United States by a foreign country, or on a foreign country or issuer by the United States, could impair a fund's ability to buy, sell, hold, receive, deliver, or otherwise transact in certain investment securities or obtain exposure to foreign securities and assets. This may negatively impact the value and/or liquidity of a fund's investments and could impair a fund's ability to meet its investment objective or invest in accordance with its investment strategy. Sanctions could also result in the devaluation of a country's currency, a downgrade in the credit ratings of a country or issuers in a country, or a decline in the value and/or liquidity of securities of issuers in that country.

Although an advisor will endeavor to achieve the most favorable execution costs for a fund's portfolio transactions in foreign securities under the circumstances, commissions and other transaction costs are generally higher than those on U.S. securities. In addition, it is expected that the custodian arrangement expenses for a fund that invests primarily in foreign securities will be somewhat greater than the expenses for a fund that invests primarily in domestic securities.

Additionally, bankruptcy laws vary by jurisdiction and cash deposits may be subject to a custodian's creditors. Certain foreign governments levy withholding or other taxes against dividend and interest income from, capital gains on the sale of, or transactions in foreign securities. Although in some countries a portion of these taxes is recoverable by the fund, the nonrecovered portion of foreign withholding taxes will reduce the income received from such securities.

The value of the foreign securities held by a fund that are not U.S. dollar-denominated may be significantly affected by changes in currency exchange rates. The U.S. dollar value of a foreign security generally decreases when the value of the U.S. dollar rises against the foreign currency in which the security is denominated, and it tends to increase when the value of the U.S. dollar falls against such currency (as discussed under the heading *"Foreign Securities—Foreign Currency Transactions,"* a fund may attempt to hedge its currency risks). In addition, the value of fund assets may be affected by losses and other expenses incurred from converting between various currencies in order to purchase and sell foreign securities, as well as by currency restrictions, exchange control regulations, currency devaluations, and political and economic developments.

Foreign Securities—China A-shares Risk. China A-shares (A-shares) are shares of mainland Chinese companies that are traded locally on the Shanghai and Shenzhen stock exchanges. A-shares investment by foreign investors are currently only available through the Qualified Foreign Investor (QFI) license or the China Stock Connect program. The developing state of the investment and banking systems of China subjects the settlement, clearing, and registration of securities transactions to heightened risks. Additionally, there are foreign ownership limitations that may result in limitations on investment or the return of profits if a fund purchases and sells shares of an issuer in which it owns 5% or more of the shares issued within a six-month period. It is unclear if the 5% ownership will be determined by aggregating the holdings of a fund with affiliated funds.

Due to these restrictions, it is possible that the A-shares quota available to a fund as a foreign investor may not be sufficient to meet the fund's investment needs. In this situation, a fund may seek an alternative method of economic exposure, such as by purchasing other classes of securities or depositary receipts or by utilizing derivatives. Any of these options could increase a fund's investment cost. Additionally, investing in A-shares generally increases emerging markets risk due in part to government and issuer market controls and the developing settlement and legal systems.

Investing in China A-shares through Stock Connect. The China Stock Connect program (Stock Connect) is a mutual market access program designed to, among other things, enable foreign investment in the PRC via brokers in Hong Kong. A QFI license is not required to trade via Stock Connect. There are significant risks inherent in investing in A-shares through Stock Connect. Specifically, trading can be affected by a number of issues. Stock Connect can only operate when both PRC and Hong Kong markets are open for trading and when banking services are available in both markets on the corresponding settlement days. As such, if one or both markets are closed on a U.S. trading day, a fund may not be able to dispose of its shares in a timely manner, which could adversely affect the fund's performance. Trading through Stock Connect may require pre-delivery or pre-validation of cash or securities to or by a broker. If the cash or securities are not in the broker's possession before the market opens on the day of selling, the sell order will be rejected. This requirement may limit a fund's ability to dispose of its A-shares purchased through Stock Connect in a timely manner.

Additionally, Stock Connect is subject to daily quota limitations on purchases into the PRC. Foreign investors, in the aggregate, are subject to ownership limitations for Shanghai or Shenzhen listed companies, including those purchased through Stock Connect. Once the daily quota is reached, orders to purchase additional A-shares through Stock Connect will be rejected. Only certain A-shares are eligible to be accessed through Stock Connect and such securities could lose their eligibility at any time. In addition, a fund's purchase of A-shares through Stock Connect may only be subsequently sold through Stock Connect and is not otherwise transferable. Stock Connect utilizes an omnibus clearing structure, and the fund's shares will be registered in its custodian's name on the Hong Kong Central Clearing and Settlement System. This may limit an advisor's ability to effectively manage a fund's holdings, including the potential enforcement of equity owner rights.

Foreign Securities—Emerging Market Risk. Investing in emerging market countries involves certain risks not typically associated with investing in the United States, and it imposes risks greater than, or in addition to, risks of investing in more developed foreign countries. These risks may significantly affect the value of emerging market investments and include: (i) nationalization or expropriation of assets or confiscatory taxation; (ii) currency devaluations and other currency exchange rate fluctuations; (iii) greater social, economic, and political uncertainty and instability (including amplified risk of war and terrorism); (iv) more substantial government involvement in and control over the economy; (v) less government supervision and regulation of the securities markets and participants in those markets and possible arbitrary and unpredictable enforcement of securities regulations and other laws, which may increase the risk of market manipulation; (vi) controls on foreign investment and limitations on repatriation of invested capital and on a fund's ability

to exchange local currencies for U.S. dollars; (vii) unavailability of currency-hedging techniques in certain emerging market countries; (viii) generally smaller, less seasoned, or newly organized companies; (ix) differences in, or lack of, corporate governance, accounting, auditing, recordkeeping, and financial reporting standards, which may result in unavailability of material information about issuers and impede evaluation of such issuers; (x) difficulty in obtaining and/or enforcing a judgment in a court outside the United States; and (xi) greater price volatility, substantially less liquidity, and significantly smaller market capitalization of securities markets. Also, any change in the leadership or politics of emerging market countries, or the countries that exercise a significant influence over those countries, may halt the expansion of or reverse the liberalization of foreign investment policies now occurring and adversely affect existing investment opportunities. Furthermore, high rates of inflation and rapid fluctuations in inflation rates have had, and may continue to have, negative effects on the economies and securities markets of certain emerging market countries. Custodial expenses and other investment-related costs are often more expensive in emerging market countries, which can reduce a fund's income from investments in securities or debt instruments of emerging market country issuers. Additionally, information regarding companies located in emerging markets may be less available and less reliable, which can impede the ability to evaluate such companies. There may also be limited regulatory oversight of certain foreign subcustodians that hold foreign securities subject to the supervision of a fund's primary U.S.-based custodian. A fund may be limited in its ability to recover assets if a foreign subcustodian becomes bankrupt or otherwise unable or unwilling to return assets to the fund, which may expose the fund to risk, especially in circumstances where the fund's primary custodian may not be contractually obligated to make the fund whole for the particular loss.

Emerging market investments also carry the risk that strained international relations may give rise to retaliatory actions, including actions through financial markets such as purchase and ownership restrictions, sanctions, tariffs, cyberattacks, and unpredictable enforcement of securities regulations and other laws. Such actual and/or threatened retaliatory actions may impact emerging market economies and issuers in which a fund invests. For example, in China, ownership of companies in certain sectors by foreign individuals and entities is prohibited. In order to facilitate investment in these companies by foreign individuals, many Chinese companies have created variable interest entities ("VIEs") that provide exposure to the Chinese company through contractual arrangements instead of equity ownership. VIE structures are subject to risks associated with breach of the contractual arrangements, including difficulty in enforcing any judgments outside of the United States, and do not offer the same level of investor protection as direct ownership. Additionally, while VIEs are a longstanding industry practice, they have not been approved by Chinese regulators. Chinese regulators could prohibit Chinese companies from accessing foreign investment through VIEs or sever their ability to transmit economic and governance rights to foreign individuals and entities. Such actions would significantly reduce, and possibly permanently eliminate, the market value of VIEs held by a fund.

Foreign Securities—Foreign Currency Transactions. The value in U.S. dollars of a fund's non-dollar-denominated foreign securities may be affected favorably or unfavorably by changes in foreign currency exchange rates and exchange control regulations, and the fund may incur costs in connection with conversions between various currencies. To seek to minimize the impact of such factors on net asset values, a fund may engage in foreign currency transactions in connection with its investments in foreign securities. A fund will enter into foreign currency transactions only to attempt to "hedge" the currency risk associated with investing in foreign securities. Although such transactions tend to minimize the risk of loss that would result from a decline in the value of the hedged currency, they also may limit any potential gain that might result should the value of such currency increase.

Currency exchange transactions may be conducted either on a spot (i.e., cash) basis at the rate prevailing in the currency exchange market or through forward contracts to purchase or sell foreign currencies. A forward currency contract involves an obligation to purchase or sell a specific currency at a future date, which may be any fixed number of days from the date of the contract agreed upon by the parties, at a price set at the time of the contract. These contracts are entered into with large commercial banks or other currency traders who are participants in the interbank market. Currency exchange transactions also may be effected through the use of swap agreements or other derivatives.

Currency exchange transactions may be considered borrowings. A currency exchange transaction will not be considered to constitute the issuance, by a fund, of a "senior security," as that term is defined in Section 18(g) of the 1940 Act, and therefore such transaction will not be subject to the 300% asset coverage requirement otherwise applicable to borrowings by a fund, if the fund complies with Rule 18f-4.

By entering into a forward contract for the purchase or sale of foreign currency involved in underlying security transactions, a fund may be able to protect itself against part or all of the possible loss between trade and settlement dates for that purchase or sale resulting from an adverse change in the relationship between the U.S. dollar and such foreign currency. This practice is sometimes referred to as "transaction hedging." In addition, when the advisor reasonably believes that a particular foreign currency may suffer a substantial decline against the U.S. dollar, a fund

may enter into a forward contract to sell an amount of foreign currency approximating the value of some or all of its portfolio securities denominated in such foreign currency. This practice is sometimes referred to as "portfolio hedging." Similarly, when the advisor reasonably believes that the U.S. dollar may suffer a substantial decline against a foreign currency, a fund may enter into a forward contract to buy that foreign currency for a fixed dollar amount.

A fund may also attempt to hedge its foreign currency exchange rate risk by engaging in currency futures, options, and "cross-hedge" transactions. In cross-hedge transactions, a fund holding securities denominated in one foreign currency will enter into a forward currency contract to buy or sell a different foreign currency (one that the advisor reasonably believes generally tracks the currency being hedged with regard to price movements). The advisor may select the tracking (or substitute) currency rather than the currency in which the security is denominated for various reasons, including in order to take advantage of pricing or other opportunities presented by the tracking currency or to take advantage of a more liquid or more efficient market for the tracking currency. Such cross-hedges are expected to help protect a fund against an increase or decrease in the value of the U.S. dollar against certain foreign currencies.

A fund may hold a portion of its assets in bank deposits denominated in foreign currencies so as to facilitate investment in foreign securities as well as protect against currency fluctuations and the need to convert such assets into U.S. dollars (thereby also reducing transaction costs). To the extent these assets are converted back into U.S. dollars, the value of the assets so maintained will be affected favorably or unfavorably by changes in foreign currency exchange rates and exchange control regulations.

Forecasting the movement of the currency market is extremely difficult. Whether any hedging strategy will be successful is highly uncertain. Moreover, it is impossible to forecast with precision the market value of portfolio securities at the expiration of a forward currency contract. Accordingly, a fund may be required to buy or sell additional currency on the spot market (and bear the expense of such transaction) if its advisor's predictions regarding the movement of foreign currency or securities markets prove inaccurate. In addition, the use of cross-hedging transactions may involve special risks and may leave a fund in a less advantageous position than if such a hedge had not been established. Because forward currency contracts are privately negotiated transactions, there can be no assurance that a fund will have flexibility to roll over a forward currency contract upon its expiration if it desires to do so. Additionally, there can be no assurance that the other party to the contract will perform its services thereunder.

Foreign Securities—Foreign Investment Companies. Some of the countries in which a fund may invest may not permit, or may place economic restrictions on, direct investment by outside investors. Fund investments in such countries may be permitted only through foreign government-approved or authorized investment vehicles, which may include other investment companies. Such investments may be made through registered or unregistered closed-end investment companies that invest in foreign securities. Investing through such vehicles may involve layered fees or expenses and may also be subject to the limitations on, and the risks of, a fund's investments in other investment companies, which are described under the heading *"Other Investment Companies."*

Foreign Securities—Russian Market Risk. Russia's large-scale invasion of Ukraine has resulted in sanctions against Russian governmental institutions, Russian entities, and Russian individuals that may result in the devaluation of Russian currency; a downgrade in the country's credit rating; a freeze of Russian foreign assets; a decline in the value and liquidity of Russian securities, properties, or interests; and other adverse consequences to the Russian economy and Russian assets. In addition, a fund's ability to price, buy, sell, receive, or deliver Russian investments has been and may continue to be impaired. These sanctions, and the resulting disruption of the Russian economy, may cause volatility in other regional and global markets and may negatively impact the performance of various sectors and industries, as well as companies in other countries, which could have a negative effect on the performance of a fund, even if the fund does not have direct exposure to securities of Russian issuers.

Futures Contracts and Options on Futures Contracts. Futures contracts and options on futures contracts are derivatives. A futures contract is a standardized agreement between two parties to buy or sell at a specific time in the future a specific quantity of a commodity at a specific price. The commodity may consist of an asset, a reference rate, or an index. A security futures contract relates to the sale of a specific quantity of shares of a single equity security or a narrow-based securities index. The value of a futures contract tends to increase and decrease in tandem with the value of the underlying commodity. The buyer of a futures contract enters into an agreement to purchase the underlying commodity on the settlement date and is said to be "long" the contract. The seller of a futures contract enters into an agreement to sell the underlying commodity on the settlement date and is said to be "short" the contract. The price at which a futures contract is entered into is established either in the electronic marketplace or by open outcry on the floor of an exchange between exchange members acting as traders or brokers. Open futures contracts can be liquidated or closed out by physical delivery of the underlying commodity or payment of the cash settlement amount on the settlement date, depending on the terms of the particular contract. Some financial futures contracts (such as security

futures) provide for physical settlement at maturity. Other financial futures contracts (such as those relating to interest rates, foreign currencies, and broad-based securities indexes) generally provide for cash settlement at maturity. In the case of cash-settled futures contracts, the cash settlement amount is equal to the difference between the final settlement or market price for the relevant commodity on the last trading day of the contract and the price for the relevant commodity agreed upon at the outset of the contract. Most futures contracts, however, are not held until maturity but instead are "offset" before the settlement date through the establishment of an opposite and equal futures position.

The purchaser or seller of a futures contract is not required to deliver or pay for the underlying commodity unless the contract is held until the settlement date. However, both the purchaser and seller are required to deposit "initial margin" with a futures commission merchant (FCM) when the futures contract is entered into. Initial margin deposits are typically calculated as an amount equal to the volatility in market value of a contract over a fixed period. If the value of the fund's position declines, the fund will be required to make additional "variation margin" payments to the FCM to settle the change in value. If the value of the fund's position increases, the FCM will be required to make additional "variation margin" payments to the fund to settle the change in value. This process is known as "marking-to-market" and is calculated on a daily basis. A futures transaction will not be considered to constitute the issuance, by a fund, of a "senior security," as that term is defined in Section 18(g) of the 1940 Act, and therefore such transaction will not be subject to the 300% asset coverage requirement otherwise applicable to borrowings by a fund, if the fund complies with Rule 18f-4.

An option on a futures contract (or futures option) conveys the right, but not the obligation, to purchase (in the case of a call option) or sell (in the case of a put option) a specific futures contract at a specific price (called the "exercise" or "strike" price) any time before the option expires. The seller of an option is called an option writer. The purchase price of an option is called the premium. The potential loss to an option buyer is limited to the amount of the premium plus transaction costs. This will be the case, for example, if the option is held and not exercised prior to its expiration date. Generally, an option writer sells options with the goal of obtaining the premium paid by the option buyer. If an option sold by an option writer expires without being exercised, the writer retains the full amount of the premium. The option writer, however, has unlimited economic risk because its potential loss, except to the extent offset by the premium received when the option was written, is equal to the amount the option is "in-the-money" at the expiration date. A call option is in-the-money if the value of the underlying futures contract exceeds the exercise price of the option. A put option is in-the-money if the exercise price of the option exceeds the value of the underlying futures contract. Generally, any profit realized by an option buyer represents a loss for the option writer.

A fund that takes the position of a writer of a futures option is required to deposit and maintain initial and variation margin with respect to the option, as previously described in the case of futures contracts. A futures option transaction will not be considered to constitute the issuance, by a fund, of a "senior security," as that term is defined in Section 18(g) of the 1940 Act, and therefore such transaction will not be subject to the 300% asset coverage requirement otherwise applicable to borrowings by a fund, if the fund complies with Rule 18f-4.

Futures Contracts and Options on Futures Contracts—Risks. The risk of loss in trading futures contracts and in writing futures options can be substantial because of the low margin deposits required, the extremely high degree of leverage involved in futures and options pricing, and the potential high volatility of the futures markets. As a result, a relatively small price movement in a futures position may result in immediate and substantial loss (or gain) for the investor. For example, if at the time of purchase, 10% of the value of the futures contract is deposited as margin, a subsequent 10% decrease in the value of the futures contract would result in a total loss of the margin deposit, before any deduction for the transaction costs, if the account were then closed out. A 15% decrease would result in a loss equal to 150% of the original margin deposit if the contract were closed out. Thus, a purchase or sale of a futures contract, and the writing of a futures option, may result in losses in excess of the amount invested in the position. In the event of adverse price movements, a fund would continue to be required to make daily cash payments to maintain its required margin. In such situations, if the fund has insufficient cash, it may have to sell portfolio securities to meet daily margin requirements at a time when it may be disadvantageous to do so. In addition, on the settlement date, a fund may be required to make delivery of the instruments underlying the futures positions it holds.

A fund could suffer losses if it is unable to close out a futures contract or a futures option because of an illiquid secondary market. Futures contracts and futures options may be closed out only on an exchange that provides a secondary market for such products. However, there can be no assurance that a liquid secondary market will exist for any particular futures product at any specific time. Thus, it may not be possible to close a futures or option position. Moreover, most futures exchanges limit the amount of fluctuation permitted in futures contract prices during a single trading day. The daily limit establishes the maximum amount that the price of a futures contract may vary either up or

down from the previous day's settlement price at the end of a trading session. Once the daily limit has been reached in a particular type of contract, no trades may be made on that day at a price beyond that limit. The daily limit governs only price movement during a particular trading day, and therefore does not limit potential losses because the limit may prevent the liquidation of unfavorable positions. Futures contract prices have occasionally moved to the daily limit for several consecutive trading days with little or no trading, thereby preventing prompt liquidation of future positions and subjecting some futures traders to substantial losses. The inability to close futures and options positions also could have an adverse impact on the ability to hedge a portfolio investment or to establish a substitute for a portfolio investment. U.S. Treasury futures are generally not subject to such daily limits.

A fund bears the risk that its advisor will incorrectly predict future market trends. If the advisor attempts to use a futures contract or a futures option as a hedge against, or as a substitute for, a portfolio investment, the fund will be exposed to the risk that the futures position will have or will develop imperfect or no correlation with the portfolio investment. This could cause substantial losses for the fund. Although hedging strategies involving futures products can reduce the risk of loss, they can also reduce the opportunity for gain or even result in losses by offsetting favorable price movements in other fund investments.

A fund could lose margin payments it has deposited with its FCM if, for example, the FCM breaches its agreement with the fund or becomes insolvent or goes into bankruptcy. In that event, the fund may be entitled to return of margin owed to it only in proportion to the amount received by the FCM's other customers, potentially resulting in losses to the fund.

Hybrid Instruments. A hybrid instrument, or hybrid, is an interest in an issuer that combines the characteristics of an equity security, a debt security, a commodity, and/or a derivative. A hybrid may have characteristics that, on the whole, more strongly suggest the existence of a bond, stock, or other traditional investment, but a hybrid may also have prominent features that are normally associated with a different type of investment. Moreover, hybrid instruments may be treated as a particular type of investment for one regulatory purpose (such as taxation) and may be simultaneously treated as a different type of investment for a different regulatory purpose (such as securities or commodity regulation). Hybrids can be used as an efficient means of pursuing a variety of investment goals, including increased total return, duration management, and currency hedging. Because hybrids combine features of two or more traditional investments and may involve the use of innovative structures, hybrids present risks that may be similar to, different from, or greater than those associated with traditional investments with similar characteristics.

Examples of hybrid instruments include convertible securities, which combine the investment characteristics of bonds and common stocks; perpetual bonds, which are structured like fixed income securities, have no maturity date, and may be characterized as debt or equity for certain regulatory purposes; contingent convertible securities, which are fixed income securities that, under certain circumstances, either convert into common stock of the issuer or undergo a principal write-down by a predetermined percentage if the issuer's capital ratio falls below a predetermined trigger level; and trust-preferred securities, which are preferred stocks of a special-purpose trust that holds subordinated debt of the corporate parent. Another example of a hybrid is a commodity-linked bond, such as a bond issued by an oil company that pays a small base level of interest with additional interest that accrues in correlation to the extent to which oil prices exceed a certain predetermined level. Such a hybrid would be a combination of a bond and a call option on oil.

In the case of hybrids that are structured like fixed income securities (such as structured notes), the principal amount or the interest rate is generally tied (positively or negatively) to the price of some commodity, currency, securities index, interest rate, or other economic factor (each, a benchmark). For some hybrids, the principal amount payable at maturity or the interest rate may be increased or decreased, depending on changes in the value of the benchmark. Other hybrids do not bear interest or pay dividends. The value of a hybrid or its interest rate may be a multiple of a benchmark and, as a result, may be leveraged and move (up or down) more steeply and rapidly than the benchmark, thus magnifying movements within the benchmark. These benchmarks may be sensitive to economic and political events, such as commodity shortages and currency devaluations, which cannot be readily foreseen by the purchaser of a hybrid. Under certain conditions, the redemption value of a hybrid could be zero. Thus, an investment in a hybrid may entail significant market risks that are not associated with a similar investment in a traditional, U.S. dollar-denominated bond with a fixed principal amount that pays a fixed rate or floating rate of interest. The purchase of hybrids also exposes a fund to the credit risk of the issuer of the hybrids. Depending on the level of a fund's investment in hybrids, these risks may cause significant fluctuations in the fund's net asset value. Hybrid instruments may also carry liquidity risk since the instruments are often "customized" to meet the needs of an issuer or, sometimes, the portfolio needs of a particular investor, and therefore the number of investors that are willing and able to buy such instruments in the secondary market may be smaller than that for more traditional securities.

Certain issuers of hybrid instruments known as structured products may be deemed to be investment companies as defined in the 1940 Act. As a result, a fund's investments in these products may be subject to the limitations described under the heading *"Other Investment Companies."*

Interfund Borrowing and Lending. The SEC has granted an exemption permitting registered open-end Vanguard funds to participate in Vanguard's interfund lending program. This program allows the Vanguard funds to borrow money from and lend money to each other for temporary or emergency purposes. The program is subject to a number of conditions, including, among other things, the requirements that (1) no fund may borrow or lend money through the program unless it receives a more favorable interest rate than is typically available from a bank for a comparable transaction, (2) no fund may lend money if the loan would cause its aggregate outstanding loans through the program to exceed 15% of its net assets at the time of the loan, and (3) a fund's interfund loans to any one fund shall not exceed 5% of the lending fund's net assets. In addition, a Vanguard fund may participate in the program only if and to the extent that such participation is consistent with the fund's investment objective and investment policies. The boards of trustees of the Vanguard funds are responsible for overseeing the interfund lending program. Any delay in repayment to a lending fund could result in a lost investment opportunity or additional borrowing costs.

Investing for Control. Each Vanguard fund invests in securities and other instruments for the sole purpose of achieving a specific investment objective. As such, a Vanguard fund does not seek to acquire, individually or collectively with any other Vanguard fund, enough of a company's outstanding voting stock to have control over management decisions. A Vanguard fund does not invest for the purpose of controlling a company's management.

Mortgage-Backed Securities. Mortgage-backed securities represent direct or indirect participation in, or are collateralized by and payable from, mortgage loans secured by real property or instruments derived from such loans and may be based on different types of mortgages, including those on residential properties or commercial real estate. Mortgage-backed securities include various types of securities, such as government stripped mortgage-backed securities, adjustable rate mortgage-backed securities, and collateralized mortgage obligations.

Generally, mortgage-backed securities represent partial interests in pools of mortgage loans assembled for sale to investors by various governmental agencies, such as the Government National Mortgage Association (GNMA); by government-related organizations, such as the Federal National Mortgage Association (FNMA) and the Federal Home Loan Mortgage Corporation (FHLMC); and by private issuers, such as commercial banks, savings and loan institutions, and mortgage bankers. The average maturity of pass-through pools of mortgage-backed securities in which a fund may invest varies with the maturities of the underlying mortgage instruments. In addition, a pool's average maturity may be shortened by unscheduled payments on the underlying mortgages. Factors affecting mortgage prepayments include the level of interest rates, the general economic and social conditions, the location of the mortgaged property, and the age of the mortgage. Because prepayment rates of individual mortgage pools vary widely, the average life of a particular pool cannot be predicted accurately.

Mortgage-backed securities may be classified as private, government, or government-related, depending on the issuer or guarantor. Private mortgage-backed securities represent interest in pass-through pools consisting principally of conventional residential or commercial mortgage loans created by nongovernment issuers, such as commercial banks, savings and loan associations, and private mortgage insurance companies. Private mortgage-backed securities may not be readily marketable. In addition, mortgage-backed securities have been subject to greater liquidity risk when worldwide economic and liquidity conditions deteriorate. U.S. government mortgage-backed securities are backed by the full faith and credit of the U.S. government. GNMA, the principal U.S. guarantor of these securities, is a wholly owned U.S. government corporation within the Department of Housing and Urban Development. Government-related mortgage-backed securities are not backed by the full faith and credit of the U.S. government. Issuers include FNMA and FHLMC, which are congressionally chartered corporations. In September 2008, the U.S. Treasury placed FNMA and FHLMC under conservatorship and appointed the Federal Housing Finance Agency (FHFA) to manage their daily operations. In addition, the U.S. Treasury entered into purchase agreements with FNMA and FHLMC to provide them with capital in exchange for senior preferred stock. Pass-through securities issued by FNMA are guaranteed as to timely payment of principal and interest by FNMA. Participation certificates representing interests in mortgages from FHLMC's national portfolio are guaranteed as to the timely payment of interest and principal by FHLMC. Private, government, or government-related entities may create mortgage loan pools offering pass-through investments in addition to those described above. The mortgages underlying these securities may be alternative mortgage instruments (i.e., mortgage instruments whose principal or interest payments may vary or whose terms to maturity may be shorter than customary).

Mortgage-backed securities are often subject to more rapid repayment than their stated maturity date would indicate as a result of the pass-through of prepayments of principal on the underlying loans. Prepayments of principal by mortgagors or mortgage foreclosures shorten the term of the mortgage pool underlying the mortgage-backed security. A

fund's ability to maintain positions in mortgage-backed securities is affected by the reductions in the principal amount of such securities resulting from prepayments. A fund's ability to reinvest prepayments of principal at comparable yield is subject to generally prevailing interest rates at that time. The values of mortgage-backed securities vary with changes in market interest rates generally and the differentials in yields among various kinds of government securities, mortgage-backed securities, and asset-backed securities. In periods of rising interest rates, the rate of prepayment tends to decrease, thereby lengthening the average life of a pool of mortgages supporting a mortgage-backed security. Conversely, in periods of falling interest rates, the rate of prepayment tends to increase, thereby shortening the average life of such a pool. Because prepayments of principal generally occur when interest rates are declining, an investor, such as a fund, generally has to reinvest the proceeds of such prepayments at lower interest rates than those at which its assets were previously invested. Therefore, mortgage-backed securities have less potential for capital appreciation in periods of falling interest rates than other income-bearing securities of comparable maturity.

