Nuveen Asset Management, LLC
Form CRS Customer Relationship Summary – March 24, 2023

Introduction	Nuveen Asset Management, LLC ("NAM") is registered with the Securities and Exchange Commission ("SEC") as an investment adviser. Brokerage and investment advisory services and fees differ and it is important for you to understand these differences. Free and simple tools are available to research firms and financial professionals at www.Investor.gov/CRS, which also provides educational materials about broker-dealers, investment advisers, and investing. Throughout this document, you will find "conversation starters". These are questions you may want to ask your financial professional in connection with the services you are seeking.
What investment services and advice can you provide me?	We offer investment advisory services to retail clients directly and through managed account programs ("programs") (wrap fee and dual contract) sponsored by broker-dealers and other financial intermediaries ("program sponsors"). Our investment advisory services are based on the particular investment strategy you select, subject to account restrictions and guidelines we agree to follow. A program sponsor's program limits our menu of investment strategies. You and/or your program sponsor are responsible for determining if the strategy, services and program you select are appropriate given your overall financial situation and investment objectives, and for providing us with any relevant account information and/or investment restrictions. You should review our Form ADV Part 2A Brochure and your program sponsor's Brochure for your program (if applicable) and consider the advantages and disadvantages of the program for your particular needs. When we manage an account on a **discretionary** basis, we decide which securities to buy and sell for the strategy (subject to any restrictions and guidelines from you or your program sponsor we agree to follow) and we direct trading for your account. Although we provide most advisory services on a **discretionary** basis, we also provide advice on a **non-discretionary** basis, where a program sponsor makes the ultimate decision to buy or sell investments and directs the trading for your account. As part of our standard services, we regularly monitor the **discretionary** accounts we manage for compliance with the stated investment strategy guidelines, and we generally review deviations on an exception basis. Our account minimums and other requirements vary depending on the strategy and the particular program. ***For additional information,*** please see Items 4, 7 and 13 of NAM's Form ADV Part 2A brochure (attached hereto or available at https://adviserinfo.sec.gov/firm/brochure/155584).
	Conversation Starters. Ask your financial professional –
	• ***"How will you choose investments to recommend to me?"*** • ***"What is your relevant experience, including your licenses, education and other qualifications? What do these qualifications mean?"*** • ***"Given my financial situation, should I choose an investment advisory service? Why or why not?"***
What fees will I pay?	Our standard advisory fees are based on a percentage of assets under our management (asset-based fees) and are generally payable quarterly. The more assets there are in your account, the more you will pay in fees, and we therefore have an incentive to encourage you to increase the assets in your account. If you are in a wrap fee program, you pay a bundled fee for services the program sponsor provides, including custody, advisory and certain equity trading, and NAM's investment advisory services. If you are in a dual contract program where you sign separate agreements with a program sponsor and NAM, you typically pay NAM, the program sponsor and your custodian separate fees. Clients generally bear trading costs and fees (payable to broker-dealers) except when trading equities with a program sponsor in a wrap fee program. For example, clients in municipal bond and taxable fixed income strategies in wrap fee programs will typically incur transaction fees, generally in the form of mark-ups, mark-downs and spreads (and commissions in the case of certain exchange-traded preferred securities), earned by the relevant securities broker-dealer (not NAM or a Nuveen affiliate) in addition to the wrap fee payable to the program sponsor. These fees are typically built into the price of the securities and generally are not shown separately in a trade confirmation or

This Form CRS is intended for retail investors only. Form CRS defines a "retail investor" as a natural person or legal representative of such natural person, who seeks to receive or receives services primarily for personal, family, or household purposes.

	account statement. For dual contract accounts, clients will generally incur trading costs and fees directly. You will pay fees and costs whether you make or lose money on your investments. Fees and costs will reduce any amount of money you make on your investments over time. Please make sure you understand what fees and costs you are paying. ***For additional information,*** please see Item 5 of NAM's Form ADV Part 2A brochure (attached hereto or available at https://adviserinfo.sec.gov/firm/brochure/155584).
	Conversation Starter. Ask your financial professional –
	• ***"Help me understand how these fees and costs might affect my investments. If I give you $10,000 to invest, how much will go to fees and costs, and how much will be invested for me?"***
What are your legal obligations to me when acting as my investment adviser? How else does your firm make money and what conflicts of interest do you have?	***When we act as your investment adviser,*** we have to act in your best interest and not put our interest ahead of yours. At the same time, the way we make money creates some conflicts with your interests. You should understand and ask us about these conflicts because they can affect the investment advice we provide you. Here is an example to help you understand what this means. For certain strategies, it is expected that an account will include an allocation by NAM to itself, affiliated funds, affiliated products and/or affiliated advisers, with respect to all or a material portion of an account. This structure results in more aggregate revenue to NAM and its affiliates than would result from an allocation to unaffiliated funds, products and/or advisers. Due to the additional economic benefit to NAM and its affiliates from such investments, a conflict of interest can exist. We have incentives to recommend or invest in affiliated funds, because when our funds grow in size, they are potentially more efficient to manage and attractive to other investors. ***For additional information,*** please see Items 4, 10 and 11 of NAM's Form ADV Part 2A brochure (attached hereto or available at https://adviserinfo.sec.gov/firm/brochure/155584).
	Conversation Starter. Ask your financial professional –
	• ***"How might your conflicts of interest affect me, and how will you address them?"***
How do your financial professionals make money?	Please consult your program sponsor or its representatives to find out how the financial professionals who advise you about our products and services make money. We pay our investment team members who manage your account a base salary and annual bonus. Investment team members also typically participate in profits interest and other incentive plans that seek to align the interests of our investment team members with the success of our clients and the firm. We pay our wholesaling teams who sell our products and services to program sponsors a base salary and quarterly incentive payments.
Do you or your financial professionals have legal or disciplinary history?	Yes for our firm. No for our financial professionals. Visit www.Investor.gov/CRS for a free and simple search tool to research us and our financial professionals.
	Conversation Starter. Ask your financial professional –
	• ***"As a financial professional, do you have any disciplinary history? For what type of conduct?"***
Additional Information	***For additional information about our investment advisory services,*** please visit our website at www.nuveen.com or the SEC's website at www.adviserinfo.sec.gov. If you would like additional, up-to-date information or a copy of this disclosure, please contact us at (312) 917-7700 or (800) 257-8787.
	Conversation Starter. Ask your financial professional –
	• ***"Who is my primary contact person? Who can I talk to if I have concerns about how this person is treating me?"*** • ***"Is he or she a representative of an investment adviser or broker dealer?"***

Form ADV Part 2A

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March 24, 2023

This Brochure provides information about the qualifications and business practices of Nuveen Asset Management, LLC. If you have any questions about the contents of this Brochure, please contact us at (312) 917-7700 or (800) 257-8787. The information in this Brochure has not been approved or verified by the United States Securities and Exchange Commission or by any state securities authority.

Additional information about Nuveen Asset Management, LLC also is available on the SEC's website at www.adviserinfo.sec.gov.

Material Changes

This Brochure dated March 24, 2023, includes updates since its last annual update on March 24, 2022. The summary of the proxy voting policy in Item 17 has been updated to reflect changes to the process. This update includes additions changes and elaborations, including to fees, policies, affiliates, strategies, risk factors, and enhancements and clarifications throughout.

Table of Contents

ITEM 4 ADVISORY BUSINESS

Nuveen Asset Management, LLC ("NAM") provides investment advisory services to a broad range of individual and institutional clients, including open-end and closed-end investment companies registered under the Investment Company Act of 1940, as amended (the "1940 Act") and other pooled investment vehicles (each, a "Fund" and collectively, "Funds").

NAM also provides investment advisory services to institutional investors through separate account management under both direct advisory and sub-advisory mandates ("Institutional Separate Accounts"). In addition, NAM provides investment advisory services to retail separately managed account ("Retail SMA") clients through managed account programs (wrap fee and dual contract) sponsored by broker-dealers and other financial intermediaries ("Program Sponsors"). Although most services are provided on a discretionary basis, NAM also provides certain services on a non-discretionary and model portfolio basis.

NAM has been in business for more than 30 years. NAM is a subsidiary of Nuveen Fund Advisors, LLC ("NFAL"), which is a subsidiary of Nuveen, LLC ("Nuveen"). Nuveen is a subsidiary, and represents the Asset Management division, of Teachers Insurance and Annuity Association of America (also known as "TIAA"), a leading financial services provider. TIAA constitutes the ultimate principal owner of NAM. See Item 10.

Types of Advisory Services

General

NAM provides investment advisory or sub-advisory services to Funds, Institutional Separate Accounts and Retail SMAs.

NAM's investment advisory services are provided generally based on the strategy selected by the client, subject to agreed-upon account restrictions and guidelines. NAM provides its services in a broad array of fixed income, equity and other investment strategies, including in the broad categories of municipal bonds, taxable fixed income, global and international, value, growth and core equities, public real assets, asset allocation, quantitative/enhanced, responsible investing, alternative and customized strategies. Depending on the particular strategy, NAM invests in a variety of securities and other investments, including in certain cases derivatives, and employs different investment techniques. Certain strategies include an allocation to Funds, including Funds affiliated with NAM or its affiliates. Certain strategies include elements of other strategies, and may be customized to meet the individualized needs of NAM's clients. For additional information on NAM's main strategies and principal risk factors, please see Item 8.

NAM's portfolio managers are generally responsible for the investment decisions with respect to the investment strategy selected by a client, including identification and selection of specific securities and investments to be purchased in light of current and anticipated economic and market conditions, in consideration of account guidelines, limitations and information relating to the client, legal restrictions and NAM internal strategy guidelines. NAM provides its services in single strategy accounts, and alone or together with certain affiliated advisers, in combined and multi-strategy accounts. To the extent permitted by applicable law, NAM also may appoint investment sub-advisers to provide advisory services to one or more Funds, or delegate a portion of its investment advisory duties to sub-advisers.

Typically, a client or NAM generally may terminate its agreement at any time by providing thirty (30) days written notice. For Institutional Separate Accounts, termination provisions vary by contract and for Retail SMAs, termination provisions vary by wrap fee program. Fees paid in advance are refunded on a pro rata basis if the service is terminated within the payment period.

NAM manages multiple accounts with different investment objectives, guidelines and policies, and with different fee structures. For example, certain accounts are long-only while other accounts are long-short. Further, certain accounts pay performance fees. The management of these accounts gives rise to potential conflicts of interest because NAM has an incentive to favor one account over another. See Item 6.

In periods of market volatility, NAM may be unable to invest new money contributed to an account, or proceeds from the sale of securities, as quickly as it might have been able to do under normal market conditions. Similarly, NAM may be unable to sell securities to raise cash, or to accommodate a terminating client's request to sell securities, as quickly, or at favorable prices, as it might have been able to do under normal market conditions. Depending on market movements, such delays could have an adverse impact on client accounts. In such periods of market volatility, NAM, when deemed advisable, also may deviate from its normal trading practices with respect to sequencing and allocation of transactions.

Institutional Separate Accounts

NAM provides advisory services to U.S and non-U.S. institutional clients including pension funds, profit sharing funds, charitable institutions, banks and thrift institutions, trust accounts, corporations, insurance companies, and public entities, including municipalities, states and related agencies. The fees and services for each such arrangement are individually negotiated, depending on factors such as asset class, pre-existing relationship, portfolio complexity, client type and account size or other special circumstances. See Item 5.

Retail SMAs

NAM provides investment advisory services to Retail SMAs through wrap fee and dual contract managed account programs. In traditional wrap fee programs, NAM provides its advisory services pursuant to an advisory agreement with the wrap fee Program Sponsor. Wrap fee programs typically include comprehensive custody, financial advisory and certain trading (provided by the Program Sponsor) and investment advisory services (provided by the manager) for a bundled fee payable to the wrap fee Program Sponsor ("Wrap Fee Programs").

In a dual contract Retail SMA program, NAM provides its advisory services pursuant to an advisory agreement directly with the client. A client may separately arrange with one or more third parties for custody, financial advisory and certain trading services to be provided on a partially-bundled or unbundled basis. In a partially-bundled program, certain of such services (typically custody, financial advisory, and certain trading) are provided for a bundled fee arrangement. In an unbundled arrangement, such services are contracted, provided and paid for separately.

For Retail SMAs, NAM is appointed to act as an investment adviser through a process generally administered or assisted by the Program Sponsor. Clients participating in a program, generally with assistance from the Program Sponsor, may select NAM to provide investment advisory services for their account (or a portion thereof) for a particular strategy. NAM provides investment advisory services based upon the particular needs of the program client as reflected in information provided to NAM by the Program Sponsor, and will generally make its representatives available for communication as reasonably requested by clients and/or Program Sponsors.

Clients are encouraged to consult their own financial advisors and legal and tax professionals on an initial and continuous basis in connection with selecting and engaging the services of an investment manager for a particular strategy and participating in a wrap, dual contract or other managed account program. In the course of providing services to Retail SMAs who have financial advisors, NAM generally relies on information or directions communicated by the financial advisor acting with apparent authority on behalf of its client.

NAM seeks to commence management of an account as soon as practicable after review of the account documentation in good form, acceptance of its appointment as adviser and contribution of assets to the client's account. The time required to commence management varies depending on the time required to complete these steps, the efficiency of the Program Sponsor and/or other third parties, and the time required to establish an appropriate portfolio.

The timing required to fully invest an account depends on multiple factors, including the particular strategy and guidelines; market conditions; availability of desirable securities; the amount of cash versus legacy securities used to fund a new account; and if legacy securities are used, the characteristics of such legacy securities, among others. For some strategies, such as certain municipal bond strategies where the supply of appropriate bonds is limited, it may take several weeks or longer to fully invest a client account. As a result of the foregoing, some accounts may become fully invested more quickly than other accounts, and in some cases a new account may become fully invested more quickly than an older account.

Except as otherwise agreed upon by NAM and the client, NAM does not have any responsibility for the selection of the residual cash management investment vehicle utilized by the client. Clients, their consultants, their financial advisors and/or their custodians select the relevant residual cash management investment vehicle.

NAM maintains procedures for executing specific transactions in a client's account for tax reasons. Under these procedures, NAM will generally follow the directions of a client or its financial advisor regarding harvesting tax losses or gains, subject to certain scope, amount and timing limitations. Generally, the directions entail a repurchase of the sold security after the "wash sale" (thirty (30) day) period (e.g., in the case of equities), or a purchase of another appropriate security (e.g., in the case of bonds). NAM generally relies in good faith on directions communicated by a financial advisor acting with apparent authority on behalf of its client.

In providing such directions, the client and its financial advisor are responsible for understanding the merits and consequences of their directions in light of the client's particular tax situation. Daily market fluctuations may affect the dollar amount of gain or loss with respect to certain investment decisions. The monetary benefit derived from tax loss selling, for example, may not exceed the risk of not being fully invested during that time. Executing tax sales (and repurchases) may adversely affect performance. NAM is not a tax advisor, and therefore clients should consult with their tax specialist to review their particular tax situation.

NAM may invest in exchange traded funds ("ETFs") or other pooled vehicles, including during the wash sale period. ETFs and other funds have certain imbedded costs, including management fees, of which the client account will bear a proportionate share while it is invested in the ETF or other fund.

NAM may provide or make available at no charge various reports or materials to certain managed account Program Sponsors and other financial intermediaries who typically use NAM services and products. These reports may analyze a prospective client's current holdings or show the effect of performance of a NAM composite over a particular time period in a manner directed by the Program Sponsor or intermediary. Such reports are not intended to constitute investment advice, research or recommendations.

Certain Retail SMA programs impose policies and restrictions that limit the trading and investment options that would otherwise be available for Institutional Separate Accounts and Funds. As a result, Retail SMAs may be excluded from potentially attractive trading and investment opportunities. Clients should consult with their financial advisors regarding the terms and features of their Retail SMA program.

Advisory Services to Funds

NAM also provides investment management services to a variety of Funds, including 1940 Act registered Funds (e.g., mutual funds, closed-end funds, ETFs) and non-1940 Act registered Funds. Non-1940 Act registered funds include, bank collective investment trusts (CITs), private funds (including but not limited to collateralized debt obligation (CDO), collateralized loan obligation (CLO) funds, and other private funds investing in other varying asset classes), and offshore funds. As discussed further in Item 11, NAM affiliates (including TIAA) may invest (e.g., seed capital) in certain Funds.

In connection with its advisory services to a Fund, NAM or its Related Persons providing services to such Fund generally receive advisory, administration, co-administration and/or distribution fees from the Fund and/or from investment advisers to the Fund. Clients should carefully review the Funds' prospectuses or other offering documents for more detailed information regarding a Fund to which NAM provides investment services.

In the absence of a formalized advisory arrangement, investors in Funds advised or subadvised by NAM will not be advisory clients of NAM, with respect to the investment in the respective Fund, and

NAM will not provide investment advice or recommendations with respect to the merits and suitability of the particular Fund investment(s) and investment decision(s) for the particular investor. Investors in Funds advised or subadvised by NAM are encouraged to consult their own financial, tax and legal advisors regarding such decisions. Nuveen Fund shares are available through many unaffiliated broker-dealers and other financial services firms.

Non-Discretionary Accounts and Model Portfolio Advice

For certain strategies, NAM provides certain non-discretionary or model portfolio investment services to clients that may include banks, broker-dealers and other financial services firms, and other investors. Such services may include asset allocation advice, equity and fixed income research and model portfolio recommendations for a variety of investment styles. Model portfolios may relate to the same strategies that are also offered or utilized through discretionary accounts.

The recommendations implicit in the model portfolios provided to the model recipient (e.g., Program Sponsor, overlay manager or manager) may reflect recommendations being made by NAM contemporaneously to, or investment advisory decisions made contemporaneously for, similarly situated discretionary clients of NAM. As a result, NAM may have already commenced trading for its discretionary client accounts before the Program Sponsor or overlay manager has received or had the opportunity to evaluate or act on NAM's recommendations. In this circumstance, trades ultimately placed by the Program Sponsor or overlay manager for its clients may be subject to price movements, particularly with large orders or where the securities are thinly traded, that may result in model-based program clients receiving prices that are less favorable than the prices obtained by NAM for its discretionary client accounts. On the other hand, the model recipient may initiate trading based on NAM's recommendations before or at the same time NAM is also trading for its discretionary client accounts. Particularly with large orders or where the securities are thinly traded, this could result in NAM's discretionary clients receiving prices that are less favorable than prices that might otherwise have been obtained absent the Program Sponsor or overlay manager's trading activity. Because NAM does not control the model recipient's execution of transactions for its client accounts, NAM cannot control the market impact of such transactions to the same extent that it would for its discretionary client accounts.

Where NAM participates in model-based managed accounts programs, the model-based Program Sponsor or overlay manager is generally responsible for investment decisions and performing many other services and functions typically handled by NAM in a traditional discretionary managed account program. Unless NAM has discretion, NAM does not consider itself to have an advisory relationship with clients of the Program Sponsor or overlay manager of a model-based program. To the extent that this Form ADV Part 2A is delivered to program clients with whom NAM has no advisory relationship, or under circumstances where it is not legally required to be delivered, it is provided for informational purposes only. Furthermore, because a model-based Program Sponsor or overlay manager generally exercises investment discretion and, in many cases, brokerage discretion, performance and other information relating to NAM's services for which it exercises investment and/or brokerage discretion is generally provided for informational purposes only, and may not be representative of model-based program client results or experience. NAM is not responsible for overseeing the provision of services by a model-based Program Sponsor and cannot assure the quality of its services.

Retail SMA Program Multiple Strategy Accounts (MSAs)

NAM provides overlay and advisory services for clients in certain multiple investment strategy accounts ("MSA") in Retail SMA programs. An MSA is a single client account that consists of multiple underlying investment strategies where the specific strategies, the target allocation of such strategies and the advisers ("Subadvisers") to such strategies are generally determined by the Program Sponsor or agreed to by a Client as part of a packaged combination. MSAs generally include allocations to Subadvisers (primarily affiliated with NAM), but may also include Funds (including Affiliated Funds), depending on the particular MSA strategy. In most cases, a Subadviser manages a portion of the MSA in a particular strategy (a "sleeve") on a discretionary basis. MSAs may include combinations of equity strategies (e.g., growth, value, core, large cap, mid cap, small cap, all cap, U.S., international, global, etc.), fixed income strategies (e.g., taxable, municipal bond, investment grade, high yield, etc.) and/or other asset classes depending on the particular MSA strategy.

As overlay manager for MSAs, NAM generally provides non-discretionary or model-based investment advisory and administrative services. NAM's overlay services for MSAs also entail new account administration, implementation and execution of investment directions for certain sleeves, tax loss selling, rebalancing according to the target allocation for certain MSA products, coordinating among Subadvisers for investment purposes and other overlay manager responsibilities. NAM has appointed an overlay portfolio manager or managers with responsibility for active oversight of the Retail SMA MSAs.

In addition to serving as overlay manager, depending on the particular MSA and program, NAM also serves as a Subadviser for one or more sleeves in certain Municipal Fixed Income, Taxable Fixed Income, and/or Equity strategies. Please see the relevant items of this Brochure with respect to such strategies. For detailed information about another Subadviser, please refer to the Subadviser's Form ADV; any description of a Subadviser's services or practices contained herein is qualified in its entirety by the Subadviser's Form ADV.

Certain MSA products may not include rebalancing services. In these arrangements, the value of a sleeve may vary over time, resulting in overall MSA allocations that can vary materially over time. Where NAM does not perform rebalancing of the MSA, a client (and the client's financial advisor) should review its account and its sleeve allocations periodically. Clients should consult with their financial advisors regarding the terms and features of, and the services NAM provides to, their MSAs. The material risk factors relating to the MSAs are described more fully in Item 8 under "Retail SMA Program Multiple Strategy Accounts (MSAs) Risks".

Multi-Asset Class Investments

NAM provides investment services and strategies to Funds, defined benefit pension plans, foundations and endowments, insurance company separate accounts and general accounts, and other institutional investors or financial intermediaries, primarily in the areas of multi-asset class solutions, structured portfolio solutions including volatility management and option overlay. Depending on the mandate, services may include discretionary or non-discretionary portfolio management services; model portfolio creation and management; allocation services; analysis; research; modeling and scenario analysis; assisting in the development of or making recommendations regarding investment objectives, strategies, or metrics; and/or coordination among underlying investment strategies. These services are generally developed in close consultation with a client and/or its advisors, and, depending on the mandate, are provided on a discretionary, non-discretionary or consulting basis. Conflicts of interest may arise given the multiple potential services that NAM may collectively provide. See Items 8 and 10. NAM generally provides advisory services to account strategies that contemplate, with respect to all or a material portion of an account, an allocation to Affiliated Funds, affiliated products and/or affiliated advisers, including NAM. This structure results in more aggregate revenue to NAM and its affiliates than would result from an allocation to unaffiliated Funds, products and/or advisers.

NAM offers a broad range of strategic and tactical allocation and related investment management and administrative services, which can vary widely depending on the particular arrangement. NAM will propose, select and/or invest in or through other Funds and/or Subadvisers, on a discretionary, non-discretionary and/or model portfolio basis. Allocations are generally to Funds, including Funds advised by advisers under common control with NAM (i.e., "Affiliated Funds"), and/or through separate accounts advised by Subadvisers, including Subadvisers under common control with NAM (i.e., "Affiliated Subadvisers"). NAM also may use unaffiliated strategies, including both Funds and separate accounts and/or Subadvisers and other securities and investments, depending on the arrangement. NAM generally provides advisory services to multi-asset class account strategies that contemplate, with respect to all or a material portion of an account, an allocation to Affiliated Funds, affiliated products and/or affiliated advisers, including NAM. This structure results in more aggregate revenue to NAM and its affiliates than would result from an allocation to unaffiliated Funds, products and/or advisers. Certain allocation strategies also include the use of derivatives. Some allocation strategies are diversified across numerous asset classes whereas others are concentrated in particular asset classes or market segments. In certain designated strategies, NAM may consider the impact of taxation and seek to create tax efficiencies. Allocation services can reflect a wide range of approaches, including, without limitation: an active (or tactical) approach with changes to allocations and portfolio composition in response to the views of NAM and factors such as changing market and economic conditions and sentiments; a less active (or strategic) approach with rebalancing to a fixed target allocation on a periodic basis or within bands of tolerance; or more limited services that may or may not include subsequent portfolio changes or rebalancing. Some services are more administrative in nature, and do not reflect the exercise of investment discretion.

Tax Optimization Overlay

Certain strategies in the Retail SMA channel are available with a tax optimization overlay. The tax optimization overlay employs certain software and quantitative approaches that seek to manage investment activity in a more tax efficient manner. The tax optimization process typically includes (i) tax management techniques such as tax loss harvesting, gain deferral and/or appropriate tax lot selection and (ii) seeking to maximize after-tax returns by altering the strategy's investment holdings and/or percentages in a manner that is intended to optimize after tax results while seeking to match the material strategy objective and characteristics. For available strategies, the client may select among different levels of tax optimization. The use of a tax optimization overlay will cause differences in the strategy holdings and/or percentages compared to the same strategy without tax optimization, and these differences could be material based on the level of tax optimization selected and other factors. These differences could result in higher or lower performance results compared to the strategy without the use of a tax optimization overlay. There is also material risk that any discrepancy between the client's tax rate applied for optimization purposes and the client's actual tax rates, the presence of current or future capital loss carryforwards, and other client specific tax circumstances may materially and negatively affect the client's actual returns. The tax optimization overlay process is also subject to certain licensed software, which is subject to the risks associated with such technology. The tax optimization overlay is subject to various factors and a successful implementation and execution of the overlay is not assured. NAM does not provide tax or accounting advice, and clients are encouraged to consult with their own professional advisors with respect to the suitability and selection of a tax optimization overlay.

Formalization and Scope of Advisory Services

NAM formalizes its advisory relationship with a client through certain protocols such as the execution of an investment advisory agreement with the client (e.g., for Retail SMA dual contract and institutional separate accounts) or the acceptance of new account documentation with respect to such client (e.g., for a discretionary Wrap Fee Program client). NAM does not provide advice outside of the confines of a formal advisory arrangement. Communications made in the marketing and sales process (including requests for proposals, requests for information, portfolio reviews, general written materials on products, strategies, and services, educational materials, etc.) are not intended and should not be relied upon as advice or a recommendation. Prior to the formalization of an advisory relationship, prospective clients and existing clients (with respect to new or different services) should make any decisions regarding any specific course of action based on their own needs and circumstances and in consultation with their own independent advisors.

NAM's services are limited to the scope of a formalized arrangement with respect to specific services (e.g., discretionary investment management to a particular strategy). NAM does not provide any fiduciary services outside of such formalized arrangement. Any NAM communication outside the scope of a formalized arrangement to any prospect, client, financial advisor or other intermediary should not be relied upon as advice or a recommendation.

Different products, services and strategies provided by NAM (and offered or made available by advisors) have different features, terms and conditions, risks, and direct and indirect compensation and profitability, among other things. Therefore, NAM (and an adviser) may have differing incentives and interests in marketing, offering, providing or making available different products, services or strategies. Prospects and clients, with the advice of their independent advisors, should carefully determine and select the products, services and strategies that best meet their needs.

Investment Restrictions

Institutional Separate Accounts and Retail SMAs

NAM's discretionary authority over an account is generally subject to directions, investment guidelines and limitations imposed by the client and, in the case of a Retail SMA, the Program Sponsor. NAM seeks to follow reasonable directions, investment guidelines and limitations. Although NAM seeks to provide individualized investment advice to its discretionary client accounts, NAM will not be able to accommodate investment restrictions that are unduly burdensome or materially incompatible with NAM's investment approach (including restrictions affecting more than a stated percentage of the account), and reserves the right to decline to accept, or to terminate, client accounts with such restrictions.

Funds and Other Pooled Investment Vehicles

When NAM exercises discretionary authority with respect to a Fund's assets, it seeks to do so in a manner that is consistent with the Fund's investment objectives, strategies and limitations as disclosed in the Fund's prospectus or other applicable disclosure documents. NAM's discretion is also subject to the oversight of the Fund's governing body (e.g., board of directors) and also may be subject to the oversight of another investment adviser.

Wrap Fee Programs

The services provided by NAM to Retail SMAs may differ from the services provided to its Institutional Separate Accounts and other clients who do not participate in Wrap Fee Programs. The investment strategies NAM uses in managing Wrap Fee Program accounts are similar to those offered to its other clients, but may involve fewer securities holdings due to smaller account sizes, and less ability for customization. There may be limitations on the ability of Retail SMAs to invest in equity initial public offerings and non-U.S. ordinary securities. In many cases there are limitations on the ability of NAM in the ordinary course to communicate directly, on its own initiative, with program clients, without going through the Program Sponsor. Also strategies, restrictions and guidelines may vary among programs.

In consideration for providing investment management services to Wrap Fee Program accounts, NAM receives a portion of the wrap fee paid by Wrap Fee Program participants to the Program Sponsor. For dual contract accounts, NAM generally receives its fees directly from the client.

When trading equity securities for accounts in Retail SMA programs, NAM will typically trade directly through the Program Sponsor or the Program Sponsor's broker-dealer affiliate. In Wrap Fee Programs that permit NAM to trade away from the Program Sponsor or its broker-dealer affiliate, for certain investment strategies and asset classes other than equity securities, when NAM believes such Program Sponsor or its affiliate cannot provide best price or execution under the circumstances, NAM will trade away from such parties. For municipal bond strategies, NAM generally trades away from the Retail SMA Program Sponsor all or substantially all of the time, and trades away certain other fixed income strategies (including preferred securities) depending on the particular type and characteristics of the security and marketplace conditions. When trading away from a Program Sponsor or its broker-dealer affiliate, clients generally incur transaction and other costs and fees in addition to the wrap fee. These fees are generally in the form of mark-ups, mark-downs and spreads (and commissions in the case of certain exchange-traded preferred securities) earned by the relevant securities broker-dealer (not NAM or a NAM affiliate) in addition to the wrap fee payable to the Program Sponsor. These fees are built into the price of the securities and generally are not shown separately in a trade confirmation or account statement. Wrap Fee Program clients in certain international and global strategies will incur fees and costs associated with the purchase of non-U.S. securities in ordinary form and conversion of such ordinary shares into American Depositary Receipts ("ADRs") and other depositary receipts, in addition to the wrap fee payable to the Program Sponsor.

Depending upon the level of the wrap fee charged by a Program Sponsor, the amount of portfolio activity in a client's account, the value of the custodial and other services that are provided under a Wrap Fee Program arrangement and other factors, a wrap fee client should consider whether the wrap fee would exceed the aggregate cost of such services if they were to be provided separately.

Similarly, a non-wrap fee program client paying separate fees should consider whether the fees charged by different parties for custody, advisory services, portfolio management services, securities execution and other services would exceed the aggregate cost of such services if they were provided in a wrap fee arrangement. Some broker-dealers serving as custodian charge fees for settling transactions executed through other broker-dealers.

Wrap Fee Program clients should review all materials relating to their program (including the program brochure) regarding the program's terms, conditions and fees, and consider the advantages, disadvantages and overall appropriateness of the program in light of the client's particular circumstances.

Assets Under Management

As of December 31, 2022, NAM's total assets under management (AUM) were approximately $248.7 billion (comprised of approximately $248.6 billion in discretionary assets and $10.5 billion in non-discretionary and model portfolio assets). Total AUM excludes assets subject to certain consulting services.

ITEM 5 FEES AND COMPENSATION

NAM's advisory fees are generally based on a percentage of assets under its management. For eligible client accounts, performance-based fees also may be negotiated in appropriate circumstances. Please see Item 6. NAM generally does not charge fixed fees except in special situations.

Fees, minimum account sizes, and services may be negotiable based on factors such as client type, asset class, pre-existing relationship, portfolio complexity and account size or other special circumstances or requirements. Some existing clients pay higher or lower fees than new clients. Related accounts may be aggregated for fee calculation purposes in certain circumstances.

When NAM calculates fees, valuations of account assets are determined in accordance with NAM's valuation procedures, which generally rely on third party pricing services, but may permit the use of other valuation methodologies in certain circumstances. NAM's determinations may differ from valuations reflected in a client's custodial statements.

<u>Advisory Fees for Institutional Separate Accounts</u>
Advisory fees for Institutional Separate Accounts are generally determined based upon the following schedules. However, fees for certain strategies or accounts fall outside of the stated ranges or are negotiated. Breakpoints are generally applied on a blended basis, unless otherwise agreed. NAM may impose minimum annual fees for Institutional Separate Accounts as negotiated.

EQUITY STRATEGIES

Large Cap Core

First $25 million	0.60%
Next $25 million	0.50%
Next $50 million	0.45%
Next $150 million	0.40%
Over $250 million	Negotiated

New Client Minimum Account Size: $5 million

Large Cap Relative Value

First $25 million	0.60%
Next $25 million	0.50%
Next $50 million	0.45%
Next $150 million	0.40%
Over $250 million	Negotiated

New Client Minimum Account Size: $5 million

Large Cap Value & Large Cap Value Balanced

First $25 million	0.60%
Next $25 million	0.50%
Next $50 million	0.40%

New Client Minimum Account Size: $5 million

Large Cap Growth

First $25 million	0.60%
Next $25 million	0.50%
Next $50 million	0.45%
Next $150 million	0.40%
Over $250 million	Negotiated

New Client Minimum Account Size: $5 million

Stable Growth

First $25 million	0.60%
Next $25 million	0.50%
Next $50 million	0.45%
Next $150 million	0.40%
Over $250 million	Negotiated

New Client Minimum Account Size: $5 million

Equity Market Neutral

First $100 million	1.10%
Next $150 million	1.00%
Over $250 million	Negotiated

New Client Minimum Account Size: $100 million

Equity Long/Short

First $100 million	1.10%
Next $150 million	1.00%
Over $250 million	Negotiated

New Client Minimum Account Size: $100 million

Dividend Growth

First $25 million	0.50%
Next $25 million	0.45%
Over $50 million	0.40%

New Client Minimum Account Size: $1 million

Global Dividend Growth

First $25 million	0.65%
Next $25 million	0.60%
Over $50 million	0.55%

New Client Minimum Account Size: $5 million

Global Dividend Growth (ADR)

First $25 million	0.60%
Next $25 million	0.55%
Over $50 million	0.50%

New Client Minimum Account Size: $1 million

International Dividend Growth

First $25 million	0.65%
Next $25 million	0.60%
Over $50 million	0.55%

New Client Minimum Account Size: $5 million

International Dividend Growth (ADR)

First $25 million	0.60%	
Next $25 million	0.55%	
Over $50 million	0.50%	
New Client Minimum Account Size:		$1 million

Select Dividend Growth

First $25 million	0.60%	
Next $25 million	0.55%	
Over $50 million	0.50%	
New Client Minimum Account Size:		$1 million

Dividend Value

First $25 million	0.60%	
Next $25 million	0.50%	
Next $50 million	0.45%	
Next $150 million	0.40%	
Over $250 million	Negotiated	
New Client Minimum Account Size:		$5 million

Large Cap Select

First $25 million	0.60%	
Next $25 million	0.50%	
Next $50 million	0.45%	
Next $150 million	0.40%	
Over $250 million	Negotiated	
New Client Minimum Account Size:		$5 million

Mid Cap Growth Opportunities

First $25 million	0.75%	
Next $25 million	0.65%	
Next $50 million	0.55%	
Next $150 million	0.50%	
Over $250 million	Negotiated	
New Client Minimum Account Size:		$5 million

Mid Cap Value

First $25 million	0.75%	
Next $25 million	0.65%	
Next $50 million	0.55%	
Next $150 million	0.50%	
Over $250 million	Negotiated	
New Client Minimum Account Size:		$5 million

Multi Cap Value

First $25 million	0.75%	
Next $25 million	0.70%	
Over $50 million	0.65%	
New Client Minimum Account Size:		$20 million

Small Cap Growth Opportunities

First $25 million	0.85%	
Next $25 million	0.80%	
Next $50 million	0.70%	
Next $150 million	0.65%	
Over $250 million	Negotiated	
New Client Minimum Account Size:		$5 million

Small Cap Select

First $25 million	0.85%	
Next $25 million	0.80%	
Next $50 million	0.70%	
Next $150 million	0.65%	
Over $250 million	Negotiated	
New Client Minimum Account Size:		$5 million

Small Cap Value

First $25 million	0.85%	
Next $25 million	0.80%	
Next $50 million	0.70%	
Next $150 million	0.65%	
Over $250 million	Negotiated	
New Client Minimum Account Size:		$5 million

Small Cap Value Opportunities

First $25 million	0.85%	
Next $25 million	0.80%	
Over $50 million	0.75%	
New Client Minimum Account Size:		$5 million

Small/Mid Cap Value

First $25 million	0.75%	
Next $25 million	0.70%	
Over $50 million	0.65%	
New Client Minimum Account Size:		$5 million

Emerging Markets (ADR)

All Assets	0.75%	
New Client Minimum Account Size:		$1 million

Global Equity Income

All Assets	0.70%	
New Client Minimum Account Size:		$5 million

International Opportunities

First $25 million	0.75%	
Next $25 million	0.70%	
Over $50 million	0.65%	
New Client Minimum Account Size:		$25 million

International Equity (ADR)

All Assets	0.70%	
New Client Minimum Account Size:		$1 million

International Small Cap

First $25 million	0.90%	
Next $25 million	0.80%	
Over $50 million	0.70%	
New Client Minimum Account Size:		$10 million

International Value

First $25 million	0.70%	
Next $25 million	0.60%	
Over $50 million	0.50%	
New Client Minimum Account Size:		$10 million

International Value (ADR)

First $25 million	0.85%	
Next $25 million	0.75%	
Over $50 million	0.65%	
New Client Minimum Account Size:		$2 million

Japan Equity

First $25 million	0.70%	
Next $25 million	0.60%	
Over $50 million	0.50%	
New Client Minimum Account Size:		$10 million

Index

First $25 million	0.15%	
Next $25 million	0.11%	
Next $50 million	0.09%	
Next $150 million	0.05%	
Over $250 million	Negotiated	
New Client Minimum Account Size:		$25 million

Enhanced Equity Index

First $50 million	0.30%	
Next $50 million	0.25%	
Next $150 million	0.20%	
Over $250 million	Negotiated	
New Client Minimum Account Size		$5 million

PUBLIC REAL ASSETS STRATEGIES

U.S. Real Estate Securities

First $50 million	0.65%	
Next $50 million	0.60%	
Next $150 million	0.50%	
Over $250 million	Negotiated	
New Client Minimum Account Size:		$10 million

Global Real Estate Securities

First $50 million	0.70%	
Next $50 million	0.62%	
Next $150 million	0.52%	
Over $250 million	Negotiated	
New Client Minimum Account Size:		$20 million

Real Asset Income

First $50 million	0.80%	
Next $50 million	0.75%	
Next $150 million	0.65%	
Over $250 million	Negotiated	
New Client Minimum Account Size:		$50 million

Global Infrastructure

First $50 million	0.75%	
Next $50 million	0.70%	
Next $150 million	0.65%	
Over $250 million	Negotiated	
New Client Minimum Account Size:		$20 million

TAXABLE FIXED INCOME STRATEGIES

Core and Intermediate Government/Credit

First $50 million	0.25%	
Next $50 million	0.20%	
Next $150 million	0.15%	
Over $250 million	Negotiated	
New Client Minimum Account Size:		$10 million

Core Plus

First $50 million	0.35%	
Next $50 million	0.30%	
Next $150 million	0.25%	
Over $250 million	Negotiated	
New Client Minimum Account Size:		$20 million

Core Fixed Income Aggregate &
Core Fixed Income Government Credit

First $10 million	0.40%	
Balance	0.30%	
New Client Minimum Account Size:		$5 million

Corporate Credit

First $50 million	0.60%	
Balance	0.50%	
New Client Minimum Account Size:		$20 million

Flexible Income

First $50 million	0.65%	
Balance	0.55%	
New Client Minimum Account Size:		$20 million

Multi Sector

First $50 million	0.40%	
Next $50 million	0.35%	
Next $150 million	0.30%	
Over $250 million	Negotiated	
New Client Minimum Account Size:		$20 million

Short Duration

First $50 million	0.20%	
Next $50 million	0.15%	
Next $150 million	0.10%	
Over $250 million	Negotiated	
New Client Minimum Account Size:		$10 million

Long Duration

First $50 million	0.30%	
Next $50 million	0.25%	
Next $150 million	0.20%	
Over $250 million	Negotiated	
New Client Minimum Account Size:		$10 million

Inflation Protected

First $50 million	0.15%	
Next $50 million	0.10%	
Next $150 million	0.08%	
Over $250 million	Negotiated	
New Client Minimum Account Size:		$10 million

High Yield/Income

First $50 million	0.50%	
Next $50 million	0.45%	
Next $150 million	0.40%	
Over $250 million	Negotiated	
New Client Minimum Account Size:		$10 million

Preferred Securities and Income

First $50 million	0.40%	
Next $50 million	0.35%	
Next $150 million	0.30%	
Over $250 million	Negotiated	
New Client Minimum Account Size:		$10 million

MUNICIPAL BOND FIXED INCOME STRATEGIES

Municipal Bond Investment Grade

First $50 million	0.30%	
Next $50 million	0.25%	
Next $150 million	0.20%	
Over $250 million	Negotiated	
New Client Minimum Account Size:		$10 million

Taxable Municipal Fixed Income

First $100 million	0.40%	
Next $100 million	0.35%	
Next $300 million	0.30%	
Over $500 million	0.25%	
New Client Minimum Account Size:		$50 million

Municipal Fixed Income

First $100 million	0.40%	
Next $100 million	0.35%	
Next $300 million	0.30%	
Over $500 million	0.25%	
New Client Minimum Account Size:		$50 million

Municipal Bond High Yield

All Assets	0.60%	
New Client Minimum Account Size:		$50 million

Managed Volatility

First $25 million	0.30%	
Next $75 million	0.25%	
Next $400 million	0.20%	
Next $1.5 billion	0.15%	
Over $ 2 billion	Negotiated	
New Client Minimum Account Size:		$5 million

<u>Advisory Fees for Institutional Separate Accounts in Leveraged Finance Strategies</u>

Fees for leveraged finance strategies (Long-Short Credit, Corporate Arbitrage and Relative Value; and Long-Only Credit) are subject to negotiation based on factors including complexity. Generally, fees range from 1% to 2% per annum on accounts that employ short-selling, leverage, hedging, derivatives and/or similar investment methods, and 0.37% to 1% per annum for long only. A performance fee may also be applicable.

Advisory Fees for Dual Contract Retail Separate Accounts

Advisory fees for Dual Contract Retail Separate Accounts are generally determined based upon the following schedules. However, fees for certain strategies or accounts fall outside of the stated ranges or are negotiated. NAM and Program Sponsors each charge their fees separately. Fees charged to dual contract accounts are individually contracted between NAM and the client. Breakpoints are generally applied on a blended basis, unless otherwise agreed.

MUNICIPAL BOND FIXED INCOME STRATEGIES

Municipal Bond Investment Grade

First $2 million	0.40%
Next $2 million	0.35%
Next $6 million	0.30%
Over $10 million	0.25%

New Client Minimum Account Size: $250,000

ESG Municipal Bond Investment Grade

First $2 million	0.40%
Next $2 million	0.35%
Next $6 million	0.30%
Over $10 million	0.25%

New Client Minimum Account Size: $250,000

Municipal Bond Total Return

All assets (60/40)	0.32%
All assets (70/30)	0.29%
All assets (80/20)	0.26%

New Client Minimum Account Size: $250,000

*60/40, 70/30, and 80/20 represent the target percentage allocations to an individual municipal bonds/shares of affiliated Funds, respectively.

Municipal Bond Ladder (1-7 Year; 1-10 Year; 1-15 Year; 5-15 Year; 10-25 Year; Customized)

All assets 0.10%

New Client Minimum Account Size: $250,000

Core Plus Bond SMA

All assets 0.32%

New Client Minimum Account Size: $250,000

TAXABLE FIXED INCOME STRATEGIES

Core Fixed Income

First $25 million	0.30%
Next $25 million	0.25%
Over $50 million	Negotiated

New Client Minimum Account Size: $25 million

Custom Fixed Income Solutions

First $5 million	0.35%
Next $5 million	0.30%
Over $10 million	0.25%

New Client Minimum Account Size: $1 million

Flexible Income

All Assets 0.50%

New Client Minimum Account Size: $250,000

Preferred Securities

First $1 million	0.50%	
Over $1 million	0.45%	
New Client Minimum Account Size:		$250,000

Preferred Securities Select

First $1 million	0.55%	
Over $1 million	0.50%	
New Client Minimum Account Size:		$400 million

Tax-Aware Fixed Income

First $2 million	0.50%	
Next $2 million	0.40%	
Next $6 million	0.30%	
Over $10 million	0.25%	
New Client Minimum Account Size:		$250,000

Taxable Bond Ladder

All assets	0.10%	
New Client Minimum Account Size:		$250,000

EQUITY STRATEGIES

Dividend Growth

All Assets	0.50%	
New Client Minimum Account Size:		$100,000

Global Dividend Growth (ADR)

All Assets	0.60%	
New Client Minimum Account Size:		$100,000

International Dividend Growth (ADR)

All Assets	0.65%	
New Client Minimum Account Size:		$100,000

Emerging Markets (ADR)

All Assets	0.75%	
New Client Minimum Account Size:		$100,000

Global Value

All Assets	0.70%	
New Client Minimum Account Size:		$5 million

International Equity (ADR)

All Assets	0.70%	
New Client Minimum Account Size:		$100,000

Multi Cap Value

All Assets	0.75%	
New Client Minimum Account Size:		$100,000

Small Cap

All Assets	0.75%	
New Client Minimum Account Size:		$100,000

Advisory Fees for Retail SMAs Offered through Wrap Fee Programs

For Retail SMAs offered through Wrap Fee Programs, NAM's fee is determined by agreement between the Program Sponsor and NAM and may be up to 0.50%. Total annual fees charged by Program Sponsors, which include NAM's fee, are generally up to 1.25% (in the case of fixed income) and 3.00% (in the case of equity) annually of the client's assets in the Wrap Fee Program.

Advisory Fees for Funds

Fees for advisory services provided to Funds are separately negotiated between NAM and the third-party or affiliated investment adviser and/or Fund. Fees may be based on a percentage of assets under management and/or performance based.

Advisory Fees for Multi-Asset Class Services

Fees for Multi-Asset Class services are negotiated.

Advisory Fees for Non-Discretionary Accounts and Model Portfolio Advice

These services are furnished for a negotiated fee paid by the purchaser.

Additional Fee Calculation Information

NAM's fees are generally payable quarterly or at such other times as agreed upon by the parties involved based upon the market value of assets in the account on the date of valuation, the average of the market value of the assets in the account during the billing period, or the calendar quarter-end market value. For Institutional Separate Accounts and dual contract Retail SMAs, payment arrangements, including the timing (in advance or in arrears) and billing procedures (which may include sending an invoice and/or deduction of fees), will be agreed upon by NAM and the client. In the case of Wrap Fee Program clients and certain dual contract Retail SMAs, payment methods generally will be determined by the Program Sponsor. Program Sponsors typically collect the total wrap fee and remit NAM's fee to NAM. Certain dual contract Program Sponsors collect and remit NAM's fee to NAM separately.

