Vanguard Variable Insurance Funds

Supplement Dated April 28, 2020, to the Statement of Additional Information Dated April 28, 2020

Important Change to Vanguard Variable Insurance Fund Balanced Portfolio

Effective at the close of business on June 30, 2020, Edward P. Bousa will retire from Wellington Management Company LLP and will no longer serve as a portfolio manager for Vanguard Variable Insurance Fund Balanced Portfolio.

Loren L. Moran, Daniel J. Pozen, and Michael E. Stack, who currently serve as portfolio managers with Mr. Bousa, will remain as portfolio managers of the Portfolio upon Mr. Bousa's retirement. The Portfolio's investment objective, strategies, and policies will remain unchanged.

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PART B

VANGUARD® VARIABLE INSURANCE FUNDS

STATEMENT OF ADDITIONAL INFORMATION

April 28, 2020

This Statement of Additional Information is not a prospectus but should be read in conjunction with a Fund's current prospectus (dated April 28, 2020). 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), or the insurance company sponsoring the accompanying variable life insurance or variable annuity contract.

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DESCRIPTION OF THE TRUST

Vanguard Variable Insurance Funds (the Trust) currently offers the following Funds[1]:

Balanced Portfolio
Capital Growth Portfolio
Conservative Allocation Portfolio
Diversified Value Portfolio
Equity Income Portfolio
Equity Index Portfolio
Growth Portfolio
Global Bond Index Portfolio
High Yield Bond Portfolio
International Portfolio
Mid-Cap Index Portfolio
Moderate Allocation Portfolio
Money Market Portfolio
Real Estate Index Portfolio[2]
Short-Term Investment-Grade Portfolio
Small Company Growth Portfolio
Total Bond Market Index Portfolio
Total International Stock Market Index Portfolio
Total Stock Market Index Portfolio

1 Individually, a Fund or a Portfolio; collectively, the Funds or the Portfolios.
2 Prior to January 18, 2018, the Fund was named the REIT Index Portfolio.

Each Fund offers only one class of shares (Investor Shares). Throughout this document, any references to "class" indicate how a Fund would operate if, in the future, the Fund issued more than one class of shares. The Trust has the ability to offer additional portfolios or classes of shares. There is no limit on the number of full and fractional shares that may be issued for a single portfolio or class of shares.

Organization

The Trust was organized as a Maryland corporation in 1989 before becoming a Pennsylvania business trust later in 1989, 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 Portfolios within the Trust are classified as diversified within the meaning of the 1940 Act.

Each Fund offers its shares to insurance companies that sponsor both annuity and life insurance contracts. An insurance company might offer some, but not necessarily all, of the Funds.

Service Providers

Custodians. The Bank of New York Mellon, 240 Greenwich Street, New York, NY 10286 (for the Money Market, Short-Term Investment-Grade, High Yield Bond, and Total Bond Market Index Portfolios); State Street Bank and Trust Company, One Lincoln Street, Boston, MA 02111 (for the Balanced, Capital Growth, Diversified Value, Equity Income, Growth, International, and Small Company Growth Portfolios); JPMorgan Chase Bank, 383 Madison Avenue, New York, NY 10179 (for the Conservative Allocation, Equity Index, Global Bond Index, Mid-Cap Index, Moderate Allocation, Real Estate Index, Total Stock Market Index, and Total International Stock Market Index Portfolios), serve as the Funds' custodians. The custodians are 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 Vanguard Variable Insurance Funds' 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, 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 a Fund or class affected by a particular matter are entitled to vote on that matter. 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. 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. There are no conversion rights associated with the Funds' shares.

Redemption Provisions. Each Fund's redemption provisions are described in the current annuity or life insurance program 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.

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 Funds 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. In addition, a 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.

Further, each Fund intends to comply with the separate asset diversification requirements imposed by Section 817(h) of the IRC on certain insurance company separate accounts. If a Fund were to fail to qualify as a regulated investment company or the Section 817(h) diversification test, each insurance company's separate account invested in the Fund would fail to satisfy the account's separate diversification requirements under the IRC, with the result that income and gain allocable to the variable annuity and variable life insurance contracts supported by that account could be taxable to contract holders currently.

Dividends received and distributed by each Fund on shares of stock of domestic corporations (excluding Real Estate Investment Trusts (REITs)) may be eligible for the dividends-received deduction applicable to corporate shareholders. Insurance companies investing in the Funds through one or more separate accounts must satisfy certain requirements in order to claim the deduction. 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 the dividends-received deduction.

Taxable ordinary dividends received and distributed by each Fund on its REIT holdings may be eligible to be reported by the Fund, and treated by individual shareholders, as "qualified REIT dividends" that are eligible for a 20% deduction on its federal income tax returns. Individuals must satisfy holding period and other requirements in order to be eligible for this deduction. A Fund's ability to pass-through this deduction to Fund shareholders is based on preliminary IRS guidance and is subject to change. Shareholders should consult their own tax professionals concerning their eligibility for this deduction.

For more information on the tax treatment of the Funds and their insurance company separate account shareholders, see *"Tax Matters—Federal Tax Discussion Applicable to Variable Annuity and Variable Life Insurance Contracts."*

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.

Diversification. With respect to 75% of its total assets, each Fund (other than the Conservative Allocation, Global Bond Index, Moderate Allocation, Total International Stock Market Index, and Total Stock Market Index Portfolios) may not: (1) purchase more than 10% of the outstanding voting securities of any one issuer; or (2) purchase securities of any issuer if, as a result, more than 5% of the Fund's total assets would be invested in that issuer's securities. This limitation does not apply to obligations of the U. S. government or its agencies or instrumentalities. Additionally, each Fund (other than the Conservative Allocation, Global Bond Index, Moderate Allocation, Total International Stock Market Index, and Total Stock Market Index Portfolios) will limit the aggregate value of its holdings of a single issuer (other than U.S. government securities, as defined in the IRC), to a maximum of 25% of the Fund's total assets as of the end of each quarter of the taxable year.

The Total Stock Market Index Portfolio will limit the aggregate value of its holdings (other than U.S. government securities, cash, and cash items, as defined under subchapter M of the IRC, and securities of other regulated investment companies), for each holding that exceeds 5% of the Fund's total assets or 10% of the issuer's outstanding voting securities, to an aggregate of 50% of the Fund's total assets as of the end of each quarter of the taxable year. Additionally, the Fund will limit the aggregate value of its holdings of a single issuer (other than U.S. government securities, as defined in the IRC, or the securities of other regulated investment companies) to a maximum of 25% of the Fund's total assets as of the end of each quarter of the taxable year.

Industry Concentration. Each Fund (other than those indicated in the following exceptions) will not concentrate its investments in the securities of issuers whose principal business activities are in the same industry or group of industries.

The Money Market Portfolio will concentrate its assets in the securities of issuers whose principal business activities are in the financial services industry. For the purposes of this policy, the financial services industry is deemed to include the group of industries within the financial services sector. In addition, the Fund reserves the right to concentrate its investments in government securities, as defined in the 1940 Act.

The Real Estate Index Portfolio will concentrate its investments in the securities of issuers whose principal business activities are in the real estate industry, as defined in the prospectus.

For the Equity Index, Global Bond Index, Mid-Cap Index, Total Bond Market Index, Total International Stock Market Index, and Total Stock Market Index Portfolios: Each 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 objective of each Fund (other than the Global Bond Index and Total International Stock Market Index Portfolios) may not be materially changed without the approval of a majority of such Fund's shareholders.

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, each Fund may acquire such investments to the extent consistent with its investment strategies and policies.

The Conservative Allocation, Global Bond Index, Moderate Allocation, Total International Stock Market Index, and Total Stock Market Index Portfolios (the Fund-of-Fund Portfolios) 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 Fund-of-Fund Portfolios 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.

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 (that is, 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.

The SEC takes the position that transactions that have a leveraging effect on the capital structure of a fund or are economically equivalent to borrowing can be viewed as constituting a form of borrowing by the fund for purposes of the 1940 Act. These transactions can include entering into reverse repurchase agreements; engaging in mortgage-dollar-roll transactions; selling securities short (other than short sales "against-the-box"); buying and selling certain derivatives (such as futures contracts); selling (or writing) put and call options; engaging in sale-buybacks; entering into firm-commitment and standby-commitment agreements; engaging in when-issued, delayed-delivery, or forward-commitment transactions; and participating in other similar trading practices. (Additional discussion about a number of these transactions can be found on the following pages.)

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 maintains an offsetting financial position; segregates liquid assets (with such liquidity determined by the advisor in accordance with procedures established by the board of trustees) equal (as determined on a daily mark-to-market basis) in value to the fund's

potential economic exposure under the borrowing transaction; or otherwise "covers" the transaction in accordance with applicable SEC guidance (collectively, "covers" the transaction). A fund may have to buy or sell a security at a disadvantageous time or price in order to cover a borrowing transaction. In addition, segregated assets may not be available to satisfy redemptions or to fulfill other obligations.

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, coupon deferral risk, lower recovery value 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—Bank Obligations. Time deposits are non-negotiable deposits maintained in a banking institution for a specified period of time at a stated interest rate. Certificates of deposit are negotiable short-term obligations of commercial banks. Variable rate certificates of deposit have an interest rate that is periodically adjusted prior to their stated maturity based upon a specified market rate. As a result of these adjustments, the interest rate on these obligations may be increased or decreased periodically. Frequently, dealers selling variable rate certificates of deposit to a fund will agree to repurchase such instruments, at the fund's option, at par on or near the coupon dates. The dealers' obligations to repurchase these instruments are subject to conditions imposed by various dealers; such conditions typically are the continued credit standing of the issuer and the existence of reasonably orderly market conditions. A fund is also able to sell variable rate certificates of deposit on the secondary market. Variable rate certificates of deposit normally carry a higher interest rate than comparable fixed-rate certificates of deposit. A banker's acceptance is a time draft drawn on a commercial bank by a borrower usually in connection with an international commercial transaction (to finance the import, export, transfer, or storage of goods). The borrower is liable for payment, as is the bank, which unconditionally guarantees to pay the draft at its face amount on the maturity date. Most acceptances have maturities of 6 months or less and are traded in the secondary markets prior to maturity.

Debt Securities—Commercial Paper. Commercial paper refers to short-term, unsecured promissory notes issued by corporations to finance short-term credit needs. It is usually sold on a discount basis and has a maturity at the time of issuance not exceeding 9 months. High-quality commercial paper typically has the following characteristics: (1) liquidity ratios are adequate to meet cash requirements; (2) long-term senior debt is also high credit quality; (3) the issuer has access to at least two additional channels of borrowing; (4) basic earnings and cash flow have an upward trend with allowance made for unusual circumstances; (5) typically, the issuer's industry is well established and the issuer has a strong position within the industry; and (6) the reliability and quality of management are unquestioned. In assessing the credit quality of commercial paper issuers, the following factors may be considered: (1) evaluation of the management of the issuer, (2) economic evaluation of the issuer's industry or industries and the appraisal of speculative-type risks that may be inherent in certain areas, (3) evaluation of the issuer's products in relation to competition and customer acceptance, (4) liquidity, (5) amount and quality of long-term debt, (6) trend of earnings over a period of ten years, (7) financial strength of a parent company and the relationships that exist with the issuer, and (8) recognition by the management of obligations that may be present or may arise as a result of public-interest questions and preparations to meet such obligations. The short-term nature of a commercial paper investment makes it less susceptible to interest rate risk than longer-term fixed income securities because interest rate risk typically increases as maturity lengths increase. Additionally, an issuer may expect to repay commercial paper obligations at maturity from the proceeds of the issuance of new commercial paper. As a result, investment in commercial paper is subject to the risk the issuer cannot issue enough new commercial paper to satisfy its outstanding commercial paper payment obligations, also known as rollover risk. Commercial paper may suffer from reduced liquidity due to certain circumstances, in particular, during stressed markets. In addition, as with all fixed income securities, an issuer may default on its commercial paper obligation.

Variable-amount master-demand notes are demand obligations that permit the investment of fluctuating amounts at varying market rates of interest pursuant to an arrangement between the issuer and a commercial bank acting as agent for the payees of such notes, whereby both parties have the right to vary the amount of the outstanding indebtedness on the notes. Because variable-amount master-demand notes are direct lending arrangements between a lender and a borrower, it is not generally contemplated that such instruments will be traded, and there is no secondary market for these notes, although they are redeemable (and thus immediately repayable by the borrower) at face value, plus accrued interest, at any time. In connection with a fund's investment in variable-amount master-demand notes, Vanguard's investment management staff will monitor, on an ongoing basis, the earning power, cash flow, and other liquidity ratios of the issuer, along with the borrower's ability to pay principal and interest on demand.

Debt Securities—Emerging Market Risk. Investing in emerging market countries involves certain risks not typically associated with investing in the United States, and imposes risks greater than, or in addition to, risks of investing in more developed foreign countries. These risks include, but are not limited to, the following: nationalization or expropriation of assets or confiscatory taxation; greater social, economic, and political uncertainty and instability (including amplified risk of war and terrorism); more substantial government involvement in the economy; less government supervision and regulation of the securities markets and participants in those markets; controls on foreign investment and limitations on repatriation of invested capital; generally, smaller, less seasoned, and newly organized companies; the difference in, or lack of, auditing and financial reporting standards, which may result in unavailability of material information about issuers; difficulty in obtaining and/or enforcing a judgment in a court outside the United States; and greater price volatility, substantially less liquidity, and significantly smaller market capitalization of bond 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 bond markets of certain emerging market countries.

Debt Securities—Foreign Debt Securities. Foreign debt securities are debt securities issued by entities organized, domiciled, or with a principal executive office outside the United States, such as foreign governments and corporations. Foreign debt securities may trade in U.S. or foreign markets. Investing in foreign debt securities involves certain special risk considerations that are not typically associated with investing in debt securities of U.S. issuers.

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.

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 London Inter-bank Offered Rate (LIBOR), 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 new 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 covers the transaction in accordance with the requirements described under the heading *"Borrowing."*

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.

Each Fund intends to comply with Rule 4.5 under the Commodity Exchange Act (CEA), under which a mutual 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. A 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.

Eurodollar and Yankee Obligations. Eurodollar bank obligations are dollar-denominated certificates of deposit and time deposits issued outside the U.S. capital markets by foreign branches of U.S. banks and by foreign banks. Yankee bank obligations are dollar-denominated obligations issued in the U.S. capital markets by foreign banks.

Eurodollar and Yankee obligations are subject to the same risks that pertain to domestic issuers, most notably income risk (and, to a lesser extent, credit risk, market risk, and liquidity risk). Additionally, Eurodollar (and, to a limited extent, Yankee) obligations are subject to certain sovereign risks. One such risk is the possibility that a sovereign country might prevent capital, in the form of 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, Eurodollar and Yankee obligations will undergo the same type of credit analysis as domestic issuers in which a Vanguard fund invests, and they will have at least the same financial strength as the domestic issuers approved for the fund.

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, economic or other sanctions imposed on the United States by a foreign country, or imposed 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. Sanctions could also affect the value and/or liquidity of a foreign security.

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. In order to invest in A-shares, a foreign investor must have access to an investment quota through a Qualified Foreign Institutional Investor (QFII) or a Renminbi QFII (RQFII) license holder. A-shares are also available through the China Stock Connect program, subject to separate quota limitations. The developing state of the investment and banking systems of the People's Republic of China (China, or the PRC) 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 index sampling risk (for index funds) or 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 QFII/RQFII 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. Once the daily quota is reached, orders to purchase additional A-shares through Stock Connect will be rejected. 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 include, but are not limited to, the following: nationalization or expropriation of assets or confiscatory taxation; currency devaluations and other currency exchange rate fluctuations; greater social, economic, and political uncertainty and instability (including amplified risk of war and terrorism); more substantial government involvement in the economy; 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; controls on foreign investment and limitations on repatriation of invested capital and on the fund's ability to exchange local currencies for U.S. dollars; unavailability of currency-hedging techniques in certain emerging market countries; generally smaller, less seasoned, or newly organized companies; differences in, or lack of, auditing and financial reporting standards, which may result in unavailability of material information about issuers; difficulty in obtaining and/or enforcing a judgment in a court outside the United States; and 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.

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 covers the transaction in accordance with the requirements described under the heading *"Borrowing."*

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. There are significant risks inherent in investing in Russian securities. The underdeveloped state of Russia's banking system subjects the settlement, clearing, and registration of securities transactions to significant risks. In March of 2013, the National Settlement Depository (NSD) began acting as a central depository for the majority of Russian equity securities; the NSD is now recognized as the Central Securities Depository in Russia.

For Russian issuers with fewer than 50 shareholders, ownership records are maintained only by registrars who are under contract with the issuers and are currently not settled with the NSD. Although a Russian subcustodian will maintain copies of the registrar's records (Share Extracts) on its premises, such Share Extracts are not recorded with the NSD and may not be legally sufficient to establish ownership of securities. The registrars may not be independent from the issuer, are not necessarily subject to effective state supervision, and may not be licensed with any governmental entity. A fund will endeavor to ensure by itself or through a custodian or other agent that the fund's interest continues to be appropriately recorded for Russian issuers with fewer than 50 shareholders by inspecting the share register and by obtaining extracts of share registers through regular confirmations. However, these extracts have no legal enforceability, and the possibility exists that a subsequent illegal amendment or other fraudulent act may deprive the fund of its ownership rights or may improperly dilute its interest. In addition, although applicable Russian regulations impose liability on registrars for losses resulting from their errors, a fund may find it difficult to enforce any rights it may have against the registrar or issuer of the securities in the event of loss of share registration.

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 covers the transaction in accordance with the requirements described under the heading *"Borrowing."*

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 covers the transaction in accordance with the requirements described under the heading *"Borrowing."*

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 (and segregation requirements, if applicable) 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.

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 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.

Market Disruption. Significant market disruptions, such as those caused by pandemics, natural or environmental disasters, war, acts of terrorism, or other events, can adversely affect local and global markets and normal market operations. Market disruptions may exacerbate political, social, and economic risks discussed above and in a fund's prospectus. Additionally, market disruptions may result in increased market volatility; regulatory trading halts; closure of domestic or foreign exchanges, markets, or governments; or market participants operating pursuant to business continuity plans for indeterminate periods of time. Such events can be highly disruptive to economies and markets and significantly impact individual companies, sectors, industries, markets, currencies, interest and inflation rates, credit ratings, investor sentiment, and other factors affecting the value of a fund's investments and operation of a fund. These events could also result in the closure of businesses that are integral to a fund's operations or otherwise disrupt the ability of employees of fund service providers to perform essential tasks on behalf of a fund.

Money Market Fund Reform. The money market fund reforms adopted by the SEC in July 2014 became effective on October 14, 2016. The reforms impact money market funds differently depending on the types of investors permitted to invest in a fund, the types of securities in which a fund may invest, and the principal investments of a money market fund. The reforms impose new liquidity-related requirements on money market funds (including the potential implementation of liquidity fees and redemption gates). Other changes required by the reforms relate to diversification, disclosure, and stress testing requirements. The imposition and termination of a liquidity fee or redemption gate and/or the provision of financial support by an affiliated person of a money market fund will be reported by a money market fund to the SEC on Form N-CR. A money market fund's designation as institutional, retail, or government determines whether the fund is required to have a floating net asset value (NAV) or is permitted to have a stable NAV. These changes may have significant adverse effects upon a money market fund's investment strategy, fees and expenses, portfolio (including the liquidity of investments), and return potential.

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; 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. 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 covers the transaction in accordance with the requirements described under the heading *"Borrowing."*

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 covers the transaction in accordance with the requirements described under the heading *"Borrowing."*

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 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. The 1940 Act and related rules provide certain exemptions from these restrictions, for example, for funds that invest in other funds within the same group of investment companies. 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.

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.

Private Equity. Private equity is equity capital that is not quoted on a public exchange. Acquiring private equity involves making investments directly into private companies or conducting buyouts of public companies that result in a delisting of public equity. Capital for private equity can be used to fund new technologies, expand working capital within an owned company, make acquisitions, or to strengthen a balance sheet. Private equity securities should be regarded as illiquid, as they are not listed on an exchange and generally are not widely transferable. By their nature, investments in privately held companies tend to be riskier than investments in publicly traded companies. Generally, there will be no readily available market for private equity investments and, accordingly, most such investments are difficult to value and can be difficult to exit.

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 to screen 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, or a dealer 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. When entering into a repurchase agreement with the Federal Reserve, the collateral received will equal 100% of the value of the repurchase agreement. In addition, the investment advisor will monitor a fund's repurchase agreement transactions generally and will evaluate the creditworthiness of any bank, broker, or dealer party 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. For the Money Market Portfolio, illiquid securities are securities that cannot be sold or disposed of in the ordinary course of business within seven calendar days at approximately the value ascribed to it by the fund. For the remaining Funds, illiquid securities 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 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 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 may include restricted, privately placed securities that, under the federal securities laws, generally may be resold only to qualified institutional buyers. If a substantial market develops for a restricted security held by a fund, it may be treated as a liquid security in accordance with procedures and guidelines approved by the board of trustees. This generally includes securities that are unregistered, that can be sold to qualified institutional buyers in accordance with Rule 144A under the 1933 Act, or that are exempt from registration under the 1933 Act, such as commercial paper. Although a fund's advisor monitors the liquidity of restricted securities, the board of trustees oversees and retains ultimate responsibility for the advisor's liquidity determinations. Several factors that the trustees consider in monitoring these decisions include the valuation of a security; the availability of qualified institutional buyers, brokers, and dealers that trade in the security; and the availability of information about the security's issuer.

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 covers the transaction in accordance with the requirements described under the heading *"Borrowing."* 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. The advisor 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 Applicable to Variable Annuity and Variable Life Insurance Contracts. Discussion herein of U.S. federal income tax matters summarizes some of the important, generally applicable U.S. federal tax considerations relevant to the Funds and the insurance company separate accounts investing in the Funds in 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. The discussion assumes that the shares of each Fund will be respected as owned by the insurance company separate accounts that invest in such Fund to fund the insurance company's obligations under a variable life or variable annuity contract. If the IRS were to determine that contract holders have an impermissible level of control over the investments funding their contracts and thus treat the holders as the owners of the shares of a Fund, your contract could lose its favorable tax treatment and income and gain allocable to your contract could be taxable to you currently under the applicable federal income tax rules that may not be described herein. For information concerning the federal income tax consequences to a holder of such a contract, refer to the prospectus for the particular contract. A contract holder 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. Because insurance company separate accounts and other permitted investors are the only shareholders in the Funds, only certain tax aspects of an investment in the Funds relevant to such shareholders are described herein.

Tax Matters—Federal Tax Treatment of Bonds Issued or Purchased at a Discount. Any investment in zero-coupon bonds, deferred interest bonds, payment-in-kind bonds, certain inflation-adjusted debt instruments, certain stripped securities, and certain securities purchased at a market discount (including certain high yield debt obligations) will cause a Fund to recognize income prior to the receipt of cash payments with respect to those securities. To distribute this income and avoid a tax on the Fund, the Fund may be required to liquidate portfolio securities that it might otherwise have continued to hold.

Tax Matters—Federal Tax Treatment of Derivatives, Foreign Currency, 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—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—Investments in REITs and Other Mortgage-Related Instruments. 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 registered investment company will be allocated to shareholders of the registered investment company in proportion to the dividends received by such shareholders, with the same consequences as if the shareholders held the related interest directly. As a result, a life insurance company separate account funding a variable contract may be taxed currently to the extent of its share of a Fund's excess inclusion income. In general, where excess inclusion income is allocated to a life insurance company separate account funding a variable life insurance or variable annuity contract, such income cannot be offset by an adjustment to the reserves and thus is currently taxed notwithstanding the more general tax deferral available to insurance company separate accounts funding such contracts.