Mortgage-Backed Securities—Adjustable Rate Mortgage-Backed Securities. Adjustable rate mortgage-backed securities (ARMBSs) have interest rates that reset at periodic intervals. Acquiring ARMBSs permits a fund to participate in increases in prevailing current interest rates through periodic adjustments in the coupons of mortgages underlying the pool on which ARMBSs are based. Such ARMBSs generally have higher current yield and lower price fluctuations than is the case with more traditional fixed income debt securities of comparable rating and maturity. However, because the interest rates on ARMBSs are reset only periodically, changes in market interest rates or in the issuer's creditworthiness may affect their value. In addition, when prepayments of principal are made on the underlying mortgages during periods of rising interest rates, a fund can reinvest the proceeds of such prepayments at rates higher than those at which they were previously invested. Mortgages underlying most ARMBSs, however, have limits on the allowable annual or lifetime increases that can be made in the interest rate that the mortgagor pays. Therefore, if current interest rates rise above such limits over the period of the limitation, a fund holding an ARMBS does not benefit from further increases in interest rates. Moreover, when interest rates are in excess of coupon rates (i.e., the rates being paid by mortgagors) of the mortgages, ARMBSs behave more like fixed income securities and less like adjustable rate securities and are thus subject to the risks associated with fixed income securities. In addition, during periods of rising interest rates, increases in the coupon rate of adjustable rate mortgages generally lag current market interest rates slightly, thereby creating the potential for capital depreciation on such securities.

Mortgage-Backed Securities—Collateralized Mortgage Obligations. Collateralized mortgage obligations (CMOs) are mortgage-backed securities that are collateralized by whole loan mortgages or mortgage pass-through securities. The bonds issued in a CMO transaction are divided into groups, and each group of bonds is referred to as a "tranche." Under the traditional CMO structure, the cash flows generated by the mortgages or mortgage pass-through securities in the collateral pool are used to first pay interest and then pay principal to the CMO bondholders. The bonds issued under a traditional CMO structure are retired sequentially as opposed to the pro-rata return of principal found in traditional pass-through obligations. Subject to the various provisions of individual CMO issues, the cash flow generated by the underlying collateral (to the extent it exceeds the amount required to pay the stated interest) is used to retire the bonds. Under a CMO structure, the repayment of principal among the different tranches is prioritized in accordance with the terms of the particular CMO issuance. The "fastest-pay" tranches of bonds, as specified in the prospectus for the issuance, would initially receive all principal payments. When those tranches of bonds are retired, the next tranche (or tranches) in the sequence, as specified in the prospectus, receives all of the principal payments until that tranche is retired. The sequential retirement of bond groups continues until the last tranche is retired. Accordingly, the CMO structure allows the issuer to use cash flows of long-maturity, monthly pay collateral to formulate securities with short, intermediate, and long final maturities and expected average lives and risk characteristics.

In recent years, new types of CMO tranches have evolved. These include floating rate CMOs, planned amortization classes, accrual bonds, and CMO residuals. These newer structures affect the amount and timing of principal and interest received by each tranche from the underlying collateral. Under certain of these new structures, given classes of CMOs have priority over others with respect to the receipt of prepayments on the mortgages. Therefore, depending on the type of CMOs in which a fund invests, the investment may be subject to a greater or lesser risk of prepayment than other types of mortgage-backed securities.

CMOs may include real estate mortgage investment conduits (REMICs). REMICs, which were authorized under the Tax Reform Act of 1986, are private entities formed for the purpose of holding a fixed pool of mortgages secured by an interest in real property. A REMIC is a CMO that qualifies for special tax treatment under the IRC and invests in certain mortgages principally secured by interests in real property. Investors may purchase beneficial interests in REMICs, which are known as "regular" interests, or "residual" interests. Guaranteed REMIC pass-through certificates (REMIC Certificates) issued by FNMA or FHLMC represent beneficial ownership interests in a REMIC trust consisting principally

of mortgage loans or FNMA, FHLMC, or GNMA-guaranteed mortgage pass-through certificates. For FHLMC REMIC Certificates, FHLMC guarantees the timely payment of interest and also guarantees the payment of principal, as payments are required to be made on the underlying mortgage participation certificates. FNMA REMIC Certificates are issued and guaranteed as to timely distribution of principal and interest by FNMA.

The primary risk of CMOs is the uncertainty of the timing of cash flows that results from the rate of prepayments on the underlying mortgages serving as collateral and from the structure of the particular CMO transaction (i.e., the priority of the individual tranches). An increase or decrease in prepayment rates (resulting from a decrease or increase in mortgage interest rates) will affect the yield, the average life, and the price of CMOs. The prices of certain CMOs, depending on their structure and the rate of prepayments, can be volatile. Some CMOs may also not be as liquid as other securities.

Mortgage-Backed Securities—Hybrid ARMs. A hybrid adjustable rate mortgage (hybrid ARM) is a type of mortgage in which the interest rate is fixed for a specified period and then resets periodically, or floats, for the remaining mortgage term. Hybrid ARMs are usually referred to by their fixed and floating periods. For example, a 5/1 ARM refers to a mortgage with a 5-year fixed interest rate period, followed by a 1-year interest rate adjustment period. During the initial interest period (i.e., the initial five years for a 5/1 hybrid ARM), hybrid ARMs behave more like fixed income securities and are thus subject to the risks associated with fixed income securities. All hybrid ARMs have reset dates. A reset date is the date when a hybrid ARM changes from a fixed interest rate to a floating interest rate. At the reset date, a hybrid ARM can adjust by a maximum specified amount based on a margin over an identified index. Like ARMBSs, hybrid ARMs have periodic and lifetime limitations on the increases that can be made to the interest rates that mortgagors pay. Therefore, if during a floating rate period interest rates rise above the interest rate limits of the hybrid ARM, a fund holding the hybrid ARM does not benefit from further increases in interest rates.

Mortgage-Backed Securities—Mortgage Dollar Rolls. A mortgage dollar roll is a transaction in which a fund sells a mortgage-backed security to a dealer and simultaneously agrees to purchase a similar security (but not the same security) in the future at a predetermined price. A mortgage-dollar-roll program may be structured to simulate an investment in mortgage-backed securities at a potentially lower cost, or with potentially reduced administrative burdens, than directly holding mortgage-backed securities. For accounting purposes, each transaction in a mortgage dollar roll is viewed as a separate purchase and sale of a mortgage-backed security. These transactions may increase a fund's portfolio turnover rate. The fund receives cash for a mortgage-backed security in the initial transaction and enters into an agreement that requires the fund to purchase a similar mortgage-backed security in the future.

The counterparty with which a fund enters into a mortgage-dollar-roll transaction is obligated to provide the fund with similar securities to purchase as those originally sold by the fund. These securities generally must (1) be issued by the same agency and be part of the same program; (2) have similar original stated maturities; (3) have identical net coupon rates; and (4) satisfy "good delivery" requirements, meaning that the aggregate principal amounts of the securities delivered and received back must be within a certain percentage of the initial amount delivered. Mortgage dollar rolls will be used only if consistent with a fund's investment objective and strategies and will not be used to change a fund's risk profile.

Mortgage-Backed Securities—Stripped Mortgage-Backed Securities. Stripped mortgage-backed securities (SMBSs) are derivative multiclass mortgage-backed securities. SMBSs may be issued by agencies or instrumentalities of the U.S. government or by private originators of, or investors in, mortgage loans, including savings and loan associations, mortgage banks, commercial banks, investment banks, and special purpose entities formed or sponsored by any of the foregoing.

SMBSs are usually structured with two classes that receive different proportions of the interest and principal distributions on a pool of mortgage assets. A common type of SMBS will have one class receiving some of the interest and most of the principal from the mortgage assets, while the other class will receive most of the interest and the remainder of the principal. In the most extreme case, one class will receive all of the interest (the "IO" class), while the other class will receive all of the principal (the principal-only or "PO" class). The price and yield to maturity on an IO class are extremely sensitive to the rate of principal payments (including prepayments) on the related underlying mortgage assets, and a rapid rate of principal payments may have a material adverse effect on a fund's yield to maturity from these securities. If the underlying mortgage assets experience greater than anticipated prepayments of principal, a fund may fail to recoup some or all of its initial investment in these securities, even if the security is in one of the highest rating categories.

Although SMBSs are purchased and sold by institutional investors through several investment banking firms acting as brokers or dealers, these securities were only recently developed. As a result, established trading markets have not yet developed, and accordingly, these securities may be deemed "illiquid" and thus subject to a fund's limitations on investment in illiquid securities.

Municipal Bonds. Municipal bonds are debt obligations issued by states, municipalities, U.S. jurisdictions or territories, and other political subdivisions and by agencies, authorities, and instrumentalities of states and multistate agencies or authorities (collectively, municipalities). Typically, the interest payable on municipal bonds is, in the opinion of bond counsel to the issuer at the time of issuance, exempt from federal income tax.

Municipal bonds include securities from a variety of sectors, each of which has unique risks, and can be divided into government bonds (i.e., bonds issued to provide funding for governmental projects, such as public roads or schools) and conduit bonds (i.e., bonds issued to provide funding for a third-party permitted to use municipal bond proceeds, such as airports or hospitals). The Funds will not concentrate in any one industry or group of industries; tax-exempt securities issued by states, municipalities, and their political subdivisions are not considered to be part of an industry. However, if a municipal bond's income is derived from a specific project, the securities will be considered to be from the industry of that project. Municipal bonds include, but are not limited to, general obligation bonds, limited obligation bonds, and revenue bonds, including industrial development bonds issued pursuant to federal tax law.

General obligation bonds are secured by the issuer's pledge of its full faith, credit, and taxing power for the payment of principal and interest. Limited obligation bonds are payable only from the revenues derived from a particular facility or class of facilities or, in some cases, from the proceeds of a special excise or other specific revenue source. Revenue or special tax bonds are payable only from the revenues derived from a particular facility or class of facilities or, in some cases, from the proceeds of a special excise or other tax, but not from general tax revenues.

Revenue bonds involve the credit risk of the underlying project or enterprise (or its corporate user) rather than the credit risk of the issuing municipality. Under the IRC, certain limited obligation bonds are considered "private activity bonds," and interest paid on such bonds is treated as an item of tax preference for purposes of calculating federal alternative minimum tax liability. Tax-exempt private activity bonds and industrial development bonds generally are also classified as revenue bonds and thus are not payable from the issuer's general revenues. The credit and quality of private activity bonds and industrial development bonds are usually related to the credit of the corporate user of the facilities. Payment of interest on and repayment of principal of such bonds are the responsibility of the corporate user (and/or any guarantor). Some municipal bonds may be issued as variable or floating rate securities and may incorporate market-dependent liquidity features (see discussion of *"Debt Securities—Variable and Floating Rate Securities"*). A tax-exempt fund will generally invest only in securities deemed tax-exempt by a nationally recognized bond counsel, but there is no guarantee that the interest payments on municipal bonds will continue to be tax-exempt for the life of the bonds.

Some longer-term municipal bonds give the investor a "put option," which is the right to sell the security back to the issuer at par (face value) prior to maturity, within a specified number of days following the investor's request—usually one to seven days. This demand feature enhances a security's liquidity by shortening its maturity and enables it to trade at a price equal to or very close to par. If a demand feature terminates prior to being exercised, a fund would hold the longer-term security, which could experience substantially more volatility. Municipal bonds that are issued as variable or floating rate securities incorporating market-dependent liquidity features may have greater liquidity risk than other municipal bonds (see discussion of *"Debt Securities—Variable and Floating Rate Securities"*).

Some municipal bonds feature credit enhancements, such as lines of credit, letters of credit, municipal bond insurance, and standby bond purchase agreements (SBPAs). SBPAs include lines of credit that are issued by a third party, usually a bank, to enhance liquidity and ensure repayment of principal and any accrued interest if the underlying municipal bond should default. Municipal bond insurance (which is usually purchased by the bond issuer from a private, nongovernmental insurance company) provides an unconditional and irrevocable guarantee that the insured bond's principal and interest will be paid when due. Insurance does not guarantee the price of the bond or the share price of any fund. The credit quality of an insured bond reflects the higher of the credit quality of the insurer, based on its claims-paying ability, or the credit quality of the underlying bond issuer or obligor. The obligation of a municipal bond insurance company to pay a claim extends over the life of each insured bond. Although defaults on insured municipal bonds have been historically low and municipal bond insurers historically have met their claims, there is no assurance this will continue. A higher-than-expected default rate could strain the insurer's loss reserves and adversely affect its ability to pay claims to bondholders. The number of municipal bond insurers is relatively small, and not all of them are assessed as high credit quality. An SBPA can include a liquidity facility that is provided to pay the purchase price of any

bonds that cannot be remarketed. The obligation of the liquidity provider (usually a bank) is only to advance funds to purchase tendered bonds that cannot be remarketed and does not cover principal or interest under any other circumstances. The liquidity provider's obligations under the SBPA are usually subject to numerous conditions, including the continued creditworthiness of the underlying borrower or bond issuer.

Municipal bonds also include tender option bonds, which are municipal derivatives created by dividing the income stream provided by an underlying security, such as municipal bonds or preferred shares issued by a tax-exempt bond fund, to create two securities issued by a special-purpose trust, one short-term and one long-term. The interest rate on the short-term component is periodically reset. The short-term component has negligible interest rate risk, while the long-term component has all of the risk of the underlying security. After income is paid on the short-term securities at current rates, the residual income goes to the long-term securities. Therefore, rising short-term interest rates result in lower income for the longer-term portion, and vice versa. The longer-term components can be very volatile and may be less liquid than other municipal bonds of comparable maturity. These securities have been developed in the secondary market to meet the demand for short-term, tax-exempt securities.

Municipal securities also include a variety of structures geared toward accommodating municipal-issuer short-term cash-flow requirements. These structures include, but are not limited to, general market notes, commercial paper, put bonds, and variable-rate demand obligations (VRDOs). VRDOs comprise a significant percentage of the outstanding debt in the short-term municipal market. VRDOs can be structured to provide a wide range of maturity options (1 day to over 360 days) to the underlying issuing entity and are typically issued at par. The longer the maturity option, the greater the degree of liquidity risk (the risk of not receiving an asking price of par or greater) and reinvestment risk (the risk that the proceeds from maturing bonds must be reinvested at a lower interest rate).

Although most municipal bonds are exempt from federal income tax, some are not. Taxable municipal bonds include Build America Bonds (BABs). The borrowing costs of BABs are subsidized by the federal government, but BABs are subject to state and federal income tax. BABs were created pursuant to the American Recovery and Reinvestment Act of 2009 (ARRA) to offer an alternative form of financing to state and local governments whose primary means for accessing the capital markets had been through the issuance of tax-exempt municipal bonds. BABs also include Recovery Zone Economic Development Bonds, which are subsidized more heavily by the federal government than other BABs and are designed to finance certain types of projects in distressed geographic areas.

Under ARRA, an issuer of a BAB is entitled to receive payments from the U.S. Treasury over the life of the BAB equal to 35% of the interest paid (or 45% of the interest paid in the case of a Recovery Zone Economic Development Bond). For example, if a state or local government were to issue a BAB at a taxable interest rate of 10% of the par value of the bond, the U.S. Treasury would make a payment directly to the issuing government of 35% of that interest (3.5% of the par value of the bond) or 45% of the interest (4.5% of the par value of the bond) in the case of a Recovery Zone Economic Development Bond. Thus, the state or local government's net borrowing cost would be 6.5% or 5.5%, respectively, on BABs that pay 10% interest. In other cases, holders of a BAB receive a 35% or 45% tax credit, respectively. The BAB program expired on December 31, 2010. BABs outstanding prior to the expiration of the program continue to be eligible for the federal interest rate subsidy or tax credit, which continues for the life of the BABs; however, the federal interest rate subsidy or tax credit has been reduced by the government sequester. Additionally, bonds issued following expiration of the program are not eligible for federal payment or tax credit. In addition to BABs, a fund may invest in other municipal bonds that pay taxable interest.

The reorganization under the federal bankruptcy laws of an issuer of, or payment obligor with respect to, municipal bonds may result in the municipal bonds being canceled without repayment; repaid only in part; or repaid in part or whole through an exchange thereof for any combination of cash, municipal bonds, debt securities, convertible securities, equity securities, or other instruments or rights in respect to the same issuer or payment obligor or a related entity. Certain issuers are not eligible to file for bankruptcy.

Municipal Bonds—Risks. Municipal bonds are subject to credit risk. The yields of municipal bonds depend on, among other things, general money market conditions, conditions in the municipal bond market, size of a particular offering, maturity of the obligation, and credit quality of the issue. Consequently, municipal bonds with the same maturity, coupon, and credit quality may have different yields, while municipal bonds of the same maturity and coupon, but with different credit quality, may have the same yield. It is the responsibility of a fund's investment management advisor to appraise independently the fundamental quality of bonds held by the fund. Information about the financial condition of an issuer of municipal bonds may not be as extensive as that which is made available by corporations whose securities are publicly traded. Obligations of issuers of municipal bonds are generally subject to the provisions of bankruptcy, insolvency, and other laws affecting the rights and remedies of creditors.

Congress, state legislatures, or other governing authorities may seek to extend the time for payment of principal or interest, or both, or to impose other constraints upon enforcement of such obligations. For example, from time to time, proposals have been introduced before Congress to restrict or eliminate the federal income tax exemption for interest on municipal bonds. Also, from time to time, proposals have been introduced before state and local legislatures to restrict or eliminate the state and local income tax exemption for interest on municipal bonds. Similar proposals may be introduced in the future. If any such proposal were enacted, it might restrict or eliminate the ability of a fund to achieve its respective investment objective. In that event, the fund's trustees and officers would reevaluate its investment objective and policies and consider recommending to its shareholders changes in such objective and policies.

There is also the possibility that, as a result of litigation or other conditions, the power or ability of issuers to meet their obligations for the payment of interest and principal on their municipal bonds may be materially affected or their obligations may be found to be invalid or unenforceable. Such litigation or conditions may, from time to time, have the effect of introducing uncertainties in the market for municipal bonds or certain segments thereof or of materially affecting the credit risk with respect to particular bonds. Adverse economic, business, legal, or political developments might affect all or a substantial portion of a fund's municipal bonds in the same manner. For example, a state specific tax-exempt fund is subject to state-specific risk, which is the chance that the fund, because it invests primarily in securities issued by a particular state and its municipalities, is more vulnerable to unfavorable developments in that state than are funds that invest in municipal securities of many states. Unfavorable developments in any economic sector may have far-reaching ramifications on a state's overall municipal market. In the event that a particular obligation held by a fund is assessed at a credit quality below the minimum investment level permitted by the investment policies of such fund, the fund's investment advisor, pursuant to oversight from the trustees, will carefully assess the creditworthiness of the obligation to determine whether it continues to meet the policies and objective of the fund.

Municipal bonds are subject to interest rate risk, which is the chance that bond prices will decline over short or even long periods because of rising interest rates. Interest rate risk is higher for long-term bonds, whose prices are much more sensitive to interest rate changes than are the prices of shorter-term bonds. Generally, prices of longer-maturity issues tend to fluctuate more than prices of shorter-maturity issues. Prices and yields on municipal bonds are dependent on a variety of factors, such as the financial condition of the issuer, the general conditions of the municipal bond market, the size of a particular offering, the maturity of the obligation, and the rating of the issue. A number of these factors, including the ratings of particular issues, are subject to change from time to time.

Municipal bonds are subject to call risk, which is 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. A fund would then lose any 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. Some of these investments may generate taxable income, and thus a fund may need to distribute income subject to federal personal income tax or the alternative minimum tax. Call risk is generally high for long-term bonds. Conversely, municipal bonds are also subject to extension risk, which is 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. Extension risk is generally high for long-term bonds.

Municipal bonds may be deemed to be illiquid as determined by or in accordance with methods adopted by a fund's board of trustees. In determining the liquidity and appropriate valuation of a municipal bond, a fund's advisor may consider the following factors relating to the security, among others: (1) the frequency of trades and quotes; (2) the number of dealers willing to purchase or sell the security; (3) the willingness of dealers to undertake to make a market; (4) the nature of the marketplace trades, including the time needed to dispose of the security, the method of soliciting offers, and the mechanics of transfer; and (5) the factors unique to a particular security, including general creditworthiness of the issuer and the likelihood that the marketability of the securities will be maintained throughout the time the security is held by the fund.

Options. An option is a derivative. An option on a security (or index) is a contract that gives the holder of the option, in return for the payment of a "premium," the right, but not the obligation, to buy from (in the case of a call option) or sell to (in the case of a put option) the writer of the option the security underlying the option (or the cash value of the index) at a specified exercise price prior to the expiration date of the option. The writer of an option on a security has the obligation upon exercise of the option to deliver the underlying security upon payment of the exercise price (in the case of a call option) or to pay the exercise price upon delivery of the underlying security (in the case of a put option). The writer of an option on an index has the obligation upon exercise of the option to pay an amount equal to the cash value of the index minus the exercise price, multiplied by the specified multiplier for the index option. The multiplier for an index option determines the size of the investment position the option represents. Unlike exchange-traded options,

which are standardized with respect to the underlying instrument, expiration date, contract size, and strike price, the terms of over-the-counter (OTC) options (options not traded on exchanges) generally are established through negotiation with the other party to the option contract. Although this type of arrangement allows the purchaser or writer greater flexibility to tailor an option to its needs, OTC options generally involve credit risk to the counterparty, whereas for exchange-traded, centrally cleared options, credit risk is mutualized through the involvement of the applicable clearing house.

The buyer (or holder) of an option is said to be "long" the option, while the seller (or writer) of an option is said to be "short" the option. A call option grants to the holder the right to buy (and obligates the writer to sell) the underlying security at the strike price, which is the predetermined price at which the option may be exercised. A put option grants to the holder the right to sell (and obligates the writer to buy) the underlying security at the strike price. The purchase price of an option is called the "premium." The potential loss to an option buyer is limited to the amount of the premium plus transaction costs. This will be the case if the option is held and not exercised prior to its expiration date. Generally, an option writer sells options with the goal of obtaining the premium paid by the option buyer, but that person could also seek to profit from an anticipated rise or decline in option prices. If an option sold by an option writer expires without being exercised, the writer retains the full amount of the premium. The option writer, however, has unlimited economic risk because its potential loss, except to the extent offset by the premium received when the option was written, is equal to the amount the option is "in-the-money" at the expiration date. A call option is in-the-money if the value of the underlying position exceeds the exercise price of the option. A put option is in-the-money if the exercise price of the option exceeds the value of the underlying position. Generally, any profit realized by an option buyer represents a loss for the option writer. The writing of an option will not be considered to constitute the issuance, by a fund, of a "senior security," as that term is defined in Section 18(g) of the 1940 Act, and therefore such transaction will not be subject to the 300% asset coverage requirement otherwise applicable to borrowings by a fund, if the fund complies with Rule 18f-4.

If a trading market, in particular options, were to become unavailable, investors in those options (such as the funds) would be unable to close out their positions until trading resumes, and they may be faced with substantial losses if the value of the underlying instrument moves adversely during that time. Even if the market were to remain available, there may be times when options prices will not maintain their customary or anticipated relationships to the prices of the underlying instruments and related instruments. Lack of investor interest, changes in volatility, or other factors or conditions might adversely affect the liquidity, efficiency, continuity, or even the orderliness of the market for particular options.

A fund bears the risk that its advisor will not accurately predict future market trends. If the advisor attempts to use an option as a hedge against, or as a substitute for, a portfolio investment, the fund will be exposed to the risk that the option will have or will develop imperfect or no correlation with the portfolio investment, which could cause substantial losses for the fund. Although hedging strategies involving options can reduce the risk of loss, they can also reduce the opportunity for gain or even result in losses by offsetting favorable price movements in other fund investments. Many options, in particular OTC options, are complex and often valued based on subjective factors. Improper valuations can result in increased cash payment requirements to counterparties or a loss of value to a fund.

OTC Swap Agreements. An over-the-counter (OTC) swap agreement, which is a type of derivative, is an agreement between two parties (counterparties) to exchange payments at specified dates (periodic payment dates) on the basis of a specified amount (notional amount) with the payments calculated with reference to a specified asset, reference rate, or index.

Examples of OTC swap agreements include, but are not limited to, interest rate swaps, credit default swaps, equity swaps, commodity swaps, foreign currency swaps, index swaps, excess return swaps, and total return swaps. Most OTC swap agreements provide that when the periodic payment dates for both parties are the same, payments are netted and only the net amount is paid to the counterparty entitled to receive the net payment. Consequently, a fund's current obligations (or rights) under an OTC swap agreement will generally be equal only to the net amount to be paid or received under the agreement, based on the relative values of the positions held by each counterparty. OTC swap agreements allow for a wide variety of transactions. For example, fixed rate payments may be exchanged for floating rate payments; U.S. dollar-denominated payments may be exchanged for payments denominated in a different currency; and payments tied to the price of one asset, reference rate, or index may be exchanged for payments tied to the price of another asset, reference rate, or index.

An OTC option on an OTC swap agreement, also called a "swaption," is an option that gives the buyer the right, but not the obligation, to enter into a swap on a future date in exchange for paying a market-based "premium." A receiver swaption gives the owner the right to receive the total return of a specified asset, reference rate, or index. A payer swaption gives the owner the right to pay the total return of a specified asset, reference rate, or index. Swaptions also include options that allow an existing swap to be terminated or extended by one of the counterparties.

The use of OTC swap agreements by a fund entails certain risks, which may be different from, or possibly greater than, the risks associated with investing directly in the securities and other investments that are the referenced asset for the swap agreement. OTC swaps are highly specialized instruments that require investment techniques, risk analyses, and tax planning different from those associated with stocks, bonds, and other traditional investments. The use of an OTC swap requires an understanding not only of the referenced asset, reference rate, or index but also of the swap itself, without the benefit of observing the performance of the swap under all possible market conditions.

OTC swap agreements may be subject to liquidity risk, which exists when a particular swap is difficult to purchase or sell. If an OTC swap transaction is particularly large or if the relevant market is illiquid (as is the case with many OTC swaps), it may not be possible to initiate a transaction or liquidate a position at an advantageous time or price, which may result in significant losses. In addition, OTC swap transactions may be subject to a fund's limitation on investments in illiquid securities.

OTC swap agreements may be subject to pricing risk, which exists when a particular swap becomes extraordinarily expensive or inexpensive relative to historical prices or the prices of corresponding cash market instruments. Under certain market conditions, it may not be economically feasible to initiate a transaction or liquidate a position in time to avoid a loss or take advantage of an opportunity or to realize the intrinsic value of the OTC swap agreement.

Because certain OTC swap agreements have a leverage component, adverse changes in the value or level of the underlying asset, reference rate, or index can result in a loss substantially greater than the amount invested in the swap itself. Certain OTC swaps have the potential for unlimited loss, regardless of the size of the initial investment. A leveraged OTC swap transaction will not be considered to constitute the issuance, by a fund, of a "senior security," as that term is defined in Section 18(g) of the 1940 Act, and therefore such transaction will not be subject to the 300% asset coverage requirement otherwise applicable to borrowings by a fund, if the fund complies with Rule 18f-4.

Like most other investments, OTC swap agreements are subject to the risk that the market value of the instrument will change in a way detrimental to a fund's interest. A fund bears the risk that its advisor will not accurately forecast future market trends or the values of assets, reference rates, indexes, or other economic factors in establishing OTC swap positions for the fund. If the advisor attempts to use an OTC swap as a hedge against, or as a substitute for, a portfolio investment, the fund will be exposed to the risk that the OTC swap will have or will develop imperfect or no correlation with the portfolio investment. This could cause substantial losses for the fund. Although hedging strategies involving OTC swap instruments can reduce the risk of loss, they can also reduce the opportunity for gain or even result in losses by offsetting favorable price movements in other fund investments. Many OTC swaps are complex and often valued subjectively. Improper valuations can result in increased cash payment requirements to counterparties or a loss of value to a fund.