As indicated above, when NAM calculates fees, valuations of account assets are determined in accordance with NAM's valuation procedures, which generally rely on third party pricing services, but may permit the use of other valuation methodologies in certain circumstances. NAM's determinations may differ from valuations reflected in a client's custodial statements. See also Item 15. Further, when NAM calculates fees, certain securities or investments may be valued differently based on factors such as the type of account (Retail SMAs, Institutional Separate Account, etc.), operational systems and/or client instructions.

Generally, if an account is opened or closed during a billing period, the advisory fees are prorated for that portion of the billing period during which the account was open.

Accounts of NAM's employees, affiliate employees, former employees or their family members may be managed by NAM without an advisory fee.

See also Item 15.

Other Fees and Expenses

On behalf of its Institutional Separate Account, Retail SMAs and certain Fund clients, NAM may invest in closed-end funds, open-end funds, ETFs, exchange traded notes ("ETNs") and other pooled investment vehicles. When NAM invests client assets in such securities, unless otherwise agreed and where permitted by law, the client will bear its proportionate share of fees and expenses as an investor in the fund or vehicle in addition to NAM's investment advisory fees.

Additionally, NAM may invest client assets or recommend that clients invest in shares or other interests in certain Funds advised by NAM or its affiliates. To the extent that NAM invests client assets in an Affiliated Fund, NAM may, depending on the arrangement with the Program Sponsor or Institutional Separate Account client and any legal requirements, waive investment advisory fees on the assets invested in such Affiliated Fund, credit the account for the fees paid by the Affiliated Fund to NAM or NAM's Related Persons, avoid or limit the payment of duplicative fees to NAM and its Related Persons through other means, or charge fees both at the Affiliated Fund level and separate account level.

NAM's clients generally will incur brokerage and other transaction costs either separately or through a bundled fee. When trading equity securities for accounts in Wrap Fee Programs, NAM will typically trade directly through the Program Sponsor or the Program Sponsor's broker-dealer affiliate. In Wrap Fee Programs that permit NAM to trade away from the Program Sponsor or its broker-dealer affiliate, for certain investment strategies and asset classes other than equity securities, when NAM believes such Program Sponsor or its affiliate cannot provide best price or execution under the circumstances, NAM will generally trade away from such parties. In such instances, clients will generally incur transaction and other costs and fees in addition to the wrap fee. Wrap Fee Program clients should review all materials available from the Program Sponsor concerning the program, the Program Sponsor and the program's terms, conditions and fees. Additional information about NAM's brokerage practices and brokerage costs can be found under Item 12.

Clients in certain international and global strategies will incur fees and costs associated with the purchase of non-U.S. securities in ordinary form and conversion of such ordinary shares into ADRs. To the extent that NAM purchases non-U.S. ordinary shares and arranges for such shares to be converted into ADRs, client accounts will incur certain fees and costs associated with the conversion. Such fees and costs may be attributable to local broker fees, stamp fees, and local taxes, and are generally included in the net price of the ADR.

From time to time, a client may instruct NAM to suspend investment management services for their accounts for a period of time. Such accounts will generally be unmanaged by NAM during such time. NAM generally charges standard fees for all or a portion of such time to reflect the administrative costs associated with implementing such instructions.

Termination provisions vary by contract. Typically, a client or NAM may terminate its agreement at any time by providing thirty (30) days written notice. To the extent a client's investment management agreement for an Institutional Separate Account or dual contract Retail SMA provides that NAM's fees are to be paid in advance, the unearned portion of such fees will be refunded to the client upon termination of the service. For Wrap Fee Program agreements that provide that NAM's fees are to be paid in advance, NAM will refund any prepaid but unearned fees to the Program Sponsor. The Program Sponsor is then responsible for refunding fees, as applicable, to the client upon termination of the service. The refunded amount will be determined on a pro rata basis if the service is terminated within the payment period. For Wrap Fee Program accounts, termination provisions vary by program.

For certain strategies, (e.g. multi-strategy accounts) it is expected that an account will include an allocation by NAM to itself, Affiliated Funds, affiliated products and/or affiliated advisers, with respect to all or a material portion of an account. This structure results in more aggregate revenue to NAM and its affiliates than would result from an allocation to unaffiliated Funds, products and/or advisers. Clients should consult their own independent professional advisor(s) to determine whether such arrangement is appropriate and in their continuing best interests.

NAM supervised persons and related sales personnel typically market NAM's investment capabilities to various prospects and intermediaries. NAM's investment capabilities are available directly through provision of investment advisory services (through Institutional Separate Accounts and Retail SMAs), or indirectly by investment in Nuveen Funds advised or subadvised by NAM. Certain NAM supervised persons and related sales personnel will be internally compensated for successful marketing or selling activities with respect to NAM or its affiliates' investment advisory services. Prospective clients are encouraged to consult their own financial, tax and legal advisors regarding any investment decision regarding NAM's investment advisory services.

Certain NAM supervised persons and related sales personnel are also associated with NAM's affiliated broker-dealer, Nuveen Securities, LLC ("Nuveen Securities"), and in that capacity engage in marketing or selling activities with respect to shares or interests in Nuveen Funds advised or subadvised by NAM or its affiliates. See Item 10. Certain NAM supervised persons and related sales personnel will be internally compensated for successful marketing or selling activities with respect to shares or interests in Nuveen Funds advised or subadvised by NAM or its affiliates.

ITEM 6 PERFORMANCE-BASED FEES AND SIDE-BY-SIDE MANAGEMENT

NAM offers investment advisory services to multiple accounts with different investment objectives, guidelines and policies, and with different fee structures.

NAM may receive both asset-based fees and performance-based fees as compensation for its advisory services. Performance-based fees may create an incentive for NAM to make investments that are riskier or more speculative than would be the case in the absence of a performance-based fee. In these instances, NAM's compensation may be greater than it would otherwise have been, as the fee will be based on account performance instead of, or in addition to, a percentage of assets under management.

To the extent that NAM manages accounts that are charged a performance-based fee side-by-side with accounts are that not charged a performance-based fee, NAM maintains policies and procedures designed to treat all clients fairly. NAM periodically reviews allocations of investment opportunities and sequencing of transactions and compares the performance of such accounts, as well as assessing for adherence to such policies and procedures. Any exceptions or issues arising from the reviews are brought to the attention of NAM's Chief Compliance Officer.

ITEM 7 TYPES OF CLIENTS

NAM provides investment advisory and sub-advisory services to a broad range of individual and institutional clients, including investment companies and pooled investment vehicles, pension plans, charitable organizations, state or municipal government entities, insurance companies and corporate entities. Prior to investing in any Fund, an investor should review the relevant offering materials for important information concerning the objectives, policies, strategies, risks, fees and other important information.

Institutional Separate Accounts

For Institutional Separate Accounts, NAM generally requires a minimum account size generally ranging from $1 to $50 million depending on the strategy. Please see the fee schedule in Item 5 above for specific minimum investment amounts. NAM may waive these minimums based on client type, asset class, pre-existing relationship with client and other factors. For certain accounts, a negotiated minimum annual fee applies.

Retail SMAs

For Retail SMAs, NAM typically requires a minimum account of $100,000 for equity and asset allocation strategies and $250,000 for fixed income strategies, although the specific minimum account size varies by program. NAM may waive these minimums based on client type, asset class, pre-existing relationship with client and other factors. For certain accounts, a negotiated minimum annual fee applies.

ITEM 8 METHODS OF ANALYSIS, INVESTMENT STRATEGIES AND RISK OF LOSS

NAM provides its services in a broad array of fixed income, equity and other investment strategies, including in the broad categories of municipal bonds, taxable fixed income, global and international, value, growth and core equities, public real assets, asset allocation, quantitative/enhanced, responsible investing, alternative and customized strategies. Depending on the particular strategy, NAM invests in a variety of securities and other investments, including in certain cases derivatives, and employs various methods of analysis and investment techniques. Certain strategies include an allocation to Affiliated Funds. Certain strategies include elements of other strategies and are customized to meet the individualized needs of NAM's clients.

Nuveen, the asset management division of TIAA, has adopted certain principles on responsible investing at the enterprise level. NAM generally endeavors to consider environmental, social and governance (ESG) factors as part of investment research and/or portfolio construction. NAM does not undertake to apply specific requirements in this regard, and the degree to which ESG factors are integrated largely depends on the particular portfolio management team, strategy and account-level guidelines and requirements, and may vary materially. Unless a strategy expressly undertakes to employ ESG, green, or other responsible investing factors, NAM will not necessarily include in or exclude from portfolios certain securities, industries or sectors based solely on such criteria.

General descriptions of NAM's investment strategies are included below. These descriptions are not intended to serve as applicable account guidelines. Except in limited instances (e.g., certain allocation or multi-asset class strategies), NAM's strategies are not generally intended to provide a complete investment program for a client, and clients are responsible for appropriately diversifying their assets as appropriate.

NAM reserves the right to limit the availability of any particular strategy at any given time based on factors including asset class capacity, pre-existing relationships, minimum account sizes, fees and available distribution channels. In addition, NAM develops other investment strategies from time to time and manages portfolios according to a client's specific investment guidelines, and thus, strategies may vary by client account. Certain strategies are available only in certain channels or through investing in Funds. For Funds, the descriptions of the investment strategies below are qualified in their entirety by the information included in a Fund's prospectus or other official offering documentation. Prior to investing in any Fund, an investor should review the relevant prospectus or offering memorandum for important information.

STRATEGIES

Equity

Large Cap portfolios are invested primarily in common stocks of large-capitalization U.S. and/or non-U.S. companies, including emerging markets issuers. Large Cap portfolios may reflect growth, value or core (investing in both growth and value stocks) investment approaches.

Mid Cap portfolios are invested primarily in common stocks of mid-capitalization U.S. and/or non-U.S. companies, including emerging markets issuers. Mid Cap portfolios may reflect growth, value or core (investing in both growth and value stocks) investment approaches.

Small Cap portfolios are invested primarily in common stocks of small-capitalization U.S. and/or non-U.S. companies, including emerging markets issuers. Small Cap portfolios may reflect growth, value or core (investing in both growth and value stocks) investment approaches.

Small/Mid Cap portfolios are invested primarily in common stocks of small to mid-capitalization U.S. and/or non-U.S. companies, including emerging markets issuers. Small/Mid Cap portfolios may reflect growth, value or core (investing in both growth and value stocks) investment approaches.

All Cap or Multi-Cap portfolios are primarily invested in equity securities of U.S. and/or non-U.S. companies, including emerging markets issuers, of any market capitalization.

Dividend-oriented portfolios are invested primarily in equity securities of U.S. and/or non-U.S. companies, including emerging markets issuers, with an emphasis on dividends. Dividend-oriented portfolios may reflect growth, value or core (investing in both growth and value stocks), and/or U.S., global and international, investment approaches.

Options Overlay (also known as Covered Call strategy) employs, to varying degrees, option overwrite strategies that seek to enhance risk-adjusted performance over time of an equity portfolio.

Index portfolios generally invest a substantial amount of their assets in common stocks included in a particular broad-based securities index, such as a large cap, mid cap or small cap index. A portfolio generally does not hold all of the stocks included in a particular index, or hold them in the same weighting as the index.

Enhanced Equity Index/Large Cap Core Quantitative portfolios follow an actively managed strategy that uses a proprietary quantitative process to invest in common stocks.

International Equity portfolios invest primarily in non-U.S. issuers that trade in U.S. or non-U.S. markets (including emerging markets). International portfolios may reflect growth, value and core investment approaches. Certain strategies gain international investment exposure by investing in ADRs, Global Depositary Receipts ("GDRs") and similar depositary receipts. ADRs are the receipts for the shares of a non-U.S.-based company traded on U.S. exchanges. Accounts of large institutional clients may hold ordinary non-U.S. securities (sometimes referred to as "ORDs") directly (instead of or in addition to ADRs). GDRs typically are issued by non-U.S. banks or financial institutions and represent an interest in underlying securities issued by either a U.S. or a non-U.S. entity and deposited with the non-U.S. bank or financial institution.

Emerging Markets is an emerging market-focused investment strategy. This strategy seeks long-term capital appreciation by investing in high-quality, growth-oriented emerging market companies, diversified by country, sector and market cap. Certain strategies gain investment exposure by investing in ADRs, GDRs and similar depositary receipts. ADRs are the receipts for the shares of a non-U.S.-based company traded on U.S. exchanges. Accounts of large institutional clients may hold ordinary non-U.S. securities (sometimes referred to as "ORDs") directly (instead of or in addition to ADRs). GDRs typically are issued by non-U.S. banks or financial institutions and represent an interest in underlying securities issued by either a U.S. or a non-U.S. entity and deposited with the non-U.S. bank or financial institution.

Japan Equity portfolios seek to invest in undervalued Japanese companies with attractive absolute valuation, favorable risk/reward and identifiable catalysts and/or some element of change not understood by the market. The strategy utilizes ORDs and may also invest in GDRs or equivalent securities.

Global portfolios invest primarily in U.S. and non-U.S. issuers (that trade in U.S. or non-U.S. markets) (including emerging markets). Global portfolios may reflect growth, value and core investment approaches. Certain strategies gain international investment exposure by investing in ADRs, GDRs and similar depositary receipts. ADRs are the receipts for the shares of a non-U.S.-based company traded on U.S. exchanges. Accounts of large institutional clients may hold ORDs directly (instead of or in addition to ADRs). GDRs typically are issued by non-U.S. banks or financial institutions and represent an interest in underlying securities issued by either a U.S. or a non-U.S. entity and deposited with the non-U.S. bank or financial institution.

Concentrated portfolios invest in a relatively small number of securities compared with non-concentrated portfolios, thus providing greater exposure to each such security. Concentrated portfolios may relate to different asset classes (e.g., equities, preferred securities, etc.) and focus on companies of a particular capitalization (e.g., large cap, mid cap, small cap) and reflect growth, value or core (investing in both growth and value stocks) investment approaches.

Long/Short portfolios establish long and short positions, typically in stocks of U.S. companies, with an objective of long-term capital appreciation. Certain long/short portfolios seek absolute returns independent of market direction (market neutral) and are not intended to outperform stocks and bonds during strong market rallies.

Additional Information about Equity Strategies. Equity securities in which the portfolios invest may include common and preferred stocks, publicly-traded units of master limited partnerships ("MLPs"), real estate investment trusts ("REITs"), ETFs and other investment companies, convertible preferred stocks and debt securities that are convertible into common stocks. Each of the equity portfolios may pursue other strategies or invest in other instruments described in this Brochure.

Certain of the above equity securities portfolios may use derivatives, including options, futures contracts, options on futures contracts, and forward non-U.S. currency contracts, to manage various types of risk, enhance a portfolio's return, equitize cash or hedge against adverse movements in currency exchange rates. In addition, certain portfolios may use derivatives such as swaps, including interest rate swaps, total return swaps, credit default swaps and non-U.S. currency swaps, as well as other derivatives, to hedge the risk of investment in securities, substitute for a position in an underlying security, reduce transaction costs, maintain full market exposure, manage cash flows and preserve capital. Certain portfolios may also use derivatives, such as participatory notes and equity-linked securities, to gain exposure to equity and other securities of certain issuers. In addition, certain portfolios may write (sell) covered call options or buy put options on an index, or on some or all of the stocks or other securities they invest in, as well as using call spreads or other types of options to generate premium income and reduce volatility on a portfolio's return, with the intent of improving a portfolio's risk adjusted return. Certain portfolios may invest in stock index futures contracts, options on stock indices, and options on stock index futures to maintain the liquidity needed to meet redemption requests, to increase the level of portfolio assets devoted to replicating an index, and to reduce transaction costs. In addition, certain portfolios may utilize forward contracts to enhance returns. The portfolios may also be invested in warrants and securities convertible or exchangeable for equity securities such as convertible bonds.

A portion of a portfolio's assets may be invested in non-dollar denominated equity securities of non-U.S. issuers. In addition, a portion of a portfolio's assets may be invested in dollar-denominated equity securities of non-U.S. issuers that are either listed on a U.S. stock exchange or represented by depositary receipts that may or may not be sponsored by a domestic bank. Certain portfolios may invest primarily in ADRs and other depositary receipts.

Additionally, NAM may offer balanced strategies that combine equity and fixed income strategies described herein. Certain portfolios may invest in equity securities of companies of various market capitalizations, as determined by NAM; certain portfolios may also pursue a strategy that focuses on undervalued companies.

Certain portfolios may invest a portion of their assets in preferred securities as well as debt and other fixed income securities. These debt securities may be rated below investment grade ("high yield"). Additionally, certain portfolios may invest in securities that are not readily marketable (*i.e.*, illiquid).

<u>Public Real Assets</u>

Real Estate Securities portfolios are invested primarily in income-producing securities of U.S. companies in the real estate industry. A majority of the portfolio's total assets will be invested in real estate investment trusts ("REITs").

Global Real Estate Securities portfolios invest primarily in common stocks, preferred securities and other equity securities issued by U.S. and non-U.S. companies in the real estate industry, including REITs and similar REIT-like entities.

Real Asset Income portfolios invest primarily in income-producing infrastructure and real estate related securities (i.e., real assets) across the capital structure. Securities may include U.S. and non-U.S. (including emerging markets) equities and debt (including below investment grade debt).

Global Infrastructure portfolios are invested primarily in U.S. and non-U.S. (including emerging markets) equity securities of infrastructure-related companies. Infrastructure-related companies include companies involved in the ownership, development, construction, renovation, financing or operation of infrastructure assets, or that provide the services and raw materials necessary for the construction and maintenance of infrastructure assets. Infrastructure assets are the physical structures and networks upon which the operation, growth and development of a community depends, which includes water, sewer, and energy utilities; transportation and communication networks; health care facilities, government accommodations and other public service facilities; and shipping, timber, steel, alternative energy, and other resources and services necessary for the construction and maintenance of these physical structures and networks.

Global Clean Infrastructure portfolios are invested primarily in U.S. and non-U.S. (including emerging markets) equity securities of infrastructure-related companies that are involved in solving environmental challenges and improving operational characteristics that target positive environmental outcomes. Infrastructure-related companies include companies involved in the ownership, development, construction, renovation, financing or operation of infrastructure assets, or that provide the services and raw materials necessary for the construction and maintenance of infrastructure assets. Infrastructure assets are the physical structures and networks upon which the operation, growth and development of a community depends, which includes water, sewer, and energy utilities; transportation and communication networks; health care facilities, government accommodations and other public service facilities; and shipping, timber, steel, alternative energy, and other resources and services necessary for the construction and maintenance of these physical structures and networks. The portfolios have sustainable criteria in their investment selection process tied to energy transition metrics, minimum ESG ratings and exclusion of certain business activities, which leads to an investment focus on companies involved with the energy transition, provision of water and management of waste.

Fixed Income

Municipal Fixed Income portfolios invest primarily in municipal bonds. There are a number of different strategies of varying maturity, duration and quality. For Retail SMA municipal fixed income accounts, the following descriptions typically apply to accounts under normal market conditions:

	Limited Maturity Municipal Bond	**Intermediate Term Municipal Bond**	**Intermediate Term ESG Municipal Bond**	**Long Term Municipal Bond**	**Municipal Bond Total Return**
Average Duration Target	2 – 5 years	5 – 6.5 years	4 – 7 years	7 – 11 years	5 – 9 years
Maturity Range	1 – 10 years	1 – 20 years for Intermediate Term; 1-16 years for Intermediate Term High Quality	1 – 20 years	10 – 30+ years	1 – 30+ years
Average Maturity Target	3 – 7 years	7 – 10 years	5 – 12 years	17 – 22 years	10 – 20 years
Quality Range	BBB- to AAA	BBB- to AAA for Intermediate Term; A- to AAA for Intermediate Term High Quality	A- to AAA	A- to AAA	BBB- to AAA with respect to individual bond portion of account
Average Quality Target	AA	AA	AA	AA	A with respect to entire portfolio (blend of fund and individual bond portion of account)

Certain average targets vary based on market conditions. For example, when interest rates are lower, longer term bonds may be priced to their call dates, which could lower the average duration of such bonds (e.g., to 5-6 years) and restrict the ability to target a longer duration (e.g., 7-11 years).

For Retail SMAs within the Intermediate Term strategy category, Intermediate Term securities are generally rated BBB- or better at time of purchase, and Intermediate Term High Quality securities are generally rated A- or better at time of purchase.

A rating includes the rating given plus or minus. For municipal bond strategies, NAM generally relies on the applicable rating(s) of S&P and/or Moody's for retail SMA; and of S&P, Moody's and/or Fitch for Institutional Separate accounts, as applicable. For municipal bond strategies, split rated securities (i.e., rated differently by different applicable rating agencies) are generally deemed to receive the higher rating. A portion of a portfolio's assets may also be invested in municipal securities that are unrated, but that NAM deems to be of comparable quality to a particular rating.

Certain portfolios that invest primarily in investment grade securities also invest a portion of their assets in below-investment grade securities (including high yield securities).

For Retail SMAs, state-specific, state-preference and national-preference (sometimes referred to as "national with secondary state") portfolios may be available, depending on the particular state, as well as national portfolios. State-specific portfolios generally hold bonds only from the client's state of residence or U.S. territories (e.g., Puerto Rico, U.S. Virgin Islands and Guam). State-preference portfolios hold bonds from the client's state of residence or U.S. territories, which together will generally account for a particular minimum of the portfolio (e.g., 50%) and out-of-state bonds will comprise the balance of the portfolio. A national preference portfolio is a national portfolio with a secondary preference to the client's state of residence according to supply, relative value and strategic guidelines. The secondary preference of a national preference portfolio will be filled opportunistically over time, if at all, with no assurance of the inclusion of any state of residence bonds. Prospective clients and their financial advisors should consider the advantages and disadvantages of municipal bond portfolios that are limited (exclusively or materially) to bonds of a certain state (and U.S. territories) (e.g., state-specific and state-preference) compared with portfolios that can invest in a broader universe of bonds. A broader universe of bonds generally provides a higher yield, increased diversification, less concentration, less state/U.S. territory-specific political and economic risk and a shorter invest-up period than portfolios subject to state-based limitations.

The municipal securities in which state-specific Municipal Fixed Income portfolios may invest include municipal bonds and notes, including general obligation and revenue bonds, as well as other securities issued to finance and refinance public projects of a state, other related securities and derivatives creating exposure to municipal bonds, and municipal lease obligations, which are participations in lease obligations or installment purchase contract obligations of municipal authorities or entities.

For retail SMA Municipal Ladder strategies, the following descriptions typically apply under normal market conditions:

	1-7 Year Municipal Ladder	1-10 Year Municipal Ladder	1-15 Year Municipal Ladder	5-15 Year Municipal Ladder	10-25 Year Municipal Ladder	Customized Ladder
Maturity Ranges	1-7 years	1-10 years	1-15 years	5-15 years	10-25 years	custom
Credit Range	AAA to A	AAA to A	AAA to A	AAA to A	AAA to A	custom
Average Quality Target	AA	AA	AA	AA	AA	custom

For municipal ladder strategies, NAM will purchase individual bonds with differing maturities across the specified strategy maturity range. The bonds will typically be held to maturity in the absence of material credit events, contributions/withdrawals, calls and, for certain ladder strategies, sales pursuant to maturity parameters. The maturity range is typically segmented into 1-2 year ranges ("rungs") in which NAM will purchase bonds creating a "ladder" of individual bonds. Cash is typically generated in an account when bonds mature, are called, and for certain ladder strategies, are sold pursuant to maturity parameters. As cash is generated, NAM will generally purchase additional bonds in the longest available rung within the strategy's bond maturity range. Municipal ladder strategies may be customized for different maturity ranges as agreed upon with clients. The ladder strategy utilizes NAM's credit research and trading capabilities with respect to the selection and purchase (or sale) of individual bonds and ongoing monitoring, but as a laddered portfolio, does not include NAM's opportunistic and more active trading approach found in certain other NAM municipal bond strategies.

The foregoing discussion describes general features of Retail SMAs but is not intended to serve as applicable account guidelines, which may vary materially by account and SMA program.

A portion of certain Institutional Separate Accounts and Funds invest in inverse floating rate securities (sometimes referred to as "inverse floaters") issued in tender option bond ("TOB") transactions. In a TOB transaction, one or more highly rated municipal bonds are deposited into a special purpose trust that issues floating rate securities ("*floaters*") to outside parties and inverse floaters to long-term investors like a Fund or Institutional Separate Account. The floaters pay interest at a rate that is reset periodically (generally weekly) to reflect current short-term tax-exempt interest rates. Holders of the floaters have the right to tender such securities back to the TOB trust for par plus accrued interest (the "*put option*"), typically on seven days' notice. Holders of the floaters are paid from the proceeds of a successful remarketing of the floaters or by a liquidity provider in the event of a failed remarketing. The inverse floaters pay interest at a rate equal to (a) the interest accrued on the underlying bonds, minus (b) the sum of the interest payable on the floaters and fees payable in connection with the TOB. Thus, the interest payments on the inverse floaters will vary inversely with the short-term rates paid on the floaters. Holders of the inverse floaters typically have the right to simultaneously (a) cause the holders of the floaters to tender those floaters to the TOB trust at par plus accrued interest and (b) purchase the municipal bonds from the TOB trust. Because holders of the floaters have the right to tender their securities to the TOB trust at par plus accrued interest, holders of the inverse floaters are exposed to all of the gains or losses on the underlying municipal bonds, despite the fact that their net cash investment is significantly less than the value of those bonds. This multiplies the positive or negative impact of the underlying bonds' price movements on the value of the inverse floaters, thereby creating effective leverage. The effective leverage created by any TOB transaction depends on the value of the securities deposited in the TOB trust relative to the value of the floaters it issues. The higher the percentage of the TOB trust's total value represented by the floaters, the greater the effective leverage. For example, if municipal bonds worth $100 are deposited in a TOB trust and the TOB trust issues floaters worth $75 and inverse floaters worth $25, the TOB trust will have a leverage ratio of 3:1 and the inverse floaters will exhibit price movements at a rate that is four times that of the underlying bonds deposited into the trust. If that same TOB trust were to issue only $50 of floaters, the leverage ratio would be 1:1 and the inverse floaters would exhibit price movements at a rate that is only two times that of the underlying bonds.

Municipal Fixed Income portfolios may invest in municipal securities that are secured by insurance (including, in certain portfolios, insurance that guarantees the timely payment of principal and interest), bank credit agreements, or escrow accounts. A certain portion of Municipal Fixed Income portfolios' assets may be invested in taxable bonds.

Inflation-protected municipal bond portfolios seek a current yield that compensates an investor for current inflation expectations, and also seek to mitigate the effect that subsequent increases in inflation may have on the purchasing power of the account by investing in inflation-linked instruments, such as Consumer Price Index ("CPI") swaps, in amounts sufficient to approximate the duration characteristics of the account's underlying municipal bond portfolio.

Primarily for Institutional Separate Accounts and Funds, certain Municipal Fixed Income portfolios also utilize investment strategies designed to limit the risk of bond price fluctuations and to preserve capital. These strategies include the use of derivatives, such as financial futures contracts, swap contracts (including interest rate and credit default swaps), options on financial futures, options on swap contracts, or other derivatives whose prices, in an investment adviser's opinion, correlate with the prices of the portfolios' investments. A portfolio may also use derivatives strategies to shorten or lengthen the effective duration, and therefore the interest rate risk, of a portfolio, and to adjust other aspects of the portfolio's risk/return profile. A portfolio may use derivatives if it is deemed more efficient from a transaction cost, total return or income standpoint than selling and/or investing in cash securities. A portfolio may also use derivatives to enhance return, hedge the risks of its investments in fixed income securities or as a substitute for a position in an underlying asset. Additionally, a portfolio may use derivatives to manage market, credit and yield curve risk, and to manage the effective maturity or duration of portfolio securities. The portion of a Municipal Fixed Income portfolio that is invested in derivatives at times may be substantial.

Certain investors select municipal bond strategies for interest that is exempt from U.S. federal income tax, and in some cases, state and/or local income tax. Changes in tax laws, adverse interpretations by the Internal Revenue Service or state tax authorities, or noncompliant conduct of a bond issuer, among other events, could lead to declines in the value of municipal bonds and other unfavorable results. Clients are encouraged to consult their own financial, tax and legal advisors regarding the suitability of investing in municipal bond strategies.

Certain accounts invest in lower quality municipal bonds, including high yield bonds.

Municipal Fixed Income portfolios may pursue other strategies or invest in other instruments described in this Brochure.

Taxable Fixed Income portfolios invest primarily in debt securities according to the following strategies:

Short Term Fixed Income portfolios invest primarily in short term debt securities, which may include corporate debt, mortgage-backed, asset-backed, and U.S. government securities. A portfolio normally invests primarily in investment-grade securities.

Intermediate Term Fixed Income portfolios invest primarily in intermediate term investment-grade debt securities.

Core Plus Bond SMA invests in individual securities, typically investment grade corporate bonds, treasuries, and agencies, as well as affiliated mutual fund shares to get exposure to "plus" sectors such as securitized credit (also known as structured products), high yield, preferred securities, and emerging markets debt.

Core Fixed Income portfolios invest primarily in investment-grade debt securities, which may include U.S. government, corporate debt, mortgage-backed, asset-backed, municipal bonds and preferred securities.

Core Plus Fixed Income portfolios invest among core sectors such as corporate debt, U.S. government, and mortgage-backed and asset-backed securities as well as "plus" sectors such as preferred securities, emerging market debt, non-dollar denominated debt, and non-U.S. currencies.

Tax-Aware Fixed Income (also sometimes known as Income Opportunity) portfolios invest primarily in tax-exempt and taxable municipal, corporate and U.S. government debt securities to seek current after-tax income and/or total return.

Custom Fixed Income Solutions portfolios invest primarily in various fixed income asset classes that may include investment grade and high yield municipal bonds, investment grade and high yield corporate bonds, government and agency securities, non-U.S. fixed income securities, and preferred securities. The portfolio management team considers its view of the relative attractiveness of these asset classes to build a customized portfolio that seeks to achieve the strategy objective. Depending on account size and regulatory status, the portfolio may include individual securities and/or shares of mutual funds or ETFs (including mutual funds and ETFs advised by NAM and/or its affiliates).

Flexible Income portfolios seek to provide high current income and capital gains by investing primarily in income-producing securities such as corporate bonds, preferred securities, and common stocks.

Corporate Credit portfolios seek to provide high current income and total return by investing in U.S. dollar-denominated corporate debt and preferred securities.

U.S. Corporate Bond Ladder portfolios invest in individual U.S. Corporate Bond securities with differing maturities across the specified strategy maturity range that will typically be held to maturity or sold as they reach the portfolio's minimum maturity.

U.S. Government Bond Ladder portfolios invest in U.S. Treasury and/or U.S. Government Agency securities with differing maturities across the specified strategy maturity range that will typically be held to maturity or sold as they reach the portfolio's minimum maturity.

Government portfolios invest in securities issued or guaranteed by the U.S. government or its agencies or instrumentalities, including U.S. Treasuries, U.S. agency debt and mortgage-backed securities, and may also invest in global government debt securities, and debt-related derivative instruments.

Currency portfolios are primarily invested in fixed income securities that provide long and short exposure to selected non-U.S. currencies. The fixed income securities include, but are not limited to, non-U.S. sovereign debt securities, securities issued by the U.S. government agencies and instrumentalities and debt obligations of corporate issuers. Currency portfolios also may invest in instruments that provide exposure to selected non-U.S. currencies, including derivatives such as forward currency contracts, non-deliverable forward currency contracts, currency swap contracts and other currency derivatives deemed appropriate by NAM.

Inflation-Protected Securities portfolios invest primarily in inflation protected debt securities issued by U.S. and non-U.S. governments, their agencies and instrumentalities, domestic and non-U.S. corporations and/or derivatives. A portion of the portfolio's assets may also be invested in holdings that are not inflation protected.

Preferred Securities portfolios invest primarily in securities that generally pay fixed or adjustable rate distributions to investors and have preference over common stock in the payment of distributions and the liquidation of a company's assets, but are junior to most other forms of the company's debt. Depending on the particular strategy and type and size of account, preferred securities strategies may include preferred securities structured as a "retail" $25 par value and/or an "institutional" $1,000 par value. There is also a Concentrated Preferred Securities version of this strategy.

Build America Bonds portfolios are invested primarily in Build America Bonds ("BABs"), which are bonds issued by state and local governments to finance capital projects such as public schools, roads, transportation infrastructure, bridges, ports and public buildings, among others, pursuant to the Build America Bonds program of the American Recovery & Reinvestment Act of 2009. Issuance of BABs commenced in April 2009 and ended December 31, 2010. BABs portfolios may also use derivatives such as bond futures or interest rate swaps to hedge interest rate risks. Additionally, BABs portfolios may use leverage, including through investment in inverse floating rate securities and borrowings.

Mortgage and Mortgage Related Portfolios invest in mortgage-related assets that directly or indirectly represent a participation in or are secured by and payable from mortgage loans.

Multi-Sector Bond/Strategic Income portfolios invest primarily in U.S. government securities (issued or guaranteed by the U.S. government or its agencies or instrumentalities), residential and commercial mortgage-backed securities, asset-backed securities, domestic and non-U.S. corporate debt obligations, including obligations issued by special-purpose entities that are backed by corporate debt obligations, fixed and floating rate loans, including senior loans and secured and unsecured junior loans, debt obligations of non-U.S. governments, and/or municipal securities. Such securities may include below investment grade securities.

High Yield/High Income portfolios invest primarily in below investment grade debt and other income producing securities and may include U.S. and non-U.S. securities.

Long-Short Credit portfolios generally invest in or sell short securities and other investments, consisting principally, but not solely, of fixed income securities (including, without limitation, high yield, convertible and investment grade corporate bonds, and bank loans) that are traded in the public, 144A and over-the-counter markets as well as derivatives such as total return, credit default swaps, single name swaps, index reference assets based on the foregoing instruments and may hold equity securities received as a result of restructurings or corporate reorganizations. The portfolio emphasizes high yield and below investment grade (or equivalent) investments.

Corporate Arbitrage and Relative Value portfolios invest in or sell short securities and other investments, consisting principally, but not solely, of fixed income securities (including, without limitation, high yield, convertible and investment grade corporate bonds, and bank loans) that are traded in the public, 144A and over-the-counter markets as well as derivatives such as total return and credit default swaps and single name swaps and index reference assets based on the foregoing instruments. In addition, the strategy can include positions in convertible bond, preferred stock, convertible preferred stocks and short the underlying common stock (or vice versa), which is a combination that is intended to minimize the risk of each individual position and thereby the portfolio. The portfolio emphasizes high yield and below investment grade (or equivalent) investments.

Long-Only Credit portfolios invest primarily in senior loans and/or high yield bonds. Assets may also be invested in subordinated loans, convertible securities, asset backed securities and other credit securities. The portfolio emphasizes high yield and below investment grade (or equivalent) investments.

Certain of the high yield and credit strategies are sometimes referred to as “Leveraged Finance” strategies.

Additional Information about Taxable Fixed Income Strategies. Taxable Fixed Income portfolios may invest in securities rated investment grade or below investment grade (“high yield”), and such investments for certain portfolios may be substantial. Additionally, a Taxable Fixed Income portfolio may invest a portion of its assets in securities and other instruments that are, at the time of investment, illiquid. A Taxable Fixed Income portfolio’s assets may also be invested in U.S. dollar and non-dollar denominated debt obligations of non-U.S. corporations and governments, including those located in emerging markets countries. Taxable Fixed Income portfolios may pursue other strategies or invest in other instruments described in this Brochure.

A rating includes the rating given plus or minus. For Taxable Fixed Income, NAM generally relies on the applicable rating(s) of S&P, Moody’s and/or Fitch for Retail SMA and Institutional Separate Accounts, as applicable. Split rated securities (i.e., those rated differently by different applicable rating agencies) are generally deemed to receive, as applicable: the middle of three ratings or the lower of two ratings. A portion of a portfolio’s assets may also be invested in securities that are unrated but that NAM deems to be of comparable quality to a particular rating.

Taxable Fixed Income portfolios may also invest in other types of fixed income securities, such as asset-backed securities, residential and commercial mortgage-backed securities, corporate debt obligations, municipal securities and inverse floating rate securities.

Taxable Fixed Income portfolios may invest in and employ derivatives including, but not limited to, futures; interest rate swaps, caps, collars and floors; index swaps, total return swaps, credit default swaps and non-U.S. currency swaps; forward currency contracts and non-deliverable forward currency contracts; options on futures, non-U.S. currencies and swaps (as well as selling call options and purchasing put options on individual or a basket of securities, as well as on swaps); and/or other derivatives. The derivatives in which the Taxable Fixed Income portfolios may invest may be exchange traded or traded over the counter. Taxable Fixed Income portfolios may also invest a portion of their total assets in dollar roll transactions.

A Taxable Fixed Income portfolio may utilize derivatives strategies to enhance return, hedge some of the risks of their investments in securities, as a substitute for a position in an underlying asset, to reduce transaction costs, to maintain full market exposure, to manage or generate cash flows, to manage the effective maturity and duration of portfolio securities, to increase yield or enhance returns, to create debt or non-U.S. currency exposure, to limit exposure to losses due to changes to non-U.S. currency exchange rates, to preserve capital, and/or other reasons to the extent permitted by client guidelines.

The portion of a Taxable Fixed Income portfolio that is invested in derivatives at times may be substantial.

Taxable Fixed Income portfolios may also invest a portion of their assets in cash and cash equivalents. Additionally, certain Taxable Fixed Income portfolios may invest in equity securities and warrants acquired in connection with investments made in certain fixed income securities.

Multi-Asset Class Investments

Allocation portfolios invest primarily in other Funds that pursue certain strategies by investing in certain types of securities or investments, including with respect to all or a material portion of an account, Affiliated Funds. The particular Fund utilized will depend on the particular strategy or product. Investing in Funds, particularly in an asset allocation portfolio, causes a portfolio to indirectly bear its proportionate share of the Fund's fees and expenses, in addition to portfolio expenses. Allocation strategies include **Multi-Asset Income**, **Tax-exempt Income**, **ESG Growth** and others.

Target Date strategy portfolios invest in affiliated, passively managed equity and fixed income Funds/pooled investments vehicles according to asset allocation strategy designed for investors expected to retire in a particular year. The portfolio's investments are adjusted from more aggressive to more conservative over time as the target retirement year approaches.

Additional Information about Allocation Portfolios.

Allocation portfolios may pursue other strategies or invest in other instruments described in this Brochure, including ETNs. A portfolio may utilize the following derivatives: options; futures contracts; options on futures contracts, including futures on equity and commodities indices; interest rate and currency futures; interest rate caps, collars, and floors; non-U.S. currency contracts; options on non-U.S. currencies; interest rate, total return, currency and credit default swaps, and options on the foregoing types of swap agreements. A portfolio may use these derivatives in an attempt to manage market risk, currency risk, credit risk and yield curve risk; to manage the effective maturity or duration of securities in the portfolio; or for speculative purposes in an effort to increase yield or to enhance returns.

Index portfolios generally invest a substantial amount of their assets in common stocks included in a particular broad-based securities index, such as a large cap, mid cap or small cap index. A portfolio generally does not hold all of the stocks included in a particular index, or hold them in the same weighting as the index.

Enhanced Equity Index/Large Cap Core Quantitative portfolios follow an actively managed strategy that uses a proprietary quantitative process to invest in common stocks.

Managed Volatility strategies are designed to manage volatility levels regardless of the volatility level of the overall market. The strategies increase or decrease exposure to particular markets through the use of ETFs, ETNs, options, futures, forwards, total return swaps, and other investment vehicles and derivatives, dependent upon the specified mandate and client restrictions. The strategy uses volatility forecasts to inform investment decisions in an attempt to keep the portfolio's volatility within a particular range. These strategies can be implemented as standalone investments across asset classes or as an overlay to an underlying portfolio advised by NAM or a third party investment adviser and can be customized to a client's specific volatility objectives.

Certain strategies include the use of a put-spread options strategy to enhance income. The strategy generates income by selling short-term market protection and capturing the volatility premium. Specifically, a put option is written (i.e., sold) on a particular index (e.g., U.S. large cap equity market) with an exercise price just below the current level of the index. In addition, a put option is purchased on the same index with an exercise price below the exercise price of the written put. The strategy earns income from selling the put options and the purchased put seeks to provide downside protection.

Multi-Asset Class investments seek to design and/or implement an investment strategy that meets a client's particular needs. Multi-Asset Class investments generally employ the use of NAM and/or affiliated products and services. Given the multiple potential services that NAM may collectively provide, such as multi-asset class solutions, structured portfolio solutions including volatility management and option overlay or allocation advice together with portfolio management, conflicts of interest may arise. NAM generally provides advisory services to account strategies that contemplate, with respect to all or a material portion of an account, an allocation to Affiliated Funds, affiliated products and/or affiliated advisers, including NAM. This structure results in more aggregate revenue to NAM and its affiliates than would result from an allocation to unaffiliated Funds, products and/or advisers.

Some aspects of these strategies employ quantitative analysis and systems and other proprietary and third-party data and systems; see Technology Risk below.

Depending on the strategy, multi-asset class portfolios may invest in and employ a wide range of securities and derivatives. Such derivatives include, but are not limited to, futures; interest rate swaps, caps, collars and floors; index swaps, total return swaps, credit default swaps and non-U.S. currency swaps; forward currency contracts and non-deliverable forward currency contracts; options on futures, non-U.S. currencies and swaps (as well as selling call options and purchasing put options on individual or a basket of securities, as well as on swaps); and/or other derivatives. The derivatives in which the portfolios may invest may be exchange traded or traded over the counter. The portfolios may also invest a portion of their total assets in dollar roll transactions.

Alternative Strategies

Customized Derivative Overlay portfolios are designed to provide cash flow by shifting the probability distribution of investment outcomes. These portfolios invest in swap contracts, exchange-traded and over-the-counter (OTC) derivatives.

Responsible Investing/ESG Strategies

NAM offers specific strategies in the municipal bond, taxable fixed income and equity asset classes that include environmental, social and governance (ESG) and/or environmental and social impact considerations. Such strategies typically include "ESG", "Impact", "Green" or other similar references in the strategy names, including **ESG Municipal Bond**, **Core Impact Bond, ESG Growth**, **Global Clean Infrastructure, Global Real Estate Carbon Reduction**, and others. Details regarding the responsible investing/ESG requirements for a particular strategy are generally addressed in investment guidelines or otherwise agreed with clients.

For certain accounts where agreed with a client NAM also provides investment advisory services with respect to customized investment strategies that include responsible investing/ESG criteria or principles. Unless a strategy expressly undertakes to employ certain responsible investing/ESG factors, NAM will not necessarily include in or exclude from portfolios certain securities, industries or sectors based solely on such criteria.

Tax Optimization Overlay

As further discussed in Item 4, certain strategies in the Retail SMA channel are available with a tax optimization overlay. The tax optimization overlay employs certain software and quantitative approaches that seek to manage investment activity in a more tax efficient manner. The tax optimization process typically includes (i) tax management techniques such as tax loss harvesting, gain deferral and/or appropriate tax lot selection and (ii) seeking to maximize after-tax returns by altering the strategy's investment holdings and/or percentages in a manner that is intended to optimize after tax results while seeking to match the material strategy objective and characteristics. For available strategies, the client may select among different levels of tax optimization. The tax optimization overlay is subject to certain risks. See below and Item 4.

RISKS

As with any investment, loss of principal is a risk of investing in accordance with any of the investment strategies described above. This Brochure does not include every potential risk associated with an investment strategy, or all of the risks applicable to a particular portfolio. Rather, it is a general description of the nature and risks of NAM's principal strategies. The strategies described above also are subject to the risks listed below.

General Risks

The following risks are generally applicable to Equity, Fixed Income, Asset Allocation and other strategies. Such risks are in addition to the risks described more specifically with respect to Equity, Fixed Income, Asset Allocation and other strategies, including, as applicable, International and ESG below.

Active Management Risk - A portfolio is subject to the risk that the investment decisions or trading execution may cause the account to underperform relative to the benchmark index or to portfolios with similar investment objectives managed by other investment managers.

Asset Allocation Risk - Actively managed portfolios, particularly asset allocation portfolios, are dependent upon an adviser or sub-adviser's ability to make allocations and investment decisions to achieve a portfolio's investment objective. There is a risk that the adviser or sub-adviser's evaluations and assumptions used in making such allocations may be incorrect. As a result, a portfolio may underperform its benchmark or other portfolios with similar investment objectives.

Capital Structure Risk - Conflicts may arise when NAM invests one or more client accounts in different or multiple parts of the same issuer's or borrower's (or its affiliate's) capital structure, including investments in public versus private securities, debt versus equity, or senior versus junior/subordinated debt, or otherwise where there are different or inconsistent rights or benefits. Decisions or actions such as investing, trading, proxy voting, exercising, waiving or amending rights or covenants, workout activity, or serving on a board, committee or other involvement in governance may result in conflicts of interest between clients holding different securities or investments. Generally, individual portfolio managers will seek to act in a manner that they believe serves the best interest of the accounts they manage. In cases where a portfolio manager or team faces a conflict among its client accounts, it will seek to act in a manner that it believes best reflects its overall fiduciary duty, which may result in relative advantages or disadvantages for particular accounts. There is also a risk that NAM could obtain material non-public information (MNPI). Possession of MNPI could limit NAM's ability to transact in affected investments, which could be detrimental to client accounts. See Item 11.

Commodities Risk - Certain portfolios may invest in instruments providing exposure to commodities. Commodities markets historically have been extremely volatile, and the performance of securities that provide an exposure to those markets therefore also may be highly volatile. Commodities prices are affected by factors such as the cost of producing commodities, changes in consumer demand for commodities, the hedging and trading strategies of producers and consumers of commodities, speculative trading in commodities by commodity pools and other market participants, disruptions in commodity supply, drought, floods, weather, livestock disease, embargoes, tariffs, and international economic, political, and regulatory developments. Suspensions or disruptions of market trading in the commodities markets and related futures markets may adversely affect the value of securities providing an exposure to the commodities markets.

The Commodity Futures Trading Commission ("CFTC") is continuing to propose, adopt, and implement regulations governing the trading of swaps and other derivatives that the CFTC regulates. Those regulations may impose recordkeeping, reporting, clearing, business conduct, and trade execution requirements, among other things. Compliance with these requirements, and other requirements that may be adopted in the future, may increase expenses or transaction costs for accounts. The regulation of commodity transactions in the United States is a rapidly changing area of law and is subject to ongoing modification by government, self-regulatory and judicial action. The effect of any future regulatory change is impossible to predict, but could be substantial and adverse.