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. To the extent that a Fund invests in stock in a foreign company, such stock may constitute an equity investment in a passive foreign investment company (PFIC). Special tax considerations apply with respect to investments by a Fund in certain 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 a Fund held it. Also, a Fund may be subject to corporate income tax and an interest charge on certain dividends and capital gains earned in respect to PFICs interests, whether or not such amounts are distributed to shareholders. To avoid such tax and interest, a 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 each year. This election may cause the Fund to recognize income prior to the receipt of cash payments with respect to those investments; in order to distribute this income and avoid a tax on the Fund, the Fund may be required to liquidate portfolio securities that it might otherwise have continued to hold, potentially resulting in additional taxable gain or loss to the Fund. Distributions from a Fund that are attributable to income or gains earned in respect to PFIC interests are characterized as ordinary income. Each Fund (other than the Money Market, Short-Term Investment-Grade, Total Bond Market Index, Global Bond Index, and High Yield Bond Portfolios) may invest in PFICs.

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.

Trust Preferred Securities. Trust preferred securities are a type of hybrid security in which a parent company issues subordinated debt to an affiliated special purpose trust, which will in turn issue limited-life preferred securities to investors and common securities to the parent company. Investors will receive distributions of the interest the trust receives on the debt issued by the parent company during the term of the preferred securities. The underlying subordinated debt may be secured or unsecured, and it generally ranks slightly higher in terms of payment priority than both common and preferred securities of the issuer, but below its other debt securities. Trust preferred securities generally have a yield advantage over traditional preferred stocks, but unlike preferred stocks, distributions generally are treated as interest rather than dividends for federal income tax purposes and, therefore, are not eligible for the dividends-received deduction available to U.S. corporations for dividends paid by U.S. corporations or the lower federal tax rate applicable to qualified dividends. Trust preferred securities typically have maturities of 30 years or more, may be subject to prepayment by the issuer under certain circumstances, and have periodic fixed or variable interest payments and maturities at face value. In addition, trust preferred securities may allow for deferral of interest payments for up to 5 years or longer. However, during any deferral period, interest will accrue and be taxable for holders of the trust preferred securities. Furthermore, if an issuer of trust preferred securities exercised its right to defer interest payments, the securities would be treated as issued with original issue discount (OID) at that time and all interest on the securities would thereafter be treated as OID as long as the securities remained outstanding. Unlike typical asset-backed securities, trust preferred securities have only one underlying obligor and are not over-collateralized. For that reason, the market may effectively treat trust preferred securities as subordinate corporate debt of the parent company issuer. The risks associated with trust preferred securities typically include those relating to the financial condition of the parent company, as the trust typically has no business operations other than holding the subordinated debt issued by the parent company. Holders of trust preferred securities have limited voting rights to control the activities of the trust and no voting rights with respect to the parent company. There can be no assurance as to the liquidity of trust preferred securities or the ability of holders of the trust preferred securities to sell their holdings.

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.

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 covers the transaction in accordance with the requirements described under the heading *"Borrowing."*

Regulatory restrictions in India. Shares of the International Portfolio 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 the International Portfolio 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 the International Portfolio, must satisfy themselves regarding compliance with these requirements.

SHARE PRICE

Each Fund's share price, called its net asset value, or NAV, 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. NAV per share 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 Fund-of-Fund Portfolios invest also do not calculate their NAV on days when the NYSE is closed but the value of their assets may be affected to the extent that they hold securities that change in value on those days (such as 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; 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.

It is the policy of the Money Market Portfolio to attempt to maintain a net asset value of $1 per share for sales and redemptions. The instruments held by the Fund are valued on the basis of amortized cost, which does not take into account unrealized capital gains or losses. This involves valuing an instrument at its cost and thereafter assuming a constant amortization to maturity of any discount or premium, regardless of the impact of fluctuating interest rates on the market value of the instrument. While this method provides certainty in valuation, it may result in periods during which value, as determined by amortized cost, is higher or lower than the price which the Fund would receive if it sold the instrument. The Fund's holdings will be reviewed by the trustees, at such intervals as they may deem appropriate, to determine whether the Fund's net asset value calculated by using available market quotations deviates from $1 per share based on amortized cost. The extent of any deviation will be examined by the trustees. If such deviation exceeds ½ of 1%, the trustees will promptly consider what action, if any, will be initiated. In the event the trustees determine that a deviation exists which may result in material dilution or other unfair results to investors or existing shareholders, they have agreed to take such corrective action as they regard as necessary and appropriate, including selling fund instruments prior to maturity to realize capital gains or losses or to shorten average portfolio maturity; withholding dividends; making a special capital distribution; redeeming shares in kind; or establishing a net asset value per share by using available market quotations.

The use of amortized cost and the maintenance of the Money Market Portfolio's net asset value at $1 is based on its election to operate under Rule 2a-7 under the 1940 Act. As a condition of operating under that rule, the Fund must maintain a dollar-weighted average portfolio maturity of 60 days or less; maintain a dollar-weighted average life of 120 days or less; purchase only instruments having remaining maturities of 397 days or less; meet applicable daily, weekly, and general liquidity requirements; and invest only in securities that are determined by methods approved by the trustees to present minimal credit risks and that are of high quality.

PURCHASE AND REDEMPTION OF SHARES

Purchase of Shares

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

The Total Bond Market Index Portfolio reserves the right to impose a transaction fee of 0.25% on any purchase that, in the opinion of the advisor, would disrupt efficient management of the Fund. The advisor may impose this transaction fee

if an investor's aggregate purchases into the Fund over a 12-month period exceed, or are expected to exceed, $50 million. The Fund may incur substantial transaction costs in absorbing very large investments, and the fee (paid directly to the Fund) is intended to protect existing shareholders from being unfairly impacted by such costs. The Fund's advisor will consider several factors in determining whether to apply the fee, including the following:

- The transaction costs of buying securities, determined in part by the availability of securities at that time.
- The offsetting effect of any Fund redemptions occurring at that time.
- The Fund's then-current rate of growth.

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 the 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 the 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 the 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 portfolio shares in kind should contact Vanguard.

Redemption of 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 the 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, including in connection with a determination by the board of a money market fund under Rule 22e-3 under the 1940 Act to suspend redemptions and postpone payment of redemption proceeds in order to facilitate an orderly liquidation of a money market fund. In addition, in accordance with Rule 2a-7 under the 1940 Act, the board of trustees of a retail or institutional money market fund may implement liquidity fees and redemption gates if a retail or institutional money market fund's weekly liquid assets fall below established thresholds.

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 a 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 Vanguard Variable Insurance Funds' board of trustees. Investors may incur brokerage charges on the sale of such securities received in payment of redemptions.

The Funds do not charge redemption fees. 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 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, financial exploitation, or abuse, or to 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.

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.

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.

For all Funds except the Fund-of-Fund Portfolios. Vanguard provides corporate management, administrative, and distribution services. Each Fund pays its share of Vanguard's total expenses, which are allocated among the Funds under methods approved by the Vanguard Variable Insurance Funds' board of trustees. In addition, each Fund bears its own direct expenses, such as legal, auditing, and custodial fees. The Agreement provides that each Fund 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 December 31, 2019, each 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
Balanced Portfolio	$144,000	Less than 0.01%	0.06%
Capital Growth Portfolio	87,000	Less than 0.01	0.03
Diversified Value Portfolio	43,000	Less than 0.01	0.02
Equity Income Portfolio	79,000	Less than 0.01	0.03
Equity Index Portfolio	280,000	Less than 0.01	0.11

Vanguard Fund	Capital Contribution to Vanguard	Percentage of Fund's Average Net Assets	Percent of Vanguard Funds' Contribution
Growth Portfolio	35,000	Less than 0.01	0.01
High Yield Bond Portfolio	35,000	Less than 0.01	0.01
International Portfolio	172,000	Less than 0.01	0.07
Mid-Cap Index Portfolio	94,000	Less than 0.01	0.04
Money Market Portfolio	56,000	Less than 0.01	0.02
Real Estate Index Portfolio	56,000	Less than 0.01	0.02
Short-Term Investment-Grade Portfolio	85,000	Less than 0.01	0.03
Small Company Growth Portfolio	94,000	Less than 0.01	0.04
Total Bond Market Index Portfolio	192,000	Less than 0.01	0.08

For the Fund-of-Fund Portfolios. The Agreement provides that each Fund 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 each Fund's direct expenses may be offset, in whole or in part, by (1) the Fund's contributions to the cost of operating the underlying funds in which the Fund invests, and (2) certain savings in administrative and marketing costs that Vanguard expects to derive from the Fund's operation. 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. Each Fund's shareholders bear the fees and expenses associated with the Fund's investments in the underlying funds.

As of December 31, 2019, the Acquired Fund Fees and Expenses of each Fund were as follows: 0.13% for the Total Stock Market Index Portfolio, the Global Bond Index Portfolio, and the Conservative Allocation Portfolio; 0.12% for the Moderate Allocation Portfolio; and 0.11% for the Total International Stock Market Index Portfolio.

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 are 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.
- Providing promotional discounts, commission-free trading, fee waivers, and other benefits to clients of Vanguard Brokerage Services® who maintain qualifying investments in the funds.

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 one-time fixed dollar payments for setup expenses associated with financial service providers' use of Vanguard's model portfolios comprised of funds.

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 the Funds (other than the Fund-of-Fund Portfolios). Amounts captioned "Management and Administrative Expenses" include a 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 a 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 the Funds 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 December 31, 2017, 2018, and 2019, 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	2017	2018	2019
Balanced Portfolio			
Management and Administrative Expenses	0.16%	0.14%	0.15%
Marketing and Distribution Expenses	0.01	0.01	0.01
Capital Growth Portfolio			
Management and Administrative Expenses	0.19%	0.17%	0.18%
Marketing and Distribution Expenses	0.01	0.02	0.01
Diversified Value Portfolio			
Management and Administrative Expenses	0.16%	0.14%	0.15%
Marketing and Distribution Expenses	0.01	0.01	0.01
Equity Income Portfolio			
Management and Administrative Expenses	0.18%	0.19%	0.21%
Marketing and Distribution Expenses	0.01	0.02	0.01
Equity Index Portfolio			
Management and Administrative Expenses	0.13%	0.12%	0.13%
Marketing and Distribution Expenses	0.01	0.01	0.01
Growth Portfolio			
Management and Administrative Expenses	0.24%	0.23%	0.23%
Marketing and Distribution Expenses	0.01	0.01	0.01
High Yield Bond Portfolio			
Management and Administrative Expenses	0.19%	0.17%	0.18%
Marketing and Distribution Expenses	0.02	0.02	0.01
International Portfolio			
Management and Administrative Expenses	0.18%	0.16%	0.17%
Marketing and Distribution Expenses	0.01	0.02	0.01
Mid-Cap Index Portfolio			
Management and Administrative Expenses	0.16%	0.15%	0.16%
Marketing and Distribution Expenses	0.02	0.01	0.01
Money Market Portfolio			
Management and Administrative Expenses	0.13%	0.12%	0.13%
Marketing and Distribution Expenses	0.02	0.02	0.01
Real Estate Index Portfolio			
Management and Administrative Expenses	0.24%	0.24%	0.24%
Marketing and Distribution Expenses	0.02	0.01	0.01
Short-Term Investment-Grade Portfolio			
Management and Administrative Expenses	0.13%	0.12%	0.12%
Marketing and Distribution Expenses	0.02	0.02	0.01
Small Company Growth Portfolio			
Management and Administrative Expenses	0.16%	0.16%	0.20%
Marketing and Distribution Expenses	0.01	0.02	0.01

Annual Shared Fund Operating Expenses (Shared Expenses Deducted From Fund Assets)			
Vanguard Fund	**2017**	**2018**	**2019**
Total Bond Market Index Portfolio			
Management and Administrative Expenses	0.12%	0.12%	0.12%
Marketing and Distribution Expenses	0.02	0.02	0.01

The Diversified Value and Growth Portfolios' investment advisors may direct certain security trades, subject to obtaining the best price and execution, to brokers who have agreed to rebate to each Fund part of the commissions generated. Such rebates are used solely to reduce each Fund's management and administrative expenses and are not reflected in these totals.

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 financial services. 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. Chairman of the board (2011–2017) and trustee (2009–2017) of the Children's Hospital of Philadelphia; and trustee (2018–present) and vice chair (2019–present) of The Shipley School.	213
1 Mr. Buckley is considered an "interested person" as defined in the 1940 Act because he is an officer of the Trust.				
Independent Trustees				
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. Director of SPX FLOW, Inc. (multi-industry manufacturing). Director of the University of Rochester Medical Center, the Monroe Community College Foundation, the United Way of Rochester, North Carolina A&T University, and Roberts Wesleyan College. Trustee of the University of Rochester.	213
Amy Gutmann (1949)	Trustee	June 2006	President (2004–present) of the University of Pennsylvania. Christopher H. Browne Distinguished Professor of Political Science, School of Arts and Sciences, and professor of communication, Annenberg School for Communication, with secondary faculty appointments in the Department of Philosophy, School of Arts and Sciences, and at the Graduate School of Education, University of Pennsylvania.	213
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). Chairman of the board of Hillenbrand, Inc. (specialized consumer services) and the Lumina Foundation. Director of the V Foundation. Member of the advisory council for the College of Arts and Letters and chair of the advisory board to the Kellogg Institute for International Studies, both at the University of Notre Dame.	213
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.	213

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	Chief investment officer (1989–present) and vice president (1996–present) of the University of Notre Dame. Assistant professor of finance at the Mendoza College of Business, University of Notre Dame, and member of the Notre Dame 403(b) Investment Committee. Member of the board of TIFF Advisory Services, Inc. Member of the board of Catholic Investment Services, Inc. (investment advisors) and the board of superintendence of the Institute for the Works of Religion.	213
Deanna Mulligan (1963)	Trustee	January 2018	Chief executive officer (2011–present) of The Guardian Life Insurance Company of America. President (2010–2019), chief operating officer (2010–2011), and executive vice president (2008–2010) of Individual Life and Disability of The Guardian Life Insurance Company of America. Member of the board of The Guardian Life Insurance Company of America, the American Council of Life Insurers, and the Economic Club of New York. Trustee of the Partnership for New York City (business leadership), the Chief Executives for Corporate Purpose, the NewYork-Presbyterian Hospital, Catalyst, and the Bruce Museum (arts and science). Member of the Advisory Council for the Stanford Graduate School of Business.	213
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 co-managing partner of HighVista Strategies LLC (private investment firm). Board of Advisors and investment committee member of the Museum of Fine Arts Boston. Board member (2018–present) of RIT Capital Partners (investment firm); investment committee member of Partners Health Care System.	213
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. Member of the board of directors (2012–2014) of Neighborhood Reinvestment Corporation. Director (2017–present) of i(x) Investments, LLC; director (2017–present) of Reserve Trust. Rubenstein Fellow (2017–present) of Duke University; trustee (2017–present) of Amherst College; and trustee (2019–present) of Folger Shakespeare Library.	213
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). Chairman of the board of trustees of Colby-Sawyer College. Member of the board of Hypertherm Inc. (industrial cutting systems, software, and consumables).	213

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
Executive Officers				
John Bendl (1970)	Chief Financial Officer	October 2019	Principal of Vanguard. Chief financial officer (2019–present) of each of the investment companies served by Vanguard. Chief accounting officer, treasurer, and controller of Vanguard (2017–present). Partner (2003–2016) at KPMG (audit, tax, and advisory services).	213
Glenn Booraem (1967)	Investment Stewardship Officer	February 2001	Principal of Vanguard. Investment stewardship officer (2017–present), treasurer (2015–2017), controller (2010–2015), and assistant controller (2001–2010) of each of the investment companies served by Vanguard.	213
Christine M. Buchanan (1970)	Treasurer	November 2017	Principal of Vanguard. Treasurer (2017–present) of each of the investment companies served by Vanguard. Partner (2005–2017) at KPMG (audit, tax, and advisory services).	213
David Cermak (1960)	Finance Director	October 2019	Principal of Vanguard. Finance director (2019–present) of each of the investment companies served by Vanguard. Managing director and head (2017–present) of Vanguard Investments Singapore. Managing director and head (2017–2019) of Vanguard Investments Hong Kong. Representative director and head (2014–2017) of Vanguard Investments Japan.	213
Thomas J. Higgins (1957)	Finance Director	July 1998	Principal of Vanguard. Finance director (2019–present), chief financial officer (2008–2019), and treasurer (1998–2008) of each of the investment companies served by Vanguard.	213
Peter Mahoney (1974)	Controller	May 2015	Principal of Vanguard. Controller (2015–present) of each of the investment companies served by Vanguard. Head of International Fund Services (2008–2014) at Vanguard.	213
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.	213
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.	213
John E. Schadl (1972)	Chief Compliance Officer	March 2019	Principal of Vanguard. Chief compliance officer (2019–present) of Vanguard and of each of the investment companies served by Vanguard. Assistant vice president (2019–present) of Vanguard Marketing Corporation.	213

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 December 31, 2019.
- 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 one meeting during the Trust's fiscal year ended December 31, 2019.
- 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 four meetings during the Trust's fiscal year ended December 31, 2019.
- 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 one meeting during the Trust's fiscal year ended December 31, 2019.

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

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 the Global Bond Index, Total International Stock Market Index, Conservative Allocation, Moderate Allocation, and Total Stock Market Index Portfolios 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 three 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.
- Upon retirement (after attaining age 65 and completing five years of service), the independent trustees who began their service prior to January 1, 2001, receive a retirement benefit under a separate account arrangement. As of January 1, 2001, the opening balance of each eligible trustee's separate account was generally equal to the net present value of the benefits he or she had accrued under the trustees' former retirement plan. Each eligible trustee's separate account will be credited annually with interest at a rate of 7.5% until the trustee receives his or her final distribution. Those independent trustees who began their service on or after January 1, 2001, are not eligible to participate in the plan.

"Interested" Trustee. Mr. Buckley serves as 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 and accrued as retirement benefits by the Funds for each trustee. In addition, the table shows the total amount of benefits that we expect each trustee to receive from all Vanguard funds upon retirement and the total amount of compensation paid to each trustee by all Vanguard funds.

VANGUARD VARIABLE INSURANCE FUNDS
TRUSTEES' COMPENSATION TABLE

Trustee	Aggregate Compensation From the Funds[1]	Pension or Retirement Benefits Accrued as Part of the Funds' Expenses[1]	Accrued Annual Retirement Benefit at January 1, 2020[2]	Total Compensation From All Vanguard Funds Paid to Trustees[3]
Mortimer J. Buckley	—	—	—	—
Emerson U. Fullwood	$2,483	—	—	$287,500
Amy Gutmann	2,483	—	—	287,500
JoAnn Heffernan Heisen[4]	—	$50	$9,329	—
F. Joseph Loughrey	2,656	—	—	307,500
Mark Loughridge	3,090	—	—	357,500
Scott C. Malpass	2,483	—	—	287,500
Deanna Mulligan	2,483	—	—	287,500
André F. Perold	2,483	—	—	287,500
Sarah Bloom Raskin	2,656	—	—	307,500
Peter F. Volanakis	2,656	—	—	307,500

1 The amounts shown in this column are based on the Trust's fiscal year ended December 31, 2019. Each Fund within the Trust is responsible for a proportionate share of these amounts.
2 Each trustee is eligible to receive retirement benefits only after completing at least 5 years (60 consecutive months) of service as a trustee for the Vanguard funds. The annual retirement benefit will be paid in monthly installments, beginning with the month following the trustee's retirement from service, and will cease after 10 years of payments (120 monthly installments). Trustees who began their service on or after January 1, 2001, are not eligible to participate in the retirement benefit plan.
3 The amounts reported in this column reflect the total compensation paid to each trustee for his or her service as trustee of 213 Vanguard funds for the 2019 calendar year.
4 Ms. Heisen retired from service effective December 31, 2018.

Ownership of Fund Shares

All current trustees allocate their investments among the various Vanguard funds based on their own investment needs. The Portfolios are mutual funds used solely as investment options for annuity or life insurance contracts offered by insurance companies, which can only be purchased through a contract offered by an insurance company. Accordingly, the trustees cannot directly own shares of the Portfolios. The following table shows each trustee's ownership of shares of all Vanguard funds served by the trustee as of December 31, 2019.

