FIDELITY INSTITUTIONAL CUSTOM SMAs AND MODEL PORTFOLIO SERVICES

Fidelity Management & Research Company LLC
245 Summer Street
Boston, MA 02210
617-563-7000
www.fidelity.com

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This brochure provides information about the qualifications and business practices of Fidelity Management & Research Company LLC ("FMR"). Throughout this brochure and related materials, FMR may refer to itself as a "registered investment adviser" or "being registered." These statements do not in any way imply a certain level of skill or training. If you have any questions about the contents of this brochure, please contact us at 617- 563-7000. The information in this brochure has not been approved or verified by the United States Securities and Exchange Commission ("SEC") or by any state securities authority. Additional information about FMR also is available on the SEC's website at www.adviserinfo.sec.gov.

2. Table of Contents

3. Advisory Business

Fidelity Management & Research Company LLC ("FMR"), a wholly-owned subsidiary of FMR LLC, provides investment supervisory services, including sub-advisory services, to Fidelity's family of mutual funds and exchange-traded funds (the "Fidelity Funds" or the "Fidelity group of funds"), qualified tuition programs, as defined under Section 529 of the Internal Revenue Code , privately offered unregistered investment funds, separately managed account clients, and various other institutional accounts. FMR also provides non-discretionary investment advice to its affiliates or to third parties. This brochure provides information only about FMR's role with respect to customized separately managed accounts ("Fidelity Institutional Custom SMAs") offered by Fidelity Institutional Wealth Adviser LLC (FIWA) and certain other non-discretionary model portfolio services provided to FIWA. For information about the additional services that FMR provides, please see FMR's Form ADV Part 2A brochure.

For information about FMR's role with respect to Fidelity Strategic Disciplines, a separately managed account program sponsored by Fidelity Personal and Workplace Advisors LLC, an affiliate of FMR, please see FMR's Fidelity Strategic Disciplines Form ADV Part 2A brochure.

Fidelity Management & Research Company ("FMR Co."), a wholly-owned subsidiary of FMR LLC, has been registered with the Securities and Exchange Commission ("SEC") since 1971. FMR Co. reorganized into FMR effective January 1, 2020.

Discretionary Advisory Services

FMR provides discretionary portfolio management services to Fidelity Institutional Custom SMAs offered by its affiliate Fidelity Institutional Wealth Adviser LLC ("FIWA"). As sub-advisor, FMR makes the day-to-day discretionary trading decisions with respect to client accounts and will receive a portion of the advisory fees clients pay to FIWA. Important information regarding FIWA and Fidelity Institutional Custom SMAs can be found in FIWA's Fidelity Institutional Custom SMAs Form ADV Brochure ("FIWA Fidelity Institutional Custom SMAs Brochure").

Fidelity Institutional Custom SMA clients invest generally in equity or fixed income securities (i.e., a single asset class) and are managed by FMR in accordance with client mandated investment guidelines with a certain portion of assets retained in cash or cash equivalents subject to FMR's discretion. Clients can select from different Fidelity Institutional Custom SMAs equity or fixed income strategies based on their market exposure needs. Subject to the imposition of client directed reasonable restrictions and/or blend of certain existing equity strategies to create a new blended strategy, FMR will apply its proprietary methodology to manage a client's account to align with the selected strategy and the reasonable restrictions and/or blended strategy. FMR is responsible for portfolio management, trading, and supervision of Fidelity Institutional Custom SMAs.

Certain equity strategies can apply tax management considerations and/or other preferences including customized benchmarks when client directed. For clients that elect to apply tax managed considerations, the accounts are managed using additional investing techniques, that seek to enhance after-tax returns, including, without limitation, harvesting tax losses and the deferral of capital gains to reduce tracking error to the benchmark whenever possible after taking into consideration the tax consequences. For these accounts, FMR seeks to provide, consistent with mandated investment guidelines, improved returns over the designated benchmark on an after-tax basis, including by considering the potential effects of capital gains when making investment decisions. Fidelity Institutional Custom SMA clients can select the level of tax management for their account based on their tax management needs and risk considerations. Certain Fidelity Institutional Custom SMAs may employ strategies that focus on reducing ownership of issuers in the strategy's benchmark that have less favorable sustainability ratings ("Sustainable Strategies"). The Sustainable Strategies investable universe is derived by an evaluation of sustainability characteristics through a process that includes proprietary research and third-party data. The Sustainable Strategies' goal of delivering a portfolio that reduces ownership of issuers that have less favorable sustainability ratings in its benchmark could constrain the degree to which tax management techniques can be implemented and potentially result in significant tax consequences. In addition, investing based on sustainability factors may cause an account to forgo certain investment opportunities available to accounts that do not use such criteria.

Additionally, for certain Fidelity Institutional Custom SMAs clients, the management of tax liabilities may not be applicable or a focus for a particular SMA client. For these SMAs, consistent with the client mandated investment guidelines, FMR focuses on managing risk relative to the benchmark rather than deploying tax management techniques.

The fixed income strategies combine the fixed income experience, research, and execution capabilities of FMR with ongoing oversight by FIWA, the investment manager. Certain municipal fixed income strategies seek to generate federal tax-exempt interest income while limiting risk to principal over a full market cycle. Such strategies focus on investment grade municipal bonds across different market sectors (i.e., general obligation bonds of a state or bonds financing a specific project) and different maturities. Structural features of bonds are analyzed and evaluated by the team using a suite of models and tools developed by Fidelity's Quantitative analysts. Traders use proprietary technology to communicate market information to the team to identify ideas and transact, seeking inefficiencies in the municipal market. FMR's diversified approach does not depend on any single type of exposure to drive returns.

In certain instances, FMR, to the extent permitted by its advisory contracts, delegates investment discretion over all or a portion of a portfolio to one or more sub-advisers, including FMR's subsidiaries and affiliates and various subsidiaries and affiliates of FIL Limited ("FIL"). If FMR or its affiliates engage an unaffiliated entity to sub-advise an FMR fund or account, or a portion of an FMR fund or account, the sub-adviser's policies and procedures, including trade allocation and conflicts of interest, will apply to that fund or account, except for certain fund Board-approved affiliated transaction policies subject to applicable law. FMR has access to investment research on a substantially delayed basis from various subsidiaries and affiliates of FIL (including Fidelity Investments Canada ULC ("FIC")), which are investment advisers registered with the SEC operating principally in the United Kingdom, Japan, and Hong Kong or Participating Affiliates (as defined below) of such registered advisers. Certain of FIL's subsidiaries and affiliates (including FIC), which are companies not registered with the SEC (each, a "Participating Affiliate"), have access to information (such as through employees who work for both a FIL registered adviser and the unregistered FIL subsidiary or affiliate) concerning securities recommendations for the registered adviser's U.S. clients. Additionally, each of FMR LLC, the ultimate parent company of FMR, and FIL Limited have contracted on an arms-length basis for the provision of compliance monitoring and reporting services in their respective jurisdictions. As such, certain individuals supporting compliance and operations functions will have access to information concerning securities recommendations for each others' clients. Subsidiaries of FIL Limited also distribute investment strategies advised by FMR and its affiliates outside of the U.S. FMR disclaims that it is a related person of FIL.

In the course of FMR providing its investment advisory services, a portfolio manager, analyst, or other employee of FMR or its affiliates will, from time to time, express views regarding a particular company, security, industry, or market sector. The views expressed by any such person are the views of only that individual as of the time expressed and do not necessarily represent the views of FMR or its affiliates or any other person in the Fidelity organization. Any such views are subject to change at any time based upon market or other conditions and FMR disclaims any responsibility to update such views. These views may not be relied on as investment advice and, because investment decisions for an account managed by FMR or its affiliates are based on numerous factors, may not be relied on as an indication of trading intent on behalf of any such account.

Non-Discretionary Advisory Services

FMR also provides non-discretionary model portfolios ("Fidelity Model Portfolios") for use or distribution by FIWA comprised of, as applicable, individual securities, mutual funds and/or exchange-traded products ("ETPs"), including exchange-traded funds ("ETFs"), sponsored and managed by FMR or its affiliates ("Fidelity Model Portfolio Funds"), and certain ETPs managed by unaffiliated investment advisers. The

Fidelity Model Portfolios are provided by FIWA to financial institutions such as banks, broker-dealers and other investment advisers ("Model Portfolio Intermediary(ies)") for use with such Model Portfolio Intermediaries' underlying clients directly or through a platform provider.

Regulatory Assets Under Management
As of June 30, 2024, FMR managed $4,423,995,590,492 of client assets on a discretionary basis. As of June 30, 2024, FMR did not manage any client assets on a non-discretionary basis.

4. Fees and Compensation

Discretionary Advisory Services
Clients of the Fidelity Institutional Custom SMAs do not pay FMR. Instead, as compensation for its discretionary portfolio management services provided to such clients, FMR receives a portion of the advisory fees paid to FIWA. FMR and its affiliates receive compensation with respect to certain mutual funds and ETPs that are held in certain clients' Fidelity Institutional Custom SMA. This creates an incentive for us to invest your assets in these products over others. The amount paid to FMR and its employees by FIWA in connection with the Fidelity Institutional Custom SMAs does not vary based on types of investments and the compensation arrangements for FMR investment professionals do not vary based on the underlying mutual funds, ETPs or other investments selected for the Fidelity Institutional Custom SMAs. For more information regarding conflicts of interests relating to the management of multiple funds and accounts, see "Code of Ethics, Participation or Interest in Client Transactions and Personal Trading" section herein. In addition, the Fidelity Institutional Custom SMAs may include iShares ETFs. Fidelity receives compensation from the iShares ETF sponsor and/or its affiliates in connection with an exclusive, long-term marketing program that includes promotion of iShares ETFs. For more information regarding this arrangement, please see the discussion below under "Non-Discretionary Advisory Services" in this section.

Non-Discretionary Advisory Services
FMR is compensated by FIWA in connection with the model portfolio services provided to FIWA. Model Portfolio Intermediaries who utilize the Fidelity Model Portfolios and clients in the Fidelity Institutional Custom SMAs do not pay any compensation to FMR.

Certain Fidelity Model Portfolios include Fidelity Model Portfolio Funds, which are subject to fees, as provided for in the prospectus for each such fund. The fees received from Fidelity Model Portfolios' investments in the Fidelity Model Portfolio Funds will be shared by various affiliates of FMR involved in distributing and advising both the Fidelity Model Portfolio Funds and the Fidelity Model Portfolios. Each Fidelity Model Portfolio Fund incurs advisory as well as other fees and expenses that it pays out of the assets of each fund, meaning such costs are indirectly borne by the shareholders of each applicable fund. Additional information about the expense ratio of any specific Fidelity Model Portfolio Fund is available in the applicable prospectus. Within a given model portfolio, the cost to shareholders and benefits to FMR's affiliates across the Fidelity Model Portfolio Funds within that model portfolio varies. As a result, an economic incentive exists for FMR when constructing model portfolios that include allocations to underlying mutual funds to select Fidelity Model Portfolio Funds that pay additional revenue to its affiliates. However, as further discussed below, FMR does not select the investment universe for Fidelity Model Portfolios that consist of underlying mutual funds, ETFs and ETPs and certain of the portfolios are constructed by FMR using a rules-based methodology. In addition, the amount paid to FMR and its employees under the services does not vary based on the Fidelity Model Portfolio Funds selected when constructing the Fidelity Model Portfolios and the compensation arrangements for FMR investment professionals do not vary based on the Fidelity Model Portfolio Funds selected for such model portfolios. For more information regarding conflicts of interests relating to the management of multiple funds and accounts, see "Code of Ethics, Participation or Interest in Client Transactions and Personal Trading" section herein.

Certain model portfolios provided to FIWA ("FIWA Model Portfolios") consist of Fidelity Model Portfolio Funds and other ETPs or mutual funds managed by third parties, including ETPs advised by BlackRock Investment Management, LLC (or one of its affiliates, collectively "BlackRock") such as iShares® ETFs. The universe of Fidelity Model Portfolio Funds has been selected by FIWA for inclusion in the FIWA Model Portfolios. For certain accounts custodied on Fidelity's brokerage platform that elect to invest in Fidelity

Model Portfolios that include iShares ETFs, Fidelity receives compensation from the iShares ETF sponsor and/or its affiliates in connection with an exclusive, long-term marketing program that includes promotion of iShares ETFs. BlackRock and iShares are registered trademarks of BlackRock, Inc. and its affiliates. Fidelity also has arrangements to receive compensation from other third-party ETP sponsors for making certain ETPs available on Fidelity's brokerage platform commission free. If the model portfolios include such third party ETPs in the Fidelity Model Portfolios, Fidelity is entitled to receive compensation from the ETP sponsor for any accounts custodied on Fidelity's brokerage platform that elect to invest in such Fidelity Model Portfolios. Additional information about the sources, amounts, and terms of compensation is described in the ETF's prospectus and related documents. Fidelity may add or waive commissions on ETFs without prior notice.