The use of an OTC swap agreement also involves the risk that a loss may be sustained as a result of the insolvency or bankruptcy of the counterparty or the failure of the counterparty to make required payments or otherwise comply with the terms of the agreement. Additionally, the use of credit default swaps can result in losses if a fund's advisor does not correctly evaluate the creditworthiness of the issuer on which the credit swap is based.

Other Investment Companies. A fund may invest in other investment companies, including ETFs, non-exchange traded U.S. registered open-end investment companies (mutual funds), and closed-end investment companies, to the extent permitted by applicable law or SEC exemption. Under Section 12(d)(1) of the 1940 Act, a fund may invest up to 10% of its assets in shares of investment companies generally and up to 5% of its assets in any one investment company, as long as no investment represents more than 3% of the voting stock of an acquired investment company. In addition, no funds for which Vanguard acts as an advisor may, in the aggregate, own more than 10% of the voting stock of a closed-end investment company. SEC Rule 12d1-4 under the 1940 Act permits registered investment companies to invest in other registered investment companies beyond the limits in Section 12(d)(1), subject to certain conditions, including that funds with different investment advisors must enter into a fund of funds investment agreement. Rule 12d1-4 is also designed to limit the use of complex fund structures. Under Rule 12d1-4, an acquired fund is prohibited from purchasing or otherwise acquiring the securities of another investment company or private fund if, immediately after the purchase, the securities of investment companies and private funds owned by the acquired fund have an aggregate value in excess of 10% of the value of the acquired fund's total assets, subject to certain limited

exceptions. Accordingly, to the extent a fund's shares are sold to other investment companies in reliance on Rule 12d1-4, the acquired fund will be limited in the amount it could invest in other investment companies and private funds. If a fund invests in other investment companies, shareholders will bear not only their proportionate share of the fund's expenses (including operating expenses and the fees of the advisor), but they also may indirectly bear similar expenses of the underlying investment companies. Certain investment companies, such as business development companies (BDCs), are more akin to operating companies and, as such, their expenses are not direct expenses paid by fund shareholders and are not used to calculate the fund's net asset value. SEC rules nevertheless require that any expenses incurred by a BDC be included in a fund's expense ratio as "Acquired Fund Fees and Expenses." The expense ratio of a fund that holds a BDC will thus overstate what the fund actually spends on portfolio management, administrative services, and other shareholder services by an amount equal to these Acquired Fund Fees and Expenses. The Acquired Fund Fees and Expenses are not included in a fund's financial statements, which provide a clearer picture of a fund's actual operating expenses. Shareholders would also be exposed to the risks associated not only with the investments of the fund but also with the portfolio investments of the underlying investment companies. Certain types of investment companies, such as closed-end investment companies, issue a fixed number of shares that typically trade on a stock exchange or over-the-counter at a premium or discount to their net asset value. Others are continuously offered at net asset value but also may be traded on the secondary market.

A fund may be limited to purchasing a particular share class of other investment companies (underlying funds). In certain cases, an investor may be able to purchase lower-cost shares of such underlying funds separately, and therefore be able to construct, and maintain over time, a similar portfolio of investments while incurring lower overall expenses.

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 the 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 the 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 totally held 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 the fund that may affect the amount, timing, and character of distributions to shareholders.

Preferred Stock. Preferred stock represents an equity or ownership interest in an issuer. Preferred stock normally pays dividends at a specified rate and has precedence over common stock in the event the issuer is liquidated or declares bankruptcy. However, in the event an issuer is liquidated or declares bankruptcy, the claims of owners of bonds take precedence over the claims of those who own preferred and common stock. Preferred stock, unlike common stock, often has a stated dividend rate payable from the corporation's earnings. Preferred stock dividends may be cumulative or noncumulative, participating, or auction rate. "Cumulative" dividend provisions require all or a portion of prior unpaid dividends to be paid before dividends can be paid to the issuer's common stock. "Participating" preferred stock may be entitled to a dividend exceeding the stated dividend in certain cases. If interest rates rise, the fixed dividend on preferred stocks may be less attractive, causing the price of such stocks to decline. Preferred stock may have mandatory sinking fund provisions, as well as provisions allowing the stock to be called or redeemed, which can limit the benefit of a decline in interest rates. Preferred stock is subject to many of the risks to which common stock and debt securities are subject. In addition, preferred stock may be subject to more abrupt or erratic price movements than common stock or debt securities because preferred stock may trade with less frequency and in more limited volume.

Real Estate Investment Trusts (REITs). An equity REIT owns real estate properties directly and generates income from rental and lease payments. Equity REITs also have the potential to generate capital gains as properties are sold at a profit. A mortgage REIT makes construction, development, and long-term mortgage loans to commercial real estate developers and earns interest income on these loans. A hybrid REIT holds both properties and mortgages. To avoid taxation at the corporate level, REITs must distribute most of their earnings to shareholders.

Investments in REITs are subject to many of the same risks as direct investments in real estate. In general, real estate values can be affected by a variety of factors, including, but not limited to, supply and demand for properties, general or local economic conditions, and the strength of specific industries that rent properties. Ultimately, a REIT's performance depends on the types and locations of the properties it owns and on how well the REIT manages its properties. For example, rental income could decline because of extended vacancies, increased competition from nearby properties, tenants' failure to pay rent, regulatory limitations on rents, fluctuations in rental income, variations in market rental rates, or incompetent management. Property values could decrease because of overbuilding in the area, environmental liabilities, uninsured damages caused by natural disasters, a general decline in the neighborhood, losses because of casualty or condemnation, increases in property taxes, or changes in zoning laws.

The value of a REIT may also be affected by changes in interest rates. Rising interest rates generally increase the cost of financing for real estate projects, which could cause the value of an equity REIT to decline. During periods of declining interest rates, mortgagors may elect to prepay mortgages held by mortgage REITs, which could lower or diminish the yield on the REIT. REITs are also subject to heavy cash-flow dependency, default by borrowers, and changes in tax and regulatory requirements. In addition, a REIT may fail to meet the requirements for qualification and taxation as a REIT under the IRC and/or fail to maintain exemption from the 1940 Act.

Reliance on Service Providers, Data Providers, and Other Technology. Vanguard funds rely upon the performance of service providers to execute several key functions, which may include functions integral to a fund's operations. Failure by any service provider to carry out its obligations to a fund could disrupt the business of the fund and could have an adverse effect on the fund's performance. A fund's service providers' reliance on certain technology or information vendors (e.g., trading systems, investment analysis tools, benchmark analytics, and tax and accounting tools) could also adversely affect a fund and its shareholders. For example, a fund's investment advisor may use models and/or data with respect to potential investments for the fund. When models or data prove to be incorrect or incomplete, any decisions made in reliance upon such models or data expose a fund to potential risks.

Repurchase Agreements. A repurchase agreement is an agreement under which a fund acquires a debt security (generally a security issued by the U.S. government or an agency thereof, a banker's acceptance, or a certificate of deposit) from a bank, a broker, a dealer, or another counterparty that meets minimum credit requirements and simultaneously agrees to resell such security to the seller at an agreed-upon price and date (normally, the next business day). Because the security purchased constitutes collateral for the repurchase obligation, a repurchase agreement may be considered a loan that is collateralized by the security purchased. The resale price reflects an agreed-upon interest rate effective for the period the instrument is held by a fund and is unrelated to the interest rate on the underlying instrument. In these transactions, the securities acquired by a fund (including accrued interest earned thereon) must have a total value in excess of the value of the repurchase agreement and be held by a custodian bank until repurchased. In addition, the investment advisor will monitor a fund's repurchase agreement transactions generally and will evaluate the creditworthiness of any bank, broker, dealer, or other counterparty that meets minimum credit requirements to a repurchase agreement relating to a fund. The aggregate amount of any such agreements is not limited, except to the extent required by law.

The use of repurchase agreements involves certain risks. One risk is the seller's ability to pay the agreed-upon repurchase price on the repurchase date. If the seller defaults, the fund may incur costs in disposing of the collateral, which would reduce the amount realized thereon. If the seller seeks relief under bankruptcy laws, the disposition of the collateral may be delayed or limited. For example, if the other party to the agreement becomes insolvent and subject to liquidation or reorganization under bankruptcy or other laws, a court may determine that the underlying security is collateral for a loan by the fund not within its control, and therefore the realization by the fund on such collateral may be automatically stayed. Finally, it is possible that the fund may not be able to substantiate its interest in the underlying security and may be deemed an unsecured creditor of the other party to the agreement.

Restricted and Illiquid Securities/Investments (including Private Placements). Illiquid securities/investments are investments that a fund reasonably expects cannot be sold or disposed of in current market conditions in seven calendar days or less without the sale or disposition significantly changing the market value of the investment. The SEC generally limits aggregate holdings of illiquid securities/investments by a mutual fund to 15% of its net assets (5% for money market funds). A fund may experience difficulty valuing and selling illiquid securities/investments and, in some

cases, may be unable to value or sell certain illiquid securities for an indefinite period of time. Illiquid securities may include a wide variety of investments, such as (1) repurchase agreements maturing in more than seven days (unless the agreements have demand/redemption features), (2) OTC options contracts and certain other derivatives (including certain swap agreements), (3) fixed time deposits that are not subject to prepayment or do not provide for withdrawal penalties upon prepayment (other than overnight deposits), (4) certain loan interests and other direct debt instruments, (5) certain municipal lease obligations, (6) private equity investments, (7) commercial paper issued pursuant to Section 4(a)(2) of the 1933 Act, and (8) securities whose disposition is restricted under the federal securities laws. Illiquid securities/investments may include restricted, privately placed securities (such as private investments in public equity (PIPEs) or special purpose acquisition companies (SPACs)) that, under the federal securities laws, generally may be resold only to qualified institutional buyers. If a market develops for a restricted security held by a fund, it may be treated as a liquid security in accordance with guidelines approved by the board of trustees.

Reverse Repurchase Agreements. In a reverse repurchase agreement, a fund sells a security to another party, such as a bank or broker-dealer, in return for cash and agrees to repurchase that security at an agreed-upon price and time. Under a reverse repurchase agreement, the fund continues to receive any principal and interest payments on the underlying security during the term of the agreement. Reverse repurchase agreements involve the risk that the market value of securities retained by the fund may decline below the repurchase price of the securities sold by the fund that it is obligated to repurchase. In addition to the risk of such a loss, fees charged to the fund may exceed the return the fund earns from investing the proceeds received from the reverse repurchase agreement transaction. A reverse repurchase agreement may be considered a borrowing transaction for purposes of the 1940 Act. A reverse repurchase agreement transaction will not be considered to constitute the issuance, by a fund, of a "senior security," as that term is defined in Section 18(g) of the 1940 Act, and therefore such transaction will not be subject to the 300% asset coverage requirement otherwise applicable to borrowings by a fund, if the fund complies with Rule 18f-4. A fund will enter into reverse repurchase agreements only with parties whose creditworthiness has been reviewed and found satisfactory by the advisor. If the buyer in a reverse repurchase agreement becomes insolvent or files for bankruptcy, a fund's use of proceeds from the sale may be restricted while the other party or its trustee or receiver determines if it will honor the fund's right to repurchase the securities. If the fund is unable to recover the securities it sold in a reverse repurchase agreement, it would realize a loss equal to the difference between the value of the securities and the payment it received for them.

Securities Lending. A fund may lend its securities to financial institutions (typically brokers, dealers, and banks) to generate income for the fund. There are certain risks associated with lending securities, including counterparty, credit, market, regulatory, and operational risks. Vanguard considers the creditworthiness of the borrower, among other factors, in making decisions with respect to the lending of securities, subject to oversight by the board of trustees. If the borrower defaults on its obligation to return the securities lent because of insolvency or other reasons, a fund could experience delays and costs in recovering the securities lent or in gaining access to the collateral. These delays and costs could be greater for certain types of foreign securities, as well as certain types of borrowers that are subject to global regulatory regimes. If a fund is not able to recover the securities lent, the fund may sell the collateral and purchase a replacement security in the market. Collateral investments are subject to market appreciation or depreciation. The value of the collateral could decrease below the value of the replacement investment by the time the replacement investment is purchased. Currently, a fund invests cash collateral into Vanguard Market Liquidity Fund, an affiliated money market fund that invests in high-quality, short-term money market instruments.

The terms and the structure of the loan arrangements, as well as the aggregate amount of securities loans, must be consistent with the 1940 Act and the rules or interpretations of the SEC thereunder. These provisions limit the amount of securities a fund may lend to 33⅓% of the fund's total assets and require that (1) the borrower pledge and maintain with the fund collateral consisting of cash, an irrevocable letter of credit, or securities issued or guaranteed by the U.S. government having at all times not less than 100% of the value of the securities lent; (2) the borrower add to such collateral whenever the price of the securities lent rises (i.e., the borrower "marks to market" on a daily basis); (3) the loan be made subject to termination by the fund at any time; and (4) the fund receives reasonable interest on the loan (which may include the fund investing any cash collateral in interest-bearing short-term investments), any distribution on the lent securities, and any increase in their market value. Loan arrangements made by a fund will comply with any other applicable regulatory requirements. At the present time, the SEC does not object if an investment company pays reasonable negotiated fees in connection with lent securities, so long as such fees are set forth in a written contract and approved by the investment company's trustees. In addition, voting rights pass with the lent securities, but if a fund has knowledge that a material event will occur affecting securities on loan, and in respect to which the holder of the

securities will be entitled to vote or consent, the lender must be entitled to call the loaned securities in time to vote or consent. A fund bears the risk that there may be a delay in the return of the securities, which may impair the fund's ability to vote on such a matter. See *Tax Status of the Funds* for information about certain tax consequences related to a fund's securities lending activities.

Pursuant to Vanguard's securities lending policy, Vanguard's fixed income and money market funds are not permitted to, and do not, lend their investment securities.

Tax Matters—Federal Tax Discussion. Discussion herein of U.S. federal income tax matters summarizes some of the important, generally applicable U.S. federal tax considerations relevant to investment in a fund based on the IRC, U.S. Treasury regulations, and other applicable authorities. These authorities are subject to change by legislative, administrative, or judicial action, possibly with retroactive effect. Each Fund has not requested and will not request an advance ruling from the Internal Revenue Service (IRS) as to the U.S. federal income tax matters discussed in this Statement of Additional Information. In some cases, a fund's tax position may be uncertain under current tax law and an adverse determination or future guidance by the IRS with respect to such a position could adversely affect the fund and its shareholders, including the fund's ability to continue to qualify as a regulated investment company or to continue to pursue its current investment strategy. A shareholder should consult his or her tax professional for information regarding the particular situation and the possible application of U.S. federal, state, local, foreign, and other taxes.

Tax Matters—Federal Tax Treatment of Derivatives, Hedging, and Related Transactions. A fund's transactions in derivative instruments (including, but not limited to, options, futures, forward contracts, and swap agreements), as well as any of the fund's hedging, short sale, securities loan, or similar transactions, may be subject to one or more special tax rules that accelerate income to the fund, defer losses to the fund, cause adjustments in the holding periods of the fund's securities, convert long-term capital gains into short-term capital gains, or convert short-term capital losses into long-term capital losses. These rules could therefore affect the amount, timing, and character of distributions to shareholders.

Because these and other tax rules applicable to these types of transactions are in some cases uncertain under current law, an adverse determination or future guidance by the IRS with respect to these rules (which determination or guidance could be retroactive) may affect whether a fund has made sufficient distributions, and otherwise satisfied the relevant requirements, to maintain its qualification as a regulated investment company and avoid a fund-level tax.

Tax Matters—Federal Tax Treatment of Futures Contracts. For federal income tax purposes, a fund generally must recognize, as of the end of each taxable year, any net unrealized gains and losses on certain futures contracts, as well as any gains and losses actually realized during the year. In these cases, any gain or loss recognized with respect to a futures contract is considered to be 60% long-term capital gain or loss and 40% short-term capital gain or loss, without regard to the holding period of the contract. Gains and losses on certain other futures contracts (primarily non-U.S. futures contracts) are not recognized until the contracts are closed and are treated as long-term or short-term, depending on the holding period of the contract. Sales of futures contracts that are intended to hedge against a change in the value of securities held by a fund may affect the holding period of such securities and, consequently, the nature of the gain or loss on such securities upon disposition. A fund may be required to defer the recognition of losses on one position, such as futures contracts, to the extent of any unrecognized gains on a related offsetting position held by the fund.

A fund will distribute to shareholders annually any net capital gains that have been recognized for federal income tax purposes on futures transactions. Such distributions will be combined with distributions of capital gains realized on the fund's other investments, and shareholders will be advised on the nature of the distributions.

Tax Matters—Federal Tax Treatment of Non-U.S. Currency Transactions. Special rules generally govern the federal income tax treatment of a fund's transactions in the following: non-U.S. currencies; non-U.S. currency-denominated debt obligations; and certain non-U.S. currency options, futures contracts, forward contracts, and similar instruments. Accordingly, if a fund engages in these types of transactions it may have ordinary income or loss to the extent that such income or loss results from fluctuations in the value of the non-U.S. currency concerned. Such ordinary income could accelerate fund distributions to shareholders and increase the distributions taxed to shareholders as ordinary income. Any ordinary loss so created will generally reduce ordinary income distributions and, in some cases, could require the recharacterization of prior ordinary income distributions. Net ordinary losses cannot be carried forward by the fund to offset income or gains realized in subsequent taxable years.

Any gain or loss attributable to the non-U.S. currency component of a transaction engaged in by a fund that is not subject to these special currency rules (such as foreign equity investments other than certain preferred stocks) will generally be treated as a capital gain or loss and will not be segregated from the gain or loss on the underlying transaction.

To the extent a fund engages in non-U.S. currency hedging, the fund may elect or be required to apply other rules that could affect the character, timing, or amount of the fund's gains and losses. For more information, see *"Tax Matters—Federal Tax Treatment of Derivatives, Hedging, and Related Transactions."*

Tax Matters—Foreign Tax Credit. Foreign governments may withhold taxes on dividends and interest paid with respect to foreign securities held by a fund. Foreign governments may also impose taxes on other payments or gains with respect to foreign securities. If, at the close of its fiscal year, more than 50% of a fund's total assets are invested in securities of foreign issuers, the fund may elect to pass through to shareholders the ability to deduct or, if they meet certain holding period requirements, take a credit for foreign taxes paid by the fund. Similarly, if at the close of each quarter of a fund's taxable year, at least 50% of its total assets consist of interests in other regulated investment companies, the fund is permitted to elect to pass through to its shareholders the foreign income taxes paid by the fund in connection with foreign securities held directly by the fund or held by a regulated investment company in which the fund invests that has elected to pass through such taxes to shareholders.

Tax Matters—Market Discount or Premium. The price of a bond purchased after its original issuance may reflect market discount or premium. Depending on the particular circumstances, market discount may affect the tax character and amount of income required to be recognized by a fund holding the bond. In determining whether a bond is purchased with market discount, certain de minimis rules apply. Premium is generally amortizable over the remaining term of the bond. Depending on the type of bond, premium may affect the amount of income required to be recognized by a fund holding the bond and the fund's basis in the bond.

Tax Matters—Passive Foreign Investment Companies. Vanguard Total International Stock Index Fund may invest in passive foreign investment companies (PFICs). A foreign company is generally a PFIC if 75% or more of its gross income is passive or if 50% or more of its assets produce passive income. Capital gains on the sale of an interest in a PFIC will be deemed ordinary income regardless of how long the fund held it. Also, the fund may be subject to corporate income tax and an interest charge on certain dividends and capital gains earned in respect to PFIC interests, whether or not such amounts are distributed to shareholders. To avoid such tax and interest, the fund may elect to "mark to market" its PFIC interests, that is, to treat such interests as sold on the last day of the fund's fiscal year, and to recognize any unrealized gains (or losses, to the extent of previously recognized gains) as ordinary income (or loss) each year. Distributions from a fund that are attributable to income or gains earned in respect to PFIC interests are characterized as ordinary income.

Tax Matters—Real Estate Mortgage Investment Conduits. If a fund invests directly or indirectly, including through a REIT or other pass-through entity, in residual interests in real estate mortgage investment conduits (REMICs) or equity interests in taxable mortgage pools (TMPs), a portion of the fund's income that is attributable to a residual interest in a REMIC or an equity interest in a TMP (such portion referred to in the IRC as an "excess inclusion") will be subject to U.S. federal income tax in all events—including potentially at the fund level—under a notice issued by the IRS in October 2006 and U.S. Treasury regulations that have yet to be issued but may apply retroactively. This notice also provides, and the regulations are expected to provide, that excess inclusion income of a regulated investment company will be allocated to shareholders of the regulated investment company in proportion to the dividends received by such shareholders, with the same consequences as if the shareholders held the related interest directly. In general, excess inclusion income allocated to shareholders (1) cannot be offset by net operating losses (subject to a limited exception for certain thrift institutions); (2) will constitute unrelated business taxable income (UBTI) to entities (including a qualified pension plan, an individual retirement account, a 401(k) plan, a Keogh plan, or other tax-exempt entity) subject to tax on UBTI, thereby potentially requiring such an entity, which otherwise might not be required, to file a tax return and pay tax on such income; and (3) in the case of a non-U.S. investor, will not qualify for any reduction in U.S. federal withholding tax. A shareholder will be subject to U.S. federal income tax on such inclusions notwithstanding any exemption from such income tax otherwise available under the IRC. As a result, a fund investing in such interests may not be suitable for charitable remainder trusts. See *"Tax Matters—Tax-Exempt Investors."*

Tax Matters—Tax Considerations for Non-U.S. Investors. U.S. withholding and estate taxes and certain U.S. tax reporting requirements may apply to any investments made by non-U.S. investors in Vanguard funds. Certain properly reported distributions of qualifying interest income or short-term capital gain made by a fund to its non-U.S. investors are exempt from U.S. withholding taxes, provided the investors furnish valid tax documentation (i.e., IRS Form W-8) certifying as to their non-U.S. status.

A fund is permitted, but is not required, to report any of its distributions as eligible for such relief, and some distributions (e.g., distributions of interest a fund receives from non-U.S. issuers) are not eligible for this relief. For some funds, Vanguard has chosen to report qualifying distributions and apply the withholding exemption to those distributions when made to non-U.S. shareholders who invest directly with Vanguard. For other funds, Vanguard may choose not to apply the withholding exemption to qualifying fund distributions made to direct shareholders, but may provide the reporting to such shareholders. In these cases, a shareholder may be able to reclaim such withholding tax directly from the IRS.

If shareholders hold fund shares (including ETF shares) through a broker or intermediary, their broker or intermediary may apply this relief to properly reported qualifying distributions made to shareholders with respect to those shares. If a shareholder's broker or intermediary instead collects withholding tax where the fund has provided the proper reporting, the shareholder may be able to reclaim such withholding tax from the IRS. Please consult your broker or intermediary regarding the application of these rules.

This relief does not apply to any withholding required under the Foreign Account Tax Compliance Act (FATCA), which generally requires a fund to obtain information sufficient to identify the status of each of its shareholders. If a shareholder fails to provide this information or otherwise fails to comply with FATCA, a fund may be required to withhold under FATCA at a rate of 30% with respect to that shareholder on fund distributions. Please consult your tax advisor for more information about these rules.

Tax Matters—Tax-Exempt Investors. Income of a fund that would be UBTI if earned directly by a tax-exempt entity will not generally be attributed as UBTI to a tax-exempt shareholder of the fund. Notwithstanding this "blocking" effect, a tax-exempt shareholder could realize UBTI by virtue of its investment in a fund if shares in the fund constitute debt-financed property in the hands of the tax-exempt shareholder within the meaning of IRC Section 514(b).

A tax-exempt shareholder may also recognize UBTI if a fund recognizes "excess inclusion income" derived from direct or indirect investments in residual interests in REMICs or equity interests in TMPs. See *"Tax Matters—Real Estate Mortgage Investment Conduits."*

In addition, special tax consequences apply to charitable remainder trusts that invest in a fund that invests directly or indirectly in residual interests in REMICs or equity interests in TMPs. Charitable remainder trusts and other tax-exempt investors are urged to consult their tax advisors concerning the consequences of investing in a fund.

Time Deposits. Time deposits are subject to the same risks that pertain to domestic issuers of money market instruments, most notably credit risk (and, to a lesser extent, income risk, market risk, and liquidity risk). Additionally, time deposits of foreign branches of U.S. banks and foreign branches of foreign banks may be subject to certain sovereign risks. One such risk is the possibility that a sovereign country might prevent capital, in the form of U.S. dollars, from flowing across its borders. Other risks include adverse political and economic developments, the extent and quality of government regulation of financial markets and institutions, the imposition of foreign withholding taxes, and expropriation or nationalization of foreign issuers. However, time deposits of such issuers will undergo the same type of credit analysis as domestic issuers in which a Vanguard fund invests and will have at least the same financial strength as the domestic issuers approved for the fund.

Warrants. Warrants are instruments that give the holder the right, but not the obligation, to buy an equity security at a specific price for a specific period of time. Changes in the value of a warrant do not necessarily correspond to changes in the value of its underlying security. The price of a warrant may be more volatile than the price of its underlying security, and a warrant may offer greater potential for capital appreciation as well as capital loss. Warrants do not entitle a holder to dividends or voting rights with respect to the underlying security and do not represent any rights in the assets of the issuing company. A warrant ceases to have value if it is not exercised prior to its expiration date. These factors can make warrants more speculative than other types of investments. Other kinds of warrants exist, including, but not limited to, warrants linked to countries' economic performance or to commodity prices such as oil prices. These warrants may be subject to risk from fluctuation of underlying assets or indexes, as well as credit risk that the issuer does not pay on the obligations and risk that the data used for warrant payment calculation does not accurately reflect the true underlying commodity price or economic performance.

When-Issued, Delayed-Delivery, and Forward-Commitment Transactions. When-issued, delayed-delivery, and forward-commitment transactions involve a commitment to purchase or sell specific securities at a predetermined price or yield in which payment and delivery take place after the customary settlement period for that type of security. Typically, no interest accrues to the purchaser until the security is delivered. When purchasing securities pursuant to one of these transactions, payment for the securities is not required until the delivery date. However, the purchaser assumes the rights and risks of ownership, including the risks of price and yield fluctuations and the risk that the security

will not be issued as anticipated. When a fund has sold a security pursuant to one of these transactions, the fund does not participate in further gains or losses with respect to the security. If the other party to a delayed-delivery transaction fails to deliver or pay for the securities, the fund could miss a favorable price or yield opportunity or suffer a loss. A fund may renegotiate a when-issued or forward-commitment transaction and may sell the underlying securities before delivery, which may result in capital gains or losses for the fund. When-issued, delayed-delivery, and forward-commitment transactions will not be considered to constitute the issuance, by a fund, of a "senior security," as that term is defined in Section 18(g) of the 1940 Act, and therefore such transaction will not be subject to the 300% asset coverage requirement otherwise applicable to borrowings by the fund, if the fund complies with Rule 18f-4.

Regulatory Restrictions in India. Shares of Vanguard Total International Stock Index Fund have not been, and will not be, registered under the laws of India and are not intended to benefit from any laws in India promulgated for the protection of shareholders. As a result of regulatory requirements in India, shares of each Fund shall not be knowingly offered to (directly or indirectly) or sold or delivered to (within India); transferred to or purchased by; or held by, for, on the account of, or for the benefit of (i) a "person resident in India" (as defined under applicable Indian law), (ii) an "overseas corporate body" or a "person of Indian origin" (as defined under applicable Indian law), or (iii) any other entity or person disqualified or otherwise prohibited from accessing the Indian securities market under applicable laws, as may be amended from time to time. Investors, prior to purchasing shares of each Fund, must satisfy themselves regarding compliance with these requirements.