Trustee	Aggregate Dollar Range of Vanguard Fund Shares Owned By Trustee
Mortimer J. Buckley	Over $100,000
Emerson U. Fullwood	Over $100,000
Amy Gutmann	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
André F. Perold	Over $100,000
Sarah Bloom Raskin	Over $100,000
Peter F. Volanakis	Over $100,000

As of March 31, 2020, 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 March 31, 2020, the following owned of record 5% or more of the outstanding shares of each Fund :

Fund	Owner	Percentage of Ownership
Balanced Portfolio	TRANSAMERICA FINANCIAL LIFE INSURANCE COMPANY	5.83%
	TRANSAMERICA PREMIER LIFE INSURANCE COMPANY	73.46%
Capital Growth Portfolio	JNL SERIES TRUST CHICAGO, IL	22.03%
	TRANSAMERICA PREMIER LIFE INSURANCE COMPANY	46.27%
Conservative Allocation Portfolio	TRANSAMERICA FINANCIAL LIFE INSURANCE COMPANY	8.55%
	TRANSAMERICA PREMIER LIFE INSURANCE COMPANY	87.30%
Diversified Value Portfolio	MUTUAL OF AMERICA NEW YORK, NY	29.72%
	TRANSAMERICA PREMIER LIFE INSURANCE COMPANY	44.24%
	VOYA RETIREMENT INSURANCE & ANNUITY COMPANY WINDSOR, CT	6.11%
Equity Income Portfolio	JEFFERSON NATIONAL LIFE INSURANCE COMPANY LOUISVILLE, KY	7.90%
	JNL SERIES TRUST CHICAGO, IL	22.28%
	TRANSAMERICA PREMIER LIFE INSURANCE COMPANY	47.48%
Equity Index Portfolio	J P MORGAN CHASE BANK NA BROOKLYN, NY	41.28%
	TRANSAMERICA PREMIER LIFE INSURANCE COMPANY	26.15%
Global Bond Index Portfolio	NATIONWIDE LIFE INSURANCE COMPANY COLUMBUS, OH	13.03%
	TRANSAMERICA PREMIER LIFE INSURANCE COMPANY CEDAR RAPIDS, IA	6.03%
	THE LINCOLN LIFE INSURANCE COMPANY FORT WAYNE, IN	25.04%
	TRANSAMERICA PREMIER LIFE INSURANCE COMPANY	48.47%
Growth Portfolio	JEFFERSON NATIONAL LIFE INSURANCE COMPANY LOUISVILLE, KY	8.72%
	TRANSAMERICA FINANCIAL LIFE INSURANCE COMPANY	9.02%
	TRANSAMERICA PREMIER LIFE INSURANCE COMPANY	74.87%
High Yield Bond Portfolio	JEFFERSON NATIONAL LIFE INSURANCE COMPANY LOUISVILLE, KY	6.52%
	NATIONWIDE LIFE INSURANCE COMPANY COLUMBUS, OH	8.76%
	JP MORGAN CHASE BANK NEW YORK, NY	7.26%
	TRANSAMERICA FINANCIAL LIFE INSURANCE COMPANY	6.03%
	TRANSAMERICA PREMIER LIFE INSURANCE COMPANY	48.25%
International Portfolio	JNL SERIES TRUST CHICAGO, IL	16.68%
	MUTUAL OF AMERICA NEW YORK, NY	14.25%
	PRUDENTIAL INSURANCE COMPANY OF AMERICA LIVINGSTON, NJ	6.82%
	TRANSAMERICA PREMIER LIFE INSURANCE COMPANY	30.08%
Mid-Cap Index Portfolio	JEFFERSON NATIONAL LIFE INSURANCE COMPANY LOUISVILLE, KY	5.15%
	NATIONWIDE LIFE INSURANCE COMPANY COLUMBUS, OH	9.52%
	TALCOTT RESOLUTION LIFE INSURANCE COMPANY HARTFORD, CT	5.95%
	THE LINCOLN LIFE INSURANCE COMPANY FORT WAYNE, IN	5.27%
	TRANSAMERICA PREMIER LIFE INSURANCE COMPANY	39.16%
Moderate Allocation Portfolio	TRANSAMERICA FINANCIAL LIFE INSURANCE COMPANY	7.99%
	TRANSAMERICA PREMIER LIFE INSURANCE COMPANY	88.26%
Money Market Portfolio	TRANSAMERICA FINANCIAL LIFE INSURANCE COMPANY	8.73%
	TRANSAMERICA PREMIER LIFE INSURANCE COMPANY	89.92%

Fund	Owner	Percentage of Ownership
Real Estate Index Portfolio	JEFFERSON NATIONAL LIFE INSURANCE COMPANY LOUISVILLE, KY	7.92%
	MUTUAL OF AMERICA NEW YORK, NY	10.88%
	NATIONWIDE LIFE INSURANCE COMPANY COLUMBUS, OH	5.54%
	TRANSAMERICA PREMIER LIFE INSURANCE COMPANY	44.05%
Short-Term Investment-Grade Portfolio	JEFFERSON NATIONAL LIFE INSURANCE COMPANY LOUISVILLE, KY	13.98%
	NATIONWIDE LIFE INSURANCE COMPANY COLUMBUS, OH	12.66%
	TRANSAMERICA PREMIER LIFE INSURANCE COMPANY	50.83%
Small Company Growth Portfolio	AMERICAN UNITED LIFE INSURANCE INDIANAPOLIS, IN	8.16%
	JNL SERIES TRUST CHICAGO, IL	12.58%
	NATIONWIDE LIFE INSURANCE COMPANY COLUMBUS, OH	8.55%
	TRANSAMERICA PREMIER LIFE INSURANCE COMPANY	42.36%
Total Bond Market Index Portfolio	JEFFERSON NATIONAL LIFE INSURANCE COMPANY LOUISVILLE, KY	8.28%
	J P MORGAN CHASE BANK NA BROOKLYN, NY	13.20%
	NATIONWIDE LIFE INSURANCE COMPANY COLUMBUS, OH	13.90%
	J P MORGAN CHASE BANK NA BROOKLYN, NY	5.21%
	TRANSAMERICA PREMIER LIFE INSURANCE COMPANY	37.62%
Total International Stock Market Index Portfolio	NATIONWIDE LIFE INSURANCE COMPANY COLUMBUS, OH	12.54%
	NATIONWIDE LIFE INSURANCE COMPANY COLUMBUS, OH	16.22%
	TRANSAMERICA LIFE INSURANCE COMPANY CEDAR RAPIDS, IA	18.37%
	THE LINCOLN LIFE INSURANCE COMPANY FORT WAYNE IN	10.90%
	TRANSAMERICA PREMIER LIFE INSURANCE COMPANY	31.38%
Total Stock Market Index Portfolio	AMERICAN FIDELITY ASSURANCE OKLAHOMA CITY OK	9.98%
	JEFFERSON NATIONAL LIFE INSURANCE COMPANY LOUISVILLE KY	8.80%
	TRANSAMERICA PREMIER LIFE INSURANCE COMPANY	49.77%

A shareholder who owns more than 25% of a Fund's voting shares may be considered a controlling person. As of March 31, 2020, Mutual of America Life Insurance Company Separate Account 1 (established by Mutual of America) owned the indicated percentage of the Diversified Value Portfolio, Vanguard Variable Insurance Fund Conservative Allocation Portfolio owned the indicated percentage of the Equity Index Portfolio, and The Lincoln Life Insurance Company owned the indicated percentage of the Global Bond Index Portfolio. Transamerica Premier Life Insurance Company (a wholly owned subsidiary of Transamerica Corporation, which is indirectly owned by Aegon N.V. of The Netherlands) owned the indicated percentage of each Portfolio. Under current law, Transamerica Premier Life Insurance Company must vote these shares in accordance with instructions received by underlying contract holders.

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, distributor, or any affiliated person of the fund, its investment 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 Ethics, 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 investments, derivatives, and other investment positions (collectively, other investment positions) held by the fund.

Online Disclosure of Ten Largest Stock Holdings

Each actively managed Vanguard fund generally will seek to disclose the fund's ten largest stock portfolio holdings and the percentage of the fund's total assets that each of these holdings represents as of the end of the most recent calendar quarter (quarter-end ten largest stock holdings with weightings) online at *vanguard.com,* in the "Portfolio" section of the fund's Portfolio & Management page, 15 calendar days after the end of the calendar quarter. Each Vanguard index fund generally will seek to disclose the fund's ten largest stock portfolio holdings and the percentage of the fund's total assets that each of these holdings represents as of the end of the most recent month (month-end ten largest stock holdings with weightings) online at *vanguard.com,* in the "Portfolio" section of the fund's Portfolio & Management page, 15 calendar days after the end of the month. In addition, Vanguard funds generally will seek to disclose the fund's ten largest stock portfolio holdings and the aggregate percentage of the fund's total assets (and, for balanced funds, the aggregate percentage of the fund's equity securities) that these holdings represent as of the end of the most recent month (month-end ten largest stock holdings) online at *vanguard.com,* in the "Portfolio" section of the fund's Portfolio & Management page, 10 business days after the end of the month. Together, the quarter-end and month-end ten largest stock holdings are referred to as the ten largest stock holdings. Online disclosure of the ten largest stock 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 Variable Insurance Funds will also disclose the top ten stock holdings of each Fund on our website for Financial Advisors at *advisors.vanguard.com*.

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,* in the "Portfolio" section of the fund's Portfolio & Management page, 30 calendar days after the end of the calendar quarter. 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,* in the "Portfolio" section of the fund's Portfolio & Management page, 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. Vanguard Market Neutral Fund and Vanguard Alternative Strategies Fund 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,* in the "Portfolio" section of the Fund's Portfolio & Management page, 60 calendar days after the end of the calendar quarter. Each Vanguard index fund generally will seek to disclose the fund's complete portfolio holdings as of the end of the most recent month online at *vanguard.com,* in the "Portfolio" section of the fund's Portfolio & Management page, 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.

Vanguard Variable Insurance Funds will also disclose the complete portfolio holdings of each Fund on our website for Financial Advisors at *advisors.vanguard.com*.

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

Vanguard, for legitimate business purposes, may disclose 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 Legal and Compliance Division. 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 investments and derivatives.

Currently, Vanguard discloses complete portfolio holdings 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.; FactSet Research Systems Inc.; Innovation Printing & Communications; Institutional Shareholder Services, Inc.; Intelligencer Printing Company; Investment Technology Group, Inc.; Lipper, Inc.; Markit WSO Corporation; McMunn Associates Inc.; Reuters America Inc.; R.R. Donnelley, Inc.; State Street Bank and Trust Company; and Trade Informatics LLC.

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

Vanguard discloses complete portfolio holdings 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 Ethics, 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 Ethics or the Policies and Procedures Designed to Prevent the Misuse of Inside Information; (2) an investment 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 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, custodian, and independent registered public accounting firm identified in each fund's Statement of Additional Information.

Disclosure of Portfolio Holdings to Broker-Dealers in the Normal Course of Managing a Fund's Assets

An investment 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 one or more broker-dealers during the course of, or in connection with, normal day-to-day securities and derivatives transactions with or through such broker-dealers subject to the broker-dealer'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 broker-dealers must be authorized by a Vanguard fund officer or a Principal of Vanguard.

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 to Enable Insurance Company Compliance with Federal Income Tax Requirements or Other Applicable Law

Vanguard may disclose the complete portfolio holdings of a Portfolio of Vanguard Variable Insurance Fund (VVIF Portfolio) at times it deems necessary and appropriate to any insurance company that invests in the VVIF Portfolio and requests such information for the legitimate business purpose of enabling the insurance company to determine its compliance with federal income tax requirements or other applicable laws, rules, and regulations. Disclosure is conditioned on the insurance company 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 of disclosure to an insurance company varies and may

be as frequent as quarterly, with no lag. Disclosure must be authorized by a Vanguard fund officer or a Principal in Vanguard's Portfolio Review Department or Legal and Compliance Division. Any disclosure of a VVIF Portfolio's complete portfolio holdings to an insurance company as previously described may also include a list of the other investment positions that make up the Portfolio, such as cash investments and derivatives.

Currently, Vanguard Variable Insurance Funds discloses complete portfolio holdings of each Fund to Chase Life and Annuity Company, Kemper Investors Life Insurance Company, and PricewaterhouseCoopers LLP.

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 Financial Services 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 Portfolio Review Department or Legal and Compliance Division.

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 by any affiliated person of the investment advisor.

INVESTMENT ADVISORY AND OTHER SERVICES

The Trust currently uses nine investment advisors:

- ArrowMark Colorado Holdings, LLC (ArrowMark Partners) provides investment advisory services for a portion of the assets in the Small Company Growth Portfolio.
- Baillie Gifford Overseas Ltd. (Baillie Gifford) provides investment advisory services for a portion of the assets in the International Portfolio.
- Hotchkis and Wiley Capital Management, LLC (Hotchkis and Wiley) provides investment advisory services for a portion of the assets in the Diversified Value Portfolio.
- Jackson Square Partners, LLC (Jackson Square) provides investment advisory services for a portion of the assets in the Growth Portfolio.
- Lazard Asset Management LLC (Lazard) provides investment advisory services for a portion of the assets in the Diversified Value Portfolio.
- PRIMECAP Management Company (PRIMECAP) provides investment advisory services to the Capital Growth Portfolio.
- Schroder Investment Management North America Inc. (Schroders) provides investment advisory services for a portion of the assets in the International Portfolio.
- Wellington Management Company LLP (Wellington Management) provides investment advisory services to the High Yield Bond and Balanced Portfolios, and for a portion of the assets in the Equity Income and Growth Portfolios.
- Vanguard provides investment advisory services to the Conservative Allocation, Global Bond Index, Equity Index, Mid-Cap Index, Moderate Allocation, Money Market, Real Estate Index, Short-Term Investment-Grade, Total Bond Market Index, Total International Stock Market Index, and Total Stock Market Index Portfolios, and for a portion of the assets in the Equity Income and Small Company Growth Portfolios.

Granahan Investment Management, Inc., provided investment advisory services for a portion of the Small Company Growth Portfolio from 1996 until March 2017.

William Blair Investment Management, LLC, provided investment advisory services for a portion of the Growth Portfolio from 2004 until December 2018.

Barrow, Hanley, Mewhinney & Strauss, LLC, provided investment advisory services to the Diversified Value Portfolio from 1999 until December 2019.

Independent Third-Party Advisors

For funds that are advised by independent third-party advisory firms unaffiliated with Vanguard, the board of trustees of each fund hires investment advisory firms, not individual portfolio managers, to provide investment advisory services to such funds. Vanguard negotiates each advisory agreement, which contains advisory fee arrangements, on an arm's length basis with the advisory firm. Each advisory agreement is reviewed annually by each fund's board of trustees, taking into account numerous factors, which include, without limitation, the nature, extent, and quality of the services provided; investment performance; and the fair market value of the services provided. Each advisory agreement is between the Trust and the advisory firm, not between the Trust and the portfolio manager. The structure of the advisory fee paid to each unaffiliated investment advisory firm is described in the following sections. In addition, each firm has established policies and procedures designed to address the potential for conflicts of interest. Each firm's compensation structure and management of potential conflicts of interest are summarized by the advisory firm in the following sections for the fiscal year ended December 31, 2019.

A fund is party to an investment advisory agreement with each of its independent third-party advisors whereby the advisor manages the investment and reinvestment of the portion of the fund's assets that the fund's board of trustees determines to assign to the advisor. In this capacity, each advisor continuously reviews, supervises, and administers the investment program for its portion of the fund's assets. Hereafter, each portion is referred to as the advisor's Portfolio. Each advisor discharges its responsibilities subject to the supervision and oversight of Vanguard's Portfolio Review Department and the officers and trustees of the fund. Vanguard's Portfolio Review Department is responsible for recommending changes in a fund's advisory arrangements to the fund's board of trustees, including changes in the amount of assets allocated to each advisor, and recommendations to hire, terminate, or replace an advisor.

I. Capital Growth Portfolio

PRIMECAP Management Company (PRIMECAP), an investment advisory services firm founded in 1983, is a California corporation whose outstanding shares are owned by its directors and officers. The directors of the corporation and the offices they currently hold are Theo A. Kolokotrones, Chairman; Joel P. Fried, President; Alfred W. Mordecai, Vice Chairman; M. Mohsin Ansari, Executive Vice President; and James Marchetti, Executive Vice President. PRIMECAP provides investment advisory services to endowment funds, employee benefit plans, foundations, investment companies, and other institutions unrelated to Vanguard.

The Portfolio pays PRIMECAP on a quarterly basis. The advisory fee is a percentage of average daily net assets under management during the most recent fiscal quarter.

During the fiscal years ended December 31, 2017, 2018, and 2019, the Capital Growth Portfolio incurred investment advisory fees of approximately $1,724,000, $2,438,000, and $2,698,000, respectively.

1. Other Accounts Managed

The following table provides information relating to the other accounts managed by the portfolio managers of the Portfolio as of the fiscal year ended December 31, 2019 (unless otherwise noted):

Portfolio Manager		No. of accounts	Total assets	No. of accounts with performance-based fees	Total assets in accounts with performance-based fees
Theo A. Kolokotrones	Registered investment companies[1]	7	$ 135B	1	$2B
	Other pooled investment vehicles	2	$ 2.8B	0	$ 0
	Other accounts	33	$10.1B	0	$ 0
Joel P. Fried	Registered investment companies[1]	7	$ 135B	1	$2B
	Other pooled investment vehicles	2	$ 2.8B	0	$ 0
	Other accounts	33	$10.1B	0	$ 0
Alfred W. Mordecai	Registered investment companies[1]	7	$ 135B	1	$2B
	Other pooled investment vehicles	2	$ 2.8B	0	$ 0
	Other accounts	33	$10.1B	0	$ 0
M. Moshin Ansari	Registered investment companies[1]	7	$ 135B	1	$2B
	Other pooled investment vehicles	2	$ 2.8B	0	$ 0
	Other accounts	33	$10.1B	0	$ 0
James Marchetti	Registered investment companies[1]	7	$ 135B	1	$2B
	Other pooled investment vehicles	2	$ 2.8B	0	$ 0
	Other accounts	33	$10.1B	0	$ 0

1 Includes Capital Growth Portfolio which held assets of $2 billion as of December 31, 2019.

2. Material Conflicts of Interest

PRIMECAP employs a multi-manager approach to managing its clients' portfolios. In addition to mutual funds, a manager may also manage separate accounts for institutional clients. Conflicts of interest may arise with aggregation or allocation of securities trades amongst the Portfolio and other accounts. The investment objective of the Portfolio and strategies used to manage the Portfolio may differ from other accounts, and the performance may be impacted as well. Portfolio managers who have day-to-day management responsibilities with respect to more than one fund or other account may be presented with several potential or actual conflicts of interest. For example, the management of multiple funds and/or other accounts may result in a portfolio manager devoting unequal time and attention to the management of each fund and/or other accounts. If a portfolio manager identifies a limited investment opportunity that may be suitable for more than one fund or other accounts, a fund may not be able to take full advantage of the opportunity due to an allocation of filled purchase or sale orders across all eligible funds and other accounts managed by the portfolio managers. PRIMECAP has adopted best execution and trade allocation policies and procedures to prevent potential conflicts of interest that may arise between mutual funds and separate accounts, whereby a client or clients

may be disadvantaged by trades executed in other clients' portfolios in the same security. These policies and procedures are strictly monitored and are reviewed by PRIMECAP. Investment personnel of the firm or its affiliates may be permitted to be commercially or professionally involved with an issuer of securities. Any potential conflicts of interest from such involvement would be monitored for compliance with the firm's Code of Ethics.

3. Description of Compensation

Compensation is paid solely by PRIMECAP. Each portfolio manager receives a fixed salary that is in part based on industry experience as well as contribution to the firm. On an annual basis, each portfolio manager's compensation may be adjusted according to market conditions and/or to reflect his past performance.

In addition, each portfolio manager may receive a bonus partially based on the Portfolio's pre-tax return and the total value of assets managed by that portfolio manager. Performance is measured on a relative basis, using the S&P 500 Index as the benchmark, and the bonuses are earned only when performance exceeds that of the S&P 500 Index. The value of assets managed by PRIMECAP is not a factor in determination of a portfolio manager's bonus. Bonuses earned are accrued and paid ratably according to the following schedule over rolling three-year periods: 50% in year one, 33% in year two, and 17% in year three. Although the bonus is determined by pre-tax returns, each portfolio manager considers tax consequences in taxable accounts as part of his decision-making process.

The portfolio managers do not receive deferred compensation but participate in a profit-sharing plan available to all employees of PRIMECAP; amounts are determined as a percentage of the employee's eligible compensation for a calendar year based on IRS limitations.

Each portfolio manager is a principal of PRIMECAP and receives quarterly dividends based on his or her equity in the company.

II. Diversified Value Portfolio

The Portfolio pays each of its independent third-party investment advisors a base fee plus or minus a performance adjustment. The base fee, which is paid quarterly, is a percentage of average daily net assets managed by the advisor during the most recent fiscal quarter. The performance adjustment, also paid quarterly, is based on the cumulative total return of each advisor's portion of the Portfolio relative to that of the Russell 1000 Value Index (for Hotchkis and Wiley) or the S&P 500 Index (for Lazard), over the preceding 60-month period (a 36-month period for Lazard).

During the fiscal years ended December 31, 2017, 2018, and 2019, the Diversified Value Portfolio incurred investment advisory fees of approximately $1,418,000 (before a performance-based decrease of $349,000), $1,314,000 (before a performance-based decrease of $342,000), and $1,091,000 (before a performance-based decrease of $296,000), respectively.

A. Hotchkis and Wiley Capital Management, LLC (Hotchkis and Wiley)

Hotchkis and Wiley is a limited liability company, the primary members of which are HWCap Holdings, a limited liability company whose members are current and former employees of the Advisor, and Stephens-H&W LLC, a limited liability company whose primary member is SF Holding Corp., which is a diversified holding company.

1. Other Accounts Managed

The investment process by Hotchkis and Wiley (the Hotchkis and Wiley Portfolio) is team-based utilizing primarily in-house, fundamental research. The investment research staff is organized by industry and sector and supports all of the accounts managed in each of Hotchkis and Wiley's strategies. Portfolio managers for each strategy ensure that the best thinking of the investment team is reflected in the "target portfolios." Investment ideas for the Hotchkis and Wiley Portfolio are generated by Hotchkis and Wiley's investment team. Although the Hotchkis and Wiley Portfolio is managed by Hotchkis and Wiley's investment team, Hotchkis and Wiley has identified George H. Davis, Jr. and Scott McBride as the portfolio managers with the most significant responsibility for the day-to-day management of the Hotchkis and Wiley Portfolio.

The following table provides information relating to the other accounts managed by the portfolio managers of the Portfolio as of the fiscal year ended December 31, 2019 (unless otherwise noted):

Portfolio Manager		No. of accounts	Total assets	No. of accounts with performance-based fees	Total assets in accounts with performance-based fees
George H. Davis Jr.	Registered investment companies[1]	20	$ 20B	2	$11.5B
	Other pooled investment vehicles	12	$1.4B	1	$ 49M
	Other accounts	58	$9.2B	5	$ 2B
Scott McBride	Registered investment companies[1]	20	$ 20B	2	$11.5B
	Other pooled investment vehicles	12	$1.4B	1	$ 49M
	Other accounts	58	$9.2B	5	$ 2B

1 Includes Diversified Value Portfolio which held assets of $974 million as of December 31, 2019.

2. Material Conflicts of Interest

The Portfolio is managed by Hotchkis and Wiley's investment team (Investment Team). The Investment Team also manages institutional accounts and other mutual funds in several different investment strategies. The portfolios within an investment strategy are managed using a target portfolio; however, each portfolio may have different restrictions, cash flows, tax and other relevant considerations which may preclude a portfolio from participating in certain transactions for that investment strategy. Consequently, the performance of portfolios may vary due to these different considerations. The Investment Team may place transactions for one investment strategy that are directly or indirectly contrary to investment decisions made on behalf of another investment strategy. Hotchkis and Wiley also provides model portfolio investment recommendations to sponsors without execution or additional services. The recommendations are provided on a delayed basis relative to transactions of discretionary accounts. Hotchkis and Wiley may be restricted from purchasing more than a limited percentage of the outstanding shares of a company or otherwise restricted from trading in a company's securities due to other regulatory limitations. If a company is a viable investment for more than one investment strategy, Hotchkis and Wiley has adopted policies and procedures reasonably designed to ensure that all of its clients are treated fairly and equitably. Additionally, potential and actual conflicts of interest may also arise as a result of Hotchkis and Wiley's other business activities and Hotchkis and Wiley's possession of material non-public information about an issuer, which may have an adverse impact on one group of clients while benefiting another group. In certain situations, Hotchkis and Wiley will purchase different classes of securities of the same company (e.g. senior debt, subordinated debt, and/or equity) in different investment strategies which can give rise to conflicts where Hotchkis and Wiley may advocate for the benefit of one class of security which may be adverse to another security that is held by clients of a different strategy. Hotchkis and Wiley seeks to mitigate the impact of these conflicts on a case by case basis.

Hotchkis and Wiley utilizes soft dollars to obtain brokerage and research services, which may create a conflict of interest in allocating clients' brokerage business. Research services may benefit certain accounts more than others. Certain accounts may also pay a less proportionate amount of commissions for research services. If a research product provides both a research and a non-research function, Hotchkis and Wiley will make a reasonable allocation of the use and pay for the non-research portion with hard dollars. Hotchkis and Wiley will make decisions involving soft dollars in a manner that satisfies the requirements of Section 28(e) of the Securities Exchange Act of 1934.

Different types of accounts and investment strategies may have different fee structures. Additionally, certain accounts pay Hotchkis and Wiley performance-based fees, which may vary depending on how well the account performs compared to a benchmark. Because such fee arrangements have the potential to create an incentive for Hotchkis and Wiley to favor such accounts in making investment decisions and allocations, Hotchkis and Wiley has adopted policies and procedures reasonably designed to ensure that all of its clients are treated fairly and equitably, including in respect of allocation decisions, such as initial public offerings.

Since accounts are managed to a target portfolio by the Investment Team, adequate time and resources are consistently applied to all accounts in the same investment strategy. Investment personnel of the firm or its affiliates may be permitted to be commercially or professionally involved with an issuer of securities. Any potential conflicts of interest from such involvement would be monitored for compliance with the firm's Code of Ethics.

3. Description of Compensation

Hotchkis and Wiley's Portfolio Managers are compensated in various forms, which may include a base salary, bonus, profit sharing, and equity ownership. Compensation is used to reward, attract, and retain high-quality investment professionals.

The Portfolio Managers are evaluated and accountable at three levels. The first level is individual contribution to the research and decision-making process, including the quality and quantity of work achieved. The second level is teamwork, generally evaluated through contribution within sector teams. The third level pertains to overall portfolio and firm performance.