Concentration Risk - A portfolio's concentration of investments in securities of issuers located in a particular industry or sector or a particular state, country or region subjects a portfolio to economic conditions that may adversely affect an industry, sector or geographic area. In addition, concentration of investments in issuers located in a particular geography subjects a portfolio to government policies within that geographic area. As a result, a portfolio will be more susceptible to factors that adversely affect issuers in a particular industry, sector or geographic area than a portfolio that does not have as great a concentration in such issuers. A concentrated portfolio may also invest a larger portion of its assets in the securities of a limited number of issuers and may be more sensitive to any single economic, business, political or regulatory occurrence than a less concentrated, more diversified portfolio.

Counterparty Risk - Changes in the credit quality of the companies that serve as counterparties with respect to derivatives or other transactions supported by another party's credit may affect the value of those instruments. Certain entities that have served as counterparties in the markets for these transactions have recently incurred significant losses and financial hardships including bankruptcy as a result of exposure to sub-prime mortgages and other lower quality credit investments that have experienced recent defaults or otherwise suffered extreme credit deterioration. As a result, such hardships have reduced these entities' capital and called into question their continued ability to perform their obligations under such transactions. By using derivatives or other transactions, an account assumes the risk that its counterparties could experience similar financial hardships. In the event of insolvency of a counterparty, an account may sustain losses or be unable to liquidate a derivatives position. The counterparty risk for cleared derivatives is generally lower than for uncleared over-the-counter ("OTC") derivative transactions since generally a clearing organization becomes substituted for each counterparty to a cleared derivative contract and, in effect, guarantees the parties' performance under the contract as each party to a trade looks only to the clearing house for performance of financial obligations. However, there can be no assurance that the clearing house, or its members, will satisfy its obligations to an account.

Cybersecurity Risk - Cybersecurity risk is the risk of an unauthorized breach and access to portfolio assets, customer data, or proprietary information, or the risk of an incident occurring that causes the portfolio, the investment adviser or sub-adviser, custodian, transfer agent, distributor or other service provider or a financial intermediary to suffer a data breach, data corruption or lose operational functionality. Successful cyber-attacks or other cyber-failures may adversely impact the affected portfolio and/or client. Additionally, a cybersecurity breach could affect the issuers in which a portfolio invests, which may cause declines in an issuer's security price.

Deflation Risk — Deflation risk is the risk that prices throughout the economy decline over time, which may have an adverse effect on the market valuation of companies, their assets and revenues. In addition, deflation may have an adverse effect on the creditworthiness of issuers and may make issuer default more likely, which may result in a decline in the value of an account.

Derivatives Risk - The use of derivatives presents risks different from, and possibly greater than, the risks associated with investing directly in traditional securities. Derivatives can be highly volatile, illiquid and difficult to value, and there is the risk that changes in the value of a derivative held by an account will not correlate with the asset, index or rate underlying the derivative contract.

The use of derivatives can lead to losses because of adverse movements in the price or value of the underlying asset, index or rate, which may be magnified by certain features of the contract. An over-the-counter derivative transaction between an account and a counterparty that is not cleared through a central counterparty also involves the risk that a loss may be sustained as a result of the failure of the counterparty to the contract to make required payments. The payment obligation for a cleared derivative transaction is guaranteed by a central counterparty, which exposes the account to the creditworthiness of the central counterparty. These risks are heightened when the management team uses derivatives to enhance the account's return or as a substitute for a position or security, rather than solely to hedge (or offset) the risk of a position or security held by an account. In addition, when an account invests in certain derivative securities, including, but not limited to, when-issued securities, forward commitments, futures contracts and interest rate swaps, it is effectively leveraging its investments, which could result in exaggerated changes in the account's value and can result in losses that exceed the amount originally invested. The success of an account's derivatives strategies will depend on NAM's ability to assess and predict the impact of market or economic developments on the underlying asset, index or rate and the derivative itself, without the benefit of observing the performance of the derivative under all possible market conditions.

An account may also enter into OTC transactions in derivatives. Transactions in the OTC markets generally are conducted on a principal-to-principal basis. The terms and conditions of these instruments generally are not standardized and tend to be more specialized or complex, and the instruments may be harder to value. In general, there is less governmental regulation and supervision of transactions in the OTC markets than of transactions entered into on organized exchanges. In addition, certain derivative instruments and markets may not be liquid, which means an account may not be able to close out a derivatives transaction in a cost-efficient manner. Short positions in derivatives may involve greater risks than long positions, as the risk of loss on short positions is theoretically unlimited (unlike a long position, in which the risk of loss may be limited to the notional amount of the instrument).

A portfolio may be subject to credit risk with respect to the counterparties to certain derivatives agreements entered into by the portfolio. If a counterparty becomes bankrupt or otherwise fails to perform its obligations under a derivative contract due to financial difficulties, the portfolio may experience significant delays in obtaining any recovery under the derivative contract in a bankruptcy or other reorganization proceeding. The portfolio may obtain only a limited recovery or may obtain no recovery in such circumstances.

Writing (selling) covered call options on some or all of a portfolio's holdings subject the portfolio to additional risks. Because a covered call strategy limits participation in the appreciation of the underlying asset, in this case the securities, owning securities in a portfolio is not the same as an investment linked to the performance of the securities. By writing covered call options on the securities, a portfolio will give up the opportunity to benefit from potential increases in the value of the securities above the exercise prices of the options, but will continue to bear the risk of declines in the value of the securities. The premiums received from the options may not be sufficient to offset any losses sustained from the volatility of the securities over time.

A portfolio may purchase index put options to protect against a significant market decline over a short period of time. When index put options become expensive relative to the protection afforded a portfolio, the portfolio may reduce the amount of index put options to a level that is less than the full value of the portfolio. If a put option purchased by the portfolio is not sold or exercised when it has remaining value, the portfolio will lose its entire investment in the index put option. Also, where an index put option is purchased to hedge all or part of the portfolio, the price of the index put option may move more or less than the value of the index.

Certain commodity-linked derivative instruments, repurchase agreements, swap agreements and other forms of financial instruments that involve counterparties subject an account to the risk that the counterparty could default on its obligations under the agreement, either through the counterparty's bankruptcy or failure to perform its obligations. In the event of default, an account could experience lengthy delays in recovering some or all of its assets or no recovery at all. A futures commission merchant (*"FCM"*) may default on an obligation set forth in an agreement between an account and the FCM, including the FCM's obligation to return margin posted in connection with the account's futures contracts.

The Dodd-Frank Act required the U.S. Securities and Exchange Commission ("SEC"), the CFTC, and other federal financial regulators to develop an expanded regulatory framework for derivatives. Certain of the implementing regulations have not yet been finalized. Thus, the ultimate impact of the SEC's and CFTC's rulemakings is still unknown, but has the potential to increase the costs of using derivatives, may limit the availability of some forms of derivatives or NAM's or an account's ability to use derivatives in pursuit of its investment objectives, and may adversely affect the performance of some derivative instruments used. Moreover, governmental authorities outside of the U.S. have passed, proposed or may propose in the future legislation similar to the Dodd-Frank Act, which could increase the costs of participating in, or otherwise adversely impact the liquidity of, the swaps markets.

Certain derivatives (e.g., futures, options on futures and swaps) may be considered commodities and subject to the risks and limitations associated with commodities. See *Commodities Risk*.

Downgrade Risk - The risk that securities are subsequently downgraded should NAM and/or rating agencies believe the issuer's business outlook or creditworthiness has deteriorated.

Global Economic Risk - National and regional economies and financial markets are becoming increasingly interconnected, which increases the possibilities that conditions in one country, region or market might adversely impact issuers in a different country, region or market. Changes in legal, political, regulatory, tax and economic conditions may cause fluctuations in markets and securities prices around the world, which could negatively impact the value of an account's investments. For example, the United Kingdom's referendum decision to leave the European Union resulted in the depreciation in value of the British pound, short term declines in the stock markets and ongoing economic and political uncertainty concerning the consequences of the exit. Similar major economic or political disruptions, particularly in large economies like China's, may have global negative economic and market repercussions. Additionally, events such as war, terrorism, natural and environmental disasters and the spread of infectious illnesses or other public health emergencies may adversely affect the global economy and the markets and issuers in which an account invests. Recent examples of such events include the outbreak of a novel coronavirus known as COVID-19. These events could reduce consumer demand or economic output, result in market closure, travel restrictions or quarantines, and generally have a significant impact on the economy. Such events could materially increase risks, including market and liquidity risk, and significantly reduce account values. These events could also impair the information technology and other operational systems upon which service providers, including NAM, rely, and could otherwise disrupt the ability of employees of service providers to perform essential tasks on behalf of an account. There is no assurance that governmental and quasi-governmental authorities and regulators will provide constructive and effective intervention when facing a major economic, political or social disruption, disaster or other public emergency.

Hedging Risk - NAM's use of derivatives or other transactions to reduce risks in an account involves costs and will be subject to NAM's ability to predict correctly changes in the relationships of such hedge instruments to the portfolio holdings or other factors. No assurance can be given that NAM's judgment in this respect will be correct. In addition, no assurance can be given that an account will enter into hedging or other transactions at times or under circumstances in which it may be advisable to do so.

Inflation Risk - The value of assets or income from investments may be lower in the future as inflation decreases the value of money. As inflation increases, the value of a portfolio's assets can decline, as can the value of a portfolio's distributions.

Investment Style Risk - Different types of securities and asset classes (e.g., equities vs fixed income; large cap vs small cap; value vs growth; U.S. vs international markets; developed vs emerging markets, etc.) tend to shift in and out of favor depending on market and economic conditions. To the extent a portfolio emphasizes a particular style of investing or asset class, a portfolio runs the risk that such style or asset class will underperform relative to the benchmark index or portfolios with similar investment objectives managed by other investment managers.

Issuer Risk - The risk that an issuer's earnings prospects and overall financial position will deteriorate, causing a decline in the value of the issuer's financial instruments over short or extended periods of time.

Liquidity Risk **-** Liquidity risk exists when particular investments are difficult to purchase or sell. An account's investments in illiquid securities may reduce the returns of the account because it may be unable to sell the illiquid securities at an advantageous time or price. Additionally, the market for certain investments may become illiquid under adverse market or economic conditions independent of any specific adverse changes in the conditions of a particular issuer. In such cases, an account, due to potential limitations on investments in illiquid securities and the difficulty in purchasing and selling such securities or instruments, may be unable to achieve its desired level of exposure to a certain sector.

Market Risk - The market values of securities owned by the portfolios may decline, at times sharply and unpredictably. Market values of equity securities are affected by a number of different factors, including the historical and prospective earnings of the issuer, the value of its assets, management decisions, decreased demand for an issuer's products or services, increased production costs, general economic conditions, interest rates, currency exchange rates, investor perceptions and market liquidity. Market values of debt securities are also affected by a number of different factors, including changes in interest rates, the credit quality of bond issuers, and general economic and market conditions. These risks may be magnified for lower-quality fixed income securities. Market values may change due to the particular circumstances of individual issuers or due to general conditions impacting issuers more broadly within a specific country, region, industry, sector or asset class. Global economies and financial markets have become highly interconnected, and thus economic, market or political conditions or events in one country or region might adversely impact issuers and/or market conditions in a different country or region. As a result, the value of a portfolio's investments may be negatively affected whether or not the portfolio invests in a country or region directly impacted by such conditions or events.

Additionally, unexpected events and their aftermaths, including broad financial dislocations (such as the "great recession" of 2008-09), war, armed conflict, terrorism, the imposition of economic sanctions, natural and environmental disasters and the spread of infectious illnesses or other public health emergencies (such as the COVID-19 coronavirus pandemic first detected in December of 2019), may adversely affect the global economy and the markets and issuers in which a portfolio invests. These events could reduce consumer demand or economic output, result in market closures, travel restrictions or quarantines, or widespread unemployment, and generally have a severe negative impact on the global economy. Such events could also impair the information technology and other operational systems upon which a portfolio's service providers, including the investment adviser and sub-adviser, rely, and could otherwise disrupt the ability of employees of a portfolio's service providers to perform essential tasks on behalf of a portfolio. Furthermore, such events could cause financial markets to experience elevated or even extreme volatility and losses, could result in the disruption of trading and the reduction of liquidity in many instruments. In addition, sanctions and other measures could limit or prevent a portfolio from buying and selling securities (in sanctioned country and other markets), significantly delay or prevent the settlement of securities transactions, and significantly impact liquidity and performance. Governmental and quasi-governmental authorities and regulators throughout the world have in the past responded to major economic disruptions with a variety of significant fiscal and monetary policy changes, including but not limited to, direct capital infusions into companies, new monetary programs and dramatically lower interest rates. An unexpected or quick reversal of these policies, or the ineffectiveness of these policies, could increase volatility in securities markets, which could adversely affect the value of a portfolio's investments. In addition, there is a possibility that the rising prices of goods and services may have an effect on the portfolio. As inflation increases, the value of the portfolio's assets can decline

Non-Diversification Risk - A less diversified portfolio may invest a large portion of its assets in a fewer number of issuers than a diversified portfolio. If a relatively high percentage of a portfolio's assets may be invested in the securities of a limited number of issuers, a portfolio may be more susceptible to any single, economic, business (either globally or with respect to a particular company or companies), political or regulatory occurrence than a diversified portfolio.

Other Investment Companies Risk - When an account invests in investment companies (including ETFs), the client account bears both its advisory fees payable to NAM, and, indirectly, the expenses of the other investment companies. Furthermore, the account is exposed to the risks to which the other investment companies may be subject.

Quantitative Strategy Risk - When executing an investment strategy using various quantitative or investment models, securities or other financial instruments selected may perform differently than expected, or from the market as a whole, as a result of a model's component factors, the weight placed on each factor, changes from the factors' historical trends, deficiencies in the inputs, design, operation and implementation of models, inadvertent systems and human errors, and technical issues in the construction, implementation and maintenance of the models (e.g., data problems, software issues, etc.). There can be no assurance that a model will achieve its objective.

Restricted Securities Risk - The market for restricted securities, including Rule 144A securities, typically is less active than the market for publicly traded securities. Rule 144A securities and other securities exempt from registration under the Securities Act carry the risk that their liquidity may become impaired and a portfolio may be unable to dispose of the securities promptly or at current market value. In many cases, privately placed securities may be subject to transfer restrictions or may not be freely transferable under the laws of the applicable jurisdiction or due to contractual restrictions on resale. As a result of the absence of a public trading market, privately placed securities may be deemed to be illiquid investments or less liquid investments and may be more difficult to value than publicly traded securities. To the extent that privately placed securities may be resold in privately negotiated transactions, the prices realized from the sales, due to lack of liquidity, could be less than those originally paid by a portfolio or less than their fair market value. In addition, issuers whose securities are not registered and publicly traded may not be subject to the disclosure and other investor protection requirements that may be applicable if their securities were publicly traded. In making investments in such securities, a portfolio may obtain access to material nonpublic information, which may restrict the portfolio's ability to conduct portfolio transactions in such securities.

Technology Risk - Certain strategies may rely on quantitative analysis and systems and other proprietary and third-party data and systems to support investment decision making. Data imprecision, software or other technology malfunctions, programming inaccuracies and similar circumstances may impair the performance of these systems, which may negatively affect performance.

Temporary Investment Measures - An account may temporarily depart from its normal investment policies and strategies, for instance, by allocating all or a significant percentage of its assets to cash equivalents, short-term investments, or securities that do not comply with strategy guidelines, in response to adverse or unusual market, economic, political or other conditions. Such conditions could include a temporary decline in the availability of certain securities.

Regulatory Risk - If financial markets become unstable, as happened in 2008-2009, federal, state, and other governments, their regulatory agencies, or self-regulatory organizations could take actions that affect the regulation of the instruments in which an account invests, or the issuers of such instruments, in ways that are unforeseeable. Volatile financial markets can expose accounts to greater market and liquidity risk and potential difficulty in valuing portfolio instruments held by accounts. The value of an account's holdings is also generally subject to the risk of future local, national, or global economic disturbances based on unknown weaknesses in the markets in which an account invests. In the event of such a disturbance, issuers of securities held by a portfolio may experience significant declines in the value of their assets and even cease operations, or may receive government assistance accompanied by increased restrictions on their business operations or other government intervention. In addition, it is not certain that the U.S. government will intervene in response to a future market disturbance and the effect of any such future intervention cannot be predicted. It is difficult for issuers to prepare for the impact of future financial downturns, although companies can seek to identify and manage future uncertainties through risk management programs.

From time to time, NAM may be subject to regulatory inquiries, information requests, examinations, investigations and similar matters by regulatory and governmental agencies. NAM routinely cooperates with such requests. As a general policy NAM does not disclose the details of these inquiries and investigations until there are findings or conclusions. Where applicable, NAM will disclose regulatory matters to the extent required in Form ADV. Regulatory developments related to NAM, which could include compliance failures or other legal or regulatory matters, may generate negative publicity, which in turn could lead to Fund redemptions/account withdrawals and the need to sell assets. Selling under such circumstances could have an adverse impact on the price of such assets.

Short Selling Risk - Strategies that include short selling will incur a loss as a result of a short sale if the price of the security sold short increases in value between the date of the short sale and the date on which the account purchases the security to replace the borrowed security. In addition, a lender may request, or market conditions may dictate, that securities sold short be returned to the lender on short notice, which may result in the account having to buy the securities sold short at an unfavorable price. If this occurs, any anticipated gain to the account may be reduced or eliminated or the short sale may result in a loss. In a rising market, an account's short positions may significantly impact the account's overall performance and cause the account to underperform traditional long-only strategies or to sustain losses, particularly in a sharply rising market. The use of short sales may also cause the account to have higher expenses than long only accounts. Short sales are speculative transactions and involve special risks, including greater reliance on NAM's ability to accurately anticipate the future value of a security. Because losses on short sales arise from increases in the value of the security sold short, such losses are theoretically unlimited. By contrast, a loss on a long position arises from decreases in the value of the security and is limited by the fact that a security's value cannot go below zero.

The combination of short sales with long positions in an account's portfolio in an attempt to improve performance or reduce overall portfolio risk may not be successful and may result in greater losses or lower positive returns than if the account held only long positions. It is possible that an account's long securities positions will decline in value at the same time that the value of its short securities positions increase, thereby increasing potential losses to the account. In addition, an account's short selling strategies may limit its ability to fully benefit from increases in the relevant markets.

To the extent an account invests the proceeds received from selling securities short in additional long positions, the account is engaging in a form of leverage. The use of leverage may increase the account's exposure to long positions and make any change in the account's value greater than it would be without the use of leverage. This could result in increased volatility of returns.

Special Purpose Acquisition Companies Risk: NAM may invest in stocks of, warrants to purchase stocks of, and other interests (e.g., warrants and rights) in special purpose acquisition companies or similar special purpose entities that pool funds to seek potential acquisition opportunities (collectively, "SPACs"). Because SPACs and similar entities have no operating history or ongoing business other than seeking acquisition opportunities, the value of their securities is particularly dependent on the ability of the entity's management to identify and complete a profitable acquisition. Some SPACs may pursue acquisitions only within certain industries or regions, which may increase the volatility of their prices. An investment in a SPAC is subject to a variety of risks, including that (i) a significant portion of the monies raised by the SPAC for the purpose of identifying and effecting an acquisition or merger may be expended during the search for a target transaction; (ii) an attractive acquisition or merger target may not be identified at all and the SPAC will be required to return any remaining monies to shareholders; (iii) any proposed merger or acquisition may be unable to obtain the requisite approval, if any, of SPAC shareholders; (iv) an acquisition or merger once effected may prove unsuccessful and an investment in the SPAC may lose value; (v) the warrants or other rights with respect to the SPAC may expire worthless or may be replaced or retired by the SPAC at an unfavorable price; (vi) an account will be delayed in receiving any redemption or liquidation proceeds from the SPAC to which it is entitled; (vii) an investment in a SPAC may be diluted by additional later offerings of interests in the SPAC or by other investors exercising existing rights to purchase shares of the SPAC; and (viii) the values of investments in SPACs may be highly volatile and may depreciate significantly over time.

Additional Market Disruption Risk - In late February 2022, Russia launched a large scale military attack on Ukraine, which significantly amplified already existing geopolitical tensions among Russia, Ukraine, Europe, NATO and the West, including the U.S. In response, various countries, including the U.S., the United Kingdom, and the European Union issued broad-ranging economic sanctions against Russia, and additional sanctions may be imposed in the future. Sanctions and other actions against Russia may adversely impact, among other things, the Russian economy and various sectors of the economy, including but not limited to, financials, energy, metals and mining, engineering and defense and defense-related materials sectors; result in a decline in the value and liquidity of Russian securities; result in boycotts, tariffs, and purchasing and financing restrictions on Russia's government, companies and certain individuals; weaken the value of the ruble; downgrade the country's credit rating; freeze Russian securities and/or funds invested in prohibited assets and impair the ability to trade in Russian securities and/or other assets; and have other adverse consequences on the Russian government, economy, companies and region. Further, several large corporations and U.S. states have announced plans to divest interests or otherwise curtail business dealings with certain Russian businesses.

The ramifications of the hostilities and sanctions, however, may not be limited to Russia and Russian companies and may negatively impact other regional and global economic markets (including Europe and the United States), companies in other countries (particularly those that have done business with Russia) and on various sectors, industries and markets for securities and commodities globally, such as oil and natural gas. Accordingly, the actions discussed above and the potential for a wider conflict could increase financial market volatility, cause severe negative effects on regional and global economic markets, industries, and companies and have a negative effect on investments and performance beyond any direct exposure to Russian issuers or those of adjoining geographic regions. In addition, Russia may take retaliatory actions and other countermeasures, including cyberattacks and espionage against other countries and companies around the world, which may negatively impact such countries and the companies in which your account invests. The extent and duration of the military action or future escalation of such hostilities, the extent and impact of existing and future sanctions, market disruptions and volatility, and the result of any diplomatic negotiations cannot be predicted. These and any related events could have a significant impact on the value of investments and on investment performance, particularly with respect to Russian exposure.

Equity Risks

General Equity Risks

Equity Security Risk - Equity securities in a portfolio may decline significantly in price over short or extended periods of time. Price changes may occur in the market as a whole, or they may occur in only a particular country, company, industry, or sector of the market. From time to time, a portfolio may invest a significant portion of its assets in companies in one or more related sectors or industries which would make the portfolio more vulnerable to adverse developments affecting such sectors or industries.

Equity Risks Related to Particular Strategies

Dividend Growth Style Risk - Dividends are not guaranteed and will fluctuate. Dividend yield is one component of performance and should not be the only consideration for investment.

Dividend-Paying Security Risk - A portfolio's investment in dividend-paying stocks could cause the portfolio to underperform similar portfolios that invest without consideration of a company's track record of paying dividends. Stocks of companies with a history of paying dividends may not participate in a broad market advance to the same degree as most other stocks, and a sharp rise in interest rates or economic downturn could cause a company to unexpectedly reduce or eliminate its dividend. There is no guarantee that the issuers of the stocks held by the portfolio will declare dividends in the future or that, if declared, they will remain at their current levels or increase over time.

Frequent Trading Risk - Certain strategies, including Real Asset Income, Global Infrastructure, Dividend Value, Equity Long/Short and Equity Market Neutral strategies, among others, may trade securities frequently. Frequent trading of portfolio securities may produce capital gains, which are taxable to clients when distributed. Frequent trading may also increase the amount of commissions or mark-ups to broker-dealers that a portfolio pays when it buys and sells securities, which may detract from portfolio performance.

Growth Stock Risk - Growth stocks tend to be more volatile than certain other types of stocks and their prices usually fluctuate more dramatically than the overall stock market. Growth stocks may be more expensive relative to their earnings or assets compared to other types of equity securities. Accordingly, a stock with growth characteristics can have sharp price declines due to decreases in current or expected earnings and may lack dividends that can help cushion its share price in a declining market. In addition, growth stocks, at times, may not perform as well as value stocks or the stock market in general, and may be out of favor with investors for varying periods of time.

Index Replication/Tracking Risk - The ability of a portfolio to replicate the performance of a broad-based index may be affected by, among other things, changes in securities markets, the manner in which performance of the index is calculated, changes in the composition of the index, the composition of the portfolio, the amount and timing of cash flows into and out of the portfolio, commissions, sales charges (if any), and other expenses.

Initial Public Offering Risk - By virtue of its size and institutional nature, an adviser may have greater access to IPOs than individual investors. Most IPOs involve a high degree of risk not normally associated with offerings of more seasoned companies. Companies involved in IPOs generally have limited operating histories, and their prospects for future profitability are uncertain. These companies often are engaged in new and evolving businesses and are particularly vulnerable to competition and to changes in technology, markets and economic conditions. They may be dependent on certain key managers and third parties, need more personnel and other resources to manage growth and require significant additional capital. They may also be dependent on limited product lines and uncertain property rights, and may need certain regulatory approvals. Investors in IPOs can be affected by substantial dilution in the value of their shares, by sales of additional shares and by concentration of control in existing management and principal shareholders. Stock prices of IPOs can also be highly unstable, due to the absence of a prior public market, the small number of shares available for trading and limited investor information. IPOs will frequently be sold within 12 months of purchase. This may result in increased short-term capital gains, which will be taxable as ordinary income.

Large-Cap Company Risk - To the extent that an account invests in large capitalization stocks, the account may underperform accounts that invest primarily in stocks of smaller capitalization companies during periods when the stocks of such companies are in favor. Large-capitalization companies may be unable to respond as quickly as smaller capitalization companies to competitive challenges or to changes in business, product, financial or other market conditions.

Market Neutral Style Risk - A market neutral strategy may underperform compared to the general stock market or other equity strategies that do not utilize a market neutral strategy. For example, in a rising stock market, an account's short positions may significantly impact its overall performance and cause it to underperform traditional long-only equity accounts or to sustain losses, particularly in a sharply rising market. In addition, there is no guarantee that NAM will be able to construct a portfolio that limits the account's exposure to market movements. Further, market neutral strategies may involve frequent trading through rebalancing long and short positions in an attempt to maintain a market neutral position.

Mid-Cap Company Risk - While stocks of mid-cap companies may be slightly less volatile than those of small-cap companies, they still involve substantial risk. Mid-cap companies may have limited product lines, markets or financial resources, and they may be dependent on a limited management group. Stocks of mid-cap companies may be subject to more abrupt or erratic market movements than those of large, more established companies or the market averages in general.

Small-Cap Company Risk - Stocks of small-cap companies involve substantial risk. These companies which can include start-up companies offering emerging products or services, may lack the management expertise, product diversification, and competitive strengths of larger companies. They may have limited access to financial resources and may not have the financial strength to sustain them through business downturns or adverse market conditions. Since small-cap companies typically reinvest a high proportion of their earnings in their business, they may not pay dividends for some time, particularly if they are newer companies. Prices of small-cap stocks may be subject to more abrupt or erratic movements than stock prices of larger, more established companies or the market averages in general. In addition, the frequency and volume of their securities trading may be less than is typical of securities issued by larger companies, making them subject to wider price fluctuations and lower liquidity. In some cases, there could be difficulties in selling the stocks of small-cap companies at the desired time and price, especially in situations of increased market volatility. Stocks at the bottom end of the capitalization range of small-cap companies sometimes are referred to as “micro-cap” stocks. These stocks may be subject to extreme price volatility, as well as limited liquidity and limited research.

Style-Specific Risk - Different types of stocks tend to shift in and out of favor depending on market and economic conditions. To the extent a portfolio emphasizes a value or growth style of investing, a portfolio runs the risk that undervalued companies’ valuations will never improve or that growth companies may be more volatile than other types of investments, respectively.

Value Stock Risk - Value stocks are securities of companies that typically trade at a perceived discount to their intrinsic value and at valuation discounts relative to companies in the same industry. Value stocks often times are also in sectors that trade at a discount to the broader market. The reasons for their discount may vary greatly, but some examples may include adverse business, industry or other developments that may cause the company to be subject to special risks. Finding undervalued stocks requires considerable research to identify the particular company, analyze its financial condition and prospects, and assess the likelihood that the stock’s underlying value will be recognized by the market and reflected in its price. The intrinsic value of a stock with value characteristics may be difficult to identify and may not be fully recognized by the market for a long time or a stock identified to be undervalued may actually be appropriately priced at a low level. Value investing has gone in and out of favor during past market cycles and when value investing is out of favor the securities of value companies may underperform the securities of other companies.

<u>Fixed Income Risks</u>

<u>General Fixed Income Risks</u>

Market Liquidity Risk - Primary dealer inventories of bonds and preferred securities are a core indication of dealers’ capacity to “make a market” in those securities. A reduction in market making capacity has the potential to decrease liquidity and increase price volatility in the markets in which a portfolio invests, particularly during periods of economic or market stress. As a result of this decreased liquidity, a portfolio may have to accept a lower price to sell a security, sell other securities to raise cash, or give up an investment opportunity, any of which could have a negative effect on performance. If the portfolio needed to sell large blocks of bonds to meet shareholder redemption requests or to raise case, those sales could further reduce the bonds’ prices and hurt performance.

Call Risk - If, during periods of falling interest rates, an issuer calls higher-yielding debt instruments held by an account, the account may have to reinvest in debt instruments with lower yields or higher risk of default, which may adversely impact performance.

Call Option Risk - For accounts that sell (write) options, the value of such call options sold (written) by an account will fluctuate. Additionally, the account may not participate in any appreciation of its portfolio as fully as it would if the account did not sell call options. In addition, an account that sells (writes) options will continue to bear the risk of declines in the value of its portfolio.

Credit Risk - Credit risk is the risk that an issuer of a debt security may be or perceived (whether by market participants, rating agencies, pricing services or otherwise) to be unable or unwilling to make interest and principal payments when due and the related risk that the value of a security may decline because of concerns about the issuer’s ability or willingness to make such payments. Securities are subject to varying degrees of credit risk, which are often reflected in credit ratings. The credit rating of a security may be lowered or, in some cases, withdrawn if the issuer suffers adverse changes in its financial condition, which can lead to greater volatility in the price of the security and in shares of a portfolio, and can also affect the security’s liquidity and make it more difficult for a portfolio to sell. When a portfolio purchases unrated securities, it will depend on the sub-adviser’s analysis of credit risk without the assessment of an independent rating organization, such as Moody’s or Standard & Poor’s. Issuers of unrated securities, issuers with significant debt services requirements in the near to mid-term and issuers with less capital and liquidity to absorb additional expenses may have greater credit risk. Additionally, credit risk is heightened in market environments where interest rates are rising, particularly when rates are rising significantly, to the extent that an issuer is less willing or able to make payments when due.

To the extent that a portfolio holds securities that are secured or guaranteed by financial institutions, changes in the credit quality of such financial institutions could cause the values of these securities to decline. Security insurance does not guarantee the value of either individual securities or the shares of a portfolio. Additionally, a portfolio could be delayed or hindered in the enforcement of its rights against an issuer or guarantor.

Credit Spread Risk - Credit spread risk is the risk that credit spreads (i.e., the difference in yield between securities that is due to differences in their credit quality) may increase when the market believes that bonds generally have a greater risk of default. Increasing credit spreads may reduce the market value of the portfolio's debt securities. Credit spreads often increase more for lower rated and unrated securities than for investment grade securities. In addition, when credit spreads increase, reductions in market value will generally be greater for longer-maturity securities.

Extension Risk - During periods of rising interest rates, the average life of certain types of securities may be extended because of lower than expected principal payments. This may lock in a below market interest rate, increase the security's duration and reduce the value of the security. This is known as extension risk. Market interest rates for investment grade fixed-income securities are currently significantly below the historical average rates for such securities. This decline may have increased the risk that these rates will rise in the future. Historical interest rate levels, however, are not necessarily predictive of future interest rate levels.

Income Risk - The income earned from a portfolio may decline during periods of falling interest rates or when a portfolio experiences defaults on debt securities or defaults or deferrals on preferred securities it holds. Also, if a portfolio invests in inverse floating rate securities, whose income payments vary inversely with changes in short-term market rates, the portfolio's income may decrease if short-term interest rates rise.

Interest Rate Risk - Interest rate risk is the risk that the value of a portfolio will decline because of rising interest rates. Very low or negative interest rates may magnify interest rate risk. Changing interest rates, including rates that fall below zero, may have unpredictable effects on markets, result in heightened market volatility and detract from the portfolio's performance to the extent that it is exposed to such interest rates. Fixed-rate securities held by a portfolio will fluctuate in value with changes in interest rates. In general, fixed-rate securities will increase in value when interest rates fall and decrease in value when interest rates rise. When interest rates change, the values of longer-duration debt securities usually change more than the values of shorter-duration debt securities. Conversely, fixed-rate securities with shorter durations or maturities will be less volatile but may provide lower returns than fixed-rate securities with longer durations or maturities Rising interest rates also may lengthen the duration of debt securities with call features, since exercise of the call becomes less likely as interest rates rise, which in turn will make the securities more sensitive to changes in interest rates and result in even steeper price declines in the event of further interest rate increases. In especially low interest rate environments, the income generated by the portfolio's investments may be less than the expenses of the portfolio or a particular share class of the portfolio, especially for share classes with higher ongoing expenses, in which case the portfolio or a particular share class of the portfolio would not generate sufficient net income to pay a dividend. Risks associated with rising interest rates are heightened given that the U.S. Federal Reserve (the "Fed") has begun to sharply raise interest rates from historically low levels and has signaled an intention to continue to do so until current inflation levels align with the Fed's long-term inflation target. A wide variety of factors can cause interest rates to rise (e.g., central bank monetary policies, inflation rates, general economic conditions). Further, rising interest rates may cause issuers to not make principal and interest payments when due.

Prepayment Risk - During periods of declining interest rates, the issuer of certain types of securities may exercise its option to prepay principal earlier than scheduled, forcing a portfolio to reinvest in lower yielding securities. This is known as call or prepayment risk. Debt securities frequently have call features that allow the issuer to repurchase the security prior to its stated maturity. An issuer may redeem an obligation if the issuer can refinance the debt at a lower cost due to declining interest rates or an improvement in the credit standing of the issuer.

LIBOR Replacement Risk - Certain instruments in which a portfolio may invest are subject to rates that are tied to an interest rate, such as the London Interbank Offered Rate ("LIBOR"). In July 2017, the head of the United Kingdom Financial Conduct Authority announced the desire to phase out the use of LIBOR by the end of 2021. Since December 31, 2021, all sterling, euro, Swiss franc and Japanese yen LIBOR settings and the 1-week and 2-month U.S. dollar LIBOR settings have ceased to be published on a representative basis, and it is anticipated that after June 30, 2023 the overnight 1-month, 3-month, 6-month and 12-month U.S. dollar LIBOR settings will cease to be published on a representative basis. Although some settings of U.S. dollar LIBOR continue to be published, there is no assurance that LIBOR will continue to exist as a representative rate until June 30, 2023, or at any time thereafter. Certain regulated entities have ceased entering into most new LIBOR contracts in connection with regulatory prohibitions or supervisory guidance. Replacement rates that have been identified include the Secured Overnight Financing Rate ("SOFR"), which is intended to replace U.S. dollar LIBOR and measures the cost of overnight borrowings through repurchase agreement transactions collateralized with U.S. Treasury securities, and the Sterling Overnight Index Average Rate ("SONIA"), which is intended to replace GBP LIBOR and measures the overnight interest rate paid by banks for unsecured transactions in the sterling market, although other replacement rates could be adopted by market participants. Although the transition process away from LIBOR has become increasingly well-defined in advance of the anticipated discontinuation date, there remains uncertainty regarding the future utilization of LIBOR and the nature of any replacement rate. Any potential effects of the transition away from LIBOR on an account or on certain instruments in which a portfolio invests can be difficult to ascertain, and they may vary depending on factors that include, but are not limited to: (i) existing fallback or termination provisions in individual contracts and (ii) whether, how, and when industry participants develop and adopt new reference rates and fallbacks for both legacy and new products and instruments. A portfolio may continue to invest in instruments that reference LIBOR or otherwise use LIBOR reference rates due to favorable liquidity or pricing; however, new LIBOR assets may no longer be available. A portfolio may continue to invest in instruments that reference LIBOR or otherwise use LIBOR reference rates due to favorable liquidity or pricing; however, new LIBOR assets may no longer be available. In addition, interest rate provisions included in such contracts may need to be renegotiated in contemplation of the transition away from LIBOR. The transition may also result in a reduction in the value of certain instruments held in a portfolio or a reduction in the effectiveness of related portfolio transactions such as hedges. In addition, an instrument's transition to a replacement rate could result in variations in the reported yields of a portfolio that holds such instrument. The usefulness of LIBOR as a benchmark could deteriorate during the transition period and, at this time, it is not possible to predict the effect of the establishment of SOFR, SONIA or any other replacement rates or any other reforms to LIBOR. Any such effects of the transition away from LIBOR, as well as other unforeseen effects, could result in losses to a portfolio. Various pieces of legislation, including enacted legislation from the states of New York and Alabama and the U.S. Congress, may affect the transition of LIBOR-based instruments as well by permitting trustees and calculation agents to transition instruments without effective LIBOR fallback language to a successor reference rate. Such pieces of legislation also include safe harbors from liability, which may limit the recourse a holder may have if the successor reference rate does not fully compensate that holder for the transition of an instrument from LIBOR. It is uncertain what impact any such legislation may have.

Unrated Security Risk - Unrated securities determined by NAM to be of comparable quality to rated securities which the portfolio may purchase may pay a higher interest rate than such rated securities and be subject to a greater risk of illiquidity or price changes. Less public information is typically available about unrated securities or issuers than rated securities or issuers.

Valuation Risk - The debt securities in which a portfolio may invest typically are valued by a pricing service utilizing a range of market-based inputs and assumptions, including price quotations obtained from broker-dealers making markets in such instruments, cash flows and transactions for comparable instruments. There is no assurance that a portfolio will be able to buy or sell a security at the price established by the pricing service, which could result in a gain or loss to the portfolio. Pricing services generally price debt securities assuming orderly transactions of an institutional "round lot" size, but some trades may occur in smaller, "odd lot" sizes, often at lower prices than institutional round lot trades. Over certain time periods, such differences could materially impact the performance of a portfolio, which may not be sustainable. Alternative pricing services may incorporate different assumptions and inputs into their valuation methodologies, potentially resulting in different values for the same securities. As a result, if NAM were to change pricing services, or if NAM's pricing service were to change its valuation methodology, there could be a material impact, either positive or negative, on the portfolio's value.

When-issued, Delayed-delivery and Forward Commitment Transactions Risk - These transactions involve an element of risk because, although the portfolio will not have made any cash outlay prior to the settlement date, the purchase price has been established so the value of the security to be purchased may decline to a level below its purchase price before that settlement date.

Fixed Income Risks Relating to Particular Strategies

Alternative Minimum Tax Risk - Certain municipal bond strategies are not limited as to the amount that can be invested in bonds that generate income subject to the alternative minimum tax. Therefore, all or a portion of the account's otherwise exempt-interest dividends may be taxable to those account holders subject to the federal and state alternative minimum tax. For tax years beginning after December 31, 2022, exempt-interest dividends may affect the federal corporate alternative minimum tax for certain corporations.

Build America Bond Risk - Build America Bonds ("BABs") are bonds issued by state and local governments to finance capital projects such as public schools, roads, transportation infrastructure, bridges, ports and public buildings, among others, pursuant to the Build America Bonds Act (the "Act"). Unlike investments in most other municipal securities, interest received on BABs is subject to U.S. federal income tax and may be subject to state income tax. The Act, enacted in February 2009, authorizes state and local governments to issue taxable bonds on which, assuming certain specified conditions are satisfied, issuers may either (i) receive payments from the U.S. Treasury equal to a specified percentage of its interest payments (known as "direct pay" BABs) or (ii) cause investors in the bonds to receive federal tax credits ("tax credit" BABs). Direct pay BABs entitle issuers to receive reimbursement from the U.S. Treasury equal to a certain percentage of the interest paid on the bonds, which allows such issuers to issue bonds that pay interest rates that are expected to be competitive with the rates typically paid by private bond issuers in the taxable fixed income market. The portfolios may invest in either direct pay BABs or tax credit BABs in any amount at any time. Issuance of BABs commenced in April 2009 and ended December 31, 2010. Because there are no new issuances of BABs and to the extent that there are no or other taxable municipal securities with interest payments subsidized by the U.S. Government through direct pay subsidies, the ability to execute a BABs strategy may be impaired. BABs portfolios may also use derivatives such as bond futures or interest rate swaps to hedge interest rate risks. Additionally, BABs portfolios may utilize leverage, including through investment in inverse floating rate securities and borrowings. Due to the finite universe of BABs previously issued, and maturation, calls and other factors relating to such securities, there is a limited supply of BABs.

Collateralized Loan Obligations Risk - A CLO is an asset-backed security whose underlying collateral is a pool of loans, which may include, among others, domestic and non-U.S. floating rate and fixed rate senior secured loans, senior unsecured loans, and subordinate corporate loans, including loans that may be rated below investment grade. In addition to the risks associated with loans and high yield securities, CLOs are subject to the risk that distributions from the collateral may not be adequate to make interest or other payments in accordance with the terms of the underlying issued security; the quality of the collateral may decline in value or default; an account may invest in tranches of CLOs that are subordinate to other tranches; the complex structure of the CLO may not be fully understood at the time of investment and may produce disputes with the issuer or unexpected investment results; and the CLO's manager may perform poorly. CLOs generally charge management and other administrative fees, which are in addition to account-level fees.

Contingent Capital Security Risk - Contingent capital securities (sometimes referred to as "CoCos") have loss absorption mechanisms benefitting the issuer built into their terms. Upon the occurrence of a specified trigger or event, CoCos may be subject to automatic conversion into the issuer's common stock, which likely will have declined in value and which will be subordinate to the issuer's other classes of securities, or to an automatic write-down of the principal amount of the securities, potentially to zero, which could result in the portfolio losing a portion or all of its investment in such securities. CoCos are often rated below investment grade and are subject to the risks of high yield securities.

Convertible Securities Risk - Convertible securities generally offer lower interest or dividend yields than non-convertible fixed-income securities of similar credit quality because of the potential for capital appreciation. The market values of convertible securities tend to decline as interest rates increase and, conversely, to increase as interest rates decline. In the event of a liquidation of the issuing company, holders of convertible securities would be paid before that company's common stockholders. Consequently, an issuer's convertible securities generally entail less risk than its common stock. However, convertible securities rank below debt obligations of the same issuer in order of preference or priority in the event of a liquidation or reorganization and are typically unrated or rated lower than such debt obligations. Different types or subsets of convertible securities may carry further risk of loss.

Defaulted and Distressed Securities Risk - Accounts in certain municipal bond or other fixed income strategies, including high yield municipal bond and high yield taxable fixed income, regularly invest in securities that are considered in default or otherwise in distress, or may later become so. The issuer/borrower of such securities may be in or headed toward bankruptcy or insolvency proceedings. Moreover, certain strategies, including high yield municipal bond, may invest in securities rated CCC+/Caa1 or lower, or unrated but judged by NAM to be of comparable quality. Some or many of these low-rated securities, although not in default, may be “distressed,” meaning that the issuer is experiencing financial difficulties or distress at the time of acquisition. Such securities would present a substantial risk of future default which may cause an account to incur losses, including additional expenses, to the extent it is required to seek recovery upon a default in the payment of principal or interest on those securities. In any reorganization or liquidation proceeding relating to a portfolio security, an account may lose its entire investment or may be required to accept cash or securities with a value less than its original investment. Defaulted or distressed securities may be subject to restrictions on resale, and may be considered restricted and/or illiquid.

Defaulted Bond Risk - Defaulted bonds are speculative and involve substantial risks in addition to the risks of investing in high yield securities that have not defaulted. An account generally will not receive interest payments on the defaulted bonds and there is a substantial risk that principal will not be repaid. In any reorganization or liquidation proceeding relating to a defaulted bond, the account may lose its entire investment or may be required to accept cash or securities with a value less than its original investment. Defaulted bonds and any securities received in exchange for defaulted bonds may be subject to restrictions on resale.

Dollar Roll Transaction Risk - In a dollar roll transaction, a portfolio sells mortgage-backed securities for delivery in the current month while contracting with the same party to repurchase similar securities at a future date. Because the portfolio gives up the right to receive principal and interest paid on the securities sold, a mortgage dollar roll transaction will diminish the investment performance of a portfolio unless the difference between the price received for the securities sold and the price to be paid for the securities to be purchased in the future, plus any fee income received, exceeds any income, principal payments, and appreciation on the securities sold as part of the mortgage dollar roll. Whether mortgage dollar rolls will benefit a portfolio may depend upon the adviser’s ability to predict mortgage prepayments and interest rates. In addition, the use of mortgage dollar rolls by a portfolio increases the amount of the portfolio’s assets that are subject to market risk, which could increase the volatility of the price of the portfolio’s total value. These transactions are subject to the risk that the counterparty to the transaction may not or be unable to perform in accordance with the terms of the instrument.

High Yield Securities Risk - High yield securities, which are rated below investment grade and commonly referred to as “high yield” securities or “junk” bonds. High yield securities (and similar quality unrated securities) usually offer higher yields than investment grade securities, but also involve more risk. Analysis of the creditworthiness of issuers of high yield securities may be more complex than for issuers of higher rated debt securities. High yield securities may be more susceptible to real or perceived adverse economic conditions than investment grade securities, and they generally have more volatile prices, carry more risk to principal and are more likely to experience a default. In addition, high yield securities generally are less liquid than investment grade securities. Any investment in distressed or defaulted securities subjects the portfolio to even greater credit risk than investments in other below-investment grade securities.

Inflation-Protected Municipal Bond Strategy Risk - In addition to other risks, this strategy may entail additional risks described below:

> *Declining Inflation Risk* - Certain inflation-hedging strategies involve the use of Consumer Price Index (CPI) swaps. Such accounts will benefit from a CPI swap if actual inflation during the swap's period is greater than the level of inflation expected for that period at the time the swap was initiated. However, if actual inflation turns out to be less than expected, the account will lose money on the swap. In such circumstances, the account will underperform an otherwise identical municipal bond account that had not utilized such inflation hedges.
>
> *Inflation-Linked Instruments Risk* - The returns of CPI swaps or other inflation-linked instruments reflect a specified index of inflation. There can be no assurance that the inflation index used will accurately measure either the actual future rate of inflation or the rate of expected future inflation reflected in the prices and yields of municipal bonds. As a result, an account's inflation-hedging strategy may not perform as expected. CPI swaps may be riskier than other types of investments because they may be more sensitive to changes in economic or market conditions and could result in losses that significantly exceed the account's original investment. CPI swaps create leverage, which may cause the account's value and returns to be more volatile than they would be if the account had not used swaps. CPI swaps also expose the account to counterparty risk, which is the risk that the swap counterparty will not fulfill its contractual obligations.