The mutual fund share classes for a given Fidelity Model Portfolio Fund to be used in such model portfolios are selected by FMR's affiliates based on various considerations including its clients' share class preferences relative to expense ratios and revenue sharing opportunities, share classes used by other asset managers in competing model portfolios and revenue yield to such affiliates and other affiliates of FMR.

The share classes available for a given Fidelity Model Portfolio Fund in the Fidelity Model Portfolios are limited to the share classes designated by FMR's affiliates. Fidelity Model Portfolio Funds are available only in the share class designated by such affiliates when made available through the Fidelity Model Portfolios. Such affiliates do not seek to offer mutual funds or share classes through the Fidelity Model Portfolios that are necessarily the least expensive. Other affiliated funds have different fees and expenses, which may be lower than the fees and expenses of the Fidelity Model Portfolio Funds and mutual fund share classes made available through the Fidelity Model Portfolios. In some cases, the mutual fund share classes for a Fidelity Model Portfolio Fund may have a lower cost share class available on a stand-alone basis for purchase outside of the Fidelity Model Portfolios, or that may be available to other types of investors. An investor who holds a less-expensive share class of a fund will pay lower fees over time – and earn higher investment returns – than an investor who holds a more expensive share class of the same mutual fund. Each Model Portfolio Intermediary is responsible for determining if the use of the Fidelity Model Portfolio Funds and share classes used by that Fidelity Model Portfolio is suitable and appropriate for the Model Portfolio Intermediary's underlying clients.

5. Performance-Based Fees and Side-By-Side Management

Discretionary Advisory Services
FMR does not receive any performance-based fees for Fidelity Institutional Custom SMAs.

The management of multiple funds and accounts (including proprietary accounts of FMR or one or more of its affiliates) gives rise to conflicts of interest, especially when the funds and accounts have different objectives, benchmarks, time horizons, and fees as the portfolio manager must allocate his or her time and investment ideas across multiple funds and accounts. Investment personnel are mindful of potentially conflicting interests of our clients and take appropriate measures to ensure that the interests of all clients are taken into consideration.

Conflicts of interest also arise when fund or account orders do not get fully executed due to being aggregated with those of other funds or accounts managed by FMR or an affiliate. Portfolio orders for another fund or account, when executed, may adversely impact the value of securities held by a fund. For example, short sales in one fund or account may have an adverse impact on the value of the shorted security held or traded by other funds or accounts. Although FMR or its affiliates monitor such transactions to attempt to ensure equitable treatment of both a fund or account holding a security and a fund or account that engages in short sales in the same or a similar security, there can be no assurance that the price of a security held by the fund or account is not impacted as a result. Also, securities selected for a particular fund or account may outperform the securities selected for other funds or accounts managed by the same portfolio manager. Portfolio managers are permitted to invest in the funds or accounts they manage even when, under certain circumstances, a fund or account is closed to new investors.

FMR also manages certain proprietary accounts or “pilot funds,” which are used to develop investment ideas, strategies and management experience. These pilot funds or accounts are in some instances similar to other funds or accounts managed by FMR and trade in the same securities as other funds or accounts managed by FMR. FMR has oversight in place to ensure that trading and allocations for these funds and accounts are not favored over accounts managed for discretionary clients. For more information regarding trade allocation procedures, see “Trade Allocation Policies” in the “Brokerage Practices” section herein.

FMR’s use of multiple investment strategies presents additional conflicts. For example, a conflict of interest situation is presented when Fidelity’s client accounts may invest in securities or purchase a loan relating to different parts of the capital structure of a single issuer. In some cases, Fidelity may exercise rights, provide additional capital, or approve or disapprove of certain corporate actions for certain client accounts with respect to an issuer, or refrain from taking any such action or decision and such actions or decisions may adversely impact the value or rights of securities or loans held by other client accounts.

For example, if a client account holds loans, securities, or other positions in the capital structure of an issuer that ranks senior in preference to the holdings of other client accounts in the same issuer, and the issuer experiences financial or operational challenges, Fidelity, acting on behalf of the client account, may exercise its rights or provide additional capital in connection with a liquidation, reorganization, or restructuring of the issuer with terms that may have an adverse effect on or otherwise conflict with the interests of other client accounts. For example, in connection with any lending arrangements involving the issuer in which a client account participates, Fidelity, on behalf of certain client accounts, may seek to exercise rights under the applicable loan agreement or other document in a manner that may prove detrimental to positions held by other client accounts. Alternatively, in situations in which client accounts hold a more senior position as compared to positions held by other client accounts in the capital structure of an issuer experiencing financial or other difficulties , Fidelity may determine not to pursue actions and remedies available to the client account or enforce particular terms that might be unfavorable to the other client accounts holding the less senior position so long as such determination does not adversely affect the funds holding such rights to take action. Additionally, Fidelity may negotiate for a new investment to rank senior to an existing investment or negotiate for other terms that are advantageous to the clients making the new investment but disadvantageous to clients that only hold the existing investment.

In addition, if client accounts hold voting securities of an issuer in which other client accounts hold loans, bonds, or other credit-related assets or securities, Fidelity may vote on certain matters in a manner that has an adverse effect on the positions held by other client accounts. Conversely, client accounts may hold voting securities of an issuer in which other client accounts hold credit-related assets or securities, and Fidelity may determine on behalf of the client accounts not to vote in a manner adverse to the other client accounts (including by abstaining from the relevant vote or voting in line with other pari passu investors in the same debt tranche) so long as such vote does not adversely affect the funds exercising such voting rights.

These potential issues are examples of conflicts of interest that Fidelity will face when client accounts invest in different parts of the capital structure of a single issuer. Fidelity addresses these issues based on the facts and circumstances of each situation. This may result in the creation of separate advisory groups to consult with and represent the client accounts having potentially conflicting interests. Each of these separate groups will pursue options in the best interests of the client accounts they support without taking into consideration the other group’s positions.

As a result of the conflicts presented in the examples above, client accounts could sustain losses or lower investment returns during periods in which other client accounts achieve gains or higher investment returns generally or with respect to particular holdings in the same issuer than would have been the case had the conflicts described above not existed.

FMR has adopted policies and procedures and maintains a compliance program designed to help manage conflicts arising from side-by-side management, which include trade allocation policies. These policies and procedures seek to ensure that trading for all funds and accounts is fair and equitable over time. There can be no assurance, however, that all conflicts have been addressed in all situations. For more information regarding conflicts of interests relating to the management of multiple funds and accounts, see "Code of Ethics, Participation or Interest in Client Transactions and Personal Trading" section herein.

Non-Discretionary Advisory Services
FMR does not receive any performance-based fees for non-discretionary services. FMR does not direct its discretionary management clients to invest in Fidelity Model Portfolios. However, certain of FMR's and its affiliates' discretionary institutional accounts may, for unrelated reasons, invest in funds that are also offered through the Fidelity Model Portfolios. Different accounts trading in the Fidelity Model Portfolios, or the Fidelity Model Portfolio Funds, may experience differences in pricing, valuation and ultimately performance due to disparities in the timing of trading implementation, among other factors.

6. Types of Clients

FMR provides discretionary portfolio management services for Fidelity Institutional Custom SMAs and non-discretionary model portfolio services to FIWA. Please see the FIWA Fidelity Institutional Custom SMAs Brochure for information about the types of clients eligible for the SMAs. FMR does not provide any investment advice directly to FIWA's model portfolio clients. Please see FIWA's Fidelity Model Portfolio Solutions Form ADV Brochure for information about FIWA's model portfolio services.

7. Methods of Analysis, Investment Strategies and Risk of Loss

This section contains information about how FMR provides discretionary portfolio management services to Fidelity Institutional Custom SMAs and non-discretionary model portfolio services to FIWA.

Discretionary Advisory Services
FMR uses a variety of methods of security analysis to select investments in managing client assets, including, as applicable: fundamental analysis (i.e., evaluating each issuer's financial condition, industry position, financially material sustainable investing factors, and the market and economic conditions impacting their profitability); quantitative analysis (i.e., mathematical and statistical modeling); technical analysis (i.e., statistical analysis of market activity); cyclical analysis (i.e., evaluating issuers based in part on their sensitivity to business cycles); and factor-based analysis (i.e., evaluating investment opportunities based on exposure to targeted characteristics). FMR also uses general macro-economic analysis as a component of its security analysis methods. In addition to relying on financial statement information, FMR uses extensive in-person and/or remote corporate visits and interviews with issuer management teams in conducting research, offering statements of various municipalities as a source of information, information and analysis relating to foreign sovereigns and currency markets, third-party research, and alternative data.

FMR invests in securities of companies engaged in a variety of economic sectors and industries that are domiciled in the U.S. and outside the U.S. (in developed, emerging and frontier markets); in stocks with growth or value characteristics; and in companies with market capitalizations of all sizes. FMR invests across different asset classes, market sectors, maturities, and regions. With respect to money market funds, FMR observes industry-standard regulatory requirements for money market funds for the quality, maturity, liquidity, and diversification of investments.

With respect to strategies that consist of investing in underlying funds, the factors considered when making an investment include, but are not limited to, fund performance, a fund manager's experience and investment style, fund company infrastructure, and fund characteristics such as expense ratio, asset size, and portfolio turnover.

The value of securities selected using quantitative analysis can react differently to issuer, political, market, and economic developments than the market as a whole or securities selected using only fundamental analysis. The factors used in quantitative analysis and the weight placed on those factors may not be predictive of a security's value. In addition, factors that affect a security's value can change over time and these changes may not be reflected in the quantitative model.

For certain equity strategies in the Fidelity Institutional Custom SMAs that have sustainable investing objectives FMR seeks to reduce ownership of issuers in a portfolio's benchmark that have less favorable sustainability ratings based on an evaluation of sustainability characteristics using a process that includes proprietary research and third-party data. FMR uses its proprietary sustainability ratings process to evaluate the current state of an issuer's practices across operational, human and natural capital using a data-driven framework that includes both proprietary and third-party data, and/or to provide a qualitative forward-looking assessment of an issuer's sustainability outlook provided by FMR's fundamental research analysts and sustainable investing team. FMR's sustainability ratings of issuers are derived from multiple factors, including an issuer's treatment of natural capital, which may include, but is not limited to, carbon and toxic emissions, water management, waste management, vulnerability to the physical impacts of climate change, and research and investment into products, services, and energies that reduce emissions and/or provide opportunities to achieve a low carbon transition. An assessment of an issuer's human capital profile includes, but is not limited to, its approach to diversity and inclusion, workforce and talent management, data privacy, product safety, and human rights. With respect to operational capital, FMR considers the independence and diversity of an issuer's board, the issuer's compensation practices, and board oversight of critical sustainability issues. These factors are weighted based on how material FMR believes each factor is to an issuer's financial outlook, and not all factors may be applicable to all issuers. Not all issuers of securities held in the strategies are necessarily covered by FMR's sustainability ratings process. As part of its investment approach, FMR also applies criteria ("exclusion criteria") that seek to exclude issuers that are directly engaged in, and/or derive significant revenue from, certain industries or product lines. At present, these include: civilian semi-automatic firearms; tobacco production, or bonds issued against the proceeds of tobacco settlements; for-profit prisons; controversial weapons (e.g., cluster munitions, landmines, biological/chemical weapons, blinding lasers, and incendiary weapons); and coal production and/or mining. FMR may periodically update the exclusion criteria.

A client has the ability to impose reasonable restrictions on the management of a Fidelity Institutional Custom SMA. Any proposed restriction is subject to FIWA's and FMR's approval. Such a restriction can include prohibitions such as with respect to the purchase of a particular individual security or security group classification such as sector or industry. If a restriction is accepted, assets will be invested in a manner that is appropriate given the restriction. Imposing an investment restriction can delay the start of discretionary management, and accounts with client-imposed restrictions will experience different performance from accounts without restrictions, possibly producing lower overall results. Account restrictions should be requested through a FIWA representative.

Summary of Material Risks

The strategies presented above pose risks, and many factors affect each fund's, including the Fidelity Model Portfolio Funds', or account's performance. The following risk factors are not a complete list of the risks involved in an investment in the strategies and products advised or managed by FMR. These risk factors include only those risks we believe to be material. Many factors affect the performance of Fidelity Institutional Custom SMAs. Please see FIWA's Fidelity Institutional Custom SMAs Brochure for additional information.

Past performance is not an indication of future performance or a guarantee of future results. An investment may be risky and may not be suitable for an investor's goals, objectives, and risk tolerance. Investors should be aware that an investment's value may be volatile, and any investment involves the risk that you may lose money. Investments in a Fidelity Institutional Custom SMA are not deposits of a bank and are not insured or guaranteed by the Federal Deposit Insurance Corporation ("FDIC") or any other government agency.