Fixed salaries and discretionary bonuses for investment professionals are determined by the Chief Executive Officer of Hotchkis and Wiley using tools which may include annual evaluations, compensation surveys, feedback from other employees, and advice from members of Hotchkis and Wiley's Executive and Compensation Committees. The amount of the bonus is determined by the total amount of Hotchkis and Wiley's bonus pool available for the year, which is generally a function of revenues. No investment professional receives a bonus that is a pre-determined percentage of revenues or net income. Compensation is thus subjective rather than formulaic.

The majority of the Portfolio Managers own equity in Hotchkis and Wiley. Hotchkis and Wiley believes that the employee ownership structure of the firm will be a significant factor in ensuring a motivated and stable employee base going forward. Hotchkis and Wiley believes that the combination of competitive compensation levels and equity ownership provides Hotchkis and Wiley with a demonstrable advantage in the retention and motivation of employees. Portfolio Managers who own equity in Hotchkis and Wiley receive their pro rata share of Hotchkis and Wiley's profits. Investment professionals may also receive contributions under Hotchkis and Wiley's profit sharing/401(k) plan.

B. Lazard Asset Management LLC (Lazard)

Lazard is a registered investment advisor and is a direct, wholly owned subsidiary of Lazard Freres & Co., LLC, and an indirect, wholly owned subsidiary of Lazard Ltd.

1. Other Accounts Managed

The following table provides information relating to the other accounts managed by the portfolio managers of the Portfolio as of the fiscal year ended December 31, 2019 (unless otherwise noted):

Portfolio Manager		No. of accounts	Total assets	No. of accounts with performance-based fees	Total assets in accounts with performance-based fees
Andrew Lacey	Registered investment companies[1]	13	$21.7B	2	$18.5B
	Other pooled investment vehicles	10	$ 3.2B	2	$ 1B
	Other accounts	108	$ 5.7B	0	$ 0
Ronald Temple	Registered investment companies[1]	10	$22.1B	2	$18.5B
	Other pooled investment vehicles	13	$ 3.4B	2	$ 1B
	Other accounts	113	$ 5.7B	0	$ 0

1 Includes Diversified Value Portfolio which held assets of $974 million as of December 31, 2019.

2. Material Conflicts of Interest

Although the potential for conflicts of interest exists when an investment adviser and portfolio managers manage other accounts that invest in securities in which the Portfolio may invest or that may pursue a strategy similar to the Portfolio's investment strategies implemented by Lazard (Similar Accounts), Lazard has procedures in place that are designed to ensure that all accounts are treated fairly and that the Portfolio is not disadvantaged, including procedures regarding trade allocations and "conflicting trades" (e.g., long and short positions in the same or similar securities). In addition, the Portfolio is subject to different regulations than certain of the Similar Accounts, and, consequently, may not be permitted to engage in all the investment techniques or transactions, or to engage in such techniques or transactions to the same degree, as the Similar Accounts.

Potential conflicts of interest may arise because of Lazard's management of the Portfolio (Lazard Portfolio) and Similar Accounts. For example, conflicts of interest may arise with both the aggregation and allocation of securities

transactions and allocation of limited investment opportunities, as Lazard may be perceived as causing accounts it manages to participate in an offering to increase Lazard's overall allocation of securities in that offering, or to increase Lazard's ability to participate in future offerings by the same underwriter or issuer. Allocations of bunched trades, particularly trade orders that were only partially filled due to limited availability, and allocation of investment opportunities generally, could raise a potential conflict of interest, as Lazard may have an incentive to allocate securities that are expected to increase in value to preferred accounts. Initial public offerings, in particular, are frequently of very limited availability. Additionally, portfolio managers may be perceived to have a conflict of interest because of the large number of Similar Accounts, in addition to the Portfolio, that they are managing on behalf of Lazard. Although Lazard does not track each individual portfolio manager's time dedicated to each account, Lazard periodically reviews each portfolio manager's overall responsibilities to ensure that he or she is able to allocate the necessary time and resources to effectively manage the Portfolio. In addition, Lazard could be viewed as having a conflict of interest to the extent that Lazard and/or portfolio managers have a materially larger investment in a Similar Account than their investment in the Portfolio.

A potential conflict of interest may be perceived to arise if transactions in one account closely follow related transactions in a different account, such as when a purchase increases the value of securities previously purchased by the other account, or when a sale in one account lowers the sale price received in a sale by a second account. Lazard may place transactions on behalf of Similar Accounts that are directly or indirectly contrary to investment decisions made for the Portfolio, which could have the potential to adversely impact the Portfolio, depending on market conditions. In addition, if the Portfolio's investment in an issuer is at a different level of the issuer's capital structure than an investment in the issuer by Similar Accounts, in the event of credit deterioration of the issuer, there may be a conflict of interest between the Portfolio's and such Similar Accounts' investments in the issuer. If Lazard sells securities short, it may be seen as harmful to the performance of the Portfolio investing "long" in the same or similar securities whose market values fall as a result of short-selling activities. Investment decisions for the Portfolio are made independently from those of Similar Accounts. If, however, Similar Accounts desire to invest in, or dispose of, the same securities as the Portfolio, available investment or opportunities for sales will be allocated equitably to each. In some cases, this procedure may adversely affect the size of the position obtained for or disposed of by the Portfolio or the price paid or received by the Portfolio. As described above, Lazard has procedures in place to address these conflicts. Additionally, portfolio managers/analysts and portfolio management teams are generally not permitted to manage long-only assets alongside long/short assets, although may from time to time manage both hedge funds and long-only accounts, including open-end and closed-end registered investment companies. Investment personnel of the firm or its affiliates may be permitted to be commercially or professionally involved with an issuer of securities. Any potential conflicts of interest from such involvement would be monitored for compliance with the firm's Code of Ethics.

3. Description of Compensation

Lazard compensates portfolio managers by a competitive salary and bonus structure, which is determined both quantitatively and qualitatively. Salary and bonus are paid in cash, stock, and restricted interests in funds managed by Lazard or its affiliates. Portfolio managers are compensated on the performance of the aggregate group of portfolios managed by the teams of which they are a member rather than for a specific fund or account. Various factors are considered in the determination of a portfolio manager's compensation. All of the portfolios managed by a portfolio manager are comprehensively evaluated to determine his or her positive and consistent performance contribution over time. Further factors include the amount of assets in the portfolios as well as qualitative aspects that reinforce Lazard's investment philosophy. Total compensation is generally not fixed, but rather is based on the following factors: (1) leadership, teamwork, and commitment; (2) maintenance of current knowledge and opinions on companies owned in the portfolio; (3) generation and development of new investment ideas, including the quality of security analysis and identification of appreciation catalysts; (4) ability and willingness to develop and share ideas on a team basis; and (5) the performance results of the portfolios managed by the investment teams of which the portfolio manager is a member.

Variable bonus is based on the portfolio manager's quantitative performance as measured by his or her ability to make investment decisions that contribute to the pre-tax absolute and relative returns of the accounts managed by the teams of which the portfolio manager is a member, by comparison of each account to a predetermined benchmark (as set forth in the prospectus or other governing document) over the current fiscal year and the longer-term performance of such account, as well as performance of the account relative to peers. The portfolio manager's bonus also can be influenced by subjective measurement of the manager's ability to help others make investment decisions. A portion of a portfolio manager's variable bonus is awarded under a deferred compensation arrangement pursuant to which the portfolio manager may allocate certain amounts awarded among certain portfolios, in shares that vest in two to three years. Certain portfolio managers' bonus compensation may be tied to a fixed percentage of revenue or assets generated by the accounts managed by such portfolio management teams.

III. Growth Portfolio

The Portfolio pays each of its independent third-party investment advisors a base fee plus or minus a performance adjustment. The base fee, which is paid quarterly, is a percentage of average daily net assets managed by the advisor during the most recent fiscal quarter. The performance adjustment, also paid quarterly, is based on the cumulative total return of each advisor's portion of the Portfolio relative to that of the Russell 1000 Growth Index over the preceding 36-month period.

During the fiscal years ended December 31, 2017, 2018, and 2019, the Growth Portfolio incurred aggregate investment advisory fees of approximately $691,000 (before a performance-based decrease of $41,000), $893,000 (before a performance-based decrease of $19,000), and $1,050,000 (before a performance-based increase of $61,000), respectively.

A. Jackson Square Partners, LLC (Jackson Square)

Jackson Square Partners, LLC, is an investment management firm founded in 2014. Jackson Square is organized as a Delaware limited liability company with principal offices at 101 California Street, Suite 3750, San Francisco, CA 94111.

1. Other Accounts Managed

The following table provides information relating to the other accounts managed by the portfolio managers of the Portfolio as of the fiscal year ended December 31, 2019 (unless otherwise noted):

Portfolio Manager		No. of accounts	Total assets	No. of accounts with performance-based fees	Total assets in accounts with performance-based fees
Christopher Bonavico	Registered investment companies[1]	12	$ 9.6B	2	$ 4.7B
	Other pooled investment vehicles	12	$ 4.7B	0	$ 0
	Other accounts	36	$ 5.2B	3	$496M
Christopher Ericksen	Registered investment companies[1]	9	$ 8.5B	2	$ 4.7B
	Other pooled investment vehicles	4	$500M	0	$ 0
	Other accounts	21	$ 3.4B	1	$218M
Daniel Prislin	Registered investment companies[1]	10	$ 8.5B	2	$ 4.7B
	Other pooled investment vehicles	4	$500M	0	$ 0
	Other accounts	28	$ 3.6B	2	$394M
Jeffrey Van Harte	Registered investment companies[1]	10	$ 8.5B	2	$ 4.7B
	Other pooled investment vehicles	4	$500M	0	$ 0
	Other accounts	25	$ 3.6B	2	$394M

1 Includes Growth Portfolio which held assets of $791 million as of December 31, 2019.

2. Material Conflicts of Interest

Individual portfolio managers perform investment management services for other funds or accounts similar to those provided to the Growth Portfolio, and the investment action for each other fund or account and the Portfolio may differ. For example, one fund or account may be selling a security, while another fund or account may be purchasing or holding the same security. As a result, transactions executed for one fund or account or the Jackson Square Portfolio may adversely affect the value of securities held by another fund or account or the Jackson Square Portfolio. In addition, the management of multiple other funds or accounts and the Jackson Square Portfolio may give rise to potential conflicts of interest, as a portfolio manager must allocate time and effort to multiple funds or accounts and the Jackson Square Portfolio. A portfolio manager may discover an investment opportunity that may be suitable for more than one fund or account. The investment opportunity may be limited, however, so that all funds or accounts for which the investment would be suitable may not be able to participate. Jackson Square has adopted procedures designed to allocate investments fairly across multiple funds or accounts. Certain of the accounts managed by the portfolio managers have performance-based fees. This compensation structure presents a potential conflict of interest. The portfolio managers have an incentive to manage such accounts so as to enhance their performance, to the possible detriment of other accounts for which the investment manager does not receive a performance-based fee. A portfolio manager's

management of personal accounts also may present certain conflicts of interest. Although Jackson Square's code of ethics is designed to address these potential conflicts, there is no guarantee that it will do so. Investment personnel of the firm or its affiliates may be permitted to be commercially or professionally involved with an issuer of securities. Any potential conflicts of interest from such involvement would be monitored for compliance with the firm's Code of Ethics.

3. Description of Compensation

Jackson Square's investment professionals have remained together, bound by culture and the unique nature of the team's research/portfolio manager role, for over a decade on average. Through various market and organizational circumstances over the years, the group has maintained a meritocracy and very strong pay-for-performance ethos that rewards positive impact to client portfolios. Each stock in each portfolio has two or more "sponsors" who have mathematical ownership of those names for performance attribution purposes (e.g., 60/40 or 50/50 responsibility splits). This stock-by-stock attribution can then be aggregated and the individual contributions of team members measured, down to the basis point, for each performance period measured: 1-, 3-, and 5-year, and since inception.

Aggregate compensation is ultimately driven by revenues. These in turn are correlated with assets under management (AUM), which ultimately correlates with performance over the long term, in a self-reinforcing cycle of better performance leading to more AUM (both via flows and appreciation) and greater revenues/compensation. Additionally, qualitative factors such as contribution to debates of other team members' ideas are also considered in determining compensation. Certain employees, including eight members of the investment team, have equity ownership as part of their compensation.

In terms of the composition of compensation paid to the investment team, it is expected to be a combination of base salary, discretionary annual bonuses and for those members with equity, partnership equity distributions. Jackson Square believes this combination will have the proper incentives to award prudent long-term focus on building a stable and sustainable business while also rewarding professionals for superior relative interim results.

B. Wellington Management Company LLP (Wellington Management)

Wellington Management is a Delaware limited liability partnership with principal offices at 280 Congress Street, Boston, MA, 02210. Wellington Management is a professional investment counseling firm that provides investment services to investment companies, employee benefit plans, endowments, foundations, and other institutions. Wellington Management and its predecessor organizations have provided investment advisory services for over 80 years. Wellington Management is owned by the partners of Wellington Management Group LLP, a Massachusetts limited liability partnership.

1. Other Accounts Managed

The following table provides information relating to the other accounts managed by the portfolio manager of the Portfolio as of the fiscal year ended December 31, 2019 (unless otherwise noted):

Portfolio Manager		No. of accounts	Total assets	No. of accounts with performance-based fees	Total assets in accounts with performance-based fees
Andrew J. Shilling	Registered investment companies[1]	3	$8.8B	2	$8.1B
	Other pooled investment vehicles	4	$2.4B	0	$ 0
	Other accounts	15	$ 4B	0	$ 0

1 Includes Growth Portfolio which held assets of $791 million as of December 31, 2019.

2. Material Conflicts of Interest

Please refer to Wellington Management's discussion beginning on page B-69.

3. Description of Compensation

Wellington Management receives a fee based on the assets under management of the Wellington Management Portfolio as set forth in the Investment Advisory Agreement between Wellington Management and the Trust on behalf of the Portfolio. Wellington Management pays its investment professionals out of its total revenues, including the advisory fees earned with respect to the Wellington Management Portfolio. The following relates to the fiscal year ended December 31, 2019.

Wellington Management's compensation structure is designed to attract and retain high-caliber investment professionals necessary to deliver high-quality investment management services to its clients. Wellington Management's compensation of the Portfolio Manager listed in the prospectus, who is primarily responsible for the day-to-day management of the Wellington Management Portfolio (the "Portfolio Manager") includes a base salary and incentive components. The base salary for the Portfolio Manager, who is a partner (a "Partner") of Wellington Management Group LLP, the ultimate holding company of Wellington Management, is generally a fixed amount that is determined by the managing partners of Wellington Management Group LLP.

The Portfolio Manager is eligible to receive an incentive payment based on the revenues earned by Wellington Management from the Wellington Management Portfolio and generally each other account managed by the Portfolio Manager. The Portfolio Manager's incentive payment relating to the Wellington Management Portfolio is linked to the net pre-tax performance of the portion of the Wellington Management Portfolio managed by the Portfolio Manager compared to the Russell 1000 Growth Index over one-, three-, and five-year periods, with an emphasis on five-year results. Wellington Management applies similar incentive compensation structures (although the benchmarks or peer groups, time periods and rates may differ) to other accounts managed by the Portfolio Manager, including accounts with performance fees.

Portfolio-based incentives across all accounts managed by an investment professional can, and typically do, represent a significant portion of an investment professional's overall compensation; incentive compensation varies significantly by individual and can vary significantly from year to year. The Portfolio Manager may also be eligible for bonus payments based on his overall contribution to Wellington Management's business operations. Senior management at Wellington Management may reward individuals as it deems appropriate based on other factors. Each Partner is eligible to participate in a Partner-funded tax-qualified retirement plan, the contributions to which are made pursuant to an actuarial formula. Mr. Shilling is a Partner.

IV. International Portfolio

The Portfolio pays each of its independent third-party investment advisors a base fee plus or minus a performance adjustment. The base fee, which is paid quarterly, is a percentage of average daily net assets managed by the advisor during the most recent fiscal quarter. The performance adjustment, also paid quarterly, is based on the cumulative total return of each advisor's portion of the Portfolio relative to that of the MSCI ACWI ex USA Index over the preceding 36-month period.

During the fiscal years ended December 31, 2017, 2018, and 2019, the International Portfolio incurred aggregate investment advisory fees of $4,139,000 (before a performance-based increase of $892,000), $5,297,000 (before a performance-based increase of $1,054,000), and $5,339,000 (before a performance-based increase of $1,295,000), respectively.

A. Baillie Gifford Overseas Ltd. (Baillie Gifford)

Baillie Gifford is an investment advisory firm founded in 1983. Baillie Gifford is wholly owned by a Scottish investment company, Baillie Gifford & Co. Founded in 1908, Baillie Gifford & Co., which is one of the largest independently owned investment management firms in the United Kingdom, manages money primarily for institutional clients.

1. Other Accounts Managed

The following table provides information relating to the other accounts managed by the portfolio managers of the Portfolio as of the fiscal year ended December 31, 2019 (unless otherwise noted):

Portfolio Manager		No. of accounts	Total assets	No. of accounts with performance-based fees	Total assets in accounts with performance-based fees
James K. Anderson	Registered investment companies[1]	5	$ 32B	2	$ 29B
	Other pooled investment vehicles	10	$18.8B	1	$44M
	Other accounts	110	$52.2B	7	$3.7B
Thomas Coutts	Registered investment companies[1]	3	$ 32B	2	$ 29B
	Other pooled investment vehicles	5	$ 2.3B	1	$44M
	Other accounts	33	$ 15B	0	$ 0

1 Includes International Portfolio which held assets of $4 billion as of December 31, 2019.

2. Material Conflicts of Interest

At Baillie Gifford, individual portfolio managers may manage multiple accounts for multiple clients. In addition to mutual funds, these other accounts may include separate accounts, collective investment schemes, or offshore funds. Baillie Gifford manages potential conflicts between funds or with other types of accounts by implementing effective organizational and administrative arrangements to ensure that reasonable steps are taken to prevent the conflict giving rise to a material risk of damage to the interests of clients.

One area where a conflict of interest potentially arises is in the placing of orders for multiple clients and subsequent allocation of trades. Unless client-specific circumstances dictate otherwise, investment teams normally implement transactions in individual stocks for all clients with similar mandates at the same time. This aggregation of individual transactions can, of course, operate to the advantage or disadvantage of the clients involved in the order. When receiving orders from investment managers, traders at Baillie Gifford will generally treat order priority on a "first come, first served" basis, and any exceptions to this are permitted only in accordance with established policies. Baillie Gifford has also developed trade allocation systems 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 where two or more funds or accounts participate in investment decisions involving the same securities. Investment personnel of the firm or its affiliates may be permitted to be commercially or professionally involved with an issuer of securities. Any potential conflicts of interest from such involvement would be monitored for compliance with the firm's Code of Ethics.

3. Description of Compensation

Mr. Anderson and Mr. Coutts are Partners of Baillie Gifford & Co. As such, each receives a base salary and a share of the partnership profits. The profit share is calculated as a percentage of total partnership profits based on seniority, role within Baillie Gifford & Co., and length of service. The basis for the profit share is detailed in the Baillie Gifford Partnership Agreement. The main staff benefits, such as pension schemes, are not available to partners, and therefore partners provide for benefits from their own personal funds.

B. Schroder Investment Management North America Inc. (Schroders)

Each of Schroders and Schroder Investment Management North America Limited (Schroder Limited), 1 London Wall Place, London, EC2Y 5AU, United Kingdom, is an indirect wholly owned subsidiary of Schroders plc, the ultimate parent of a large world-wide group of financial service companies with subsidiaries and branches and representative based in 34 locations across Europe, the Americas, Asia, and the Middle East.

Schroders Sub-advisory Agreement

On behalf of the Vanguard Variable Insurance Funds, Schroders has entered into a sub-advisory agreement with Schroder Limited pursuant to which Schroder Limited has primary responsibility for choosing investments for the International Portfolio. Under the terms of the sub-advisory agreement with the Trust, Schroders pays Schroder Limited fees equal to 58.5% of the management fee payable to Schroders under its management contract with the Trust.

1. Other Accounts Managed

The following table provides information relating to the other accounts managed by the portfolio manager of the Portfolio as of the fiscal year ended December 31, 2019 (unless otherwise noted):

Portfolio Manager		No. of accounts	Total assets	No. of accounts with performance-based fees	Total assets in accounts with performance-based fees
Simon Webber	Registered investment companies[1]	5	$4.9B	1	$4B
	Other pooled investment vehicles	5	$1.1B	0	$ 0
	Other accounts	15	$ 4B	1	$1B

1 Includes International Portfolio which held assets of $4 billion as of December 31, 2019.

2. Material Conflicts of Interest

Whenever a portfolio manager of the Schroders Portfolio manages other accounts, potential conflicts of interest exist, including potential conflicts between the investment strategy of the Schroders Portfolio and the investment strategy of the other accounts. For example, in certain instances, a portfolio manager may take conflicting positions in a particular security for different accounts by selling a security for one account and continuing to hold it for another account. In addition, the fact that other accounts require the portfolio manager to devote less than all of his or her time to the Schroders Portfolio may be seen itself to constitute a conflict with the interest of the Schroders Portfolio.

A portfolio manager may also execute transactions for another fund or account at the direction of such fund or account that may adversely impact the value of securities held by the Schroders Portfolio. Securities selected for funds or accounts other than the Schroders Portfolio may outperform the securities selected for the Schroders Portfolio. Finally, if a portfolio manager identifies a limited investment opportunity that may be suitable for more than one fund or other account, the Schroders Portfolio may not be able to take full advantage of that opportunity because of an allocation of that opportunity across all eligible funds and accounts.

At Schroders, individual portfolio managers may manage multiple accounts for multiple clients. In addition to mutual funds, these other accounts may include separate accounts, collective trusts, or offshore funds. Certain of these accounts may pay a performance fee, and portfolio managers may have an incentive to allocate investment to these accounts.

Schroders manages potential conflicts between funds or with other types of accounts through allocation policies and procedures, internal review processes, and oversight by client directors. Schroders has developed trade allocation and client order priority systems 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 where two or more funds or accounts participate in investment decisions involving the same securities.

The structure of each portfolio manager's compensation may give rise to potential conflicts of interest. Each portfolio manager's base pay tends to increase with additional and more complex responsibilities that include increased assets under management, which indirectly links compensation to sales.

Schroders has adopted certain compliance procedures that are designed to address these, and other, types of conflicts. However, there is no guarantee that such procedures will detect each and every situation in which a conflict arises.

3. Description of Compensation

Schroders' portfolio managers are paid a combination of base salary and annual bonus, as well as the standard retirement, health, and welfare benefits available to all of its employees. Certain fund managers also receive awards under a long-term incentive program. Mr. Webber receives compensation based on the factors discussed in this section.

Base salary is determined by reference to the level of responsibility inherent in the role and the experience of the incumbent, and is benchmarked annually against market data to ensure that Schroders is paying competitively. Schroders reviews base salaries annually, targeting increases at employees whose roles have increased in scope materially during the year and those whose salary is behind market rates. At more senior levels, base salaries tend to be adjusted less frequently as the emphasis is increasingly on the discretionary bonus.

Bonuses for fund managers may be composed of an agreed contractual floor, a revenue component, and/or a discretionary component. Any discretionary bonus is determined by a number of factors. At a macro level the total amount available to spend is a function of the compensation to revenue ratio achieved by the firm globally. Schroders then assesses the performance of the division and of the team to determine the share of the aggregate bonus pool that is spent in each area. This focus on "team" maintains consistency and minimizes internal competition that may be detrimental to the interests of clients. For individual fund managers, Schroders assesses the performance of its funds against the relevant benchmarks (which may be internally- and/or externally-based and are considered over a range of performance periods), the level of funds under management, and the level of performance fees generated, if any. Schroders also reviews "softer" factors such as leadership, contribution to other parts of the business, and an assessment of the employee's behavior and the extent to which it is in line with its corporate values of excellence, integrity, teamwork, passion, and innovation.