Inflation-Protected Securities Risk - Interest payments on inflation protected debt securities will vary with the rate of inflation, as measured by a specified index. There can be no assurance that the CPI-U (used as the inflation measure by U.S. Treasury inflation protected securities) or any non-U.S. inflation index will accurately measure the real rate of inflation in the prices of goods and services. Moreover, there can be no assurance that the rate of inflation in a non-U.S. country will be correlated to the rate of inflation in the United States. If the market perceives that the adjustment mechanism of an inflation protected security does not accurately adjust for inflation, the value of the security could be adversely affected. There may be a lag between the time a security is adjusted for inflation and the time interest is paid on that security. This may have an adverse effect on the trading price of the security, particularly during periods of significant, rapid changes in inflation. In addition, to the extent that inflation has increased during the period of time between the inflation adjustment and the interest payment, the interest payment will not be protected from the inflation increase.

Insurance Risk - Many significant providers of insurance for municipal securities have recently incurred significant losses as a result of exposure to sub-prime mortgages and other lower credit quality investments that have experienced recent defaults or otherwise suffered extreme credit deterioration. Such losses have reduced the insurers' capital and called into question their continued ability to perform their obligations under such insurance if they are called upon to do so in the future. The insurance feature of a municipal security is contingent on the ability of the insurer to fulfill its obligations. Therefore, insurance does not completely assure the full payment of principal and interest when due through the life of an insured obligation or the market value of the insured obligation.

Inverse Floaters Risk - The use of inverse floaters by an account creates effective leverage. Due to the leveraged nature of these investments, they will typically be more volatile and involve greater risk than the fixed rate municipal bonds underlying the inverse floaters. An investment in certain inverse floaters will involve the risk that the account could lose more than its original principal investment. Distributions on inverse floaters bear an inverse relationship to short-term municipal bond interest rates. Thus, distributions paid to the account on its inverse floaters will be reduced or even eliminated as short-term municipal interest rates rise and will increase when short-term municipal interest rates fall. Inverse floaters generally will underperform the market for fixed rate municipal bonds in a rising interest rate environment.

Liquidity Risk - The portfolios may invest in lower-quality debt instruments. Lower-quality debt tends to be less liquid than higher-quality debt. If the economy experiences a sudden downturn, or if the debt markets for a particular security become distressed, a portfolio may have particular difficulty selling its assets in sufficient amounts, at reasonable prices and in a sufficiently timely manner.

The secondary market for municipal bonds, and particularly for high-yield municipal bonds, tends to be less well developed and less liquid than many other securities markets. As a result, an account may have to accept a lower price to sell a security, sell other securities to raise cash, or give up an investment opportunity, any of which could have a negative effect on performance. An account may invest a significant portion of its assets in unrated bonds. The market for these bonds may be less liquid than the market for rated bonds of comparable quality.

Loan Risk - In addition to risks generally associated with debt securities, loans, including secured loans, unsecured and/or subordinated loans and loan participations, are subject to other risks. Loans generally are subject to legal or contractual restrictions on resale and may trade infrequently on the secondary market. It is sometimes necessary to obtain the consent of the borrower and/or agent before selling or assigning a floating rate loan. The lack of an active trading market for certain loans may impair the ability of a portfolio to realize full value in the event of the need to sell a loan and may make it difficult to value such loans. Portfolio transactions in loans may settle in as short as seven days but typically can take up to two or three weeks, and in some cases much longer. As a result of these extended settlement periods, a portfolio may incur losses if it is required to sell other investments or temporarily borrow to meet its cash needs, including satisfying redemption requests.

The amount of public information available with respect to loans is generally less extensive than that available for registered or exchange listed securities. Furthermore, because NAM may wish to invest in the publicly-traded securities of an obligor, it may not have access to material non-public information regarding the obligor to which other investors have access. Loans may not be considered “securities” under the federal securities laws and, as a result, a portfolio may not be entitled to rely on the anti-fraud or other protections afforded by such laws.

Interests in secured loans have the benefit of collateral and, typically, of restrictive covenants limiting the ability of the borrower to further encumber its assets. However, in periods of high demand by lenders for loan investments, borrowers may limit these restrictive covenants and weaken the ability of lenders to access the collateral securing the loan. Additionally, loans with fewer restrictive covenants may provide the borrower with more flexibility to take actions that may be detrimental to the lender or limit the lender’s ability to declare a default, which may hinder a portfolio’s ability to reprice credit risk associated with the borrower and mitigate potential loss. A portfolio may experience relatively greater realized or unrealized losses or delays and expenses in enforcing its rights with respect to loans with fewer restrictive covenants. There is also a risk that the value of any collateral securing a loan in which a portfolio has an interest may decline and that the collateral may not be sufficient to cover the amount owed on the loan. If the borrower defaults, a portfolio’s access to the collateral may be limited or delayed because of difficulty liquidating the collateral or by bankruptcy or other insolvency laws. The risks associated with unsecured loans, which are not backed by a security interest in any specific collateral, are higher than those for comparable loans that are secured by specific collateral. Interests in loans made to finance highly leveraged companies or transactions such as corporate acquisitions may be especially vulnerable to adverse changes in economic or market conditions. Additionally, because junior loans have a lower place in an issuer’s capital structure and may be unsecured, junior loans involve a higher degree of overall risk than senior loans of the issuer.

An investor in a loan participation may not always have direct recourse against a borrower if the borrower fails to pay scheduled principal and/or interest; may be subject to greater delays, expenses and risks than if the investor had purchased a direct obligation of the borrower; and may be regarded as the creditor of the agent lender (rather than the borrower), subjecting the investor to the creditworthiness of that lender as well and the ability of the lender to enforce appropriate credit remedies against the borrower.

See also *LIBOR Replacement Risk* above.

Mortgage/Asset-Backed Securities Risk - The value of a portfolio's mortgage-related securities and/or asset-based can fall if the owners of the underlying mortgages or other obligations pay off their mortgages or other obligations sooner than expected, which could happen when interest rates fall, or later than expected, which could happen when interest rates rise. With respect to asset-backed securities, the payment of interest and the repayment of principal may be impacted by the cash flows generated by the assets backing the securities. Mortgage- and asset-backed securities are also subject to extension risk, which is the risk that rising interest rates could cause mortgages or other obligations underlying the securities to be prepaid more slowly than expected, which would, in effect, convert a short- or medium-duration mortgage- or asset-backed security into a longer-duration security, increasing its sensitivity to interest rate changes and causing its price to decline. A mortgage-backed security may be negatively affected by the quality of the mortgages underlying such security and the structure of its issuer. For example, if a mortgage underlying a certain mortgage-backed security defaults, the value of that security may decrease. A portfolio may invest in mortgage-backed securities that are not explicitly backed by the full faith and credit of the U.S. government, and there can be no assurance that the U.S. government would provide financial support in situations in which it was not obligated to do so. Mortgage-backed securities issued by a private issuer, such as commercial mortgage-backed securities, generally entail greater risk than obligations directly or indirectly guaranteed by the U.S. government or a government-sponsored entity.

Municipal Bond Market Liquidity Risk - Inventories of municipal bonds held by brokers and dealers have decreased in recent years, lessening their ability to make a market in these securities. This reduction in market making capacity has the potential to decrease an account's ability to buy or sell bonds, and increase bond price volatility and trading costs, particularly during periods of economic or market stress. In addition, recent federal banking regulations may cause certain dealers to reduce their inventories of municipal bonds, which may further decrease an account's ability to buy or sell bonds. As a result, an account may be forced to accept a lower price to sell a security, to sell other securities to raise cash, or to give up an investment opportunity, any of which could have a negative effect on performance. If an account needed to sell large blocks of bonds to raise cash, those sales could further reduce the bonds' prices and hurt performance. Certain strategies invest a significant portion of the account's assets in unrated bonds. The market for these bonds may be less liquid than the market for rated bonds of comparable quality.

Municipal Lease Obligations Risk - Participation interests in municipal leases pose special risks because many leases and contracts contain "non-appropriation" clauses that provide that the governmental issuer has no obligation to make future payments under the lease or contract unless money is appropriated for this purpose by the appropriate legislative body.

Municipal Securities Risk - The values of municipal securities may be adversely affected by local political and economic conditions and developments and, therefore, a portfolio's performance may be tied to the conditions in any of the states and U.S. territories where it is invested. Adverse conditions in an industry significant to a local economy could have a correspondingly adverse effect on the financial condition of local issuers. Other factors that could affect municipal securities include a change in the local, state, or national economy, demographic factors, ecological or environmental concerns, statutory limitations on the issuer's ability to increase taxes, and other developments generally affecting the revenue of issuers (for example, legislation or court decisions reducing state aid to local governments or mandating additional services). This risk would be heightened to the extent that a portfolio invests a substantial portion of its portfolio in the bonds of similar projects (such as those relating to the education, health care, housing, transportation, or utilities industries), in industrial development bonds, or in particular types of municipal securities (such as general obligation bonds, municipal lease obligations, private activity bonds or moral obligation bonds) that are particularly exposed to specific types of adverse economic, business or political events. The value of municipal securities may also be adversely affected by rising health care costs, increasing unfunded pension liabilities, and by the phasing out of federal programs providing financial support. In recent periods, a number of municipal issuers have defaulted on obligations, been downgraded or commenced insolvency proceedings. Financial difficulties of municipal issuers may continue or get worse, particularly as the full economic impact of the COVID-19 coronavirus pandemic and the reductions in revenues of states and municipalities due to the pandemic are realized. In addition, the amount of public information available about municipal bonds is generally less than for certain corporate equities or bonds, meaning that the investment performance of a portfolio may be more dependent on the analytical abilities of the sub-adviser than portfolios that invest in stock or other corporate investments. To the extent that a portfolio invests a significant portion of its assets in the securities of issuers located in a given state or U.S. territory, it will be disproportionally affected by political and economic conditions and developments in that state or territory and may involve greater risk than portfolios that invest in a larger universe of securities. In addition, economic, political or regulatory changes in that state or territory could adversely affect municipal securities issuers in that state or territory and therefore the value of the investment portfolio.

Preferred Securities Risk - Preferred securities generally are subordinated to bonds and other debt instruments in a company's capital structure and therefore subject to greater credit risk than those debt instruments. In addition, preferred securities are subject to other risks, such as having no or limited voting rights, having distributions deferred or skipped, having floating interest rates or dividends, which may result in a decline in value in a falling interest rate environment, having limited liquidity, changing tax treatments and possibly being issued by companies in heavily regulated industries. Additional special risks include:

> *Limited voting rights.* Generally, preferred security holders have no voting rights with respect to the issuing company unless preferred dividends have been in arrears for a specified number of periods, at which time the preferred security holders may elect a number of directors to the issuer's board. Generally, once all the arrearages have been paid, the preferred security holders no longer have voting rights. In the case of certain preferred securities issued by trusts or special purpose entities, holders generally have no voting rights, except (i) if the issuer fails to pay dividends for a specified period of time or (ii) if a declaration of default occurs and is continuing. In such an event, preferred security holders generally would have the right to appoint and authorize a trustee to enforce the trust or special purpose entity's rights as a creditor under the agreement with its operating company.
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> *Special redemption rights.* In certain circumstances, an issuer of preferred securities may redeem the securities prior to their stated maturity date. For instance, for certain types of preferred securities, a redemption may be triggered by a change in federal income tax or securities laws or by regulatory or major corporate action. As with call provisions, a redemption by the issuer may negatively impact the return of the security held by an account.
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> *Payment deferral.* Generally, preferred securities may be subject to provisions that allow an issuer, under certain conditions, to skip ("noncumulative" preferred securities) or defer ("cumulative" preferred securities) distributions without any adverse consequences to the issuer. Non-cumulative preferred securities can skip distributions indefinitely. Cumulative preferred securities typically contain provisions that allow an issuer, at its discretion, to defer distributions payments for up to 10 years. If an account owns a preferred security that is deferring its distribution, the account may be required to report income for tax purposes although it has not yet received such income. In addition, recent changes in bank regulations may increase the likelihood of issuers deferring or skipping distributions.
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> *Subordination.* Preferred securities are subordinated to bonds and other debt instruments in a company's capital structure and therefore are subject to greater credit risk than bonds and other debt instruments.
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> *Floating Rate Payments.* The dividend or interest rates on preferred securities may be floating, or convert from fixed to floating at a specified future time. The market value of floating rate securities may fall in a declining interest rate environment and may also fall in a rising interest rate environment if there is a lag between the rise in interest rates and the reset. This risk may also be present with respect to fixed rate securities that will convert to a floating rate at a future time. A secondary risk associated with declining interest rates is the risk that income earned by an account on floating rate securities may decline due to lower coupon payments on the floating-rate securities. Finally, many financial instruments use or may use a floating rate based upon the London Interbank Offered Rate, or "*LIBOR*," which is scheduled to be phased out. Any potential effects of the transition away from LIBOR on certain instruments in which a portfolio invests can be difficult to ascertain, and

they may vary depending on factors that include, but are not limited to: (i) existing fallback or termination provisions in individual contracts and (ii) whether, how, and when industry participants develop and adopt new reference rates and fallbacks for both legacy and new products and instruments. In addition, interest rate provisions included in such contracts may need to be renegotiated in contemplation of the transition away from LIBOR. The transition may also result in a reduction in the value of certain instruments held by a portfolio or a reduction in the effectiveness of related portfolio transactions such as hedges. In addition, an instrument's transition to a replacement rate could result in variations in the reported yields of a portfolio that holds such instrument. The usefulness of LIBOR as a benchmark could deteriorate during the transition period and, at this time, it is not possible to predict the effect of the establishment of replacement rates or any other reforms to LIBOR. Any such effects of the transition away from LIBOR, as well as other unforeseen effects, could result in losses to a portfolio.

Fixed Rate Payments. The market value of preferred securities with fixed dividends or interest rates may decline in a rising interest rate environment.

Liquidity. Preferred securities may be substantially less liquid than many other securities, such as U.S. government securities or common stock. Less liquid securities involve the risk that the securities will not be able to be sold at the time desired by an account or at prices approximating the values at which the account is carrying the securities on its books.

Financial services industry. The preferred securities market is comprised predominately of securities issued by companies in the financial services industry. Therefore, preferred securities present substantially increased risks at times of financial turmoil, which could affect financial services companies more than companies in other sectors and industries.

Tax risk. Accounts may invest in preferred securities or other securities the federal income tax treatment of which may not be clear or may be subject to re-characterization by the Internal Revenue Service.

Regulatory Risk. Issuers of preferred securities may be in industries that are heavily regulated and that may receive government funding. The value of preferred securities issued by these companies may be affected by changes in government policy, such as increased regulation, ownership restrictions, deregulation, or reduced government funding.

Contingent capital securities involve additional risks as set forth above under "Contingent Capital Security Risk."

Restricted and Illiquid Securities Risk - Illiquid securities are securities that are not readily marketable. These securities may include restricted securities, which cannot be resold to the public without an effective registration statement under the 1933 Act, or, if they are unregistered, may be sold only in a privately negotiated transaction or pursuant to an exemption from registration. An account may not be able to readily dispose of such securities at prices that approximate those at which the account could sell such securities if they were more widely traded and, as a result of such illiquidity, the account may have to sell other investments or engage in borrowing transactions if necessary to raise cash to meet its obligations. Limited liquidity can also affect the market price of securities, thereby adversely affecting the account value and yield. The financial markets in general have in recent years experienced periods of extreme secondary market supply and demand imbalance, resulting in a loss of liquidity during which market prices were suddenly and substantially below traditional measures of intrinsic value. During such periods, some securities could be sold only at arbitrary prices and with substantial losses. Periods of such market dislocation may occur again at any time.

Risks Related to Changes in Tax Laws - The value of an account's investments may be adversely affected by changes in tax rates and policies, which may be driven by unfavorable changes in tax laws or adverse interpretations by the Internal Revenue Service or state tax authorities, or by noncompliant conduct of a bond issuer. This risk is heightened for municipal bond strategies. Because interest income from municipal securities is normally not subject to regular federal income tax, the attractiveness of municipal securities in relation to other investment alternatives is affected by changes in federal income tax rates or changes in the tax-exempt status of interest income from municipal securities. Any proposed or actual changes in such rates or exempt status, therefore, can significantly affect the demand for and supply, liquidity and marketability of municipal securities. This could in turn affect the account's value and ability to acquire and dispose of municipal securities at desirable yield and price levels. Proposals have been introduced in Congress to restrict or eliminate the federal income tax exemption for interest on municipal securities, and similar proposals may be introduced in the future. Proposed "flat tax" and "value added tax" proposals would also have the effect of eliminating the tax preference for municipal securities. Some of the proposals have applied to interest on municipal securities issued before the date of enactment, which would have adversely affected their value to a material degree. If such a proposal were enacted, the availability of municipal securities for investment by an account and the value of the account's portfolio would be adversely affected. All clients (especially tax-exempt or tax-deferred accounts) are encouraged to consult their own financial advisors and legal and tax professionals on an initial and continuous basis in connection with engaging a manager and selecting a strategy (especially a municipal bond strategy).

Senior Loan Risk - Senior loans may not be rated by an NRSRO at the time of investment, generally will not be registered with the Securities and Exchange Commission and generally will not be listed on a securities exchange. In addition, the amount of public information available with respect to senior loans generally will be less extensive than that available for more widely rated, registered and exchange-listed securities. Because the interest rates of senior loans reset frequently, if market interest rates fall, the loans' interest rates will be reset to lower levels, potentially reducing a portfolio's income.

No active trading market currently exists for many senior loans. Senior loans are thus relatively illiquid. Liquidity relates to the ability of a portfolio to sell an investment in a timely manner at a price approximately equal to its value on the portfolio's books. The illiquidity of senior loans may impair a portfolio's ability to realize the full value of its assets in the event of a voluntary or involuntary liquidation of such assets. Because of the lack of an active trading market, illiquid securities are also difficult to value, and prices provided by external pricing services may not reflect the true fair value of the securities. However, many senior loans are of a large principal amount and are held by a large number of financial institutions. To the extent that a secondary market does exist for certain senior loans, the market may be subject to irregular trading activity, wide bid/ask spreads and extended trade settlement periods. If a substantial portion of a portfolio's assets are invested in senior loans, it may restrict the ability of the portfolio to dispose of its investments in a timely fashion and at a fair price, and could result in capital losses to the portfolio. The market for senior loans could be disrupted in the event of an economic downturn or a substantial increase or decrease in interest rates.

Borrowers under senior loans may default on their obligations to pay principal or interest when due. This non-payment would result in a reduction of income to a portfolio and a reduction in the value of a senior loan experiencing non-payment. Although some senior loans in which a portfolio will invest will be secured by specific collateral, there can be no assurance that liquidation of such collateral would satisfy the borrower's obligation in the event of non-payment of scheduled interest or principal or that such collateral could be readily liquidated. In the event of bankruptcy of a borrower, the portfolio could experience delays or limitations in its ability to realize the benefits of any collateral securing a senior loan.

A portfolio also may purchase a participation interest in a senior loan, and by doing so acquire some or all of the interest of a bank or other lending institution in a loan to a corporate borrower. A participation interest typically will result in the portfolio having a contractual relationship only with the lender, not the borrower. In this instance, the portfolio will have the right to receive payments of principal, interest and any fees to which it is entitled only from the lender selling the participation interest, and only upon receipt by the lender of the payments from the borrower. If the portfolio only acquires a participation interest in the loan made by a third party, the portfolio may not be able to control the exercise of any remedies that the lender would have under the senior loan. Such third party participation arrangements are designed to give senior loan investors preferential treatment over high yield investors in the event of deterioration in the credit quality of the issuer. Even when these arrangements exist, however, there can be no assurance that the principal and interest owed on the senior loan will be repaid in full.

Structured Products Risk - Holders of structured product securities bear risks of the underlying investments, index or reference obligation. Certain structured products may be thinly traded or have a limited trading market, and as a result may be characterized as illiquid. The possible lack of a liquid secondary market for structured securities and the resulting inability of a portfolio to sell a structured security could expose the portfolio to losses and could make structured securities more difficult for the portfolio to value accurately, which may also result in additional costs. Structured products are also subject to credit risk; the assets backing the structured product may be insufficient to pay interest or principal. In addition to the general risks associated with investments in fixed income, structured products carry additional risks, including, but not limited to: the possibility that distributions from collateral securities will not be adequate to make interest or other payments; the quality of the collateral may decline in value or default; and the possibility that the structured products are subordinate to other classes. Structured securities include privately negotiated debt obligations where the principal and/or interest or value of the structured security is determined by reference to the performance of a specific asset, benchmark asset, market or interest rate ("reference instrument"), and changes in the reference instrument or security may cause significant price fluctuations, or could cause the interest rate on the structured security to be reduced to zero. Holders of structured products indirectly bear risks associated with the reference instrument, are subject to counterparty risk and typically do not have direct rights against the reference instrument. A portfolio's investments in structured products that pay interest based on the London Interbank Offered Rate (LIBOR) may experience increased volatility and/or illiquidity during the transition away from LIBOR, which is scheduled to be phased out. Structured products may also entail structural complexity and documentation risk and there is no guarantee that the courts or administrators will interpret the priority of principal and interest payments as expected.

Temporary Investment Measures relating to Municipal Bonds - An account may temporarily depart from its normal investment policies and strategies – for instance, by allocating all or a significant percentage of its assets to cash equivalents, short-term investments, or municipal bonds that do not comply with an particular state orientation (e.g., state-specific, state-preference and national-preference (sometimes referred to as "national with secondary state") portfolios), – in response to adverse or unusual market, economic, political or other conditions. Such conditions could include a temporary decline in the availability of municipal bonds from a particular state. During these periods, the account may not be able to achieve its objectives, including regarding the distribution of income that is exempt from regular federal and state personal income tax.

U.S. Government Securities Risk - Securities issued or guaranteed by U.S. government agencies and instrumentalities are supported by varying degrees of credit but generally are not backed by the full faith and credit of the U.S. government. No assurance can be given that the U.S. government will provide financial support to its agencies and instrumentalities if it is not obligated by law to do so. Therefore, securities issued by U.S. government agencies or instrumentalities that are not backed by the full faith and credit of the U.S. government may involve increased risk of loss of principal and interest. In addition, the value of U.S. government securities may be affected by changes in the credit rating of the U.S. government.

U.S. Territory Risk - A portfolio's investments may include municipal bonds issued by U.S. territories such as Puerto Rico, the U.S. Virgin Islands and Guam that pay interest exempt from regular federal and relevant state personal income tax. Accordingly, a portfolio may be adversely affected by local political and economic conditions and developments within these U.S. territories.

Zero Coupon Bonds Risk - As interest on zero coupon bonds is not paid on a current basis, the values of the bonds are subject to greater fluctuations than the value of bonds that distribute income regularly, and may be more speculative than such bonds. Accordingly, the values of zero coupon bonds may be highly volatile as interest rates rise or fall. In addition, while zero coupon bonds generate income for purposes of generally accepted accounting standards, they do not generate cash flow and thus could cause a portfolio to be forced to liquidate securities at an inopportune time in order to distribute cash, as required by certain tax laws.

Additional Regulatory Risk relating to Municipal Bonds - In addition to the various regulatory risks described herein, certain regulations and regulatory initiatives may present additional risks for municipal bonds, the municipal bond markets and municipal bond strategies. The Volcker Rule and the Risk Retention Rule, mandated by the Dodd-Frank Act, may have negative implications with respect to the ability of banks to sponsor TOB trusts and the current structure of TOBs (TOBs are primarily used by Funds and Institutional Separate Accounts). The treatment of municipal bonds under the liquidity coverage ratio (LCR) requirements of Basel III, the international standard for bank capital requirements, also raises risks. The failure to give banks appropriate credit for their municipal bond holdings under such LCR requirements may entail risks to the efficient function of the municipal market and the value of municipal bonds.

Public Real Assets Risks

For Public Real Assets strategies, the following risks are in addition to Equity, Fixed Income and International risks, as applicable.

Frequent Trading Risk - Certain strategies, including many real assets strategies, among others, trade securities frequently. Frequent trading of portfolio securities may produce capital gains, which are taxable to clients when distributed. Frequent trading may also increase the amount of commissions or mark-ups to broker-dealers that a portfolio pays when it buys and sells securities, which may detract from portfolio performance.

Infrastructure Sector Risk - Because infrastructure portfolios concentrate their investments in infrastructure-related securities, the portfolios have greater exposure to adverse economic, regulatory, political, legal, and other changes affecting the issuers of such securities. Infrastructure-related businesses are subject to a variety of factors that may adversely affect their business or operations, including high interest costs in connection with capital construction programs, costs associated with environmental and other regulations, the effects of economic slowdown and surplus capacity, increased competition from other providers of services, uncertainties concerning the availability of fuel at reasonable prices, the effects of energy conservation policies, increased susceptibility to terrorist acts, under-insured or uninsured losses and other factors. Additionally, infrastructure-related entities may be subject to regulation by various governmental authorities and may also be affected by governmental regulation of rates charged to customers, service interruption and/or legal challenges due to environmental, operational or other mishaps and the imposition of special tariffs and changes in tax laws, regulatory policies and accounting standards. There is also the risk that corruption may negatively affect publicly-funded infrastructure projects, especially in emerging markets, resulting in delays and cost overruns.

Master Limited Partnership (MLP) Risk - An investment in an MLP exposes the portfolio to the legal and tax risks associated with investing in partnerships. Accordingly, holders of common units will have limited control and limited voting rights on matters affecting the partnership. Holders of common units may also be subject to potential conflicts of interest with the MLP's general partner, including those arising from incentive distribution payments. Investments held by MLPs may be relatively illiquid, limiting the MLPs' ability to vary their portfolios promptly in response to changes in economic or other conditions, and MLPs may have limited financial resources. Common units of MLPs may trade infrequently and in limited volume, and they may be subject to more abrupt or erratic price movements than common shares of larger or more broadly-based companies. The portfolio's investment in MLPs also subjects it to the risks associated with the specific industry or industries in which the MLPs invest. MLPs are generally considered interest-rate sensitive investments, and during periods of interest rate volatility, may not provide attractive returns. In addition, there are certain tax risks associated with investments in MLPs. The benefit derived from an investment in an MLP is largely dependent on the MLP being treated as a partnership for federal income tax purposes. A change to current tax law, or a change in the underlying business mix of a given MLP, could result in an MLP being treated as a corporation for federal income tax purposes. If an MLP were treated as a corporation, the MLP would be required to pay federal income tax on its taxable income. This would reduce the amount of cash available for distribution by the MLP, which could result in a reduction of the value of the portfolio's investment in the MLP and lower income to the portfolio. Additionally, since MLPs generally conduct business in multiple states, the portfolio may be subject to income or franchise tax in each of the states in which the partnership does business. The additional cost of preparing and filing the tax returns and paying the related taxes may adversely impact the portfolio's return on its investment in MLPs.

Real Estate Investment Risk - - The real estate industry has been subject to substantial fluctuations and declines on a local, regional and national basis in the past that may continue to occur in the future. Real property values and incomes from real property may decline due to general and local economic conditions, overbuilding and increased competition, increases in property taxes and operating expenses, changes in zoning laws, low demand, casualty or condemnation losses, regulatory limitations on rents, changes in neighborhoods and in demographics, increases in market interest rates, liabilities or losses due to environmental problems, defaults by mortgagors or other borrowers, loss of rental income, possible lack of availability of mortgage funds or other limits to accessing the credit or capital markets, or other factors. A portfolio's investments in the real estate market have many of the same risks as direct ownership of real estate. Factors such as these may adversely affect companies which own and operate real estate directly, companies which lend to them, and companies which service the real estate industry. A portfolio's income could decline when the portfolio experiences reduced distributions from real estate companies it holds. Additionally, many real estate companies, including REITs, utilize leverage (and some may be highly leveraged), which may increase investment risk and are highly dependent on cash flows. To the extent a portfolio's underlying assets are concentrated geographically, by property type or in certain other respects, a portfolio may be subject to certain of the foregoing risks to a greater extent.

Negative economic impacts caused by COVID-19 have resulted in a number of businesses and individuals being unable to pay all or a portion of their rents, which has created cash flow difficulties for many landlords. Furthermore, demand for some categories of leased commercial and retail space has weakened. Real estate companies, including REITs, provide space to many industries that have been directly impacted by the spread of COVID-19 and may be negatively impacted by these conditions.

Real Estate Securities and Sector Risk - Certain of the portfolios may invest in REITs. Equity REITs will be affected by changes in the value of and income from the properties they own, while mortgage REITs may be affected by the credit quality of the mortgage loans they hold. REITs are also dependent on specialized management skills, which may affect their ability to generate cash flow for operating purposes and to pay distributions. Additionally, REITs may have limited diversification and are subject to the risks associated with obtaining financing for real property. A real estate securities portfolio may invest a majority of its assets in REITs and in the real estate sector. Stocks within specific industries or sectors can periodically perform differently than the overall stock market due to changes impacting that particular industry or sector.

International/Global Risks

The following International risks may also be applicable to certain Equity, Fixed Income, Public Real Assets and Asset Allocation strategies.

Correlation Risk – The U.S. and non-U.S. equity markets often rise and fall at different times or by different amounts due to economic or other developments particular to a given country or region. This phenomenon would tend to lower the overall price volatility of a portfolio that included both U.S. and non-U.S. stocks. Sometimes, however, global trends will cause the U.S. and non-U.S. markets to move in the same direction, reducing or eliminating the risk reduction benefit of international investing.

International Investing Risk – Investing in securities or issuers in markets other than the United States involves risks not typically associated with U.S. investing, such as currency risk, risks of trading in non-U.S. securities markets, and political and economic risks.

> *Currency Risk* – Because the non-U.S. securities in which the portfolios invest, with the exception of depositary receipts, generally trade in currencies other than the U.S. dollar, changes in currency exchange rates will affect the value of non-U.S. dollar denominated securities, the value of dividends and interest earned from such securities, and gains and losses realized on the sale of securities. A strong U.S. dollar relative to these other currencies will adversely affect the value of a portfolio. Depositary receipts are also subject to currency risk.
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> *Non-U.S. Securities Market Risk* – Securities of many non-U.S. companies or U.S. companies with significant non-U.S. operations may be less liquid and their prices more

volatile than securities of comparable U.S. companies. Securities of companies traded in many countries outside the U.S., particularly emerging markets countries, may be subject to further risks due to the inexperience of local investment professionals and financial institutions, the possibility of permanent or temporary termination of trading, and greater spreads between bid and asked prices for securities. In addition, non-U.S. stock exchanges and investment professionals are subject to less governmental regulation, and commissions may be higher than in the United States. Also, there may be delays in the settlement of non-U.S. stock exchange transactions.

Non-U.S. Fixed Income Investment Risk – Investment in fixed income securities or financial instruments of non-U.S. issuers involves increased risks due to adverse issuer, political, regulatory, currency, market or economic developments. These developments may impact the ability of a non-U.S. debt issuer to make timely and ultimate payments on its debt obligations to the portfolio or impair the portfolio's ability to enforce its rights against the non-U.S. debt issuer. Non-U.S. investments may also be less liquid and more difficult to value than investments in U.S. issuers.

Political and Economic Risks – International investing is subject to the risk of political, social, or economic instability in the country of the issuer of a security, the difficulty of predicting international trade patterns, the possibility of the imposition of exchange controls, expropriation, limits on removal of currency or other assets, and nationalization of assets.

The above risks may be heightened for securities of issuers located in emerging markets countries.

Additionally, a portfolio's income from non-U.S. issuers may be subject to non-U.S. withholding taxes. Non-U.S. companies generally are not subject to uniform accounting, auditing, and financial reporting standards or to other regulatory requirements that apply to U.S. companies; therefore, less information may be available to investors concerning non-U.S. issuers. In addition, some countries restrict to varying degrees non-U.S. investment in their securities markets. These restrictions may limit investment in certain countries or may increase the cost of such investments.

Certain strategies gain international investment exposure by investing in American Depositary Receipts ("ADRs"), Global Depositary Receipts ("GDRs") and similar depositary receipts. ADRs are the receipts for the shares of a non-U.S.-based company traded on U.S. exchanges. Accounts of large institutional clients may hold ordinary non-U.S. securities (sometimes referred to as "ORD") directly (instead of or in addition to ADRs). ADR portfolios may have reduced exposure to the range of international investment opportunities available through ordinary non-U.S. securities. ADRs may be more thinly traded in the U.S. than the underlying shares traded in the country of origin, which may increase volatility and affect purchase or sale prices. ADRs do not eliminate the currency and economic risks associated with international investing. GDRs typically are issued by non-U.S. banks or financial institutions and represent an interest in underlying securities issued by either a U.S. or a non-U.S. entity and deposited with the non-U.S. bank or financial institution. To the extent a portfolio invests in ADRs, GDRs and other depositary receipts, a portfolio will be generally subject to substantially all of the same risks as when investing directly in ordinary non-U.S. securities.

Non-U.S Risk – Non-U.S. issuers or U.S. issuers with significant non-U.S. operations may be subject to risks in addition to or different than those of issuers that are located in or principally operated in the United States due to political, social and economic developments abroad, different regulatory environments and laws, potential seizure by the government of company assets, higher taxation, withholding taxes on dividends and interest and limitations on the use or transfer of portfolio assets. Non-U.S. investments may also have lower liquidity and be more difficult to value than investments in U.S. issuers. These additional risks may be heightened for securities of issuers located in, or with significant operations in, emerging market countries as such countries may have a higher degree of economic instability, unsettled securities laws and inconsistent regulatory systems.

Emerging Markets Risk – The risk of non-U.S. investment often increases in countries with emerging markets or that are otherwise economically tied to emerging market countries. Emerging markets generally do not have the level of market efficiency and strict standards in accounting, auditing, financial reporting, recordkeeping and securities regulation to be on par with advanced economies. Obtaining disclosures comparable to frequency, availability and quality of the disclosures required by securities in the U.S. may be difficult. As a result, there could be less information about issuers in emerging market countries, which could negatively affect the ability of the portfolio's sub-adviser to evaluate local companies or their potential impact on the portfolio's performance. Investments in emerging markets come with much greater risk due to political instability, domestic infrastructure problems and currency volatility. Because their financial markets may be very small, share prices of financial instruments in emerging market countries may be volatile and difficult to determine. In addition, non-U.S. investors are subject to a variety of special restrictions in many emerging market countries. Shareholder claims that are available in the U.S. (including derivative litigation), as well as regulatory oversight, authority and enforcement actions that are common in the U.S. by regulators, may be difficult or impossible for shareholders of securities in emerging market countries or for U.S. authorities to pursue. Frontier markets are those emerging markets that are considered to be among the smallest, least mature and least liquid, and as a result, the risks of investing in emerging markets are magnified in frontier markets.

Sovereign Debt Risk – Sovereign debt instruments are subject to the risk that a governmental entity may delay or refuse to pay interest or repay principal on its sovereign debt. This may be due to, for example, cash flow problems, insufficient non-U.S. currency reserves, political considerations, the relative size of the governmental entity's debt position in relation to the economy or the failure to put in place economic reforms required by the International Monetary Fund or other multilateral agencies. If a governmental entity defaults, it may ask for more time in which to pay or for further loans. Additionally, the defaulting governmental entity may restructure their debt payments, possibly without the approval of some or all debt holders. There may be limited recourse against a defaulting governmental entity as there is no legal process for collecting sovereign debt that a government does not pay nor are there bankruptcy proceedings through which all or part of the sovereign debt that a governmental entity has not repaid may be collected.

Quasi-Sovereign Debt Risk – Investments in quasi-sovereign debt involve special risks not present in investments in corporate debt. Quasi-sovereign securities are typically issued by companies that may receive financial support from a local government or in which the government owns a majority of the issuer's voting shares. The governmental authority that controls the repayment of the debt may be unable or unwilling to make interest payments and/or repay the principal or to otherwise honor its obligations. If an issuer of quasi-sovereign debt defaults on payments of principal and/or interest, a portfolio may have limited recourse against the issuer. A quasi-sovereign debtor's willingness or ability to repay principal and pay interest in a timely manner may be affected by, among other factors, its cash flow situation, the extent of its foreign currency reserves, the availability of sufficient foreign exchange on the date a payment is due, the relative size of the debt service burden to the economy as a whole, the quasi-sovereign debtor's policy toward international lenders, and the political constraints to which a quasi-sovereign debtor may be subject. During periods of economic uncertainty, the market prices of quasi-sovereign debt may be more volatile than prices of corporate debt, which may result in losses to the portfolio. In the past, certain governments of emerging market countries have declared themselves unable to meet their financial obligations on a timely basis, which has resulted in losses for holders of quasi-sovereign debt.

<u>Multi-Asset Class Risks</u>

For Multi-Asset Class Investments strategies, the following risks are in addition to General, Equity, Fixed Income, Public Real Assets and International risks, as applicable.

Call Option Risk -The value of call options that an account sells (writes) will fluctuate. The account may not participate in any appreciation of its equity portfolio as fully as it would if the account did not sell call options. In addition, the account will continue to bear the risk of declines in the value of its equity securities.

Currency Risk – The prices of non-U.S. securities traded in U.S. dollars are typically indirectly influenced by currency fluctuations. Changes in currency exchange rates can affect the asset value of a product or account investment, interest earned, and gains or losses realized on the sale of securities.

ETF Risk – An ETF is subject to the risks of the underlying securities that it holds. In addition, as noted above, for index-based ETFs, the performance of an ETF may diverge from the performance of the index (tracking error). ETFs pay fees and expenses (like management fees and operating expenses) that do not apply to an index, and the portfolio will indirectly bear its proportionate share of the ETF's fees and expenses. Moreover, ETF shares may trade at a premium or discount to their net asset value. As ETFs trade on an exchange, they are subject to the risks of any exchange-traded instrument, including: (i) an active trading market for its shares may not develop or be maintained, (ii) market makers or authorized participants may decide to reduce their role or step away from these activities in times of market stress, (iii) the exchange may halt trading of its shares, and (iv) its shares may be delisted from the exchange.

ETN Risk – Like other index-tracking instruments, ETNs are subject to the risk that the value of the index may decline, at times sharply and unpredictably. In addition, ETNs, which are debt instruments, are subject to risk of default by the issuer. This is the major distinction between ETFs and ETNs: while ETFs are subject to market risk, ETNs are subject to both market risk and the risk of default by the issuer. ETNs are also subject to the risk that a liquid secondary market for any particular ETN might not be established or maintained.

Fund Risk – Investing in Funds also subjects a portfolio to the same risks associated with directly investing in securities held by the Fund. Additionally, for index-based Funds (including ETFs), the performance of the fund may diverge from the performance of the index (commonly known as tracking error).

Index Call Option Risk – Because index options are settled in cash, sellers of index call options cannot provide in advance for its potential settlement obligations by acquiring and holding the underlying securities.

Index Methodology Risk – There can be no assurance that the U.S. or any non-U.S. inflation index will accurately measure the real rate of inflation in the prices of goods and services.

Multi-Manager Risk – When allocating assets to underlying managers, the interplay of the various strategies employed by the underlying managers may result in an account holding a significant amount of certain types of securities. This may be beneficial or detrimental to an account's performance depending upon the performance of those securities and the overall economic environment. The managers may make investment decisions that conflict with each other; for example, at any particular time, one manager may be purchasing shares of an issuer whose shares are being sold by another manager. Consequently, the account could indirectly incur transaction costs without accomplishing any net investment result. In addition, the multi-manager approach could increase an account's turnover rate which may result in higher transaction costs and higher taxes.

Statistical Method Risk – Certain allocation strategies attempt to keep their volatility within a specified range using a proprietary statistical method. There can be no assurance that this method will perform as anticipated or enable a strategy to achieve its objective.

Managed Volatility Strategy Risks: the following risks are in addition to General, Equity and International risks, as applicable.

Futures and Swaps Risk – The use of futures contracts and swaps to manage the portfolio's volatility may expose the portfolio to losses (some of which may be sudden) to which it would not otherwise have been exposed if the portfolio held only direct investments in equity securities. For example, if the portfolio holds long positions in futures contracts or total return swaps and there is a decline in the value of the underlying equity index, the value of the futures contract or total return swaps will decline at the same time as the portfolio's direct investments in equity securities, leaving the portfolio in a worse position than if it had held only direct investments in equity securities. Conversely, if the portfolio holds short positions in futures contracts or total return swaps and there is an increase in the value of the underlying equity index, the value of the portfolio's positions will decline and offset any appreciation of the portfolio's direct investments in equity securities. Losses on short positions are theoretically unlimited since there is no limit as to how high the underlying equity index can appreciate in value. In addition, investments in futures contracts and swaps may entail investment exposures that are greater than their cost would suggest. As a result, a small investment in futures contracts or swaps could have a large impact on performance. While the futures contracts utilized by the portfolio are standardized and traded on an exchange, total return swap agreements are privately negotiated and entered into in the over-the-counter market with a single counterparty. When the portfolio enters into such swap agreements it bears the risk that its counterparty will default on its obligations.

Managed Volatility Strategy Risk – There can be no assurance that the quantitative models used to manage the portfolio's volatility will accurately forecast realized volatility levels or enable the portfolio to maintain its targeted volatility range; the actual volatility that the portfolio experiences may be significantly higher than its target. In addition, during periods of strong positive equity market performance, the volatility management strategy can be expected to limit the portfolio's gains when compared to similar strategies that do not attempt to manage volatility.

<u>ESG Risks</u>

The following ESG risks may be applicable to certain Equity, Fixed Income, Public Real Assets and Asset Allocation strategies, as applicable.

ESG/Impact/Green Investing Risk – Strategies that select securities based on responsible investing, "green", "impact" or environmental, social, and governance (ESG) or similar criteria may forgo certain market opportunities available to strategies or products that do not use these criteria. Because a portfolio's ESG investment criteria and/or proprietary framework may exclude securities of certain issuers for non-financial reasons (i.e., companies that do not demonstrate sustainable ESG characteristics or are involved in certain prohibited activities), a portfolio may forgo some market opportunities available to portfolios that do not use these criteria or may be required to sell a security when it might otherwise be disadvantageous to do so. This may cause the portfolio to underperform the relevant market or other portfolios that do not use an ESG investment strategy. In addition, there is a risk that the companies identified by the portfolio's ESG investment criteria do not operate as expected when addressing ESG issues. A company's ESG performance or practices or NAM's assessment of those actions could vary over time, which could cause the portfolio to be temporarily invested in companies that do not comply with the portfolio's approach towards considering ESG characteristics. There are significant differences in interpretations of what it means for a company to have positive ESG characteristics, and NAM's interpretation may not align with the interpretation of certain investors and others. While NAM believes its evaluation of ESG characteristics is reasonable, its views and determinations may differ from other investors' or advisers' views. In making investment decisions, NAM relies on information and data that could be incomplete or erroneous, which could cause NAM to incorrectly assess a company's ESG characteristics. The third-party data providers may differ in the data they provide for a given security or between industries, or may only take into account one of many ESG-related components of a company. Furthermore, data availability and reporting with respect to ESG criteria may not always be available or may become unreliable. Finally, the regulatory landscape with respect to ESG globally is still under development and, as a result, future regulations and/or rules adopted by applicable regulators could require a portfolio to change or adjust its investment process with respect to ESG investing.

<u>Retail SMA Program Multiple Strategy Accounts (MSAs) Risks</u>

For MSAs, the following risks are in addition to General, Equity, Fixed Income, Public Real Assets and International risks, as applicable.

MSA Allocation Risk – The MSAs reflect a fixed asset allocation to underlying strategies and managers, and such allocation could perform better or worse than other allocations to underlying strategies and managers.

MSA Multi-Manager Risk – The interplay of the various strategies employed by the underlying managers may result in an account holding a significant amount of certain types of securities. This may be beneficial or detrimental to an account's performance depending upon the performance of those securities and the overall economic environment. The managers may make investment decisions which conflict with each other; for example, at any particular time, one manager may be purchasing shares of an issuer whose shares are being sold by another manager. Consequently, the account could indirectly incur transaction costs without accomplishing any net investment result. In addition, the multi-manager approach could increase an account's turnover rate which may result in higher transaction costs and higher taxes.

MSA Sleeve Active Management Risk – Although the MSAs reflect a fixed asset allocation to underlying strategies and managers, due to active management of the underlying managers with respect to a strategy sleeve, a portfolio is subject to the risk that the investment decisions or trading execution may cause the account to underperform relative to the benchmark index or to portfolios with similar investment objectives managed by other investment managers.

For MSAs that include allocations to Municipal Fixed Income and/or Taxable Fixed Income strategies, please see "Fixed Income Risks" above, as applicable. For MSAs that include allocations to Equity strategies, please see "Equity Risks" above, as applicable. Please also see the Form ADV Part 2A of other underlying Subadvisers applicable to your MSA for a more detailed explanation of the material risks of investment strategies applicable to your account.

Tax Optimization Overlay Risk

As further discussed in Item 4, there are certain risks associated with the tax optimization overlay. The use of a tax optimization overlay will cause differences in the strategy holdings and/or percentages compared to the same strategy without tax optimization, and these differences could be material based on the level of tax optimization selected and other factors. These differences could result in higher or lower performance results compared to the strategy without the use of a tax optimization overlay. There is also material risk that any discrepancy between the client's tax rate applied for optimization purposes and the client's actual tax rates, the presence of current or future capital loss carryforwards, and other client specific tax circumstances may materially and negatively affect the client's actual returns. The tax optimization overlay process is also subject to certain licensed software, which is subject to the risks associated with such technology. The tax optimization overlay is subject to various factors and a successful implementation and execution of the overlay is not assured. NAM does not provide tax or accounting advice, and clients are encouraged to consult with their own professional advisors with respect to the suitability and selection of a tax optimization overlay. See Item 4.

The foregoing list of risk factors does not purport to be a complete enumeration or explanation of the risks involved in an investment strategy. Prospective clients and clients are encouraged to consult their own financial advisors and legal and tax professionals on an initial and continuous basis in connection with selecting and engaging the services of an investment manager for a particular strategy. In addition, due to the dynamic nature of investments and markets, strategies may be subject to additional and different risk factors not discussed herein.

ITEM 9 DISCIPLINARY INFORMATION

There are no legal or disciplinary events that are material to a client's or prospective client's evaluation of or the integrity of NAM or its management persons.

ITEM 10 OTHER FINANCIAL INDUSTRY ACTIVITIES AND AFFILIATIONS

In addition to being registered as an investment adviser with the SEC, NAM is also registered as a commodity trading advisor ("CTA") with the Commodity Futures Trading Commission ("CFTC"), and certain management persons and/or other personnel of NAM are registered as CTA principals or associated persons. When providing advice relating to commodity interests (e.g., futures, options on futures and swaps), depending on the particular strategy and services, NAM may be operating either under its CTA registration or under an exemption or exclusion from registration as a CTA.

Certain management persons and/or other personnel of NAM are registered representatives and associated persons of Nuveen Securities, an affiliated broker-dealer.

As discussed above, NAM is a subsidiary of NFAL, which is an indirect subsidiary of Nuveen. Nuveen is a subsidiary, and represents the Asset Management division, of TIAA, a leading financial services provider. TIAA constitutes the ultimate principal owner of NAM. For additional information on the ownership structure, please see Form ADV Part 1, Schedules A and B.

TIAA's subsidiaries include various financial industry entities, including broker-dealers, other investment advisers, commodity pool operators and/or commodity trading advisors, banking or thrift institutions, insurance companies or agencies, pension consultants, sponsors or syndicators of limited partnerships, and sponsors, general partners, or managing members of pooled investment vehicles, among other entities. For further information on these subsidiaries, please see Exhibit A.