As investing techniques that consider tax consequences are applied to the Fidelity Institutional Custom SMAs, trades could trigger taxable gains if the securities traded have appreciated in value since they were purchased. FMR considers multiple risks and costs in addition to investing techniques that consider tax consequences in managing the Fidelity Institutional Custom SMAs. Accordingly, clients should understand that they could incur gains or have adverse tax consequences as a result of the management of their account. In addition, such accounts are actively managed taking into account federal income taxes but are not managed in consideration of state or local taxes; foreign taxes; federal tax rules applicable to entities; or estate, gift, or generation skipping transfer taxes. FMR does not provide tax advice. Fidelity Institutional Custom SMA clients should consult their own tax advisor.

Investment strategies that seek to enhance after-tax performance may be unable to fully realize strategic gains or harvest losses due to various factors, including market conditions. At times, investing techniques that consider tax consequences may cause a portfolio to hold a security in order to achieve more favorable tax treatment or to sell a security in order to create tax losses if consistent with an account's investment guidelines. A tax loss realized by a client after selling a security will be deferred if the client purchases the same or substantially the same security within thirty days (either before or after such sale). Although FMR generally seeks to avoid "wash sales,", it may not avoid wash sales in all circumstances, including as a result of trading by a client in portfolios not managed by FIWA and FMR. A wash sale may also be triggered by FMR when it has sold a security for loss harvesting in an account and shortly thereafter FIWA and FMR are directed by the client to invest additional cash resulting in a repurchase of the security.

Strategies that pursue investments in equity securities will be subject to stock market volatility. Nearly all funds or accounts are also subject to volatility in non-U.S. markets, either through direct exposure or indirect effects on U.S. markets from events abroad, including fluctuations in foreign currency exchange rates and, in the case of less-developed markets, currency illiquidity. Those funds and accounts with investments in emerging and frontier markets are potentially subject to heightened volatility from greater social, economic, regulatory, and political uncertainties, as the extent of economic development, political stability, market depth, infrastructure, capitalization, and regulatory oversight can be less than in more developed markets. Trading, settlement, and custodial practices (including those involving securities settlement where fund or account assets are released prior to receipt of payment) in non-U.S. markets that are less developed than those in U.S. markets may result in increased investment or valuation risks, increased counterparty exposure, or substantial delays (including those arising from failed trades or the insolvency of, or breach of duty by, a broker-dealer, securities depository, sub- custodian, clearinghouse or other party).

Developments that disrupt global economies and financial markets, such as war, acts of terrorism, natural disasters, economic sanctions, the spread of infectious illness, pandemic or other public health issues, recessions or other events may magnify factors that affect performance. In addition, from time-to-time some countries may experience low or negative interest rates, which may magnify interest rate risk for the markets as a whole and for the funds or accounts.

All strategies are ultimately affected by impacts to the individual issuers, such as changes in an issuer's profitability and credit quality, or changes in tax, regulatory, market or economic developments. Entities providing credit support or a maturity-shortening structure also can be affected by these types of changes, and if the structure of a security fails to function as intended, the security could decline in value. Municipal securities backed by current or anticipated revenues from a specific project or specific assets can be negatively affected by the discontinuance of the taxation supporting the project or assets or the inability to collect revenues for the project or from the assets. If the Internal Revenue Service (IRS) determines an issuer of a municipal security has not complied with applicable tax requirements, interest from the security could become taxable and the security could decline significantly in value. Generally, FMR purchases municipal securities whose interest, in the opinion of bond counsel, is free from federal income tax. FMR cannot guarantee that this opinion is correct, and there is no assurance that the IRS will agree with bond counsel's opinion. Issuers or other parties generally enter into covenants requiring continuing compliance with federal tax requirements to preserve the tax-free status of interest payments over the life of the security. If at any time the covenants are not complied with, or if the IRS otherwise determines that the issuer did not comply with relevant tax requirements, interest payments from a security could become federally taxable, possibly retroactively to the date the security was issued. For certain types of structured securities, the tax status of the pass-through of tax-free income may also be based on the federal tax treatment of the structure.

A decline in the credit quality of an issuer can cause the price of a security to decrease. Lower-quality debt securities (those of less than investment-grade quality, also referred to as high-yield debt securities or junk bonds) involve greater risk of default or price changes due to changes in the credit quality of the issuer. The value of lower-quality debt securities can be more volatile due to increased sensitivity to adverse issuer, political, regulatory, market, or economic developments. Non-diversified funds and accounts that invest in a smaller number of individual issuers can be more sensitive to these changes.

Strategies that pursue investments in fixed-income securities will see values fluctuate in response to changes in interest rates. In general, the price of a debt security can fall when interest rates rise and can rise when interest rates fall. Securities with longer maturities can be more sensitive to interest rate changes, meaning the longer the maturity of a security, the greater the impact a change in interest rates could have on the security's price. Short-term and long-term interest rates do not necessarily move in the same amount or the same direction. Short-term securities tend to react to changes in short-term interest rates, and long-term securities tend to react to changes in long-term interest rates. Securities with floating interest rates can be less sensitive to interest rate changes but may decline in value if their interest rates do not rise as much as interest rates in general.

Additionally, accounts that pursue debt investments are subject to risks of prepayment, when an issuer of a security can repay principal prior to the security's maturity, or default, as well as changes to bankruptcy or debtor relief laws, which may impede collection efforts or alter timing and amount of collections. Securities subject to prepayment can offer less potential for gains during a declining interest rate environment and similar or greater potential for loss in a rising interest rate environment. In addition, the potential impact of prepayment features on the price of a debt security can be difficult to predict and result in greater volatility. Securitized debt securities, which include commercial mortgage-backed securities, are dependent on the cash flows generated by the underlying loans, receivables, or other assets, can be significantly affected by changes in interest rates, the availability of information concerning the underlying assets and their structure, and the creditworthiness of the originators of the loans or other receivables or the entities providing credit support.

Funds or accounts that pursue strategies that concentrate in particular industries or are otherwise subject to particular segments of the market (e.g., money market funds' exposure to the financial services industry, municipal funds' exposure to the municipal bond market, or international, emerging markets or frontier markets funds' exposure to a particular country or region) are more significantly impacted by events affecting those industries or markets. Municipal securities can be significantly affected by political changes as well as uncertainties in the municipal market related to taxation, legislative changes, or the rights of municipal security holders. Because many municipal securities are issued to finance similar projects, especially those relating to education, health care, transportation, and utilities, conditions in those sectors can affect the overall municipal market. Budgetary constraints of local, state, and federal governments upon which the issuers may be relying for funding may also impact municipal securities. In addition, changes in the financial condition of an individual municipal insurer can affect the overall municipal market, and market conditions may directly impact the liquidity and valuation of municipal securities. The value of securities of issuers in the real estate industry can be affected by changes in real estate values and rental income, property taxes, interest rates, tax and regulatory requirements, overbuilding, extended vacancies of properties, and the issuer's management skill.

Strategies that lead accounts to invest in other funds, including ETFs, bear all the risks inherent in the underlying funds in which those funds invest, as described in that fund's registration statement. Unlike individual debt securities, which typically pay principal at maturity, the value of an investment in an underlying fund will fluctuate. In addition, ETF shares that are listed on an exchange can be bought and sold in the secondary market at market prices. The market prices of such shares will fluctuate in accordance with changes in NAV and supply and demand on the listing exchange. Although a share's market price is expected to approximate its NAV, it is possible that the market price and NAV will vary significantly. Shares of an exchange traded ETF, similar to shares of other issuers listed on a stock exchange, may be sold short and are therefore subject to the risk of increased volatility and price decreases associated with being sold short.

Strategies that pursue leverage risk, including investment in derivatives—such as swaps (interest rate, total return, and credit default) and futures contracts—and forward-settling securities, magnify market exposure and potential losses.

Investing based on sustainability factors may cause a fund or account to forgo certain investment opportunities available to funds or accounts that do not use such criteria. Because of the subjective nature of sustainable investing, there can be no guarantee that criteria used by FMR or its affiliates in its sustainable strategies will reflect the beliefs or values of any particular fund or account. Additionally, FMR or its affiliates rely upon information and data obtained through third-party reporting, which, if incomplete or inaccurate, could result in FMR or its affiliates imprecisely evaluating an issuer's practices with respect to material sustainability factors.

Additionally, accounts are subject to operational risks, which can include risks of loss arising from failures in internal processes, people or systems, such as routine processing errors or major systems failures, or from external events, such as securities exchange outages.
Ultimately, an account's net asset value changes daily based on changes in market conditions, foreign currency exchange rates and interest rates, and in response to other economic, political, or financial developments. An account's reaction to these events will be affected by the types of securities in which the account invests; the financial condition, industry and economic sector, and geographic location of an issuer; and the account's level of investment in the securities of that issuer. An account's investment in such securities involves risk of loss that clients would, and should, be prepared to bear. An account owner could lose money due to a decline in the account's net asset value.

Due to regulatory and issuer-specific limits that apply to the ownership of securities of certain issuers, FMR and its affiliates limit investments in the securities of such issuers. Similar limitations apply to futures and other derivatives, such as options. In addition, FMR and/or its affiliates from time-to-time determine that, because of regulatory requirements that apply to FMR and/or its affiliates in relation to investments in a particular country or in an issuer operating in a particular regulated industry, investments in the securities of issuers domiciled or listed on trading markets in that country or operating in that regulated industry above certain thresholds is impractical or undesirable. The foregoing limits and thresholds may apply at the account level or in the aggregate across all accounts (or certain subsets of accounts) managed, sponsored, or owned by, or otherwise attributable to, FMR and its affiliates. For investment risk management and other purposes, FMR and its affiliates also generally apply internal aggregate limits on the amount of a particular issuer's securities that are owned by all such accounts, although such limits may vary for certain accounts established to develop performance track records. In connection with the foregoing limits and thresholds, FMR limits or excludes clients' investment in particular issuers, futures, derivatives and/or other instruments (or limits the exercise of voting or other rights) and investment flexibility may be restricted. In addition, to the extent that client accounts already own securities that directly or indirectly contribute to such an ownership threshold being exceeded, FMR generally sells securities held in such accounts to bring account-level and/or aggregate ownership below the relevant threshold. If any such sales result in realized losses for client accounts, those client accounts may bear such losses depending on the particular circumstances.

FMR and its affiliates establish internal limits, and are subject to external limits, on how much the funds and accounts they manage can invest in any one other fund. Additionally, regulatory restrictions limit the amount that one fund can invest in another, which means that FMR is limited in the amount it can cause a fund it manages to invest in any particular fund.

The investment research process employed by FMR includes gathering, cleaning, culling and analysis of large amounts of data from external public sources and/or third-party data providers It is not possible or practicable, however, to factor all relevant, available data into economic forecasts or trading decisions. In addition, due to the automated nature of this data gathering and the fact that much of this data comes from third-party sources, it is inevitable that not all desired or relevant data will be available to, or processed by, FMR at all times. Investors should be aware that there is no guarantee that the data utilized in generating forecasts or making trading decisions will be the most accurate data available or even free of errors. Investors should assume that the foregoing limitation and risks associated with gathering, cleaning, culling and analysis of large amounts of data from third-party and other external sources are an inherent part of investing. There may also be incidents where data fails to load or FMR's systems fail to retrieve or capture the data, for example, because of changes in the vendor's or FMR's system configurations due to upgrades, enhancements, maintenance or errors. Investors should assume that these data errors, like other system implementation errors, and their ensuing risks and impact are an inherent part of investing. Accordingly, unless otherwise required to do so, FMR does not expect to disclose discovered data errors to clients.

With the increased use of technologies to conduct business, FMR and its affiliates are susceptible to operational, information security and related risks. For example, computer, communications, data processing, networks, backup, business continuity or other operating, information or technology systems, including those outsourced to other providers, may fail to operate properly or become disabled, overloaded or damaged as a result of a number of factors. These factors could include events that are wholly or partially beyond our control and may have a negative effect on our ability to conduct business activities. We believe that we have taken reasonable steps to mitigate these risks, but do not believe that we can eliminate them altogether. In general, cyber incidents can result from deliberate attacks or unintentional events and may arise from external or internal sources. Cyber-attacks include, but are not limited to, gaining unauthorized access to digital systems (e.g., through "hacking" or malicious software coding) for purposes of misappropriating assets or sensitive information; corrupting data, equipment or systems; or causing operational disruption. Cyber-attacks may also be carried out in a manner that does not require gaining unauthorized access, such as causing denial-of-service attacks on websites (i.e., efforts to make network services unavailable to intended users). Cyber incidents affecting FMR, its affiliates, or any other service providers (including, but not limited to, accountants, custodians, transfer agents and financial intermediaries used by a fund or account) have the ability to cause disruptions and impact business operations, potentially resulting in financial losses, interference with the ability to calculate NAV, impediments to trading, the inability to transact business, destruction to equipment and systems, violations of applicable privacy and other laws, regulatory fines, penalties, reputational damage, reimbursement or other compensation costs, or additional compliance costs. Similar adverse consequences could result from cyber incidents affecting issuers of securities in which a fund or account invests, counterparties with which a fund or account engages in transactions, governmental and other regulatory authorities, exchange and other financial market operators, banks, brokers, dealers, insurance companies and other financial institutions (including financial intermediaries and service providers) and other parties.