SHARE PRICE

Multiple-class funds do not have a single share price. Rather, each class has a share price, also known as *net asset value (*NAV), which is calculated as of the close of regular trading on the New York Stock Exchange (NYSE), generally 4 p.m., Eastern time, on each day that the NYSE is open for business (a business day). In the rare event the NYSE experiences unanticipated disruptions and is unavailable at the close of the trading day, each Fund reserves the right to treat such day as a business day and calculate NAVs as of the close of regular trading on the Nasdaq (or another alternate exchange if the Nasdaq is unavailable, as determined at Vanguard's discretion), generally 4 p.m., Eastern time. The NAV per share for Vanguard Total International Stock Index Fund is computed by dividing the total assets, minus liabilities, allocated to the share class by the number of Fund shares outstanding for that class. The NAV per share for each of the remaining Funds is computed by dividing the total assets, minus liabilities, of the Fund by the number of Fund shares outstanding. On U.S. holidays or other days when the NYSE is closed, the NAV is not calculated, and the Funds do not sell or redeem shares. However, on those days the value of a Fund's assets may be affected to the extent that the Fund holds securities that change in value on those days (such as foreign securities that trade on foreign markets that are open).

The underlying Vanguard funds in which the LifeStrategy Funds and Vanguard STAR Fund invest also do not calculate their NAV on days when the NYSE is closed but the value of their assets may also be affected to the extent that they hold foreign securities that trade on foreign markets that are open.

The NYSE typically observes the following holidays: New Year's Day; Martin Luther King, Jr., Day; Presidents' Day (Washington's Birthday); Good Friday; Memorial Day; Juneteenth National Independence Day; Independence Day; Labor Day; Thanksgiving Day; and Christmas Day. Although each Fund expects the same holidays to be observed in the future, the NYSE may modify its holiday schedule or hours of operation at any time.

PURCHASE AND REDEMPTION OF SHARES

Purchase of Shares (Other than ETF Shares)

The purchase price of shares of each Fund is the NAV per share next determined after the purchase request is received in good order, as defined in each Fund's prospectus.

Exchange of Securities for Shares of a Fund. Shares of a Fund may be purchased "in kind" (i.e., in exchange for securities, rather than for cash) at the discretion of each Fund's portfolio manager. Such securities must not be restricted as to transfer and must have a value that is readily ascertainable. Securities accepted by each Fund will be valued, as set forth in the Fund's prospectus, as of the time of the next determination of NAV after such acceptance. All dividend, subscription, or other rights that are reflected in the market price of accepted securities at the time of valuation become the property of each Fund and must be delivered to the Fund by the investor upon receipt from the issuer. A gain or loss for federal income tax purposes, depending upon the cost of the securities tendered, would be realized by the investor upon the exchange. Investors interested in purchasing fund shares in kind should contact Vanguard.

Redemption of Shares (Other than ETF Shares)

The redemption price of shares of each Fund is the NAV per share next determined after the redemption request is received in good order, as defined in each Fund's prospectus.

Each Fund can postpone payment of redemption proceeds for up to seven calendar days. In addition, each Fund can suspend redemptions and/or postpone payments of redemption proceeds beyond seven calendar days (1) during any period that the NYSE is closed or trading on the NYSE is restricted as determined by the SEC; (2) during any period when an emergency exists, as defined by the SEC, as a result of which it is not reasonably practicable for the Fund to dispose of securities it owns or to fairly determine the value of its assets; or (3) for such other periods as the SEC may permit.

The Trust has filed a notice of election with the SEC to pay in cash all redemptions requested by any shareholder of record limited in amount during any 90-day period to the lesser of $250,000 or 1% of the net assets of a Fund at the beginning of such period.

If Vanguard determines that it would be detrimental to the best interests of the remaining shareholders of the Fund to make payment wholly or partly in cash, the Fund may pay the redemption price in whole or in part by a distribution in kind of readily marketable securities held by the Fund in lieu of cash in conformity with applicable rules of the SEC and in accordance with procedures adopted by the Fund's board of trustees. Investors may incur brokerage charges on the sale of such securities received in payment of redemptions.

The Funds do not charge a redemption fee. Shares redeemed may be worth more or less than what was paid for them, depending on the market value of the securities held by the Funds.

Vanguard processes purchase and redemption requests through a pooled account. Pending investment direction or distribution of redemption proceeds, the assets in the pooled account are invested and any earnings (the "float") are allocated proportionately among the Vanguard funds in order to offset fund expenses. Other than the float, Vanguard treats assets held in the pooled account as the assets of each shareholder making such purchase or redemption request.

Right to Change Policies

Vanguard reserves the right, without notice, to (1) alter, add, or discontinue any conditions of purchase (including eligibility requirements), redemption, exchange, conversion, service, or privilege at any time and (2) alter, impose, discontinue, or waive any purchase fee, redemption fee, account service fee, or other fee charged to a shareholder or a group of shareholders. Changes may affect any or all investors. These actions will be taken when, at the sole discretion of Vanguard management, Vanguard believes they are in the best interest of a fund.

Account Restrictions

Vanguard reserves the right to: (1) redeem all or a portion of a fund/account to meet a legal obligation, including tax withholding, tax lien, garnishment order, or other obligation imposed on your account by a court or government agency; (2) redeem shares, close an account, or suspend account privileges, features, or options in the case of threatening conduct or activity; (3) redeem shares, close an account, or suspend account privileges, features, or options if Vanguard believes or suspects that not doing so could result in a suspicious, fraudulent, or illegal transaction; (4) place restrictions on the ability to redeem any or all shares in an account if it is required to do so by a court or government agency; (5) place restrictions on the ability to redeem any or all shares in an account if Vanguard believes that doing so will prevent fraud or financial exploitation or abuse, or will protect vulnerable investors; (6) freeze any account and/or suspend account services if Vanguard has received reasonable notice of a dispute regarding the assets in an account, including notice of a dispute between the registered or beneficial account owners; and (7) freeze any account and/or suspend account services upon initial notification to Vanguard of the death of an account owner.

Investing With Vanguard Through Other Firms

Each Fund has authorized certain agents to accept on its behalf purchase and redemption orders, and those agents are authorized to designate other intermediaries to accept purchase and redemption orders on the Fund's behalf

(collectively, Authorized Agents). Each Fund will be deemed to have received a purchase or redemption order when an Authorized Agent accepts the order in accordance with the Fund's instructions. In most instances, a customer order that is properly transmitted to an Authorized Agent will be priced at the NAV per share next determined after the order is received by the Authorized Agent.

MANAGEMENT OF THE FUNDS

Vanguard

Each Fund is part of the Vanguard group of investment companies, which consists of over 200 funds. Each fund is a series of a Delaware statutory trust. The funds obtain virtually all of their corporate management, administrative, and distribution services through the trusts' jointly owned subsidiary, Vanguard. Vanguard may contract with certain third-party service providers to assist Vanguard in providing certain administrative and/or accounting services with respect to the funds, subject to Vanguard's oversight. Vanguard also provides investment advisory services to certain Vanguard funds. All of these services are provided at Vanguard's total cost of operations pursuant to the Fifth Amended and Restated Funds' Service Agreement (the Agreement).

Vanguard was established and operates under the Agreement. Vanguard employs a supporting staff of management and administrative personnel needed to provide the requisite services to the funds and also furnishes the funds with necessary office space, furnishings, and equipment.

Pursuant to an agreement between Vanguard and JP Morgan Chase Bank N.A. (JP Morgan), JP Morgan provides services for Vanguard Total International Stock Index Fund, Vanguard LifeStrategy Funds, and Vanguard STAR Fund. These services include, but are not limited to: (i) the calculation of such funds' daily NAVs and (ii) the furnishing of financial reports. The fees paid to JP Morgan under this agreement are based on a combination of flat and asset based fees. During the fiscal years ended October 31, 2021, 2022, and 2023, JP Morgan had received fees from the Funds for administrative services rendered as follows:

Vanguard Fund	2021	2022	2023
Vanguard LifeStrategy Conservative Growth Fund	$12,749.94	$16,999.92	$16,999.92
Vanguard LifeStrategy Growth Fund	12,749.94	16,999.92	16,999.92
Vanguard LifeStrategy Income Fund	12,749.94	16,999.92	16,999.92
Vanguard LifeStrategy Moderate Growth Fund	12,749.94	16,999.92	16,999.92
Vanguard STAR Fund	12,749.94	16,999.92	16,999.92
Vanguard Total International Stock Index Fund	16,999.92	16,999.91	16,999.91

The funds' officers are also employees of Vanguard.

Vanguard, Vanguard Marketing Corporation (VMC), the funds, and the funds' advisors have adopted codes of ethics designed to prevent employees who may have access to nonpublic information about the trading activities of the funds (access persons) from profiting from that information. The codes of ethics permit access persons to invest in securities for their own accounts, including securities that may be held by a fund, but place substantive and procedural restrictions on the trading activities of access persons. For example, the codes of ethics require that access persons receive advance approval for most securities trades to ensure that there is no conflict with the trading activities of the funds.

Vanguard Total International Stock Index Fund. Vanguard provides corporate management, administrative, and distribution services. Each fund (other than a fund of funds) pays its share of Vanguard's total expenses, which are allocated among the funds under methods approved by the board of trustees of each fund. In addition, each fund bears its own direct expenses, such as legal, auditing, and custodial fees. The Agreement provides that each Vanguard fund (other than a fund of funds) may be called upon to invest up to 0.40% of its net assets in Vanguard. The amounts that each fund has invested are adjusted from time to time in order to maintain the proportionate relationship between each fund's relative net assets and its contribution to Vanguard's capital.

As of October 31, 2023, Vanguard Total International Stock Index Fund had contributed capital to Vanguard as follows:

Vanguard Fund	Capital Contribution to Vanguard	Percentage of Fund's Average Net Assets	Percent of Vanguard Funds' Contribution
Total International Stock Index Fund	$12,736,000	Less than 0.01%	5.09%

Vanguard LifeStrategy Funds and Vanguard STAR Fund. Vanguard STAR Fund and each Vanguard LifeStrategy Fund is a fund of funds. The Agreement provides that the funds of funds will not contribute to Vanguard's capitalization or pay for corporate management, administrative, and distribution services provided by Vanguard. However, each Fund will bear its own direct expenses, such as legal, auditing, and custodial fees. In addition, the Agreement further provides that the Funds' direct expenses may be offset, in whole or in part, by (1) the Funds' contributions to the cost of operating the underlying funds in which the Funds invest, and (2) certain savings in administrative and marketing costs that Vanguard expects to derive from the Funds' operations. Accordingly, all expenses for services provided by Vanguard to the Funds and all other expenses incurred by the Funds are expected to be borne by the underlying funds. The Funds' shareholders bear the fees and expenses associated with the Fund's investments in the underlying funds.

As of October 31, 2023, the Acquired Fund Fees and Expenses of the Funds were as follows: Vanguard LifeStrategy Conservative Growth Fund—0.12%; Vanguard LifeStrategy Growth Fund—0.14%; Vanguard LifeStrategy Income Fund—0.11%; Vanguard LifeStrategy Moderate Growth Fund—0.13%; and Vanguard STAR Fund—0.31%.

Management. Corporate management and administrative services include (1) executive staff, (2) accounting and financial, (3) legal and regulatory, (4) shareholder account maintenance, (5) monitoring and control of custodian relationships, (6) shareholder reporting, and (7) review and evaluation of advisory and other services provided to the funds by third parties.

Distribution. Vanguard Marketing Corporation, 100 Vanguard Boulevard, Malvern, PA 19355, a wholly owned subsidiary of Vanguard, is the principal underwriter for the funds and in that capacity performs and finances marketing, promotional, and distribution activities (collectively, marketing and distribution activities) that are primarily intended to result in the sale of the funds' shares. VMC offers shares of each fund for sale on a continuous basis and will use all reasonable efforts in connection with the distribution of shares of the funds. VMC performs marketing and distribution activities in accordance with the conditions of a 1981 SEC exemptive order that permits the Vanguard funds to internalize and jointly finance the marketing, promotion, and distribution of their shares. The funds' trustees review and approve the marketing and distribution expenses incurred by the funds, including the nature and cost of the activities and the desirability of each fund's continued participation in the joint arrangement.

To ensure that each fund's participation in the joint arrangement falls within a reasonable range of fairness, each fund contributes to VMC's marketing and distribution expenses in accordance with an SEC-approved formula. Under that formula, one half of the marketing and distribution expenses are allocated among the funds based upon their relative net assets. The remaining half of those expenses is allocated among the funds based upon each fund's sales for the preceding 24 months relative to the total sales of the funds as a group, provided, however, that no fund's aggregate quarterly rate of contribution for marketing and distribution expenses shall exceed 125% of the average marketing and distribution expense rate for Vanguard and that no fund shall incur annual marketing and distribution expenses in excess of 0.20% of its average month-end net assets. Each fund's contribution to these marketing and distribution expenses helps to maintain and enhance the attractiveness and viability of the Vanguard complex as a whole, which benefits all of the funds and their shareholders.

VMC's principal marketing and distribution expenses are for advertising, promotional materials, and marketing personnel. Other marketing and distribution activities of an administrative nature that VMC undertakes on behalf of the funds may include, but are not limited to:

- Conducting or publishing Vanguard-generated research and analysis concerning the funds, other investments, the financial markets, or the economy.
- Providing views, opinions, advice, or commentary concerning the funds, other investments, the financial markets, or the economy.
- Providing analytical, statistical, performance, or other information concerning the funds, other investments, the financial markets, or the economy.
- Providing administrative services in connection with investments in the funds or other investments, including, but not limited to, shareholder services, recordkeeping services, and educational services.

- Providing products or services that assist investors or financial service providers (as defined below) in the investment decision-making process.

VMC performs most marketing and distribution activities itself. Some activities may be conducted by third parties pursuant to shared marketing arrangements under which VMC agrees to share the costs and performance of marketing and distribution activities in concert with a financial service provider. Financial service providers include, but are not limited to, investment advisors, broker-dealers, financial planners, financial consultants, banks, and insurance companies. Under these cost- and performance-sharing arrangements, VMC may pay or reimburse a financial service provider (or a third party it retains) for marketing and distribution activities that VMC would otherwise perform. VMC's cost- and performance-sharing arrangements may be established in connection with Vanguard investment products or services offered or provided to or through the financial service providers.

VMC's arrangements for shared marketing and distribution activities may vary among financial service providers, and its payments or reimbursements to financial service providers in connection with shared marketing and distribution activities may be significant. VMC, as a matter of policy, does not pay asset-based fees, sales-based fees, or account-based fees to financial service providers in connection with its marketing and distribution activities for the Vanguard funds. VMC does make fixed dollar payments to financial service providers when sponsoring, jointly sponsoring, financially supporting, or participating in conferences, programs, seminars, presentations, meetings, or other events involving fund shareholders, financial service providers, or others concerning the funds, other investments, the financial markets, or the economy, such as industry conferences, prospecting trips, due diligence visits, training or education meetings, and sales presentations. VMC also makes fixed dollar payments to financial service providers for data regarding funds, such as statistical information regarding sales of fund shares. In addition, VMC makes fixed dollar payments for expenses associated with financial service providers' use of Vanguard's funds including, but not limited to, the use of funds in model portfolios. These payments may be used for services including, but not limited to, technology support and development; platform support and development; due diligence related to products used on a platform; legal, regulatory, and compliance expenses related to a platform; and other platform-related services.

In connection with its marketing and distribution activities, VMC may give financial service providers (or their representatives) (1) promotional items of nominal value that display Vanguard's logo, such as golf balls, shirts, towels, pens, and mouse pads; (2) gifts that do not exceed $100 per person annually and are not preconditioned on achievement of a sales target; (3) an occasional meal, a ticket to a sporting event or the theater, or comparable entertainment that is neither so frequent nor so extensive as to raise any question of propriety and is not preconditioned on achievement of a sales target; and (4) reasonable travel and lodging accommodations to facilitate participation in marketing and distribution activities.

VMC policy prohibits marketing and distribution activities that are intended, designed, or likely to compromise suitability determinations by, or the fulfillment of any fiduciary duties or other obligations that apply to, financial service providers. Nonetheless, VMC's marketing and distribution activities are primarily intended to result in the sale of the funds' shares, and as such, its activities, including shared marketing and distribution activities and fixed dollar payments as described above, may influence applicable financial service providers (or their representatives) to recommend, promote, include, or invest in a Vanguard fund or share class. In addition, Vanguard or any of its subsidiaries may retain a financial service provider to provide consulting or other services, and that financial service provider also may provide services to investors. Investors should consider the possibility that any of these activities, relationships, or payments may influence a financial service provider's (or its representatives') decision to recommend, promote, include, or invest in a Vanguard fund or share class. Each financial service provider should consider its suitability determinations, fiduciary duties, and other legal obligations (or those of its representatives) in connection with any decision to consider, recommend, promote, include, or invest in a Vanguard fund or share class.

The following table describes the expenses of Vanguard and VMC that are incurred by Vanguard Total International Stock Index Fund. Amounts captioned "Management and Administrative Expenses" include the Fund's allocated share of expenses associated with the management, administrative, and transfer agency services Vanguard provides to the Vanguard funds. Amounts captioned "Marketing and Distribution Expenses" include the Fund's allocated share of expenses associated with the marketing and distribution activities that VMC conducts on behalf of the Vanguard funds.

As is the case with all mutual funds, transaction costs incurred by Vanguard Total International Stock Index Fund for buying and selling securities are not reflected in the table. Annual Shared Fund Operating Expenses are based on expenses incurred in the fiscal years ended October 31, 2021, 2022, and 2023, and are presented as a percentage of each Fund's average month-end net assets.

Annual Shared Fund Operating Expenses (Shared Expenses Deducted From Fund Assets)			
Vanguard Fund	**2021**	**2022**	**2023**
Vanguard Total International Stock Index Fund			
Management and Administrative Expenses	0.11%	0.11%	0.10%
Marketing and Distribution Expenses	Less than 0.01	0.01	Less than 0.01

Officers and Trustees

Each Vanguard fund is governed by the board of trustees of its trust and a single set of officers. Consistent with the board's corporate governance principles, the trustees believe that their primary responsibility is oversight of the management of each fund for the benefit of its shareholders, not day-to-day management. The trustees set broad policies for the funds; select investment advisors; monitor fund operations, regulatory compliance, performance, and costs; nominate and select new trustees; and elect fund officers. Vanguard manages the day-to-day operations of the funds under the direction of the board of trustees.

The trustees play an active role, as a full board and at the committee level, in overseeing risk management for the funds. The trustees delegate the day-to-day risk management of the funds to various groups, including portfolio review, investment management, risk management, compliance, legal, fund accounting, and fund services and oversight. These groups provide the trustees with regular reports regarding investment, valuation, liquidity, and compliance, as well as the risks associated with each. The trustees also oversee risk management for the funds through regular interactions with the funds' internal and external auditors.

The full board participates in the funds' risk oversight, in part, through the Vanguard funds' compliance program, which covers the following broad areas of compliance: investment and other operations; recordkeeping; valuation and pricing; communications and disclosure; reporting and accounting; oversight of service providers; fund governance; and codes of ethics, insider trading controls, and protection of nonpublic information. The program seeks to identify and assess risk through various methods, including through regular interdisciplinary communications between compliance professionals and business personnel who participate on a daily basis in risk management on behalf of the funds. The funds' chief compliance officer regularly provides reports to the board in writing and in person.

The audit committee of the board, which is composed of F. Joseph Loughrey, Mark Loughridge, Sarah Bloom Raskin, and Peter F. Volanakis, each of whom is an independent trustee, oversees management of financial risks and controls. The audit committee serves as the channel of communication between the independent auditors of the funds and the board with respect to financial statements and financial reporting processes, systems of internal control, and the audit process. Vanguard's head of internal audit reports directly to the audit committee and provides reports to the committee in writing and in person on a regular basis. Although the audit committee is responsible for overseeing the management of financial risks, the entire board is regularly informed of these risks through committee reports.

All of the trustees bring to each fund's board a wealth of executive leadership experience derived from their service as executives (in many cases chief executive officers), board members, and leaders of diverse public operating companies, academic institutions, and other organizations. In determining whether an individual is qualified to serve as a trustee of the funds, the board considers a wide variety of information about the trustee, and multiple factors contribute to the board's decision. Each trustee is determined to have the experience, skills, and attributes necessary to serve the funds and their shareholders because each trustee demonstrates an exceptional ability to consider complex business and financial matters, evaluate the relative importance and priority of issues, make decisions, and contribute effectively to the deliberations of the board. The board also considers the individual experience of each trustee and determines that the trustee's professional experience, education, and background contribute to the diversity of perspectives on the board. The business acumen, experience, and objective thinking of the trustees are considered invaluable assets for Vanguard management and, ultimately, the Vanguard funds' shareholders. The specific roles and experience of each board member that factor into this determination are presented on the following pages. The mailing address of the trustees and officers is P.O. Box 876, Valley Forge, PA 19482.

Name, Year of Birth	Position(s) Held With Funds	Vanguard Funds' Trustee/ Officer Since	Principal Occupation(s) During the Past Five Years, Outside Directorships, and Other Experience	Number of Vanguard Funds Overseen by Trustee/Officer
Interested Trustee[1]				
Mortimer J. Buckley (1969)	Chairman of the Board, Chief Executive Officer, and President	January 2018	Chairman of the board (2019–present) of Vanguard and of each of the investment companies served by Vanguard; chief executive officer (2018–present) of Vanguard; chief executive officer, president, and trustee (2018–present) of each of the investment companies served by Vanguard; president and director (2017–present) of Vanguard; and president (2018–present) of Vanguard Marketing Corporation. Chief investment officer (2013–2017), managing director (2002–2017), head of the Retail Investor Group (2006–2012), and chief information officer (2001–2006) of Vanguard. Member of the board of governors of the Investment Company Institute and of FINRA.	210
1 Mr. Buckley is considered an "interested person" as defined in the 1940 Act because he is an officer of the Trust.				
Independent Trustees				
Tara Bunch (1962)	Trustee	November 2021	Head of Global Operations at Airbnb (2020–present). Vice President of AppleCare (2012–2020). Member of the board of the University of California, Berkeley School of Engineering, and Santa Clara University's School of Business.	210
Emerson U. Fullwood (1948)	Trustee	January 2008	Executive chief staff and marketing officer for North America and corporate vice president (retired 2008) of Xerox Corporation (document management products and services). Former president of the Worldwide Channels Group, Latin America, and Worldwide Customer Service and executive chief staff officer of Developing Markets of Xerox. Executive in residence and 2009–2010 Distinguished Minett Professor at the Rochester Institute of Technology. Member of the board of directors of the University of Rochester Medical Center, the Monroe Community College Foundation, the United Way of Rochester, North Carolina A&T University, Roberts Wesleyan College, and the Rochester Philharmonic Orchestra. Trustee of the University of Rochester.	210
F. Joseph Loughrey (1949)	Trustee	October 2009	President and chief operating officer (retired 2009) and vice chairman of the board (2008–2009) of Cummins Inc. (industrial machinery). Director of the V Foundation. Member of the advisory council for the College of Arts and Letters at the University of Notre Dame. Chairman of the board of Saint Anselm College.	210
Mark Loughridge (1953)	Lead Independent Trustee	March 2012	Senior vice president and chief financial officer (retired 2013) of IBM (information technology services). Fiduciary member of IBM's Retirement Plan Committee (2004–2013), senior vice president and general manager (2002–2004) of IBM Global Financing, vice president and controller (1998–2002) of IBM, and a variety of other prior management roles at IBM. Member of the Council on Chicago Booth.	210

Name, Year of Birth	Position(s) Held With Funds	Vanguard Funds' Trustee/ Officer Since	Principal Occupation(s) During the Past Five Years, Outside Directorships, and Other Experience	Number of Vanguard Funds Overseen by Trustee/Officer
Scott C. Malpass (1962)	Trustee	March 2012	Co-founder and managing partner (2022-present) of Grafton Street Partners (investment advisory firm). Chief investment officer and vice president of the University of Notre Dame (retired 2020). Chair of the board of Catholic Investment Services, Inc. (investment advisors). Member of the board of superintendence of the Institute for the Works of Religion. Member of the Notre Dame 403(b) Investment Committee and the board of directors of Paxos Trust Company (finance).	210
Deanna Mulligan (1963)	Trustee	January 2018	Chief executive officer of Purposeful (2021–present). Board chair (2020), chief executive officer (2011–2020), and president (2010–2019) of The Guardian Life Insurance Company of America. Chief operating officer (2010–2011) and executive vice president (2008–2010) of Individual Life and Disability of The Guardian Life Insurance Company of America. Director of DuPont. Member of the board of the Economic Club of New York. Trustee of the Partnership for New York City (business leadership), the Chief Executives for Corporate Purpose, and the New York-Presbyterian Hospital.	210
Lubos Pastor (1974)	Trustee	January 2024	Charles P. McQuaid Distinguished Service Professor of Finance (2023-present) at the University of Chicago Booth School of Business; Charles P. McQuaid Professor of Finance at the University of Chicago Booth School of Business (2009-2023). Vice President at European Finance Association. Member of the board of the Fama-Miller Center for Research in Finance. Research Associate at the National Bureau of Economic Research, and Research Fellow at the Centre for Economic Policy and Research. Member of Center for Research in Security Prices (CRSP) Index Advisory Council and Advisory Board.	210
André F. Perold (1952)	Trustee	December 2004	George Gund Professor of Finance and Banking, Emeritus at the Harvard Business School (retired 2011). Chief investment officer and partner of HighVista Strategies LLC (private investment firm). Board member of RIT Capital Partners (investment firm).	210
Sarah Bloom Raskin (1961)	Trustee	January 2018	Deputy secretary (2014–2017) of the United States Department of the Treasury. Governor (2010–2014) of the Federal Reserve Board. Commissioner (2007–2010) of financial regulation for the State of Maryland. Colin W. Brown Distinguished Professor of the Practice, Duke Law School (2021–present); Rubenstein Fellow, Duke University (2017–2020); Distinguished Fellow of the Global Financial Markets Center, Duke Law School (2020–2022); and Senior Fellow, Duke Center on Risk (2020–present). Partner of Kaya Partners (climate policy advisory services). Member of the board of directors of Arcadia (energy solution technology).	210

Name, Year of Birth	Position(s) Held With Funds	Vanguard Funds' Trustee/ Officer Since	Principal Occupation(s) During the Past Five Years, Outside Directorships, and Other Experience	Number of Vanguard Funds Overseen by Trustee/Officer
Grant Reid (1959)	Trustee	July 2023	Senior operating partner (2023–present) of CVC Capital (alternative investment manager). Chief executive officer and president (2014–2022) and member of the board of directors (2015–2022) of Mars, Incorporated (multinational manufacturer). Member of the board of directors of Marriott International, Inc. Member of the board of the Sustainable Markets Initiative (environmental services) and chair of the Sustainable Markets Initiative's Agribusiness Task Force.	210
David Thomas (1956)	Trustee	July 2021	President of Morehouse College (2018–present). Professor of Business Administration Emeritus at Harvard University (2017–2018) and Dean (2011–2016) and Professor of Management at Georgetown University, McDonough School of Business (2016–2017). Director of DTE Energy Company. Trustee of Common Fund.	210
Peter F. Volanakis (1955)	Trustee	July 2009	President and chief operating officer (retired 2010) of Corning Incorporated (communications equipment) and director of Corning Incorporated (2000–2010) and Dow Corning (2001–2010). Director (2012) of SPX Corporation (multi-industry manufacturing). Overseer of the Amos Tuck School of Business Administration, Dartmouth College (2001–2013). Member of the BMW Group Mobility Council.	210
Executive Officers				
Jacqueline Angell (1974)	Chief Compliance Officer	November 2022	Principal of Vanguard. Chief compliance officer (2022–present) of Vanguard and of each of the investment companies served by Vanguard. Chief compliance officer (2018–2022) and deputy chief compliance officer (2017–2019) of State Street.	210
Christine Buchanan (1970)	Chief Financial Officer	November 2017	Principal of Vanguard. Chief financial officer (2021–present) and treasurer (2017–2021) of each of the investment companies served by Vanguard. Partner (2005–2017) at KPMG (audit, tax, and advisory services).	210
John Galloway (1973)	Investment Stewardship Officer	September 2020	Principal of Vanguard. Investment stewardship officer (2020–present) of each of the investment companies served by Vanguard. Head of Investor Advocacy (2020–present) and head of Marketing Strategy and Planning (2017–2020) at Vanguard. Special Assistant to the President of the United States (2015).	210
Ashley Grim (1984)	Treasurer	February 2022	Treasurer (2022–present) of each of the investment companies served by Vanguard. Fund transfer agent controller (2019–2022) and director of Audit Services (2017–2019) at Vanguard. Senior manager (2015–2017) at PriceWaterhouseCoopers (audit and assurance, consulting, and tax services).	210
Jodi Miller (1980)	Finance Director	September 2022	Principal of Vanguard. Finance director (2022–present) of each of the investment companies served by Vanguard. Head of Enterprise Investment Services (2020–present), Head of Retail Client Services & Operations (2020–2022), and Head of Retail Strategic Support (2018–2020) at Vanguard.	210

Name, Year of Birth	Position(s) Held With Funds	Vanguard Funds' Trustee/ Officer Since	Principal Occupation(s) During the Past Five Years, Outside Directorships, and Other Experience	Number of Vanguard Funds Overseen by Trustee/Officer
Anne E. Robinson (1970)	Secretary	September 2016	General counsel (2016–present) of Vanguard. Secretary (2016–present) of Vanguard and of each of the investment companies served by Vanguard. Managing director (2016–present) of Vanguard. Managing director and general counsel of Global Cards and Consumer Services (2014–2016) at Citigroup. Counsel (2003–2014) at American Express. Non-executive director of the board of National Grid (energy).	210
Michael Rollings (1963)	Finance Director	February 2017	Finance director (2017–present) and treasurer (2017) of each of the investment companies served by Vanguard. Managing director (2016–present) of Vanguard. Chief financial officer (2016–present) of Vanguard. Director (2016–present) of Vanguard Marketing Corporation. Executive vice president and chief financial officer (2006–2016) of MassMutual Financial Group.	210

All but one of the trustees are independent. The independent trustees designate a lead independent trustee. The lead independent trustee is a spokesperson and principal point of contact for the independent trustees and is responsible for coordinating the activities of the independent trustees, including calling regular executive sessions of the independent trustees; developing the agenda of each meeting together with the chairman; and chairing the meetings of the independent trustees. The lead independent trustee also chairs the meetings of the audit, compensation, and nominating committees. The board also has two investment committees, which consist of independent trustees and the sole interested trustee.