TIAA is considered a control person of NAM and TIAA's other financial industry entities may be considered affiliates of NAM under various other regulatory regimes, including as applicable the Investment Advisers Act of 1940, as amended (the "Advisers Act"), the 1940 Act and the Employee Retirement Income Security Act of 1974 ("ERISA").

NAM is committed to putting the interests of its clients first and seeks to act in a manner consistent with its fiduciary and contractual obligations to its clients and applicable law. At times, NAM may determine, in an exercise of its discretion, to limit or refrain from entering into certain transactions, for some or all clients, in order to seek to avoid a potential conflict of interest, or where the legal, regulatory, administrative or other costs associated with entering into the transaction are deemed by NAM to outweigh the expected benefits. Further, certain regulatory and legal restrictions or limitations and internal policies (including those relating to the aggregation of different account holdings by NAM and its affiliates) may restrict certain investment or voting activities of NAM on behalf of its clients. For example, NAM's investment and proxy voting activities with respect to certain securities, issuers, regulated industries and non-U.S. markets may be restricted where applicable laws or regulations impose limits or burdens with respect to exceeding certain investment thresholds when aggregated with its affiliates.

To the extent permitted by the Advisers Act, the 1940 Act, ERISA, and other law, as applicable, NAM may give advice, take action or refrain from acting in the performance of its duties for certain client accounts that may differ from such advice or action, or the timing or nature of such advice or action, for other client accounts including, for example, for clients subject to one or more regulatory frameworks.

From a business perspective within Nuveen, NAM's business is part of a functional group (known internally as Nuveen Equities & Fixed Income), which seeks to promote alignment and collaboration among certain Nuveen affiliates managing equity and fixed income asset classes. These affiliates include NAM, Teachers Advisors, LLC ("TAL") and TIAA-CREF Investment Management, LLC (the last two referred to collectively as "TIAA Investments"), Winslow Capital Management, LLC, and others.

From an investment perspective within Nuveen, NAM's municipal fixed income, taxable fixed income, and equities investment services are part of a broader Nuveen organizational framework that seeks to promote greater collaboration among and provide leadership to the respective investment teams. NAM's municipal bond, taxable fixed income, and equity investment teams comprise investment and trading personnel who are "multi-hatted" as employees across NAM, TIAA Investments and/or other affiliates. These teams coordinate and share investment and certain trading processes for client accounts in municipal bond, taxable fixed income, equity (excluding public real assets) strategies. These integrated teams are sometimes referred to as Nuveen Municipals, Nuveen Fixed Income, and Nuveen Equities, respectively.

Multi-hatted personnel face conflicts in providing services to various clients of multiple affiliates, such as in the areas of trade sequencing and allocating opportunities. These conflicts are similar to the conflicts they face in providing services to various clients (including affiliated and proprietary accounts) of a single investment adviser. Through its policies, procedures and practices, NAM seeks to provide for the fair and equitable treatment of its clients. See Item 12.

TIAA affiliates market, distribute, make referrals of, use and/or recommend investment products and services (including funds and pooled investment vehicles, and investment advisory services) of other affiliates (including NAM), and such affiliates may pay and receive fees and compensation in connection thereto. As a result of the potential additional economic benefit to NAM and/or its affiliates resulting from such activities, there is a potential conflict of interest for NAM, which NAM seeks to mitigate in a variety of ways, depending on the nature of the conflict, such as through oversight of these activities and/or by disclosure in this Brochure. To the extent permitted by applicable law, NAM may delegate some or all of its responsibilities to one or more affiliates, including affiliated investment advisers. NAM's affiliates may likewise delegate some or all responsibilities to NAM. Affiliated broker-dealers and their personnel act as distributors with respect to and/or promote and provide marketing support to Affiliated Funds and broker-dealer personnel are internally compensated for those activities. Such distribution activities are subject to the broker-dealer's own procedures.

For certain strategies or accounts, NAM invests in or recommends Affiliated Funds. Depending on legal requirements, NAM may waive investment advisory fees on the client assets invested in such Fund, credit the client account for the fees paid by the Fund to NAM or NAM's affiliates, avoid or limit the payment of duplicative fees to NAM and its affiliates through other means, or charge fees both at the Fund level and client account level. Certain separate account strategies that include an allocation to Affiliated Funds are available exclusively for NAM managed accounts; termination of such separate account strategies may require a liquidation of such Funds.

NAM serves as sub-adviser to several affiliated U.S. registered open and closed-end Funds, including a family of Funds branded as "Nuveen Funds" for which NFAL serves as adviser. NAM also serves as sub-adviser to other Affiliated Funds, including a series of products offered through one or more bank collective investment trusts (CITs) under the Nuveen brand, and an investment company with variable capital incorporated with limited liability in Ireland and established as an umbrella fund with segregated liability between funds pursuant to the European Communities (Undertakings for Collective Investment in Transferable Securities ("UCITS")) Regulations, 2011, under the Nuveen brand. NAM also provides investment services (e.g., as adviser, sub-adviser or portfolio consultant) to other Funds, including Funds with the "Nuveen" or "Nuveen Asset Management" brand. NAM serves as managing member, adviser or sub-adviser to one or more private funds or other pooled investment vehicles. NAM, as successor to Symphony Asset Management, LLC, serves as collateral manager to certain CLOs, including CLOs with the "Symphony" or "Nuveen" brand.

For certain strategies, it is expected that, with respect to all or a material portion of an account, NAM will allocate to or recommend itself, Affiliated Funds, affiliated products and/or affiliated advisers, and as a result in such case, NAM and its affiliates will retain more fees than if NAM had allocated to or recommended an unaffiliated Fund, product or adviser. Clients should be aware of this potential conflict when engaging NAM, and should consult their own independent professional advisor(s) to determine whether the arrangement is appropriate and in their continuing best interests.

NAM also provides services from time to time to various accounts affiliated with TIAA, including TIAA annuity accounts and TIAA general account. See Item 11 and 12.

As described herein, NAM provides services to multiple proprietary or Affiliated Funds or accounts of various sizes and strategies. NAM's general policy is that proprietary or Affiliated Funds or accounts should receive neither special advantages nor disadvantages. NAM addresses the conflict associated with providing services to both affiliated and unaffiliated Funds/accounts by seeking to act in a manner consistent with its policies and procedures and its fiduciary duty to all clients.

In connection with their association with Nuveen Securities, certain NAM personnel engage in marketing or selling activities with respect to shares or interests in funds and other pooled investment vehicles advised or subadvised by NAM.

NAM's affiliates or shared services units, including Nuveen Services, LLC, provide it with supplemental account administration, trading, operations, client service, sales and marketing, product development and management, risk management, information technology, legal and compliance, human resources, and other corporate, finance or administrative services. NAM may likewise provide services for its affiliates. Certain personnel perform services for both NAM and one or more NAM affiliates. The scope of certain such services and arrangements varies depending on the particular strategy, distribution channel, program, and client size and type.

NAM uses its affiliated broker-dealer, Nuveen Securities, as clearing agent to facilitate the purchase and sale of certain securities for client accounts in accordance with its policies and procedures. For additional information about NAM's use of its affiliated broker-dealer, see Item 12.

In providing investment advisory services to accounts in certain strategies, NAM uses portfolio management, research, trading and other resources of one or more non-US affiliates, including Nuveen Hong Kong Limited, Nuveen Singapore Private Limited, Nuveen Investment Management International Limited and/or others, that are not registered with the SEC. Certain of such services are provided through a "participating affiliate" arrangement, as that term is used in relief granted by the SEC staff allowing U.S. registered investment advisers such as NAM to use portfolio management resources of advisory affiliates subject to the regulatory supervision of the registered investment adviser.

ITEM 11 CODE OF ETHICS, PARTICIPATION OR INTEREST IN CLIENT TRANSACTIONS AND PERSONAL TRADING

Code of Ethics

NAM adheres to the Nuveen's Code of Ethics (and NAM's Code of Ethics Supplement) (together, the "Code of Ethics"). NAM has adopted policies and procedures designed to detect and prevent conflicts of interest relating to personal trading by its employees, and to ensure that NAM effects transactions for clients in a manner that is consistent with its fiduciary duty to its clients and in accordance with applicable law.

NAM's employees who wish to purchase or sell most types of securities in their personal accounts may do so only in compliance with certain procedures outlined in the Code of Ethics, such as pre-approval of non-exempted securities by compliance personnel and periodic holdings reporting. Additionally, NAM employees are prohibited from effecting transactions in individual municipal securities. Furthermore, employees are required, with limited exceptions, to maintain brokerage accounts with select broker-dealers who provide automated, electronic reporting of transactions and account information to assist the Nuveen Ethics Office in the monitoring of employee transactions. The Code of Ethics also prohibits the misuse of material nonpublic information and confidential information. A copy of the Code of Ethics will be provided upon request of any client or prospective client. Please see the cover page to this Brochure for contact information.

NAM and its Related Persons may invest in securities for their personal accounts that are also recommended to NAM clients. Potential conflicts arise in this situation because NAM or its Related Persons may have a material interest in or relationship with the issuer of a security, or may use knowledge about pending or currently considered securities transactions for clients to profit personally. To address these potential conflicts, employees are required to review and certify securities trading activity quarterly and to provide securities holding reports upon commencement of employment and to review and certify securities holdings thereafter on an annual basis. In addition, employee transactions are subject to limitations regarding the type and timing of transactions, including certain trading prohibitions, and pre-approval and monitoring by compliance professionals and/or certain Related Persons.

NAM, its employees and its affiliates may give advice and take action in the performance of their duties for some clients that may differ from advice given, or the timing or nature of actions taken, for other clients or for their proprietary or personal accounts. NAM employees, household members, and others affiliated with the firm (collectively "employees") can be clients of NAM. NAM has a potential conflict of interest because it could seek to favor its employees over its other clients in the management of employee accounts. Additionally, NAM can provide special services and/or provide services at no or reduced fees for employees. NAM manages employee accounts in a manner consistent with NAM's fiduciary duty to its other clients. NAM employee accounts shall not receive special trading advantages or disadvantages, and employee accounts are subject to the firm's trading policies.

Subject to the restrictions described above, NAM and its employees may at any time hold, acquire, increase, decrease, dispose of or otherwise deal with positions in investments in which a client account may have an interest from time to time. NAM has no obligation to acquire for a client account a position in any investment which it, acting on behalf of another client, or an employee, may acquire, and the client accounts shall not have first refusal, co-investment or other rights in respect of any such investment.

The following restrictions apply to Related Persons of NAM who (i) in connection with their regular functions or duties make or participate in making recommendations or decisions concerning the purchase or sale of securities for a client account, or (ii) are natural persons in a control relationship with NAM or its affiliates and obtain information concerning recommendations made to a client account, portfolio managers, portfolio assistants, securities analysts, traders, or any other persons designated as such by NAM or any affiliated entity (each such person is an "Investment Person"). Investment Persons are subject to a personal trading prohibition during the period starting seven (7) calendar days before and ending seven (7) calendar days after any trade in the same (or related, or equivalent) security on behalf of a client for which he/she has portfolio management responsibility. In some cases, the Investment Person may be required to reverse a trade and/or forfeit an appropriate portion of any profits associated with his or her transaction. These consequences can apply whether or not the trade was pre-approved.

With respect to other Related Persons that are not Investment Persons, NAM and its advisory affiliates maintain procedures (including certain information barriers) designed generally to provide for independent exercise of investment and voting power.

To the extent the Nuveen Ethics Office determines that there is no material conflict of interest, certain officers and employees of NAM from time to time may engage in outside business activities, including serving on boards of unaffiliated entities.

Employees may be offered or receive business gifts, meals, and entertainment from parties with whom NAM conducts business. Receipt of business gifts, meals, and entertainment from clients, consultants or broker-dealers may inappropriately influence investment or trading decisions. Similarly, the giving of business gifts, meals, and entertainment could inappropriately influence a prospect, client, consultant or broker-dealer in an effort to gain an unfair advantage in acquiring or retaining clients. Employees are subject to certain limitations and reporting obligations regarding the receipt/giving of business gifts, meals, and other benefits in the form of entertainment from parties with whom NAM conducts business. For a discussion of conflicts related to gifts and entertainment, please refer to Item 14, Payments to Others – General.

Similarly, employees may from time to time make political contributions. The inappropriate influencing of a prospect or client in an effort to gain an unfair advantage in acquiring or retaining clients creates a conflict of interest. NAM has established procedures that it believes are designed to comply, at a minimum, with federal law. In addition, all applicable contributions require preclearance and employees are required to certify on a quarterly basis that they have reported all applicable monetary or in-kind political contributions.

Participation or Interest in Client Transactions

Proprietary Accounts

NAM, its employees and its affiliates (including TIAA) invest in Affiliated Funds or separate accounts managed by NAM or its affiliates from time to time. Generally, to the extent that NAM or NAM affiliates have funded a separate account or have made a significant investment in an Affiliated Fund (e.g., generally greater than 25% of the affiliated Fund's assets), such separate account or Affiliated Fund will be considered a proprietary account for certain regulatory purposes. This creates a conflict if NAM were to favor such accounts such as in the allocation of investment opportunities. NAM seeks to manage such accounts in a manner consistent with NAM's fiduciary duty to its other clients to address the potential conflicts of interest resulting from NAM or a NAM affiliate's economic interest in a proprietary account. NAM's general policy provides that proprietary accounts (separate accounts and Affiliated Funds) should receive neither special advantages nor disadvantages relative to other client accounts and NAM addresses this conflict by periodically reviewing allocations of investment opportunities across client accounts.

Material Non-Public Information
From time to time, NAM receives material non-public information ("MNPI") and becomes subject to limitations on its investment activities relating to the possession of MNPI. Under applicable law, NAM and its personnel are prohibited from improperly disclosing or using MNPI for its own benefit or the benefit of its clients. Possession of MNPI could limit NAM's ability to transact in affected investments, which could be detrimental to client accounts. NAM may in its discretion seek to employ the use of certain approaches or procedures to seek to minimize such limitations, but there is no assurance that NAM will employ such procedures or that such procedures will be effective in alleviating the limitations associated with possessing MNPI.

Cross Trades
A cross trade occurs when an adviser effects a trade between two or more of its advisory clients' accounts and does not charge a fee for effecting the transaction. Given the fiduciary duty owed to both accounts when effecting such trade, the use of cross trades raises potential conflicts of interest.

NAM believes that cross trading can be beneficial for advisory accounts managed by NAM, particularly in the municipal bond and other fixed income asset classes.

Among accounts in municipal bond strategies, cross trading can also be especially beneficial for Retail SMAs. Although individual Retail SMAs are not generally large enough for a single institutional block of bonds within a diversified portfolio, when NAM exercises investment control over an institutional block of bonds that is allocated and held among multiple Retail SMAs, participating Retail SMAs can collectively benefit in large part from institutional pricing and execution. Employing cross trading for Retail SMAs where appropriate can further support this objective because it permits NAM to preserve the integrity of the institutional block while at the same time meeting the needs of both selling and buying accounts. Cross trades enable the participating accounts to engage in a transaction that seeks to more closely replicate an institutional block transaction and avoid the execution and pricing disadvantages associated with odd lot trading.

Subject to applicable law, NAM causes a client account to enter into a cross trade only in cases where it believes that the cross trade would be in the best interests of both selling and buying accounts. Under NAM's cross transaction policy, the price of a cross trade is set according to one of the following methodologies, the goal of which is seek a fair price for both sides of the cross trade.

With respect to municipal bonds in Retail SMAs, under normal market conditions, especially when NAM exercises investment control over an institutional block of bonds, bonds are generally crossed at an independent evaluation price of a third party pricing service (e.g., S&P/ICE) minus a price adjustment (typically equivalent to 3-8 basis points in yield) that is designed to replicate a typical dealer bid/ask spread for institutional size block of bonds. In certain situations, such as where (i) the third party pricing service evaluation price does not exist; (ii) NAM believes that the third party pricing service's evaluation price does not accurately reflect the current market value (e.g., inaccurate or stale), or (iii) NAM does not exercise investment control over an institutional sized block, NAM uses alterative methodologies. Under one such methodology, NAM puts the bonds out for bid (this process is also referred to as "bid wanted"), in which case the cross price is determined by reference to the high bid. Under another methodology, bonds would be crossed at a price based on the Municipal Market Data (MMD) AAA scale (published by Thomson Reuters), which seeks to capture the offer-side of the market, plus a spread (additional yield) that is designed to reflect the yields of actual market bids observed in the marketplace. NAM believes that this approach is well suited to periods of high market volatility, when the pricing service evaluation price may not keep pace with the market changes and growing bid/ask spreads. Alternatively, NAM may also use the price based on pricing methodology set forth in Rule 17a-7 under the Investment Company Act of 1940, as amended. In addition the foregoing, NAM reserves the right to consider and use other methods in order to seek a fair price for both parties in light of market conditions and other relevant factors.

With respect to municipal bonds in Retail SMAs, to the extent that (i) a Retail SMA owns a portion of an institutional size block of bonds over which NAM exercises investment control and has a need to sell all or a portion of such bonds; (ii) there is also an account with a need to buy such bonds; and (iii) NAM determines that the cross trade would be in the best interests of both accounts, NAM may engage in a cross trade. Cross trades enable both the selling account and the buying accounts to engage in a transaction that seeks to more closely replicate an institutional block transaction and avoid the execution and pricing disadvantages associated with odd lot trading. Neither NAM nor any Nuveen affiliate receives any commission, transaction fees or other transactional compensation in connection with effecting cross trades.

With respect to a cross trade in securities other than municipal bonds in Retail SMAs, NAM expects to employ a pricing methodology that reflects an independent current market price of the security.

NAM also effects cross trades between a CLO fund that it advises and other accounts, including other CLO funds. Certain CLO funds are considered proprietary accounts as a result of an investment (e.g., equity investment) by NAM affiliates (including TIAA). Where NAM causes a client account to enter into a cross transaction with a CLO that is a proprietary account, the transaction would be considered a principal transaction subject to certain legal requirements under the Advisers Act.

Cross and principal transactions for CLOs are used primarily to rebalance the various CLO portfolios advised by NAM and its affiliated investment advisers in connection with the liquidation of the assets of a CLO transaction, to contribute assets to a CLO from time to time (including as may be structured for purposes of applicable risk retention rules or similar requirements) or to take advantage of other opportunities. Under NAM's policy, any principal or cross transaction for a CLO must be fair and equitable to both parties, executed in accordance with the legal requirements under applicable law and result in a sale price and purchase price equal to the market value of the securities.

Any cross trades involving U.S. registered open-end and closed-end investment companies are carried out in accordance with the 1940 Act, including Rule 17a-7, and applicable policies and procedures.

Cross trades involving accounts subject to ERISA are generally prohibited.

Cases may arise where trading or investment personnel do not know or have reason to know the identity of the other side of a trade prior to execution, which may result in NAM-advised accounts selling to other NAM-advised accounts. For example, in seeking best execution, NAM trading and investment personnel at times find it advantageous to use electronic trading platforms (e.g., Bloomberg Tradebook, MarketAxess, etc.), which generally seek to provide the best price under the circumstances. These platforms typically match buyers and sellers among a large universe of market participants based on price. NAM users of such platforms generally do not know or have reason to know the identity of the other side of the trade prior to execution. Additionally, trading or investment personnel may operate independently within different teams and/or for different accounts, asset classes or strategies in which such personnel generally do not know or have reason to know the identity of the other side of the trade prior to execution. NAM considers the foregoing facts and circumstances, and factors such as the liquidity of the securities, uncoordinated timing of sell/buy transactions and no linkage in transaction fees for sell/buy transactions in determining its treatment of such trades under various regulatory regimes.

For additional information, see Item 10.

ITEM 12 BROKERAGE PRACTICES

Broker-Dealer Selection

In most arrangements, NAM has the authority to make all determinations as to which securities are to be bought or sold, the amounts of the securities to be bought or sold, the broker-dealer to be used and commissions, dealer spreads and other fees to be paid. In executing trades on behalf of clients, NAM seeks best execution under the circumstances of each trade.

NAM considers a variety of factors when adding a broker to its list of approved broker-dealers including, but not limited to, the broker's trading capabilities, ability to provide market intelligence, knowledge and understanding of NAM's trading activities, syndicate capabilities, participation in commission sharing arrangements for equities trading through which NAM is able to pay for research products and services, and their clearance and settlement capabilities. In addition, NAM considers electronic trading venues and algorithmic trading systems when it believes they can offer efficient execution and benefit to clients.

When selecting broker-dealers to execute transactions in equity securities, NAM takes into consideration best price and additional factors including, but not limited to, the value, nature and quality of the broker-dealer's services, the broker's participation in commission sharing arrangements through which NAM is able to pay for research products and services, execution capability, commission rate, financial responsibility (including willingness to commit capital), the likelihood of price improvement, the speed of execution and likelihood of execution for limit orders, the ability to minimize market impact, the maintenance of the confidentiality of orders, and responsiveness of the broker-dealer. For equity transactions, the determinative factor is not the lowest possible commission cost, but whether the transaction represents the best qualitative execution under the circumstances. Subject to the satisfaction of its obligation to seek best execution, NAM may also consider the broker-dealer's access to new issues or initial public offerings ("IPOs"). NAM and certain affiliates generally utilize a shared centralized equity trading desk for trading equities for Funds and Institutional Separate Accounts, and a separate shared centralized trading desk for trading equities for Retail SMAs.

For fixed income transactions, NAM takes into consideration best price and execution quality under the circumstances in order to seek best execution. NAM and certain affiliates utilize one or more shared centralized trading desks for trading certain fixed income strategies for Funds and Institutional Separate Accounts, depending on the specific strategy, dollar amount, operational connectivity, and other factors. Other trades for Funds and Institutional Separate Accounts are generally executed independently by NAM investment and trading personnel for a particular strategy. Additionally, NAM generally uses separate trading personnel and desks for Retail SMA trades. When NAM personnel or desks trade accounts independently, they could be buying or selling a given security at the same time that another, similar account or strategy, is also buying or selling the same security.

Best execution is not evaluated on a transaction-by-transaction basis, but on an overall basis over an extended period of time

For certain accounts in Leveraged Finance strategies, NAM has retained certain broker/dealers to act as prime broker and execute trades for such accounts subject to best execution, and provide other services.

NAM exercises oversight and policy making responsibility for NAM's equity and fixed brokerage practices through one or more committees that meet periodically.

For municipal bond strategies, NAM periodically ranks broker-dealers on the basis of best execution criteria and other factors, including incidental proprietary research services. In purchasing new issues of municipal securities for client accounts, NAM may designate a portion of the selling concession to certain broker-dealers on the basis of such ranking. The ability to select among multiple dealers is generally extremely limited in cases where there is a limited supply of municipal bonds with specified desired characteristics (e.g., a certain credit quality, maturity, duration and/or particular state of issue).

For taxable fixed income strategies, NAM seeks best execution based on its consideration of a broker-dealer's services, including the ability to obtain a competitive bid or offer price. NAM generally does not employ the practice of ranking broker-dealers for purposes of selecting a particular broker-dealer for trade execution for taxable fixed income securities.

NAM executes securities and investment transactions through financial firms that use, offer or include products or services of NAM or its affiliates in a particular program or preferred list. NAM does not take into account such business arrangements when selecting firms for securities and investment transactions.

Taxable fixed income trades concerning securities and loans are typically executed on a net yield basis in which the security price includes certain undisclosed compensation to the dealer. Transactions placed through dealers serving as primary market-makers generally reflect the spread between the bid and asked prices, or in some cases, reflect a pre-negotiated spread or concession for riskless principal trades. Securities also may be purchased from underwriters at prices that include underwriting fees. NAM expects that substantially all portfolio transactions for fixed income securities will be effected on a principal (as opposed to an agency) basis and accordingly, does not expect to pay significant amounts of brokerage commissions.

Depending on the terms of the client arrangement, NAM also has the authority to negotiate and enter into investment arrangements with respect to derivatives, including swaps, futures, options and other types of exchange-traded or over-the-counter (OTC) arrangements on behalf of its client accounts. NAM enters into derivatives transactions for a variety of purposes relating to a client's objectives, including to seek an investment opportunity, to hedge a risk (e.g., interest rate risk) or for other investment purposes. Counterparties to these derivatives transactions are selected based on a number of factors, including a pre-existing relationship with NAM or the client, credit rating, execution prices, execution capability with respect to complex derivative structures, reputation, responsiveness and/or other criteria relevant to a particular transaction.

Certain Retail SMA programs impose policies and restrictions that limit the trading and investment options in Retail SMAs that would otherwise be available for Institutional Separate Accounts and Funds. As a result, Retail SMAs may be excluded from potentially attractive trading and investment opportunities. Clients should consult with their financial advisors regarding the terms and features of their Retail SMA program.

Use of Affiliated Broker-Dealer

NAM uses Nuveen Securities to clear certain securities (e.g., municipal bond) transactions for separate account clients (including Retail SMAs and Institutional Separate Accounts) where NAM believes that such use does not create a conflict of interest. In such transactions, there will be no change in the security price Nuveen Securities pays or receives and the price NAM's clients pay or receive for the same securities when Nuveen Securities provides the clearing services. Nuveen Securities will not receive any spread, mark-up, mark-down or transaction fee from the client in connection with such service. NAM may reimburse the actual or estimated expenses of Nuveen Securities for providing such services out of its own resources. NAM believes that there are significant advantages for its clients in using Nuveen Securities as a clearing agent for securities transactions, which may include minimizing the chance of error otherwise associated with a large number of individual purchases and delivery instructions, a greater ability to purchase and allocate institutionalized blocks of municipal bonds or other securities to NAM separate accounts, and the potential for price improvements on securities transactions for the benefit of clients. When selling securities for NAM accounts, NAM is similarly able to aggregate all or a portion of the block at Nuveen Securities prior to selling them to a dealer. This practice also has the potential to minimize the opportunity for third party errors, increase overall speed and efficiency, and result in price improvements.

Execution Practices for Legacy Securities

NAM reserves the right to establish policies that limit acceptance of a client's previously acquired securities ("legacy" positions or securities) for account funding or contribution purposes. Where accepted, NAM generally evaluates legacy positions and generally sells all or a portion of such securities to the extent that such securities would not be included in NAM's normal portfolio holdings for such account or otherwise conflict with applicable guidelines (unless such securities are subject to another express arrangement). Depending on the size and characteristics of the legacy position and the then-prevailing markets and other factors, the client may receive a sale price that is less favorable than if the transaction involved a more marketable or liquid position. The client will be responsible for all tax liabilities that result from any sale transactions. As discussed above in Items 4 and 10, for certain programs, NAM utilizes the shared services of Nuveen to perform certain functions, including trading for certain Retail SMAs based on NAM's directions.

For Retail SMAs, NAM generally determines the timing and manner of disposition of legacy securities used to fund new Retail SMAs, or contributed to existing Retail SMAs, that are incompatible with NAM's long-term investment view or otherwise conflict with applicable guidelines. NAM may sell all or a portion of such securities promptly, or may sell certain legacy securities promptly (e.g., those that are below certain quality thresholds or maturity requirements) and sell other legacy securities more gradually and/or opportunistically over the invest-up or other period. As a result of time constraints and lot sizes that may be applicable to sales of legacy securities, and the general unavailability of the full range of trading techniques including aggregation, the prices received in legacy securities transactions may be more or less favorable than the prices that could be attained for sales of securities selected by NAM as part of ongoing management. Generally, a sale of an odd-lot of legacy securities and/or lower quality securities (especially, in the case of municipal bonds) will receive a less favorable price than a sale of a larger round lot and/or higher quality securities. Clients may always sell legacy securities on their own with the assistance of their financial advisor and without reliance on NAM, and use cash to fund a new account or make a contribution to the account. Because these execution practices for legacy securities are generally not part of Nuveen's normal management of client accounts, Nuveen's execution practices, and its review of these trades, will differ from its execution practices and review procedures for current accounts under its ongoing management.

In connection with establishing a new account or account mandate for certain Institutional Separate Accounts, NAM may provide information to the client to assist in the transition to NAM's management, including identifying legacy securities that might appropriately be held by the account.

Execution Practices for the Termination of Accounts

Clients who terminate NAM's services for Retail SMAs may retain securities in their account or instruct NAM to promptly sell the portfolio securities. When following termination and liquidation instructions with respect to equities and taxable fixed income securities in Retail SMAs, NAM generally directs the execution of sale transactions through the relevant broker-dealer/custodian designated by the client's managed account program in the interest of speed and efficiency, subject to program limitations. When following termination and liquidation instructions for municipal bonds, NAM generally uses third party broker-dealers to sell the bonds, subject to program limitations. As a result of time constraints and lot sizes that may be applicable to these types of sale transactions, and the general unavailability of the full range of trading techniques including aggregation, the prices received in these transactions may be less favorable than the prices that could be attained for sales of securities selected by NAM as part of ongoing management. Generally, a sale of an odd-lot of legacy securities and/or lower quality securities (especially, in the case of municipal bonds) will receive a less favorable price than a sale of a larger round lot and/or higher quality securities.

After termination of NAM's services, Clients may always retain account securities and/or sell them on their own or with the assistance of their financial advisor or a successor investment adviser, and without reliance on NAM, subsequent to the effective termination date of NAM's services. NAM has adopted special execution practices for prompt sales of securities in connection with instructions to liquidate the portfolio of a terminating account as a courtesy to assist clients in closing or transitioning accounts. Because these execution practices are generally not part of Nuveen's normal management of client accounts, Nuveen's execution practices, and its review of these trades, will differ from its execution practices and review procedures for accounts under its current ongoing management.

Research and Other Soft Dollar Benefits

NAM generally has authority to cause a client account to pay a broker-dealer a commission higher than that which another broker-dealer might have charged for effecting the same transaction (a practice commonly referred to as “paying up”), in recognition of the value of the brokerage and research products and services (“Research Services”) the broker-dealer provides. The broker-dealer may directly provide Research Services to NAM, or may purchase them from a third party for NAM. In such cases, NAM is in effect paying for the Research Services with client commissions - so-called “soft dollars.” When NAM uses soft dollars to obtain Research Services, NAM receives a benefit because it does not have to produce or pay for the Research Services. NAM will only cause an account to pay up if NAM, subject to its overall duty to seek best execution, determines in good faith that the Research Services are eligible brokerage and research under Section 28(e) of the Securities Exchange Act of 1934, and the amount of the commission is reasonable in relation to the value of the Research Services provided, viewed in terms of either that particular transaction or the overall responsibilities of NAM or its affiliates in managing its clients’ accounts.

NAM uses commission sharing arrangements administered by its centralized equity trading desk. Under these arrangements, when NAM pays a commission to an executing broker, a portion of the commission is for execution of the trade (brokerage) and a portion is for Research Services. The broker will allocate the Research Services portion of the commission to a pool of commission credits it maintains. The commission manager, at NAM’s direction, pays Research Services providers for Section 28(e)-eligible research products and services (“Commission Sharing Arrangements”). An executing broker may or may not be a Research Services provider. NAM uses Commission Sharing Arrangements to pay for both proprietary and third party Research Services. Additionally, NAM may pay for Research Services directly with hard dollars. The centralized equity trading desk does not select Research Services.

Under NAM’s Commission Sharing Arrangements, Nuveen Equities (the integrated equity investment team of NAM (excluding Public Real Assets) and certain affiliates) aggregates commission credits into a single pool, and allocates the Research Services among the respective Nuveen Equities investment teams based on factors such as asset size of the team’s equity strategy and the strategy’s geographic considerations (e.g., U.S. vs non-U.S.; developed markets vs emerging markets). Commission credits generated by NAM’s Public Real Assets accounts are aggregated into a separate pool to purchase Research Services, which generally support the NAM Public Real Assets investment team. Research Services will not necessarily directly and specifically benefit the particular account(s) that generated the brokerage commissions used to acquire the Research Services.

Research Services consist of products and services including some or all of the following: economic analysis and forecasts, financial market analysis and forecasts, industry and company specific analysis, interest rate forecasts, arbitrage relative valuation analysis of various debt securities, analytical tools for investment research and related consulting services, meetings arranged by broker-dealers with corporate management teams and spokespersons, as well as industry spokespersons, access to broker-dealer conferences, and other reports, meetings and services that assist in the investment decision-making process.

At least annually, NAM reviews the amount, nature and quality of the Research Services, and sets non-binding total commission targets intended to be used to pay for certain research products and services under the Commission Sharing Arrangement. Quarterly, NAM reviews the amount and nature of Research and sets Commission Sharing Arrangement targets for the Research Services providers on the basis of such considerations. If the CSA target is met for the quarter, commissions default to an execution-only rate. The designation of such targets, and the receipt of soft dollars benefits generally, creates an incentive for NAM to direct brokerage based on its interest in receiving such soft dollars benefits rather than on its clients’ interest in receiving most favorable execution. NAM’s policies and procedures, and the disclosure provided herein, seek to mitigate such conflict.

NAM will use Research Services to benefit any client of NAM or its affiliates and at times the Research Services will not directly benefit the particular account(s) that generated the brokerage commissions used to acquire the Research Services. For example, NAM uses clients’ equity commissions to pay for Research Services that at times will benefit other accounts of NAM and its affiliates. Also, some NAM portfolio management, research and trading personnel are multi-hatted employees of one or more affiliated advisers. These employees use Research Services in providing advisory services to the affiliated adviser's accounts, and vice versa. In addition, some NAM accounts, such as clients that direct NAM to use a particular broker-dealer and Retail SMAs, do not generate any commissions used to acquire Research Services but still benefit from Research Services acquired with other accounts' commissions. Additionally, some clients (e.g., Nuveen Funds) limit or prohibit NAM's use of soft dollars and/or negotiate for lower advisory fees or reimbursements when NAM uses their equity commissions for Research Services.

The Research Services that NAM receives from broker-dealers supplement NAM's own research activities. As a practical matter, in some cases NAM could not, on its own, generate all of the Research Services that broker-dealers provide without materially increasing its expenses. Soft dollar arrangements create a potential conflict by giving NAM an incentive to trade frequently to generate commissions to pay for Research Services, which may not be in the best interests of clients. In some cases, NAM has an incentive to trade actively in certain accounts to obtain Research Services used primarily by other, less frequently traded accounts. NAM attempts to mitigate these potential conflicts through its review and oversight of the use of commissions.

NAM does not acquire Research Services when it trades fixed income (including municipal bond) securities and the broker-dealer is acting as principal. However, at times, a broker will give NAM proprietary research that may be based in part on fixed income (including municipal bond) trading NAM directs to that broker-dealer. Similarly, NAM's trades for clients that follow an index or quantitative strategy, or its execution-only trades, may not generate soft dollars, but at times a broker-dealer will provide NAM proprietary research that is based in part on such trades.

In certain instances, Research Services providers provide Research directly to NAM which has been created by an affiliate of the broker-dealer or an independent third-party, so-called "co-branded" research. NAM also receives Research from broker-dealers in connection with certain "eligible riskless principal transactions."

NAM does not allocate soft dollars to broker-dealers in exchange for so-called "mixed use" products or services. From time to time, a small amount of research is accessed by non-investment related personnel. NAM considers such usage by non-investment related personnel to be de minimis. NAM periodically reviews the usage of all soft dollar arrangements to determine new/on-going mixed-use applicability.

Directed Brokerage

For most accounts for which NAM has investment discretion, NAM generally has brokerage discretion. Under certain circumstances, NAM permits clients to direct brokerage or restrict the use of certain broker-dealers. In the event that a client directs, and NAM agrees, to use (or refrain from using) a particular broker-dealer and/or a client imposes other transaction limitations, NAM may not be able to freely negotiate commissions or dealer spreads or select broker-dealers on the basis of best price and execution for such transactions. In addition, transactions directed in this manner may result in clients foregoing the benefit from savings on execution costs NAM may obtain for its other clients through, for example, negotiating volume discounts on block trades. As a result, such clients may have to pay greater dealer commissions or spreads or receive less favorable net prices than would be the case if NAM were authorized to choose the broker-dealer through which to execute transactions for client accounts. A client who directs brokerage (or otherwise imposes transaction limitations) should periodically review the terms of their arrangements and other arrangements to ensure that such arrangements are in the client's continuing best interest.

Certain Retail SMAs, including Wrap Fee Program Accounts

Under Wrap Fee Programs (and partially-bundled dual contract arrangements where a client has contracted with the Program Sponsor for certain services (typically custody, financial advisory, and certain trading, but excluding investment management) on a bundled basis), clients are not charged separate equity commissions on each trade so long as the Program Sponsor (or a broker-dealer designated by the Program Sponsor) executes the trade. In these circumstances, a portion of the wrap (or partially-bundled) fee generally is considered as in lieu of commissions or other transaction costs. When trading equity securities for accounts in Wrap Fee Programs, NAM will typically trade directly through the Program Sponsor or the Program Sponsor's broker-dealer affiliate. Where permitted by program terms, for asset classes other than equity securities, NAM may execute a transaction through a broker-dealer other than the Program Sponsor where NAM believes that such trade would result in the best price and execution under the circumstances. NAM generally trades away from the Program Sponsor for municipal bond strategies all or substantially all of the time, and may also trade away certain other fixed income strategies (including preferred securities) depending on the particular type and characteristics of the security and marketplace conditions. NAM may also trade away from the Program Sponsor in other asset classes depending on liquidity and market conditions. In such instances, clients generally incur transaction and other costs and fees in addition to the wrap fee. For municipal bond and other fixed income strategies these fees are generally in the form of mark-ups, mark-downs and spreads (and commissions in the case of certain exchange-traded preferred securities) earned by the relevant securities broker-dealer (not NAM or a Nuveen affiliate) in addition to the wrap fee payable to the Program Sponsor. Such transaction and other fees are generally included in the net price of the security and not separately disclosed, and are in addition to, wrap (and partially-bundled) fees. However, in other situations trades will be executed with the Program Sponsor (or a broker-dealer designated by the Program Sponsor) so as to avoid incurring additional brokerage costs or other transaction costs by using other broker-dealers, in addition to the wrap (or partially-bundled) fee. This is typically the case with equity strategies under normal liquidity and market conditions. Wrap Fee Programs may impose a significant limitation on NAM's ability to seek best price and execution by placing trades through other broker dealers. For additional information regarding trading away in a Wrap Fee Program (and in a partially-bundled dual contract arrangement), a client should contact its financial advisor or Program Sponsor.

Allocation and Aggregation

General

As discussed below, NAM may aggregate purchases and sales of securities and other investments in a block trade, and allocate securities based on its procedures, which generally seeks a pro rata allocation based on the aggregate requested amounts of such issue by the relevant portfolio managers, subject to exceptions in appropriate circumstances. NAM manages proprietary and related person accounts in the same manner, and does not favor one type of account over the other. NAM periodically reviews its treatment of proprietary accounts to ensure that it does not favor them over client accounts.

Orders are generally aggregated where NAM or its trading professionals believe that such aggregation would be advantageous for client accounts. Among the factors NAM will consider are the timing of the receipt of the orders and any specific instructions relating to the orders and whether the order is administered by a centralized trading desk. The price to a particular client could be higher or lower than the actual price that would otherwise be paid by the client in the absence of aggregation. The transaction costs incurred in the transaction will be shared pro rata based on the extent of each account's participation in the transaction.

NAM may aggregate trades for execution and request that the executing broker "step-out" a portion of the aggregate trade to clients' directed brokers. The executing broker gives up the trades to the directed broker who receives any related commissions and clears, settles and confirms the transaction.

Orders placed for Retail SMAs are generally kept separate from other orders, and may not be included in aggregated institutional orders. Also, as discussed above, trades for accounts where a client directs NAM to use a certain broker-dealer or prohibits NAM from using certain broker-dealers may not be aggregated with other orders for the same security. Transactions for accounts that are not included in a bunched order may be executed before, along with, or after transactions in the same security being executed for other NAM clients. For certain Retail SMAs, administrative support is provided by Nuveen Services, an affiliate of NAM. See Item 10.

NAM endeavors to treat clients fairly and equitably over time with respect to trading sequencing and allocation. Where there are actual or perceived constraints on the use of aggregate orders, such as in the case of discretionary Retail SMAs programs, or where NAM does not handle trading, such as in the case of the delivery of model portfolios, NAM employs, where appropriate, procedures that may include (i) employing the use of one or more execution or order delivery rotations among clients; (ii) executing orders or delivering model recommendations for different clients at approximately the same time; or (iii) other methods as may be developed from time to time. While these procedures are designed to treat clients in a fair and equitable manner over time, on any given order, some accounts may trade before other accounts, and some accounts may receive more favorable pricing than other accounts for the same security.

Equity Securities

For equity securities, NAM's general policy (subject to the exceptions described herein) is that all orders for the same security that are placed simultaneously will be aggregated in a single order in an effort to obtain best execution at the best price available. An order that is placed subsequent to the entry of an aggregated order for the same security on the trade blotter will generally be added to the unfilled portion of the prior aggregated order to create a new aggregated order.

Orders that are submitted to the equity trading desk pursuant to program trades (*i.e.*, single orders involving multiple securities generally employed for rebalancing) will generally be processed separately from other orders, and will not be included in aggregated orders. Also, as discussed above, trades for Retail SMAs and accounts where a client directs or prohibits the use of a certain broker-dealer may not be bunched with other orders for the same security. Transactions for accounts that are not included in a bunched order may be executed before, along with, or after transactions in the same security being executed for other NAM clients. To the extent that such transactions are effected through different broker-dealers than a bunched order, non-bunched transactions may involve payment of different commissions than bunched transactions.

In addition, bunched and non-bunched transactions are likely to be executed at different times, and at different prices. Where bunched and non-bunched transactions are effected at similar times, they may compete against each other in the market, resulting in higher costs or lower proceeds, or both. Where one group of transactions is affected prior to another group, the prior group of transactions may adversely impact the market price for the latter group of transactions.

Municipal Securities

Retail SMAs. NAM may, at its discretion, aggregate secondary market purchases and sales of municipal securities for Retail SMAs in a block trade, and allocate securities as described below. When determining which accounts are eligible to participate in a block trade, NAM takes into account factors that may include suitability of the investment for the particular client account, investment objective, strategy, style and maturity, credit quality, available cash balance or collateral, and diversification.

Funds and Institutional Accounts.

As further described below, new issues of municipal securities are allocated through a municipal bond centralized trading desk pursuant to procedures that are designed to treat all accounts fairly and equitably over time. Generally, secondary market trades for Funds and institutional accounts are not managed by a centralized trading desk. Accordingly, while individual portfolio managers may aggregate trades for multiple accounts they manage, in most cases, such trades are not aggregated with trades initiated by other portfolio managers.

Taxable Fixed Income Securities and Derivatives.

NAM may, at its discretion, aggregate purchases and sales of taxable fixed income securities, currencies or derivatives in a block trade, and allocate securities based on the investment needs of the particular account provided that no account is favored over any other participating account, in an effort to obtain best execution under the circumstances. Any subsequent order created for the same security is then treated as a separate order, which may be aggregated with remaining unfilled orders for the same security, or executed separately. NAM may determine not to aggregate certain orders that relate to portfolio management decisions that are made independently for different accounts, or if it determines that aggregation is not practicable, not required or inconsistent with client direction, or, in its judgment, aggregation would not result in fair treatment to accounts, or best execution of the order. For example, aggregation may not be possible because a security is thinly traded or otherwise not able to be aggregated and allocated among all accounts seeking the investment opportunity or because a client will be limited in, or precluded from, participating in an aggregated trade as a result of that client's specific brokerage or trading arrangements.

Allocation of Secondary Market Trades

NAM has written allocation procedures designed to provide for fair and equitable allocation of securities over time among similar client accounts, including allocations among Funds and separate accounts.

Equity Securities

Subject to best execution considerations, open orders for the same single security are generally aggregated with other orders for the same single security with the same trading priority guidelines received at the same time as well as with open or unfilled portions of earlier orders of the same single security with the same trading priority. If aggregated orders are fully executed, each participating account is allocated its share pro rata based on order size on an average execution price and trading cost basis. In the event the order is only partially filled, each participating account receives a pro-rata share of the securities purchased (or a pro-rata share of the proceeds of securities sold) based on the size of its order relative to the aggregated order.

However, basket trades are generally not aggregated with orders for the same security in other baskets or with single security orders for the same name, because they are used to pursue quantitative strategies and rely on an automated process to implement trades on an as needed basis (as indicated by the relevant index or model). Also, because of their size, execution of the basket trades occur in stages and NAM must be able to monitor characteristics (e.g., cash, region, sector, beta, neutrality) of the baskets in the aggregate in order to be able to make changes to the baskets as necessary. In certain instances (e.g., portfolio transitions), single name aggregation my occur if a trader determines that, based on basket characteristics as well as total volume to be traded and the illiquid nature of a particular security, one or more large single orders within a basket should be removed from the basket and aggregated with other orders (whether single security trades or other basket trades) to achieve best execution.

Municipal Securities

Retail SMAs. NAM generally will allocate municipal securities for Retail SMAs based on the strategy (e.g., taking account of the relevant state for state-specific, state-preference and national-preference (sometimes referred to as "national with secondary state") portfolios), account cash balance, security-level and account-level quality, maturity and duration characteristics, AMT status, and other relevant factors including the scarcity of a particular security in light of the particular account objective and strategy. For example, an account with a state-specific municipal bond objective may receive priority for a particular municipal bond over an account with a national municipal bond objective; an account with a higher or longer standing cash balance may receive priority over a comparable account with a lower or shorter cash balance. Although not every client account will participate in every block trade, NAM seeks to treat all client accounts fairly and equitably over time.

Funds and Institutional Accounts. Generally, secondary market trades for Funds and institutional accounts are not managed by a centralized trading desk. Accordingly, while individual portfolio managers may aggregate trades for multiple accounts they manage, in most cases, such trades are not aggregated with trades initiated by other portfolio managers. There may be exceptions with respect to certain securities or under certain circumstances (e.g., material security downgrades or market disruptions) where secondary market transaction are coordinated and aggregated. In those instances, NAM seeks for each account participating in the aggregated order to participate on a pro rata (or other fair and equitable) basis.

Taxable Fixed Income Securities and Derivatives. NAM allocates taxable fixed income investment opportunities to eligible accounts based on: (i) the investment objective and/or investment guidelines of each Account; (ii) the size of the original order placed by the Account; (iii) minimum commercial lot sizes applicable to the transaction and security type, which may result in rounding to ensure that such lot sizes are economic and tradable; (iv) relative size of the Account; (v) current and expected Account concentrations and exposures; (vi) cash balances; (vii) scarcity of a particular security in light of the particular Account objective and strategy; (viii) actual or expected liquidity of a security; and (ix) other relevant factors, including, but not limited to eligibility under applicable regulation(s), unique Account types, Account liquidity requirements, and other specific trade or Account considerations. NAM endeavors to allocate securities orders pro rata among similarly situated accounts based on these factors.