For those employees receiving significant bonuses, a part may be deferred in the form of Schroders plc stock and fund-based awards of notional cash investments in a range of Schroders' funds. These deferrals vest over a period of three years and ensure that the interests of the employee are aligned both with those of the shareholders and with those of investors. Over recent years Schroders has increased the level of deferred awards, and as a consequence employees have increased alignment with clients and shareholders and an increasing incentive to remain with Schroders as their store of unvested awards grows over time.

V. Small Company Growth Portfolio

The Portfolio pays ArrowMark Partners a base fee plus or minus a performance adjustment. The base fee, which is paid quarterly, is a percentage of average daily net assets managed by the advisor during the most recent fiscal quarter. The performance adjustment, also paid quarterly, is based on the cumulative total return of the advisor's portion of the Portfolio relative to that of the Russell 2500 Growth Index over the preceding 60-month period. Vanguard provides investment advisory services for a portion of the Portfolio.

During the fiscal years ended December 31, 2017, 2018, and 2019, the Small Company Growth Portfolio incurred aggregate investment advisory fees and expenses of approximately $2,339,000 (before a performance-based increase of $72,000), $2,622,000 (before a performance-based increase of $140,000), and $2,825,000 (before a performance-based increase of $122,000), respectively.

Of the aggregate fees and expenses previously described, the investment advisory expenses paid to Vanguard for the fiscal year ended December 31, 2019, were approximately $887,000 (representing an effective annual rate of 0.04%). The investment advisory fees paid to ArrowMark Partners for the fiscal year ended December 31, 2019, were $2,060,000 (representing an effective annual rate of 0.11%).

A. ArrowMark Colorado Holdings, LLC (ArrowMark Partners)

ArrowMark Partners, located in Denver, Colorado, is an investment advisory firm founded in 2007.

1. Other Accounts Managed

The following table provides information relating to the other accounts managed by the portfolio managers of the Portfolio as of the fiscal year ended December 31, 2019 (unless otherwise noted):

Portfolio Manager		No. of accounts	Total assets	No. of accounts with performance-based fees	Total assets in accounts with performance-based fees
Chad Meade	Registered investment companies[1]	3	$ 6.1B	1	$ 2.1B
	Other pooled investment vehicles	1	$114M	0	$ 0
	Other accounts	34	$ 4.2B	2	$114M
Brian Schaub	Registered investment companies[1]	3	$ 6.1B	1	$ 2.1B
	Other pooled investment vehicles	1	$114M	0	$ 0
	Other accounts	34	$ 4.2B	2	$114M

1 Includes Small Company Growth Portfolio which held assets of $2.1 billion as of December 31, 2019.

2. Material Conflicts of Interest

Potential conflicts could include a portfolio manager's knowledge about the size, timing, and possible market impact of a fund's trades, whereby the portfolio manager could use this information to the advantage or disadvantage of another fund. A fund's portfolio managers may be able to select or otherwise influence the selection of the brokers and dealers that are used to execute securities transactions for a fund. In addition to executing trades, some brokers and dealers provide managers with brokerage research services, which may result in the payment of higher brokerage fees than might have otherwise been available. These services may be more beneficial to certain funds or accounts than to others.

Although the payment of brokerage commissions is subject to the requirement that the portfolio manager determine in good faith that the commissions are reasonable in relation to the value of the brokerage and research services provided to a fund, a portfolio manager's decision as to the selection of brokers and dealers could potentially yield disproportionate costs and benefits among the individual funds.

A fund's portfolio managers and analysts may also face other potential conflicts of interest in managing the funds, and the description above is not a complete description of every conflict that could be deemed to exist in managing both the funds and other accounts. In addition, the portfolio managers or analysts may also manage other accounts (including their personal assets or the assets of family members) in their personal capacity. The management of these accounts may also involve certain of the potential conflicts described above. Investment personnel, including the portfolio managers and analysts, are subject to restrictions on engaging in personal securities transactions pursuant to a Code of Ethics adopted by ArrowMark Partners and the funds. Although the potential for conflicts of interest may exist, the funds and ArrowMark Partners believe that they have established policies and procedures that seek to minimize potential conflicts of interest and to ensure that the purchase and sale of securities among all managed accounts are fairly and equitably executed and allocated. Investment personnel of the firm or its affiliates may be permitted to be commercially or professionally involved with an issuer of securities. Any potential conflicts of interest from such involvement would be monitored for compliance with the firm's Code of Ethics.

3. Description of Compensation

Compensation for portfolio managers is designed to link the performance of each portfolio manager to shareholder objectives. All portfolio manager compensation through a base salary and bonus, is paid by ArrowMark Partners. The total compensation of a portfolio manager will be based on a combination of the pre-tax performance of each fund managed by the portfolio manager against applicable benchmark(s) as well as against its relevant peer group, with primary emphasis given to 3-year performance. Peer groups may include Lipper, Morningstar, and other customized universes of funds managed. Portfolio managers are incentivized for outperformance, but receive no extra compensation for being top decile performers, which minimizes the possibility of portfolio managers taking undue risk to be top performers.

B. Vanguard

Vanguard, through its Quantitative Equity Group, provides investment advisory services for a portion of the Small Company Growth Portfolio's assets. The compensation and other expenses of Vanguard's advisory staff are allocated among the funds utilizing Vanguard's advisory services.

1. Other Accounts Managed

The following table provides information relating to the other accounts managed by the portfolio managers of the Portfolio as of the fiscal year ended December 31, 2019 (unless otherwise noted):

Portfolio Manager		No. of accounts	Total assets	No. of accounts with performance-based fees	Total assets in accounts with performance-based fees
James P. Stetler	Registered investment companies[1]	13	$ 166B	0	$0
	Other pooled investment vehicles	2	$265M	0	$0
	Other accounts	0	$ 0	0	$0
Binbin Guo	Registered investment companies[1]	13	$ 166B	0	$0
	Other pooled investment vehicles	2	$265M	0	$0
	Other accounts	0	$ 0	0	$0

1 Includes Small Company Growth Portfolio which held assets of $2.1 billion as of December 31, 2019.

2. Material Conflicts of Interest

Please refer to Vanguard's discussion on page B-73.

3. Description of Compensation

Please refer to Vanguard's discussion beginning on page B-73.

VI. Equity Income Portfolio

The Portfolio pays Wellington Management a base fee plus or minus a performance adjustment. The base fee, which is paid quarterly, is a percentage of average daily net assets managed by the advisor during the most recent fiscal quarter. The performance adjustment, also paid quarterly, is based on the cumulative total return of the advisor's portion of the Portfolio relative to that of the FTSE High Dividend Yield Index over the preceding 36-month period. Vanguard provides investment advisory services for a portion of the Portfolio.

During the fiscal years ended December 31, 2017, 2018, and 2019, the Equity Income Portfolio incurred aggregate investment advisory fees and expenses of approximately $1,368,000 (before a performance-based decrease of $36,000), $1,213,000 (before a performance-based decrease of $18,000), and $1,503,000 (before a performance-based increase of $96,000), respectively.

Of the aggregate fees and expenses previously described, the investment advisory expenses paid to Vanguard for the fiscal year ended December 31, 2019, were approximately $485,000 (representing an effective annual rate of 0.03%). The investment advisory fees paid to Wellington Management for the fiscal year ended December 31, 2019, were $1,114,000 (representing an effective annual rate of 0.07%).

A. Wellington Management

Wellington Management is a Delaware limited liability partnership with principal offices at 280 Congress Street, Boston, MA 02210. Wellington Management is a professional investment counseling firm that provides investment services to investment companies, employee benefit plans, endowments, foundations, and other institutions. Wellington Management and its predecessor organizations have provided investment advisory services for over 80 years. Wellington Management is owned by the partners of Wellington Management Group LLP, a Massachusetts limited liability partnership.

1. Other Accounts Managed

The following table provides information relating to the other accounts managed by the portfolio manager of the Portfolio as of the fiscal year ended December 31, 2019 (unless otherwise noted):

Portfolio Manager		No. of accounts	Total assets	No. of accounts with performance-based fees	Total assets in accounts with performance-based fees
W. Michael Reckmeyer III	Registered investment companies[1]	7	$ 62B	3	$ 50B
	Other pooled investment vehicles	5	$186M	1	$18.6M
	Other accounts	8	$ 1.2B	1	$ 301M

1 Includes Equity Income Portfolio which held assets of $1.8 billion as of December 31, 2019.

2. Material Conflicts of Interest

Please refer to Wellington Management's discussion beginning on page B-69.

3. Description of Compensation

Wellington Management receives a fee based on the assets under management of the Wellington Management Portfolio as set forth in the Investment Advisory Agreement between Wellington Management and the Trust on behalf of the Portfolio. Wellington Management pays its investment professionals out of its total revenues, including the advisory fees earned with respect to the Wellington Management Portfolio. The following relates to fiscal year ended December 31, 2019.

Wellington Management's compensation structure is designed to attract and retain high-caliber investment professionals necessary to deliver high quality investment management services to its clients. Wellington Management's compensation of the portfolio manager listed in the prospectus, who is primarily responsible for the day-to-day management of the Wellington Management Portfolio (the "Portfolio Manager") includes a base salary and incentive components. The base salary for the Portfolio Manager, who is a partner (a "Partner") of Wellington Management Group LLP, the ultimate holding company of Wellington Management, is generally a fixed amount that is determined by the managing partners of Wellington Management Group LLP.

The Portfolio Manager is eligible to receive an incentive payment based on the revenues earned by Wellington Management from the Wellington Management Portfolio and generally each other account managed by the Portfolio Manager. The Portfolio Manager's incentive payment relating to the Wellington Management Portfolio is linked to the net pre-tax performance of the portion of the Wellington Management Portfolio managed by the Portfolio Manager compared to the FTSE High Dividend Yield Index over one-, three-, and five-year periods, with an emphasis on five-year results. Wellington Management applies similar incentive compensation structures (although the benchmarks or peer groups, time periods and rates may differ) to other accounts managed by the Portfolio Manager, including accounts with performance fees.

Portfolio-based incentives across all accounts managed by an investment professional can, and typically do, represent a significant portion of an investment professional's overall compensation; incentive compensation varies significantly by individual and can vary significantly from year to year. The Portfolio Manager may also be eligible for bonus payments based on his overall contribution to Wellington Management's business operations. Senior management at Wellington Management may reward individuals as it deems appropriate based on other factors. Each Partner is eligible to participate in a Partner-funded tax-qualified retirement plan, the contributions to which are made pursuant to an actuarial formula. Mr. Reckmeyer is a Partner.

B. Vanguard

Vanguard, through its Quantitative Equity Group, provides investment advisory services for a portion of the Equity Income Portfolio's assets. The compensation and other expenses of Vanguard's advisory staff are allocated among the funds utilizing Vanguard's advisory services.

1. Other Accounts Managed

The following table provides information relating to the other accounts managed by the portfolio managers of the Portfolio as of the fiscal year ended December 31, 2019 (unless otherwise noted):

Portfolio Manager		No. of accounts	Total assets	No. of accounts with performance-based fees	Total assets in accounts with performance-based fees
James P. Stetler	Registered investment companies[1]	13	$ 166B	0	$0
	Other pooled investment vehicles	2	$265M	0	$0
	Other accounts	0	$ 0	0	$0
Binbin Guo	Registered investment companies[1]	13	$ 166B	0	$0
	Other pooled investment vehicles	2	$265M	0	$0
	Other accounts	0	$ 0	0	$0

1 Includes Equity Income Portfolio which held assets of $1.8 billion as of December 31, 2019.

2. Material Conflicts of Interest

Please refer to Vanguard's discussion on page B-73.

3. Description of Compensation

Please refer to Vanguard's discussion beginning on page B-73.

VII. Balanced and High Yield Bond Portfolios

Wellington Management is a Delaware limited liability partnership with principal offices at 280 Congress Street, Boston, MA 02210. Wellington Management is a professional investment counseling firm that provides investment services to investment companies, employee benefit plans, endowments, foundations, and other institutions. Wellington Management and its predecessor organizations have provided investment advisory services for over 80 years. Wellington Management is owned by the partners of Wellington Management Group LLP, a Massachusetts limited liability partnership.

The Balanced Portfolio pays Wellington Management a base fee plus or minus a performance adjustment. The base fee, which is paid quarterly, is a percentage of average daily net assets under management during the most recent fiscal quarter. The base fee has breakpoints, which means that the percentage declines as assets go up. The performance adjustment, also paid quarterly, is based on the cumulative total return of the Portfolio relative to that of a Composite Stock/Bond Index over the preceding 36-month period. The Index is a composite benchmark, weighted 65% in the Standard & Poor's 500 Index and 35% in the Bloomberg Barclays U.S. Credit A or Better Bond Index.

During the fiscal years ended December 31, 2017, 2018, and 2019, the Balanced Portfolio incurred investment advisory fees of $1,437,000 (before a performance-based decrease of $82,000), $1,501,000 (before a performance-based decrease of $71,000), and $1,555,000 (before a performance-based decrease of $90,000), respectively.

The High Yield Bond Portfolio pays Wellington Management a base fee. The base fee, which is paid quarterly, is a percentage of average daily net assets under management during the most recent fiscal quarter.

During the fiscal years ended December 31, 2017, 2018, and 2019, the High Yield Bond Portfolio incurred investment advisory fees of approximately $410,000, $442,000, and $446,000, respectively.

1. Other Accounts Managed

The following table provides information relating to the other accounts managed by the portfolio managers of the Portfolios as of the fiscal year ended December 31, 2019 (unless otherwise noted):

Portfolio Manager		No. of accounts	Total assets	No. of accounts with performance-based fees	Total assets in accounts with performance-based fees
Edward P. Bousa	Registered investment companies[1]	6	$ 96B	2	$ 77B
	Other pooled investment vehicles	1	$467M	0	$ 0
	Other accounts	3	$920M	0	$ 0
Daniel J. Pozen	Registered investment companies[1]	6	$ 84B	2	$ 77B
	Other pooled investment vehicles	23	$ 4.5B	3	$ 1.4B
	Other accounts	23	$ 3.8B	2	$432M
Loren L. Moran	Registered investment companies[1]	8	$ 81B	5	$ 80B
	Other pooled investment vehicles	2	$ 68M	1	$ 22M
	Other accounts	0	$ 0	0	$ 0
Michael E. Stack	Registered investment companies[1]	10	$ 85B	5	$ 80B
	Other pooled investment vehicles	2	$ 68M	1	$ 22M
	Other accounts	58	$ 30B	0	$ 0
Michael L. Hong	Registered investment companies[2]	12	$ 28B	1	$783M
	Other pooled investment vehicles	8	$ 4.4B	0	$ 0
	Other accounts	29	$ 7.5B	0	$ 0

1 Includes Balanced Portfolio which held assets of $3.3 billion as of December 31, 2019.
2 Includes High Yield Bond Portfolio which held assets of $783 million as of December 31, 2019.

2. Material Conflicts of Interest

Individual investment professionals at Wellington Management manage multiple accounts for multiple clients. These accounts may include mutual funds, separate accounts (assets managed on behalf of institutions, such as pension funds, insurance companies, foundations, or separately managed account programs sponsored by financial intermediaries), bank common trust accounts, and hedge funds. The Portfolios' managers listed in the prospectus, who are primarily responsible for the day-to-day management of each Portfolio (Portfolio Managers), generally manage accounts in several different investment styles. These accounts may have investment objectives, strategies, time horizons, tax considerations, and risk profiles that differ from those of the relevant Portfolio. The Portfolio Managers make investment decisions for each account, including the relevant Portfolio, based on the investment objective, policies, practices, benchmarks, cash flows, tax, and other relevant investment considerations applicable to that account. Consequently, the Portfolio Managers may purchase or sell securities, including IPOs, for one account and not another account, and the performance of securities purchased for one account may vary from the performance of securities purchased for other accounts. Alternatively, these accounts may be managed in a similar fashion to the relevant Portfolio and thus the accounts may have similar, and in some cases nearly identical, objectives, strategies and/or holdings to that of the relevant Portfolio.

The Portfolio Managers or other investment professionals at Wellington Management may place transactions on behalf of other accounts that are directly or indirectly contrary to investment decisions made on behalf of the relevant Portfolio, or make investment decisions that are similar to those made for the relevant Portfolio, both of which have the potential to adversely impact the relevant Portfolio depending on market conditions. For example, an investment professional may purchase a security in one account while appropriately selling that same security in another account. Similarly, a Portfolio Manager may purchase the same security for the relevant Portfolio and one or more other accounts at or about the same time, and in those instances the other accounts will have access to their respective holdings prior to the public disclosure of the relevant Portfolio's holdings. In addition, some of these accounts have fee structures, including performance fees, which are or have the potential to be higher, in some cases significantly higher, than the fees Wellington Management receives for managing the Portfolios. Messrs. Bousa, Pozen, Stack, Reckmeyer, and Shilling and Ms. Moran also manage accounts which pay performance allocations to Wellington Management or its affiliates. Because incentive payments paid by Wellington Management to the Portfolio Managers are tied to revenues

earned by Wellington Management and, where noted, to the performance achieved by the manager in each account, the incentives associated with any given account may be significantly higher or lower than those associated with other accounts managed by a given Portfolio Manager. Finally, the Portfolio Managers may hold shares or investments in other pooled investment vehicles and/or other accounts previously identified.

Wellington Management's goal is to meet its fiduciary obligation to treat all clients fairly and provide high quality investment services to all of its clients. Wellington Management has adopted and implemented policies and procedures, including brokerage and trade allocation policies and procedures, that it believes address the conflicts associated with managing multiple accounts for multiple clients. In addition, Wellington Management monitors a variety of areas, including compliance with primary account guidelines, the allocation of IPOs, and compliance with the firm's Code of Ethics, and places additional investment restrictions on investment professionals who manage hedge funds and certain other accounts. Furthermore, senior investment and business personnel at Wellington Management periodically review the performance of Wellington Management's investment professionals. Although Wellington Management does not track the time an investment professional spends on a single account, Wellington Management does periodically assess whether an investment professional has adequate time and resources to effectively manage the investment professional's various client mandates.

3. Description of Compensation

Wellington Management receives a fee based on the assets under management of each Portfolio as set forth in the Investment Advisory Agreements between Wellington Management and the Trust on behalf of each Portfolio. Wellington Management pays its investment professionals out of its total revenues, including the advisory fees earned with respect to each Portfolio. The following information relates to the fiscal year ended December 31, 2019.

Wellington Management's compensation structure is designed to attract and retain high-caliber investment professionals necessary to deliver high quality investment management services to its clients. Wellington Management's compensation of the portfolio managers listed in the prospectus, who are primarily responsible for the day-to-day management of the Portfolios ("Portfolio Managers") includes a base salary and incentive components. The base salary for each Portfolio Manager who is a partner (a "Partner") of Wellington Management Group LLP, the ultimate holding company of Wellington Management, is generally a fixed amount that is determined by the managing partners of Wellington Management Group LLP.

Each Portfolio Manager is eligible to receive an incentive payment based on the revenues earned by Wellington Management from the Portfolio managed by the Portfolio Manager and generally each other account managed by such Portfolio Manager. Messrs. Bousa and Pozen's incentive payment relating to the Balanced Portfolio is linked to the net pre-tax performance of his portion of the Portfolio compared to the Standard & Poor's 500 Index over one-, three-, and five-year periods, with an emphasis on five-year results. Wellington Management applies similar incentive compensation structures (although the benchmarks or peer groups, time periods and rates may differ) to other accounts managed by Messrs. Bousa and Pozen, including accounts with performance fees. The incentive paid to the other Portfolio Managers, which has no performance-related component, is based on the revenues earned by Wellington Management.

Portfolio-based incentives across all accounts managed by an investment professional can, and typically do, represent a significant portion of an investment professional's overall compensation; incentive compensation varies significantly by individual and can vary significantly from year to year. The Portfolio Managers may also be eligible for bonus payments based on their overall contribution to Wellington Management's business operations. Senior management at Wellington Management may reward individuals as it deems appropriate based on other factors. Each Partner is eligible to participate in a Partner-funded tax-qualified retirement plan, the contributions to which are made pursuant to an actuarial formula. Messrs. Bousa, Hong, Pozen, and Stack and Ms. Moran are Partners.

VIII. Conservative Allocation, Equity Index, Global Bond Index, Mid-Cap Index, Moderate Allocation, Money Market, Real Estate Index, Short-Term Investment-Grade, Total Bond Market Index, Total International Stock Market Index, and Total Stock Market Index Portfolios

Vanguard, through its Equity Index Group, provides investment advisory services to the Equity Index, Mid-Cap Index, and Real Estate Index Portfolios. Vanguard, through its Fixed Income Group, provides investment advisory services to the Money Market, Short-Term Investment-Grade, and Total Bond Market Index Portfolios. The compensation and other expenses of Vanguard's advisory staff are allocated among the funds utilizing these services.