Non-Discretionary Advisory Services
Model portfolios provided to FIWA are constructed by FMR using various methodologies, including fundamental and quantitative analysis using parameters determined by FIWA. The various model portfolios are designed to implement strategies keyed to specified fixed income/equity allocation options based on parameters determined by FIWA. Model portfolios consist of individual stocks or in the case of certain models, mutual funds and/or ETFs, including Fidelity Model Portfolio Funds. The funds used in the model portfolios represent only a subset of all mutual funds and ETFs. As a result, the investment performance of such model portfolios is driven by the performance of such underlying mutual funds or ETFs and the portfolios may have limitations on their ability to optimize tax, diversification and other factors or otherwise hedge risk. Each mutual fund and/or ETF included in the model portfolios bears the risks as described in that fund's registration statement. Equity and fixed income securities included in model portfolios include securities in various markets, including the U.S. and foreign markets, which are subject to the risks described above.

FMR is not acting as investment adviser or portfolio manager with respect to the model portfolios provided to FIWA. FIWA has discretion to implement the models provided by FMR or to make modifications as it deems appropriate. FMR could provide a similar model portfolio or manage accounts using a similar investment strategy for its other clients and could provide the model to such accounts or clients prior to providing it to FIWA. At any time, FIWA can determine to no longer receive model portfolios from FMR, in which case FIWA can engage another investment firm to provide a model portfolio. FIWA has designed investment guidelines for the Model Portfolios delivered by FMR. These guidelines can change from time to time. Please see FIWA's Fidelity Model Portfolio Solutions Form ADV Brochure for information about FIWA's model portfolio services and the risks associated with investing in such portfolios.

8. Disciplinary Information

There are no legal or disciplinary events that are material to the evaluation of FMR's business or the integrity of its management.

9. Other Financial Industry Activities and Affiliations

Broker-Dealers
FMR has relationships or arrangements with the following broker-dealers:

Fidelity Distributors Company LLC ("FDC LLC"), a wholly-owned subsidiary of Fidelity Global Brokerage Group, Inc., is the principal underwriter and general distributor of shares in the Fidelity family of registered, open-end management investment companies and Fidelity exchange-traded funds. FDC LLC markets products such as mutual funds, ETFs, private funds, and commingled pools advised by FMR, its affiliates, or certain unaffiliated advisers to certain third-party financial intermediaries and institutional investors. On behalf of certain FDC LLC investment advisor affiliates, FDC LLC also solicits intermediaries, institutions and governmental entities who are interested in purchasing investment advisory services directly or for their clients. FDC LLC is a registered broker-dealer under the Securities Exchange Act of 1934 ("Exchange Act").

Fidelity Brokerage Services LLC ("FBS"), a wholly-owned subsidiary of Fidelity Global Brokerage Group, Inc., is a registered broker-dealer under the Exchange Act, and provides brokerage products and services including the sale of shares of investment companies advised by FMR to individuals and institutions including retirement plans administered by affiliates. Pursuant to referral agreements and for compensation, representatives of FBS refer customers to various services offered by FBS's related persons. In addition, FBS is the distributor of insurance products, including variable annuities, which are issued by FMR's related persons, Fidelity Investments Life Insurance Company ("FILI") and Empire Fidelity Investments Life Insurance Company ("EFILI"). FBS provides shareholder services to certain of FMR's or FMR's affiliates' clients.

Fidelity Global Brokerage Group, Inc. ("FGBG"), a wholly-owned subsidiary of FMR LLC, wholly-owns six broker-dealers: Fidelity Brokerage Services LLC, National Financial Services LLC, Fidelity Distributors Company LLC, Fidelity Prime Financing LLC, Digital Brokerage Services LLC and Green Pier Fintech LLC. FGBG and FMR Sakura Holdings, Inc., both wholly-owned subsidiaries of FMR LLC, along with other third-party members, also have membership interests in Kezar Markets, LLC. Transactions for clients of FMR or other entities for which FMR serves as adviser or sub-adviser or provides discretionary trading services, as well as clients of FMR's affiliates, are executed through two alternative trading systems, the Level ATS and Luminex ATS, both operated by Kezar Trading, LLC, a wholly-owned subsidiary of Kezar Markets, LLC.

Digital Brokerage Services LLC ("DBS"), a wholly owned subsidiary of Fidelity Global Brokerage Group Inc., is a registered broker-dealer under the Exchange Act. DBS operates a primarily digital/mobile application- based brokerage platform, which enables retail investors to open brokerage accounts via the mobile application and purchase and sell equity securities, including shares of investment companies advised by FMR. DBS receives remuneration from FMR for expenses incurred in servicing and marketing FMR products.

National Financial Services LLC ("NFS") is a registered broker-dealer under the Exchange Act and is a fully disclosed clearing broker-dealer. As such, NFS provides clearing, settlement, and execution services for other broker-dealers, including its affiliate Fidelity Brokerage Services. Fidelity Capital Markets ("FCM") is a division of NFS which provides trade executions for FMR and other advisory clients. Additionally, FCM operates CrossStream, an alternative trading system that allows orders submitted by its subscribers to be crossed against orders submitted by other subscribers. CrossStream is used to execute transactions for FMR or FMR's affiliates' investment company and other advisory clients. NFS provides transfer agent or sub transfer agent services and other custodial services to certain of FMR's or FMR's affiliates' clients. NFS also provides securities lending services to certain of FMR's or FMR's affiliates' clients. NFS is a wholly- owned subsidiary of Fidelity Global Brokerage Group Inc., a holding company that provides certain administrative services to NFS and other affiliates.

Kezar Trading, LLC, a registered broker-dealer and operator of alternative trading systems ("ATS"), operates the Luminex ATS and the Level ATS, which allow orders submitted by its subscribers to be crossed against orders submitted by other subscribers. Kezar Trading, LLC is a wholly owned subsidiary of Kezar Markets, LLC. FGBG and FMR Sakura Holdings, Inc., both wholly owned subsidiaries of FMR LLC, along with other third-party members, have membership interests in Kezar Markets, LLC. Kezar Trading, LLC charges a commission to both sides of each trade executed in the Luminex ATS and Level ATS. The Luminex ATS and Level ATS are used to execute transactions for FMR's or FMR's affiliates' investment company and other advisory clients. NFS serves as a clearing agent for FMR transactions executed in the Luminex ATS and Level ATS.

FMR is authorized to place portfolio transactions with FCM and use CrossStream, an ATS operated by NFS, as well as Luminex ATS and Level ATS, which are operated by Kezar Trading, LLC, if it reasonably believes the quality of the transaction is comparable to what it would be with other qualified broker-dealers. In addition, FMR places client trades with broker-dealers that use NFS or FCC as a clearing agent.

In all cases, transactions executed by affiliated brokers on behalf of registered investment company clients are effected in accordance with Rule 17e-1 under the Investment Company Act of 1940 (the "1940 Act"), and procedures approved by the Trustees of FMR's or its affiliates' clients in the Fidelity group of funds.

FCM and Kezar Trading, LLC cross transactions on an agency basis between clients of FMR or its affiliates, including investment company clients, non-investment company clients, and other non-advisory clients (agency cross transactions), as permitted by applicable rules and regulations. Such transactions will be executed, to the extent required by law, in accordance with (i) Rule 206(3)-2 under the Advisers Act, requiring written consent, confirmations of transactions and annual reporting, and (ii) procedures adopted by the Board of Trustees of FMR's or FMR's affiliates' clients in the Fidelity group of funds pursuant to Rule 17e-1 under the 1940 Act.

Conflicts of interest that arise from dealings with affiliated brokers are governed by various policies adopted by the Fidelity Funds Boards of Trustees. For example, Section 10(f) of the 1940 Act is intended to prevent affiliated underwriters from "dumping" undesirable securities on funds or otherwise using fund purchases to benefit the underwriting syndicate. In accordance with Rule 10f-3, the Fidelity Funds Boards of Trustees have adopted procedures by which the funds are permitted to purchase securities in offerings for which FCM acts as a principal underwriter, provided that certain conditions are satisfied.

Additionally, Section 17(a) prevents affiliated brokers on their own behalf from selling securities to or buying securities from the funds, except to the extent allowed by law, to prevent those affiliated brokers from taking advantage of the funds. The Fidelity Funds Boards of Trustees have adopted policies and procedures preventing affiliated brokers from engaging in such transactions, except to the extent allowed by law. Furthermore, Section 17(e) prevents affiliated brokers from charging excessive fees for transactions on behalf of the funds. Under Rule 17e-1, affiliated brokers are permitted to receive a "usual and customary brokerage commission" in connection with transactions effected on a securities exchange, and the Rule 17e-1 procedures adopted by the Fidelity Funds Boards of Trustees ensure that the fees do not exceed the usual and customary requirements.

In certain circumstances, trades are executed through alternative trading systems or national securities exchanges in which FMR or its affiliates have an interest. Any decision to execute a trade through an alternative trading system or exchange in which FMR or its affiliates have an interest would be made in accordance with applicable law, including best execution obligations. For trades placed on such a system or exchange, not limited to ones in which FMR or its affiliates have an ownership interest, FMR or its affiliates derive benefit in the form of increased valuation(s) of its equity interest, where it has an ownership interest, or other remuneration, including rebates.

Securities Lending Agent

NFS provides securities lending services to the Fidelity group of funds and certain other client accounts (lending accounts) that are advised by FMR or FMR's affiliates under a securities lending agency agreement subject to a flat fee arrangement and a limit, or cap, on total daily compensation. An economic incentive exists for NFS to increase the amount of securities out on loan to generate income equal to the daily cap; however, FMR, not NFS, determines daily the securities that are eligible to participate in the securities lending program. NFS has established policies and procedures designed to help ensure that the information NFS receives about the lending accounts in its capacity as securities lending agent is used solely in connection with the agency securities lending program and is not accessed by trading personnel who effect transactions in NFS proprietary accounts or in the accounts of NFS's other clients.

NFS also borrows securities from the Fidelity group of funds pursuant to SEC exemptive relief. NFS uses automated third-party software to allocate loans to a pre-approved list of borrowers provided by FMR or an affiliate to help ensure the fair allocation of lending opportunities between NFS and other borrowers. The above referenced policies and procedures help ensure that the information NFS receives in its capacity as securities lending agent is not used by NFS in its role as borrower.

If a borrower in a securities loan defaults, NFS would indemnify a lending account to the extent that the collateral deposited by the borrower is insufficient to make the lending account whole, which subjects NFS to collateral shortfall risk ("shortfall risk"). Management of the shortfall risk creates an incentive for NFS to limit the amount of securities lending activity NFS conducts on behalf of the lending accounts, which has the potential to reduce the volume of lending opportunities for certain types of loans. FMR has established policies and procedures that provide for FMR or its affiliates, as applicable, to compare loans entered into by NFS on behalf of the lending accounts with opportunities for securities loans that NFS passed over. Missed opportunities will be evaluated by FMR or its affiliates, as applicable, and reviewed with NFS. NFS has purchased insurance to mitigate shortfall risk.

Investment Companies
FMR provides portfolio management services for several investment companies, including investment companies in the Fidelity group of funds. FMR disclaims that it is a related person of the investment companies for which it provides investment management services.

Other Investment Advisers
FMR or its affiliates have relationships or arrangements with the following investment advisers:

FMR Investment Management (UK) Limited ("FMR UK"), an indirect wholly-owned subsidiary of FMR, is registered as an investment adviser under the Advisers Act and is authorized by the U.K. Financial Conduct Authority to provide investment advisory and portfolio management services. FMR UK provides investment advisory and portfolio management services as a sub-adviser to certain of FMR's clients, including investment companies in the Fidelity group of funds, and provides trading services to FMR and its affiliates. FMR UK provides portfolio management services as an adviser or sub-adviser to clients of other affiliated and unaffiliated advisers. FMR UK is also authorized to undertake insurance mediation as part of its benefits consulting business. FMR UK is also registered with the Central Bank of Ireland.

Fidelity Management & Research (Japan) Limited ("FMR (Japan)"), a direct wholly-owned subsidiary of FMR, is a registered investment adviser under the Advisers Act and is authorized by the Japan Financial Services Agency (Kanto Local Finance Bureau) to provide investment advisory and discretionary investment management services. FMR (Japan) supplies investment research and investment advisory information and provides discretionary investment management services to certain clients of FMR and its affiliates, including investment companies in the Fidelity group of funds, and to clients of other affiliated and unaffiliated advisers.