<u>Allocation of New Issues</u>

Equity New Issues: NAM may invest client assets in securities in new issues, including equity IPOs. NAM's determination to purchase IPO securities will be made based upon factors that it considers to be relevant including, without limitation, eligibility of an account to participate, the price at which the securities will be offered and the availability of the securities. NAM may receive limited allocations of IPO securities based on commissions generated by its client accounts. NAM has developed Equity IPO allocation policies and procedures ("IPO Allocation Policies") designed to provide for a fair and equitable allocation over time among its clients that are eligible to participate in IPOs.

In determining whether a client account is eligible to participate in an IPO, NAM will consider all of the relevant factors and circumstances, including portfolio objective, investment strategy, applicable account guidelines and restrictions, and the risk profile of the client. As a result, many accounts will be excluded from equity new issues.

NAM's IPO Allocation Policies provide that equity new issues will be allocated pro rata to those accounts participating in the IPO, based on the relative size of the participating account, subject to certain constraints and preferences for accounts in specialty investment strategies that correspond with the IPO sector, industry or asset class.

The availability of IPO securities, especially those of so-called "hot issues," is typically limited. The allocation of IPO securities by the underwriter to investment advisers, such as NAM, generally depends on factors such as the investment adviser's past business with the underwriter, potential business volume and other similar factors. While NAM's ability to receive IPO allocations may be gained partially through the investment activity of all client accounts, many client accounts will not receive IPO securities. Equity IPO securities are generally not available for Retail SMAs. NAM cannot guarantee continued access to IPO securities or any ability to profit from such securities in the future.

Because IPO issuers are typically small or mid-sized companies (measured by anticipated market capitalization), and because such investments are subject to a significant amount of risk, NAM believes that IPO securities are not suitable investments for all client accounts. NAM generally participates in IPO securities for its clients when the issue's anticipated market capitalization is consistent with, and permitted by, the investment style, objectives, and risk tolerance of the client. Thus, those accounts that have investment styles and objectives that focus on small- and mid-capitalization companies, and that accept a significant amount of risk, will generally receive IPO allocations. NAM will generally not allocate IPO shares on the basis of a client directed transaction request.

No proprietary accounts will receive favorable treatment as a result of NAM's IPO Allocation Policies, and under NAM's Code of Ethics, accounts of executives and employees of NAM or its affiliates are prohibited from acquiring securities in an equity IPO in their personal accounts absent an exception provided for under applicable rules.

NAM's IPO Allocation Policies generally limit the participation in equity IPO securities by client accounts. These policies serve to mitigate risk by generally limiting clients' exposure to an individual IPO. These policies also assist in achieving a pro rata allocation of IPO securities among clients by having a consistent maximum participation percentage for each client.

Municipal Securities New Issues: New issues of municipal securities are allocated through a municipal bond centralized trading desk pursuant to procedures that are designed to treat all accounts fairly and equitably over time. Generally, if an allotment of a new municipal issue is for less than the total bonds for which NAM placed orders, the total allotment received generally will be allocated pro rata among Funds and Institutional Separate Accounts, on the one hand, and Retail SMAs on the other, based on the number of bonds requested by such accounts, to the extent practicable. The allocation among Retail SMAs will then be made based on several factors, including available cash, maturity and duration of the account relative to portfolio target, national, state specific or state preference characteristics and other considerations with the objective of treating all Retail SMAs fairly over time. The allocation among Funds and Institutional Accounts will generally be made pro rata, based on each account's order size, subject to exceptions. Non pro rata allocations are generally based on specialty mandates that require preferable allocations of certain issues (such as state specific, high yield, ESG or insured bonds) because of the more limited supply of investment opportunities for such mandates, rounding lot sizes, the relative availability of cash (or expected cash), and other factors.

Retail SMA Program Sponsors generally restrict NAM from investing such accounts in bond issues where the Program Sponsor or an affiliate of the Program Sponsor serves as manager or lead (or in some cases, co-manager or co-lead) of the offering. In such cases, Retail SMAs may be excluded from potentially attractive investment opportunities.

Taxable Fixed Income Securities New Issues: NAM allocates new taxable fixed income issues to eligible client accounts based upon its review of the investment objective of each client account, the size of the original order placed by the account, lot size, relative size of the accounts, relative size of the account's portfolio holding of the same or comparable securities, cash balances, and other factors including the scarcity of a particular security in light of the particular account objective and strategy. For example, an account with a primary high yield objective may receive priority for a high yield bond over an account that does not have a primary high yield objective.

For any syndicated loan new issue orders for participating Collateralized Loan Obligation (CLO) accounts ("CLO Accounts"), trading personnel will allocate such orders across such participating CLO Accounts based the initial indications of interest as noted in the waterfall priority provided by the investment personnel. All final CLO Account allocations are intended to adhere to the instructions of the applicable investment personnel regarding their established allocation waterfall prioritization methodology. Such instructed allocations generally begin with those CLO Accounts that are deemed by the ordering investment personnel to require prioritization due to the timing of such accounts' ramp-up process or other directed reasons (as defined, "CLO Priority Accounts"). After CLO Priority Accounts have been filled, trading personnel will then continue to allocate remaining assets across the remaining eligible accounts on a pro rata basis in accordance with the initial indication of interest as per the instructions from the applicable investment personnel and applicable waterfall methodology.

Retail SMA Program Sponsors generally restrict NAM from investing such accounts in taxable fixed income issues where the Program Sponsor or an affiliate of the Program Sponsor serves as manager or lead (or in some cases, co-manager or co-lead) of the offering. In such cases, Retail SMAs may be excluded from potentially attractive investment opportunities.

144A Securities and Regulation S Offerings

Commensurate with a particular investment strategy, NAM invests in 144A securities from time to time provided the client is a Qualified Institutional Buyer ("QIB") as defined under Rule 144A of the Securities Act of 1933. NAM attempts to allocate 144A securities on a pro rata basis to eligible accounts taking into consideration availability. In the event of a *de minimis* allocation, the trader has the authority to determine an appropriate allocation methodology.

NAM allocates securities acquired in a Regulation S offering, typically on a pro rata basis to the extent feasible taking account of eligibility and other factors.

Use of Shared Trading Desks and Personnel

NAM employs the use of shared trading desks and multi-hatted personnel (including most trading for equities, taxable fixed income securities, and municipal bond new issues) that trade for NAM accounts as well as the accounts of other affiliates. These desks and personnel face conflicts, such as in trade sequencing and allocating opportunities, in trading for clients of different affiliates. These conflicts are similar to the conflicts they face in providing services to clients (including affiliated and proprietary accounts) of a single investment adviser. Through its policies, procedures and practices, NAM seeks to provide for the fair and equitable treatment of its and its affiliates' clients. See Item 10.

NAM Trading for affiliates

Where NAM or NAM shared personnel perform trading services for accounts of NAM affiliates (i.e., non-NAM accounts)), NAM may consider such accounts as part of the above-described trading practices and procedures in order that such accounts are treated fairly and equitably relative to NAM accounts.

Trade Errors

In the event of a trade error made by NAM, NAM's general policy is to reimburse clients so that they are restored to their original position. For trade errors identified before settlement, NAM may reallocate the subject securities to the account of another client in accordance with certain procedures designed to mitigate the conflicts of interest associated with such reallocation. Netting of gains and losses is permitted in certain circumstances. Correcting some trade errors may result in losses or gains to NAM or its affiliates. NAM is responsible for its own errors and not the errors of other persons, including third-party brokers and custodians, unless otherwise expressly agreed to by NAM. NAM, in its sole discretion, may assist, to the extent possible, with the appropriate correction of errors committed by third-parties.

For trade errors that occur in Retail SMAs, NAM generally does not have the ability to control the ultimate resolution of the trade error. In these instances, the trade error and resolution thereof will be governed by the Program Sponsor's policies and procedures or directions. Certain Program Sponsors establish trade error accounts for their programs whereby gains for certain errors in client accounts managed by NAM are offset by losses in other client accounts managed by NAM in the same program(s) over varying time periods. This offsetting of gains with losses could result in a benefit or detriment to NAM.

ITEM 13 REVIEW OF ACCOUNTS

General Description

NAM provides continuous monitoring and oversight of the discretionary accounts it manages, and accounts are reviewed on an exception basis. Accounts are reviewed by the relevant portfolio manager (or overlay portfolio manager in the case of Retail SMA MSAs) and/or other NAM or Nuveen employees to seek to ensure that each account is managed consistent with the strategy and investment criteria applicable to the account in terms of: (i) allocation of portfolio assets; (ii) diversification of portfolio assets; (iii) duration and maturity, for fixed income accounts; and

(iv) compliance with any specific restrictions applicable to the account. The composition and number of reviewers vary depending in part on the type of account, amount of assets and nature of investment goals and objectives of client.

For Funds, reviews also may include analysis of security performance, account diversification and cash flow.

In addition to the regular reviews, NAM may also consider the following additional factors, depending on the strategy and account: (i) performance of individual securities or asset classes; (ii) material economic and market events; (iii) changes in a separate account client's financial profile as communicated to NAM; and (iv) changes recommended in overall investment policy or strategy by NAM's portfolio managers. The number of accounts for which a reviewer is responsible will vary.

Client Reports

Separate Accounts (SMA and Institutional)

NAM provides portfolio reports to the extent agreed with the client, upon reasonable request, or specified under the Retail SMA program agreement. Portfolio reports generally include portfolio holdings and may include performance information. Such reports are not intended to replace a client's custodial account statements as records for official or tax reporting purposes. Clients in Wrap Fee Programs generally receive reports from the Program Sponsor, and not from NAM.

Clients are encouraged to request and review monthly or quarterly account statements (including holdings, asset amounts and transactions during the period) sent directly to a client from their custodian (*e.g.*, broker-dealer, bank or trust company).

NAM's portfolio reports reflect valuations of account assets determined in accordance with NAM's valuation procedures, which generally rely on third party pricing services. In the event that the third party pricing vendor's price is unavailable or other observable inputs are unavailable or deemed unreliable, NAM will make a reasonable determination of a security's fair value. NAM's valuations may differ from valuations reflected in a client's custodial statements. Further, certain securities or investments may be valued differently based on factors such as the type of account, operational systems, and/or client instructions.

NAM also may distribute economic commentaries and other materials periodically. Special reports may be prepared to meet specific client requirements. NAM may provide reports to Program Sponsors, financial intermediaries and certain institutional clients that are not regularly sent to clients regarding performance, portfolio holdings and other portfolio information. Where NAM serves as a sub-adviser to an affiliated adviser, the affiliated adviser would provide any such reports. See Item 4 regarding other reports and materials.

Funds

NAM provides Fund clients (manager or board) with periodic reports that may include, among other information, holdings and transaction information, performance and attribution analysis, brokerage allocation, soft dollar information, accounting data, portfolio reviews, reviews of diversification, and distribution information, as well as additional information or reports as requested by the Fund manager or board. Fund investors receive shareholder or investor reports in accordance with the terms, conditions and regulatory requirements applicable to the particular Fund.

See also Item 15.

ITEM 14 CLIENT REFERRALS AND OTHER COMPENSATION

In the ordinary course of business, NAM or a Related Person provides business gifts, meals and entertainment such as tickets to cultural and sporting events to personnel of firms that do business with NAM or its affiliates. Such gifts, meals and entertainment provided by NAM or a related person generate a conflict of interest to the extent that they create an incentive for the recipient or beneficiary to use, recommend, offer or include products or services of NAM in a particular program, include NAM in a preferred list of advisers, or refer clients to NAM. In the ordinary course of business NAM employees also are the recipients of business gifts, meals and entertainment. NAM's receipt of gifts, meals and entertainment generates a conflict of interest to the extent that they create an incentive for the recipient or beneficiary to use the services of the provider (e.g., in the case of a broker-dealer, brokerage services) of the gifts, meals and entertainment. The giving and receipt of gifts and other benefits are subject to reporting and limitations under internal policies and procedures.

NAM pays fees to consultants for their advice and services, industry information or data, or conference attendance. NAM also pays for certain marketing activities. If a particular payment constitutes, in NAM's judgment, an arrangement subject to requirements under the Advisers Act, NAM will seek to comply with such requirements. The payment of fees to consultants and marketing entities generates a conflict of interest to the extent that such payment creates an incentive for the recipient or beneficiary to use, recommend, offer or include products or services of NAM in a particular program, include NAM in a preferred list of advisers, or refer clients to NAM.

NAM and/or its affiliates provide free general educational services to financial intermediaries who typically offer or use products or services of NAM and/or its advisory affiliates. NAM and/or its affiliates may make available various financial and educational tools, reports, materials and presentations on current industry topics relevant to a financial advisor. Certain financial tools and illustrations may use data provided by a financial advisor. Materials and services provided by NAM and/or its affiliates are not intended to constitute financial planning, tax, legal, or investment advice and are for educational purposes only. The provision of such services and materials generates a conflict of interest to the extent that such provision creates an incentive for the recipient or beneficiary to use, recommend, offer or include products or services of NAM in a particular program, include NAM in a preferred list of advisers, or refer clients to NAM.

In appropriate instances, NAM and its Related Persons refer business to each other with respect to each other's products and services. Prospects and clients to whom such referrals have been made should be aware of the conflict inherent in such referral as a result of the common control of such parties. See Item 10.

In the ordinary course of business, NAM (or an affiliate) makes payments to firms or persons that use, recommend, offer or include products or services of NAM (and its affiliates) in a particular program, include NAM (and its affiliates) in a preferred list of advisers, or refer clients to NAM (or its affiliates). The types of payments include, without limitation, conference, program or event attendance, participation or exhibition sponsorship fees; educational and training fees; license, data access, operational or administrative fees; or fees linked to program participation or specific marketing initiatives within an existing program or new program. The amounts of such payments, which are generally made on an enterprise-wide basis, can be significant for certain SMA Program Sponsor or financial intermediary firm recipients (e.g., up to or in excess of $1 million annually). NAM (or an affiliate on NAM's behalf) sometimes pays travel, meal and entertainment expenses for a firm's representatives and others who visit NAM's offices or other locations (including hotels and conference centers) to learn about its products and services. The foregoing payments generate a conflict to the extent that they create an incentive for the recipient or beneficiary of the payment to use, recommend, offer or include products or services of NAM in a particular program, include NAM in a preferred list of advisers, or refer clients to NAM.

NAM also makes charitable contributions or underwrites or sponsors charitable events at the request of others. Payments described above vary significantly from firm to firm depending on the nature of NAM's and its affiliated investment advisers' separate account activities with the firm and the amount of the firm's separate account client assets under NAM's and its affiliated investment advisers' management. Such contributions generate a conflict to the extent that they create an incentive for the recipient or beneficiary of the payment to use, recommend, offer or include products or services of NAM in a particular program, include NAM in a preferred list of advisers, or refer clients to NAM. Payments are subject to NAM or a Related Person's internal review and approval procedures.

Retail SMA clients are encouraged to request and review materials from Program Sponsors (such as a Program Sponsor's brochure) describing business and financial terms and arrangements between Program Sponsors and investment advisers. All clients are encouraged to make relevant inquiries of their financial advisory firms and financial advisors, consultants and other intermediaries regarding the arrangements and practices described above.

In addition to the foregoing, with respect to Funds, NAM or an affiliate makes payments to firms or individuals that use, offer or sell shares of the Funds advised by NAM, or place the Funds on a recommended or preferred list. Such Fund-related payments generate a conflict to the extent that they create an incentive for the recipient or beneficiary of the payment to use, offer or sell shares of the Funds advised by NAM, or place the Funds on a recommended or preferred list. Fund investors should review a Fund's prospectus and statement of additional information for important information about such Fund-related payments.

ITEM 15 CUSTODY

Clients should receive quarterly or monthly account statements from the broker-dealer, bank or other financial services firm that serves as qualified custodian to their account(s), and clients should carefully review those statements. Clients who do not receive such account statements are encouraged to follow up directly with their qualified custodian and request such statements. Clients who receive additional reports from NAM are urged to compare these reports to the account statements they receive from the qualified custodian. NAM's reports are generally preliminary and may vary from custodial statements based on accounting procedures, reporting dates, valuation methodologies and other factors. They are not intended to be a substitute for account statements provided by a qualified custodian, and should not be used for official purposes.

In the event of an inadvertent receipt of a check or other financial instrument payable to a client, NAM reserves the right to send the check or instrument to the client or its custodian rather than back to the original sender when it believes that such procedure provides the best overall protection for the underlying assets.

Individual clients who seek to direct transfers or payments from their separate account to third parties (e.g., to pay bills or transfer funds) should directly contact and instruct the account's qualified custodian and/or primary financial advisor. It is generally outside the scope of NAM's authority and services to process or intermediate such instructions.

Clients typically select qualified custodians and negotiate and enter into custody agreements with custodians without NAM's involvement. NAM does not seek to hold client assets or have broad authority to withdraw client assets upon instruction to qualified custodians, and NAM disclaims authority attributed to NAM in custody agreements between clients and qualified custodians to withdraw client assets upon instruction to the custodian. NAM's authority as it relates to custody is generally limited in the ordinary course to customary trading and settlement of securities and investment transactions in the client's account (typically on a "delivery vs payment" basis for securities transactions) as well as deductions for NAM's advisory fee deductions in certain cases, as applicable.

ITEM 16 INVESTMENT DISCRETION

NAM is generally granted discretionary authority to manage securities accounts on behalf of clients. For Institutional Separate Accounts and Retail SMAs through dual contract programs, NAM generally obtains a client's written consent to its discretionary authority with respect to the client's assets in the form of an executed investment management agreement or other comparable services agreement prior to providing discretionary advisory services.

For Retail SMAs through Wrap Fee Programs, NAM is appointed to act as an investment adviser through a process generally documented and administered by the Program Sponsor. Clients participating in a program, generally with assistance from the Program Sponsor, may select NAM to provide investment advisory services for their account (or a portion thereof) in a particular strategy. NAM provides investment advisory services based upon the particular needs of the client as reflected in information provided to NAM by the Program Sponsor, and will generally make itself available for direct consultations as reasonably requested by clients and/or Program Sponsors. Clients are encouraged to consult their own financial advisors and legal and tax professionals on an initial and continuous basis in connection with selecting and engaging the services of an investment manager in a particular strategy and participating in a wrap or other program. In the course of providing services to program clients who have financial advisors, NAM generally relies on information or directions communicated by the financial advisor acting with apparent authority on behalf of its client.

NAM's discretionary authority over an account is generally subject to directions, guidelines and limitations imposed by the client and, in the case of a Wrap Fee Program client, the Program Sponsor. NAM will endeavor to follow reasonable directions, investment guidelines and limitations. Although NAM seeks to provide individualized investment advice to its discretionary client accounts, NAM will not be able to accommodate investment restrictions that are unduly burdensome or materially incompatible with NAM's investment approach (including restrictions affecting more than a stated percentage of the account), and reserves the right to decline to accept, or terminate, client accounts with such restrictions. See Item 4.

In addition to the foregoing, NAM provides its services on a non-discretionary and model portfolio basis.

From time to time, with NAM's consent, clients may include certain securities in accounts for which NAM provides no investment advisory services ("unsupervised securities"). Unsupervised securities are not subject to NAM's services.

From time to time, NAM also provides certain services on a consulting basis.

For additional information about NAM's investment advisory services and investment restrictions, see Item 4.

ITEM 17 VOTING CLIENT SECURITIES

Except as otherwise directed by a client, NAM is generally authorized to vote proxies for its clients, which may include Funds, as part of its duties as a discretionary investment adviser. NAM does not vote proxies where a client withholds proxy voting authority, or in certain non-discretionary and model portfolio programs, and certain other circumstances summarized below. NAM votes proxies in accordance with its policies and procedures in effect from time to time.

Nuveen's Proxy Voting Committee ("PVC") provides an administrative framework to facilitate and monitor NAM's exercise of proxy voting, and to fulfill obligations of reporting and recordkeeping under the federal securities laws. NAM has adopted proxy voting guidelines which are reasonably designed to ensure NAM votes proxies in the best interests of its clients.

NAM leverages the expertise and services of an internal group within Nuveen ("Nuveen Stewardship Group") to provide proxy voting recommendations and administer NAM's proxy voting activities. Depending on the issue, The Nuveen Stewardship Group considers the research and recommendations of one or more proxy advisors to help formulate its substantive positions on recurring proxy issues and criteria for addressing non-recurring issues. NAM maintains the fiduciary responsibility for all of its proxy voting decisions. From time to time, a NAM portfolio manager may initiate action to override the Nuveen Stewardship Group's recommendation for a particular vote. Any such override will be reviewed for material conflicts.

NAM's policy permits it to refrain from voting in certain circumstances, including where it determines that it would be in the client's overall best interest not to vote (e.g., where proxy voting would result in a financial, legal, regulatory, or operational encumbrance or burden that outweighs the potential benefit to the client of voting); with respect to securities on loan through a securities lending program; and with respect to legacy securities and securities in accounts where NAM's advisory services have been terminated.

In special circumstances, NAM may vote a proxy based on the instructions of the client or its representative. NAM's ability to vote proxies is subject to timely receipt of the proxy from the client's custodian or other party, and, in the case of proxies relating to certain non-U.S. securities, subject to the establishment by applicable parties of any necessary local documentation (e.g., power of attorney).

Equity Securities - With respect to equity securities, NAM will vote equity securities in accordance with its policies and procedures discussed above.

Fixed Income Securities - A client may indirectly acquire equity securities that issue proxies. For example, a client may acquire, directly or through a special purpose vehicle, equity securities of a bond obligor whose bonds are already held in a client's account when such bonds have deteriorated or are expected shortly to deteriorate significantly in credit quality. The purpose of acquiring equity securities generally will be to seek to prevent the credit deterioration or facilitate the liquidation or other workout of the distressed issuer's credit problem. In the course of exercising control of a distressed issuer, NAM may pursue the client's interests in a variety of ways, which may entail negotiating and executing consents, agreements and other arrangements and/or otherwise influencing the management of the issuer. NAM does not consider such activities proxy voting for purposes of Rule 206(4)-6 under the Advisers Act, but nevertheless provides reports to the relevant parties on its control activities on a quarterly basis.

In the rare event that a fixed income issuer were to issue a proxy, NAM would generally vote in accordance with its policies and procedures.

NAM recognizes that there are circumstances where it has a perceived or real material conflict of interest in voting the proxies of issuers. NAM will vote proxies in the best interest of its clients regardless of such real or perceived conflicts of interest. NAM attempts to minimize the risk of conflicts by establishing reasonable procedures to identify and monitor real or perceived material conflicts of interest.

If it is concluded that a material conflict does exist for NAM, the Nuveen Stewardship Group will normally vote the proxy in accordance with a proxy advisory firm's benchmark recommendation. To the extent the Nuveen Stewardship Group believes there is a justification to vote contrary to the proxy advisory firm's benchmark recommendation, such requests are escalated to the PVC for evaluation and mitigation.

NAM's clients may contact their relationship manager for a copy of NAM's proxy voting policies and procedures or more information about the proxy voting record for their account.

Legal Proceedings

NAM is under no obligation to advise or act for clients in legal proceedings including bankruptcies and class actions involving securities purchased or held in client accounts. NAM generally notifies or transmits copies of legal materials it receives to the client, Program Sponsor, client custodian or other client representative. NAM encourages clients to consult their custodian for additional information pertaining to class action notifications.

Clients that have Retail SMAs managed by NAM through a Retail SMA program will have claims attributable to their accounts processed in accordance with the policies and practices of the Retail SMA program or referring Program Sponsor elected by the client. In addition, claims on behalf of the Funds will be processed in accordance with the policies of the relevant Fund.

In special situations primarily relating to distressed or defaulted bonds held by certain institutional or Fund accounts, NAM may engage in reorganization and workout arrangements and other legal matters in order to maximize the value of the particular portfolio holding.

ITEM 18 FINANCIAL INFORMATION

NAM does not require or solicit prepayment of more than $1,200 in fees per client six months or more in advance and, thus, has not included a balance sheet of its most recent fiscal year. NAM is not aware of any financial condition that is reasonably likely to impair its ability to meet its contractual commitments to clients, nor has NAM been the subject of a bankruptcy petition at any time during the past ten years.

ADDITIONAL INFORMATION

Notice to Canadian Clients

NAM is exempt from registration as an adviser in Alberta, British Columbia, and Ontario, as it meets all of the conditions of an "exempt international adviser." NAM is required to take certain steps to rely on that exemption, one of which is to provide its clients with notice of certain matters. Notice is hereby given that:

1. NAM is not registered as a "portfolio manager" in any province or territory of Canada.

2. NAM has its head office at 333 West Wacker Drive, Chicago IL, 60606, U.S.A.

3. The local address for service of process against NAM in Alberta is:

   Torys LLP
   525 – 8th Avenue S.W., 46th Floor
   Eighth Avenue Place East
   Calgary, Alberta, Canada, T2P 1G1

   The local address for service of process against NAM in British Columbia is:

   Lawdell Corporate Services Limited
   Suite 1600 Cathedral Place, 925 West Georgia Street
   Vancouver, British Columbia, Canada, V6C 3L2
   **For British Columbia, Lawson Lundell LLP provides agency services through Lawdell Corporate Services Limited*

   The local address for service of process against NAM in Ontario is:

   Torys LLP
   79 Wellington St. West
   Toronto, Ontario, Canada, M5K IN2

4. There may be difficulty enforcing legal rights against NAM because it is resident outside Canada and all or substantially all of its assets may be situated outside of Canada.

Any nonpublic personal information NAM receives from Canadian clients will be stored in the U.S. and, as a consequence, may become subject to disclosure in accordance with U.S. laws.

EXHIBIT A

Primary Financial Industry Subsidiaries under Nuveen, LLC, the asset management division of TIAA

Entity Name	Primary Financial Industry or Related Affiliation*
AGR Partners, LLC	Registered Investment Adviser
Churchill Asset Management LLC	Registered Investment Adviser
Gresham Investment Management LLC	Registered Investment Adviser CFTC Registered Commodity Pool Operator CFTC Registered Commodity Trading Adviser
Nuveen Alternatives Advisors, LLC	Registered Investment Adviser
Nuveen Asset Management, LLC	Registered Investment Adviser CFTC Registered Commodity Trading Adviser
Nuveen Churchill Advisors LLC	Registered Investment Adviser
Nuveen Fund Advisors, LLC	Registered Investment Adviser
Teachers Advisors, LLC	Registered Investment Adviser
TIAA-CREF Investment Management, LLC	Registered Investment Adviser
Winslow Capital Management, LLC	Registered Investment Adviser
Greenworks Lending LLC	Commercial Property Lending
Nuveen Securities, LLC	Registered Broker Dealer
Nuveen Services, LLC	Shared Services Entity
Symphony Alternative Asset Management LLC	Relying Adviser
Nuveen Natural Capital, LLC	Forestry, Farmland, Real Estate Management
Greenwood Resources Capital Management LLC	Forestry Management
Westchester Group Investment Management, Inc.	Farmland Management
Westchester Group Real Estate, Inc.	Real Estate Broker or Dealer
Nuveen Australia Limited	Australian ASIC Registered Entity
Nuveen Canada Company	Canadian Exempt Market Dealer
Nuveen Hong Kong Limited	HK SC Registered Entity
Nuveen Japan Co. Ltd	Japan FSA Registered Entity
Nuveen Alternatives Europe SARL	Luxembourg CSSF Registered Entity
Nuveen Asset Management Europe SARL	Luxembourg CSSF Registered Entity
Nuveen Singapore Private Ltd	Singapore MAS Registered Entity
Arcmont Asset Management Limited	UK FCA Registered Entity
Clean Energy Partners LLP	UK FCA Registered Entity
Glennmont Asset Management Limited	UK FCA Registered Entity
Glennmont Partners I Limited	UK FCA Registered Entity
Nuveen Investment Management International Limited	UK FCA Registered Entity
Nuveen Management AIFM Limited	UK FCA Registered Entity

Other Primary Financial Industry Subsidiaries of TIAA

TIAA-CREF Individual & Institutional Services, LLC (aka TIAA-CREF Advice and Planning Services)	Registered Investment Adviser Registered Broker Dealer
TIAA-CREF Tuition Financing, Inc.	Registered Investment Adviser Registered Municipal Advisor
TIAA Kaspick, LLC	Registered Investment Adviser
Teachers Insurance and Annuity Association of America	Insurance Company or Agency
TIAA-CREF Life Insurance Company	Insurance Company or Agency
TIAA-CREF Insurance Agency, LLC	Insurance Company or Agency
TIAA, FSB	Banking or thrift institution

*****The list above refers to TIAA subsidiaries in financial industry affiliation categories referenced in Form ADV, Part 2A, Item 10.C, excluding numerous entities organized primarily to serve as sponsor, general partner, managing member (or equivalent) or syndicator of one or more pooled investment vehicles or limited partnerships (or equivalent). For a list of such entities that have material arrangements with the registrant, please see the registrant's Form ADV, Part 1, Section 7.A. of Schedule D. The list above refers to the primary financial industry affiliation category and certain TIAA subsidiaries listed above may have additional financial industry affiliations, as further described in its respective disclosure documents (Form ADV, in the case of a registered investment adviser).

PRIVACY STATEMENT

Nuveen Asset Management, LLC, a subsidiary of Nuveen, considers your privacy our utmost concern. In order to provide you with individualized service, we collect certain nonpublic personal information about you from information you provide on applications, or other forms (such as your address or social security number), and information about your account transactions with us (such as purchases, sales and account balances). We may also collect such information through your account inquiries by mail, email, telephone or our web site. This privacy notice should not be construed as establishing a contractual relationship

We do not disclose any nonpublic personal information about you to anyone, except as permitted by law. So that we may continue to offer you Nuveen, LLC products and services that best meet your investing needs, and to effect transactions that you request or authorize, we may disclose the information we collect, as described above, to companies that perform administrative or marketing services on our behalf, such as transfer agents, custodians, printers and mailers that assist us in the distribution of investor materials. These companies will use this information only for the services for which we hired them, and are not permitted to use or share this information for any other purposes.

If you decide at some point either to close your account(s) or to become an inactive customer, we will continue to adhere to the privacy policies and practices described in this notice.

With regard to our internal security procedures, we restrict access to your personal and account information to those employees who need to know that information to service your account. We maintain physical, electronic and procedural safeguards to protect your nonpublic personal information.

A copy of our privacy notice is also posted at https://www.nuveen.com/privacy. If you have any questions about our policy or would like additional copies of this notice, please call us toll free at (800) 257-8787 or send us an e-mail through our website www.nuveen.com or write to us at Nuveen at 333 West Wacker Drive, Chicago, IL 60606.

For California residents, please visit the following link for more information:

https://www.nuveen.com/privacy-ccpa

For EU/UK residents, please visit the following link for more information:

https://www.nuveen.com/en-us/resources/nuveen-european-union-united-kingdom-privacy-notice

For information on our use of personal data in accordance with the Data Protection Law of the Cayman Islands, please visit the following link for more information:

https://www.nuveen.com/en-us/resources/cayman-islands-privacy-notice

For individuals located in Brazil, please visit the following link for more information:

https://www.nuveen.com/en-us/resources/Brazil-privacy-notice

Form ADV Part 2B
Brochure Supplement

nuveen
A TIAA Company

Nuveen Asset Management, LLC

333 West Wacker Drive
Chicago, IL 60606
(312) 917-7700
www.nuveen.com

March 24, 2023

Information regarding:

Supervised Person	Title	Strategies
John V. Miller*	Head of Municipals	Municipal Securities
Martin J. Doyle*	Director of SMA Portfolio Management	Municipal Securities, Custom Fixed Income, Tax-Aware Fixed Income
David J. Blair*	Portfolio Manager	Municipal Securities
Stephen J. Candido	Portfolio Manager	Municipal Securities
Beth A. Dougherty	Portfolio Manager	Municipal Securities
Thomas C. Ellis	Portfolio Manager	Municipal Securities
Christopher P. Fama*	Portfolio Manager	Municipal Securities
Evan C. Kallberg*	Portfolio Manager	Municipal Securities
Steven J. Krupa*	Senior Portfolio Manager	Municipal Securities
Patrick R. Maher	Portfolio Manager	Municipal Securities, Tax-Aware Fixed Income, Custom Fixed Income
James P. McMillin	Portfolio Manager	Municipal Securities
Shawn P. O'Leary	Portfolio Manager	Municipal Securities
Michael J. Sheyker*	Portfolio Manager	Municipal Securities
Peter Agrimson	Portfolio Manager	Taxable Fixed Income, Custom Fixed Income
Daniel J. Close*	Portfolio Manager	Custom Fixed Income, Municipal Securities
Chad W. Kemper	Portfolio Manager	Taxable Fixed Income
Jacob J. Fitzpatrick	Portfolio Manager	Taxable Fixed Income
Jason J. O'Brien	Portfolio Manager	Taxable Fixed Income, Custom Fixed Income, Core Fixed Income
Gregory K. Hessler	Portfolio Manager	Taxable Fixed Income, Core Fixed Income
Jean C. Lin	Portfolio Manager	Taxable Fixed Income
Marie A. Newcome	Portfolio Manager	Core Impact Bond, Tax-Aware Fixed Income, Custom Fixed Income, Taxable Fixed Income
Douglas M. Baker*	Portfolio Manager	Custom Fixed Income, Preferred Securities, Preferred Securities Select
Brenda A. Langenfeld	Portfolio Manager	Preferred Securities, Preferred Securities Select
David A. Chalupnik	Head of U.S. Active Equities Portfolio Management, Portfolio Manager	Equity, Dividend Value, Large Cap Select, Stable Growth, Stable Growth Balanced, Large Cap Growth, Large Cap Core, Large Cap Relative

		Value, Concentrated Core, , Equity Long/Short, Dividend Growth, Global Dividend Growth (ADR), International Dividend Growth (ADR), Select Dividend Growth
David S. Park	Portfolio Manager	Stable Growth, Stable Growth Balanced, Large Cap Core, Dividend Growth, Global Dividend Growth (ADR), International Dividend Growth (ADR), Select Dividend Growth
Scott M. Tonneson	Portfolio Manager	Stable Growth, Stable Growth Balanced, Large Cap Growth, Large Cap Core, Large Cap Relative Value, Concentrated Core, , Equity Long/Short
Evan F. Staples	Portfolio Manager	Large Cap Select, Dividend Value
Gregory J. Ryan	Portfolio Manager	Small Cap Select, Small Cap Growth Opportunities Mid Cap Growth Opportunities
Bihag Patel	Portfolio Manager	Mid Cap Growth Opportunities
Casey R. Weston	Portfolio Manager	Mid Cap Growth Opportunities
Jon A. Loth	Portfolio Manager	Small Cap Growth Opportunities, Small Cap Select, Mid Cap Value
Karen L. Bowie	Portfolio Manager	Small Cap Value, Mid Cap Value
David F. Johnson	Portfolio Manager	Small Cap Value, Mid Cap Value
Jon D. Bosse	Portfolio Manager	Large Cap Value, Large Cap Value Balanced, Multi Cap Value
Jujhar Sohi	Portfolio Manager	Large Cap Value, Large Cap Value Balanced, Multi Cap Value
Peter L. Boardman	Portfolio Manager	International Value (ADR), Global Equity Income, Global Value
James T. Stephenson	Portfolio Manager	International Value (ADR), Global Equity Income, Global Value
Andrew C. Hwang	Portfolio Manager	Small/Mid Cap Value, Small Cap Value Opportunities
Thomas J. Lavia, Jr.	Portfolio Manager	Small/Mid Cap Value, Small Cap Value Opportunities
Thomas J. Ray	Portfolio Manager	Flexible Income, Global Equity Income, Large Cap Value Balanced
Susi Budiman (aka Li Li Yeh)	Portfolio Manager	Flexible Income, Large Cap Value Balanced
Stephen T. Peña	Portfolio Manager	Flexible Income
James A. Colon*	Portfolio Manager	Managed Volatility
Nazar Suschko	Portfolio Manager	Managed Volatility, Tax-exempt Income Model Portfolios
Nathan S. Shetty	Portfolio Manager	Multi-Asset Income Model Portfolios, Tax-Exempt Income Model Portfolios
Anurag Dugar	Portfolio Manager	Multi-Asset Income Model Portfolios
John M. Cunniff	Portfolio Manager	ESG Growth Model Portfolios
Stephen G. Sedmak	Portfolio Manager	ESG Growth Model Portfolios
Jason Campbell	Portfolio Manager	International Growth (ADR)
Daniel Roberts	Portfolio Manager	International Growth (ADR)

Barton Grenning	**Portfolio Manager**	**Emerging Markets (ADR)**
Weilien (Willis) Tsai	**Portfolio Manager**	**Emerging Markets (ADR)**
Thomas J. Assicurato	**Overlay Portfolio Manager**	**Multi-Strategy Accounts (MSA)**

(each, a "Supervised Person")

Additional information about Supervised Persons marked with an * is available on the SEC's website at www.adviserinfo.sec.gov.

This brochure supplement provides information about each Supervised Person that supplements Nuveen Asset Management, LLC's brochure for retail separately managed accounts (SMA). You should have received a copy of that brochure. Please contact Travis Pauley at travis.pauley@nuveen.com or 212-916-4740 if you did not receive Nuveen Asset Management, LLC's brochure or if you have any questions about the contents of this supplement.

References to Nuveen Asset Management, LLC ("NAM") may include its predecessor companies and may also be referred to herein as the "firm". As described in NAM's Form ADV 2A Brochure, certain investment personnel are "multi-hatted" as employees across NAM and other affiliates, and have additional responsibilities at such affiliated firms. Certain internal titles at NAM or affiliated firms are not included herein.

Item 2 Educational Background and Business Experience

Name: John V. Miller

Year of Birth: 1967

Formal Education after high school:
- Duke University, Durham NC (BA - Economics & Political Science, 1989)
- Northwestern University, Evanston, IL (MA - Economics, 1990)
- University of Chicago Graduate School of Business, Chicago, IL (MBA - Finance, 2000)

Business background for preceding five years and selected additional information:
Senior Managing Director and Head of Municipals, Nuveen Asset Management (1/11 - present)
Senior Managing Director and Head of Municipals, Teachers Advisors, LLC and
TIAA-CREF Investment Management, LLC (8/18 - present)
Chief Investment Officer, Nuveen Asset Management (10/07 - 12/10)
Managing Director and Head of Funds Management, Nuveen Investments, LLC (1/06 - 10/07)
Portfolio Manager and Vice President, Nuveen Investments, LLC (2000 - 2006)

Professional designation: Chartered Financial Analyst (CFA), 1996

The CFA designation is a professional certification offered by the CFA Institute to financial analysts who pass each of three six-hour exams, possess a bachelor's degree or equivalent, and have 48 months of qualified professional work experience. The CFA Institute determines the passing score of the exams each year.

Item 3 Disciplinary Information

There are no reportable legal or disciplinary events for the supervised person.

Item 4 Other Business Activities

The supervised person is not actively engaged in any investment-related business or occupation other than as described herein.

The supervised person is an associated person of Nuveen Securities LLC, a broker-dealer affiliated with the firm, but is not compensated based on the sale of securities or other investment products.

Item 5 Additional Compensation

The supervised person serves primarily in an investment capacity and is not compensated based on sales, client referrals, or new accounts.

The firm's employees are subject to certain limitations regarding the receipt of gifts and other benefits in the form of entertainment, including meals, golfing and tickets to cultural and sporting events from parties with whom the firm does business. See Form ADV, Part 2A, Items 11 and 14.

Item 6 Supervision

The firm supervises the supervised person and monitors the advisory services provided to clients through regular review of trading and positions for adherence to internal and strategy guidelines. John V. Miller is the most senior investment professional for the firm's municipal bond strategies. The name and contact information for the person responsible for supervising the supervised person's advisory activities is: William T. Huffman, President, Nuveen Asset Management, LLC, (312) 917-7746.

Item 2 Educational Background and Business Experience

Name: Martin J. Doyle

Year of Birth: 1965

Formal Education after high school:
University of Illinois, Champaign Urbana, IL (BA - Economics, 1987)
Loyola University, Chicago, IL (MBA - Finance, 1990)

Business background for preceding five years and selected additional information:
Senior Managing Director and Director of SMA Portfolio Management, Nuveen Asset Management (1/06 - present)
Senior Managing Director and Director of SMA Portfolio Management, Teachers Advisors, LLC and TIAA-CREF Investment Management, LLC (12/19 – present)
Senior Portfolio Manager and Vice President, Nuveen Asset Management (1/01 - 1/06)
Senior Portfolio Manager and Assistant Vice President, Nuveen Asset Management (7/99 - 1/01)
Portfolio Manager, Nuveen Asset Management (5/98 - 7/99)

Professional designation: Chartered Financial Analyst (CFA), 1996

The CFA designation is a professional certification offered by the CFA Institute to financial analysts who pass each of three six-hour exams, possess a bachelor's degree or equivalent, and have 48 months of qualified professional work experience. The CFA Institute determines the passing score of the exams each year.

Item 3 Disciplinary Information

There are no reportable legal or disciplinary events for the supervised person.

Item 4 Other Business Activities

The supervised person is not actively engaged in any investment-related business or occupation other than as described herein.

Item 5 Additional Compensation

The supervised person serves primarily in an investment capacity and is not compensated based on sales, client referrals, or new accounts.

Item 6 Supervision

The firm supervises the supervised person and monitors the advisory services provided to clients through regular review of trading and positions for adherence to internal and strategy guidelines. The name and contact information for the person responsible for supervising the supervised person's advisory activities is: John V. Miller, Head of Municipals, Nuveen Asset Management, LLC, (312) 917-7700.

Item 2 Educational Background and Business Experience

Name: David J. Blair

Year of Birth: 1969

Formal Education after high school:
University of Chicago, Chicago, IL (MBA - Finance, 1996)
University of California – Santa Barbara, Santa Barbara, CA (BA - Economics, 1991)

Business background for preceding five years and selected additional information:
Managing Director and Portfolio Manager, Nuveen Asset Management, LLC (8/17 - present)
Managing Director and Portfolio Manager, Teachers Advisors, LLC and TIAA-CREF Investment Management, LLC (12/19 – present)
Senior Vice President and Account Manager, PIMCO Investments LLC (12/11 - 8/17)
Senior Vice President and Portfolio Manager, Allianz Global Investors Distributors, LLC (2/06 -12/11)
Vice President and Research Analyst, Nuveen Asset Management, LLC (12/00 - 2/06)

Professional designation: Chartered Financial Analyst (CFA), 2000

The CFA designation is a professional certification offered by the CFA Institute to financial analysts who pass each of three six-hour exams, possess a bachelor's degree or equivalent, and have 48 months of qualified professional work experience. The CFA Institute determines the passing score of the exams each year.

Item 3 Disciplinary Information

There are no reportable legal or disciplinary events for the supervised person.

Item 4 Other Business Activities

The supervised person is not actively engaged in any investment-related business or occupation other than as described herein.

Item 5 Additional Compensation

The supervised person serves primarily in an investment capacity and is not compensated based on sales, client referrals, or new accounts.

The firm's employees are subject to certain limitations regarding the receipt of gifts and other benefits in the form of entertainment, including meals, golfing and tickets to cultural and sporting events from parties with whom the firm does business. See Form ADV, Part 2A, Items 11 and 14.

Item 6 Supervision

The firm supervises the supervised person and monitors the advisory services provided to clients through regular review of trading and positions for adherence to internal and strategy guidelines. The name and contact information for the person responsible for supervising the supervised person's advisory activities is: Martin J. Doyle, Senior Managing Director and Director of SMA Portfolio Management, Nuveen Asset Management, LLC, (312) 917-6883.

Item 2 Educational Background and Business Experience

Name: Stephen J. Candido

Year of Birth: 1973

Formal Education after high school:
Miami University, Oxford, OH (BS - Finance, 1995)
University of Illinois, Chicago, IL (MBA - Finance, 2005)

Business background for preceding five years and selected additional information:
Managing Director and Portfolio Manager, Nuveen Asset Management (3/18 - present)
Managing Director and Portfolio Manager, Teachers Advisors, LLC and
TIAA-CREF Investment Management, LLC (8/18 - present)
Vice President and Portfolio Manager, Nuveen Asset Management (6/16 - 2/18)
Vice President and Senior Research Analyst, Nuveen Asset Management (2/10 - 5/16)
Assistant Vice President and Research Analyst, Nuveen Asset Management (2/08 - 1/10)

Professional designation: Chartered Financial Analyst (CFA), 2009

The CFA designation is a professional certification offered by the CFA Institute to financial analysts who pass each of three six-hour exams, possess a bachelor's degree or equivalent, and have 48 months of qualified professional work experience. The CFA Institute determines the passing score of the exams each year.

Item 3 Disciplinary Information

There are no reportable legal or disciplinary events for the supervised person.

Item 4 Other Business Activities

The supervised person is not actively engaged in any investment-related business or occupation other than as described herein.

The supervised person is an associated person of Nuveen Securities LLC, a broker-dealer affiliated with the firm, but is not compensated based on the sale of securities or other investment products.

Item 5 Additional Compensation

The supervised person serves primarily in an investment capacity and is not compensated based on sales, client referrals, or new accounts.

The firm's employees are subject to certain limitations regarding the receipt of gifts and other benefits in the form of entertainment, including meals, golfing and tickets to cultural and sporting events from parties with whom the firm does business. See Form ADV, Part 2A, Items 11 and 14.

Item 6 Supervision

The firm supervises the supervised person and monitors the advisory services provided to clients through regular review of trading and positions for adherence to internal and strategy guidelines. The name and contact information for the person responsible for supervising the supervised person's advisory activities is: John V. Miller, Head of Municipals, Nuveen Asset Management, LLC, (312) 917-7700.

Item 2 Educational Background and Business Experience

Name: Beth A. Dougherty

Year of Birth: 1977

Formal Education after high school:
Marquette University, Milwaukee, WI (BA - Economics, 1999)
University of Chicago, Irving B. Harris School of Public Policy Studies, Chicago, IL (MPP, 2004)

Business background for preceding five years and selected additional information:
Managing Director and Portfolio Manager, Nuveen Asset Management (3/19 - present)
Managing Director and Portfolio Manager, Teachers Advisors, LLC and TIAA-CREF Investment Management, LLC (12/19 – present)
Vice President and Portfolio Manager, Nuveen Asset Management (11/16 - 3/19)
Vice President and Senior Research Analyst, Nuveen Asset Management (3/12 - 10/16)
Assistant Vice President and Senior Research Analyst, Nuveen Asset Management (10/10 - 2/12)
Analyst, Moody's Investors Service (7/05 - 10/10)

Item 3 Disciplinary Information

There are no reportable legal or disciplinary events for the supervised person.

Item 4 Other Business Activities

The supervised person is not actively engaged in any investment-related business or occupation other than as described herein.

Item 5 Additional Compensation

The supervised person serves primarily in an investment capacity and is not compensated based on sales, client referrals, or new accounts.

The firm's employees are subject to certain limitations regarding the receipt of gifts and other benefits in the form of entertainment, including meals, golfing and tickets to cultural and sporting events from parties with whom the firm does business. See Form ADV, Part 2A, Items 11 and 14.