During the fiscal years ended December 31, 2017, 2018, and 2019, the Portfolios listed above incurred the following approximate investment advisory expenses:

Vanguard Fund	2017	2018	2019
Equity Index Portfolio	$1,159,000	$808,000	$854,000
Mid-Cap Index Portfolio	403,000	277,000	290,000
Money Market Portfolio	31,000	33,000	42,000
Real Estate Index Portfolio	267,000	152,000	173,000
Short-Term Investment-Grade Portfolio	193,000	201,000	246,000
Total Bond Market Index Portfolio	405,000	275,000	135,000

Vanguard also provides investment advisory services to the Fund-of-Fund Portfolios by (1) maintaining each Portfolio's allocation to its underlying investments and (2) providing investment advisory services to those underlying funds. The Portfolios benefit from the investment advisory services provided to the underlying funds and, as shareholders of those funds, indirectly bear a proportionate share of those funds' advisory expenses. For more information about the investment advisory services provided to the underlying 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 Equity Index Portfolio as of the fiscal year ended December 31, 2019 (unless otherwise noted):

Portfolio Manager		No. of accounts	Total assets	No. of accounts with performance-based fees	Total assets in accounts with performance-based fees
Donald M. Butler	Registered investment companies[1]	16	$ 1T	0	$0
	Other pooled investment vehicles	2	$ 8.7B	0	$0
	Other accounts	1	$ 9.1B	0	$0
Michelle Louie	Registered investment companies[1]	9	$816B	0	$0
	Other pooled investment vehicles	0	$ 0	0	$0
	Other accounts	0	$ 0	0	$0

1 Includes Equity Index Portfolio which held assets of $6.5 billion as of December 31, 2019.

The following table provides information relating to the other accounts managed by the portfolio managers of the Mid-Cap Index Portfolio as of the fiscal year ended December 31, 2019 (unless otherwise noted):

Portfolio Manager		No. of accounts	Total assets	No. of accounts with performance-based fees	Total assets in accounts with performance-based fees
Donald M. Butler	Registered investment companies[1]	16	$ 1T	0	$0
	Other pooled investment vehicles	2	$ 8.7B	0	$0
	Other accounts	1	$ 9.1B	0	$0
Michael Johnson	Registered investment companies[1]	19	$251B	0	$0
	Other pooled investment vehicles	2	$ 6.6B	0	$0
	Other accounts	1	$ 1.4B	0	$0

1 Includes Mid-Cap Index Portfolio which held assets of $2.2 billion as of December 31, 2019.

The following table provides information relating to the other accounts managed by the portfolio manager of the Money Market Portfolio as of the fiscal year ended December 31, 2019 (unless otherwise noted):

Portfolio Manager		No. of accounts	Total assets	No. of accounts with performance-based fees	Total assets in accounts with performance-based fees
John C. Lanius	Registered investment companies[1]	3	$212B	0	$0
	Other pooled investment vehicles	0	$ 0	0	$0
	Other accounts	0	$ 0	0	$0

1 Includes Money Market Portfolio which held assets of $1.2 billion as of December 31, 2019.

The following table provides information relating to the other accounts managed by the portfolio managers of the Real Estate Index Portfolio as of the fiscal year ended December 31, 2019 (unless otherwise noted):

Portfolio Manager		No. of accounts	Total assets	No. of accounts with performance-based fees	Total assets in accounts with performance-based fees
Gerard C. O'Reilly	Registered investment companies[1]	18	$ 1.5T	0	$0
	Other pooled investment vehicles	1	$484M	0	$0
	Other accounts	0	$ 0	0	$0
Walter Nejman	Registered investment companies[1]	50	$ 1.9T	0	$0
	Other pooled investment vehicles	2	$ 2.6B	0	$0
	Other accounts	1	$ 1.1B	0	$0

1 Includes Real Estate Index Portfolio which held assets of $1.2 billion as of December 31, 2019.

The following table provides information relating to the other accounts managed by the portfolio managers of the Short-Term Investment-Grade Portfolio as of the fiscal year ended December 31, 2019 (unless otherwise noted):

Portfolio Manager		No. of accounts	Total assets	No. of accounts with performance-based fees	Total assets in accounts with performance-based fees
Samuel C. Martinez	Registered investment companies[1]	9	$154B	0	$0
	Other pooled investment vehicles	0	$ 0	0	$0
	Other accounts	0	$ 0	0	$0
Arvind Narayanan	Registered investment companies[1]	5	$ 40B	0	$0
	Other pooled investment vehicles	0	$ 0	0	$0
	Other accounts	0	$ 0	0	$0
Daniel Shaykevich	Registered investment companies[1]	10	$155B	0	$0
	Other pooled investment vehicles	0	$ 0	0	$0
	Other accounts	0	$ 0	0	$0

1 Includes Short-Term Investment-Grade Portfolio which held assets of $1.9 billion as of December 31, 2019.

The following table provides information relating to the other accounts managed by the portfolio manager of the Total Bond Market Index Portfolio as of the fiscal year ended December 31, 2019 (unless otherwise noted):

Portfolio Manager		No. of accounts	Total assets	No. of accounts with performance-based fees	Total assets in accounts with performance-based fees
Joshua C. Barrickman	Registered investment companies[1]	22	$840B	0	$0
	Other pooled investment vehicles	0	$ 0	0	$0
	Other accounts	0	$ 0	0	$0

1 Includes Total Bond Market Index Portfolio which held assets of $4.3 billion as of December 31, 2019.

The following table provides information relating to the other accounts managed by the portfolio managers of the Conservative Allocation, Moderate Allocation, Total International Stock Market Index, and Total Stock Market Index Portfolios as of the fiscal year ended December 31, 2019 (unless otherwise noted):

Portfolio Manager		No. of accounts	Total assets	No. of accounts with performance-based fees	Total assets in accounts with performance-based fees
William Coleman	Registered investment companies[1]	54	$951B	0	$0
	Other pooled investment vehicles	1	$ 7.7B	0	$0
	Other accounts	0	$ 0	0	$0
Walter Nejman	Registered investment companies[1]	50	$ 1.9T	0	$0
	Other pooled investment vehicles	2	$ 2.6B	0	$0
	Other accounts	1	$ 1.1B	0	$0

1 Includes Conservative Allocation Portfolio, Moderate Allocation Portfolio, Total International Stock Market Index Portfolio, and Total Stock Market Index Portfolio which collectively held assets of $4.2 billion as of December 31, 2019.

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 where two or more funds or accounts participate in investment decisions involving the same securities.

3. Description of Compensation

All named Vanguard portfolio managers are Vanguard employees. This section describes the compensation of the Vanguard employees who manage Vanguard mutual funds. As of December 31, 2019, 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. 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 the Short-Term Investment-Grade Portfolio, the performance factor depends on how successfully the portfolio manager outperforms these expectations and maintains the risk parameters of the fund over a three-year period. For the Conservative Allocation and Moderate Allocation Portfolios, the performance factor depends on how successfully the portfolio manager outperforms each Portfolio's composite index and maintains the risk parameters of the Portfolio over a three-year period. For the Equity Index, Mid-Cap Index, Real Estate Index, Total Bond Market Index, and Total Stock Market Index Portfolios, the performance factor depends on how closely the portfolio manager tracks the Portfolio's benchmark index over a one-year period. For the Equity Income and Small Company Growth Portfolios, the performance factor depends on how successfully the portfolio manager maintains the risk parameters of the fund and outperforms the relevant peer group that invests in the

market sectors in which the fund is permitted to invest over a three-year period. For the Money Market Portfolio, the performance factor depends on how successfully the portfolio manager maintains the credit quality of the fund and, consequently, how the fund performs relative to the expectations described above over a one-year period. Additional factors include the portfolio manager's contributions to the investment management functions within the sub-asset class, contributions to the development of other investment professionals and supporting staff, and overall contributions to strategic planning and decisions for the investment group. 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 the objectives 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 in the Portfolios

Shares of the Portfolios may only be owned by purchasing variable annuity and variable life insurance contracts. Consequently, the portfolio managers do not hold shares of the Portfolios. Each portfolio manager's need for variable annuity or variable life contracts and the role those contracts would play in his or her comprehensive investment portfolio will vary and depend on a number of factors including tax, estate planning, life insurance, alternative retirement plans, or other considerations.

Duration and Termination of Investment Advisory Agreements

The current investment advisory agreements with the unaffiliated advisors (other than Hotchkis and Wiley and Lazard) are renewable for successive one-year periods, only if (1) each renewal is specifically approved by a vote of the Vanguard Variable Insurance Funds' board of trustees, including the affirmative votes of a majority of the trustees who are not parties to the agreement or "interested persons" (as defined in the 1940 Act) of any such party, cast in person at a meeting called for the purpose of considering such approval, or (2) each renewal is specifically approved by a vote of a majority of the Fund's outstanding voting securities.

Each initial investment advisory agreement with Hotchkis and Wiley and Lazard is binding for a two-year period. At the end of that time, the agreements will become renewable tor successive one-year periods, subject to the above conditions.

An agreement is automatically terminated if assigned, and may be terminated without penalty at any time either (1) by vote of the Vanguard Variable Insurance Funds' board of trustees upon sixty (60) days' written notice to the advisor (thirty (30) days' written notice for ArrowMark Partners, Hotchkis and Wiley, Jackson Square, Lazard, PRIMECAP, and Wellington Management for the Balanced, Equity Income, and Growth Portfolios); (2) by a vote of a majority of the Fund's outstanding voting securities upon 60 days' written notice to the advisor (30 days' written notice for ArrowMark Partners, Hotchkis and Wiley, Jackson Square, Lazard, PRIMECAP, and Wellington Management for the Balanced, Equity Income, and Growth Portfolios); or (3) by the advisor upon ninety (90) days' written notice to the Fund.

Vanguard provides investment advisory services to the Conservative Allocation, Equity Index, Global Bond Index, Mid-Cap Index, Moderate Allocation, Money Market, Real Estate Index, Short-Term Investment-Grade, Total Bond Market Index, Total International Stock Market Index, and Total Stock Market Index Portfolios, and for a portion of the assets in the Equity Income and Small Company Growth Portfolios, 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 each Fund during the fiscal year ended December 31, 2019:

Vanguard Fund	Securities Lending Activities
Balanced Portfolio	
Gross income from securities lending activities	$255,796
Fees paid to securities lending agent from a revenue split	$0
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	$332
Administrative fees not included in revenue split	$1,844
Indemnification fee not included in revenue split	$0
Rebate (paid to borrower)	$102,523
Other fees not included in revenue split (specify)	$0
Aggregate fees/compensation for securities lending activities	$104,699
Net income from securities lending activities	**$151,097**
Capital Growth Portfolio	
Gross income from securities lending activities	$242,081
Fees paid to securities lending agent from a revenue split	$0
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	$373
Administrative fees not included in revenue split	$875
Indemnification fee not included in revenue split	$0
Rebate (paid to borrower)	$148,261
Other fees not included in revenue split (specify)	$0
Aggregate fees/compensation for securities lending activities	$149,509
Net income from securities lending activities	**$92,572**
Diversified Value Portfolio	
Gross income from securities lending activities	$139,445
Fees paid to securities lending agent from a revenue split	$0
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	$290
Administrative fees not included in revenue split	$75
Indemnification fee not included in revenue split	$0
Rebate (paid to borrower)	$136,756
Other fees not included in revenue split (specify)	$0
Aggregate fees/compensation for securities lending activities	$137,121
Net income from securities lending activities	**$2,324**
Equity Income Portfolio	
Gross income from securities lending activities	$152,741
Fees paid to securities lending agent from a revenue split	$0
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	$120
Administrative fees not included in revenue split	$1,434
Indemnification fee not included in revenue split	$0
Rebate (paid to borrower)	$14,133
Other fees not included in revenue split (specify)	$0
Aggregate fees/compensation for securities lending activities	$15,687
Net income from securities lending activities	**$137,054**

Vanguard Fund	Securities Lending Activities
Equity Index Portfolio	
Gross income from securities lending activities	$145,229
Fees paid to securities lending agent from a revenue split	$0
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	$150
Administrative fees not included in revenue split	$896
Indemnification fee not included in revenue split	$0
Rebate (paid to borrower)	$59,703
Other fees not included in revenue split (specify)	$0
Aggregate fees/compensation for securities lending activities	$60,749
Net income from securities lending activities	**$84,480**
Growth Portfolio	
Gross income from securities lending activities	$82,361
Fees paid to securities lending agent from a revenue split	$0
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	$63
Administrative fees not included in revenue split	$498
Indemnification fee not included in revenue split	$0
Rebate (paid to borrower)	$20,908
Other fees not included in revenue split (specify)	$0
Aggregate fees/compensation for securities lending activities	$21,469
Net income from securities lending activities	**$60,892**
International Portfolio	
Gross income from securities lending activities	$5,552,998
Fees paid to securities lending agent from a revenue split	$126,006
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	$5,954
Administrative fees not included in revenue split	$35,197
Indemnification fee not included in revenue split	$0
Rebate (paid to borrower)	$1,586,387
Other fees not included in revenue split (specify)	$0
Aggregate fees/compensation for securities lending activities	$1,753,544
Net income from securities lending activities	**$3,799,454**
Mid-Cap Index Portfolio	
Gross income from securities lending activities	$281,333
Fees paid to securities lending agent from a revenue split	$0
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	$433
Administrative fees not included in revenue split	$2,271
Indemnification fee not included in revenue split	$0
Rebate (paid to borrower)	$111,585
Other fees not included in revenue split (specify)	$0
Aggregate fees/compensation for securities lending activities	$114,289
Net income from securities lending activities	**$167,044**

Vanguard Fund	Securities Lending Activities
Real Estate Index Portfolio	
Gross income from securities lending activities	$75,439
Fees paid to securities lending agent from a revenue split	$0
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	$113
Administrative fees not included in revenue split	$920
Indemnification fee not included in revenue split	$0
Rebate (paid to borrower)	$12,965
Other fees not included in revenue split (specify)	$0
Aggregate fees/compensation for securities lending activities	$13,998
Net income from securities lending activities	**$61,441**
Small Company Growth Portfolio	
Gross income from securities lending activities	$2,043,669
Fees paid to securities lending agent from a revenue split	$0
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	$1,192
Administrative fees not included in revenue split	$23,002
Indemnification fee not included in revenue split	$0
Rebate (paid to borrower)	$185,202
Other fees not included in revenue split (specify)	$0
Aggregate fees/compensation for securities lending activities	$209,396
Net income from securities lending activities	**$1,834,273**

The Money Market Portfolio and all bond Portfolios cannot, and do not, lend their securities. The remaining Funds did not lend their securities during the fiscal year ended December 31, 2019.

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 advisors decide which securities to buy and sell on behalf of a 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 a 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. An 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 a 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 Conservative Allocation, Global Bond Index, Moderate Allocation, Total International Stock Market Index, and Total Stock Market Index Portfolios each 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 Fund purchases and sells ETF Shares of an underlying fund, the Fund will pay brokerage commissions.

Balanced (bond portion only), High Yield Bond, Money Market, Short-Term Investment-Grade, and Total Bond Market Index Portfolios

The types of securities in which the money market and bond Portfolios invest are generally purchased and sold through principal transactions, meaning that the Funds normally purchase securities directly from the issuer or a primary market-maker acting as principal for the securities on a net basis. Explicit brokerage commissions are not paid on these transactions, although purchases of new issues from underwriters of bonds typically include a commission or concession paid by the issuer to the underwriter, and purchases from dealers serving as market-makers typically include a dealer's markup (i.e., a spread between the bid and the asked prices).

As previously explained, the types of securities that the Funds purchase do not normally involve the payment of explicit brokerage commissions. If any such brokerage commissions are paid, however, the advisor will evaluate their reasonableness by considering (1) historical commission rates; (2) rates which other institutional investors are paying, based upon publicly available information; (3) rates quoted by brokers and dealers; (4) the size of a particular transaction, in terms of the number of shares, dollar amount, and number of clients involved; (5) the complexity of a particular transaction in terms of both execution and settlement; (6) the level and type of business done with a particular firm over a period of time; and (7) the extent to which the broker or dealer has capital at risk in the transaction.

During the fiscal years ended December 31, 2017, 2018, and 2019, 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 cash flows or changes to the securities that make up a fund's target index.

Vanguard Fund	2017	2018	2019
Balanced Portfolio	$508,000	$504,000	$343,000
Capital Growth Portfolio	185,000	195,000	83,000
Conservative Allocation Portfolio	—	—	—
Diversified Value Portfolio[1]	228,000	220,000	427,000
Equity Income Portfolio	145,000	209,000	235,000
Equity Index Portfolio	26,000	18,000	24,000
Global Bond Index Portfolio	—	—	—
Growth Portfolio[2]	84,000	161,000	118,000
High Yield Bond Portfolio	—	—	—
International Portfolio	578,000	676,000	435,000
Mid-Cap Index Portfolio	27,000	33,000	37,000
Moderate Allocation Portfolio	—	—	—
Money Market Portfolio	—	—	—
Real Estate Index Portfolio	23,000	48,000	18,000
Short-Term Investment-Grade Portfolio	64,000	60,000	46,000
Small Company Growth Portfolio	850,000	630,000	941,000
Total Bond Market Index Portfolio	Less than 1,000	Less than 1,000	Less than 1,000
Total International Stock Market Index Portfolio	Less than 1,000	—	1,000
Total Stock Market Index Portfolio	—	—	—

1 The increase in the Portfolio's brokerage commissions during the fiscal year ended December 31, 2019, was due to a change in the Portfolio's advisory structure.
2 A change to the Portfolio's advisory structure in December 2018 resulted in an increase in the Portfolio's brokerage commissions during the fiscal year ended December 31, 2018.

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 advisors. 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 Vanguard Variable Insurance Funds' board of trustees.

The ability of Vanguard and external advisors to purchase or dispose of certain fund investments, or to exercise rights on behalf of a Fund, 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 a Fund may be 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, which may be more costly than owning securities of the issuer directly, or through investment in a wholly-owned subsidiary.

As of December 31, 2019, each 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
Balanced Portfolio	Barclays Capital Inc.	$ 2,823,000
	Credit Suisse Securities (USA) LLC	8,535,000
	J.P. Morgan Securities Inc.	106,174,000
	Merrill Lynch, Pierce, Fenner & Smith Inc.	105,841,000
	Morgan Stanley	19,646,000
	UBS Securities LLC	8,161,000
	Wells Fargo Securities, LLC	16,810,000
Capital Growth Portfolio	J.P. Morgan Securities Inc.	42,796,000
	Merrill Lynch, Pierce, Fenner & Smith Inc.	19,336,000
	Wells Fargo Securities, LLC	45,052,000
Diversified Value Portfolio	—	—
Equity Income Portfolio	BNP Paribas Securities Corp.	11,400,000
	J.P. Morgan Securities Inc.	73,822,000
	Merrill Lynch, Pierce, Fenner & Smith Inc.	39,828,000
	Morgan Stanley	4,961,000
Equity Index Portfolio	Citigroup Global Markets Inc.	41,844,000
	Goldman, Sachs & Co.	17,580,000
	J.P. Morgan Securities Inc.	15,087,000
	Merrill Lynch, Pierce, Fenner & Smith Inc.	68,404,000
	Morgan Stanley	104,889,000
	Wells Fargo Securities, LLC	49,675,000
Growth Portfolio	Merrill Lynch, Pierce, Fenner & Smith Inc.	—
High Yield Bond Portfolio	Barclays Capital Inc.	1,077,000
International Portfolio	—	—
Mid-Cap Index Portfolio	Jefferies & Company, Inc.	—
	National Financial Services LLC	5,734,000

Vanguard Fund	Regular Broker or Dealer (or Parent)	Aggregate Holdings
Money Market Portfolio	BNY Capital Markets, Inc.	—
	Citigroup Global Markets Inc.	8,500,000
	HSBC Securities (USA) Inc.	—
	J.P. Morgan Securities Inc.	13,965,000
	Merrill Lynch, Pierce, Fenner & Smith Inc.	13,500,000
	Nomura Securities International Inc.	—
	Wells Fargo Securities, LLC	30,000,000
Real Estate Index Portfolio	—	—
Short-Term Investment-Grade Portfolio	Barclays Capital Inc.	3,111,000
	Citigroup Global Markets Inc.	35,270,000
	Credit Suisse Securities (USA) LLC	7,586,000
	Goldman, Sachs & Co.	30,495,000
	J.P. Morgan Securities Inc.	52,309,000
	Merrill Lynch, Pierce, Fenner & Smith Inc.	28,544,000
	Morgan Stanley	50,646,000
	RBC Capital Markets	7,842,000
	Wells Fargo Securities, LLC	62,317,000
Small Company Growth Portfolio	—	—
Total Bond Market Index Portfolio	Banc of America Securities LLC	26,643,000
	Barclays Capital Inc.	3,687,000
	Citigroup Global Markets Inc.	24,129,000
	Credit Suisse Securities (USA) LLC	4,638,000
	Goldman, Sachs & Co.	18,965,000
	J.P. Morgan Securities Inc.	31,762,000
	Morgan Stanley	20,468,000
	Wells Fargo Securities, LLC	27,992,000

Portfolio turnover for the Diversified Value Portfolio. The Diversified Value Portfolio's portfolio turnover rate was 18% during its fiscal year ended December 31, 2018, and 117% during its fiscal year ended December 31, 2019. The Portfolio's turnover rate increased during its most recent fiscal year as a result of trading that took place during the transition to new advisors for the Portfolio.

Portfolio turnover for the Real Estate Index Portfolio. The Real Estate Index Portfolio's portfolio turnover rate was 10% during its fiscal year ended December 31, 2017; 35% during its fiscal year ended December 31, 2018; and 7% during its fiscal year ended December 31, 2019. The increase in the Portfolio's turnover rate during its fiscal year ended December 31, 2018, was the result of larger rebalancing of the underlying assets back to the Portfolio's target allocation to track its respective index.

PROXY VOTING

I. Proxy Voting Policies

Each Vanguard fund advised by Vanguard retains 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*. The Board of each Vanguard fund advised by a manager not affiliated with Vanguard has delegated the authority to vote proxies related to the portfolio securities held by each fund to its respective advisor(s). Each advisor will vote such proxies in accordance with its own proxy voting policies and procedures, which are summarized in *Appendix B*.

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*. Additionally, Vanguard has processes in place for advisors unaffiliated with Vanguard who have been delegated authority to vote proxies on behalf of certain Vanguard funds to inform Vanguard of an upcoming vote the advisor deems to be material in accordance with such advisor's proxy voting policies and procedures in order for Vanguard to instruct the recall of the security.

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 *www.sec.gov*.

FINANCIAL STATEMENTS

Each Fund's Financial Statements for the fiscal year ended December 31, 2019, appearing in the Funds' 2019 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.

DESCRIPTION OF BOND RATINGS

Moody's Rating Symbols

The following describe characteristics of the global long-term (original maturity of 1 year or more) bond ratings provided by Moody's Investors Service, Inc. (Moody's):

Aaa—Judged to be obligations of the highest quality, they are subject to the lowest level of credit risk.

Aa—Judged to be obligations of high quality, they are subject to very low credit risk. Together with the Aaa group, they make up what are generally known as high-grade bonds.

A—Judged to be upper-medium-grade obligations, they are subject to low credit risk.

Baa—Judged to be medium-grade obligations, subject to moderate credit risk, they may possess certain speculative characteristics.

Ba—Judged to be speculative obligations, they are subject to substantial credit risk.

B—Considered to be speculative obligations, they are subject to high credit risk.

Caa—Judged to be speculative obligations of poor standing, they are subject to very high credit risk.

Ca—Viewed as highly speculative obligations, they are likely in, or very near, default, with some prospect of recovery of principal and interest.

C—Viewed as the lowest rated obligations, they are typically in default, with little prospect for recovery of principal and interest.

Moody's also supplies numerical indicators (1, 2, and 3) to rating categories. The modifier 1 indicates that the security is in the higher end of its rating category, the modifier 2 indicates a mid-range ranking, and the modifier 3 indicates a ranking toward the lower end of the category.

The following describe characteristics of the global short-term (original maturity of 13 months or less) bond ratings provided by Moody's. This ratings scale also applies to U.S. municipal tax-exempt commercial paper.

Prime-1 (P-1)—Judged to have a superior ability to repay short-term debt obligations.

Prime-2 (P-2)—Judged to have a strong ability to repay short-term debt obligations.

Prime-3 (P-3)—Judged to have an acceptable ability to repay short-term debt obligations.

Not Prime (NP)—Cannot be judged to be in any of the prime rating categories.

The following describe characteristics of the U.S. municipal short-term bond ratings provided by Moody's:

Moody's ratings for state and municipal notes and other short-term (up to 3 years) obligations are designated Municipal Investment Grade (MIG).

MIG 1—Indicates superior quality, enjoying the excellent protection of established cash flows, liquidity support, and broad-based access to the market for refinancing.

MIG 2—Indicates strong credit quality with ample margins of protection, although not as large as in the preceding group.

MIG 3—Indicates acceptable credit quality, with narrow liquidity and cash-flow protection and less well-established market access for refinancing.

SG—Indicates speculative credit quality with questionable margins of protection.

Standard and Poor's Rating Symbols

The following describe characteristics of the long-term (original maturity of 1 year or more) bond ratings provided by Standard and Poor's:

AAA—These are the highest rated obligations. The capacity to pay interest and repay principal is extremely strong.

AA—These also qualify as high-grade obligations. They have a very strong capacity to pay interest and repay principal, and they differ from AAA issues only in small degree.

A—These are regarded as upper-medium-grade obligations. They have a strong capacity to pay interest and repay principal although they are somewhat more susceptible to the adverse effects of changes in circumstances and economic conditions than debt in higher-rated categories.

BBB—These are regarded as having an adequate capacity to pay interest and repay principal. However, adverse economic conditions or changing circumstances are more likely to lead to a weakened capacity in this regard. This group is the lowest that qualifies for commercial bank investment.

BB, B, CCC, CC, and C—These obligations range from speculative to significantly speculative with respect to the capacity to pay interest and repay principal. BB indicates the lowest degree of speculation and C the highest.

D—These obligations are in default, and payment of principal and/or interest is likely in arrears.

The ratings from AA to CCC may be modified by the addition of a plus (+) or minus (–) sign to show relative standing within the major rating categories.

The following describe characteristics of short-term (original maturity of 365 days or less) bond and commercial paper ratings designations provided by Standard and Poor's:

A-1—These are the highest rated obligations. The capacity of the obligor to pay interest and repay principal is strong. The addition of a plus sign (+) would indicate a very strong capacity.