Fidelity Management & Research (Hong Kong) Limited ("FMR (Hong Kong)"), a wholly- owned subsidiary of FMR, is a registered investment adviser under the Advisers Act and is authorized by the Hong Kong Securities and Futures Commission to advise on securities, dealing in futures contracts, provide asset management services, and conduct trading services. FMR (Hong Kong) provides investment advisory or portfolio management services as a sub-adviser with respect to certain clients of FMR and its affiliates, including investment companies in the Fidelity group of funds, and provides trading services to FMR and its affiliates. FMR (Hong Kong) provides portfolio management services as an adviser or sub-adviser to clients of other affiliated and unaffiliated advisers.

Fidelity Personal and Workplace Advisors LLC (“FPWA”), a wholly-owned subsidiary of Fidelity Advisory Holdings LLC, which in turn is wholly-owned by FMR LLC, is a registered investment adviser under the Advisers Act. FPWA provides non-discretionary investment management services and serves as the sponsor of investment advisory programs. FMR acts as sub-advisor to FPWA in providing discretionary portfolio management services to certain FPWA client accounts.

Fidelity Institutional Wealth Adviser LLC (“FIWA”), a wholly-owned subsidiary of FMR LLC, is a registered investment adviser under the Advisers Act. FIWA provides investment management services and is sponsor of the Fidelity Managed Account Xchange program and platform provider for the Fidelity Managed Account Xchange Essentials (“FMAX Essentials”) program.

FMR acts as sub-advisor to FIWA in providing discretionary portfolio management services to Fidelity Institutional Custom SMAs. FMR also provides model portfolio construction services to FIWA in connection with FIWA’s services to its intermediary clients and FIWA compensates FMR for such services.

Strategic Advisers LLC (“Strategic Advisers”) is a wholly-owned subsidiary of Fidelity Advisory Holdings LLC, which in turn is wholly-owned by FMR LLC, and is a registered investment adviser under the Advisers Act. Strategic Advisers provides discretionary and non-discretionary advisory services and acts as the investment manager to registered investment companies that invest in affiliated and unaffiliated funds and as sub-adviser to various retail accounts, including separately managed accounts. Strategic Advisers acts as sub-advisor to FPWA in providing discretionary portfolio management services to certain FPWA client accounts and assists FPWA in evaluating other sub-advisors. FMR provides model portfolio construction services to Strategic Advisers in connection with Strategic Advisers’ provision of discretionary portfolio management services to certain clients. Strategic Advisers is registered with the CFTC as a commodity pool operator and is a member of the NFA.

FIAM LLC (“FIAM”) is a wholly-owned subsidiary of FIAM Holdings LLC, which in turn is wholly-owned by FMR LLC, and provides investment management services, including sub-advisory services to FMR or its affiliates. FIAM is a registered investment adviser under the Advisers Act. FIAM is also registered with the Central Bank of Ireland.

Ballyrock Investment Advisors LLC (“Ballyrock”) is a wholly-owned subsidiary of FMR LLC, and is registered as an investment adviser under the Advisers Act. Ballyrock provides investment advisory services to collateralized loan obligation (“CLO”) issuers, with a focus on investments in high yield debt securities, primarily including bank loans. FMR or its affiliates provides portfolio management services as a sub-adviser to clients of Ballyrock.

Impresa Management LLC (“Impresa”) is owned by trusts, the trustees of which are individuals, certain of whom are employees of FMR LLC. Impresa is a registered investment adviser under the Advisers Act and serves as (i) an investment adviser and general partner or manager for certain limited partnerships or limited liability companies (the “Investor Entities”); and (ii) an investment adviser and/or the ultimate general partner or manager (either directly or indirectly through subsidiary entities) to certain collective investment entities in which the Investor Entities invest and to funds or other special purpose vehicles that co-invest or hold investments alongside such collective investment vehicles. Impresa also provides investment advisory services as an adviser to other affiliated entities or sub-adviser to other affiliated or unaffiliated entities. Impresa generally invests, on behalf of its clients, in securities of private companies, purchased and sold in privately negotiated transactions, and generally does not purchase publicly traded securities. From time to time, Impresa clients acquire or hold publicly traded securities as a result of a private portfolio company’s initial public offering, the purchase of additional securities in such an initial public offering or through the acquisition of a portfolio company by a public company. Impresa from time to time invests in less established or early-stage companies, as well as later-stage private companies. For more information regarding conflicts of interests relating to proprietary trading, see “Code of Ethics, Participation or Interest in Client Transactions and Personal Trading" section herein.

Fidelity Diversifying Solutions LLC (FDS) is a wholly owned subsidiary of FMR LLC and a registered investment adviser under the Advisers Act. FDS is registered with the U.S. Commodity Futures Trading Commission (the "CFTC") under the Commodity Exchange Act of 1936, as amended (the "CEA"), as a commodity pool operator ("CPO") and a commodity trading adviser ("CTA"). FDS is a member of the National Futures Association (the "NFA"). FDS provides portfolio management services as an adviser and, where required, a CPO to registered investment companies, unregistered investment companies (private funds), business development companies ("BDCs") and separately managed accounts.

Fidelity Management & Research (Canada) ULC ("FMR-Canada") is an indirect wholly- owned subsidiary of FMR. FMR-Canada is registered as a portfolio manager and commodity trading manager with the Ontario Securities Commission. FMR-Canada provides portfolio management services as a sub-adviser to certain of FMR's and its affiliates' clients.

FMR or its affiliates provide certain investment management personnel to or use the investment management personnel of certain of the foregoing investment advisors under personnel sharing arrangements or other inter-company agreements. In addition, FMR or its affiliates provide certain administrative services to certain of the foregoing investment advisers, including, but not limited to, securities and derivatives trade execution, investment compliance and proxy voting.

Banking or Thrift Institutions
FMR or its affiliates have relationships or arrangements with the following banking and trust institutions:
Fidelity Management Trust Company ("FMTC"), a limited-purpose trust company organized and operating under the laws of The Commonwealth of Massachusetts, provides non-discretionary trustee and custodial services to employee benefit plans and IRAs through which individuals invest in mutual funds managed by FMR or its affiliates, and discretionary investment management services to institutional clients and acts as trustee and investment manager of collective investment trusts. FMR or its affiliates provide portfolio management services as a sub-adviser to certain of FMTC's clients. FMTC is a wholly-owned subsidiary of FMR LLC.

Fidelity Personal Trust Company, FSB ("FPTC") is a federal savings bank that offers fiduciary services to its customers that include trustee or co-trustee services, custody, principal and income accounting, investment management services, and recordkeeping and administration. FPTC is a wholly owned subsidiary of Fidelity Thrift Holding Company, Inc., which in turn is wholly owned by FMR LLC.

Fidelity Institutional Asset Management Trust Company ("FIAM TC"), a non-depository trust company organized under the laws of the State of New Hampshire, provides investment management services principally for institutional clients, including employee benefit plans and acts as trustee and investment manager of collective investment trusts. FIAM TC is a wholly-owned subsidiary of FIAM Holdings LLC, which in turn is wholly-owned by FMR LLC.

FMR or its affiliates provide certain investment management personnel to certain of the foregoing banking and trust institutions under personnel sharing arrangements or other inter-company agreements. In addition, FMR or its affiliates provide certain administrative services to certain of the foregoing banking and trust institutions, including, but not limited to, securities and derivatives trade execution, investment compliance and proxy voting.

Insurance Companies or Agencies
FMR or its affiliates have relationships or arrangements with the following insurance companies and agency:

Fidelity Investments Life Insurance Company ("FILI"), a wholly-owned subsidiary of FMR LLC, is engaged in the distribution and issuance of life insurance and annuity products that may offer shares of investment companies managed by FMR or its affiliates.

Empire Fidelity Investments Life Insurance Company (“EFILI”), a wholly-owned subsidiary of FILI, is engaged in the distribution and issuance of life insurance and annuity products that may offer shares of investment companies managed by FMR or its affiliates to residents of New York.

Fidelity Insurance Agency, Inc., a wholly-owned subsidiary of FMR LLC, is engaged in the business of selling life insurance and annuity products of affiliated and unaffiliated insurance companies.

Fidelity Health Insurance Services LLC, a wholly owned subsidiary of FMR LLC, is an insurance licensed business entity (agency) under which certain workplace and individual insurance-related product and services are offered or sold. Product and services include Medicare-related products sold to individuals and employer-offered benefits such as broker/agent for certain group health plans, retiree transition to Medicare, and voluntary/optional insurance coverage.

Soteria Reinsurance Ltd (“Soteria Re”) is owned directly by Soteria Reinsurance Holdings, LLC which itself is a 100% owned subsidiary of FMR LLC. Soteria Re is a recently incorporated Bermuda exempted company. Soteria Re will focus on reinsurance of US retail annuities and other investment-oriented insurance products underwritten by Fidelity Investment Life Insurance Company (FILI).

Participating Affiliates
Fidelity Business Services India Private Limited (“FBS India”), with its registered office in Bangalore, is incorporated under the laws of India and is ultimately owned by FMR LLC through certain of its respective direct or indirect subsidiaries. Certain employees of FBS India (FBS India Associated Employees) from time to time provide certain research services for FMR and its affiliates, which FMR and its affiliates may use for their U.S. clients.

FBS India is not registered as an investment adviser under the Advisers Act and is deemed to be a “Participating Affiliate” (as this term has been used by the SEC’s Division of Investment Management in various no-action letters granting relief from the Advisers Act’s registration requirements for certain affiliates of registered investment advisers) of FMR. FMR deems FBS India and certain of its employees as associated persons within the meaning of Section 202(a)(17) of the Advisers Act, because FBS India, through such employees, contribute to FMR’s research process and may have access to information concerning which securities are being recommended to FMR’s U.S. clients prior to the effective dissemination of such recommendations. FBS India also provides certain affiliates of FMR with certain research relating to securities that are the subject of research it provides to FMR. As a Participating Affiliate of FMR, FBS India has agreed to submit itself to the jurisdiction of United States courts for actions arising under U.S. securities laws in connection with investment advisory activities conducted for FMR’s U.S. clients. FMR maintains a list of the employees of FBS India whom it has deemed associated persons, which it will make available to current and prospective U.S. clients upon request.

10. Code of Ethics, Participation or Interest in Client Transactions and Personal Trading

Code of Ethics
From time to time, FMR purchases or sells for the accounts of clients securities in which FMR or its affiliates’ in-house accounts (including institutional accounts), affiliates, directors, officers or employees have a position. This situation results, in part, from the breadth of securities purchased by FMR’s or its affiliates’ varied clients and from FMR’s and its affiliates’ personnel being permitted to invest in securities for their personal accounts. The conflicts of interest involved in such transactions are governed by FMR's Code of Ethics for Personal Investing (the “Code”), which has been adopted and approved by the Board of Trustees of FMR’s or its affiliates’ investment company clients in the Fidelity group of funds in accordance with Rule 17j-1 under the 1940 Act, and which incorporates the Adviser’s Code of Ethics (“Adviser’s Code”) adopted in accordance with Rule 204A-1 under the Advisers Act.

The Code applies to officers, directors, and employees (including certain contractors) of FMR, and certain employees of its affiliates (“Advisory Personnel”) and requires that they place the interests of FMR's clients above their own. The Code establishes securities transactions requirements for all Advisory Personnel and their covered persons, including their spouses. More specifically, the Code: (i) requires that Advisory

Personnel and their covered persons move their covered accounts to FBS unless an exception exists or prior approval is obtained; (ii) requires pre-clearance of transactions in covered securities with limited exceptions; (iii) requires reporting of transactions in covered securities on a quarterly basis with limited exceptions; (iv) requires reporting of securities accounts and holdings of covered securities at the time of hire and annually thereafter; (v) prohibits personal trading by a portfolio manager within seven days before or after a trade in any covered security of the same issuer by a fund managed by such portfolio manager except in limited circumstances; (vi) prohibits purchases of securities in initial public offerings unless an exception has been approved; (vii) restricts the selling short of a covered security; (viii) prohibits investments in limited offerings without prior approval; and (ix) requires disgorgement of profits from short-term transactions with limited exceptions. Violation of the Code's requirements may also result in the imposition of remedial action, including termination.

In addition, the Adviser's Code, as incorporated in the Code: (1) describes the fiduciary duty Advisory Personnel have to FMR's clients; (2) requires Advisory Personnel of FMR to comply with federal securities laws; (3) requires certain Advisory Personnel of FMR to report, and for FMR to review, such Advisory Personnel's and their covered persons' mutual fund share transactions and holdings periodically (core money market funds excepted) for funds advised by FMR or an affiliate and certain other funds specified in the Adviser's Code; (4) requires Advisory Personnel of FMR to report any violations of the Code to FMR's Ethics Office; and (5) requires FMR to provide each Advisory Personnel with a copy of the Code and any amendments, and requires Advisory Personnel to acknowledge their receipt and understanding of the Code.

FMR will provide a copy of its Adviser's Code, as integrated into the Code, to any client or prospective client upon request.