Item 6 Supervision

The firm supervises the supervised person and monitors the advisory services provided to clients through regular review of trading and positions for adherence to internal and strategy guidelines. The name and contact information for the person responsible for supervising the supervised person's advisory activities is: Martin J. Doyle, Senior Managing Director and Director of SMA Portfolio Management, Nuveen Asset Management, LLC, (312) 917-6883.

Item 2 Educational Background and Business Experience

Name: Thomas C. Ellis

Year of Birth: 1977

Formal Education after high school:
Texas Christian University, Fort Worth, TX (BBA - Marketing, 2000)
Loyola University, Chicago, IL (MBA - Finance, 2006)

Business background for preceding five years and selected additional information:
Managing Director and Portfolio Manager, Nuveen Asset Management (3/18 - present)
Managing Director and Portfolio Manager, Teachers Advisors, LLC and TIAA-CREF Investment Management, LLC (12/19 – present)
Vice President and Portfolio Manager, Nuveen Asset Management (5/11 - 2/18)
Assistant Vice President and Assistant Portfolio Manager, Nuveen Asset Management (2010 - 5/11)
Separately Managed Accounts Portfolio Advisor, Nuveen Asset Management (2006 - 2010)

Item 3 Disciplinary Information

There are no reportable legal or disciplinary events for the supervised person.

Item 4 Other Business Activities

The supervised person is not actively engaged in any investment-related business or occupation other than as described herein.

Item 5 Additional Compensation

The supervised person serves primarily in an investment capacity and is not compensated based on sales, client referrals, or new accounts.

The firm's employees are subject to certain limitations regarding the receipt of gifts and other benefits in the form of entertainment, including meals, golfing and tickets to cultural and sporting events from parties with whom the firm does business. See Form ADV, Part 2A, Items 11 and 14.

Item 6 Supervision

The firm supervises the supervised person and monitors the advisory services provided to clients through regular review of trading and positions for adherence to internal and strategy guidelines. The name and contact information for the person responsible for supervising the supervised person's advisory activities is: Martin J. Doyle, Senior Managing Director and Director of SMA Portfolio Management, Nuveen Asset Management, LLC, (312) 917-6883.

Item 2 Educational Background and Business Experience

Name: Christopher P. Fama

Year of Birth: 1963

Formal Education after high school:
University of Illinois, Champaign Urbana, IL (BA - Economics, 1986)
University of Chicago Graduate School of Business, Chicago, IL (MBA, 1991)

Business background for preceding five years and selected additional information:
Managing Director and Portfolio Manager, Nuveen Asset Management (1999 - present)
Managing Director and Portfolio Manager, Teachers Advisors, LLC and
TIAA-CREF Investment Management, LLC (12/19 – present)
Research Analyst, Nuveen Investments, LLC (1992 - 1999)

Item 3 Disciplinary Information

There are no reportable legal or disciplinary events for the supervised person.

Item 4 Other Business Activities

The supervised person is not actively engaged in any investment-related business or occupation other than as described herein.

Item 5 Additional Compensation

The supervised person serves primarily in an investment capacity and is not compensated based on sales, client referrals, or new accounts.

The firm's employees are subject to certain limitations regarding the receipt of gifts and other benefits in the form of entertainment, including meals, golfing and tickets to cultural and sporting events from parties with whom the firm does business. See Form ADV, Part 2A, Items 11 and 14.

Item 6 Supervision

The firm supervises the supervised person and monitors the advisory services provided to clients through regular review of trading and positions for adherence to internal and strategy guidelines. The name and contact information for the person responsible for supervising the supervised person's advisory activities is: Martin J. Doyle, Senior Managing Director and Director of SMA Portfolio Management, Nuveen Asset Management, LLC, (312) 917-6883.

Item 2 Educational Background and Business Experience

Name: Evan C. Kallberg

Year of Birth: 1963

Formal Education after high school:
University of Kansas, Lawrence, KS (BA - Accounting & Business Administration, 1986)
DePaul University, Chicago, IL (MBA - Business Administration, 1993)

Business background for preceding five years and selected additional information:
Managing Director and Portfolio Manager, Nuveen Asset Management (6/10 - present)
Managing Director and Portfolio Manager, Teachers Advisors, LLC and
TIAA-CREF Investment Management, LLC (12/19 – present)
Vice President and Portfolio Manager, Nuveen Asset Management (2/04 - 6/10)
Assistant Vice President and Portfolio Manager, Nuveen Asset Management (2/01 - 2/04)
Assistant Portfolio Manager, Nuveen Asset Management (8/99 - 2/01)
Analyst, Nuveen Investments (7/93 - 8/99)

Professional designation: Chartered Financial Analyst (CFA), 1996

The CFA designation is a professional certification offered by the CFA Institute to financial analysts who pass each of three six-hour exams, possess a bachelor's degree or equivalent, and have 48 months of qualified professional work experience. The CFA Institute determines the passing score of the exams each year.

Item 3 Disciplinary Information

There are no reportable legal or disciplinary events for the supervised person.

Item 4 Other Business Activities

The supervised person is not actively engaged in any investment-related business or occupation other than as described herein.

Item 5 Additional Compensation

The supervised person serves primarily in an investment capacity and is not compensated based on sales, client referrals, or new accounts.

The firm's employees are subject to certain limitations regarding the receipt of gifts and other benefits in the form of entertainment, including meals, golfing and tickets to cultural and sporting events from parties with whom the firm does business. See Form ADV, Part 2A, Items 11 and 14.

Item 6 Supervision

The firm supervises the supervised person and monitors the advisory services provided to clients through regular review of trading and positions for adherence to internal and strategy guidelines. The name and contact information for the person responsible for supervising the supervised person's advisory activities is: Martin J. Doyle, Senior Managing Director and Director of SMA Portfolio Management, Nuveen Asset Management, LLC, (312) 917-6883.

Item 2 Educational Background and Business Experience

Name: Steven J. Krupa

Year of Birth: 1957

Formal Education after high school:
Illinois Benedictine College, Lisle, IL (BA - Business, 1979)
DePaul University, Chicago, IL (MBA - Finance, 1984)

Business background for preceding five years and selected additional information:
Managing Director and Senior Portfolio Manager, Nuveen Asset Management (12/08 - present)
Managing Director and Portfolio Manager, Teachers Advisors, LLC and TIAA-CREF Investment Management, LLC (12/19 – present)
Head of Trading Operations and Managing Director, Nuveen Asset Management (2001 - 12/08)
Portfolio Manager and Vice President, Nuveen Asset Management (1990 - 2001)

Item 3 Disciplinary Information

There are no reportable legal or disciplinary events for the supervised person.

Item 4 Other Business Activities

The supervised person is not actively engaged in any investment-related business or occupation other than as described herein.

The supervised person is an associated person of Nuveen Securities LLC, a broker-dealer affiliated with the firm, but is not compensated based on the sale of securities or other investment products.

Item 5 Additional Compensation

The supervised person serves primarily in an investment capacity and is not compensated based on sales, client referrals, or new accounts.

The firm's employees are subject to certain limitations regarding the receipt of gifts and other benefits in the form of entertainment, including meals, golfing and tickets to cultural and sporting events from parties with whom the firm does business. See Form ADV, Part 2A, Items 11 and 14.

Item 6 Supervision

The firm supervises the supervised person and monitors the advisory services provided to clients through regular review of trading and positions for adherence to internal and strategy guidelines. The name and contact information for the person responsible for supervising the supervised person's advisory activities is: Martin J. Doyle, Senior Managing Director and Director of SMA Portfolio Management, Nuveen Asset Management, LLC, (312) 917-6883.

Item 2 Educational Background and Business Experience

Name: Patrick R. Maher

Year of Birth: 1982

Formal Education after high school:
- North Central College, Naperville, IL (BA - Finance, 2005)
- DePaul University-Charles H. Kellstadt Graduate School of Business (MBA - Investment Management, 2013)

Business background for preceding five years and selected additional information:
- Managing Director and Portfolio Manager, Nuveen Asset Management (3/18 - present)
- Managing Director and Portfolio Manager, Teachers Advisors, LLC and TIAA-CREF Investment Management, LLC (12/19 – present)
- Vice President and Portfolio Manager, Nuveen Asset Management (3/15 - 2/18)
- Assistant Vice President and Portfolio Manager, Nuveen Asset Management (10/13 - 2/15)
- Assistant Vice President and Portfolio Manager Assistant, Nuveen Asset Management (1/13 - 9/13)
- Portfolio Manager Assistant, Nuveen Asset Management (4/10 - 12/12)
- Senior Associate, Moody's Investors Service (4/07 - 4/10)

Item 3 Disciplinary Information

There are no reportable legal or disciplinary events for the supervised person.

Item 4 Other Business Activities

The supervised person is not actively engaged in any investment-related business or occupation other than as described herein.

Item 5 Additional Compensation

The supervised person serves primarily in an investment capacity and is not compensated based on sales, client referrals, or new accounts.

The firm's employees are subject to certain limitations regarding the receipt of gifts and other benefits in the form of entertainment, including meals, golfing and tickets to cultural and sporting events from parties with whom the firm does business. See Form ADV, Part 2A, Items 11 and 14.

Item 6 Supervision

The firm supervises the supervised person and monitors the advisory services provided to clients through regular review of trading and positions for adherence to internal and strategy guidelines. The name and contact information for the person responsible for supervising the supervised person's advisory activities is: Martin J. Doyle, Senior Managing Director and Director of SMA Portfolio Management, Nuveen Asset Management, LLC, (312) 917-6883.

Item 2 Educational Background and Business Experience

Name: James P. McMillin

Year of Birth: 1958

Formal Education after high school:
Knox College, Galesburg, IL (BA - Economics and Business Administration, 1981)

Business background for preceding five years and selected additional information:
Managing Director and Portfolio Manager, Nuveen Asset Management (9/16 - present)
Managing Director and Portfolio Manager, Teachers Advisors, LLC and TIAA-CREF Investment Management, LLC (12/19 – present)
Managing Director, Raymond James & Associates, Inc. (5/03 - 8/16)

Item 3 Disciplinary Information

There are no reportable legal or disciplinary events for the supervised person.

Item 4 Other Business Activities

The supervised person is not actively engaged in any investment-related business or occupation other than as described herein.

The supervised person is an associated person of Nuveen Securities LLC, a broker-dealer affiliated with the firm, but is not compensated based on the sale of securities or other investment products.

Item 5 Additional Compensation

The supervised person serves primarily in an investment capacity and is not compensated based on sales, client referrals, or new accounts.

The firm's employees are subject to certain limitations regarding the receipt of gifts and other benefits in the form of entertainment, including meals, golfing and tickets to cultural and sporting events from parties with whom the firm does business. See Form ADV, Part 2A, Items 11 and 14.

Item 6 Supervision

The firm supervises the supervised person and monitors the advisory services provided to clients through regular review of trading and positions for adherence to internal and strategy guidelines. The name and contact information for the person responsible for supervising the supervised person's advisory activities is: Martin J. Doyle, Senior Managing Director and Director of SMA Portfolio Management, Nuveen Asset Management, LLC, (312) 917-6883.

Item 2 Educational Background and Business Experience

Name: Shawn P. O'Leary

Year of Birth: 1976

Formal Education after high school:
Bates College, Lewiston, ME (BS - Biology, 1999)
University of Chicago Irving B. Harris School of Public Policy Studies, Chicago, IL
(MPP - Public Finance, 2003)

Business background for preceding five years and selected additional information:
Managing Director and Portfolio Manager, Nuveen Asset Management, LLC (8/18 - present)
Managing Director and Portfolio Manager, Teachers Advisors, LLC and
TIAA-CREF Investment Management, LLC (8/18 – present)
Senior Vice President and Senior Research Analyst, Nuveen Asset Management, LLC
(3/14 - 8/18)
Vice President and Research Analyst, Nuveen Asset Management, LLC (1/09 - 3/14)
Assistant Vice President and Research Analyst, Moody's Investors Service (5/05 - 12/08)

Item 3 Disciplinary Information

There are no reportable legal or disciplinary events for the supervised person.

Item 4 Other Business Activities

The supervised person is not actively engaged in any investment-related business or occupation other than as described herein.

Item 5 Additional Compensation

The supervised person serves primarily in an investment capacity and is not compensated based on sales, client referrals, or new accounts.

The firm's employees are subject to certain limitations regarding the receipt of gifts and other benefits in the form of entertainment, including meals, golfing and tickets to cultural and sporting events from parties with whom the firm does business. See Form ADV, Part 2A, Items 11 and 14.

Item 6 Supervision

The firm supervises the supervised person and monitors the advisory services provided to clients through regular review of trading and positions for adherence to internal and strategy guidelines. The name and contact information for the person responsible for supervising the supervised person's advisory activities is: Martin J. Doyle, Senior Managing Director and Director of SMA Portfolio Management, Nuveen Asset Management, LLC, (312) 917-6883.

Item 2 Educational Background and Business Experience

Name: Michael J. Sheyker

Year of Birth: 1963

Formal Education after high school:
Illinois State University, Normal, IL (BS - Finance, 1987)
Northern Illinois University, DeKalb, IL (MBA, 1995)

Business background for preceding five years and selected additional information:
Managing Director and Portfolio Manager, Nuveen Asset Management (6/10 - present)
Managing Director and Portfolio Manager, Teachers Advisors, LLC and TIAA-CREF Investment Management, LLC (12/19 – present)
Vice President and Portfolio Manager, Nuveen Asset Management (1/05 - 6/10)
Assistant Vice President and Portfolio Manager, Nuveen Asset Management (1/04 - 1/05)
Assistant Vice President and Senior Analyst, Nuveen Investments, LLC (1/01 - 1/04)
Analyst, Nuveen Investments, LLC (5/95 - 1/01)

Professional designation: Chartered Financial Analyst (CFA), 2002

The CFA designation is a professional certification offered by the CFA Institute to financial analysts who pass each of three six-hour exams, possess a bachelor's degree or equivalent, and have 48 months of qualified professional work experience. The CFA Institute determines the passing score of the exams each year.

Item 3 Disciplinary Information

There are no reportable legal or disciplinary events for the supervised person.

Item 4 Other Business Activities

The supervised person is not actively engaged in any investment-related business or occupation other than as described herein.

Item 5 Additional Compensation

The supervised person serves primarily in an investment capacity and is not compensated based on sales, client referrals, or new accounts.

The firm's employees are subject to certain limitations regarding the receipt of gifts and other benefits in the form of entertainment, including meals, golfing and tickets to cultural and sporting events from parties with whom the firm does business. See Form ADV, Part 2A, Items 11 and 14.

Item 6 Supervision

The firm supervises the supervised person and monitors the advisory services provided to clients through regular review of trading and positions for adherence to internal and strategy guidelines. The name and contact information for the person responsible for supervising the supervised person's advisory activities is: Martin J. Doyle, Senior Managing Director and Director of SMA Portfolio Management, Nuveen Asset Management, LLC, (312) 917-6883.

Item 2 Educational Background and Business Experience

Name: Peter L. Agrimson

Year of Birth: 1979

Formal Education after high school:
Northern Illinois University, DeKalb, IL (BS - Finance, 2003)

Business background for preceding five years and selected additional information:
Managing Director, Portfolio Manager and Research Analyst, Nuveen Asset Management (3/19 - present)
Managing Director, Portfolio Manager and Research Analyst, Teachers Advisors, LLC and TIAA-CREF Investment Management, LLC (3/19 - present)
Vice President, Portfolio Manager and Research Analyst, Nuveen Asset Management (11/15 - 3/19)
Vice President, Portfolio Manager and Research Analyst, Teachers Advisors, LLC and TIAA-CREF Investment Management, LLC (12/18 - 3/19)
Research Analyst, Nuveen Asset Management (3/15 - 10/15)
Trader, Nuveen Asset Management (7/08 - 2/15)

Professional designation: Chartered Financial Analyst (CFA), 2007

The CFA designation is a professional certification offered by the CFA Institute to financial analysts who pass each of three six-hour exams, possess a bachelor's degree or equivalent, and have 48 months of qualified professional work experience. The CFA Institute determines the passing score of the exams each year.

Item 3 Disciplinary Information

There are no reportable legal or disciplinary events for the supervised person.

Item 4 Other Business Activities

The supervised person is not actively engaged in any investment-related business or occupation other than as described herein.

Item 5 Additional Compensation

The supervised person serves primarily in an investment capacity and is not compensated based on sales, client referrals, or new accounts.

The firm’s employees are subject to certain limitations regarding the receipt of gifts and other benefits in the form of entertainment, including meals, golfing and tickets to cultural and sporting events from parties with whom the firm does business. See Form ADV, Part 2A, Items 11 and 14.

Item 6 Supervision

The firm supervises the supervised person and monitors the advisory services provided to clients through regular review of trading and positions for adherence to internal and strategy guidelines. The name and contact information for the person responsible for supervising the supervised person’s advisory activities is: Joseph G. Higgins, Managing Director, Nuveen Asset Management, LLC, (212) 916-4660.

Item 2 Educational Background and Business Experience

Name: Daniel J. Close

Year of Birth: 1975

Formal Education after high school:
Miami University, Oxford, OH (BS - Finance, 1998)
Northwestern University, Chicago, IL (MBA - Finance, 2007)

Business background for preceding five years and selected additional information:
Managing Director and Portfolio Manager, Nuveen Asset Management (3/07 - present)
Managing Director and Portfolio Manager, Teachers Advisors, LLC and TIAA-CREF Investment Management, LLC (8/18 - present)
Research Analyst, Nuveen Asset Management (6/04 - 3/07)
Analyst for Product Development Group, Nuveen Asset Management (9/00 - 6/04)

Professional designation: Chartered Financial Analyst (CFA), 2003

The CFA designation is a professional certification offered by the CFA Institute to financial analysts who pass each of three six-hour exams, possess a bachelor's degree or equivalent, and have 48 months of qualified professional work experience. The CFA Institute determines the passing score of the exams each year.

Item 3 Disciplinary Information

There are no reportable legal or disciplinary events for the supervised person.

Item 4 Other Business Activities

The supervised person is not actively engaged in any investment-related business or occupation other than as described herein.

The supervised person is an associated person of Nuveen Securities, LLC, a broker-dealer affiliated with the firm, but is not compensated based on the sale of securities or other investment products.

Item 5 Additional Compensation

The supervised person serves primarily in an investment capacity and is not compensated based on sales, client referrals, or new accounts.

The firm’s employees are subject to certain limitations regarding the receipt of gifts and other benefits in the form of entertainment, including meals, golfing and tickets to cultural and sporting events from parties with whom the firm does business. See Form ADV, Part 2A, Items 11 and 14.

Item 6 Supervision

The firm supervises the supervised person and monitors the advisory services provided to clients through regular review of trading and positions for adherence to internal and strategy guidelines. The name and contact information for the person responsible for supervising the supervised person’s advisory activities is: John V. Miller, Head of Municipals, Nuveen Asset Management, LLC, (312) 917-7855.

Item 2 Educational Background and Business Experience

Name: Chad W. Kemper

Year of Birth: 1974

Formal Education after high school:
University of St. Thomas, Saint Paul, MN (BA - International Business, 1997)
Augsburg College, Minneapolis, MN (MBA, 2009)

Business background for preceding five years and selected additional information:
Senior Director and Portfolio Manager, Nuveen Asset Management (3/15 - present)
Senior Director and Portfolio Manager, Teachers Advisors, LLC and
TIAA-CREF Investment Management, LLC (12/18 - present)
Vice President and Assistant Portfolio Manager, Nuveen Asset Management (3/13 - 2/15)
Assistant Vice President and Assistant Portfolio Manager, Nuveen Asset Management
(3/02 - 2/13)

Item 3 Disciplinary Information

There are no reportable legal or disciplinary events for the supervised person.

Item 4 Other Business Activities

The supervised person is not actively engaged in any investment-related business or occupation other than as described herein.

Item 5 Additional Compensation

The supervised person serves primarily in an investment capacity and is not compensated based on sales, client referrals, or new accounts.

The firm's employees are subject to certain limitations regarding the receipt of gifts and other benefits in the form of entertainment, including meals, golfing and tickets to cultural and sporting events from parties with whom the firm does business. See Form ADV, Part 2A, Items 11 and 14.

Item 6 Supervision

The firm supervises the supervised person and monitors the advisory services provided to clients through regular review of trading and positions for adherence to internal and strategy guidelines. The name and contact information for the person responsible for supervising the supervised person's advisory activities is: Joseph G. Higgins, Managing Director, Nuveen Asset Management, LLC, (212) 916-4660.

Item 2 Educational Background and Business Experience

Name: Jacob J. Fitzpatrick

Year of Birth: 1982

Formal Education after high school:
University of Minnesota, Minneapolis, MN (BSB – Finance, 2004)

Business background for preceding five years and selected additional information:
Senior Director and Portfolio Manager, Nuveen Asset Management (8/18 - present)
Senior Director and Portfolio Manager, Teachers Advisors, LLC and TIAA-CREF Investment Management, LLC (3/19 - present)
Senior Director and Associate Portfolio Manager, Teachers Advisors, LLC and TIAA-CREF Investment Management, LLC (8/18 – 3/19)
Assistant Vice President and Associate Portfolio Manager, Nuveen Asset Management, LLC (11/15 – 8/18)

Professional designation: Chartered Financial Analyst (CFA), 2018

The CFA designation is a professional certification offered by the CFA Institute to financial analysts who pass each of three six-hour exams, possess a bachelor's degree or equivalent, and have 48 months of qualified professional work experience. The CFA Institute determines the passing score of the exams each year.

Item 3 Disciplinary Information

There are no reportable legal or disciplinary events for the supervised person.

Item 4 Other Business Activities

The supervised person is not actively engaged in any investment-related business or occupation other than as described herein.

Item 5 Additional Compensation

The supervised person serves primarily in an investment capacity and is not compensated based on sales, client referrals, or new accounts.

The firm’s employees are subject to certain limitations regarding the receipt of gifts and other benefits in the form of entertainment, including meals, golfing and tickets to cultural and sporting events from parties with whom the firm does business. See Form ADV, Part 2A, Items 11 and 14.

Item 6 Supervision

The firm supervises the supervised person and monitors the advisory services provided to clients through regular review of trading and positions for adherence to internal and strategy guidelines. The name and contact information for the person responsible for supervising the supervised person’s advisory activities is: Kevin R. Lorenz, Senior Managing Director, Nuveen Asset Management, LLC, (212) 916-4337.

Item 2 Educational Background and Business Experience

Name: Jason J. O'Brien

Year of Birth: 1969

Formal Education after high school:
University of St. Thomas, Saint Paul, MN (BA - Finance, 1991)

Business background for preceding five years and selected additional information:
Managing Director and Portfolio Manager, Nuveen Asset Management (4/16 - present)
Managing Director and Portfolio Manager, Teachers Advisors, LLC and TIAA-CREF Investment Management, LLC (12/18 - present)
Vice President and Portfolio Manager, Nuveen Asset Management (1/11 - 3/16)
Senior Trader and Portfolio Manager of Taxable Fixed Income: Securitized Debt, Nuveen Asset Management (12/05 - 12/10)

Professional designation: Chartered Financial Analyst (CFA), 1999

The CFA designation is a professional certification offered by the CFA Institute to financial analysts who pass each of three six-hour exams, possess a bachelor's degree or equivalent, and have 48 months of qualified professional work experience. The CFA Institute determines the passing score of the exams each year.

Item 3 Disciplinary Information

There are no reportable legal or disciplinary events for the supervised person.

Item 4 Other Business Activities

The supervised person is not actively engaged in any investment-related business or occupation other than as described herein.

Item 5 Additional Compensation

The supervised person serves primarily in an investment capacity and is not compensated based on sales, client referrals, or new accounts.

The firm's employees are subject to certain limitations regarding the receipt of gifts and other benefits in the form of entertainment, including meals, golfing and tickets to cultural and sporting events from parties with whom the firm does business. See Form ADV, Part 2A, Items 11 and 14.

Item 6 Supervision

The firm supervises the supervised person and monitors the advisory services provided to clients through regular review of trading and positions for adherence to internal and strategy guidelines. The name and contact information for the person responsible for supervising the supervised person's advisory activities is: Joseph G. Higgins, Managing Director, Nuveen Asset Management, LLC, (212) 916-4660.

Item 2 Educational Background and Business Experience

Name: Gregory K. Hessler

Year of Birth: 1982

Formal Education after high school:
Virginia Tech, Blacksburg, VA (BS - Finance, 2004)
University of Maryland, College Park, MD (MBA - Finance, 2010)

Business background for preceding five years and selected additional information:
Senior Director, Portfolio Manager, Nuveen Asset Management, LLC (12/18 – present)
Senior Director, Portfolio Manager, Teachers Advisors, LLC and
TIAA-CREF Investment Management, LLC (12/18 – present)
Senior Director, Research Analyst, Teachers Advisors, LLC and
TIAA-CREF Investment Management, LLC (2015 – 12/18)
Director, Research, J.P. Morgan Investment Management (2014 – 2015)
Vice President, Credit Research, Bank of America Merrill Lynch (2010 – 2014)

Item 3 Disciplinary Information

There are no reportable legal or disciplinary events for the supervised person.

Item 4 Other Business Activities

The supervised person is not actively engaged in any investment-related business or occupation other than as described herein.

Item 5 Additional Compensation

The supervised person serves primarily in an investment capacity and is not compensated based on sales, client referrals, or new accounts.

The firm's employees are subject to certain limitations regarding the receipt of gifts and other benefits in the form of entertainment, including meals, golfing and tickets to cultural and sporting events from parties with whom the firm does business. See Form ADV, Part 2A, Items 11 and 14.

Item 6 Supervision

The firm supervises the supervised person and monitors the advisory services provided to clients through regular review of trading and positions for adherence to internal and strategy guidelines. The name and contact information for the person responsible for supervising the supervised person's advisory activities is: Richard W. Cheng, Managing Director, Nuveen Asset Management, LLC, (212) 916-5916.

Item 2 Educational Background and Business Experience

Name: Jean C. Lin

Year of Birth: 1972

Formal Education after high school:
The State University of New York, Albany, NY (BS – Business Administration, 1994)
New York University, New York City, NY (MBA - Finance, 2001)

Business background for preceding five years and selected additional information:
Managing Director and Co-Portfolio Manager, Nuveen Asset Management (9/18 – present).
Managing Director, Public Research, High Yield and Co-Portfolio, Teachers Advisors, LLC and TIAA-CREF Investment Management, LLC (2007 – present)
Director, Teachers Advisors, Inc. (2004-2007)

Professional designation: Chartered Financial Analyst (CFA), 2003

The CFA designation is a professional certification offered by the CFA Institute to financial analysts who pass each of three six-hour exams, possess a bachelor's degree or equivalent, and have 48 months of qualified professional work experience. The CFA Institute determines the passing score of the exams each year.

Item 3 Disciplinary Information

There are no reportable legal or disciplinary events for the supervised person.

Item 4 Other Business Activities

The supervised person is not actively engaged in any investment-related business or occupation other than as described herein.

Item 5 Additional Compensation

The supervised person serves primarily in an investment capacity and is not compensated based on sales, client referrals, or new accounts.

The firm's employees are subject to certain limitations regarding the receipt of gifts and other benefits in the form of entertainment, including meals, golfing and tickets to cultural and sporting events from parties with whom the firm does business. See Form ADV, Part 2A, Items 11 and 14.

Item 6 Supervision

The firm supervises the supervised person and monitors the advisory services provided to clients through regular review of trading and positions for adherence to internal and strategy guidelines. The name and contact information for the person responsible for supervising the supervised person's advisory activities is: Anders Persson, Head of Global Fixed Income, Nuveen Asset Management, LLC, (704) 988-3429.

Item 2 Educational Background and Business Experience

Name: Marie A. Newcome

Year of Birth: 1972

Formal Education after high school:
University of St. Thomas, Saint Paul, MN (BA - Finance, 1995)

Business background for preceding five years and selected additional information:
Managing Director and Portfolio Manager, Nuveen Asset Management (3/18 - present)
Managing Director and Portfolio Manager, Teachers Advisors, LLC and TIAA-CREF Investment Management, LLC (12/18 - present)
Vice President and Portfolio Manager, Nuveen Asset Management (5/04 - 2/18)

Professional designation: Chartered Financial Analyst (CFA), 1998

The CFA designation is a professional certification offered by the CFA Institute to financial analysts who pass each of three six-hour exams, possess a bachelor's degree or equivalent, and have 48 months of qualified professional work experience. The CFA Institute determines the passing score of the exams each year.

Item 3 Disciplinary Information

There are no reportable legal or disciplinary events for the supervised person.

Item 4 Other Business Activities

The supervised person is not actively engaged in any investment-related business or occupation other than as described herein.

Item 5 Additional Compensation

The supervised person serves primarily in an investment capacity and is not compensated based on sales, client referrals, or new accounts.

The firm’s employees are subject to certain limitations regarding the receipt of gifts and other benefits in the form of entertainment, including meals, golfing and tickets to cultural and sporting events from parties with whom the firm does business. See Form ADV, Part 2A, Items 11 and 14.

Item 6 Supervision

The firm supervises the supervised person and monitors the advisory services provided to clients through regular review of trading and positions for adherence to internal and strategy guidelines. The name and contact information for the person responsible for supervising the supervised person’s advisory activities is: Joseph G. Higgins, Managing Director, Nuveen Asset Management, LLC, (212) 916-4660.

Item 2 Educational Background and Business Experience

Name: Douglas M. Baker

Year of Birth: 1973

Formal Education after high school:
University of Illinois, Champaign Urbana, IL (BA - Finance, 1996)
University of Chicago, Chicago, IL (MBA - Finance and Economics, 2002)

Business background for preceding five years and selected additional information:
Managing Director, Portfolio Manager and Head of Preferred Securities Sector Team, Nuveen Asset Management (1/17 - present)
Managing Director, Portfolio Manager and Head of Preferred Securities Sector Team, Teachers Advisors, LLC and TIAA-CREF Investment Management, LLC (12/18 - present)
Senior Vice President, Portfolio Manager and Head of Preferred Securities Team, Nuveen Asset Management (3/06 - 12/16)

Professional designation: Chartered Financial Analyst (CFA), 2002

The CFA designation is a professional certification offered by the CFA Institute to financial analysts who pass each of three six-hour exams, possess a bachelor's degree or equivalent, and have 48 months of qualified professional work experience. The CFA Institute determines the passing score of the exams each year.

Item 3 Disciplinary Information

There are no reportable legal or disciplinary events for the supervised person.

Item 4 Other Business Activities

The supervised person is not actively engaged in any investment-related business or occupation other than as described herein.

The supervised person is an associated person of Nuveen Securities LLC, a broker-dealer affiliated with the firm, but is not compensated based on the sale of securities or other investment products.

Item 5 Additional Compensation

The supervised person serves primarily in an investment capacity and is not compensated based on sales, client referrals, or new accounts.

The firm's employees are subject to certain limitations regarding the receipt of gifts and other benefits in the form of entertainment, including meals, golfing and tickets to cultural and sporting events from parties with whom the firm does business. See Form ADV, Part 2A, Items 11 and 14.

Item 6 Supervision

The firm supervises the supervised person and monitors the advisory services provided to clients through regular review of trading and positions for adherence to internal and strategy guidelines. The name and contact information for the person responsible for supervising the supervised person's advisory activities is: Anders Persson, Head of Fixed Income Portfolio Management, Nuveen Asset Management, LLC, (704) 988-3429.

Item 2 Educational Background and Business Experience

Name: Brenda A. Langenfeld

Year of Birth: 1980

Formal Education after high school:
University of Wisconsin, Madison, WI (BBA - Finance and International Business, 2003)

Business background for preceding five years and selected additional information:
Managing Director and Portfolio Manager, Nuveen Asset Management (1/17 - present)
Managing Director and Portfolio Manager, Teachers Advisors, LLC and TIAA-CREF Investment Management, LLC (12/18 - present)
Vice President and Portfolio Manager, Nuveen Asset Management (1/11 - 12/16)
Corporate Trader, Nuveen Asset Management (6/08 - 1/11)
Mortgage Trader, Nuveen Asset Management (2/04 - 6/08)

Professional designation: Chartered Financial Analyst (CFA), 2009

The CFA designation is a professional certification offered by the CFA Institute to financial analysts who pass each of three six-hour exams, possess a bachelor's degree or equivalent, and have 48 months of qualified professional work experience. The CFA Institute determines the passing score of the exams each year.

Item 3 Disciplinary Information

There are no reportable legal or disciplinary events for the supervised person.

Item 4 Other Business Activities

The supervised person is not actively engaged in any investment-related business or occupation other than as described herein.

Item 5 Additional Compensation

The supervised person serves primarily in an investment capacity and is not compensated based on sales, client referrals, or new accounts.

The firm's employees are subject to certain limitations regarding the receipt of gifts and other benefits in the form of entertainment, including meals, golfing and tickets to cultural and sporting events from parties with whom the firm does business. See Form ADV, Part 2A, Items 11 and 14.

Item 6 Supervision

The firm supervises the supervised person and monitors the advisory services provided to clients through regular review of trading and positions for adherence to internal and strategy guidelines. The name and contact information for the person responsible for supervising the supervised person's advisory activities is: Douglas M. Baker, Managing Director and Portfolio Manager, Nuveen Asset Management, (312) 917-8181.

Item 2 Educational Background and Business Experience

Name: David A. Chalupnik

Year of Birth: 1959

Formal Education after high school:
DePaul University, Chicago, IL (BS - Commerce, 1981)
DePaul University, Chicago, IL (MBA - Finance, 1984)

Business background for preceding five years and selected additional information:
Senior Managing Director and Head of U.S. Active Equities Portfolio Management, Nuveen Asset Management (1/20 - present)
Senior Managing Director and Head of U.S. Active Equities Portfolio Management, Teachers Advisors, LLC and TIAA-CREF Investment Management, LLC (1/20 - present)
Senior Managing Director and Head of Equities, Nuveen Asset Management (11/02 –1/20)
Senior Managing Director and Portfolio Manager, Teachers Advisors, LLC and TIAA-CREF Investment Management, LLC (8/19 – 1/20)
Senior Managing Director and Portfolio Manager, Santa Barbara Asset Management (6/19 - present)
Chief Investment Officer, Duff & Phelps (11/00 - 10/02)
Head of Equities, Allstate Insurance (1/95 - 11/00)

Professional designation: Chartered Financial Analyst (CFA), 1986

The CFA designation is a professional certification offered by the CFA Institute to financial analysts who pass each of three six-hour exams, possess a bachelor's degree or equivalent, and have 48 months of qualified professional work experience. The CFA Institute determines the passing score of the exams each year.

Item 3 Disciplinary Information

There are no reportable legal or disciplinary events for the supervised person.

Item 4 Other Business Activities

The supervised person is not actively engaged in any investment-related business or occupation other than as described herein.

Item 5 Additional Compensation

The supervised person serves primarily in an investment capacity and is not compensated based on sales, client referrals, or new accounts.

The firm's employees are subject to certain limitations regarding the receipt of gifts and other benefits in the form of entertainment, including meals, golfing and tickets to cultural and sporting events from parties with whom the firm does business. See Form ADV, Part 2A, Items 11 and 14.

Item 6 Supervision

The firm supervises the supervised person and monitors the advisory services provided to clients through regular review of trading and positions for adherence to internal and strategy guidelines. . The name and contact information for the person responsible for supervising the supervised person's advisory activities is: Saira Malik, Senior Managing Director, Head of Nuveen Equities, Nuveen Asset Management, LLC, (415) 882-3708.

Item 2 Educational Background and Business Experience

Name: David S. Park

Year of Birth: 1976

Formal Education after high school:
University of California, Los Angeles, CA (BA – Business Economics, 1998)
New York University, Leonard N. Stern School of Business, New York, NY (MBA, Finance and Strategy, 2005)

Business background for preceding five years and selected additional information:
- Portfolio Manager, Nuveen Asset Management (3/21 - present)
- Co-Head of Santa Barbara Asset Management, Portfolio Manager, Director of Research, Santa Barbara Asset Management, LLC, (1/2020 – Present)
- Managing Director, Portfolio Manager, Director of Research, Santa Barbara Asset Management, LLC (6/2019 – 12/2019)
- Senior Vice President, Research Analyst, Santa Barbara Asset Management, LLC (2/2014 – 6/2019)
- Research Analyst, Santa Barbara Asset Management, LLC (7/2011 – 1/2014)
- Equity Analyst, HighMark Capital Management, Inc. (2006-2011)
- Manager, Transaction Advisory Services, Ernst & Young, LLP (2005-2006)

Professional designation: Chartered Financial Analyst (CFA), 2004

The CFA designation is a professional certification offered by the CFA Institute to financial analysts who pass each of three six-hour exams, possess a bachelor's degree or equivalent, and have 48 months of qualified professional work experience. The CFA Institute determines the passing score of the exams each year.

Item 3 Disciplinary Information

There are no reportable legal or disciplinary events for the supervised person.

Item 4 Other Business Activities

The supervised person is not actively engaged in any investment-related business or occupation other than as described herein.

Item 5 Additional Compensation

The supervised person serves primarily in an investment capacity and is not compensated based on sales, client referrals, or new accounts.

The firm's employees are subject to certain limitations regarding the receipt of gifts and other benefits in the form of entertainment, including meals, golfing and tickets to cultural and sporting events from parties with whom the firm does business. See Form ADV, Part 2A, Items 11 and 14.

Item 6 Supervision

The firm supervises the supervised person and monitors the advisory services provided to clients through regular review of trading and positions for adherence to internal and strategy guidelines. The name and contact information for the person responsible for supervising the supervised person's advisory activities is: David A. Chalupnik, Senior Managing Director and Head of U.S. Active Equities Portfolio Management, Nuveen Asset Management, LLC, (612) 303-3293.

Item 2 Educational Background and Business Experience

Name: Scott M. Tonneson

Year of Birth: 1973

Formal Education after high school:
University of St. Thomas, Saint Paul, MN (BA - Accounting, 1996)
University of Minnesota, Minneapolis, MN (MBA, 2012)

Business background for preceding five years and selected additional information:
Managing Director, Portfolio Manager, Nuveen Asset Management (3/19 - present)
Managing Director, Portfolio Manager, Teachers Advisors, LLC and
TIAA-CREF Investment Management, LLC (10/19 - present)
Vice President, Portfolio Manager, Nuveen Asset Management (3/12 - 3/19)
Vice President, Senior Research Analyst, Nuveen Asset Management (7/07 - 12/16)
Equity Quantitative Analyst, Ameriprise Financial (1994 - 2005)

Professional designation: Chartered Financial Analyst (CFA), 2003

The CFA designation is a professional certification offered by the CFA Institute to financial analysts who pass each of three six-hour exams, possess a bachelor's degree or equivalent, and have 48 months of qualified professional work experience. The CFA Institute determines the passing score of the exams each year.

Item 3 Disciplinary Information

There are no reportable legal or disciplinary events for the supervised person.

Item 4 Other Business Activities

The supervised person is not actively engaged in any investment-related business or occupation other than as described herein.

Item 5 Additional Compensation

The supervised person serves primarily in an investment capacity and is not compensated based on sales, client referrals, or new accounts.

The firm’s employees are subject to certain limitations regarding the receipt of gifts and other benefits in the form of entertainment, including meals, golfing and tickets to cultural and sporting events from parties with whom the firm does business. See Form ADV, Part 2A, Items 11 and 14.

Item 6 Supervision

The firm supervises the supervised person and monitors the advisory services provided to clients through regular review of trading and positions for adherence to internal and strategy guidelines. The name and contact information for the person responsible for supervising the supervised person’s advisory activities is: David A. Chalupnik, Senior Managing Director and Head of U.S. Active Equities Portfolio Management, Nuveen Asset Management, LLC, (612) 303-3293.

Item 2 Educational Background and Business Experience

Name: Evan F. Staples

Year of Birth: 1982

Formal Education after high school:
St. Cloud State University, St. Cloud, MN (BS - Real Estate Finance and Investing, 2004)
St. Cloud State University, St. Cloud, MN (MBA - Finance, 2005)

Business background for preceding five years and selected additional information:
Managing Director, Portfolio Manager and Senior Research Analyst,
Nuveen Asset Management (3/18 - present)
Managing Director and Research Analyst, Santa Barbara Asset Management (6/19 - present)
Managing Director, Portfolio Manager and Senior Research Analyst, Teachers Advisors, LLC and TIAA-CREF Investment Management, LLC (4/19 - present)
Vice President, Portfolio Manager and Senior Research Analyst, Nuveen Asset Management (4/17 - 2/18)
Vice President and Senior Research Analyst, Nuveen Asset Management (3/12 - 3/17)
Assistant Vice President and Research Analyst, Nuveen Asset Management (1/10 - 3/12)

Professional designation: Chartered Financial Analyst (CFA), 2009

The CFA designation is a professional certification offered by the CFA Institute to financial analysts who pass each of three six-hour exams, possess a bachelor's degree or equivalent, and have 48 months of qualified professional work experience. The CFA Institute determines the passing score of the exams each year.

Item 3 Disciplinary Information

There are no reportable legal or disciplinary events for the supervised person.

Item 4 Other Business Activities

The supervised person is not actively engaged in any investment-related business or occupation other than as described herein.

Item 5 Additional Compensation

The supervised person serves primarily in an investment capacity and is not compensated based on sales, client referrals, or new accounts.

The firm’s employees are subject to certain limitations regarding the receipt of gifts and other benefits in the form of entertainment, including meals, golfing and tickets to cultural and sporting events from parties with whom the firm does business. See Form ADV, Part 2A, Items 11 and 14.

Item 6 Supervision

The firm supervises the supervised person and monitors the advisory services provided to clients through regular review of trading and positions for adherence to internal and strategy guidelines. The name and contact information for the person responsible for supervising the supervised person’s advisory activities is: David A. Chalupnik, Senior Managing Director and Head of U.S. Active Equities Portfolio Management, Nuveen Asset Management, LLC, (612) 303-3293.

Item 2 Educational Background and Business Experience

Name: Gregory J. Ryan

Year of Birth: 1976

Formal Education after high school:
Winona State University, Winona, MN (BS-Finance, 1998)
University of St. Thomas, St. Paul, MN (MBA-Finance, 2005)

Business background for preceding five years and selected additional information:
Managing Director and Portfolio Manager, Nuveen Asset Management, (3/18 - present)
Managing Director and Portfolio Manager, Teachers Advisors, LLC and TIAA-CREF Investment Management, LLC, (10/19 - present)
Vice President, Senior Research Analyst and Co-Portfolio Manager, Nuveen Asset Management, (8/13 - 2/18)
Vice President and Senior Research Specialist, Nuveen Asset Management (10/07 - 8/13)

Professional designation: Chartered Financial Analyst (CFA), 2008

The CFA designation is a professional certification offered by the CFA Institute to financial analysts who pass each of three six-hour exams, possess a bachelor's degree or equivalent, and have 48 months of qualified professional work experience. The CFA Institute determines the passing score of the exams each year.

Item 3 Disciplinary Information

There are no reportable legal or disciplinary events for the supervised person.

Item 4 Other Business Activities

The supervised person is not actively engaged in any investment-related business or occupation other than as described herein.

Item 5 Additional Compensation

The supervised person serves primarily in an investment capacity and is not compensated based on sales, client referrals, or new accounts.

The firm's employees are subject to certain limitations regarding the receipt of gifts and other benefits in the form of entertainment, including meals, golfing and tickets to cultural and sporting events from parties with whom the firm does business. See Form ADV, Part 2A, Items 11 and 14.

Item 6 Supervision

The firm supervises the supervised person and monitors the advisory services provided to clients through regular review of trading and positions for adherence to internal and strategy guidelines. The name and contact information for the person responsible for supervising the supervised person's advisory activities is: David A. Chalupnik, Senior Managing Director and Head of U.S. Active Equities Portfolio Management, Nuveen Asset Management, LLC, (612) 303-3293.

Item 2 Educational Background and Business Experience

Name: Bihag Patel

Year of Birth: 1967

Formal Education after high school:
University of Minnesota, Minneapolis, MN (BA - Mathematics, 1991)

Business background for preceding five years and selected additional information:
Managing Director, Portfolio Manager and Senior Equities Research Analyst, Nuveen Asset Management, (2/20 - present)
Managing Director, Portfolio Manager and Senior Equities Research Analyst, Teachers Advisors, LLC and TIAA-CREF Investment Management, LLC, (2/20 - present)
Managing Director, Senior Equities Research Analyst, Nuveen Asset Management (4/19 -2/20)
Managing Director, Senior Equities Research Analyst, Teachers Advisors, LLC and TIAA-CREF Investment Management, LLC (10/19 - 2/20)
Senior Vice President, Senior Equities Research Analyst, Nuveen Asset Management, (3/17-4/19)
Vice President, Senior Equities Research Analyst, Nuveen Asset Management, (4/14 - 3/17)
Vice President, Senior Portfolio Manager, Fort Washington Investment Advisors, (10/04 - 1/14)
Portfolio Manager and Senior Equities Analyst, Banc One Investment Advisors, (2/98 - 9/04)

Professional designation: Chartered Financial Analyst (CFA), 2002

The CFA designation is a professional certification offered by the CFA Institute to financial analysts who pass each of three six-hour exams, possess a bachelor's degree or equivalent, and have 48 months of qualified professional work experience. The CFA Institute determines the passing score of the exams each year.

Item 3 Disciplinary Information

There are no reportable legal or disciplinary events for the supervised person.

Item 4 Other Business Activities

The supervised person is not actively engaged in any investment-related business or occupation other than as described herein.

Item 5 Additional Compensation

The supervised person serves primarily in an investment capacity and is not compensated based on sales, client referrals, or new accounts.

The firm’s employees are subject to certain limitations regarding the receipt of gifts and other benefits in the form of entertainment, including meals, golfing and tickets to cultural and sporting events from parties with whom the firm does business. See Form ADV, Part 2A, Items 11 and 14.

Item 6 Supervision

The firm supervises the supervised person and monitors the advisory services provided to clients through regular review of trading and positions for adherence to internal and strategy guidelines. The name and contact information for the person responsible for supervising the supervised person’s advisory activities is: David Chalupnik, Senior Managing Director and Head of U.S. Active Equities Portfolio Management, Nuveen Asset Management, LLC, (612) 303-3293.

Item 2 Educational Background and Business Experience

Name: Casey R. Weston

Year of Birth: 1986

Formal Education after high school:
University of Colorado, Boulder, CO (BS, Business Administration - Finance, 2011)

Business background for preceding five years and selected additional information:
Senior Director, Portfolio Manager and Equity Research Analyst, Nuveen Asset Management (3/22 - present)
Senior Director, Portfolio Manager and Equity Research Analyst, Teachers Advisors, LLC and TIAA-CREF Investment Management, LLC (3/22 - present)
Director, Equity Research Analyst, Nuveen Asset Management (10/19 – 2/22)
Director, Equity Research Analyst, Teachers Advisors, LLC and TIAA-CREF Investment Management, LLC (3/18 – 2/22)
Associate, Equity Research, Teachers Advisors, LLC and TIAA-CREF Investment Management, LLC (6/14 – 2/18)
Analyst, Equity Research, Goldman Sachs & Co., (5/11 – 5/14)

Professional designation: Chartered Financial Analyst (CFA), 2019

The CFA designation is a professional certification offered by the CFA Institute to financial analysts who pass each of three six-hour exams, possess a bachelor's degree or equivalent, and have 48 months of qualified professional work experience. The CFA Institute determines the passing score of the exams each year.