The independent trustees appoint the chairman of the board. The roles of chairman of the board and chief executive officer currently are held by the same person; as a result, the chairman of the board is an "interested" trustee. The independent trustees generally believe that the Vanguard funds' chief executive officer is best qualified to serve as chairman and that fund shareholders benefit from this leadership structure through accountability and strong day-to-day leadership.

Board Committees: The Trust's board has the following committees:

- Audit Committee: This committee oversees the accounting and financial reporting policies, the systems of internal controls, and the independent audits of each fund. The following independent trustees serve as members of the committee: Mr. Loughrey, Mr. Loughridge, Ms. Raskin, and Mr. Volanakis. The committee held six meetings during the Trust's fiscal year ended October 31, 2023.
- Compensation Committee: This committee oversees the compensation programs established by each fund for the benefit of its trustees. All independent trustees serve as members of the committee. The committee held five meetings during the Trust's fiscal year ended October 31, 2023.
- Independent Governance Committee: This committee assists the board in fulfilling its responsibilities and is empowered to exercise board powers in the intervals between board meetings unless such action is prohibited by applicable law or Trust bylaws. The following independent trustees serve as members of the committee: Mr. Loughridge, Ms. Mulligan, Mr. Perold, Ms. Raskin, and Mr. Volanakis. The committee held six meetings during the Trust's fiscal year ended October 31, 2023.
- Investment Committees: These committees assist the board in its oversight of investment advisors to the funds and in the review and evaluation of materials relating to the board's consideration of investment advisory agreements with the funds. Each trustee serves on one of two investment committees. Each investment committee held three meetings during the Trust's fiscal year ended October 31, 2023.
- Nominating Committee: This committee nominates candidates for election to the board of trustees of each fund. The committee also has the authority to recommend the removal of any trustee. All independent trustees serve as members of the committee. The committee held six meetings during the Trust's fiscal year ended October 31, 2023.

The Nominating Committee will consider shareholder recommendations for trustee nominees. Shareholders may send recommendations to Mr. Loughridge, chairman of the committee.

Trustees retire in accordance with the funds' governing documents and policies, and typically by age 75.

Trustee Compensation

The same individuals serve as trustees of all Vanguard funds and each fund pays a proportionate share of the trustees' compensation. Vanguard funds also employ their officers on a shared basis; however, officers are compensated by Vanguard, not the funds. The trustees and officers of Vanguard LifeStrategy Funds and Vanguard STAR Fund will receive no remuneration directly from the Funds. However, the Funds' underlying funds pay their proportionate share of the trustees' compensation and the officers' salaries and benefits.

Independent Trustees. The funds compensate their independent trustees (i.e., the ones who are not also officers of the funds) in two ways:

- The independent trustees receive an annual fee for their service to the funds, which is subject to reduction based on absences from scheduled board meetings.
- The independent trustees are reimbursed for the travel and other expenses that they incur in attending board meetings.

"Interested" Trustee. Mr. Buckley serves as a trustee, but is not paid in this capacity. He is, however, paid in his role as an officer of Vanguard.

Compensation Table. The following table provides compensation details for each of the trustees. We list the amounts paid as compensation by the Vanguard Total International Stock Index Fund for each trustee. In addition, the table shows the total amount of compensation paid to each trustee by all Vanguard funds.

VANGUARD TOTAL INTERNATIONAL STOCK INDEX FUND
TRUSTEES' COMPENSATION TABLE

Trustee	Aggregate Compensation From the Funds[1]	Total Compensation From All Vanguard Funds Paid to Trustees[2]
Mortimer J. Buckley	—	—
Tara Bunch	$19,385	$330,000
Emerson U. Fullwood	19,385	330,000
F. Joseph Loughrey	20,560	350,000
Mark Loughridge	23,497	400,000
Scott C. Malpass	19,385	330,000
Deanna Mulligan	19,385	330,000
Lubos Pastor[3]	—	—
André F. Perold	19,385	330,000
Sarah Bloom Raskin	20,560	350,000
Grant Reid[4]	6,647	188,572
David Thomas	19,385	330,000
Peter F. Volanakis	20,560	350,000

1 The amounts shown in this column are based on the Trust's fiscal year ended October 31, 2023. Each Fund within the Trust is responsible for a proportionate share of these amounts.
2 The amounts reported in this column reflect the total compensation paid to each trustee for his or her service as trustee of 208 Vanguard funds for the 2023 calendar year and include any amount a trustee has elected to defer. During the 2023 calendar year, the following trustees elected to defer all or a portion of their compensation as follows: Ms. Bunch, $330,000; Ms. Mulligan, $330,000; Mr. Perold, $330,000; Ms. Raskin, $175,000; Mr. Reid, $188,572; and Dr. Thomas, $165,000.
3 Mr. Pastor became a member of the Funds' board effective January 1, 2024.
4 Mr. Reid became a member of the Funds' board effective July 20, 2023.

Ownership of Fund Shares

All current trustees allocate their investments among the various Vanguard funds based on their own investment needs. The following table shows each trustee's ownership of shares of each Fund and of all Vanguard funds served by the trustee as of December 31, 2023.

Vanguard Fund	Trustee	Dollar Range of Fund Shares Owned by Trustee	Aggregate Dollar Range of Vanguard Fund Shares Owned by Trustee
Vanguard LifeStrategy Conservative Growth Fund	Mortimer J. Buckley	—	Over $100,000
	Tara Bunch	—	Over $100,000
	Emerson U. Fullwood	—	Over $100,000
	F. Joseph Loughrey	—	Over $100,000
	Mark Loughridge	—	Over $100,000
	Scott C. Malpass	—	Over $100,000
	Deanna Mulligan	—	Over $100,000
	Lubos Pastor	—	Over $100,000
	André F. Perold	—	Over $100,000
	Sarah Bloom Raskin	—	Over $100,000
	Grant Reid	—	Over $100,000
	David Thomas	—	Over $100,000
	Peter F. Volanakis	—	Over $100,000
Vanguard LifeStrategy Growth Fund	Mortimer J. Buckley	—	Over $100,000
	Tara Bunch	—	Over $100,000
	Emerson U. Fullwood	—	Over $100,000
	F. Joseph Loughrey	—	Over $100,000
	Mark Loughridge	—	Over $100,000
	Scott C. Malpass	—	Over $100,000
	Deanna Mulligan	—	Over $100,000
	Lubos Pastor	—	Over $100,000
	André F. Perold	—	Over $100,000
	Sarah Bloom Raskin	—	Over $100,000
	Grant Reid	—	Over $100,000
	David Thomas	—	Over $100,000
	Peter F. Volanakis	—	Over $100,000
Vanguard LifeStrategy Income Fund	Mortimer J. Buckley	—	Over $100,000
	Tara Bunch	—	Over $100,000
	Emerson U. Fullwood	—	Over $100,000
	F. Joseph Loughrey	—	Over $100,000
	Mark Loughridge	—	Over $100,000
	Scott C. Malpass	—	Over $100,000
	Deanna Mulligan	—	Over $100,000
	Lubos Pastor	—	Over $100,000
	André F. Perold	—	Over $100,000
	Sarah Bloom Raskin	—	Over $100,000
	Grant Reid	—	Over $100,000
	David Thomas	—	Over $100,000
	Peter F. Volanakis	—	Over $100,000

Vanguard Fund	Trustee	Dollar Range of Fund Shares Owned by Trustee	Aggregate Dollar Range of Vanguard Fund Shares Owned by Trustee
Vanguard LifeStrategy Moderate Growth Fund	Mortimer J. Buckley	—	Over $100,000
	Tara Bunch	—	Over $100,000
	Emerson U. Fullwood	—	Over $100,000
	F. Joseph Loughrey	—	Over $100,000
	Mark Loughridge	—	Over $100,000
	Scott C. Malpass	—	Over $100,000
	Deanna Mulligan	—	Over $100,000
	Lubos Pastor	—	Over $100,000
	André F. Perold	—	Over $100,000
	Sarah Bloom Raskin	—	Over $100,000
	Grant Reid	—	Over $100,000
	David Thomas	—	Over $100,000
	Peter F. Volanakis	—	Over $100,000
Vanguard STAR Fund	Mortimer J. Buckley	—	Over $100,000
	Tara Bunch	—	Over $100,000
	Emerson U. Fullwood	—	Over $100,000
	F. Joseph Loughrey	—	Over $100,000
	Mark Loughridge	—	Over $100,000
	Scott C. Malpass	—	Over $100,000
	Deanna Mulligan	—	Over $100,000
	Lubos Pastor	—	Over $100,000
	André F. Perold	—	Over $100,000
	Sarah Bloom Raskin	—	Over $100,000
	Grant Reid	—	Over $100,000
	David Thomas	—	Over $100,000
	Peter F. Volanakis	—	Over $100,000
Vanguard Total International Stock Index Fund	Mortimer J. Buckley	Over $100,000	Over $100,000
	Tara Bunch	—	Over $100,000
	Emerson U. Fullwood	—	Over $100,000
	F. Joseph Loughrey	Over $100,000	Over $100,000
	Mark Loughridge	$50,001 – $100,000	Over $100,000
	Scott C. Malpass	Over $100,000	Over $100,000
	Deanna Mulligan	Over $100,000	Over $100,000
	Lubos Pastor	Over $100,000	Over $100,000
	André F. Perold	—	Over $100,000
	Sarah Bloom Raskin	—	Over $100,000
	Grant Reid	—	Over $100,000
	David Thomas	—	Over $100,000
	Peter F. Volanakis	Over $100,000	Over $100,000

As of January 31, 2024, the trustees and officers of the funds owned, in the aggregate, less than 1% of each class of each fund's outstanding shares.

As of January 31, 2024, the following owned of record 5% or more of the outstanding shares of each class (Other than ETF Shares):

Vanguard Fund	Share Class	Owner and Address	Percentage of Ownership
Vanguard LifeStrategy Growth Fund	Investor Shares	CHARLES SCHWAB & CO INC SAN FRANCISCO, CA	7.00%

Vanguard Fund	Share Class	Owner and Address	Percentage of Ownership
Vanguard LifeStrategy Moderate Growth Fund	Investor Shares	CHARLES SCHWAB & CO INC SAN FRANCISCO, CA	5.96%
Vanguard Total International Stock Index Fund	Investor Shares	VANGUARD TARGET RETIREMENT 2045 FUND VALLEY FORGE, PA	13.64%
		VANGUARD TARGET RETIREMENT 2035 FUND VALLEY FORGE, PA	13.40%
		VANGUARD TARGET RETIREMENT 2040 FUND VALLEY FORGE, PA	12.96%
		VANGUARD TARGET RETIREMENT 2050 FUND VALLEY FORGE, PA	12.37%
		VANGUARD TARGET RETIREMENT 2030 FUND VALLEY FORGE, PA	11.84%
		VANGUARD TARGET RETIREMENT 2025 FUND VALLEY FORGE, PA	8.77%
		VANGUARD TARGET RETIREMENT 2055 FUND VALLEY FORGE, PA	8.19%
	Admiral Shares	CHARLES SCHWAB & CO INC SAN FRANCISCO, CA	5.72%
	Institutional Shares	FIDELITY INVESTMENTS INSTITUTIONAL OPERATIONS CO INC COVINGTON, KY	9.74%
		TIAA TRUST, N.A. CHARLOTTE, NC	9.67%
		CHARLES SCHWAB & CO INC SAN FRANCISCO, CA	6.57%
	Institutional Select Shares	NEW YORK COLLEGE SAVINGS PLAN AGGRESSIVE GROWTH PORTFOLIO 1155 NEWTOWN, MA	18.17%
		COLLEGE SAVINGS PLAN OF NEVADA TOTAL INTL STOCK INDEX PORTFOLIO 04520 BOSTON, MA	7.79%
		COLLEGE SAVINGS PLAN OF NEVADA AGGRESSIVE GROWTH PORTFOLIO 04509 BOSTON, MA	5.67%
	Institutional Plus Shares	NATIONAL FINANCIAL SERVICES CORPORATION JERSEY CITY, NJ	11.93%

Although the Vanguard Total International Stock Index Fund does not have information concerning the beneficial ownership of shares held in the names of Depository Trust Company (DTC) participants, as of January 31, 2024, the name and percentage ownership of each DTC participant that owned of record 5% or more of the outstanding ETF Shares of the Fund were as follows:

Vanguard Fund	Owner	Percentage of Ownership
Vanguard Total International Stock ETF	Vanguard Marketing Corporation	61.18%
	Charles Schwab & Co., Inc.	11.58%
	National Financial Services, LLC	6.91%

Portfolio Holdings Disclosure Policies and Procedures

Introduction

Vanguard and the boards of trustees of the Vanguard funds (the Boards) have adopted Portfolio Holdings Disclosure Policies and Procedures (Policies and Procedures) to govern the disclosure of the portfolio holdings of each Vanguard fund. Vanguard and the Boards considered each of the circumstances under which Vanguard fund portfolio holdings may be disclosed to different categories of persons under the Policies and Procedures. Vanguard and the Boards also considered actual and potential material conflicts that could arise in such circumstances between the interests of

Vanguard fund shareholders, on the one hand, and those of the fund's investment advisor, sub-advisor, distributor, or any affiliated person of the fund, its investment advisor, sub-advisor, or its distributor, on the other. After giving due consideration to such matters and after the exercise of their fiduciary duties and reasonable business judgment, Vanguard and the Boards determined that the Vanguard funds have a legitimate business purpose for disclosing portfolio holdings to the persons described in each of the circumstances set forth in the Policies and Procedures and that the Policies and Procedures are reasonably designed to ensure that disclosure of portfolio holdings and information about portfolio holdings is in the best interests of fund shareholders and appropriately addresses the potential for material conflicts of interest.

The Boards exercise continuing oversight of the disclosure of Vanguard fund portfolio holdings by (1) overseeing the implementation and enforcement of the Policies and Procedures, the Code of Ethical Conduct, and the Policies and Procedures Designed to Prevent the Misuse of Inside Information (collectively, the portfolio holdings governing policies) by the chief compliance officer of Vanguard and the Vanguard funds; (2) considering reports and recommendations by the chief compliance officer concerning any material compliance matters (as defined in Rule 38a-1 under the 1940 Act and Rule 206(4)-7 under the Investment Advisers Act of 1940) that may arise in connection with any portfolio holdings governing policies; and (3) considering whether to approve or ratify any amendment to any portfolio holdings governing policies.

Vanguard and the Boards reserve the right to amend the Policies and Procedures at any time and from time to time without prior notice at their sole discretion. For purposes of the Policies and Procedures, the term "portfolio holdings" means the equity and debt securities (e.g., stocks and bonds) held by a Vanguard fund and does not mean the cash equivalent investments, derivatives, and other investment positions (collectively, other investment positions) held by the fund.

Online Disclosure of Complete Portfolio Holdings

Each actively managed Vanguard fund, unless otherwise stated, generally will seek to disclose the fund's complete portfolio holdings as of the end of the most recent calendar quarter online at *vanguard.com* 30 calendar days after the end of the calendar quarter. Each Vanguard fund relying on Rule 6c-11 under the 1940 Act generally will seek to disclose complete portfolio holdings, including other investment positions, at the beginning of each business day. These portfolio holdings, including other investment positions, will be disclosed online at *vanguard.com*. In accordance with Rule 2a-7 under the 1940 Act, each of the Vanguard money market funds will disclose the fund's complete portfolio holdings as of the last business day of the prior month online at *vanguard.com* no later than the fifth business day of the current month. The complete portfolio holdings information for money market funds will remain available online for at least six months after the initial posting. Each Vanguard index fund, other than those Vanguard index funds relying on Rule 6c-11, generally will seek to disclose the fund's complete portfolio holdings as of the end of the most recent month online at *vanguard.com,* 15 calendar days after the end of the month. Online disclosure of complete portfolio holdings is made to all categories of persons, including individual investors, institutional investors, intermediaries, third-party service providers, rating and ranking organizations, affiliated persons of a Vanguard fund, and all other persons. Vanguard will review complete portfolio holdings before disclosure is made and, except with respect to the complete portfolio holdings of the Vanguard money market funds, may withhold any portion of the fund's complete portfolio holdings from disclosure when deemed to be in the best interests of the fund after consultation with a Vanguard fund's investment advisor.

Disclosure of Complete Portfolio Holdings to Service Providers Subject to Confidentiality and Trading Restrictions

Vanguard, for legitimate business purposes, may disclose Vanguard fund complete portfolio holdings at times it deems necessary and appropriate to rating and ranking organizations; financial printers; proxy voting service providers; pricing information vendors; issuers of guaranteed investment contracts for stable value portfolios; third parties that deliver analytical, statistical, or consulting services; and other third parties that provide services (collectively, Service Providers) to Vanguard, Vanguard subsidiaries, and/or the Vanguard funds. Disclosure of complete portfolio holdings to a Service Provider is conditioned on the Service Provider being subject to a written agreement imposing a duty of confidentiality, including a duty not to trade on the basis of any material nonpublic information.

The frequency with which complete portfolio holdings may be disclosed to a Service Provider, and the length of the lag, if any, between the date of the information and the date on which the information is disclosed to the Service Provider, is determined based on the facts and circumstances, including, without limitation, the nature of the portfolio holdings information to be disclosed, the risk of harm to the funds and their shareholders, and the legitimate business purposes served by such disclosure. The frequency of disclosure to a Service Provider varies and may be as frequent as daily,

with no lag. Disclosure of Vanguard fund complete portfolio holdings by Vanguard to a Service Provider must be authorized by a Vanguard fund officer or a Principal in Vanguard's Portfolio Review Department or Office of the General Counsel. Any disclosure of Vanguard fund complete portfolio holdings to a Service Provider as previously described may also include a list of the other investment positions that make up the fund, such as cash equivalent investments and derivatives.

Currently, Vanguard fund complete portfolio holdings are disclosed to the following Service Providers as part of ongoing arrangements that serve legitimate business purposes: Abel/Noser Corporation; Advisor Software, Inc.; Alcom Printing Group Inc.; Apple Press, L.C.; Bloomberg L.P.; Brilliant Graphics, Inc.; Broadridge Financial Solutions, Inc.; Brown Brothers Harriman & Co.; Canon Business Process Services; Charles River Systems, Inc.; Eagle Investments; Equilend; FactSet Research Systems Inc.; Gresham Technologies, Plc.; Innovation Printing & Communications; Institutional Shareholder Services, Inc.; Intelligencer Printing Company; Investment Technology Group, Inc.; Lipper, Inc.; Markit WSO Corporation; McMunn Associates, Inc.; Morningstar; Pirium; Reuters America Inc.; R.R. Donnelley, Inc.; State Street Bank and Trust Company; Stonewain; and Trade Informatics LLC.

Disclosure of Complete Portfolio Holdings to Vanguard Affiliates and Certain Fiduciaries Subject to Confidentiality and Trading Restrictions

Vanguard fund complete portfolio holdings may be disclosed between and among the following persons (collectively, Affiliates and Fiduciaries) for legitimate business purposes within the scope of their official duties and responsibilities, subject to such persons' continuing legal duty of confidentiality and legal duty not to trade on the basis of any material nonpublic information, as such duties are imposed under the Code of Ethical Conduct, the Policies and Procedures Designed to Prevent the Misuse of Inside Information, by agreement, or under applicable laws, rules, and regulations: (1) persons who are subject to the Code of Ethical Conduct or the Policies and Procedures Designed to Prevent the Misuse of Inside Information; (2) an investment advisor, sub-advisor, distributor, administrator, transfer agent, or custodian to a Vanguard fund; (3) an accounting firm, an auditing firm, or outside legal counsel retained by Vanguard, a Vanguard subsidiary, or a Vanguard fund; (4) an investment advisor to whom complete portfolio holdings are disclosed for due diligence purposes when the advisor is in merger or acquisition talks with a Vanguard fund's current advisor; and (5) a newly hired investment advisor or sub-advisor to whom complete portfolio holdings are disclosed prior to the time it commences its duties.

The frequency with which complete portfolio holdings may be disclosed between and among Affiliates and Fiduciaries, and the length of the lag, if any, between the date of the information and the date on which the information is disclosed between and among the Affiliates and Fiduciaries, is determined by such Affiliates and Fiduciaries based on the facts and circumstances, including, without limitation, the nature of the portfolio holdings information to be disclosed, the risk of harm to the funds and their shareholders, and the legitimate business purposes served by such disclosure. The frequency of disclosure between and among Affiliates and Fiduciaries varies and may be as frequent as daily, with no lag. Any disclosure of Vanguard fund complete portfolio holdings to any Affiliates and Fiduciaries as previously described may also include a list of the other investment positions that make up the fund, such as cash equivalent investments and derivatives. Disclosure of Vanguard fund complete portfolio holdings or other investment positions by Vanguard, VMC, or a Vanguard fund to Affiliates and Fiduciaries must be authorized by a Vanguard fund officer or a Principal of Vanguard.

Currently, Vanguard discloses complete portfolio holdings to the following Affiliates and Fiduciaries as part of ongoing arrangements that serve legitimate business purposes: Vanguard and each investment advisor, sub-advisor, custodian, and independent registered public accounting firm identified in each fund's Statement of Additional Information.

Disclosure of Portfolio Holdings to Trading Counterparties in the Normal Course of Managing a Fund's Assets

An investment advisor, sub-advisor, administrator, or custodian for a Vanguard fund may, for legitimate business purposes within the scope of its official duties and responsibilities, disclose portfolio holdings (whether partial portfolio holdings or complete portfolio holdings) and other investment positions that make up the fund to any trading counterparty, including one or more broker-dealers or banks, during the course of, or in connection with, normal day-to-day securities and derivatives transactions with or through such trading counterparties subject to the counterparty's legal obligation not to use or disclose material nonpublic information concerning the fund's portfolio holdings, other investment positions, securities transactions, or derivatives transactions without the consent of the fund

or its agents. The Vanguard funds have not given their consent to any such use or disclosure and no person or agent of Vanguard is authorized to give such consent except as approved in writing by the Boards of the Vanguard funds. Disclosure of portfolio holdings or other investment positions by Vanguard to trading counterparties must be authorized by a Vanguard fund officer or a Principal of Vanguard.

In addition to the disclosures described below to Authorized Participants, a Vanguard fund investment advisor or administrator may also disclose portfolio holdings information to other current or prospective fund shareholders in connection with the dissemination of information necessary for transactions in Creation Units (as defined below) or other large transactions with a Vanguard fund. Such shareholders are typically Authorized Participants or other financial institutions that have been authorized by VMC to purchase and redeem large blocks of shares, but may also include market makers and other institutional market participants and entities to whom a Vanguard fund advisor or administrator may provide information in connection with transactions in a Vanguard fund.

Disclosure of Nonmaterial Information

The Policies and Procedures permit Vanguard fund officers, Vanguard fund portfolio managers, and other Vanguard representatives (collectively, Approved Vanguard Representatives) to disclose any views, opinions, judgments, advice, or commentary, or any analytical, statistical, performance, or other information, in connection with or relating to a Vanguard fund or its portfolio holdings and/or other investment positions (collectively, commentary and analysis) or any changes in the portfolio holdings of a Vanguard fund that occurred after the end of the most recent calendar quarter (recent portfolio changes) to any person if (1) such disclosure serves a legitimate business purpose, (2) such disclosure does not effectively result in the disclosure of the complete portfolio holdings of any Vanguard fund (which can be disclosed only in accordance with the Policies and Procedures), and (3) such information does not constitute material nonpublic information. Disclosure of commentary and analysis or recent portfolio changes by Vanguard, VMC, or a Vanguard fund must be authorized by a Vanguard fund officer or a Principal of Vanguard.

An Approved Vanguard Representative must make a good faith determination whether the information constitutes material nonpublic information, which involves an assessment of the particular facts and circumstances. Vanguard believes that in most cases recent portfolio changes that involve a few or even several securities in a diversified portfolio or commentary and analysis would be immaterial and would not convey any advantage to a recipient in making an investment decision concerning a Vanguard fund. Nonexclusive examples of commentary and analysis about a Vanguard fund include (1) the allocation of the fund's portfolio holdings and other investment positions among various asset classes, sectors, industries, and countries; (2) the characteristics of the stock and bond components of the fund's portfolio holdings and other investment positions; (3) the attribution of fund returns by asset class, sector, industry, and country; and (4) the volatility characteristics of the fund. Approved Vanguard Representatives may, at their sole discretion, deny any request for information made by any person, and may do so for any reason or for no reason. Approved Vanguard Representatives include, for purposes of the Policies and Procedures, persons employed by or associated with Vanguard or a subsidiary of Vanguard who have been authorized by Vanguard's Portfolio Review Department to disclose recent portfolio changes and/or commentary and analysis in accordance with the Policies and Procedures.

Disclosure of Portfolio Holdings, Including Other Investment Positions, in Accordance with Securities and Exchange Commission (SEC) Exemptive Orders and Rule 6c-11

Vanguard's Fund Services and Oversight unit may disclose to the National Securities Clearing Corporation (NSCC), Authorized Participants, and other market makers the daily portfolio composition files (PCFs) that identify a basket of specified securities that may overlap with the actual or expected portfolio holdings of the Vanguard funds that offer a class of shares known as Vanguard ETF Shares (ETF Funds). Each Vanguard fund relying on Rule 6c-11 under the 1940 Act generally will seek to disclose complete portfolio holdings, including other investment positions, at the beginning of each business day. These portfolio holdings, including other investment positions, will be disclosed online at *vanguard.com*. The disclosure of PCFs and portfolio holdings, including other investment positions, will be in accordance with the terms and conditions of related exemptive orders (Vanguard ETF Exemptive Orders) issued by the SEC or Rule 6c-11 under the 1940 Act, as described in this section. In addition to disclosing PCFs to the NSCC, as previously described, Vanguard's Fund Services and Oversight unit will generally disclose the PCF for any ETF Fund online at *vanguard.com*.