Conflicts of Interest
In certain instances, the purchase or sale of securities for the accounts of clients is restricted in connection with distributions of securities where FMR, its affiliates or their clients are proposing to act as selling shareholders in the distribution. Any such activity is evaluated in accordance with Regulation M under the Exchange Act, the 1940 Act and other applicable rules and regulations and from time-to-time results in restrictions on the ability of client accounts to purchase or sell in the distribution and/or in the secondary market. From time to time, FCM, a division of NFS, an affiliated broker-dealer of FMR, acts as a selling agent or principal underwriter in underwritings of municipal, equity or other securities which FMR recommends to clients. The Trustees of FMR's or its affiliates' mutual fund clients in the Fidelity group of funds evaluate any such activity by FMR in accordance with Rule 10f-3 under the 1940 Act and procedures adopted pursuant to Rule 10f-3.

A conflict of interest situation is presented when a portfolio manager considers investing a client account in securities of an issuer in which FMR, its affiliates or their (or their fund clients') respective directors, officers or employees already hold a significant position for their own account, including positions held indirectly through certain funds or accounts managed by FMR or one of its affiliated advisers (collectively, "Proprietary Accounts"). Because the 1940 Act, as well as other applicable laws and regulations, restrict certain transactions between affiliated entities or between an advisor and its clients, client accounts managed by FMR or its affiliates, including accounts sub-advised by third parties, are, in certain circumstances, prohibited from participating in offerings of such securities (including initial public offerings and other offerings occurring before or after an issuer's initial public offering) or acquiring such securities in the secondary market. For example, ownership of a company by the Investor Entities advised by Impresa or other Proprietary Accounts has, in certain situations, resulted in restrictions on FMR's and its affiliates' client accounts' ability to acquire securities in the company's initial public offering and subsequent public offerings, private offerings, and in the secondary market, and additional restrictions could arise in the future; to the extent such client accounts acquire the relevant securities after such restrictions are subsequently lifted, the delay could affect the price at which the securities are acquired. A conflict of interest situation is presented when FMR or its affiliates acquire, on behalf of their client accounts, securities of the same issuers whose securities are already held in Proprietary Accounts, because such investments could have the effect of increasing or supporting the value of the Proprietary Accounts. A conflict of interest situation also arises when FMR investment advisory personnel consider whether client accounts they manage should invest in an investment opportunity that they know is also being considered by an affiliate of FMR for a Proprietary Account, to the extent that not investing on behalf of such client accounts improves the ability of the Proprietary Account to take advantage of the opportunity. FMR has adopted policies and procedures and maintains a compliance program designed to help manage such actual and potential conflicts of interest.

A conflict of interest situation is also presented if an account's orders for the purchase or sale of securities do not get fully executed due to being aggregated with those of other accounts managed by FMR or an affiliate, including FMR's or its affiliates' in-house accounts. FMR has adopted policies and procedures (for example, trade allocation procedures) and maintains a compliance program designed to help manage these actual and potential conflicts. There can be no assurance, however, that all conflicts have been addressed in all situations. Trading in personal accounts, which gives rise to actual and potential conflicts of interest, is subject to certain restrictions by the Code.

From time-to-time, in connection with its business, FMR obtains material, non-public information. In compliance with applicable laws, FMR has adopted a comprehensive set of policies and procedures that prohibit the use of material, non-public information by investment professionals and other employees. FMR also has procedures addressing the use of third-party paid research consultants.

In addition, FMR has implemented a Corporate Gifts & Entertainment Policy intended to set standards for business entertainment and the giving or receiving of gifts, help employees make sound decisions with respect to these activities, and ensure that the interests of FMR's clients come first. Similarly, to support compliance with applicable "pay-to-play" rules, FMR has implemented a Personal Political Contributions & Activities Policy which requires employees to pre-clear political contributions and activities. FMR also has a Global Anti-Corruption Policy regarding commercial bribery and bribery of government officials that prohibits directly or indirectly giving, offering, authorizing, promising, accepting, or receiving any bribe, facilitation payment, kickback, or payoff (whether in cash or any other form) with the intent to improperly obtain or retain business or any improper advantage.

11. Brokerage Practices

Selection of Brokers and Dealers to Effect Client Transactions

Discretionary Advisory Services
FMR or its affiliates generally have authority to select brokers (whether acting as a broker or a dealer) to place or execute clients' portfolio securities transactions. FMR or its affiliates are responsible for the placement of portfolio securities transactions for certain client accounts for which an affiliate or related person has investment discretion. In selecting a broker or dealer for a specific securities transaction, FMR or its affiliates evaluate a variety of criteria and use good faith judgment in seeking to obtain execution of portfolio securities transactions at commissions or costs that are reasonable in relation to the brokerage and research services provided, where allowed under applicable law.

In selecting broker-dealers ("brokers"), including affiliates of FMR, to execute client portfolio securities transactions, FMR or its affiliates consider the factors they deem relevant in the context of a particular trade and in regard to FMR's or its affiliates' overall responsibilities with respect to the fund and other investment accounts including any instructions from the client's portfolio manager, which may emphasize, for example, speed of execution over other factors. Based on the factors considered, FMR or its affiliates may choose to execute an order using electronic channels, including broker- sponsored algorithms, internal crossing, or by verbally working an order with one or more brokers. Other possibly relevant factors include, but are not limited to, the following: price; costs; the size, nature and type of the order; speed of execution; financial condition and reputation of the broker; broker specific considerations (e.g., not all brokers are able to execute all types of trades); broker willingness to commit capital; the nature and characteristics of the markets in which the security is traded; the trader's assessment of whether and how closely the broker likely will follow the trader's instructions to the broker; confidentiality and the potential for information leakage; the nature or existence of post-trade clearing, settlement, custody and currency convertibility mechanisms; and the provision of brokerage and research products and services, if applicable and where allowed by law.

FMR places ETP and individual security transactions for execution with its affiliate NFS, through FCM, when FMR reasonably believes that the quality of the execution of the transaction is comparable to what could be obtained through other qualified broker- dealers. NFS transmits orders received for execution through FCM to various exchanges or market centers based on a number of factors. These include the size of the order, trading characteristics of the security, favorable execution prices (including the opportunity for price improvement), access to reliable market data, availability of efficient automated transaction processing, and execution costs. Some market centers or broker-dealers execute orders at prices superior to the publicly quoted market prices. Where FMR directs the market center to which an order is routed, FBS or NFS will route the order to such market center in accordance with FMR's instructions without regard to its general order routing practices.

The trading desks through which FMR or its affiliates execute trades are instructed to execute portfolio transactions on behalf of their clients based on the quality of execution without any consideration of Research and Brokerage Services (as defined below) the broker or dealer provides. The administration of Research and Brokerage Services is managed separately from the trading desks, and traders have no responsibility for administering the research program, including the payment for research.

In seeking best execution for portfolio securities transactions, FMR or its affiliates from time to time select a broker that uses a trading method, including algorithmic trading, for which the broker charges a higher commission than its lowest available commission rate. FMR or its affiliates may also select brokers that charge more than the lowest commission rate available from another broker. Occasionally FMR or its affiliates execute an entire securities transaction with a broker and allocate all or a portion of the transaction and/or related commissions to a second broker where a client does not permit trading with an affiliate of FMR or in other limited situations. In those situations, the commission rate paid to the second broker may be higher than the commission rate paid to the executing broker. For futures transactions, the selection of a futures commission merchant is generally based on the overall quality of execution and other services provided by the futures commission merchant. FMR or its affiliates execute futures transactions verbally and electronically.

If FMR grants investment management authority to a sub-adviser, that sub-adviser will be authorized to provide the services described in the sub-advisory agreement. Furthermore, the sub-adviser's trading and associated policies, except for certain funds' Board-approved affiliated transaction policies, which may differ from FMR's policies, will apply to that fund or account, subject to applicable law.

Non-Discretionary Advisory Services
FMR does not execute transactions in connection with the provision of non-discretionary advisory services. In addition, FMR does not recommend or select broker- dealers for purposes of implementing any advice provided by FMR's affiliates with regard to, or through, the Fidelity Model Portfolios. Each Model Portfolio Intermediary and/or its underlying clients are responsible for determining whether and how to implement a particular Fidelity Model Portfolio, including with respect to broker-dealer selection.

Identification and Resolution of Errors
As an investment adviser, FMR maintains policies and procedures that address the identification and correction of errors consistent with applicable standards of care and clients' investment management agreements. To the extent that an error occurs, FMR's policy is to identify and resolve the error as promptly as possible. FMR will address and resolve errors on a case-by-case basis, in its discretion, based on each error's facts and circumstances. FMR is not obligated to follow any single method of resolving errors.

An incident is any occurrence or event that interrupts normal investment-related activities or that deviates from applicable law, the terms of an investment management agreement, or applicable internal or external policies or procedures. Incidents can occur at FMR or at one of FMR's service providers and can be identified by any of the same.

The determination of whether an incident constitutes an error is made by FMR in its sole discretion based on the relevant facts and circumstances of each incident considered in light of the applicable standard of care. Errors include, without limitation: (i) purchases or sales that exceed the amount of securities intended to trade for a fund or account; (ii) the purchase (or sale) of a security when it should have been sold (or purchased); (iii) the purchase or sale of a security not intended for the fund or account, and/or contrary to investment guidelines or restrictions; and (iv) incorrect allocations of trades.

Situations that generally would be considered by FMR to be incidents but not errors include, without limitation, (i) failure by a portfolio manager to provide timely notification of an incorrect purchase of a security although the security purchased was appropriate for the fund or account; (ii) passive or active breach of an internal fund or account-level limit; (iii) failure to update a portfolio manager in a timely manner regarding an increase in shares outstanding or additional room to buy for a security that had been at an aggregate limit; and (iv) external events, such as securities exchange outages. Other situations that result from failures in internal processes, people or systems, such as other routine processing errors or major systems failures, may be deemed to be incidents and not errors depending on the facts and circumstances. For example, computer, communications, data processing, networks, cloud computing, backup, business continuity or other operating, information or technology systems, including those FMR outsources to other providers, may fail to operate properly or become disabled, overloaded or damaged as a result of a number of factors. These factors could include events that are wholly or partially beyond FMR's control and may have a negative impact on our ability to conduct business activities. Though losses arising from operating, information or technology systems failures could adversely affect a client account's performance, such losses would likely not be reimbursable under FMR's policies.

Additionally, incidents involving fund and account monitoring or aggregate monitoring compliance violations may or may not be deemed by FMR to be errors depending on the facts and circumstances. For example, an active breach of a client mandate or regulatory limit (e.g., due to an acquisition of additional securities for an account) may be deemed to be an error and may be compensable depending on the particular circumstances, but a passive breach of such a limit (e.g., due to a reduction in the issuer's outstanding securities) would not be considered an error and would not be compensable. Active breaches of issuer or regulatory limits, including poison pill limits, may be deemed to be errors and may be compensable depending on the circumstances, but passive breaches generally will not. Further, a passive breach of an aggregate limit on holdings of a security established internally by FMR and its affiliates, and instances where all available aggregate capacity on a security is not fully utilized, generally are not considered errors and are not compensable, but an active breach of an internal aggregate limit may be deemed to be an error and compensable depending on the particular circumstances. To the extent that client accounts already own securities that directly or indirectly contribute to certain ownership thresholds being exceeded, FMR may sell securities held in such accounts to bring account-level and/or aggregate ownership below the relevant threshold. If any such sales result in losses for client accounts, those client accounts may bear such losses depending on the particular circumstances.

FMR is responsible for notifying FIWA, when appropriate, of any errors in a client account. FMR generally will not notify FIWA about incidents deemed not to be errors and non-compensable errors, unless otherwise agreed.

When FMR determines that reimbursement is appropriate, the account will be compensated as determined in good faith by FMR. Resolution of errors may include, but is not limited to, permitting client accounts to retain gains or reimbursing client accounts for losses resulting from the error. The calculation of the amount of any loss will depend on the facts and circumstances of the error, and the methodology used by FMR may vary. Unless prohibited by applicable regulation or a specific agreement with the client, FMR will net a client's gains and losses from the error or a series of related errors with the same root cause and compensate the client for the net loss. In general, compensation is expected to be limited to direct monetary losses and will not include any amounts that FMR deems to be speculative or uncertain, nor will it cover investment losses not caused by the error. FMR may elect to establish an error account for the resolution of errors which could be used depending on the facts and circumstances.

For Fidelity Institutional Custom SMAs, corrective action regarding an error could result in financial or other restitution to a client account or in inadvertent gains being reversed out of a client account.

Investment Research Products and Brokerage Services Furnished by Research Providers and Brokers

FMR and its affiliates have established policies and procedures relating to brokerage commission uses in compliance with Section 28(e) of the Exchange Act, the provisions of the 1940 Act, and various interpretations of the staff of the SEC thereunder, and with regard to FMR UK, where applicable, the revised Markets in Financial Instruments Directive in the European Union, commonly referred to as “MiFID II”, as implemented in the United Kingdom through the Conduct of Business Sourcebook Rules of the UK Financial Conduct Authority (the “FCA”).