A-2—These obligations are somewhat susceptible to changing economic conditions. The obligor has a satisfactory capacity to pay interest and repay principal.

A-3—These obligations are more susceptible to the adverse effects of changing economic conditions, which could lead to a weakened capacity to pay interest and repay principal.

B—These obligations are vulnerable to nonpayment and are significantly speculative, but the obligor currently has the capacity to meet its financial commitments.

C—These obligations are vulnerable to nonpayment, but the obligor must rely on favorable economic conditions to meet its financial commitment.

D—These obligations are in default, and payment of principal and/or interest is likely in arrears.

The following describe characteristics of U.S. municipal short-term (original maturity of 3 years or less) note ratings provided by Standard and Poor's:

SP-1—This designation indicates a strong capacity to pay principal and interest.

SP-2—This designation indicates a satisfactory capacity to pay principal and interest.

SP-3—This designation indicates a speculative capacity to pay principal and interest.

APPENDIX A

Vanguard-Advised Funds Proxy Voting Policy

Each Vanguard fund advised by Vanguard retains authority to vote proxies received with respect to the shares of equity securities held in a portfolio advised by Vanguard. 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), made up 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 guidelines to the extent that they call for Vanguard to administer the voting process and implement the resulting voting decisions, and for these purposes the guidelines have also been approved by the Board of Directors of Vanguard.

The voting principles and guidelines 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 guidelines, each proposal is evaluated on its merits, based on the particular facts and circumstances as presented. For more information on the funds' proxy voting guidelines, 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 guidelines; (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 to the Board, and proposes amendments to the procedures and guidelines. In addition, at any time, the Board may elect to exercise its discretionary authority to vote proxies.

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 guidelines and subject to the fiduciary standards of good faith, fairness, and Vanguard's Code of Ethics. The Committee may advise the Investment Stewardship Team on how to best apply the Boards' instructions as set forth in the guidelines or refer the matter to the Board, which has ultimate decision-making authority for the funds. The Board reviews the procedures and guidelines 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 Principles

Vanguard's investment stewardship activities are grounded in four principles of good governance:

1) *Board composition:* We believe good governance begins with a great board of directors. Our primary interest is to ensure that the individuals who represent the interests of all shareholders are independent, committed, capable, and appropriately experienced.

2) *Oversight of strategy and risk:* We believe that boards are responsible for effective oversight of a company's long-term strategy and any relevant and material risks.

3) *Executive compensation:* We believe that performance-linked compensation (or remuneration) policies and practices are fundamental drivers of sustainable, long-term value.

4) *Governance structures:* We believe that companies should have in place governance structures to ensure that boards and management serve in the best interests of the shareholders they represent.

IV. Evaluation of Proxies

For ease of reference, the procedures and guidelines often refer to all 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 corporate governance, 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 if doing so is in the best interest of the individual fund.

The guidelines do not permit the Board to delegate voting discretion to a third party that does not serve as a fiduciary for the funds. Because many factors bear on each decision, the guidelines 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).

In evaluating proxy proposals, we consider information from many sources, which could include, but is not limited to, an investment advisor unaffiliated with Vanguard that has investment and proxy voting authority with respect to Vanguard funds that hold shares in the applicable company, the management or shareholders of a company presenting a proposal, and independent proxy research services. We will give substantial weight to the recommendations of the company's board, absent guidelines or other specific facts that would support a vote against management. The Investment Stewardship Team does not vote in lockstep with recommendations from proxy advisors when voting on behalf of the Vanguard funds. Data from proxy advisors serve as one of many inputs into our research process.

While serving as a framework, the guidelines 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; (iii) and 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. Environmental and Social Proposals

Proposals in this category, initiated primarily by shareholders, typically request that a company enhance its disclosure or amend certain business practices. These resolutions 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 those related to environmental and social matters. Each proposal is evaluated on

its merits 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 these proposals include the materiality of the issue, the quality of the current disclosures/business practices, and any progress by the company toward the adoption of best practices and/or industry norms.

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 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 guidelines, 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 Subject to 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 Vanguard funds' individual and/or aggregate equity investment in a company, and whether we estimate that voting Vanguard 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.

APPENDIX B

ArrowMark Partners Proxy Voting Policy and Procedures

Issue

Rule 206(4)-6 under the Advisers Act requires every investment adviser who exercises voting authority with respect to client securities to adopt and implement written policies and procedures, reasonably designed to ensure that the adviser votes proxies in the best interest of its clients. The procedures must address material conflicts that may arise in connection with proxy voting. The Rule further requires the adviser to provide a concise summary of the adviser's proxy voting process and offer to provide copies of the complete proxy voting policy and procedures to clients upon request. Lastly, the Rule requires that the adviser disclose to clients how they may obtain information on how the adviser voted their proxies.

ArrowMark votes proxies for all of its Clients, and therefore has adopted and implemented this Proxy Voting Policy and Procedures.

Risks

In developing this policy and procedures, ArrowMark considered numerous risks associated with its voting of Client proxies. This analysis includes risks such as:

- ArrowMark does not maintain a written proxy voting policy as required by Rule 206(4)-6.
- Proxies are not voted in Clients' best interests.
- Proxies are not identified and voted in a timely manner.
- Conflicts between ArrowMark's interests and the Client are not identified; therefore, proxies are not voted appropriately.
- Third-party proxy voting services do not vote proxies according to ArrowMark's instructions and in Clients' best interests.
- Proxy voting records and Client requests to review proxy votes are not maintained.

ArrowMark has established the following guidelines to effectuate and monitor its proxy voting policy and procedures.

Policy

It is the policy of ArrowMark to vote proxies in the best interest of its Clients. Proxies are an asset of a Client, which should be treated with the same care, diligence, and loyalty as any asset belonging to a Client. To that end, ArrowMark will vote in a way that it believes, consistent with its fiduciary duty, will cause the value of the issue to increase the most or decline the least. Consideration will be given to both the short and long term implications of the proposal to be voted on when considering the optimal vote.

ArrowMark may abstain from voting if it deems that abstaining is in its Clients' best interests. For example, ArrowMark may be unable to vote securities that have been lent by the custodian. Also, proxy voting in certain countries involves "share blocking," which limits ArrowMark's ability to sell the affected security during a blocking period that can last for several weeks. ArrowMark believes that the potential consequences of being unable to sell a security usually outweigh the benefits of participating in a proxy vote, so ArrowMark generally abstains from voting when share blocking is required.

To assist ArrowMark in executing its voting responsibilities, we've engaged a third party proxy voting specialist, Glass Lewis & Co., LLC ("Glass Lewis" or the "Proxy Manager"). The services provided by Glass Lewis include in-depth research and voting recommendations intended to create shareholder value.

ArrowMark has reviewed the Proxy Manager's Guidelines, and has determined that such Guidelines are consistent with its fiduciary responsibilities with respect to its Clients. ArrowMark will review any material amendments to such Guidelines.

Any general or specific proxy voting guidelines provided by an advisory Client or its designated agent in writing will supersede this policy.

Procedures for Identification and Voting of Proxies

The Proxy Manager is responsible for ensuring that all proxies received are voted in a timely manner and voted consistently across all portfolios. Although many proxy proposals can be voted in accordance with the Proxy Manager's established guidelines (the "Guidelines"), ArrowMark retains the right to vote any proposal in a manner differing from the Guidelines. Such deviations from the Guidelines must be approved by the CCO with a written explanation of the rationale for the deviation. ArrowMark, in conjunction with the custodian, is responsible for ensuring that all corporate actions received are addressed in a timely manner and consistent action is taken across all portfolios.

ArrowMark's authority to vote proxies or act with respect to other corporate actions is established through the delegation of discretionary authority under its investment advisory agreements. Therefore, unless a Client specifically reserves the right, in writing, to vote its own proxies or to take shareholder action with respect to other corporate actions requiring shareholder actions, ArrowMark will vote all proxies and act on all other actions in a timely manner as part of its full discretionary authority over Clients in accordance with established policies and procedures.

Procedures for Glass Lewis Reconciliation

ArrowMark provides Glass Lewis with a daily holdings file representing all accounts in which ArrowMark has proxy voting authority. ArrowMark's account master file is reconciled with Glass Lewis' account master file at least quarterly.

The daily reconciliation process performed by Glass Lewis is as follows:

1. ArrowMark's holdings files from QED Financial Systems are automatically uploaded daily into the Glass Lewis' ViewPoint system ("ViewPoint").

2. If ViewPoint doesn't recognize security IDs contained in the holdings files, the rejected holdings are sent to Glass Lewis' securities processing group to be investigated. If there are other errors in the holdings file, the securities processing group will alert the client service manager who will contact ArrowMark.

3. New Meeting Notices and Agendas are automatically uploaded into the ViewPoint system. Each meeting contains one or more security identifiers associated with it.

4. The ViewPoint reconciliation engine determines if there are matches between holdings and meetings for which Glass Lewis has not received ballots. These matches are displayed on the Ballot Reconciliation workbench for ViewPoint client service managers and audit team members.

5. The reconciliation tool can be used for the creation of ballots based on holdings information and the meeting and agenda information. This is a service Glass Lewis offers to clients with accounts that are not contracted with a proxy distribution service, such as Broadridge ("BFS") or GPD, for the delivery of ballots electronically. The ballots created by Glass Lewis are transmitted directly via email or fax to the custodians once investors' vote execution instructions are carried out.

6. If reconciliation records are generated for positions in U.S. companies and/or positions in global companies held in accounts custodied at banks that do contract with a proxy distribution service for the delivery of proxy materials, Glass Lewis will consider these records as "missing ballots" if a ballot has not been received by 10 business days prior to meeting date.

7. Multiple times a week Glass Lewis sends an automated reconciliation file to BFS with all of our clients' "open records." 24 hours later BFS provides us with a response file containing control numbers or further account setup and/or reconciliation instructions. Control numbers are uploaded immediately into VP by the Ballot Reconciliation team. All remaining open records are researched by individual client service managers (i.e., ballot reconciliation and account setup requests/inquiries are sent by email to the custodian).

8. Once a ballot is created, the corresponding reconciliation record is automatically closed. A record can be closed manually if no ballot is created when the investigation of the issue determines that no ballot will be delivered.

Proxy Review Procedures

On a monthly basis, Glass Lewis provides ArrowMark with two reports: the Proxy Voting Report ("PVR") and Analyze Voting Activity Report ("AVA"). The CCO or designee will review these reports monthly.

A PVR provides a snapshot of each meeting voted in a given time period and includes but isn't limited to the following:

- Agenda Items
- Management Recommendations
- Glass Lewis Recommendations
- ArrowMark's Policy Recommendations
- Vote Cast

The AVA can be used to get a broad look at ballot data or can be narrowed down very specifically to only include certain data points. These include:

- Meeting Types
- Vote Decisions (with or against management/policy/Glass Lewis)
- Country of Issue
- Specific Meeting Issues
- Proposal Categories

Both the PVR and AVA are able to show the vote recommendations generated by ArrowMark's Policy, as well as the final vote decision.

Conflicts of Interest

ArrowMark is responsible for monitoring situations where the voting of proxies may present actual or perceived conflicts of interest between itself and Clients.

The following is a non-exhaustive list of potential conflicts of interests that could influence the proxy voting process:

- ***Conflict:*** ArrowMark retains an institutional Client, or is in the process of retaining an institutional Client that is affiliated with an issuer that is held in ArrowMark's Client portfolios. For example, ArrowMark may be retained to manage Company A's pension fund. Company A is a public company and ArrowMark Client accounts hold shares of Company A. This type of relationship may influence ArrowMark to vote with management on proxies to gain favor with management. Such favor may influence Company A's decision to continue its advisory relationship with ArrowMark.
- ***Conflict:*** ArrowMark retains a Client, or is in the process of retaining a Client that is an officer or director of an issuer that is held in ArrowMark's Client portfolios. The similar conflicts of interest exist in this relationship as discussed above.
- ***Conflict:*** ArrowMark's Employees maintain a personal and/or business relationship (not an advisory relationship) with issuers or individuals that serve as officers or directors of issuers. For example, the spouse of an Employee may be a high-level executive of an issuer that is held in ArrowMark's Client portfolios. The spouse could attempt to influence ArrowMark to vote in favor of management.
- ***Conflict:*** ArrowMark or an Employee(s) personally owns a significant number of an issuer's securities that are also held in ArrowMark's Client portfolios. For any number of reasons, an Employee(s) may seek to vote proxies in a different direction for his/her personal holdings than would otherwise be warranted by the proxy voting policy. The Employee(s) could oppose voting the proxies according to the policy and successfully influence ArrowMark to vote proxies in contradiction to the policy.

Where a proxy proposal raises a material conflict of interest between ArrowMark's interests and that of one or more its Clients, including a mutual fund client, the Glass Lewis recommendations will be followed.

Glass Lewis Oversight

In addition to oversight elements included in the Review of Third-Party Service Providers Section, ArrowMark will routinely review Glass Lewis' Conflict of Interest disclosures including their Conflict of Interest Disclosure list and Conflict Avoidance Procedures. See website for conflict information (*http://www.glasslewis.com/about-glass-lewis/disclosure-of-conflict/*).

Procedures for ArrowMark's Receipt of Class Actions

ArrowMark recognizes that as a fiduciary it has a duty to act with the highest obligation of good faith, loyalty, fair dealing and due care. When a recovery is achieved in a class action, investors who owned shares in the company subject to the action have the option to either: (1) opt out of the class action and pursue their own remedy; or (2) participate in the recovery achieved via the class action. Collecting the recovery involves the completion of a Proof of Claim form which is submitted to the Claims Administrator. After the Claims Administrator receives all Proof of Claims, it dispenses the money from the settlement fund to those persons and entities with valid claims.

ArrowMark has engaged an independent class action service, Battea, to handle all class action proceedings.

Recordkeeping

In accordance with Rule 204-2 under the Advisers Act, ArrowMark will maintain for the time periods set forth in the Rule

(i) These proxy voting procedures and policies, and all amendments thereto;

(ii) All proxy statements received regarding Client securities (provided however, that the we may rely on the proxy statement filed on EDGAR as its records);

(iii) A record of all votes cast on behalf of Clients;

(iv) Records of all Client requests and subsequent responses regarding proxy voting information;

(v) Any documents prepared by ArrowMark that were material to making a decision how to vote or that memorialized the basis for the decision; and

(vi) All records relating to requests made to Clients regarding conflicts of interest in voting the proxy.

Such records will be maintained in a readily accessible manner for a period of at least seven years. Proxy statements on file with EDGAR or maintained by the Proxy Manager are not subject to these retention requirements.

Disclosure

ArrowMark will ensure that Part 2 of Form ADV and/or the Fund documents are updated as necessary to reflect: (i) all material changes to the Proxy Voting Policy and Procedures; and (ii) information about how Clients may obtain information on how ArrowMark voted their securities.

ArrowMark will enter into arrangements with all mutual fund clients to provide any information required to be filed by such mutual fund on Form N-PX 60 days after June 30 of each year, and will provide information as requested by the client mutual funds' board of directors.

Proxy Solicitation

As a matter of practice, it is ArrowMark's policy to not reveal or disclose to any Client how ArrowMark may have voted (or intends to vote) on a particular proxy until after such proxies have been counted at a shareholder's meeting. ArrowMark will never disclose such information to unrelated third parties.

The CCO are to be promptly informed of the receipt of any solicitation from any person to vote proxies on behalf of Clients. At no time may any Employee accept any remuneration in the solicitation of proxies. The CCO should handle all responses to such solicitations.

Baillie Gifford Proxy Voting Guidelines

Baillie Gifford has adopted the Governance and Sustainability Principles and Guidelines (the Guidelines) to vote proxies related to securities held by the funds.

The Guidelines are developed and administered by the Governance & Sustainability Team of the Baillie Gifford Group. This Governance & Sustainability Team sits alongside the investment teams and is responsible for the voting of proxies. The head of this Governance & Sustainability Team jointly reports to an investment partner of Baillie Gifford & Co., the parent of Baillie Gifford, and to the senior investment committee of the Investment Management Group of the Baillie Gifford Group.

The Guidelines cover Baillie Gifford's approach to governance and sustainability matters including the following areas:

— Board Effectiveness and Composition

— Capital Allocation

— Governance Processes and Disclosure

— Remuneration

— Sustainability

Baillie Gifford recognizes that given the range of markets in which the Funds invest, one set of standards is unlikely to be appropriate. The Guidelines consequently take an issues based approach covering standards from a global perspective.

Pragmatic & Flexible Approach

Baillie Gifford recognizes that companies within particular markets operate under significantly differing conditions. The Guidelines are intended to provide an insight into how Baillie Gifford approaches voting and engagement on behalf of clients with it important to note that Baillie Gifford assesses every company individually. With respect to voting, Baillie Gifford will evaluate proposals on a case-by-case basis, based on what it believes to be in the best long-term interests of the clients, rather than rigidly applying a policy.

In evaluating each proxy, the Governance & Sustainability Team follows the Guidelines, while also considering third party analysis, Baillie Gifford's and its affiliates own research and discussions with company management.

The Governance & Sustainability team oversees voting analysis and execution in conjunction with the investment managers. Baillie Gifford may elect not to vote on certain proxies. While Baillie Gifford endeavors to vote a fund's shares in all markets, on occasion this may not be possible due to a practice known as share blocking, whereby voting shares would result in Baillie Gifford being prevented from trading for a certain period of time. When voting in these markets, Baillie Gifford assesses the benefits of voting clients' shares against the relevant restrictions. Baillie Gifford may also not vote where it has sold out of a stock following the record date.

Conflicts of Interest

Baillie Gifford recognizes the importance of managing potential conflicts of interest that may exist when voting a proxy solicited by a company with whom the Baillie Gifford Group has a material business or personal relationship. The Governance & Sustainability Team of the Baillie Gifford Group is responsible for monitoring possible material conflicts of interest with respect to proxy voting.

For proxy votes that involve a potential conflict of interest that is not managed in line with the Conflicts of Interest policy, the Governance & Sustainability team report the conflict to the Investment Management Group (IMG) for discussion. The Governance & Sustainability team reports into the IMG which is comprised of several senior Baillie Gifford partners. These individuals review the voting rationale, consider whether business relationships between Baillie Gifford and the company have influenced the proposed vote and decide the course of action to be taken in the best interest of clients.

Hotchkis and Wiley ("H&W") Proxy Voting Policies and Procedures

Generally, and except to the extent that a client otherwise instructs H&W in writing, H&W will vote or abstain from voting (by proxy or otherwise) on all matters for which a shareholder vote is solicited by, or with respect to, issuers of securities beneficially held in client accounts in such manner as H&W deems appropriate in accordance with its written policies and procedures. These policies and procedures set forth guidelines for voting typical proxy proposals. However, each proxy issue will be considered individually in order that H&W may consider what would be in its client's best interest. In the event that any proxies raise a conflict of interest, a member of the Proxy Oversight Committee will review H&W's proposed votes to ensure that they are consistent with established guidelines and not prompted by any conflict of interest.

H&W may determine not to vote proxies in respect of securities of any issuer (i) if H&W determines that it would be in the client's overall best interest not to vote under the circumstances, such as when (a) the cost of voting exceeds the expected benefit to the client, (b) voting the client's proxies will not have an effect on the outcome of the matter up for vote or (c) the matter up for vote will not impact the client's economic interests; (ii) if H&W does not receive adequate information from the client's custodian or proxy vendor in sufficient time to cast the vote; or (iii) if the security is no longer held in the clients' portfolios by the proxy meeting date. For example, to the extent that H&W receives proxies for securities that are transferred into a client's portfolio that were not recommended or selected by H&W and have been sold or are expected to be sold promptly in an orderly manner ("legacy securities"), H&W will generally refrain from voting such proxies. In such circumstances, since legacy securities have been sold or are expected to be sold promptly, H&W may determine that voting proxies on such securities would not further a client's interest in maximizing the value of its investments. H&W will consider a client's special request to vote a legacy security proxy, and if agreed would vote such proxy in accordance with H&W's guidelines.

Non-U.S. proxies (and particularly those in emerging markets) may involve a number of restrictions preventing H&W's ability to vote. H&W will vote such proxies to the extent it is feasible to do so.

Certain client accounts may purchase unsponsored American Depositary Receipts (ADRs) where shareholder benefits and voting rights may not be extended to the holders of these particular securities.

Fixed-income securities normally do not provide voting rights; however, special circumstances may occur that permit voting or responding to another type of corporate action.

Certain clients have specifically elected to retain the responsibility for receiving and voting proxies for securities maintained in their portfolios and receive their proxies or other solicitations directly from their custodian. H&W will not vote the proxies for these securities in this case, but may provide advice to clients regarding the clients' voting of proxies.

If H&W has the authority to exercise proxy voting rights for a client account, H&W will vote, or abstain from voting, the proxies for securities beneficially held by the custodian for the portfolio as of the record date of the shareholder meetings (settlement date). Securities not held by the custodian as of the record date (e.g., due to an unsettled purchase or securities lending) will not be voted by H&W. Employees of H&W may own the same securities held by client accounts. The employees vote their securities independently from H&W's proxy voting policy.

H&W utilizes a third-party service provider to provide administrative assistance in connection with the voting of proxies, including certain record keeping and reporting functions.

A client may obtain a copy of H&W's proxy voting policies and procedures and/or information on how H&W has voted the client's securities free of charge by written request to hwclient@hwcm.com.

Jackson Square Proxy Voting Policies and Procedures

Jackson Square has adopted written proxy voting policies and procedures (the "Procedures") that govern the voting of client securities. The Procedures have been designed to ensure that Jackson Square votes proxies or gives proxy voting advice that is in the best interests of its clients. Jackson Square generally votes proxies with the goal of promoting high levels of corporate governance and adequate disclosure of company policies and practices.

The Procedures include specific proxy voting guidelines that set forth the general principles Jackson Square uses to determine how to vote in client accounts for which it has proxy voting responsibility. The Proxy Committee (the "Committee"), which includes the Chief Compliance Officer, reviews the Procedures to help ensure that they are designed to allow Jackson Square to vote proxies in a manner consistent with the best interests of its clients.

Jackson Square generally expects that its clients will authorize it to vote all proxies relating to shares held in an account over which it has investment discretion. At times, however, certain clients may direct Jackson Square how to vote on a particular proxy for a security held in the client's account. Where a client has reserved the right to vote proxies, Jackson Square will not participate in voting of proxies.

Jackson Square reserves the right, on occasion, to abstain from voting a proxy or a specific proxy item when it concludes that the cost of voting outweighs the potential benefit or when Jackson Square otherwise believes that voting does not serve its clients' best interests. Clients should also be aware that voting proxies of issuers in non-U.S. markets may give rise to a number of administrative issues that may prevent Jackson Square from voting proxies for certain companies in these jurisdictions. For example, Jackson Square may receive shareholder meeting notices without enough time to fully consider the proxy or after the cut-off date for voting. Other markets may require Jackson Square to provide local agents with power of attorney prior to implementing its voting instructions.

In order to facilitate the process of voting proxies, Jackson Square has contracted with Institutional Shareholder Services ("ISS"). Most proxies that Jackson Square receives on behalf of clients are voted by ISS in accordance with the proxy voting guidelines established by ISS. In these circumstances, ISS will review the relevant facts and circumstances and research the issue to determine how the proxy should be voted. The Committee and portfolio managers will also review such proxies and assess whether to override the ISS vote recommendations. Although Jackson Square generally votes proxies in accordance with the ISS vote recommendations, Jackson Square reserves the right to vote certain issues counter the ISS guidelines if, after a review of the matter, Jackson Square determines that such a vote would better serve the client's best interests.