Unlike the conventional classes of shares issued by ETF Funds, the ETF Shares are listed for trading on a national securities exchange. Each ETF Fund issues and redeems ETF Shares in large blocks, known as "Creation Units." To purchase or redeem a Creation Unit, an investor must be an "Authorized Participant" or the investor must purchase or

redeem through a broker-dealer that is an Authorized Participant. An Authorized Participant is a participant in the Depository Trust Company (DTC) that has executed a "Participant Agreement" with VMC. Each ETF Fund issues Creation Units in exchange for a "portfolio deposit" consisting of a basket of specified securities (Deposit Securities) and a cash payment (Balancing Amount). Each ETF Fund also generally redeems Creation Units in kind; an investor who tenders a Creation Unit will receive, as redemption proceeds, a basket of specified securities together with a Balancing Amount.

In connection with the creation and redemption process, and in accordance with the terms and conditions of the Vanguard ETF Exemptive Orders and Rule 6c-11, Vanguard makes available to the NSCC (a clearing agency registered with the SEC and affiliated with the DTC), for dissemination to NSCC participants on each business day prior to the opening of trading on the listing exchange, a PCF containing a list of the names and the required number of shares of each Deposit Security for each ETF Fund. In addition, the listing exchange disseminates (1) continuously throughout the trading day, through the facilities of the Consolidated Tape Association, the market value of an ETF Share; and (2) every 15 seconds throughout the trading day, a calculation of the estimated NAV of an ETF Share (expected to be accurate to within a few basis points). Comparing these two figures allows an investor to determine whether, and to what extent, ETF Shares are selling at a premium or at a discount to NAV. ETF Shares are listed on the exchange and traded on the secondary market in the same manner as other equity securities. The price of ETF Shares trading on the secondary market is based on a current bid/offer market.

Disclosure of Portfolio Holdings Related Information to the Issuer of a Security for Legitimate Business Purposes

Vanguard, at its sole discretion, may disclose portfolio holdings information concerning a security held by one or more Vanguard funds to the issuer of such security if the issuer presents, to the satisfaction of Vanguard's Fund Services and Oversight unit, convincing evidence that the issuer has a legitimate business purpose for such information. Disclosure of this information to an issuer is conditioned on the issuer being subject to a written agreement imposing a duty of confidentiality, including a duty not to trade on the basis of any material nonpublic information. The frequency with which portfolio holdings information concerning a security may be disclosed to the issuer of such security, and the length of the lag, if any, between the date of the information and the date on which the information is disclosed to the issuer, is determined based on the facts and circumstances, including, without limitation, the nature of the portfolio holdings information to be disclosed, the risk of harm to the funds and their shareholders, and the legitimate business purposes served by such disclosure. The frequency of disclosure to an issuer cannot be determined in advance of a specific request and will vary based upon the particular facts and circumstances and the legitimate business purposes, but in unusual situations could be as frequent as daily, with no lag. Disclosure of portfolio holdings information concerning a security held by one or more Vanguard funds to the issuer of such security must be authorized by a Vanguard fund officer or a Principal in Vanguard's Equity Investment Group, Portfolio Review Department, or Office of the General Counsel.

Disclosure of Portfolio Holdings as Required by Applicable Law

Vanguard fund portfolio holdings (whether partial portfolio holdings or complete portfolio holdings) and other investment positions that make up a fund shall be disclosed to any person as required by applicable laws, rules, and regulations. Examples of such required disclosure include, but are not limited to, disclosure of Vanguard fund portfolio holdings (1) in a filing or submission with the SEC or another regulatory body, (2) in connection with seeking recovery on defaulted bonds in a federal bankruptcy case, (3) in connection with a lawsuit, or (4) as required by court order. Disclosure of portfolio holdings or other investment positions by Vanguard, VMC, or a Vanguard fund as required by applicable laws, rules, and regulations must be authorized by a Vanguard fund officer or a Principal of Vanguard.

Prohibitions on Disclosure of Portfolio Holdings

No person is authorized to disclose Vanguard fund portfolio holdings or other investment positions (whether online at *vanguard.com*, in writing, by fax, by email, orally, or by other means) except in accordance with the Policies and Procedures. In addition, no person is authorized to make disclosure pursuant to the Policies and Procedures if such disclosure is otherwise unlawful under the antifraud provisions of the federal securities laws (as defined in Rule 38a-1 under the 1940 Act). Furthermore, Vanguard's management, at its sole discretion, may determine not to disclose portfolio holdings or other investment positions that make up a Vanguard fund to any person who would otherwise be eligible to receive such information under the Policies and Procedures, or may determine to make such disclosures publicly as provided by the Policies and Procedures.

Prohibitions on Receipt of Compensation or Other Consideration

The Policies and Procedures prohibit a Vanguard fund, its investment advisor, and any other person or entity from paying or receiving any compensation or other consideration of any type for the purpose of obtaining disclosure of Vanguard fund portfolio holdings or other investment positions. “Consideration” includes any agreement to maintain assets in the fund or in other investment companies or accounts managed by the investment advisor or sub-advisor or by any affiliated person of the investment advisor or sub-advisor.

INVESTMENT ADVISORY AND OTHER SERVICES

Vanguard LifeStrategy Funds and Vanguard STAR Fund

Vanguard LifeStrategy Funds receive investment advisory services from Vanguard, through its Equity Index Group. Vanguard's Investment Strategy Group establishes and reviews the allocation targets of Vanguard LifeStrategy Funds and determines whether any changes are required to best enable each Fund to achieve its investment objective. The Equity Index Group implements the asset allocation targets and performs other portfolio management functions for Vanguard LifeStrategy Funds. Each Fund is a fund of funds and invests in other Vanguard mutual funds (underlying funds). Vanguard also serves as investment advisor for each of the underlying funds.

Vanguard STAR Fund receives limited investment advisory services from Vanguard, through its Equity Index Group. The allocation of the assets for Vanguard STAR Fund among the underlying Vanguard funds is made by officers of the Fund pursuant to instructions of the Fund's board of trustees and in conformity with the Fund's investment objective, strategies, and policies.

The Funds benefit from the investment advisory services provided to the underlying Vanguard funds and, as shareholders of those funds, indirectly bear a proportionate share of those funds' advisory fees and expenses. For more information about the investment advisory services provided to the underlying Vanguard funds, please refer to each fund's Statement of Additional Information.

1. Other Accounts Managed

The following table provides information relating to the other accounts managed by the portfolio managers of the Funds as of the fiscal year ended October 31, 2023 (unless otherwise noted):

Portfolio Manager		No. of account	Total assets	No. of accounts with performance-based fees	Total assets in accounts with performance-based fees
Roger Aliaga-Diaz	Registered investment companies[1]	18	$606.3B	0	$0
	Other pooled investment vehicles	12	$590.4B	0	$0
	Other accounts	0	$ 0	0	$0
Aurelie Denis	Registered investment companies[2]	31	$904.5B	0	$0
	Other pooled investment vehicles	14	$597.5B	0	$0
	Other accounts	0	$ 0	0	$0
Walter Nejman	Registered investment companies[2]	40	$ 2.5T	0	$0
	Other pooled investment vehicles	12	$590.4B	0	$0
	Other accounts	0	$ 0	0	$0
Michael R. Roach	Registered investment companies[2]	22	$684.1B	0	$0
	Other pooled investment vehicles	12	$590.4B	0	$0
	Other accounts	0	$ 0	0	$0

1 Includes Vanguard LifeStrategy Funds, which held assets of $50 billion as of October 31, 2023.
2 Includes Vanguard LifeStrategy Funds and Vanguard STAR Fund, which collectively held assets of $71 billion as of October 31, 2023.

2. Material Conflicts of Interest

Please refer to Vanguard's discussion on page B-53.

3. Description of Compensation

Please refer to Vanguard's discussion beginning on page B-53.

4. Ownership of Securities

As of October 31, 2023, Mr. Nejman owned shares of Vanguard STAR Fund in the range of $10,001 - $50,000. As of October 31, 2023, Mr. Nejman did not own any shares of Vanguard LifeStrategy Funds. As of October 31, 2023, Mr. Aliaga-Diaz owned shares of Vanguard LifeStrategy Moderate Growth Fund in the range of $500,001 - $1,000,000. As of October 31, 2023, Ms. Denis, and Mr. Roach did not own shares of any of the Funds they manage.

Vanguard Total International Stock Index Fund

Vanguard Total International Stock Index Fund receives all investment advisory services from Vanguard, through its Equity Index Group. These services are provided by an experienced investment management staff employed directly by Vanguard.

During the fiscal years ended October 31, 2021, 2022, and 2023, the Fund incurred the following approximate investment advisory expenses:

Vanguard Fund	2021	2022	2023
Total International Stock Index Fund	$7,780,000	14,322,000	27,438,000

1. Other Accounts Managed

The following table provides information relating to the other accounts managed by the portfolio managers of the Funds as of the fiscal year ended October 31, 2023 (unless otherwise noted):

Portfolio Manager		No. of account	Total assets	No. of accounts with performance-based fees	Total assets in accounts with performance-based fees
Michael Perre	Registered investment companies[1]	8	$635.4B	0	$0
	Other pooled investment vehicles	0	$ 0	0	$0
	Other accounts	23	$ 39.5B	0	$0
Christine D. Franquin	Registered investment companies[1]	6	$618.4B	0	$0
	Other pooled investment vehicles	0	$ 0	0	$0
	Other accounts	0	$ 0	0	$0

1 Includes Vanguard Total International Stock Index Fund, which held assets of $345 billion as of October 31, 2023.

2. Material Conflicts of Interest

At Vanguard, individual portfolio managers may manage multiple accounts for multiple clients. In addition to mutual funds, these accounts may include separate accounts, collective trusts, or offshore funds. Managing multiple funds or accounts may give rise to potential conflicts of interest including, for example, conflicts among investment strategies and conflicts in the allocation of investment opportunities. Vanguard manages potential conflicts between funds or accounts through allocation policies and procedures, internal review processes, and oversight by trustees and independent third parties. Vanguard has developed trade allocation procedures and controls to ensure that no one client, regardless of type, is intentionally favored at the expense of another. Allocation policies are designed to address potential conflicts in situations in which two or more funds or accounts participate in investment decisions involving the same securities.

3. Description of Compensation

All Vanguard portfolio managers are Vanguard employees. This section describes the compensation of the Vanguard employees who manage Vanguard mutual funds. As of October 31, 2023, a Vanguard portfolio manager's compensation generally consists of base salary, bonus, and payments under Vanguard's long-term incentive compensation program. In addition, portfolio managers are eligible for the standard retirement benefits and health and welfare benefits available to all Vanguard employees. Also, certain portfolio managers may be eligible for additional retirement benefits under several supplemental retirement plans that Vanguard adopted in the 1980s to restore dollar-for-dollar the benefits of management employees that had been cut back solely as a result of tax law changes. These plans are structured to provide the same retirement benefits as the standard retirement plans.

In the case of portfolio managers responsible for managing multiple Vanguard funds or accounts, the method used to determine their compensation is the same for all funds and investment accounts. A portfolio manager's base salary is determined by the manager's experience and performance in the role, taking into account the ongoing compensation benchmark analyses performed by Vanguard's Human Resources Department. A portfolio manager's base salary is generally a fixed amount that may change as a result of an annual review, upon assumption of new duties, or when a market adjustment of the position occurs.

A portfolio manager's bonus is determined by a number of factors. For portfolio managers from Vanguard's Equity Index Group, one factor is gross, pre-tax performance of a fund relative to expectations for how the fund should have performed, given the fund's investment objective, policies, strategies, and limitations, and the market environment during the measurement period. This performance factor is not based on the amount of assets held in any individual fund's portfolio. For Vanguard Total International Stock Index Fund and Vanguard LifeStrategy Funds, the performance factor depends on how closely the portfolio manager in the Equity Index Group tracks the Fund's benchmark index over a one-year period. An additional factor for portfolio managers in the Equity Index Group is the portfolio manager's contributions to the investment management functions within the sub-asset class. For portfolio managers in the Equity Index Group and Investment Strategy Group, factors include the portfolio manager's overall contributions to the strategic planning and decisions for the investment group, contributions to the development of other investment professionals and supporting staff, and in the case of the Investment Strategy Group only, contributions to long term-term investor outcomes. The target bonus is expressed as a percentage of base salary. The actual bonus paid may be more or less than the target bonus, based on how well the manager satisfies applicable objectives as previously described. The bonus is paid on an annual basis.

Under the long-term incentive compensation program, all full-time employees receive a payment from Vanguard's long-term incentive compensation plan based on their years of service, job level, and, if applicable, management responsibilities. Each year, Vanguard's independent directors determine the amount of the long-term incentive compensation award for that year based on the investment performance of the Vanguard funds relative to competitors and Vanguard's operating efficiencies in providing services to the Vanguard funds.

4. Ownership of Securities

As of October 31, 2023, Ms. Franquin and Mr. Perre each owned shares of Vanguard Total International Stock Index Fund in the $100,001- $500,000 range.

Duration and Termination of Investment Advisory Agreement

Vanguard provides investment advisory services to the Vanguard Total International Stock Index Fund and Vanguard LifeStrategy Funds pursuant to the terms of the Fifth Amended and Restated Funds' Service Agreement. This agreement will continue in full force and effect until terminated or amended by mutual agreement of the Vanguard funds and Vanguard.

Securities Lending

The following table describes the securities lending activities of Vanguard Total International Stock Index Fund during the fiscal year ended October 31, 2023. Vanguard LifeStrategy Funds and Vanguard STAR Fund did not lend their securities during the fiscal year ended October 31, 2023.

Vanguard Fund	Securities Lending Activities
Vanguard Total International Stock Index Fund	
Gross income from securities lending activities	$323,995,618
Fees paid to securities lending agent from a revenue split	$9,044,442
Fees paid for any cash collateral management service (including fees deducted from a pooled cash collateral reinvestment vehicle) that are not included in the revenue split	$286,700
Administrative fees not included in revenue split	$46,259
Indemnification fee not included in revenue split	$0
Rebate (paid to borrower)	$182,405,328
Other fees not included in revenue split (specify)	$0
Aggregate fees/compensation for securities lending activities	$191,782,729
Net income from securities lending activities	**$132,212,889**

The services provided by Brown Brothers Harriman & Co. and Vanguard, each acting separately as securities lending agents for certain Vanguard funds, include coordinating the selection of securities to be loaned to approved borrowers; negotiating the terms of the loan; monitoring the value of the securities loaned and corresponding collateral, marking to market daily; coordinating the investment of cash collateral in the funds' approved cash collateral reinvestment vehicle; monitoring dividends and coordinating material proxy votes relating to loaned securities; and transferring, recalling, and arranging the return of loaned securities to the funds upon termination of the loan.

PORTFOLIO TRANSACTIONS

The advisor decides which securities to buy and sell on behalf of the Vanguard Total International Stock Index Fund and then selects the 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. For each trade, the advisor must select a broker-dealer that it believes will provide "best execution." Best execution does not necessarily mean paying the lowest spread or commission rate available. In seeking best execution, the SEC has said that an advisor should consider the full range of a broker-dealer's services. The factors considered by the advisor in seeking best execution include, but are not limited to, the broker-dealer's execution capability, clearance and settlement services, commission rate, trading expertise, willingness and ability to commit capital, ability to provide anonymity, financial responsibility, reputation and integrity, responsiveness, access to underwritten offerings and secondary markets, and access to company management, as well as the value of any research provided by the broker-dealer. In assessing which broker-dealer can provide best execution for a particular trade, the advisor also may consider the timing and size of the order and available liquidity and current market conditions. Subject to applicable legal requirements, the advisor may select a broker based partly on brokerage or research services provided to the advisor and its clients, including the Fund. The advisor may cause the Fund to pay a higher commission than other brokers would charge if the advisor determines in good faith that the amount of the commission is reasonable in relation to the value of services provided. The advisor also may receive brokerage or research services from broker-dealers that are provided at no charge in recognition of the volume of trades directed to the broker. To the extent research services or products may be a factor in selecting brokers, services and products may include written research reports analyzing performance or securities, discussions with research analysts, meetings with corporate executives to obtain oral reports on company performance, market data, and other products and services that will assist the advisor in its investment decision-making process. The research services provided by brokers through which the Fund effects securities transactions may be used by the advisor in servicing all of its accounts, and some of the services may not be used by the advisor in connection with the Fund.

The LifeStrategy Funds and Vanguard STAR Fund will purchase and sell conventional shares (i.e., not exchange-traded) of the underlying Vanguard funds by dealing directly with the issuer of the underlying funds. The Funds will incur no brokerage commissions for these transactions. To the extent a LifeStrategy Fund purchases and sells ETF Shares of an underlying fund, the Fund will pay brokerage commissions.

During the fiscal years ended October 31, 2021, 2022, and 2023, the Funds paid the following approximate amounts in brokerage commissions. Brokerage commissions paid by a Fund may be substantially different from year to year for multiple reasons, such as market volatility, cash flows, portfolio turnover, or changes to the securities that make up a fund's target index.

Vanguard Fund	2021	2022	2023
Vanguard LifeStrategy Conservative Growth Fund	$ 17,000	$ 11,000	$ 8,000
Vanguard LifeStrategy Growth Fund	22,000	17,000	16,000
Vanguard LifeStrategy Income Fund	8,000	5,000	3,000
Vanguard LifeStrategy Moderate Growth Fund	28,000	18,000	16,000
Vanguard STAR Fund	—	—	—
Vanguard Total International Stock Index Fund	18,531,000	15,599,000	10,281,000

Some securities that are considered for investment by a Fund may also be appropriate for other Vanguard funds or for other clients served by the advisor. If such securities are compatible with the investment policies of the Fund and one or more of the advisor's other clients, and are considered for purchase or sale at or about the same time, then transactions in such securities may be aggregated by the advisor, and the purchased securities or sale proceeds may be allocated among the participating Vanguard funds and the other participating clients of the advisor in a manner deemed equitable by the advisor. Although there may be no specified formula for allocating such transactions, the allocation methods used, and the results of such allocations, will be subject to periodic review by the Fund's board of trustees.

As of October 31, 2023, Vanguard Total International Stock Index Fund held securities of its "regular brokers or dealers," as that term is defined in Rule 10b-1 of the 1940 Act, as follows:

Vanguard Fund	Regular Broker or Dealer (or Parent)	Aggregate Holdings
Vanguard Total International Stock Index Fund	Macquarie Group	$506,471,000

PROXY VOTING

I. Proxy Voting Policies

Each Vanguard fund advised by Vanguard retains the authority to vote proxies received with respect to the shares of equity securities held in a portfolio advised by Vanguard. The Board of Trustees of the Vanguard-advised funds (the Board) has adopted proxy voting procedures and guidelines to govern proxy voting for each portfolio retaining proxy voting authority, which are summarized in *Appendix A*.

Vanguard has entered into agreements with various state, federal, and non-U.S. regulators and with certain issuers that limit the amount of shares that the funds may vote at their discretion for particular securities. For these securities, the funds are able to vote a limited portion of the shares at their discretion. Any additional shares generally are voted in the same proportion as votes cast by the issuer's entire shareholder base (i.e., mirror voted), or the fund is not permitted to vote such shares. Further, the Board has adopted policies that will result in certain funds mirror voting a higher proportion of the shares they own in a regulated issuer in order to permit certain other funds (generally advised by managers not affiliated with Vanguard) to mirror vote none, or a lower proportion, of their shares in such regulated issuer.

II. Securities Lending

There may be occasions when Vanguard needs to restrict lending of and/or recall securities that are out on loan in order to vote the full position at a shareholder meeting. For the funds managed by Vanguard, Vanguard has processes to monitor securities on loan and to evaluate any circumstances that may require it to restrict and/or attempt to recall the security based on the criteria set forth in *Appendix A*.

To obtain a free copy of a report that details how the funds voted the proxies relating to the portfolio securities held by the funds for the prior 12-month period ended June 30, log on to *vanguard.com* or visit the SEC's website at *sec.gov*.

INFORMATION ABOUT THE ETF SHARE CLASS

Vanguard Total International Stock Index Fund (the ETF Fund) offers and issues an exchange-traded class of shares called ETF Shares. The Fund issues and redeems ETF Shares in large blocks, known as "Creation Units."

To purchase or redeem a Creation Unit, you must be an Authorized Participant or you must transact through a broker that is an Authorized Participant. An Authorized Participant is a participant in the Depository Trust Company (DTC) that has executed a Participant Agreement with Vanguard Marketing Corporation, the ETF Fund's Distributor (the Distributor). For a current list of Authorized Participants, contact the Distributor.

Investors that are not Authorized Participants must hold ETF Shares in a brokerage account. As with any stock traded on an exchange through a broker, purchases and sales of ETF Shares will be subject to usual and customary brokerage commissions.

The ETF Fund issues Creation Units in kind in exchange for a basket of securities that are part of—or soon to be part of—its target index (Deposit Securities). The ETF Fund also redeems Creation Units in kind; an investor who tenders a Creation Unit will receive, as redemption proceeds, a basket of securities that are part of the Fund's portfolio holdings (Redemption Securities). The Deposit Securities and Redemption Securities may include American Depository Receipts (ADRs). As part of any creation or redemption transaction, the investor will either pay or receive some cash in addition to the securities, as described more fully on the following pages. The ETF Fund reserves the right to issue Creation Units for cash, rather than in kind. As of the date of this Statement of Additional Information, cash purchases and redemptions will be required for securities traded in Brazil, Chile, China, Colombia, Egypt, India, Kuwait, Malaysia, Pakistan, Peru, Qatar, Russia, Saudi Arabia, South Korea, Taiwan, and UAE.

Exchange Listing and Trading

The ETF Shares have been approved for listing on a national securities exchange and will trade on the exchange at market prices that may differ from net asset value (NAV). There can be no assurance that, in the future, ETF Shares will continue to meet all of the exchange's listing requirements. The exchange will institute procedures to delist the Fund's ETF Shares if the Fund's ETF Shares do not continuously comply with the exchange's listing rules. The exchange will also delist the Fund's ETF Shares upon termination of the ETF share class.

The exchange disseminates, through the facilities of the Consolidated Tape Association, an updated "indicative optimized portfolio value" (IOPV) for the ETF Fund as calculated by an information provider. The ETF Fund is not involved with or responsible for the calculation or dissemination of the IOPVs, and it makes no warranty as to the accuracy of the IOPVs. An IOPV for the Fund's ETF Shares is disseminated every 15 seconds during regular exchange trading hours. An IOPV has a securities value component and a cash component. The IOPV is designed as an estimate of the ETF Fund's NAV at a particular point in time, but it is only an estimate and should not be viewed as the actual NAV, which is calculated once each day.

Conversions and Exchanges

Owners of conventional (i.e., not exchange-traded) shares issued by the ETF Fund may convert those shares to ETF Shares of equivalent value of the same Fund. Please note that investors who own conventional shares through a 401(k) plan or other employer-sponsored retirement or benefit plan generally may not convert those shares to ETF Shares and should check with their plan sponsor or recordkeeper. ETF Shares, whether acquired through a conversion or purchased on the secondary market, cannot be converted to conventional shares by a shareholder. Also, ETF Shares of one fund cannot be exchanged for ETF Shares of another fund.

Investors that are not Authorized Participants must hold ETF Shares in a brokerage account. Thus, before converting conventional shares to ETF Shares, an investor must have an existing, or open a new, brokerage account. This account may be with Vanguard Brokerage Services or with any other brokerage firm. To initiate a conversion of conventional shares to ETF Shares, an investor must contact his or her broker.

Vanguard Brokerage Services does not impose a fee on conversions from Vanguard conventional shares to Vanguard ETF Shares. However, other brokerage firms may charge a fee to process a conversion. Vanguard reserves the right, in the future, to impose a transaction fee on conversions or to limit or terminate the conversion privilege.

Converting conventional shares to ETF Shares is generally accomplished as follows. First, after the broker notifies Vanguard of an investor's request to convert, Vanguard will transfer conventional shares from the investor's account with Vanguard to the broker's omnibus account with Vanguard (an account maintained by the broker on behalf of all its customers who hold conventional Vanguard fund shares through the broker). After the transfer, Vanguard's records will reflect the broker, not the investor, as the owner of the shares. Next, the broker will instruct Vanguard to convert the appropriate number or dollar amount of conventional shares in its omnibus account to ETF Shares of equivalent value, based on the respective NAVs of the two share classes. The ETF Fund's transfer agent will reflect ownership of all ETF Shares in the name of the DTC. The DTC will keep track of which ETF Shares belong to the broker, and the broker, in turn, will keep track of which ETF Shares belong to its customers.

Because the DTC is unable to handle fractional shares, only whole shares can be converted. For example, if the investor owned 300.25 conventional shares, and this was equivalent in value to 90.75 ETF Shares, the DTC account would receive 90 ETF Shares. Conventional shares with a value equal to 0.75 ETF Shares (in this example, that would be 2.481 conventional shares) would remain in the broker's omnibus account with Vanguard. The broker then could either (1) take certain internal actions necessary to credit the investor's account with 0.75 ETF Shares or (2) redeem the 2.481 conventional shares for cash at NAV and deliver that cash to the investor's account. If the broker chose to redeem the conventional shares, the investor would realize a gain or loss on the redemption that must be reported on his or her tax return (unless the shares are held in an IRA or other tax-deferred account). An investor should consult his or her broker for information on how the broker will handle the conversion process, including whether the broker will impose a fee to process a conversion.

The conversion process works differently for investors who opt to hold ETF Shares through an account at Vanguard Brokerage Services. Investors who convert their conventional shares to ETF Shares through Vanguard Brokerage Services will have *all* conventional shares for which they request conversion converted to the equivalent dollar value of ETF Shares. Because no fractional shares will have to be sold, the transaction will not be taxable.

Here are some important points to keep in mind when converting conventional shares of the ETF Fund to ETF Shares:

- The conversion process can take anywhere from several days to several weeks, depending on the broker. Vanguard generally will process conversion requests either on the day they are received or on the next business day. Vanguard imposes conversion blackout windows around the dates when the ETF Fund declares dividends. This is necessary to prevent a shareholder from collecting a dividend from both the conventional share class currently held and also from the ETF share class to which the shares will be converted.

- During the conversion process, an investor will remain fully invested in the Fund's conventional shares, and the investment will increase or decrease in value in tandem with the NAV of those shares.
- The conversion transaction is nontaxable except, if applicable, to the very limited extent previously described.
- During the conversion process, an investor will be able to liquidate all or part of an investment by instructing Vanguard or the broker (depending on whether the shares are held in the investor's account or the broker's omnibus account) to redeem the conventional shares. After the conversion process is complete, an investor will be able to liquidate all or part of an investment by instructing the broker to sell the ETF Shares.

Book Entry Only System

ETF Shares issued by the Fund are registered in the name of the DTC or its nominee, Cede & Co., and are deposited with, or on behalf of, the DTC. The DTC is a limited-purpose trust company that was created to hold securities of its participants (DTC Participants) and to facilitate the clearance and settlement of transactions among them through electronic book-entry changes in their accounts, thereby eliminating the need for physical movement of securities certificates. DTC Participants include securities brokers and dealers, banks, trust companies, clearing corporations, and certain other organizations. The DTC is a subsidiary of the Depository Trust and Clearing Corporation (DTCC), which is owned by certain participants of the DTCC's subsidiaries, including the DTC. Access to the DTC system is also available to others such as banks, brokers, dealers, and trust companies that clear through or maintain a custodial relationship with a DTC Participant, either directly or indirectly (Indirect Participants).