Not all FMR client accounts consume the same Research and Brokerage Services. For example, the portfolio management team that is responsible for managing the Fidelity Institutional Custom SMAs will generate and consume research that is only eligible to be used by the Fidelity Institutional Custom SMAs. Such research will not be generated or paid for by using client commissions or soft dollar credits. For a full description of FMR’s policies and procedures that apply to FMR’s other clients when it uses brokerage commission to pay for research or services, please see FMR’s Form ADV Part 2A brochure.

Other Considerations and Brokerage Arrangements

Commission Recapture and Broker Restrictions

From time-to-time, FMR or its affiliates engage in brokerage transactions with brokers (who are not affiliates of FMR) who have entered into arrangements with FMR or its affiliates under which the broker will, at times, rebate a portion of the compensation paid by a client account (“commission recapture”). Not all brokers with whom the client account trades have been asked to participate in brokerage commission recapture.

FMR or its affiliates recommend that clients do not request them to direct client portfolio transactions to specific brokers. Clients may nonetheless make such requests, subject to FMR’s or its affiliates’ attempt to seek quality execution and provided that the broker is an approved counterparty of FMR or its affiliates. Clients should be aware that if they require FMR or its affiliates to direct portfolio transactions to specific brokers, or if clients restrict trading with specific brokers (for example, because of affiliations) (a) FMR or its affiliates may be unable to achieve most favorable execution of such directed or restricted broker transactions; (b) the client may pay higher brokerage commissions on such directed or restricted broker transactions because FMR or its affiliates may be unable to aggregate such transactions with other orders; and (c) the client may receive less favorable prices on such directed or restricted broker transactions.

Transactions with Certain Brokers

FMR or its affiliates place trades with certain brokers, including NFS and Kezar Trading, LLC, with whom they are under common control or otherwise affiliated, provided FMR or its affiliates determine that these affiliates' trade -execution abilities and costs are comparable to those of non-affiliated, qualified brokerage firms, and that such transactions be executed in accordance with applicable rules under the 1940 Act and procedures adopted by the Boards of Trustees or Directors (as applicable) of FMR’s clients in the Fidelity group of funds or FMR’s affiliates’ other clients and subject to other applicable law. Where FMR has engaged a sub-adviser for a fund or other client account, the sub-adviser will, at times, subject to applicable regulatory limitations, also place portfolio transactions with FMR’s affiliated broker-dealers.

In addition, from time to time, FMR or its affiliates place client trades with brokers that use NFS or FCC as a clearing agent.

Client trades placed by FMR or its affiliates are also executed through other alternative trading systems or exchanges in which FMR or its affiliates have an interest, such as Level ATS.

Transactions Among Clients

FMR or its affiliates execute transactions between mutual funds and other accounts they manage (either on an advisory or sub-advisory basis), as well as with certain other clients managed by their affiliates. Such transactions for clients in the Fidelity group of funds will be executed in accordance with applicable rules under the 1940 Act, the Advisers Act and procedures adopted by the Boards of Trustees or Directors (as applicable) of FMR’s or FMR’s affiliates’ clients in the Fidelity group of funds or other clients of FMR or its affiliates. FMR or its affiliates also execute transactions between other mutual fund and non-mutual fund clients, and such transactions will be executed in accordance with applicable rules under the Advisers Act and procedures adopted thereunder. When FMR or its affiliates engage in adviser cross transactions, where FMR or its affiliates directly effect an agency transaction between advisory clients without involving a broker, FMR or its affiliates will receive no compensation (other than its advisory fee), directly or indirectly, for the transaction.

Non-U.S. Securities Transactions

To facilitate trade settlement and related activities in non-U.S. securities transactions, FMR or its affiliates effect spot foreign currency transactions with foreign currency dealers. In certain circumstances, due to local law and regulation, logistical or operational challenges, or the process for settling securities transactions in certain markets (e.g., short settlement periods), spot currency transactions are effected on behalf of clients by parties other than FMR or its affiliates, including clients' custodian banks (working through sub-custodians or agents in the relevant non-U.S. jurisdiction) or broker-dealers that executed the related securities transaction.

For the Fidelity Institutional Custom SMAs, FMR effects foreign currency transactions with its affiliate FCM acting in a principal capacity.

Trade Allocation Policies

Bunched Trades

It is generally FMR's or its affiliates' practice, when appropriate, to combine or "bunch" orders of various accounts, including those of its clients, its affiliates' clients, and, in certain instances, proprietary accounts for order entry and execution. How orders are bunched is dependent on the trading desk that will effect the orders. Bunched orders are executed through one or more brokers. The allotment of trades among brokers is based on a variety of factors, which include price, order size, the time of order, the security and market activity. A bunched trade executed with a particular broker is generally allocated pro-rata among the accounts that are participating in the bunched trade until any account has been filled. After any account has been filled, the trade is allocated pro-rata among any remaining accounts. Each broker's execution of a bunched order will, at times, be at a price different than another broker's bunched order execution price for the same security. Additionally, as a result of accommodating the differing arrangements regarding the payment for research that is required by MiFID II, clients in a bunched trade will, at times, not pay a pro rata share of all costs associated with that bunched trade.

While the Fidelity Institutional Custom Equity SMAs are combined with one another for order entry and execution, they are not combined with any other FMR managed funds or accounts. The Fidelity Institutional Custom Fixed Income SMAs are combined with one another via an omnibus account and the omnibus account is traded alongside other Fixed Income accounts.

Allocation of Trades

FMR and its affiliates have established allocation policies for their various accounts (including proprietary accounts) and securities types (e.g., equity, fixed income and high income) to ensure allocations are appropriate given clients' differing investment objectives and other considerations. These policies also apply to initial and secondary offerings and to private security investments. When, in FMR's or its affiliates' opinion, the supply/demand is insufficient under the circumstances to satisfy all outstanding orders, across all securities types the amount executed generally is distributed among participating accounts based on account net asset size (for purchases) and security position size (for sales), or otherwise according to the allocation policies. With limited exceptions, the trading systems contain rules that allocate trades on an automated basis in accordance with these policies. Generally, any exceptions to FMR's and its affiliates' policies (i.e., special allocations) must be approved by senior trading and compliance personnel and documented.

The Fidelity Institutional Equity Custom SMAs are not combined with the orders of other accounts and follow their own unique policy to ensure allocations are appropriate given the investment objectives of these accounts. This policy applies to any offering in which the Fidelity Institutional Custom Equity SMAs may participate. When, in FMR's or its affiliates' opinion, the supply/demand is insufficient under the circumstances to satisfy all outstanding orders, across all securities types the amount executed generally is distributed among participating accounts pro rata based on the order size of each participating account. To the degree any proprietary account order is combined with the orders of the Fidelity Institutional Custom Equity SMAs, the client accounts will be allocated to first and only if their orders are completely filled will any residual shares be allocated to proprietary accounts. Generally, any exceptions to this policy (i.e., special allocations) must be approved by senior trading and compliance personnel and documented.

The Fidelity Institutional Custom Fixed Income SMAs are combined with one another via an omnibus account and the omnibus account is traded alongside other Fixed Income accounts. The process follows the standard Fixed Income allocation policy as described below.

FMR's and its affiliates' trade allocation policies identify circumstances under which it is appropriate to modify or deviate from the general allocation criteria and describe the alternate procedures. For allocations based on net assets, the trade allocation policies for each of equity, fixed income, and high income define the method of calculating net assets to be used depending on particular circumstances. The trade allocation policies define net assets generally by reference to each account's assets managed by each of the equity, fixed income, or high income divisions, and by reference to certain security and account types, such as high income, investment grade or equity securities and accounts, as summarized below;

Security and Account Type	**Equity Trading Desk**	**Fixed Income Trading Desk**	**High Income Trading Desk**
High Income	1%	1% (except 100% if buying High Income security on Fixed Income desk)	100%
Equity	100%	1%	1%
Fixed Income	1%	100%	1% (except 100% if buying Fixed Income security on High Income desk)

The high income trade allocation policy also defines net assets similarly for bank loan and real estate accounts when acquiring bank loan and real estate securities, respectively. The high income policy generally provides that 100% of a bank loan account's net assets, but only 10% of net assets for other types of high income accounts, will be taken into account when allocating bank loans. Conversely, the high income trade allocation policy generally provides that only 10% of a bank loan account's net assets will be taken into account when allocating high income securities other than bank loans.

What constitutes net assets differs for certain specialized accounts. For portfolios that raise capital through private offerings, the equity, high income, and fixed income trade allocation policies define net assets based on expected, secured, and/or funded capital, or a combination thereof, depending upon the stage of the portfolio's fundraising process. The high income policy defines net assets for collateralized loan obligation portfolios based on expected and total market exposure. Additionally, under the fixed income trade allocation policy, when defining what constitutes net assets for separately managed account (SMA) clients when trading alongside other client accounts, the assets of SMAs that follow similar investment strategies are grouped into an omnibus trading account, where that omnibus trading account is treated as a single portfolio for allocation purposes. After a retail SMA omnibus trading account receives an allocation of a purchase or sale of a security or other investment, such allocation will generally be further allocated among the SMAs participating in the account on a pro rata basis based on the final order size of each SMA.

Alternate allocation methods other than net asset size (for purchases) and security position size (for sales) are employed under certain circumstances, including for specialized strategies or alternative asset classes such as private equity and private real estate. The equity trade allocation policy allows for certain accounts designed to have common investment and trading strategies (e.g., one portfolio modeled on another portfolio) to receive allocations that would facilitate keeping the portfolios' holdings proportionately balanced. The fixed income trade allocation policy allows for several alternate allocation methods, in some cases only where the portfolio managers of all accounts involved in the allocation agree to the use of the alternate method(s) as follows:

- pro rata allocations based on the size of the accounts' orders;
- rotating investment opportunities among accounts that trade consistently on specific trading desks (e.g., taxable bond desks or money market desks);
- bunching securities or other investments that are deemed to be fungible and then allocating the bunched orders on a series basis so as to keep like-securities or other investments grouped together; and/or
- providing a priority allocation for trades the execution of which are contingent on the execution of other trades.

The fixed income trade allocation policy also provides for increased or priority allocations for accounts specializing in a particular type of security or other investment including the following:

- priority allocations for certain accounts for repurchase agreements;
- increased allocations of municipal securities to single state municipal money market and municipal bond accounts for obligations that are tax-exempt within their state; and
- a priority allocation of U.S. Treasury money market securities to Treasury-only money market accounts.

In addition, futures contracts are allocated based on order size.

All of the trade allocation policies generally provide for minimum allocations based on market-defined minimum denominations, or otherwise allow increased or decreased allocations in the following circumstances:

- to avoid a de minimis allocation
- to round to a trading round lot, or
- in the case of the high income trade allocation policy, to complete a sale of all holdings to avoid residual holdings in an amount less than a basic unit of trading.

Trade allocations are also impacted by various regulatory requirements depending on where the trade is executed and what types of accounts are included in the trade. In such circumstances, some accounts, at times, will be prioritized over others when supply/demand is insufficient. Client accounts receive priority of allocation over proprietary accounts. Accounts for which all the assets are those of FMR or its affiliates and are not otherwise used to seed new investment products or to meet potential claims of insurance policyholders are generally considered to be proprietary accounts. Accounts owned or managed for the benefit of individual employees of FMR or its affiliates or officers or trustees of various investment products are generally considered client accounts, subject to applicable law.

12. Review of Accounts

Discretionary Advisory Services

On a daily basis, FMR will evaluate Fidelity Institutional Custom SMAs with respect to a variety of factors to determine whether the account may benefit from trading that day. Common reasons clients experience trading in their accounts include changes in the model or index, market fluctuations, tax management opportunities, and client requested activities such as cash deposits or withdrawals. FMR does not anticipate that each Fidelity Institutional Custom SMA will be traded each day. Each of the securities purchased in an account will appear on a client's account statement. Securities selected for Fidelity Institutional Custom SMAs may be individually tailored based on a client's existing holdings and unique financial situation and, where applicable, on the tax attributes of the assets in an account. A client can expect that the securities that compose his or her Fidelity Institutional Custom SMA vary, perhaps significantly, from the securities purchased for another client's account managed using the same strategy. Clients may receive periodic performance summaries or similar reports that detail the performance of a client's Fidelity Institutional Custom SMA and summarize the market activity during the quarter. Industry standards are applied when calculating performance information. FIWA also makes account performance information for Fidelity Institutional Custom SMAs available to clients.

Non-Discretionary Advisory Services
With respect to FMR's model portfolio services, FMR reviews the model portfolios on a periodic basis, making adjustments as necessary in alignment with the mandate for any such portfolios. From time-to- time FMR, in its discretion, will provide more frequent updates, such as in times of market disruption or distress. FMR does not review the accounts of the underlying clients of the Model Portfolio Intermediaries that have chosen to use the Fidelity Model Portfolios. Each Model Portfolio Intermediary is responsible for reviewing its clients' portfolios on an individual basis, given the client's specific circumstances.