Because the majority of proxies are voted by ISS pursuant to the pre-determined guidelines, it normally is not be necessary for Jackson Square to make an actual determination of how to vote a particular proxy, thereby reducing conflicts of interest for Jackson Square during the proxy voting process. Nevertheless, the Procedures include a section to address the possibility of conflicts of interest between Jackson Square and its clients. In the instances where Jackson Square may consider voting a proxy contrary to the ISS recommendation, the Committee will first take steps to identify any possible conflict of interest. If there is no perceived conflict of interest, the Committee will vote the proxy according to its internal procedures. If the members of the Committee have actual knowledge of a conflict of interest, the Committee will normally use another independent third party to do additional research on the particular proxy issue in order to make a recommendation on how to vote the proxy in the best interest of the client. The Committee will then review the proxy voting materials and recommendation provided by ISS and the independent third party to determine how to vote the issue in a manner that the Committee believes is consistent with the Procedures and in the best interests of the client.

After a proxy has been voted for a client, ISS will create a record of the vote. The Committee is responsible for overseeing ISS's proxy voting activities.

Lazard Proxy Voting Policies and Procedures

Introduction

Lazard Asset Management LLC (Lazard) is a global investment firm that provides investment management services for a variety of clients. As a registered investment advisor, Lazard has a fiduciary obligation to vote proxies in the best interests of our clients. Lazard's Proxy Voting Policy has been developed with the goal of maximizing the long term shareholder value.

Lazard does not delegate voting authority to any proxy advisory service, but rather retains complete authority for voting all proxies delegated to it. Our policy is generally to vote all meetings and all proposals; and generally to vote all proxies for a given proposal the same way for all clients. The Policy is also designed to address potential material conflicts of interest associated with proxy voting, and does so principally in setting approved guidelines for various common proposals.

Proxy Operations Department

Lazard's proxy voting process is administered by members of its Operations Department (Proxy Administration Team). Oversight of the process is provided by Lazard's Legal/Compliance Department and Lazard's Proxy Committee (Proxy Committee).

Proxy Committee

Lazard's Proxy Committee is comprised of senior investment professionals, members of the Legal/Compliance Department and other Lazard personnel. The Proxy Committee meets regularly, generally on a quarterly basis, to review this Policy and other matters relating to the firm's proxy voting functions. Meetings may be convened more frequently (for example, to discuss a specific proxy voting proposal) as needed.

Role of Third Parties

Lazard currently subscribes to advisory and other proxy voting services provided by Institutional Shareholder Services, Inc. (ISS) and by Glass, Lewis & Co. (Glass Lewis). These proxy advisory services provide independent analysis and recommendations regarding various companies' proxy proposals. While this research serves to help improve our understanding of the issues surrounding a company's proxy proposals, Lazard's investment professionals are ultimately responsible for providing the vote recommendation for a given non-routine proposal. Voting for each agenda of each meeting is instructed specifically by Lazard in accordance with the Policy. ISS also provides administrative services related to proxy voting such as a web-based platform for proxy voting, ballot processing, recordkeeping and reporting.

Voting Process

Lazard votes on behalf of our clients according to proxy voting guidelines approved by the Proxy Committee (Approved Guidelines). The Approved Guidelines determine whether a specific agenda item should be voted 'For,' 'Against,' or is to be considered on a case-by case basis. The Proxy Administration Team ensures that investment professionals responsible for proxy voting are aware of the Approved Guidelines for each proposal. Voting on a proposal in a manner that is inconsistent with an Approved Guideline requires the approval of the Proxy Committee.

With respect to proposals to be voted on a case-by-case basis, the Proxy Administration Team will consult with relevant investment professionals prior to determining how to vote on a proposal. Lazard generally will treat proxy votes and voting intentions as confidential in the period before votes have been cast, and for appropriate time periods thereafter.

Conflicts of Interest

Meetings that pose a potential material conflict of interest for Lazard are voted in accordance with Approved Guidelines. Where the Approved Guideline is to vote on a case-by-case basis, Lazard will vote in accordance with the majority recommendation of the independent proxy services. Potential material conflicts of interest include:

Lazard manages the company's pension plan;

The proponent of a shareholder proposal is a Lazard client;

An employee of Lazard (or an affiliate) sits on a company's board of directors;

An affiliate of Lazard serves as financial advisor or provides other services to the company; or

A Lazard employee has a material relationship with the company.

"Conflict Meetings" are voted in accordance with the Lazard Approved Guidelines. In situations where the Approved Guideline is to vote case-by-case and a material conflict of interest appears to exist, Lazard's policy is to vote the proxy item according to the majority recommendation of the independent proxy services to which we subscribe.

Voting Exceptions

It is Lazard's intention to vote all proposals at every meeting. However, there are instances when voting is not practical or is not, in our view, in the best interests of our clients. Lazard does not generally vote proxies for securities loaned by clients through a custodian's stock lending program.

Environmental, Social and Corporate Governance

Lazard has an Environmental, Social and Corporate Governance (ESG) Policy, which outlines our approach to ESG and how our investment professionals take ESG issues into account as a part of the investment process. We recognize that ESG issues can affect the valuation of the companies that we invest in on our clients' behalf. As a result, we take these factors into consideration when voting, and, consistent with our fiduciary duty, vote proposals in a way we believe will increase shareholder value.

PRIMECAP Management Company Proxy Voting Guidelines

PRIMECAP Management Company ("PRIMECAP") acts as discretionary investment adviser for various clients, including investment companies registered under the Investment Company Act of 1940 and clients governed by the Employee Retirement Income Security Act of 1974 ("ERISA"). PRIMECAP's authority to vote proxies or act with respect to other shareholder actions is established through the delegation of discretionary authority under our investment advisory contracts. Therefore, unless a client (including a "named fiduciary" under ERISA) specifically reserves the right, in writing, to vote its own proxies or to take shareholder action with respect to other corporate actions requiring shareholder actions, PRIMECAP will vote all proxies and act on all other actions in a timely manner as part of its full discretionary authority over client assets in accordance with these guidelines.

Policy

PRIMECAP maintains a policy of voting proxies in a way which, in PRIMECAP's opinion, best serves the interest of its clients in their capacity as shareholders of a company. PRIMECAP believes that this is consistent with SEC and U.S. Department of Labor guidelines, which state that an investment manager's primary responsibility as a fiduciary is to vote in the best interest of its clients. As an investment manager, PRIMECAP is primarily concerned with maximizing the value of its clients' investment portfolios.

PRIMECAP believes the best interests of clients are served by voting proxies in a way that maximizes long-term shareholder value. Therefore, the investment professionals responsible for voting proxies have the discretion to make the best decision given the individual facts and circumstances of each issue. Proxy issues are evaluated on their merits and considered in the context of the analyst's knowledge of a company, its current management, management's past record, and PRIMECAP's general position on each issue.

PRIMECAP believes that management, subject to the oversight of the relevant Board of Directors, is often in the best position to make decisions that serve the interests of shareholders. However, PRIMECAP votes against management on proposals where it perceives a conflict may exist between management and client interests or where the facts and circumstances indicate the proposal is not in its clients' best interests.

Conflicts of Interest

From time to time conflicts of interest may exist in the proxy voting decision process where (a) portfolio companies are also clients of, or vendors to, PRIMECAP, (b) shareholder proposals are submitted by clients, or (c) proxies for which clients have publicly supported or actively solicited PRIMECAP to support a particular position. When a proxy proposal raises a potential material conflict of interest, possible conflict resolutions may include, but are not limited to: (a) vote in accordance with the guidelines to the extent that PRIMECAP has little or no discretion to deviate from the guidelines; (b) vote according to the recommendations of an independent proxy service firm retained by PRIMECAP; (c) vote in proportion to other shareholders; (d) disclose the conflict of interest to the client and obtain the client's consent before voting; or (e) vote in other ways that are consistent with PRIMECAP's obligation to vote in the clients' best interest. Conflict resolution is determined based on the facts and circumstances of the potential or actual conflict of interest.

Procedures

Proxy Review Process

PRIMECAP's Director of Research is responsible for coordinating the voting of proxies in a timely manner, consistent with PRIMECAP's determination of the client's best interests. PRIMECAP utilizes the services of a third-party proxy voting firm to act as agent for the proxy process, to maintain records on proxy votes for its clients, and to provide independent research on corporate governance, proxy, and corporate responsibility issues.

The Director of Research reviews each proxy ballot for routine and non-routine items. Routine proxy items are typically voted with management unless the Director of Research or research analyst who follows the company determines additional review is necessary. Routine items currently include the uncontested election of directors, ratifying auditors, adopting reports and accounts, setting and payment of dividends, approval of financial statements, and certain other administrative items. All other items are voted in accordance with the decision of the Director of Research, research analysts, or portfolio managers, depending on merits of each proposal, taking into account its effects on the specific company in question and on the company within its industry.

Limitations

PRIMECAP seeks to vote all of its clients' proxies. In certain circumstances, in accordance with a client's investment advisory contract (or other written directive) or where PRIMECAP has determined that it is in the client's best interest, PRIMECAP will not vote proxies received. These circumstances may include, but are not limited to: when client's maintain proxy voting authority, when an account has been terminated, or when a client has a securities lending arrangement with its custodian and the securities are out on loan.

Proxy Voting Guidelines

PRIMECAP has developed proxy voting guidelines that reflect its general position and practice on various issues. To preserve the ability of decision makers to make the best decision in each case, these guidelines are intended only to provide context and are not intended to dictate how the issue must be voted. The guidelines are reviewed and updated as necessary by the Director of Research.

• **Corporate Governance:** PRIMECAP supports strong corporate governance practices and generally votes against proposals that serve as anti-takeover devices or diminish shareholder rights, and generally supports proposals that encourage responsiveness to shareholders. PRIMECAP evaluates board size, structure, and compensation on a case-by-case basis though generally believes the Directors and management of companies are in the best position to determine an efficient, functional structure for the Board of Directors. Mergers and acquisitions, reincorporations and other corporate restructurings are considered on a case-by-case basis, based on the investment merits of each proposal.

• **Compensation:** PRIMECAP generally supports the concept of stock-related compensation plans as a way to align employee and shareholder interests. However, plans that include features which undermine the connection between employee and shareholder interests generally are not supported. When voting on proposals related to new plans or changes to existing plans, PRIMECAP considers, among other things: the size of the overall plan and/or the size of the increase, the historical dilution rate, whether the plan permits option repricing, the duration of the plan, and the needs of the company. PRIMECAP generally supports employee stock purchase plans and the establishment of 401(k) plans.

• **Capital Structure:** PRIMECAP generally supports increases to capital stock for legitimate financing needs but generally does not support changes in capital stock that can be used as an anti-takeover device, such as the creation of or increase in blank-check preferred stock or of a dual class capital structure with different voting rights. PRIMECAP generally supports share repurchases.

• **Environmental and Social Issues:** PRIMECAP votes on these issues based on their potential to improve the prospects for long-term success of a company and investment returns. PRIMECAP expects companies to comply with applicable laws and regulations with regards to environment and social standards.

Proxy Voting Records

Upon client request, PRIMECAP will provide reports of its proxy voting record as it relates to the securities held in the client's account(s) for which PRIMECAP has proxy voting authority. PRIMECAP utilizes the services of a third-party proxy voting firm to maintain records on proxy votes for its clients.

Annual Assessment

PRIMECAP will conduct an annual assessment of this proxy voting policy and related procedures.

Schroders Proxy Voting Policy Summary

Proxy Voting General Principles

Schroders will evaluate and usually vote for or against all proxy requests relating to securities held in any account managed by Schroders (unless this responsibility has been retained by the client).

Proxies will be treated and evaluated with the same attention and investment skill as the trading of securities in the accounts.

Proxies will be voted in a manner that is deemed most likely to protect and enhance the longer-term value of the security as an asset to the account.

Corporate Governance Committee

The Corporate Governance Committee for the Schroders Group consists of investment professionals and other officers and coordinates with Schroders to ensure compliance with this proxy voting policy. The Committee meets on a periodic basis to review proxies voted, policy guidelines and to examine any issues raised, including a review of any votes cast in connection with controversial issues.

The procedure for evaluating proxy requests is as follows:

The Schroders' Group Corporate Governance Team (the "Team") provides an initial evaluation of the proxy request, seeks advice where necessary, especially from the U.S. small cap and mid cap product heads, and consults with portfolio managers who have invested in the company should a controversial issue arise.

When coordinating proxy-voting decisions, the Team generally adheres to the Group Environmental, Social & Governance Policy (the "Policy"), as revised from time to time. The Policy, which has been approved by the Corporate Governance Committee, sets forth Schroder Group positions on recurring issues and criteria for addressing non-recurring issues. The Corporate Governance Committee exercises oversight to assure that proxies are voted in accordance with the Policy and that any votes inconsistent with the Policy or against management are appropriately documented.

The Team uses Institutional Shareholder Services, Inc. ("ISS") to assist in voting proxies. ISS provides proxy research, voting and vote-reporting services. ISS's primary function is to apprise the Team of shareholder meeting dates of all securities holdings, translate proxy materials received from companies, provide associated research and provide considerations and recommendations for voting on particular proxy proposals. Although Schroders may consider ISS's and others' recommendations on proxy issues, Schroders bears ultimate responsibility for proxy voting decisions.

Schroders may also consider the recommendations and research of other providers, including the National Association of Pension Funds' Voting Issues Service.

Conflicts

From time to time, proxy voting proposals may raise conflicts between the interests of Schroders' clients and the interests of Schroders and/or its employees. Schroders has adopted this policy and procedures to ensure that decisions to vote the proxies are based on the clients' best interests.

For example, conflicts of interest may arise when:

• Proxy votes regarding non-routine matters are solicited by an issuer that, directly or indirectly, has a client relationship with Schroders;

• A proponent of a proxy proposal has a client relationship with Schroders;

• A proponent of a proxy proposal has a business relationship with Schroders;

• Schroders has business relationships with participants in proxy contests, corporate directors or director candidates.

Schroders is responsible for identifying proxy voting proposals that may present a material conflict of interest. If Schroders receives a proxy relating to an issuer that raises a conflict of interest, the Team shall determine whether the conflict is "material" to any specific proposal included within the proxy. Schroders (or the Team on behalf of Schroders) will determine whether a proposal is material as follows:

• Routine Proxy Proposals: Proxy proposals that are "routine" shall be presumed not to involve a material conflict of interest unless Schroders has actual knowledge that a routine proposal should be treated as material. For this purpose, "routine" proposals would typically include matters such as uncontested election of directors, meeting formalities, and approval of an annual report/financial statements.

• Non-Routine Proxy Proposals: Proxy proposals that are "non-routine" will be presumed to involve a material conflict of interest, unless Schroders determines that neither Schroders nor its personnel have a conflict of interest or the conflict is unrelated to the proposal in question. For this purpose, "non -routine" proposals would typically include any contested matter, including a contested election of directors, a merger or sale of substantial assets, a change in the articles of incorporation that materially affects the rights of shareholders, and compensation matters for management (e.g., stock, option plans, retirement plans, profit-sharing or other special remuneration plans). If Schroders determines that there is, or may be perceived to be, a conflict of interest when voting a proxy, Schroders will address matters involving such conflicts of interest as follows:

A. If a proposal is addressed by the Policy, Schroders will vote in accordance with such Policy;

B. If Schroders believes it is in the best interests of clients to depart from the Policy, Schroders will be subject to the requirements of C or D below, as applicable;

C. If the proxy proposal is (1) not addressed by the Policy or (2) requires a case-by-case determination, Schroders may vote such proxy as it determines to be in the best interest of clients, without taking any action described in D below, provided that such vote would be against Schroders' own interest in the matter (i.e., against the perceived or actual conflict). The rationale of such vote will be memorialized in writing; and

D. If the proxy proposal is (1) not addressed by the Policy or (2) requires a case-by-case determination, and Schroders believes it should vote in a way that may also benefit, or be perceived to benefit, its own interest, then Schroders must take one of the following actions in voting such proxy: (a) vote in accordance with ISS' recommendation; (b) in exceptional cases, inform the client(s) of the conflict of interest and obtain consent to vote the proxy as recommended by Schroders; or (c) obtain approval of the decision from the Chief Compliance Officer and the Chief Investment Officer (the rationale of such vote will be memorialized in writing). Where the director of a company is also a director of Schroders plc, Schroders will vote in accordance with ISS' recommendation.

Voting Coverage

Schroders recognizes its responsibility to make considered use of voting rights. The overriding principle governing our approach to voting is to act in line with its fiduciary responsibilities in what we deem to be the interests of its clients.

Schroders normally hopes to support company management; however, it will withhold support or oppose management if it believes that it is in the best interests of its clients to do so.

Schroders votes on a variety of resolutions; however, the majority of resolutions target specific corporate governance issues which are required under local stock exchange listing requirements, including but not limited to: approval of directors, accepting reports and accounts, approval of incentive plans, capital allocation, reorganizations and mergers. Schroders does vote on both shareholder and management resolutions.

Schroders Corporate Governance specialists assess resolutions, applying its voting policy and guidelines (as outlined in its Environmental, Social and Governance Policy) to each agenda item. These specialists draw on external research, such as the Investment Association's Institutional Voting Information Services, the Institutional Shareholder Services (ISS), and public reporting.

Schroders' own research is also integral to our process and this will be conducted by both our investment and ESG analysts. Corporate Governance specialists will consult with the relevant analysts and portfolio managers to seek their view and better understand the corporate context. The final decision will reflect what investors and Corporate Governance specialists believe to be in the best long-term interest of their client. When voting, where there is insufficient information with which to make a voting decision Schroders may not vote.

In order to maintain the necessary flexibility to meet client needs, local offices of Schroders may determine a voting policy regarding the securities for which they are responsible, subject to agreement with clients as appropriate, and/or addressing local market issues. Both Japan and Australia have these.

Schroders UK Stewardship Code Statement outlines its approach in this area in more detail for all of its international holdings and is publicly available.

Wellington Management Global Proxy Policy and Procedures

Wellington Management has adopted and implemented policies and procedures that it believes are reasonably designed to ensure that proxies are voted in the best economic interests of clients for whom it exercises proxy-voting discretion.

Wellington Management's Proxy Voting Guidelines (the "Guidelines") set forth broad guidelines and positions on common proxy issues that Wellington Management uses in voting on proxies. In addition, Wellington Management also considers each proposal in the context of the issuer, industry and country or countries in which the issuer's business is conducted. The Guidelines are not rigid rules and the merits of a particular proposal may cause Wellington Management to enter a vote that differs from the Guidelines.

Statement of Policy

Wellington Management:

1) Votes client proxies for which clients have affirmatively delegated proxy-voting authority, in writing, unless it determines that it is in the best interest of one or more clients to refrain from voting a given proxy.

2) Votes all proxies in the best interests of the client for whom it is voting, i.e., to maximize economic value.

3) Identifies and resolves all material proxy-related conflicts of interest between the firm and its clients in the best interests of the client.

Responsibility and Oversight

The Investment Research Group ("Investment Research") monitors regulatory requirements with respect to proxy voting and works with the firm's Legal and Compliance Group and the Investment Stewardship Committee to develop practices that implement those requirements. Investment Research also acts as a resource for portfolio managers and research analysts on proxy matters as needed. Day-to-day administration of the proxy voting process is the responsibility of Investment Research. The Investment Stewardship Committee is responsible for oversight of the implementation of the Global Proxy Policy and Procedures, review and approval of the Guidelines and for providing advice and guidance on specific proxy votes for individual issuers.

Procedures

Use of Third-Party Voting Agent

Wellington Management uses the services of a third-party voting agent to manage the administrative aspects of proxy voting. The voting agent processes proxies for client accounts, casts votes based on the Guidelines and maintains records of proxies voted.

Receipt of Proxy

If a client requests that Wellington Management votes proxies on its behalf, the client must instruct its custodian bank to deliver all relevant voting material to Wellington Management or its voting agent.

Reconciliation

Each public security proxy received by electronic means is matched to the securities eligible to be voted and a reminder is sent to any custodian or trustee that has not forwarded the proxies as due. Although proxies received for private securities, as well as those received in non-electronic format, are voted as received, Wellington Management is not able to reconcile these proxies to holdings, nor does it notify custodians of non-receipt.

Research

In addition to proprietary investment research undertaken by Wellington Management investment professionals, Investment Research conducts proxy research internally, and uses the resources of a number of external sources to keep abreast of developments in corporate governance and of current practices of specific companies.

Proxy Voting

Following the reconciliation process, each proxy is compared against the Guidelines, and handled as follows:

- Generally, issues for which explicit proxy voting guidance is provided in the Guidelines (i.e., "For", "Against", "Abstain") are reviewed by Investment Research and voted in accordance with the Guidelines.
- Issues identified as "case-by-case" in the Guidelines are further reviewed by Investment Research. In certain circumstances, further input is needed, so the issues are forwarded to the relevant research analyst and/or portfolio manager(s) for their input.
- Absent a material conflict of interest, the portfolio manager has the authority to decide the final vote. Different portfolio managers holding the same securities may arrive at different voting conclusions for their clients' proxies.

Wellington Management reviews regularly the voting record to ensure that proxies are voted in accordance with these *Global Proxy Policy and Procedures* and the Guidelines; and ensures that documentation and reports, for clients and for internal purposes, relating to the voting of proxies are promptly and properly prepared and disseminated.

Material Conflict of Interest Identification and Resolution Processes

Wellington Management's broadly diversified client base and functional lines of responsibility serve to minimize the number of, but not prevent, material conflicts of interest it faces in voting proxies. Annually, the Investment Stewardship Committee sets standards for identifying material conflicts based on client, vendor, and lender relationships, and publishes those standards to individuals involved in the proxy voting process. In addition, the Investment Stewardship Committee encourages all personnel to contact Investment Research about apparent conflicts of interest, even if the apparent conflict does not meet the published materiality criteria. Apparent conflicts are reviewed by designated members of the Investment Stewardship Committee to determine if there is a conflict and if so whether the conflict is material.

If a proxy is identified as presenting a material conflict of interest, the matter must be reviewed by designated members of the Investment Stewardship Committee, who will resolve the conflict and direct the vote. In certain circumstances, the designated members may determine that the full Investment Stewardship Committee should convene.

Other Considerations

In certain instances, Wellington Management may be unable to vote or may determine not to vote a proxy on behalf of one or more clients. While not exhaustive, the following are potential instances in which a proxy vote might not be entered.

Securities Lending

In general, Wellington Management does not know when securities have been lent out pursuant to a client's securities lending program and are therefore unavailable to be voted. Efforts to recall loaned securities are not always effective, but, in rare circumstances, Wellington Management may recommend that a client attempt to have its custodian recall the security to permit voting of related proxies.

Share Blocking and Re-registration

Certain countries impose trading restrictions or requirements regarding re-registration of securities held in omnibus accounts in order for shareholders to vote a proxy. The potential impact of such requirements is evaluated when determining whether to vote such proxies.

Lack of Adequate Information, Untimely Receipt of Proxy Materials, or Excessive Costs

Wellington Management may abstain from voting a proxy when the proxy statement or other available information is inadequate to allow for an informed vote, when the proxy materials are not delivered in a timely fashion or when, in Wellington Management's judgment, the costs exceed the expected benefits to clients (such as when powers of attorney or consularization are required).

Additional Information

Wellington Management maintains records related to proxies pursuant to Rule 204-2 of the Investment Advisers Act of 1940 (the "Advisers Act"), the Employee Retirement Income Security Act of 1974, as amended ("ERISA"), and other applicable laws.

Wellington Management provides clients with a copy of its *Global Proxy Policy and Procedures*, including the Guidelines, upon written request. In addition, Wellington Management will make specific client information relating to proxy voting available to a client upon reasonable written request.