Beneficial ownership of ETF Shares is limited to DTC Participants, Indirect Participants, and persons holding interests through DTC Participants and Indirect Participants. Ownership of beneficial interests in ETF Shares (owners of such beneficial interests are referred to herein as Beneficial Owners) is shown on, and the transfer of ownership is effected only through, records maintained by the DTC (with respect to DTC Participants) and on the records of DTC Participants (with respect to Indirect Participants and Beneficial Owners that are not DTC Participants). Beneficial Owners will receive from, or through, the DTC Participant a written confirmation relating to their purchase of ETF Shares. The laws of some jurisdictions may require that certain purchasers of securities take physical delivery of such securities. Such laws may impair the ability of certain investors to acquire beneficial interests in ETF Shares.

The ETF Fund recognizes the DTC or its nominee as the record owner of all ETF Shares for all purposes. Beneficial Owners of ETF Shares are not entitled to have ETF Shares registered in their names and will not receive or be entitled to physical delivery of share certificates. Each Beneficial Owner must rely on the procedures of the DTC and any DTC Participant and/or Indirect Participant through which such Beneficial Owner holds its interests to exercise any rights of a holder of ETF Shares.

Conveyance of all notices, statements, and other communications to Beneficial Owners is effected as follows. The DTC will make available to each ETF Fund, upon request and for a fee, a listing of the ETF Shares of the Fund held by each DTC Participant. The ETF Fund shall obtain from each DTC Participant the number of Beneficial Owners holding ETF Shares, directly or indirectly, through the DTC Participant. The ETF Fund shall provide each DTC Participant with copies of such notice, statement, or other communication, in form, in number, and at such place as the DTC Participant may reasonably request, in order that these communications may be transmitted by the DTC Participant, directly or indirectly, to the Beneficial Owners. In addition, the ETF Fund shall pay to each DTC Participant a fair and reasonable amount as reimbursement for the expenses attendant to such transmittal, subject to applicable statutory and regulatory requirements.

Share distributions shall be made to the DTC or its nominee as the registered holder of all ETF Shares. The DTC or its nominee, upon receipt of any such distributions, shall immediately credit the DTC Participants' accounts with payments in amounts proportionate to their respective beneficial interests in ETF Shares of the appropriate ETF Fund as shown on the records of the DTC or its nominee. Payments by DTC Participants to Indirect Participants and Beneficial Owners of ETF Shares held through such DTC Participants will be governed by standing instructions and customary practices, as is now the case with securities held for the accounts of customers in bearer form or registered in a "street name," and will be the responsibility of such DTC Participants.

The ETF Fund has no responsibility or liability for any aspects of the records relating to or notices to Beneficial Owners; for payments made on account of beneficial ownership interests in such ETF Shares; for maintenance, supervision, or review of any records relating to such beneficial ownership interests; or for any other aspect of the relationship between the DTC and DTC Participants or the relationship between such DTC Participants and the Indirect Participants and Beneficial Owners owning through such DTC Participants.

The DTC may determine to discontinue providing its service with respect to ETF Shares at any time by giving reasonable notice to the ETF Fund and discharging its responsibilities with respect thereto under applicable law. Under such circumstances, the ETF Fund shall take action either to find a replacement for the DTC to perform its functions at a comparable cost or, if such replacement is unavailable, to issue and deliver printed certificates representing ownership of ETF Shares, unless the ETF Fund makes other arrangements with respect thereto satisfactory to the exchange.

Purchase and Issuance of ETF Shares in Creation Units

Except for conversions to ETF Shares from conventional shares, the ETF Fund issues and sells ETF Shares only in Creation Units on a continuous basis through the Distributor, without a sales load, at its NAV next determined after receipt of an order in proper form on any business day. The ETF Fund does not issue fractional Creation Units. (Please see "*Conversions and Exchanges*" for the issuance of ETF Shares resulting from a conversion.)

A business day is any day on which the NYSE is open for business. As of the date of this Statement of Additional Information, the NYSE observes the following U.S. holidays: New Year's Day; Martin Luther King, Jr., Day; Presidents' Day (Washington's Birthday); Good Friday; Memorial Day; Juneteenth National Independence Day; Independence Day; Labor Day; Thanksgiving Day; and Christmas Day.

Fund Deposit. The consideration for purchase of a Creation Unit from the ETF Fund generally consists of an in-kind deposit of a designated portfolio of securities (Deposit Securities) and an amount of cash (Cash Component) consisting of a purchase balancing amount and a transaction fee (both described in the following paragraphs). Together, the Deposit Securities and the Cash Component constitute the fund deposit.

The purchase balancing amount is an amount equal to the difference between the NAV of a Creation Unit and the market value of the Deposit Securities (Deposit Amount). It ensures that the NAV of a fund deposit (not including the transaction fee) is identical to the NAV of the Creation Unit it is used to purchase. If the purchase balancing amount is a positive number (i.e., the NAV per Creation Unit exceeds the market value of the Deposit Securities), then that amount will be paid by the purchaser to the ETF Fund in cash. If the purchase balancing amount is a negative number (i.e., the NAV per Creation Unit is less than the market value of the Deposit Securities), then that amount will be paid by the ETF Fund to the purchaser in cash (except as offset by the transaction fee).

Vanguard, through the National Securities Clearing Corporation (NSCC), makes available after the close of each business day a list of the names and the number of shares of each Deposit Security to be included in the next business day's fund deposit for the ETF Fund (subject to possible amendment or correction). The ETF Fund reserves the right to accept a nonconforming fund deposit.

The identity and number of shares of the Deposit Securities required for a fund deposit may change from one day to another to reflect rebalancing adjustments and corporate actions or to respond to adjustments to the weighting or composition of the component securities of the relevant target index

In addition, the ETF Fund reserves the right to permit or require the substitution of an amount of cash—referred to as "cash in lieu"—to be added to the Cash Component to replace any Deposit Security. This might occur, for example, if a Deposit Security is not available in sufficient quantity for delivery, is not eligible for transfer through the applicable clearance and settlement system, or is not eligible for trading by an Authorized Participant or the investor for which an Authorized Participant is acting. Trading costs incurred by the ETF Fund in connection with the purchase of Deposit Securities with cash-in-lieu amounts will be an expense of the ETF Fund. However, Vanguard may adjust the transaction fee to protect existing shareholders from this expense.

All questions as to the number of shares of each security in the Deposit Securities and the validity, form, eligibility, and acceptance for deposit of any securities to be delivered shall be determined by the ETF Fund, and the ETF Fund's determination shall be final and binding.

Procedures for Purchasing Creation Units. To initiate a purchase order for a Creation Unit, an Authorized Participant must submit an order in proper form to the Distributor and such order must be received by the Distributor prior to the closing time of regular trading on the NYSE (Closing Time) (ordinarily 4 p.m., Eastern time) to receive that day's NAV. The date on which an order to purchase (or redeem) Creation Units is placed is referred to as the transmittal date. Authorized Participants must transmit orders using a transmission method acceptable to the Distributor pursuant to procedures set forth in the Participant Agreement.

The Distributor shall inform the ETF Fund's custodian of the order. The custodian will then inform the appropriate foreign subcustodians. Each subcustodian shall maintain an account into which the Authorized Participant shall deliver, on

behalf of itself or the party on whose behalf it is acting, the relevant Deposit Securities (or the cash value of all or part of such securities, in the case of a permitted or required cash purchase or cash-in-lieu amount), with any appropriate adjustments as advised by Vanguard. Deposit Securities must be delivered to an account maintained at the applicable local subcustodians.

The Authorized Participant must also make available on or before the contractual settlement date, by means satisfactory to the ETF Fund, immediately available or same-day funds estimated by the ETF Fund to be sufficient to pay the Cash Component. Any excess funds will be returned following settlement of the issue of the Creation Unit.

Neither the Trust, the ETF Fund, the Distributor, nor any affiliated party will be liable to an investor who is unable to submit a purchase order by Closing Time, even if the problem is the responsibility of one of those parties (e.g., the Distributor's phone or email systems were not operating properly).

If you are not an Authorized Participant, you must place your purchase order in an acceptable form with an Authorized Participant. The Authorized Participant may request that you make certain representations or enter into agreements with respect to the order (e.g., to provide for payments of cash when required).

An order to purchase Creation Units is deemed received on the transmittal date if (1) such order is received by the ETF Fund's Distributor prior to Closing Time on such transmittal date and (2) all other procedures set forth in the Participant Agreement are properly followed.

Except as provided herein, a Creation Unit will not be issued until the transfer of good title to the ETF Fund of the Deposit Securities and the payment of the Cash Component have been completed. When each subcustodian has confirmed to the custodian that the required securities included in the fund deposit have been delivered to the account of the relevant subcustodian, and the Cash Component has been delivered to the custodian, the Distributor shall be notified of such delivery, and the ETF Fund will issue and cause the delivery of the Creation Unit.

If a fund deposit is incomplete on the first business day after the trade date (the trade date, known as "T," is the date on which the trade actually takes place; one business day after the trade date is known as "T+1") because of the failed delivery of one or more of the Deposit Securities, the ETF Fund shall be entitled to cancel the purchase order. Alternatively, the ETF Fund may issue Creation Units in reliance on the Authorized Participant's undertaking to deliver the missing Deposit Securities at a later date. Such undertaking shall be secured by the delivery and maintenance of cash collateral in an amount determined by the ETF Fund in accordance with the terms of the Participant Agreement.

Rejection of Purchase Orders. The ETF Fund reserves the absolute right to reject a purchase order. By way of example, and not limitation, the ETF Fund will reject a purchase order if:

- The order is not in proper form.
- The Deposit Securities delivered are not the same (in name or amount) as the published basket.
- Acceptance of the Deposit Securities would have certain adverse tax consequences to the ETF Fund.
- Acceptance of the fund deposit would, in the opinion of counsel, be unlawful.
- Acceptance of the fund deposit would otherwise, at the discretion of the ETF Fund or Vanguard, have an adverse effect on the Fund or any of its shareholders.
- Circumstances outside the control of the ETF Fund, the Trust, the transfer agent, the custodian, subcustodian(s), the Distributor, and Vanguard make it for all practical purposes impossible to process the order. Examples include, but are not limited to, natural disasters, public service disruptions, or utility problems such as fires, floods, extreme weather conditions, and power outages resulting in telephone, telecopy, and computer failures; market conditions or activities causing trading halts; systems failures involving computer or other information systems affecting the aforementioned parties as well as the DTC, the NSCC, the Federal Reserve, or any other participant in the purchase process; and similar extraordinary events.

If the purchase order is rejected, the Distributor shall notify the Authorized Participant that submitted the order. The ETF Fund, the Trust, the transfer agent, the custodian, subcustodian(s), the Distributor, and Vanguard are under no duty, however, to give notification of any defects or irregularities in the delivery of a fund deposit, nor shall any of them incur any liability for the failure to give any such notification.

Transaction Fee on Purchases of Creation Units. The ETF Fund may impose a transaction fee (payable to the Fund) to compensate the ETF Fund for costs associated with the issuance of Creation Units. The amount of the fee, which may be changed by each ETF Fund from time to time at its sole discretion, is made available daily to Authorized Participants, market makers, and other interested parties through Vanguard's proprietary portal system. When the ETF

Fund permits (or requires) a purchaser to substitute cash in lieu of depositing one or more Deposit Securities, the purchaser may be assessed an additional variable charge on the cash-in-lieu portion of the investment. The amount of this charge will be disclosed to investors before they place their orders. The amount will be determined by the ETF Fund at its sole discretion. The maximum transaction fee, including any variable charges, on purchases of Creation Units, including any additional charges as described, shall be 2% of the value of the Creation Units.

The ETF Fund reserves the right to not impose a transaction fee or to vary the amount of the transaction fee imposed, up to the maximum amount listed above. To the extent a creation transaction fee is not charged or does not cover the costs associated with the issuance of the Creation Units, certain costs may be borne by the ETF Fund.

Redemption of ETF Shares in Creation Units

To be eligible to place a redemption order, you must be an Authorized Participant. Investors that are not Authorized Participants must make appropriate arrangements with an Authorized Participant in order to redeem a Creation Unit.

ETF Shares may be redeemed only in Creation Units. Investors should expect to incur brokerage and other transaction costs in connection with assembling a sufficient number of ETF Shares to constitute a redeemable Creation Unit. There can be no assurance, however, that there will be sufficient liquidity in the public trading market at any time to permit assembly of a Creation Unit. Redemption requests received on a business day in good order will receive the NAV next determined after the request is made.

Unless cash redemptions are available or specified for the ETF Fund, an investor tendering a Creation Unit generally will receive redemption proceeds consisting of (1) a basket of Redemption Securities; plus (2) a redemption balancing amount in cash equal to the difference between (x) the NAV of the Creation Unit being redeemed, as next determined after receipt of a request in proper form, and (y) the value of the Redemption Securities; less (3) a transaction fee. If the Redemption Securities have a value greater than the NAV of a Creation Unit, the redeeming investor will pay the redemption balancing amount in cash to the ETF Fund, rather than receive such amount from the Fund.

Vanguard, through the NSCC, makes available after the close of each business day a list of the names and the number of shares of each Redemption Security to be included in the next business day's redemption basket for the ETF Fund (subject to possible amendment or correction). The basket of Redemption Securities provided to an investor redeeming a Creation Unit may not be identical to the basket of Deposit Securities required of an investor purchasing a Creation Unit. If the ETF Fund and a redeeming investor mutually agree, the Fund may provide a redeeming investor with a basket of Redemption Securities that differs from the composition of the redemption basket published through the NSCC.

The ETF Fund reserves the right to deliver cash in lieu of any Redemption Security for the same reason it might accept cash in lieu of a Deposit Security, as previously discussed, or if the ETF Fund could not lawfully deliver the security or could not do so without first registering such security under federal or state law.

Neither the Trust, the ETF Fund, the Distributor, nor any affiliated party will be liable to an investor who is unable to submit a redemption order by Closing Time, even if the problem is the responsibility of one of those parties (e.g., the Distributor's phone or email systems were not operating properly).

Transaction Fee on Redemptions of Creation Units. The ETF Fund may impose a transaction fee (payable to the Fund) to compensate the ETF Fund for costs associated with the redemption of Creation Units. The amount of the fee, which may be changed by the ETF Fund from time to time at its sole discretion, is made available daily to Authorized Participants, market makers, and other interested parties through Vanguard's proprietary portal system. An additional charge may be imposed for redemptions of Creation Units effected outside the Clearing Process. When the ETF Fund permits (or requires) a redeeming investor to receive cash in lieu of one or more Redemption Securities, the ETF Fund may assess an additional variable charge on the cash portion of the redemption. The amount will vary as determined by the ETF Fund at its sole discretion and is made available daily to Authorized Participants, market makers, and other interested parties through Vanguard's proprietary portal system. The maximum transaction fee, including any variable charges, on redemptions of Creation Units shall be 2% of the value of the Creation Units.

The ETF Fund reserves the right to not impose a transaction fee or to vary the amount of the transaction fee imposed, up to the maximum amount listed above. To the extent a redemption transaction fee is not charged or does not cover the costs associated with the redemption of the Creation Units, certain costs may be borne by the ETF Fund.

Placement of Redemption Orders. Requests to redeem Creation Units must be submitted to the Distributor by or through an Authorized Participant on a business day prior to Closing Time.

An order to redeem a Creation Unit is deemed received on the transmittal date if (1) such order is received by the ETF Fund's Distributor before Closing Time on such transmittal date and (2) all other procedures set forth in the Participant Agreement are properly followed. If a redemption order in proper form is submitted to the designated agent by an Authorized Participant prior to Closing Time on the transmittal date, then the value of the Redemption Securities and the Cash Redemption Amount will be determined by the ETF Fund on such transmittal date.

If on T+1 an Authorized Participant has failed to deliver all of the Vanguard ETF Shares it is seeking to redeem, the ETF Fund shall be entitled to cancel the redemption order. Alternatively, the ETF Fund may deliver to the Authorized Participant the full complement of Redemption Securities and cash in reliance on the Authorized Participant's undertaking to deliver the missing ETF Shares at a later date. Such undertaking shall be secured by the Authorized Participant's delivery and maintenance of cash collateral in accordance with collateral procedures that are part of the Participant Agreement. In all cases the ETF Fund shall be entitled to charge the Authorized Participant for any costs (including investment losses, attorney's fees, and interest) incurred by the ETF Fund as a result of the late delivery or failure to deliver.

The ETF Fund reserves the right, at its sole discretion, to require or permit a redeeming investor to receive the redemption proceeds in cash. In such cases, the investor would receive a cash payment equal to the NAV of its ETF Shares based on the NAV of those shares next determined after the redemption request is received in proper form (minus a transaction fee, including a charge for cash redemptions, as previously discussed).

If an Authorized Participant, or a redeeming investor acting through an Authorized Participant, is subject to a legal restriction with respect to a particular security included in the basket of Redemption Securities, such investor may be paid an equivalent amount of cash in lieu of the security.

The ETF Fund generally will deliver redemption proceeds within one business day. Because of the schedule of holidays in certain markets, however, the delivery of in-kind redemption proceeds may take longer than one business day. For each market relating to the ETF Fund, the dates where more than seven days would be needed to deliver redemption proceeds are identified under the heading *ETF Shares*: *Foreign Market Information*. The ETF Fund will deliver redemption proceeds within the number of days stated under *ETF Shares*: *Foreign Market Information*.

In connection with taking delivery of shares of Redemption Securities upon redemption of a Creation Unit, an Authorized Participant, or a Beneficial Owner redeeming through an Authorized Participant, must maintain appropriate security arrangements with a qualified broker-dealer, bank, or other custody provider in each jurisdiction in which any of the Redemption Securities are customarily traded, to which account such Deposit Securities will be delivered.

If appropriate arrangements to take delivery of the Redemption Securities in the applicable foreign jurisdictions, as required in the preceding paragraph, are not in place, or if it is not possible to effect deliveries of the Redemption Securities in such jurisdictions, the ETF Fund may at its discretion effect the redemption in cash. In such case, the investor will receive a cash payment equal to the NAV of the redeemed shares, based on the NAV next calculated after receipt of the redemption request in proper form (minus a transaction fee and an additional variable charge for cash redemptions specified previously, to offset the ETF Fund's transaction costs associated with the disposition of Redemption Securities of the ETF Fund). Redemptions of Creation Units will be subject to compliance with applicable United States federal and state securities laws and the ETF Fund (whether or not it otherwise permits cash redemptions) reserves the right to redeem Creation Units for cash to the extent that the ETF Fund could not lawfully deliver specific Redemption Securities or could not do so without first registering such securities under federal or state law.

If cash redemptions are permitted or required by the ETF Fund, proceeds will be paid to the Authorized Participant as soon as practicable after the date of redemption (within seven calendar days thereafter, except for the instances listed under *ETF Shares*: *Foreign Market Information* hereto where more than seven calendar days may be needed).

To the extent contemplated by an Authorized Participant's agreement with the Distributor, in the event the Authorized Participant that has submitted a redemption request in proper form is unable to transfer all or part of the Creation Unit to be redeemed to the ETF Fund prior to Closing Time on the business day of submission of such redemption request, the Distributor will nonetheless accept the redemption in reliance on the undertaking by the Authorized Participant to deliver the missing ETF Shares as soon as possible, which undertaking shall be secured by the Authorized Participant's delivery and maintenance of collateral consisting of cash having a value at least equal to 103% of the value of the missing ETF Shares in accordance with the ETF Fund's then-effective procedures. In all cases the ETF Fund shall be entitled to charge the redeeming investor for any costs (including investment losses, attorney's fees, and interest) sustained by the ETF Fund as a result of the late delivery or failure to deliver.

Because the Redemption Securities of the ETF Fund may trade on the relevant exchange(s) on days that the exchange is closed, stockholders may not be able to redeem their shares of the ETF Fund, or to purchase or sell ETF Shares on the exchange, on days when the NAVs of the ETF Fund could be significantly affected by events in the relevant foreign markets.

Suspension of Redemption Rights. The right of redemption may be suspended or the date of payment postponed with respect to the ETF Fund (1) for any period during which the NYSE or listing exchange is closed (other than customary weekend and holiday closings), (2) for any period during which trading on the NYSE or listing exchange is suspended or restricted, (3) for any period during which an emergency exists as a result of which disposal of the Fund's portfolio securities or determination of its NAV is not reasonably practicable, or (4) in such other circumstances as the SEC permits.

Precautionary Notes

A precautionary note to ETF investors: The DTC or its nominee will be the registered owner of all outstanding ETF Shares. Your ownership of ETF Shares will be shown on the records of the DTC and the DTC Participant broker through which you hold the shares. Vanguard will not have any record of your ownership. Your account information will be maintained by your broker, which will provide you with account statements, confirmations of your purchases and sales of ETF Shares, and tax information. Your broker also will be responsible for distributing income and capital gains distributions and for ensuring that you receive shareholder reports and other communications from the fund whose ETF Shares you own. You will receive other services (e.g., dividend reinvestment and average cost information) only if your broker offers these services.

You should also be aware that investments in ETF Shares may be subject to certain risks relating to having large shareholders. To the extent that a large number of the Fund's ETF Shares are held by a large shareholder (e.g., an institutional investor, an investment advisor or an affiliate of an investment advisor, an authorized participant, a lead market maker, or another entity), a large redemption by such a shareholder could result in an increase in the ETF's expense ratio, cause the ETF to incur higher transaction costs, cause the ETF to fail to comply with applicable listing standards of the listing exchange upon which it is listed, lead to the realization of taxable capital gains, or cause the remaining shareholders to receive distributions representing a disproportionate share of the ETF's ordinary income and long-term capital gains. In addition, transactions by large shareholders may account for a large percentage of the trading volume on an exchange and may, therefore, have a material upward or downward effect on the market price of the ETF Shares.

A precautionary note to purchasers of Creation Units: You should be aware of certain legal risks unique to investors purchasing Creation Units directly from the issuing fund.

Because new ETF Shares may be issued on an ongoing basis, a "distribution" of ETF Shares could be occurring at any time. Certain activities that you perform as a dealer could, depending on the circumstances, result in your being deemed a participant in the distribution in a manner that could render you a statutory underwriter and subject you to the prospectus delivery and liability provisions of the Securities Act of 1933 (the 1933 Act). For example, you could be deemed a statutory underwriter if you purchase Creation Units from the issuing fund, break them down into the constituent ETF Shares, and sell those shares directly to customers or if you choose to couple the creation of a supply of new ETF Shares with an active selling effort involving solicitation of secondary market demand for ETF Shares. Whether a person is an underwriter depends upon all of the facts and circumstances pertaining to that person's activities, and the examples mentioned here should not be considered a complete description of all the activities that could cause you to be deemed an underwriter.

Dealers who are not "underwriters" but are participating in a distribution (as opposed to engaging in ordinary secondary-market transactions), and thus dealing with ETF Shares as part of an "unsold allotment" within the meaning of Section 4(3)(C) of the 1933 Act, will be unable to take advantage of the prospectus delivery exemption provided by Section 4(3) of the 1933 Act.

A precautionary note to shareholders redeeming Creation Units: An Authorized Participant that is not a "qualified institutional buyer" as defined in Rule 144A under the 1933 Act will not be able to receive, as part of the redemption basket, restricted securities eligible for resale under Rule 144A.

A precautionary note to investment companies: Vanguard ETF Shares are issued by registered investment companies, and therefore the acquisition of such shares by other investment companies and private funds is subject to the restrictions of Section 12(d)(1) of the 1940 Act. SEC Rule 12d1-4 under the 1940 Act permits investments in Vanguard ETF Shares beyond the limits of Section 12(d)(1), subject to the conditions of Rule 12d1-4, as described under the heading "*Other Investment Companies*."

ETF Shares: Foreign Market Information

The security settlement cycles and local market holiday schedules in foreign markets, as well as unscheduled foreign market closings, may result in the delivery of redemption proceeds (either in kind or in cash) more than seven days after receipt of a redemption request in proper form. Below are the dates of regular holidays affecting the relevant markets in which the ETF Fund invests and the dates on which, if a redemption request is submitted, the settlement period in a given market will exceed seven days. The proclamation of new holidays, the treatment by market participants of certain days as "informal holidays," the elimination of existing holidays, or changes in local securities delivery practices could affect the information set forth herein at some time in the future.