13. Client Referrals and Other Compensation

FMR does not have client referral arrangements.

14. Custody

FMR does not maintain custody for Fidelity Institutional Custom SMA clients' assets in connection with the discretionary portfolio management services it provides to such accounts. To participate in the Fidelity Institutional Custom SMAs, clients must establish and maintain a brokerage account with FBS, a registered broker-dealer and an affiliate of FIWA and FMR. NFS, an affiliate of FBS, FIWA and FMR, has custody of client assets and will perform certain account services, including the implementation of trading instructions, as well as custodial and related services. Certain personnel of FIWA, FMR, FBS, and NFS share premises and have common supervision. Clients should carefully review all statements and other communications received from FBS and NFS.

15. Investment Discretion

Discretionary Advisory Services
FMR's portfolio management services for Fidelity Institutional Custom SMAs include the discretionary authority to determine which securities to purchase or sell, the total amount of such purchases and sales, and the brokers or dealers through which transactions are effected in such accounts. Such discretionary authority is subject to certain limits, including each account's investment objectives and policies, regulatory constraints, and those investment restrictions that are imposed based on a client's request in accordance with applicable laws.

Fidelity Institutional Custom SMA clients may fund their account with cash, cash equivalents, and/or securities acceptable to FMR. These securities must be held free and clear of any liens, pledges, or other legal or contractual restrictions. At times, FMR will not accept individual securities that are generally used to fund an account due to regulatory restrictions or internal guidelines. FMR will determine, in its sole discretion, which securities will be eligible to be managed in a Fidelity Institutional Custom SMA. The Fidelity Institutional Custom SMA client is responsible for informing FIWA in writing of any restrictions on account investments. In the absence of such information or notification, FIWA and FMR take no responsibility to limit investments in such restricted securities.

Non-Discretionary Advisory Services
FMR does not exercise discretion in connection with its provision of non-discretionary advisory services, including the model portfolio services provided to its affiliates. Any decision as to whether and how to implement the non-discretionary advice provided by FMR's affiliates through the Fidelity Model Portfolios is made by the Model Portfolio Intermediary and/or its underlying client.

16. Voting Client Securities

Discretionary Advisory Services

When granted authority in its sub-advisory agreement with FIWA, FMR or its affiliates ("Fidelity") generally cast votes on behalf of client accounts by proxy at shareholder meetings of issuers in which Fidelity invests client assets. Fidelity has established formal written proxy voting guidelines ("Proxy Voting Guidelines") and sustainable proxy voting guidelines with respect to certain sustainable investing strategies, including the funds listed on the exhibit to those guidelines ("Sustainable Proxy Voting Guidelines," and together with the Proxy Voting Guidelines, the "Guidelines," unless otherwise noted). The Guidelines are designed to ensure that proxies on behalf of the Fidelity Funds or other client accounts, such as the Fidelity Institutional Custom SMAs (to the extent authorized by clients), are voted in a manner consistent with the best interests of shareholders. Fidelity has also adopted the Guidelines as part of its proxy voting policies and procedures in accordance with Rule 206(4)-6 under the Advisers Act.

Fidelity votes on behalf of the Fidelity Funds or client accounts (to the extent authorized by clients) in accordance with the Guidelines. The Boards of Trustees of the Fidelity Funds delegated to Fidelity the authority to vote shares owned by the Fidelity Funds in accordance with the Guidelines. Investment Proxy Research ("IPR") casts the votes on behalf of the Fidelity Funds.

In evaluating proxies, Fidelity considers factors that are financially material to individual companies and investing funds' or client accounts' investment objectives and strategies in support of maximizing long-term shareholder value. This includes considering the company's approach to financial, operational, human and natural capital and the impact of that approach on the potential future value of the business.

Fidelity will vote on proposals not specifically addressed by the Guidelines based on an evaluation of a proposal's likelihood to enhance the long-term economic returns or profitability of the company or to maximize long-term shareholder value.

Proposals Relating to Director Elections
Fidelity generally will support director nominees in elections where all directors are unopposed (uncontested elections), except where board composition or pay-related practices raise concerns, and/or where a director clearly appears to have failed to exercise reasonable judgment or otherwise failed to sufficiently protect the interests of shareholders. Fidelity will evaluate board composition and generally will oppose the election of certain or all directors if, by way of example: inside or affiliated directors serve on boards that are not composed of a majority of independent directors; there is no gender diversity on the board or if a board of ten or more members has fewer than two gender diverse directors; there are no racially or ethnically diverse directors; the director is a public company CEO who sits on more than two unaffiliated public company boards; or the director, other than a CEO, sits on more than five unaffiliated public company boards. Fidelity will evaluate board actions and generally will oppose the election of certain or all directors if, by way of example: the director attended fewer than 75% of the total number of meetings of the board and its committees on which the director served during the company's prior fiscal year, absent extenuating circumstances; the company made a commitment to modify a proposal or practice to conform to the Guidelines, and failed to act on that commitment; the company has not adequately addressed concerns communicated by Fidelity in the process of discussing executive compensation; the compensation appears misaligned with shareholder interests or is otherwise problematic and results in concerns with: the alignment of executive compensation and company performance relative to peers and the structure of the compensation program, including factors outlined in the Guidelines, or, within the last year, and without shareholder approval, a company's board of directors or compensation committee has either re-priced outstanding options, exchanged outstanding options for equity, tendered cash for outstanding options, or adopted or extended a golden parachute; or the board adopted or extended an anti-takeover provision without shareholder approval. Fidelity generally will support proposals calling for directors to be elected by a majority of votes cast if the proposal permits election by a plurality in the case of contested elections. Fidelity may oppose a majority voting shareholder proposal where a company's board has adopted a policy requiring the resignation of an incumbent director who fails to receive the support of a majority of the votes cast in an uncontested election.

Fidelity believes that strong management creates long-term shareholder value. As a result, Fidelity generally will vote in support of management of companies in which the Fidelity Funds' and other clients' assets are invested. Fidelity will vote its proxy on a case- by-case basis in a contested election (where directors are forced to compete for election against outside director nominees), taking into consideration a number of factors, among others: management's track record and strategic plan for enhancing shareholder value; the long-term performance of the company compared to its industry peers; and the qualifications of the shareholder's and management's nominees. Fidelity will vote for the outcome it believes has the best prospects for maximizing shareholder value over the long-term.

Proposals Relating to Executive Compensation

Fidelity generally will support proposals to ratify executive compensation unless such compensation appears misaligned with shareholder interests or is otherwise problematic, taking into account: (i) the actions taken by the board or compensation committee in the previous year, including whether the company repriced or exchanged outstanding stock options without shareholder approval; adopted or extended a golden parachute without shareholder approval; or adequately addressed concerns communicated by Fidelity in the process of discussing executive compensation; (ii) the alignment of executive compensation and company performance relative to peers; and (iii) the structure of the compensation program, including factors such as whether incentive plan metrics are appropriate, rigorous and transparent; whether the long-term element of the compensation program is evaluated over at least a three-year period; the sensitivity of pay to below median performance; the amount and nature of non- performance-based compensation; the justification and rationale behind paying discretionary bonuses; the use of stock ownership guidelines and amount of executive stock ownership; and how well elements of compensation are disclosed.

Proposals Relating to Equity Compensation Plans

The Guidelines generally oppose equity compensation plans or amendments to authorize additional shares under such plans if: the company grants stock options and equity awards in a given year at a rate higher than a benchmark rate ("burn rate") considered appropriate by Fidelity and there were no circumstances specific to the company or the compensation plans that led Fidelity to conclude that the rate of awards is otherwise acceptable; the plan includes an evergreen provision, which is a feature that provides for an automatic increase in the shares available for grant under an equity compensation plan on a regular basis; or the plan provides for the acceleration of vesting of equity compensation even though an actual change in control does not occur. As to stock option plans, considerations include the following: the Guidelines that support the pricing of options should be priced at 100% of fair market value on the date they are granted; the Guidelines generally oppose the pricing of options at a discount to the market, although the price may be as low as 85% of fair market value if the discount is expressly granted in lieu of salary or cash bonus; and the Guidelines generally oppose the re-pricing of underwater options (options with an exercise price that is higher than the current price of the stock) because it is not consistent with a policy of offering options as a form of long-term compensation. Fidelity also generally opposes a stock option plan if the board or compensation committee has repriced options outstanding in the past two years without shareholder approval.

Proposals Relating to Changes in Corporate Control

The Guidelines generally oppose measures that are designed to prevent or obstruct corporate takeovers. Such measures include: classified boards, "blank check" preferred stock, golden parachutes, poison pills, supermajority provisions, restricting shareholders' right to call special meetings or to set board size, and any other provision that eliminates or limits shareholder rights.

Proposals Relating to Shareholder Rights

The Guidelines generally: (i) support simple majority voting, (ii) oppose cumulative voting, and (iii) oppose new classes of stock with differential voting rights, subject to evaluation of such proposals in the context of their likelihood to enhance long-term economic returns or maximize long-term shareholder value.

Proposals Relating to Natural and Human Capital Issues

As part of our efforts to maximize long-term shareholder value, we incorporate consideration of human and natural capital issues into our evaluation of a company if our research has demonstrated an issue is financially material to that company and the investing funds' or client accounts' investment objectives and strategies.

Fidelity generally considers management's recommendation and current practice when voting on shareholder proposals concerning human and natural capital issues because it generally believes that management and the board are in the best position to determine how to address these matters. Fidelity, however, also believes that transparency is critical to sound corporate governance. Fidelity evaluates shareholder proposals concerning natural and human capital topics. To engage and vote more effectively on the growing number of submitted proposals on these topics, we developed a four-point decision-making framework. In general, Fidelity will more likely support proposals that:

- Address a topic that our research has identified as financially material; Provide disclosure of new or additional information to investors without being overly prescriptive;
- Provide valuable information to the business or investors by improving the landscape of investment-decision relevant information or contributing to our understanding of a company's processes and governance of the topic in question; and
- Are realistic or practical for the company to comply with.

For funds that apply the Sustainable Proxy Voting Guidelines (which are listed on the exhibit to those guidelines), shareholder proposals related to natural and human capital topics are voted in accordance with those sustainable guidelines.

For proposals related to topics not specifically addressed by the Sustainable Proxy Voting Guidelines, Fidelity applies the four-point decision-making framework noted above through the lens of the sustainable funds'/accounts' investment objectives and strategies, and therefore, certain elements of the framework may be evaluated differently for the sustainable funds/accounts than for other funds/accounts.

Securities on Loan
Securities on loan as of a record date cannot be voted. In certain circumstances, Fidelity may recall a security on loan before record date (for example, in a particular contested director election or a noteworthy merger or acquisition). Generally, however, securities out on loan remain on loan and are not voted because, for example, the income a fund or client account derives from the loan outweighs the benefit the fund or client account receives from voting the security. In addition, Fidelity may not be able to recall and vote loaned securities if Fidelity is unaware of relevant information before record date, or is otherwise unable to timely recall securities on loan.

Conflicts of Interest
Voting of shares is conducted in a manner consistent with Fidelity's fiduciary obligations to the funds and accounts, and all applicable laws and regulations. In other words, Fidelity votes in a manner consistent with the Guidelines and in the best interests of the funds/accounts and their shareholders, and without regard to any other Fidelity companies' business relationships. Fidelity takes its responsibility to vote shares in the best interests of the funds or accounts seriously and has implemented policies and procedures to address actual and potential conflicts of interest.

IPR, which is part of the Fidelity Fund and Investment Operations department, is charged with administering the Guidelines as agent to facilitate the voting of proxies. IPR votes proxies without regard to any other Fidelity companies' business relationships with that portfolio company. Like other Fidelity employees, IPR employees have a fiduciary duty to never place their own personal interest ahead of the interests of fund/account shareholders and are instructed to avoid actual and apparent conflicts of interest. In the event of a conflict of interest, Fidelity employees will follow the escalation process included in Fidelity's corporate policy on conflicts of interest. A complete set of the Guidelines, as well as information on how the Fidelity Funds' proxies were voted, are available on www.fidelity.com.

In certain cases, clients have not provided FMR the authority to vote proxies. Such clients should obtain proxies from their custodian or other service provider.

If FMR has engaged a sub-adviser, that sub-adviser votes proxies according to its own proxy voting guidelines and policies, which may differ from the Guidelines, for those Fidelity Funds or client accounts (or portions thereof) for which the sub-adviser has been granted such authority.

Non-Discretionary Advisory Services
FMR does not vote proxies for any accounts in connection with the provision of non- discretionary advisory services.

17. Financial Information

FMR does not solicit prepayment of client fees. Furthermore, there are no financial conditions that are reasonably likely to impair FMR's ability to meet any of its contractual commitments to its clients.

18. Requirements for State-Registered Advisers

FMR is not registered with any state securities authority.