Regular Holidays. The calendar year 2024 local market holidays are as follows:

Country	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Albania	1, 2		14, 22	1, 10	1, 6	17			5		28, 29	9, 25
Argentina	1	12, 13	28, 29	2	1	17, 20	9				6, 20	25
Australia	1, 26		4, 11, 29	1, 2, 25	6, 27	3, 10		5, 14	23	7	5	24, 25, 26, 31
Austria	1		29	1	1, 9, 20, 30			15			1	24-26, 31
Bahrain**	1			10, 11	1	16-18	16, 17		15			16, 17
Bangladesh**	7	21, 26	17, 26	7, 10, 11, 14	1, 22	16-18	1, 17	15, 26	16	13		16, 25, 31
Belgium	1		29	1	1							24, 25, 26, 31
Bermuda	1		29		24	17		1, 2	2		11	25, 26
Bosnia and Herzegovina, Fed. of	1, 2, 9				1-3, 6, 9						21	
Botswana	1, 2		29	1	1, 9		1, 15, 16		30	1		25, 26
Brazil	1	12-14	29		1, 30						15, 20	25, 31
Bulgaria	1		4	29	1, 3, 6, 24				6, 23			24-26, 31
Canada	1, 2	19	29		20	24	1	5	2, 30	14	11	25, 26
Chile	1		29		1, 21	20	16	15	18-20	31	1	25
China	1	9, 12-16		4, 5	1-3	10			16, 17	1-4, 7		
China Connect - Bond Connect	1	12-16		4, 5	1-3	10			16, 17	1-4, 7		
China Connect - Stock Connect	1	9, 12-16	29	1, 4, 5	1-3, 15	10	1		16-18	1-4, 7, 11		25, 26
Colombia	1, 8		25, 28, 29		1, 13	3, 10	1	7, 19		14	4, 11	25
Croatia	1		29	1	1, 30			5, 15			1, 18	24-26, 31
Cyprus	1		18, 25, 29	1	1, 3, 6, 7	24		15		1, 28		24-26
Czech Republic	1		29	1	1, 8		5			28		24-26, 31
Denmark	1		28, 29	1	9, 10, 20	5						24-26, 31
Egypt**	1, 7, 25			10, 11	1, 5, 6	16, 17	1, 7, 23		15	6		

Country	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Estonia	1		29	1	1, 9	24		20				24-26, 31
Finland	1		29	1	1, 9	21						6, 24-26, 31
France	1		29	1	1							24-26, 31
Georgia, Republic of	1, 2, 19		8	9	3, 6, 9			28		14		
Germany	1		29	1	1, 9, 20					3		24, 25, 26, 31
Ghana	1, 8		6, 29	1, 10	1	17	1	5	23			6, 25, 26
Greece	1		18, 25, 29	1	1, 3, 6	24		15		28		24, 25, 26
Hong Kong	1	9, 12, 13	29	1, 4	1, 15	10	1		18	1, 11		24, 25, 26, 31
Hungary	1		15, 29	1	1, 20			19, 20		23	1	24-27, 31
Iceland	1		28, 29	1, 25	1, 9, 20	17		5				24-26, 31
India	26	19	8, 25, 29	1, 9, 11, 17	1, 23	17	17	15	16	2	1, 15	24-26, 31
Indonesia	1	8, 9	11, 12, 29	8-12, 15	1, 9, 10, 23, 24	17, 18			16			24-26, 31
Ireland	1	5	29	1	1, 6	3		5		28		24-26, 31
Israel**	30	27	24	22, 23, 24, 25, 28, 29	13, 14	11, 12		13		2, 3, 16, 17, 20, 21, 22, 23, 24		
Italy	1		29	1	1			15				24-26, 31
Ivory Coast	1			1, 10	1, 9, 20	17		7, 15	16		1, 15	25
Japan	1-3, 8	12, 23	20	29	3, 6		15	12	16, 23	14	4	31
Jordan**	1			9-11	1	16-19	7		15			25
Kazakhstan	1, 2		8, 21, 22, 25		1, 7, 9	17	8	30		25		16
Kenya	1		29	1, 10	1					10		12, 25, 26, 31
Korea, Republic of	1, 2	9, 12	1	10	1, 6, 15	6		15	16-18	3, 9		25
Kuwait**	1	8, 25, 26		10, 11		16, 17	7		15			
Latvia	1		29	1	1, 6, 9	24					18	23-26, 30, 31
Lithuania	1	16	11, 29	1	1, 9	24		15			1, 2	24-26, 31
Luxembourg	1		29	1	1, 9, 20	23		15			1	24-26, 31
Malawi	1, 15		4, 29	1, 10	1, 14		8			15		25, 26
Malaysia	1, 25	1	28	10, 11	1, 22	3, 17			16	31		25
Mauritius	1, 2, 25	1	8, 12	9, 10	1			15		31		25
Mexico	1	5	18, 28, 29		1				16	1	18	12, 25

Country	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Morocco	1, 11			10, 11	1	17	8, 30	14, 20, 21	16, 17		6, 18	
Namibia	1		21, 29	1	1, 9	17		9, 26	24			10, 16, 25, 26
Netherlands	1		29	1	1							24, 25, 26, 31
New Zealand	1, 2	6	29	1, 25		3, 28				28		25, 26
Nigeria	1		29	1, 10, 11	1	12, 17, 18			16	1		25, 26
Norway	1		27, 28, 29	1	1, 9, 17, 20							24-26, 31
Oman**		8		9-11		16-20	7		15		18	
Pakistan	1, 2	5	11	8-10	1	17-19	1, 16	14	16			25
Panama	1, 9	12-14	28, 29		1						4, 5, 11, 28	9, 20, 25
Peru	1, 2		28, 29		1	7	23, 29	6, 30		8	1	9, 25
Philippines	1		28, 29	9	1	12		21, 26			1	24, 25, 30, 31
Poland	1		29	1	1, 3, 30			15			1, 11	24-26, 31
Portugal	1		29	1	1							24, 25, 26, 31
Qatar**	1	13	3	10, 11		16-18						18
Romania	1, 2, 24				1, 3, 6	24		15				25, 26
Russia	1-5, 1, 2, 8	23	8	29, 30	1, 9, 10	12					4	30, 31
Serbia	8											
Singapore	1	12	29	10	1, 22	17		9		31		25
Slovak Republic	1		29	1	1, 8		5	29			1	24-26
Slovenia	1, 2	8	29	1	1, 2	25		15		31	1	24-26, 31
South Africa	1		21, 29	1	1	17		9	24			16, 25, 26
Spain	1		29	1	1							25, 26
Sri Lanka	1, 15, 25	5, 23	8, 29	10, 11, 12, 23	1, 23, 24	17, 21		19	16, 17	17, 31	15	25
Srpska, Republic of	1, 2, 9				1-3, 6, 9						21	
Sweden	1, 5		28, 29	1, 30	1, 8, 9	5, 6, 20, 21					1	23, 24-26, 30, 31
Switzerland	1, 2		29	1, 15	1, 9, 20			1	9			24, 25, 26, 31
Taiwan	1	6-9, 8, 9, 12-14, 28		4, 5	1	10			17	10		
Tanzania	1, 12		29	1, 10, 11, 26	1			8		14		9, 25, 26
Thailand	1	26		8, 15, 16	1, 6, 22	3	22, 29	12		14, 23		5, 10, 31
Tunisia	1		20	9-11	1	16, 17	7, 25	13	15	15		17
Turkey	1			9, 10-12, 23	1	17-19	15	30		28, 29		
Uganda	1, 26	16	8, 29	1, 10	1					9		25, 26

Country	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
United Arab Emirates - ADX, DFM, DIFC	1			8-10		17, 18						2
United Kingdom	1		29	1	6, 27			26				24, 25, 26, 31
United States	1, 15	19	29		27	19	3, 4		2	14	11, 28, 29	24, 25
Uruguay	1	12, 13	28, 29	22	1	17	18					25
Vietnam	1	8, 9, 12-14		18, 30	1				2, 3			
Zambia	1		8, 12, 29	1	1		1, 2	5		18, 24		25
Zimbabwe	1	21	29	1, 18	1			12, 13				23, 25, 26

** Market is closed every Friday

Redemption. A redemption request submitted on the following dates in the following foreign markets in calendar year 2024 will result in a settlement period that exceeds seven calendar days.

Argentina

Redemption Date	Redemption Settlement Date	Settlement Period
No settlement cycles (>=): T+2		

Australia

Redemption Date	Redemption Settlement Date	Settlement Period
No settlement cycles (>=): T+2		

Austria

Redemption Date	Redemption Settlement Date	Settlement Period
No settlement cycles (>=): T+2		

Bahrain

Redemption Date	Redemption Settlement Date	Settlement Period
No settlement cycles (>=): T+2		

Bangladesh

Redemption Date	Redemption Settlement Date	Settlement Period
No settlement cycles (>=): T+1		

Belgium

Redemption Date	Redemption Settlement Date	Settlement Period
No settlement cycles (>=): T+2		

Bermuda

Redemption Date	Redemption Settlement Date	Settlement Period
No settlement cycles (>=): T+2		

Botswana

Redemption Date	Redemption Settlement Date	Settlement Period
03/28/2024	04/04/2024	T+7
07/12/2024	07/19/2024	T+7
09/27/2024	10/04/2024	T+7
12/24/2024	12/31/2024	T+7

Brazil

Redemption Date	Redemption Settlement Date	Settlement Period
No settlement cycles (>=): T+2		

Bulgaria

Redemption Date	Redemption Settlement Date	Settlement Period
04/30/2024	05/07/2024	T+7
12/23/2024	12/30/2024	T+7

Canada

Redemption Date	Redemption Settlement Date	Settlement Period
No settlement cycles (>=): T+2		

Chile

Redemption Date	Redemption Settlement Date	Settlement Period
09/17/2024	09/24/2024	T+7

China A-Share

Redemption Date	Redemption Settlement Date	Settlement Period
No settlement cycles (>=): T+0		

China B-Share

Redemption Date	Redemption Settlement Date	Settlement Period
02/08/2024	02/21/2024	T+13
03/28/2024	04/08/2024	T+11
04/02/2024	04/09/2024	T+7
04/03/2024	04/10/2024	T+7
04/30/2024	05/08/2024	T+8
06/28/2024	07/05/2024	T+7
09/13/2024	09/23/2024	T+10
09/30/2024	10/10/2024	T+10
10/08/2024	10/15/2024	T+7
10/09/2024	10/16/2024	T+7
10/10/2024	10/17/2024	T+7
12/24/2024	12/31/2024	T+7

China Connect

Redemption Date	Redemption Settlement Date	Settlement Period
No settlement cycles (>=): T+0		

Colombia

Redemption Date	Redemption Settlement Date	Settlement Period
No settlement cycles (>=): T+0		

Costa Rica

Redemption Date	Redemption Settlement Date	Settlement Period
03/22/2024	04/02/2024	T+11
12/24/2024	01/02/2025	T+9

Croatia

Redemption Date	Redemption Settlement Date	Settlement Period
12/23/2024	12/30/2024	T+7

Cyprus

Redemption Date	Redemption Settlement Date	Settlement Period
04/30/2024	05/08/2024	T+8
05/02/2024	05/09/2024	T+7
12/23/2024	12/30/2024	T+7

Czech Republic

Redemption Date	Redemption Settlement Date	Settlement Period
12/23/2024	12/30/2024	T+7

Denmark

Redemption Date	Redemption Settlement Date	Settlement Period
03/27/2024	04/03/2024	T+7
12/23/2024	12/30/2024	T+7

Egypt

Redemption Date	Redemption Settlement Date	Settlement Period
04/08/2024	04/15/2024	T+7
04/24/2024	05/02/2024	T+8
06/13/2024	06/20/2024	T+7

Estonia

Redemption Date	Redemption Settlement Date	Settlement Period
12/23/2024	12/30/2024	T+7

Finland

Redemption Date	Redemption Settlement Date	Settlement Period
12/23/2024	12/30/2024	T+7

France

Redemption Date	Redemption Settlement Date	Settlement Period
12/23/2024	12/30/2024	T+7

Giorgia

Redemption Date	Redemption Settlement Date	Settlement Period
No settlement cycles (>=): T+1		

Germany

Redemption Date	Redemption Settlement Date	Settlement Period
12/23/2024	12/30/2024	T+7

Ghana

Redemption Date	Redemption Settlement Date	Settlement Period
12/23/2024	12/30/2024	T+7
12/24/2024	12/31/2024	T+7

Greece

Redemption Date	Redemption Settlement Date	Settlement Period
04/30/2024	05/07/2024	T+7
12/23/2024	12/30/2024	T+7

Hong Kong

Redemption Date	Redemption Settlement Date	Settlement Period
02/08/2924	02/15/2024	T+7
12/23/2024	12/30/2024	T+7

Hungary

Redemption Date	Redemption Settlement Date	Settlement Period
12/23/2024	12/30/2024	T+7

Iceland

Redemption Date	Redemption Settlement Date	Settlement Period
03/27/2024	04/03/2024	T+7
12/23/2024	12/30/2024	T+7

India

Redemption Date	Redemption Settlement Date	Settlement Period
No settlement cycles (>=): T+1		

Indonesia

Redemption Date	Redemption Settlement Date	Settlement Period
04/05/2024	04/17/2024	T+12

Ireland

Redemption Date	Redemption Settlement Date	Settlement Period
No settlement cycles (>=): T+2		

Israel

Redemption Date	Redemption Settlement Date	Settlement Period
No settlement cycles (>=): T+2		

Italy

Redemption Date	Redemption Settlement Date	Settlement Period
12/23/2024	12/30/2024	T+7

Japan

Redemption Date	Redemption Settlement Date	Settlement Period
No settlement cycles (>=): T+2		

Jordan

Redemption Date	Redemption Settlement Date	Settlement Period
04/08/2024	04/15/2024	T+7
06/13/2024	06/23/2024	T+10

Kazakhstan

Redemption Date	Redemption Settlement Date	Settlement Period
03/20/2024	03/28/2024	T+8
05/06/2024	05/13/2024	T+7

Kenya

Redemption Date	Redemption Settlement Date	Settlement Period
03/28/2024	04/04/2024	T+7
12/24/2024	12/31/2024	T+7

Kuwait

Redemption Date	Redemption Settlement Date	Settlement Period
02/22/2024	02/29/2024	T+7
04/09/2024	04/16/2024	T+7
05/05/2024	05/12/2024	T+7
06/11/2024	06/20/2024	T+9
06/12/2024	06/23/2024	T+11
06/13/2024	06/24/2024	T+11

Latvia

Redemption Date	Redemption Settlement Date	Settlement Period
12/23/2024	12/30/2024	T+7

Lithuania

Redemption Date	Redemption Settlement Date	Settlement Period
03/28/2024	04/04/2024	T+7
12/23/2024	01/01/2025	T+9

Luxembourg

Redemption Date	Redemption Settlement Date	Settlement Period
No settlement cycles (>=): T+2		

Malawi

Redemption Date	Redemption Settlement Date	Settlement Period
03/28/2024	04/04/2024	T+7

Malawi

Redemption Date	Redemption Settlement Date	Settlement Period
12/24/2024	12/31/2024	T+7

Malaysia

Redemption Date	Redemption Settlement Date	Settlement Period
No settlement cycles (>=): T+2		

Mauritius

Redemption Date	Redemption Settlement Date	Settlement Period
No settlement cycles (>=): T+3		

Mexico

Redemption Date	Redemption Settlement Date	Settlement Period
No settlement cycles (>=): T+2		

Morocco

Redemption Date	Redemption Settlement Date	Settlement Period
No settlement cycles (>=): T+2		

Namibia

Redemption Date	Redemption Settlement Date	Settlement Period
No settlement cycles (>=): T+2		

Netherlands

Redemption Date	Redemption Settlement Date	Settlement Period
12/23/2024	12/30/2024	T+7

New Zealand

Redemption Date	Redemption Settlement Date	Settlement Period
No settlement cycles (>=): T+2		

Nigeria

Redemption Date	Redemption Settlement Date	Settlement Period
03/28/2024	04/04/2024	T+7
04/09/2024	04/16/2024	T+7
06/11/2024	06/19/2024	T+8
06/13/2024	06/20/2024	T+7
06/14/2024	06/21/2024	T+7
12/24/2024	12/31/2024	T+7

Norway

Redemption Date	Redemption Settlement Date	Settlement Period
03/26/2024	04/03/2024	T+8
12/23/2024	12/30/2024	T+7

Oman (T+2)

Redemption Date	Redemption Settlement Date	Settlement Period
04/08/2024	04/15/2024	T+7
06/13/2024	06/23/2024	T+10

Pakistan

Redemption Date	Redemption Settlement Date	Settlement Period
04/09/2024	04/16/2024	T+7
04/10/2024	04/17/2024	T+7
06/13/2024	06/20/2024	T+7
06/14/2024	06/21/2024	T+7

Panama

Redemption Date	Redemption Settlement Date	Settlement Period
03/26/2024	04/02/2024	T+7

Peru

Redemption Date	Redemption Settlement Date	Settlement Period
No settlement cycles (>=): T+2		

Philippines

Redemption Date	Redemption Settlement Date	Settlement Period
No settlement cycles (>=): T+2		

Poland

Redemption Date	Redemption Settlement Date	Settlement Period
12/23/2024	12/30/2024	T+7

Portugal

Redemption Date	Redemption Settlement Date	Settlement Period
12/23/2024	12/30/2024	T+7

Qatar

Redemption Date	Redemption Settlement Date	Settlement Period
No settlement cycles (>=): T+2		

Romania

Redemption Date	Redemption Settlement Date	Settlement Period
04/30/2024	05/07/2024	T+7

Russia

Redemption Date	Redemption Settlement Date	Settlement Period
04/26/2024	05/03/2024	T+7

Saudi Arabia

Redemption Date	Redemption Settlement Date	Settlement Period
04/04/2024	04/15/2024	T+11
06/13/2024	06/24/2024	T+11

Serbia

Redemption Date	Redemption Settlement Date	Settlement Period
04/30/2024	05/08/2024	T+8

Singapore

Redemption Date	Redemption Settlement Date	Settlement Period
No settlement cycles (>=): T+2		

Slovak Republic

Redemption Date	Redemption Settlement Date	Settlement Period
12/23/2024	12/30/2024	T+7

Slovenia

Redemption Date	Redemption Settlement Date	Settlement Period
12/23/2024	12/30/2024	T+7

South Africa

Redemption Date	Redemption Settlement Date	Settlement Period
No settlement cycles (>=): T+2		

South Korea

Redemption Date	Redemption Settlement Date	Settlement Period
09/13/2024	09/20/2024	T+7

Spain

Redemption Date	Redemption Settlement Date	Settlement Period
No settlement cycles (>=): T+2		

Sri Lanka

Redemption Date	Redemption Settlement Date	Settlement Period
04/09/2024	04/17/2024	T+8
05/22/2024	05/29/2024	T+7
09/13/2024	09/20/2024	T+7

Sweden

Redemption Date	Redemption Settlement Date	Settlement Period
03/27/2024	04/03/2024	T+7
12/23/2024	12/30/2024	T+7

Switzerland

Redemption Date	Redemption Settlement Date	Settlement Period
12/23/2024	12/30/2024	T+7

Taiwan

Redemption Date	Redemption Settlement Date	Settlement Period
02/07/2024	02/16/2024	T+9

Tanzania

Redemption Date	Redemption Settlement Date	Settlement Period
No settlement cycles (>=): T+2		

Thailand

Redemption Date	Redemption Settlement Date	Settlement Period
No settlement cycles (>=): T+2		

Tunisia

Redemption Date	Redemption Settlement Date	Settlement Period
04/08/2024	04/16/2024	T+8

Turkey

Redemption Date	Redemption Settlement Date	Settlement Period
04/08/2024	04/16/2024	T+8
06/14/2024	06/21/2024	T+7

Uganda

Redemption Date	Redemption Settlement Date	Settlement Period
No settlement cycles (>=): T+2		

Ukraine

Redemption Date	Redemption Settlement Date	Settlement Period
No settlement cycles (>=): T+2		

United Arab Emirates

Redemption Date	Redemption Settlement Date	Settlement Period
04/07/2024	04/15/2024	T+8

United Kingdom

Redemption Date	Redemption Settlement Date	Settlement Period
No settlement cycles (>=): T+2		

United States

Redemption Date	Redemption Settlement Date	Settlement Period
No settlement cycles (>=): T+2		

Uruguay

Redemption Date	Redemption Settlement Date	Settlement Period
No settlement cycles (>=): T+1		

Vietnam (T+2)

Redemption Date	Redemption Settlement Date	Settlement Period
02/07/2024	02/16/2024	T+9

WAEMU

Redemption Date	Redemption Settlement Date	Settlement Period
03/28/2024	04/04/2024	T+7

Zambia

Redemption Date	Redemption Settlement Date	Settlement Period
03/28/2024	04/04/2024	T+7
04/26/2024	05/03/2024	T+7

Zimbabwe

Redemption Date	Redemption Settlement Date	Settlement Period
03/28/2024	04/04/2024	T+7
08/09/2024	08/16/2024	T+7
12/20/2024	12/30/2024	T+10
12/24/2024	12/31/2024	T+7

In 2024, the maximum number of calendar days necessary to satisfy a redemption request would be 14 days.

FINANCIAL STATEMENTS

Each Fund's Financial Statements for the fiscal year ended October 31, 2023, appearing in the Funds' 2023 Annual Reports to Shareholders, and the reports thereon of PricewaterhouseCoopers LLP, an independent registered public accounting firm, also appearing therein, are incorporated by reference into this Statement of Additional Information. For a more complete discussion of each Fund's performance, please see the Funds' Annual and Semiannual Reports to Shareholders, which may be obtained without charge.

APPENDIX A

Summary of the Vanguard-Advised Funds Proxy Voting Policy

The funds for which Vanguard acts as investment advisor (Vanguard-advised funds) retain authority to vote proxies received for the shares of equity securities held in each fund. The Board of Trustees (the Board) for the Vanguard-advised funds has adopted proxy voting procedures and guidelines to govern proxy voting for each portfolio retaining proxy voting authority.

The Investment Stewardship Oversight Committee (the Committee), comprised primarily of fund officers and subject to the procedures described below, oversees the Vanguard-advised funds' proxy voting. The Committee reports directly to the Board. Vanguard is subject to these procedures and the proxy voting policies to the extent that they call for Vanguard to administer the voting process and implement the resulting voting decisions, and for these purposes the voting policies have also been approved by the Board of Directors of Vanguard.

The voting principles and policies adopted by the Board provide a framework for assessing each proposal and seek to ensure that each vote is cast in the best interests of each fund. Under the voting policies, each proposal is evaluated on its merits, based on the particular facts and circumstances presented at the company in question. For more information on the funds' proxy voting policies, please visit *about.vanguard.com/investment-stewardship*.

I. Investment Stewardship Team

The Investment Stewardship Team administers the day-to-day operation of the funds' proxy voting process, overseen by the Committee. The Investment Stewardship Team performs the following functions: (1) managing and conducting

due diligence of proxy voting vendors; (2) reconciling share positions; (3) analyzing proxy proposals using factors described in the voting policies; (4) determining and addressing potential or actual conflicts of interest that may be presented by a particular proxy; and (5) voting proxies. The Investment Stewardship Team also prepares periodic and special reports for the Board and proposes amendments to the procedures and voting policies.

II. Investment Stewardship Oversight Committee

The Board, including a majority of the independent trustees, appoints the members of the Committee (which is comprised primarily of fund officers). The Committee works with the Investment Stewardship Team to provide reports and other guidance to the Board regarding proxy voting by the funds. The Committee has an obligation to exercise its decision-making authority in accordance with the Board's instructions as set forth in the funds' proxy voting procedures and voting policies and subject to the fiduciary standards of good faith, fairness, and Vanguard's Code of Ethical Conduct. The Committee may advise the Investment Stewardship Team on how to best apply the Board's instructions as set forth in the voting policies or refer the matter to the Board, which has ultimate decision-making authority for the funds. The Board reviews the procedures and voting policies annually and modifies them from time to time upon the recommendation of the Committee and in consultation with the Investment Stewardship Team.

III. Proxy Voting Pillars

Vanguard's investment stewardship activities are grounded in four pillars of corporate governance:

1) *Board composition and effectiveness*: Good governance begins with a company's board of directors. Our primary focus is on understanding to what extent the individuals who serve as board members are appropriately independent, capable, and experienced.

2) *Board oversight of strategy and risk*: Boards should be meaningfully involved in the formation and oversight of strategy and have ongoing oversight of material risks to their company. We work to understand how boards of directors are involved in strategy formation, oversee company strategy, and identify and govern material risks to long-term shareholder returns.

3) *Executive pay (compensation or remuneration):* Sound, performance-linked compensation programs drive long-term investment returns. We look for companies to provide clear disclosure about their compensation practices, the board's oversight of those practices, and how said practices are aligned with long-term shareholder returns.

4) *Shareholder rights*: We believe governance structures should allow shareholders to effectively exercise their foundational rights. Shareholder rights enable a company's owners to use their voice and their vote – ideally, consistent with their economic exposure – to effect and approve changes in corporate governance practices.

IV. Evaluation of Proxies

For ease of reference, the procedures and guidelines often refer to all Vanguard-advised funds. However, the processes and practices seek to ensure that proxy voting decisions are suitable for individual funds. For most proxy proposals, particularly those involving routine corporate governance matters, the evaluation could result in the funds having a common interest in the matter and, accordingly, each fund casting votes in the same manner. In other cases, however, a fund may vote differently from other funds, depending upon the nature and objective of each fund, if doing so is in the best interest of the individual fund.

The voting policies do not permit the Board to delegate voting discretion to a third party that does not serve as a fiduciary for all Vanguard-advised funds. Because many factors bear on each decision, the voting policies incorporate factors that should be considered in each voting decision. A fund may refrain from voting some or all of its shares or vote in a particular way if doing so would be in the fund's and its shareholders' best interests. These circumstances may arise, for example, if the expected cost of voting exceeds the expected benefits of voting, if exercising the vote would result in the imposition of trading or other restrictions, or if a fund (or all Vanguard funds in the aggregate) were to own more than the permissible maximum percentage of a company's stock (as determined by the company's governing documents or by applicable law, regulation, or regulatory agreement), or if voting would present a potential conflict of interest.

In evaluating proxy proposals, the Investment Stewardship Team considers information from many sources, which could include, but is not limited to, the perspectives of the company management or shareholders presenting a proposal, independent proxy research services, or proprietary research. Additionally, data and recommendations from proxy advisors serve as one of many inputs into our research process. The Vanguard-advised funds may utilize automated voting for matters that are clearly addressed by the funds' proxy voting procedures and guidelines.

While serving as a framework, the voting policies cannot contemplate all possible proposals with which a fund may be presented. In the absence of a specific guideline for a particular proposal (e.g., in the case of a transactional issue or contested proxy), the Investment Stewardship Team, under the supervision of the Committee, will evaluate the matter and cast the fund's vote in a manner that is in the fund's best interest, subject to the individual circumstances of the fund.

V. Conflicts of Interest

Vanguard takes seriously its commitment to avoid potential conflicts of interest. Vanguard funds invest in thousands of publicly listed companies worldwide. Those companies may include clients, potential clients, vendors, or competitors. Some companies may employ Vanguard trustees, former Vanguard executives, or family members of Vanguard personnel who have direct involvement in Vanguard's Investment Stewardship program.

Vanguard's approach to mitigating conflicts of interest begins with the funds' proxy voting procedures. 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 and mitigated to the extent possible; and (iii) compromising situations must be avoided.

We maintain an important separation between Vanguard's Investment Stewardship Team 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.

Each externally managed fund has adopted the proxy voting guidelines of its advisor(s) and votes in accordance with the external advisors' guidelines and procedures. Each advisor has its own procedures for managing conflicts of interest in the best interests of fund shareholders.

VI. Shareholder Proposals

Shareholder proposals are evaluated in the context of the general corporate governance principle that a company's board has ultimate responsibility for providing effective ongoing oversight of relevant sector and company-specific risks, including risks related to environmental and social matters. Each proposal is evaluated on its merits and in the context of the particular facts and circumstances at the company in question and supported when there is a logically demonstrable linkage between the specific proposal and long-term shareholder value of the company. Some of the factors considered when evaluating shareholder proposals include the materiality of the risk addressed by the proposal, the quality of the current disclosures/business practices, and any progress by the company toward addressing and disclosing the relevant material risk.

VII. Voting in Markets Outside the United States

Corporate governance standards, disclosure requirements, and voting mechanics vary greatly among the markets outside the United States (U.S.) in which the funds may invest. Each fund's votes will be used, where applicable, to support improvements in governance and disclosure by each fund's portfolio companies. Matters presented by non-U.S. portfolio companies will be evaluated in the foregoing context, as well as in accordance with local market standards and best practices. Votes are cast for each fund in a manner philosophically consistent with the voting policies, taking into account differing practices by market.

In many other markets, voting proxies will result in a fund being prohibited from selling the shares for a period of time due to requirements known as "share-blocking" or reregistration. Generally, the value of voting is unlikely to outweigh the loss of liquidity imposed by these requirements on the funds. In such instances, the funds will generally abstain from voting.

The costs of voting (e.g., custodian fees, vote agency fees) in other markets may be substantially higher than for U.S. holdings. As such, the fund may limit its voting on foreign holdings in instances in which the issues presented are unlikely to have a material impact on shareholder value.

VIII. Voting Shares of a Company That Has an Ownership Limitation

Certain companies have provisions in their governing documents or other agreements that restrict stock ownership in excess of a specified limit. Typically, these ownership restrictions are included in the governing documents of real estate investment trusts but may be included in other companies' governing documents. A company's governing documents normally allow the company to grant a waiver of these ownership limits, which would allow a fund to exceed the stated ownership limit. Sometimes a company will grant a waiver without restriction. From time to time, a company may grant a waiver only if a fund (or funds) agrees to not vote the company's shares in excess of the normal specified limit. In such a circumstance, a fund may refrain from voting shares if owning the shares beyond the company's specified limit is in the best interests of the fund and its shareholders.

In addition, applicable law may require prior regulatory approval to permit ownership of certain regulated issuer's voting securities above certain limits or may impose other restrictions on owners of more than a certain percentage of a regulated issuer's voting shares. The Board has authorized the funds to vote shares above these limits in the same proportion as votes cast by the issuer's entire shareholder base (i.e., mirror vote), or to refrain from voting excess shares. Further, the Board has adopted policies that will result in certain funds mirror voting a higher proportion of the shares they own in a regulated issuer in order to permit certain other funds (generally advised by managers not affiliated with Vanguard) to mirror vote none, or a lower proportion of, their shares in such regulated issuer.

IX. Voting on a Fund's Holdings of Other Vanguard Funds

Certain Vanguard funds (owner funds) may, from time to time, own shares of other Vanguard funds (underlying funds). If an underlying fund submits a matter to a vote of its shareholders, votes for and against such matters on behalf of the owner funds will be cast in the same proportion as the votes of the other shareholders in the underlying fund.

X. Securities Lending

There may be occasions when Vanguard needs to restrict lending of and/or recall securities that are out on loan in order to vote in a shareholder meeting. Vanguard has processes to monitor securities on loan and to evaluate any circumstances that may require us to restrict and/or recall the stock. In making this decision, we consider:

- The subject of the vote and whether, based on our knowledge and experience, we believe the topic is potentially material to the corporate governance and/or long-term performance of the company;
- The funds' individual and/or aggregate equity investment in a company, and whether we estimate that voting funds' shares would affect the shareholder meeting outcome; and
- The long-term impact to our fund shareholders, evaluating whether we believe the benefits of voting a company's shares would outweigh the benefits of stock lending revenues in a particular instance.