Item 3 Disciplinary Information

There are no reportable legal or disciplinary events for the supervised person.

Item 4 Other Business Activities

The supervised person is not actively engaged in any investment-related business or occupation other than as described herein.

Item 5 Additional Compensation

The supervised person serves primarily in an investment capacity and is not compensated based on sales, client referrals, or new accounts.

The firm’s employees are subject to certain limitations regarding the receipt of gifts and other benefits in the form of entertainment, including meals, golfing and tickets to cultural and sporting events from parties with whom the firm does business. See Form ADV, Part 2A, Items 11 and 14.

Item 6 Supervision

The firm supervises the supervised person and monitors the advisory services provided to clients through regular review of trading and positions for adherence to internal and strategy guidelines. The name and contact information for the person responsible for supervising the supervised person’s advisory activities is: David Chalupnik, Senior Managing Director and Head of U.S. Active Equities Portfolio Management, Nuveen Asset Management, LLC, (612) 303-3293.

Item 2 Educational Background and Business Experience

Name: Jon A. Loth

Year of Birth: 1969

Formal Education after high school:
University of Minnesota, Minneapolis, MN (BS - Finance, 1991)

Business background for preceding five years and selected additional information:
Managing Director and Portfolio Manager, Nuveen Asset Management (3/19 - present)
Managing Director and Portfolio Manager, Teachers Advisors, LLC and TIAA-CREF Investment Management, LLC (10/19 - present)
Vice President and Portfolio Manager, Nuveen Asset Management (8/07 - 3/19)
Senior Equity Analyst, Nuveen Asset Management (7/04 - 8/07)

Professional designation: Chartered Financial Analyst (CFA), 1996

The CFA designation is a professional certification offered by the CFA Institute to financial analysts who pass each of three six-hour exams, possess a bachelor's degree or equivalent, and have 48 months of qualified professional work experience. The CFA Institute determines the passing score of the exams each year.

Item 3 Disciplinary Information

There are no reportable legal or disciplinary events for the supervised person.

Item 4 Other Business Activities

The supervised person is not actively engaged in any investment-related business or occupation other than as described herein.

Item 5 Additional Compensation

The supervised person serves primarily in an investment capacity and is not compensated based on sales, client referrals, or new accounts.

The firm’s employees are subject to certain limitations regarding the receipt of gifts and other benefits in the form of entertainment, including meals, golfing and tickets to cultural and sporting events from parties with whom the firm does business. See Form ADV, Part 2A, Items 11 and 14.

Item 6 Supervision

The firm supervises the supervised person and monitors the advisory services provided to clients through regular review of trading and positions for adherence to internal and strategy guidelines. The name and contact information for the person responsible for supervising the supervised person’s advisory activities is: David A. Chalupnik, Senior Managing Director and Head of U.S. Active Equities Portfolio Management, Nuveen Asset Management, LLC, (612) 303-3293.

Item 2 Educational Background and Business Experience

Name: Karen L. Bowie

Year of Birth: 1961

Formal Education after high school:
Xavier University, Cincinnati, OH (BS - Business Administration, 1983)
Xavier University, Cincinnati, OH (MBA - Business Administration, 1988)
Salmon P. Chase College of Law, North Kentucky University, Highland Heights, KY (JD, 1995)

Business background for preceding five years and selected additional information:
Managing Director and Portfolio Manager, Nuveen Asset Management (7/06 - present)
Managing Director and Portfolio Manager, Teachers Advisors, LLC and TIAA-CREF Investment Management, LLC (10/19 - present)
Senior Research Analyst, US Bancorp Asset Management (1/03 - 6/06)

Professional designation: Chartered Financial Analyst (CFA), 1987

The CFA designation is a professional certification offered by the CFA Institute to financial analysts who pass each of three six-hour exams, possess a bachelor's degree or equivalent, and have 48 months of qualified professional work experience. The CFA Institute determines the passing score of the exams each year.

Item 3 Disciplinary Information

There are no reportable legal or disciplinary events for the supervised person.

Item 4 Other Business Activities

The supervised person is not actively engaged in any investment-related business or occupation other than as described herein.

Item 5 Additional Compensation

The supervised person serves primarily in an investment capacity and is not compensated based on sales, client referrals, or new accounts.

The firm's employees are subject to certain limitations regarding the receipt of gifts and other benefits in the form of entertainment, including meals, golfing and tickets to cultural and sporting events from parties with whom the firm does business. See Form ADV, Part 2A, Items 11 and 14.

Item 6 Supervision

The firm supervises the supervised person and monitors the advisory services provided to clients through regular review of trading and positions for adherence to internal and strategy guidelines. The name and contact information for the person responsible for supervising the supervised person's advisory activities is: David A. Chalupnik, Senior Managing Director and Head of U.S. Active Equities Portfolio Management, Nuveen Asset Management, LLC, (612) 303-3293.

Item 2 Educational Background and Business Experience

Name: David F. Johnson

Year of Birth: 1961

Formal Education after high school:
St. Lawrence University, Canton, NY (BA - Economics, 1983)
University of Connecticut, Storrs, CT (MBA - Finance, 1989)

Business background for preceding five years and selected additional information:
Senior Director, Portfolio Manager and Senior Research Analyst,
Nuveen Asset Management (4/17 - present)
Senior Director, Portfolio Manager and Senior Research Analyst, Teachers Advisors, LLC and TIAA-CREF Investment Management, LLC (10/19 - present)
Vice President and Senior Research Analyst, Nuveen Asset Management (1/11 - 3/17)
Equity Research Analyst, Nuveen Asset Management (11/97 - 12/10)

Professional designation: Chartered Financial Analyst (CFA), 1999

The CFA designation is a professional certification offered by the CFA Institute to financial analysts who pass each of three six-hour exams, possess a bachelor's degree or equivalent, and have 48 months of qualified professional work experience. The CFA Institute determines the passing score of the exams each year.

Item 3 Disciplinary Information

There are no reportable legal or disciplinary events for the supervised person.

Item 4 Other Business Activities

The supervised person is not actively engaged in any investment-related business or occupation other than as described herein.

Item 5 Additional Compensation

The supervised person serves primarily in an investment capacity and is not compensated based on sales, client referrals, or new accounts.

The firm’s employees are subject to certain limitations regarding the receipt of gifts and other benefits in the form of entertainment, including meals, golfing and tickets to cultural and sporting events from parties with whom the firm does business. See Form ADV, Part 2A, Items 11 and 14.

Item 6 Supervision

The firm supervises the supervised person and monitors the advisory services provided to clients through regular review of trading and positions for adherence to internal and strategy guidelines. The name and contact information for the person responsible for supervising the supervised person’s advisory activities is: Karen L. Bowie, Managing Director and Portfolio Manager, Nuveen Asset Management, (612) 303-4976.

Item 2 Educational Background and Business Experience

Name: Jon D. Bosse

Year of Birth: 1958

Formal Education after high school:
Washington University, St. Louis, MO (BA, 1979)
Wharton School, University of Pennsylvania, Philadelphia, PA (MBA, 1982)

Business background for preceding five years and selected additional information:
Managing Director and Portfolio Manager, Nuveen Asset Management, Teachers Advisors, LLC and TIAA-CREF Investment Management, LLC (1/21 - present)
Co-Head of NWQ, Chief Investment Officer, Portfolio Manager and Equity Analyst, NWQ Investment Management Company, LLC (4/19 – 12/21)
Co-President, Chief Investment Officer and Portfolio Manager, NWQ Investment Management Company, LLC (6/06-3/19)
Chief Investment Officer, Executive Committee Member, Managing Director and Portfolio Manager, NWQ Investment Management Company, LLC (8/02 - 6/06)
Chief Investment Officer, Managing Director and Portfolio Manager, NWQ Investment Management Company, Inc., (2001 - 8/02)
Director of Research, Managing Director and Portfolio Manager, NWQ Investment Management Company, Inc (1996 - 2000)
Portfolio Manager and Director of Equity Research, ARCO Investment Management Company (1986 – 1996)

Professional designation: Chartered Financial Analyst (CFA), 1992

The CFA designation is a professional certification offered by the CFA Institute to financial analysts who pass each of three six-hour exams, possess a bachelor's degree or equivalent, and have 48 months of qualified professional work experience. The CFA Institute determines the passing score of the exams each year.

Item 3 Disciplinary Information

There are no reportable legal or disciplinary events for the supervised person.

Item 4 Other Business Activities

The supervised person is not actively engaged in any investment-related business or occupation other than as described herein.

Item 5 Additional Compensation

The supervised person serves primarily in an investment capacity and is not compensated based on sales, client referrals, or new accounts.

The firm’s employees are subject to certain limitations regarding the receipt of gifts and other benefits in the form of entertainment, including meals, golfing and tickets to cultural and sporting events from parties with whom the firm does business. See Form ADV, Part 2A, Items 11 and 14.

Item 6 Supervision

The firm supervises the supervised person and monitors the advisory services provided to clients through regular review of trading and positions for adherence to internal and strategy guidelines. The name and contact information for the person responsible for supervising the supervised person’s advisory activities is: Saira Malik, Senior Managing Director, Head of Nuveen Equities, Nuveen Asset Management, LLC, (415) 882-3708.

Item 2 Educational Background and Business Experience

Name: Jujhar Sohi

Year of Birth: 1980

Formal Education after high school:
University of Oxford, Oxford, UK (BA, 2001)
University College London, London, UK (M.Sc., 2002)

Business background for preceding five years and selected additional information:
Managing Director and Portfolio Manager, Nuveen Asset Management, Teachers Advisors, LLC and TIAA-CREF Investment Management, LLC (1/21 - present)
Managing Director, Equity Analyst, Associate Director of Research and Portfolio Manager NWQ Investment Management Company, LLC (10/19-12/21)
Managing Director, Equity Analyst and Associate Director of Research NWQ Investment Management Company, LLC (7/19-10/19)
Managing Director and Equity Analyst NWQ Investment Management Company, LLC (3/17-7/19)
Senior Vice President and Equity Analyst, NWQ Investment Management Company, LLC (12/13-2/17)
Senior Equity Analyst, Santander Asset Management (7/11 - 11/13)
Equity Analyst, M&G Investment Management (6/08 - 3/11)
ACA Qualified Executive in Assurance, PricewaterhouseCoopers LLP (10/04 - 5/08)

Professional designation:

Chartered Financial Analyst (CFA), 2014

The CFA designation is a professional certification offered by the CFA Institute to financial analysts who pass each of three six-hour exams, possess a bachelor's degree or equivalent, and have 48 months of qualified professional work experience. The CFA Institute determines the passing score of the exams each year.

Fellow Chartered Accountant (FCA), 2008

The ACA/FCA designation is awarded by the Institute of Chartered Accountants in England and Wales (ICAEW). To become an ICAEW Chartered Accountant (ACA) a candidate must pass 15 exam modules focused on different aspects of accountancy, finance and business, which are split over three levels: Certificate, Professional and Advanced. To become an ICAEW fellow (FCA), the following is required: a 10-year ICAEW ACA membership from admission date, compliance with ICAEW's principal by-laws, and no adverse disciplinary findings or orders against the member, with no complaints or proceedings outstanding. Members must make a continuing professional development (CPD) declaration annually.

Item 3 Disciplinary Information

There are no reportable legal or disciplinary events for the supervised person.

Item 4 Other Business Activities

The supervised person is not actively engaged in any investment-related business or occupation other than as described herein.

Item 5 Additional Compensation

The supervised person serves primarily in an investment capacity and is not compensated based on sales, client referrals, or new accounts.

The firm's employees are subject to certain limitations regarding the receipt of gifts and other benefits in the form of entertainment, including meals, golfing and tickets to cultural and sporting events from parties with whom the firm does business. See Form ADV, Part 2A, Items 11 and 14.

Item 6 Supervision

The firm supervises the supervised person and monitors the advisory services provided to clients through regular review of trading and positions for adherence to internal and strategy guidelines. The name and contact information for the person responsible for supervising the supervised person's advisory activities is: Thomas J. Lavia, Jr. Managing Director, Nuveen Asset Management, LLC, (310) 712 4153.

Item 2 Educational Background and Business Experience

Name: Peter L. Boardman

Year of Birth: 1959

Formal Education after high school:
Willamette University, Salem, OR (BA - Economics, 1981)
American Graduate School (Thunderbird) Phoenix, AZ (MIM, 1985)

Business background for preceding five years and selected additional information:
Managing Director and Portfolio Manager, Nuveen Asset Management, Teachers Advisors, LLC and TIAA-CREF Investment Management, LLC (1/21 - present)
Managing Director, Portfolio Manager, Equity Analyst, NWQ Investment Management Company, LLC (7/16 - 12/21)
Managing Director, Portfolio Manager, Equity Analyst, Tradewinds Global Investors, LLC, (1/09 – 8/16)
Managing Director, Equity Analyst, Tradewinds Global Investors, LLC, (3/06 – 1/09)
Managing Director, International Equity Analyst, NWQ Investment Management Company LLC (9/05 – 2/06)
Vice President, International Equity Analyst, NWQ Investment Management Company LLC (1/03 – 8/05)
Associate Portfolio Manager & Senior Analyst, USAA Investment Management Corporation, Inc. (12/00 - 6/02)
Senior Analyst, Director North American Equity Research, UBS Warburg LLC (1992 - 7/00)
Analyst, International Equity Research, Credit Lyonnais Securities (1988 - 1992)
Japanese Equity Broker, International Equity Sales, Citicorp Vickers Da Costa, Ltd. (1986 - 1988)

Item 3 Disciplinary Information

There are no reportable legal or disciplinary events for the supervised person.

Item 4 Other Business Activities

The supervised person is not actively engaged in any investment-related business or occupation other than as described herein.

Item 5 Additional Compensation

The supervised person serves primarily in an investment capacity and is not compensated based on sales, client referrals, or new accounts.

The firm's employees are subject to certain limitations regarding the receipt of gifts and other benefits in the form of entertainment, including meals, golfing and tickets to cultural and sporting events from parties with whom the firm does business. See Form ADV, Part 2A, Items 11 and 14.

Item 6 Supervision

The firm supervises the supervised person and monitors the advisory services provided to clients through regular review of trading and positions for adherence to internal and strategy guidelines. The name and contact information for the person responsible for supervising the supervised person's advisory activities is: Thomas J. Lavia, Jr. Managing Director, Nuveen Asset Management, LLC, (310) 712 4153.

Item 2 Educational Background and Business Experience

Name: James T. Stephenson

Year of Birth: 1967

Formal Education after high school:
- University of Wisconsin, Madison, WI (BBA, 1989)
- University of Wisconsin, Madison, WI (MS, 1991)

Business background for preceding five years and selected additional information:
- Managing Director and Portfolio Manager, Nuveen Asset Management, Teachers Advisors, LLC and TIAA-CREF Investment Management, LLC (1/21 -present)
- Managing Director, Portfolio Manager, Equity Analyst, Associate Director of Research, NWQ Investment Management Company, LLC (7/19-12/21)
- Managing Director, Portfolio Manager, Equity Analyst, NWQ Investment Management Company, LLC (3/12 – 7/19)
- Managing Director, Equity Analyst, NWQ Investment Management Company, LLC (2/06-3/12)
- Managing Director, Partner, Portfolio Manager, Chairman-Equity Policy Committee, Bel Air Investment Advisors, LLC (2004-2006)
- Managing Director, Partner, Portfolio Manager, Bel Air Investment Advisors, LLC (2001-2004)
- Portfolio Manager, Bel Air Investment Advisors, LLC (1998-2001)
- Portfolio Manager, ARCO Investment Management Company (1995-1998)
- Security Analyst, ARCO Investment Management Company (1993-1995)
- Equity Analyst, Trust Company of the West (1991-1993)

Professional designation: Chartered Financial Analyst (CFA), 1993

The CFA designation is a professional certification offered by the CFA Institute to financial analysts who pass each of three six-hour exams, possess a bachelor's degree or equivalent, and have 48 months of qualified professional work experience. The CFA Institute determines the passing score of the exams each year.

Item 3 Disciplinary Information

There are no reportable legal or disciplinary events for the supervised person.

Item 4 Other Business Activities

The supervised person is not actively engaged in any investment-related business or occupation other than as described herein.

The supervised person is an associated person of Nuveen Securities LLC, a broker-dealer affiliated with the firm, but is not compensated based on the sale of securities or other investment products.

Item 5 Additional Compensation

The supervised person serves primarily in an investment capacity and is not compensated based on sales, client referrals, or new accounts.

The firm's employees are subject to certain limitations regarding the receipt of gifts and other benefits in the form of entertainment, including meals, golfing and tickets to cultural and sporting events from parties with whom the firm does business. See Form ADV, Part 2A, Items 11 and 14.

Item 6 Supervision

The firm supervises the supervised person and monitors the advisory services provided to clients through regular review of trading and positions for adherence to internal and strategy guidelines. The name and contact information for the person responsible for supervising the supervised person's advisory activities is: Thomas J. Lavia, Jr. Managing Director, Nuveen Asset Management, LLC, (310) 712 4153.

Item 2 Educational Background and Business Experience

Name: Andrew C. Hwang

Year of Birth: 1971

Formal Education after high school:
- University of California, Los Angeles, CA (BA, 1992)
- University of Southern California, Los Angeles, CA (MBA, 2001)

Business background for preceding five years and selected additional information:
- Managing Director and Portfolio Manager, Nuveen Asset Management, Teachers Advisors, LLC and TIAA-CREF Investment Management, LLC (1/21 - present)
- Managing Director, Portfolio Manager, Equity Analyst, NWQ Investment Management Company, LLC (2/16 – 12/21)
- Managing Director, Equity Analyst, NWQ Investment Management Company, LLC (3/14 – 1/16)
- Senior Vice President, Equity Analyst, NWQ Investment Management Company, LLC (3/13 – 2/14)
- Vice President, Equity Analyst, NWQ Investment Management Company, LLC (3/07 - 2/13)
- Assistant Vice President, Equity Analyst, NWQ Investment Management Company, LLC (9/05 - 3/07)
- Equity Analyst, NWQ Investment Management Company, LLC (8/02 - 8/05)
- Equity Analyst, NWQ Investment Management Company, Inc.(2001 - 8/02)
- Assistant Portfolio Manager, NWQ Investment Management Company, Inc. (1998-2000)
- Vice President, Inter-Global Financial Corporation (1995 - 1998)

Item 3 Disciplinary Information

There are no reportable legal or disciplinary events for the supervised person.

Item 4 Other Business Activities

The supervised person is not actively engaged in any investment-related business or occupation other than as described herein.

The supervised person is an associated person of Nuveen Securities LLC, a broker-dealer affiliated with the firm, but is not compensated based on the sale of securities or other investment products.

Item 5 Additional Compensation

The supervised person serves primarily in an investment capacity and is not compensated based on sales, client referrals, or new accounts.

The firm’s employees are subject to certain limitations regarding the receipt of gifts and other benefits in the form of entertainment, including meals, golfing and tickets to cultural and sporting events from parties with whom the firm does business. See Form ADV, Part 2A, Items 11 and 14.

Item 6 Supervision

The firm supervises the supervised person and monitors the advisory services provided to clients through regular review of trading and positions for adherence to internal and strategy guidelines. The name and contact information for the person responsible for supervising the supervised person’s advisory activities is: Thomas J. Lavia, Jr. Managing Director, Nuveen Asset Management, LLC, (310) 712 4153.

Item 2 Educational Background and Business Experience

Name: Thomas J. Lavia, Jr.

Year of Birth: 1975

Formal Education after high school:
University of California, Berkley, CA (BA, 1997)

Business background for preceding five years and selected additional information:
Managing Director and Portfolio Manager, Nuveen Asset Management,
Teachers Advisors, LLC and TIAA-CREF Investment Management, LLC (1/21 - present)
Co-Head of NWQ, Head of Research, Equity Analyst, Portfolio Manager, NWQ Investment Management Company, LLC, (07/19 – 12/21)
Co-Head of NWQ, Head of Research, Equity Analyst, NWQ Investment Management Company, LLC, (4/19-7/19)
Managing Director, Director of Research, Equity Analyst, NWQ Investment Management Company, LLC, (3/15-3/19)
Managing Director, Equity Analyst, NWQ Investment Management Company, LLC (11/11-2/15)
Managing Director, Relational Investors, LLC
Senior Analyst, Relational Investors, LLC, (1/09-9/11)
Analyst, Relational Investors, LLC, (11/07-12/08)
Analyst, Co-Portfolio Manager, Harlingwood Capital Management/CapitalWorks, LLC, (4/04-9/07)
Vice President, Institutional Equity Research Sales, JMP Securities, LLC, (11/02-1/04)
Junior Equity Analyst, Robertson Stephens, Inc., (2/01-7/02)
Senior Associate, Investment Banking, Robertson Stephens, Inc., (7/00-2/01)
Analyst, Investment Banking, Robertson Stephens, Inc., (4/99-7/00)

Professional designation: Chartered Financial Analyst (CFA), 2004

The CFA designation is a professional certification offered by the CFA Institute to financial analysts who pass each of three six-hour exams, possess a bachelor's degree or equivalent, and have 48 months of qualified professional work experience. The CFA Institute determines the passing score of the exams each year

Item 3 Disciplinary Information

There are no reportable legal or disciplinary events for the supervised person.

Item 4 Other Business Activities

The supervised person is not actively engaged in any investment-related business or occupation other than as described herein.

Item 5 Additional Compensation

The supervised person serves primarily in an investment capacity and is not compensated based on sales, client referrals, or new accounts.

The firm's employees are subject to certain limitations regarding the receipt of gifts and other benefits in the form of entertainment, including meals, golfing and tickets to cultural and sporting events from parties with whom the firm does business. See Form ADV, Part 2A, Items 11 and 14.

Item 6 Supervision

The firm supervises the supervised person and monitors the advisory services provided to clients through regular review of trading and positions for adherence to internal and strategy guidelines. The name and contact information for the person responsible for supervising the supervised person's advisory activities is: Saira Malik, Senior Managing Director, Head of Nuveen Equities, Nuveen Asset Management, LLC.

Item 2 Educational Background and Business Experience

Name: Thomas J. Ray

Year of Birth: 1966

Formal Education after high school:
University of Wisconsin, Madison, WI (BBA, 1989)
University of Wisconsin, Madison, WI (MS, 1990)

Business background for preceding five years and selected additional information:
Managing Director and Portfolio Manager, Nuveen Asset Management, Teachers Advisors, LLC and TIAA-CREF Investment Management, LLC (11/20 - present)
Managing Director, Co-Head of Fixed Income, Portfolio Manager/Analyst, NWQ Investment Management Company, LLC (3/17 – 12/21)
Managing Director, Head of Fixed Income, Portfolio Manager/Analyst, NWQ Investment Management Company, LLC (1/15 – 2/17)
Private Investor, (3/11 - 12/14)
President, Chief Investment Officer and Founding Member, Inflective Asset Management, (4/01 - 3/11)
Portfolio Manager and Analyst, TransAmerica Investment Management, (4/91 - 4/01)

Professional designation: Chartered Financial Analyst (CFA), 1993

The CFA designation is a professional certification offered by the CFA Institute to financial analysts who pass each of three six-hour exams, possess a bachelor's degree or equivalent, and have 48 months of qualified professional work experience

Item 3 Disciplinary Information

There are no reportable legal or disciplinary events for the supervised person.

Item 4 Other Business Activities

The supervised person is not actively engaged in any investment-related business or occupation other than as described herein.

Item 5 Additional Compensation

The supervised person serves primarily in an investment capacity and is not compensated based on sales, client referrals, or new accounts.

The firm’s employees are subject to certain limitations regarding the receipt of gifts and other benefits in the form of entertainment, including meals, golfing and tickets to cultural and sporting events from parties with whom the firm does business. See Form ADV, Part 2A, Items 11 and 14.

Item 6 Supervision

The firm supervises the supervised person and monitors the advisory services provided to clients through regular review of trading and positions for adherence to internal and strategy guidelines. The name and contact information for the person responsible for supervising the supervised person’s advisory activities is: Joseph G. Higgins, Managing Director, Nuveen Asset Management, LLC, (212) 916-4660

Item 2 Educational Background and Business Experience

Name: Susi Budiman (aka Li Li Yeh)

Year of Birth: 1975

Formal Education after high school:
University of British Columbia, Vancouver, Canada (Bachelor of Commerce - Finance, 1996)
University of Southern California, Los Angeles, CA (MBA,1999)

Business background for preceding five years and selected additional information:
Managing Director and Portfolio Manager, Nuveen Asset Management, Teachers Advisors, LLC and TIAA-CREF Investment Management, LLC (11/20 - present)
Managing Director, Co-Head of Fixed Income, Portfolio Manager/Analyst, NWQ Investment Management Company, LLC (3/17–12/21)
Managing Director, Portfolio Manager/Analyst, NWQ Investment Management Company, LLC (3/14–2/17)
Senior Vice President, Portfolio Manager/Analyst, NWQ Investment Management Company, LLC (3/13–2/14)
Vice President, Portfolio Manager\Analyst, NWQ Investment Management Company, LLC (3/08-2/13)
Vice President, Assistant Portfolio Manager, NWQ Investment Management Company, LLC (11/06-3/08)
Portfolio Manager, China Life Insurance Co., Ltd., (2003-2006)
Foreign Investment and Research Senior Supervisor, Ping An Insurance (Group) Company of China, Ltd., (2002-2003)
Investment Specialist, Nan Shan Life Insurance Co., Ltd., (2002)
Associate, Fleet National Bank, (2001-2002)

Professional designation:

Chartered Financial Analyst (CFA), 2006

The CFA designation is a professional certification offered by the CFA Institute to financial analysts who pass each of three six-hour exams, possess a bachelor's degree or equivalent, and have 48 months of qualified professional work experience.

Financial Risk Manager (FRM), 2003

The FRM certification is awarded by the Global Association of Risk Professionals. The FRM examination tests the person's knowledge in the management of financial risk. A candidate must pass two rigorous multiple choice exams (FRM Exam Part I and Part II) and have demonstrated two years of relevant work experience.

Fellow Life Management Institute (FLMI), 2004

The Fellow, Life Management Institute (FLMI) designation is awarded by LOMA, an international trade association for the insurance and financial services industry. The FLMI program teaches advanced insurance and financial concepts to build a deeper understanding of the insurance business. Learners must complete the Level I, ALMI, and Level III courses to earn the FLMI designation.

Item 3 Disciplinary Information

There are no reportable legal or disciplinary events for the supervised person.

Item 4 Other Business Activities

The supervised person is not actively engaged in any investment-related business or occupation other than as described herein.

Item 5 Additional Compensation

The supervised person serves primarily in an investment capacity and is not compensated based on sales, client referrals, or new accounts.

The firm's employees are subject to certain limitations regarding the receipt of gifts and other benefits in the form of entertainment, including meals, golfing and tickets to cultural and sporting events from parties with whom the firm does business. See Form ADV, Part 2A, Items 11 and 14.

Item 6 Supervision

The firm supervises the supervised person and monitors the advisory services provided to clients through regular review of trading and positions for adherence to internal and strategy guidelines. The name and contact information for the person responsible for supervising the supervised person’s advisory activities is: Joseph G. Higgins, Managing Director, Nuveen Asset Management, LLC, (212) 916-4660.

Item 2 Educational Background and Business Experience

Name: Stephen T. Peña

Year of Birth: 1977

Formal Education after high school:
Southern Methodist University, Dallas, TX (BS, Economics, 2000)
University of Southern California, Los Angeles, CA (MBA,1999)

Business background for preceding five years and selected additional information:

Managing Director and Portfolio Manager, Nuveen Asset Management, Teachers Advisors, LLC and TIAA-CREF Investment Management, LLC (12/21 - present)
Managing Director, High-Yield Research Analyst, NWQ Investment Management Company, LLC (3/21–12/21)
Senior Vice President, Credit & Equity Analyst/Risk Analytics, NWQ Investment Management Company, LLC (12/17–2/21)
Senior Vice President, Credit Analyst/Risk Analytics, NWQ Investment Management Company, LLC (8/15-11/17)
Assistant Vice President, Portfolio Risk Manager, Ares Management, L.P. (10/13-7/15)
Capital Structure Analyst, Greenbelt Capital Management, LLC (7/11-6/13)
Fixed Income Analyst, Inflective Asset Management (6/02-06/11)

Item 3 Disciplinary Information

There are no reportable legal or disciplinary events for the supervised person.

Item 4 Other Business Activities

The supervised person is not actively engaged in any investment-related business or occupation other than as described herein.

Item 5 Additional Compensation

The supervised person serves primarily in an investment capacity and is not compensated based on sales, client referrals, or new accounts.

The firm's employees are subject to certain limitations regarding the receipt of gifts and other benefits in the form of entertainment, including meals, golfing and tickets to cultural and sporting events from parties with whom the firm does business. See Form ADV, Part 2A, Items 11 and 14.

Item 6 Supervision

The firm supervises the supervised person and monitors the advisory services provided to clients through regular review of trading and positions for adherence to internal and strategy guidelines. The name and contact information for the person responsible for supervising the supervised person's advisory activities is: Susi Budiman, Managing Director and Portfolio Manager, Nuveen Asset Management, LLC, (310) 712-4091.

Item 2 Educational Background and Business Experience

Name: James A. Colon

Year of Birth: 1978

Formal Education after high school:
- Michigan State University, East Lansing, MI (BA - Economics and International Relations, 2000)
- University of Chicago, Chicago, IL (MS - Financial Mathematics, 2011)

Business background for preceding five years and selected additional information:
- Managing Director and Portfolio Manager, Nuveen Asset Management (1/20 – present)
- Managing Director and Portfolio Manager, Teachers Advisors, LLC and TIAA-CREF Investment Management, LLC (1/20 – present)
- Managing Director, Head of Analytics and Quantitative Research, Nuveen Asset Management (1/18 – 1/20)
- Managing Director, Head of Analytics and Quantitative Research, Teachers Advisors, LLC and TIAA-CREF Investment Management, LLC (12/18 – 1/20)
- Senior Vice President, Portfolio Manager and Head of Managed Volatility Strategies, Nuveen Asset Management (3/15 - 9/18)
- Vice President, Portfolio Manager & Solutions Strategist, Nuveen Asset Management (12/13-2/15)
- Vice President and Portfolio Manager, Nuveen Asset Management (10/08 - 12/13)
- Senior Quantitative Analyst, Nuveen Investment Solutions, Inc. (6/06 - 10/08)

Professional designation: Chartered Financial Analyst (CFA), 2006

The CFA designation is a professional certification offered by the CFA Institute to financial analysts who pass each of three six-hour exams, possess a bachelor's degree or equivalent, and have 48 months of qualified professional work experience. The CFA Institute determines the passing score of the exams each year.

Item 3 Disciplinary Information

There are no reportable legal or disciplinary events for the supervised person.

Item 4 Other Business Activities

The supervised person is not actively engaged in any investment-related business or occupation other than as described herein.

The supervised person is an associated person of Nuveen Securities LLC, a broker-dealer affiliated with the firm, but is not compensated based on the sale of securities or other investment products.

Item 5 Additional Compensation

The supervised person serves primarily in an investment capacity and is not compensated based on sales, client referrals, or new accounts.

The firm's employees are subject to certain limitations regarding the receipt of gifts and other benefits in the form of entertainment, including meals, golfing and tickets to cultural and sporting events from parties with whom the firm does business. See Form ADV, Part 2A, Items 11 and 14.

Item 6 Supervision

The firm supervises the supervised person and monitors the advisory services provided to clients through regular review of trading and positions for adherence to internal and strategy guidelines. The name and contact information for the person responsible for supervising the supervised person's advisory activities is Nathan S. Shetty, Managing Director, Head of Multi-Asset Class Portfolio Management, Nuveen Asset Management, LLC, (773) 475-8802.

Item 2 Educational Background and Business Experience

Name: Nazar Suschko

Year of Birth: 1975

Formal Education after high school:
Ivan Franko Lviv State University, Lviv, Ukraine (MS - Theoretical Physics, 1997)
Eindhoven University of Technology, Eindhoven, Netherlands (Ph.D. Theoretical Physics, 2003)

Business background for preceding five years and selected additional information:
Vice President, Senior Quantitative Analyst, Portfolio Construction Analytics, Nuveen Asset Management (9/18 - present)
Vice President, Senior Quantitative Analyst, Portfolio Construction Analytics, Teachers Advisors, LLC and TIAA-CREF Investment Management, LLC (11/18 - present)
Vice President, Quantitative Research Analyst, Nuveen Asset Management (6/16 - 9/18)
Vice President, Fund of Fund Portfolio Manager, AEGON USA Investment Management LLC (05/13 - 06/16)
Senior Financial Risk Analyst, AEGON USA Investment Management LLC (06/11 - 05/13)
European Head of Portfolio Risk Management GA, AEGON Asset Management (02/09 - 6/11)

Professional designation: Financial Risk Manager (FRM), 2008

The (FRM) designation is an international professional certification offered by the Global Association of Risk Professionals to candidates that complete a two-part, practice-oriented, eight hour examination that covers the major topics in financial risk management, demonstrate two years' professional work experience in financial risk management, and meet other requirements.

Item 3 Disciplinary Information

There are no reportable legal or disciplinary events for the supervised person.

Item 4 Other Business Activities

The supervised person is not actively engaged in any investment-related business or occupation other than as described herein.

Item 5 Additional Compensation

The supervised person serves primarily in an investment capacity and is not compensated based on sales, client referrals, or new accounts.

The firm’s employees are subject to certain limitations regarding the receipt of gifts and other benefits in the form of entertainment, including meals, golfing and tickets to cultural and sporting events from parties with whom the firm does business. See Form ADV, Part 2A, Items 11 and 14.

Item 6 Supervision

The firm supervises the supervised person and monitors the advisory services provided to clients through regular review of trading and positions for adherence to internal and strategy guidelines. The name and contact information for the person responsible for supervising the supervised person’s advisory activities is Nathan S. Shetty, Managing Director, Head of Multi-Asset Class Portfolio Management, Nuveen Asset Management, LLC, (773) 475-8802.

Item 2 Educational Background and Business Experience

Name: Nathan S. Shetty

Year of Birth: 1979

Formal Education after high school:
Duquesne University, Pittsburgh, PA (BS Business Administration - Finance, 2001)
Texas A&M University, College Station, TX (MS - Statistics, 2012)
University of Chicago, Chicago, IL (MBA – Analytic Finance and Econometrics, 2008)

Business background for preceding five years and selected additional information:
Managing Director, Head of Multi-Asset Class Portfolio Management, Nuveen Asset Management (1/20 - present)
Managing Director, Head of Multi-Asset Class Portfolio Management, Teachers Advisors, LLC and TIAA-CREF Investment Management, LLC (1/20 - present)
Managing Director, Senior Portfolio Manager, Nuveen Asset Management (5/18 – 12/19)
Managing Director, Senior Portfolio Manager, Teachers Advisors, LLC and TIAA-CREF Investment Management, LLC (12/18 – 12/19)
Co-head of Portfolio Management, Investment Solutions, UBS Asset Management (US) Inc. (10/14 - 5/18)
Managing Director, Mesirow Financial, Inc. (10/11 - 10/14)

Professional designations:

Financial Risk Manager (FRM), 2004
The (FRM) designation is an international professional certification offered by the Global Association of Risk Professionals to candidates that complete a rigorous two-part, practice-oriented, eight-hour examination that covers the major topics in financial risk management, demonstrate two years' professional work experience in financial risk management, and meet other requirements.

Chartered Financial Analyst (CFA), 2004
The CFA designation is a professional certification offered by the CFA Institute to financial analysts who pass each of three six-hour exams, possess a bachelor's degree or equivalent, and have 48 months of qualified professional work experience. The CFA Institute determines the passing score of the exams each year.

Item 3 Disciplinary Information
There are no reportable legal or disciplinary events for the supervised person.

Item 4 Other Business Activities
The supervised person is not actively engaged in any investment-related business or occupation other than as described herein.

Item 5 Additional Compensation

The supervised person serves primarily in an investment capacity and is not compensated based on sales, client referrals, or new accounts.

The firm’s employees are subject to certain limitations regarding the receipt of gifts and other benefits in the form of entertainment, including meals, golfing and tickets to cultural and sporting events from parties with whom the firm does business. See Form ADV, Part 2A, Items 11 and 14.

Item 6 Supervision

The firm supervises the supervised person and monitors the advisory services provided to clients through regular review of trading and positions for adherence to internal and strategy guidelines. The name and contact information for the person responsible for supervising the supervised person’s advisory activities is Saira Malik, Senior Managing Director, Head of Nuveen Equities, Nuveen Asset Management, LLC, (415) 882-3708.

Item 2 Educational Background and Business Experience

Name: Anurag Dugar

Year of Birth: 1974

Formal Education after high school:
- University of California, Berkeley, CA (Masters – Financial Engineering, 2006)
- Texas A&M University, College Station, TX (MS - Computer Engineering, 2001)
- National Institute of Technology Karnataka, Karnataka, India (Bachelor of Engineering, 1996)

Business background for preceding five years and selected additional information:
- Managing Director, Senior Portfolio Manager, Multi-Asset, Nuveen Asset Management, LLC, (3/20 - present)
- Managing Director, Senior Portfolio Manager, Multi-Asset, Teachers Advisors, LLC and TIAA-CREF Investment Management, LLC (3/20 – Present)
- Managing Director, Research and Portfolio Management, Nuveen Asset Management (12/18 – 03/20)
- Managing Director, Research and Portfolio Management, Teachers Advisors, LLC and TIAA-CREF Investment Management, LLC (12/18 – 03/20)
- Managing Director, Senior Portfolio Manager, Nuveen Investments Advisers (7/17 – 11/18)
- Vice President, BlackRock, Inc. (3/13 – 6/17)
- Senior Research Analyst, Mellon Capital Management (7/06-3/13)

Item 3 Disciplinary Information

There are no reportable legal or disciplinary events for the supervised person.

Item 4 Other Business Activities

The supervised person is not actively engaged in any investment-related business or occupation other than as described herein.

Item 5 Additional Compensation

The supervised person serves primarily in an investment capacity and is not compensated based on sales, client referrals, or new accounts.

The firm's employees are subject to certain limitations regarding the receipt of gifts and other benefits in the form of entertainment, including meals, golfing and tickets to cultural and sporting events from parties with whom the firm does business. See Form ADV, Part 2A, Items 11 and 14.

Item 6 Supervision

The firm supervises the supervised person and monitors the advisory services provided to clients through regular review of trading and positions for adherence to internal and strategy guidelines. The name and contact information for the person responsible for supervising the supervised person's advisory activities is Nathan S. Shetty, Managing Director, Head of Multi-Asset Class Portfolio Management, Nuveen Asset Management, LLC, (773) 475-8802.

Item 2 Educational Background and Business Experience

Name: John M. Cunniff

Year of Birth: 1964

Formal Education after high school:
- Columbia Business School, New York, NY (MBA – Finance, 1992)
- Princeton University, Princeton, NJ (MSE - Civil Engineering & Operations Research, 1988)
- Johns Hopkins University, Baltimore, MD (BS – Civil Engineering, 1986)

Business background for preceding five years and selected additional information:
- Managing Director, Portfolio Manager, Nuveen Asset Management (8/18 - present)
- Managing Director, Portfolio Manager, Teachers Advisors, LLC and TIAA-CREF Investment Management, LLC (2/06 - present)
- US Research Director, Portfolio Manager, Morgan Stanley Investment Management (6/01-2/06)
- Portfolio Manager/Research Director, Van Kampen Investments (8/95 - 6/01)

Professional designation: Chartered Financial Analyst (CFA), 1995

The CFA designation is a professional certification offered by the CFA Institute to financial analysts who pass each of three six-hour exams, possess a bachelor's degree or equivalent, and have 48 months of qualified professional work experience. The CFA Institute determines the passing score of the exams each year.

Item 3 Disciplinary Information

There are no reportable legal or disciplinary events for the supervised person.

Item 4 Other Business Activities

The supervised person is not actively engaged in any investment-related business or occupation other than as described herein.

Item 5 Additional Compensation

The supervised person serves primarily in an investment capacity and is not compensated based on sales, client referrals, or new accounts.

The firm’s employees are subject to certain limitations regarding the receipt of gifts and other benefits in the form of entertainment, including meals, golfing and tickets to cultural and sporting events from parties with whom the firm does business. See Form ADV, Part 2A, Items 11 and 14.

Item 6 Supervision

The firm supervises the supervised person and monitors the advisory services provided to clients through regular review of trading and positions for adherence to internal and strategy guidelines. The name and contact information for the person responsible for supervising the supervised person’s advisory activities is Nathan S. Shetty, Managing Director, Head of Multi-Asset Class Portfolio Management, Nuveen Asset Management, LLC, (773) 475-8802.

Item 2 Educational Background and Business Experience

Name: Stephen G. Sedmak

Year of Birth: 1978

Formal Education after high school:
New York University, New York, NY (MS – Mathematics of Finance, 2000)
University of Southern California, Los Angeles, CA (BA - Mathematics, 1999)
University of Southern California, Los Angeles, CA (BS – Business Administration – Finance, 1999)

Business background for preceding five years and selected additional information:
Managing Director, Portfolio Manager, Nuveen Asset Management (8/18 - present)
Managing Director, Portfolio Manager, Teachers Advisors, LLC and TIAA-CREF Investment Management, LLC (8/18 - present)
Senior Director, Lifecycle Portfolio Manager, Teachers Advisors, LLC and TIAA-CREF Investment Management (6/16 – 8/18)
Portfolio Manager, Voya Investment Management (11/06 - 6/16)

Professional designation: Chartered Financial Analyst (CFA), 2012

The CFA designation is a professional certification offered by the CFA Institute to financial analysts who pass each of three six-hour exams, possess a bachelor's degree or equivalent, and have 48 months of qualified professional work experience. The CFA Institute determines the passing score of the exams each year

Item 3 Disciplinary Information

There are no reportable legal or disciplinary events for the supervised person.

Item 4 Other Business Activities

The supervised person is not actively engaged in any investment-related business or occupation other than as described herein.

Item 5 Additional Compensation

The supervised person serves primarily in an investment capacity and is not compensated based on sales, client referrals, or new accounts.

The firm's employees are subject to certain limitations regarding the receipt of gifts and other benefits in the form of entertainment, including meals, golfing and tickets to cultural and sporting events from parties with whom the firm does business. See Form ADV, Part 2A, Items 11 and 14.

Item 6 Supervision

The firm supervises the supervised person and monitors the advisory services provided to clients through regular review of trading and positions for adherence to internal and strategy guidelines. The name and contact information for the person responsible for supervising the supervised person's advisory activities is Nathan S. Shetty, Managing Director, Head of Multi-Asset Class Portfolio Management, Nuveen Asset Management, LLC, (773) 475-8802.

Item 2 Educational Background and Business Experience

Name: Jason Campbell

Year of Birth: 1972

Formal Education after high school:
San Diego State University, San Diego, CA (BA – Latin American Studies, 1995)
San Diego State University, San Diego, CA (MA – Economics, 1999)

Business background for preceding five years and selected additional information:
Managing Director, Portfolio Manager and Research Analyst, Nuveen Asset Management, LLC (10/19 - present)
Managing Director, Portfolio Manager and Research Analyst, Teachers Advisors, LLC and TIAA-CREF Investment Management, LLC (2005 - present)

Item 3 Disciplinary Information

There are no reportable legal or disciplinary events for the supervised person.

Item 4 Other Business Activities

The supervised person is not actively engaged in any investment-related business or occupation other than as described herein.

Item 5 Additional Compensation

The supervised person serves primarily in an investment capacity and is not compensated based on sales, client referrals, or new accounts.

The firm's employees are subject to certain limitations regarding the receipt of gifts and other benefits in the form of entertainment, including meals, golfing and tickets to cultural and sporting events from parties with whom the firm does business. See Form ADV, Part 2A, Items 11 and 14.

Item 6 Supervision

The firm supervises the supervised person and monitors the advisory services provided to clients through regular review of trading and positions for adherence to internal and strategy guidelines. The name and contact information for the person responsible for supervising the supervised person's advisory activities is: Weilien (Willis) Tsai, Managing Director, Head of International Portfolios, Nuveen Asset Management, LLC, (415) 882-3648.

Item 2 Educational Background and Business Experience

Name: Daniel Roberts

Year of Birth: 1973

Formal Education after high school:
Birmingham University, Birmingham, UK (Bachelor of Engineering & Bachelor of Commerce, Double Honours, 1995)

Business background for preceding five years and selected additional information:
Managing Director, Portfolio Manager and Research Analyst, Nuveen Asset Management, LLC (4/19 - present)
Managing Director Portfolio Manager and Research Analyst, Teachers Advisors, LLC and TIAA-CREF Investment Management, LLC (2003 - present)

Item 3 Disciplinary Information

There are no reportable legal or disciplinary events for the supervised person.

Item 4 Other Business Activities

The supervised person is not actively engaged in any investment-related business or occupation other than as described herein.

Item 5 Additional Compensation

The supervised person serves primarily in an investment capacity and is not compensated based on sales, client referrals, or new accounts.

The firm's employees are subject to certain limitations regarding the receipt of gifts and other benefits in the form of entertainment, including meals, golfing and tickets to cultural and sporting events from parties with whom the firm does business. See Form ADV, Part 2A, Items 11 and 14.

Item 6 Supervision

The firm supervises the supervised person and monitors the advisory services provided to clients through regular review of trading and positions for adherence to internal and strategy guidelines. The name and contact information for the person responsible for supervising the supervised person's advisory activities is: Gregory Mancini, Managing Director, Co-Head, Global Research, Nuveen Asset Management, LLC, (212) 916-6465.

Item 2 Educational Background and Business Experience

Name: Barton Grenning

Year of Birth: 1968

Formal Education after high school:
University of California, Berkeley, CA (B.A. Economics, 1990)

Business background for preceding five years and selected additional information:
Managing Director and Portfolio Manager, Nuveen Asset Management (10/19 - present)
Managing Director and Portfolio Manager, Teachers Advisors, LLC and TIAA-CREF Investment Management, LLC (2012 - present)

Item 3 Disciplinary Information

There are no reportable legal or disciplinary events for the supervised person.

Item 4 Other Business Activities

The supervised person is not actively engaged in any investment-related business or occupation other than as described herein.

Item 5 Additional Compensation

The supervised person serves primarily in an investment capacity and is not compensated based on sales, client referrals, or new accounts.

The firm's employees are subject to certain limitations regarding the receipt of gifts and other benefits in the form of entertainment, including meals, golfing and tickets to cultural and sporting events from parties with whom the firm does business. See Form ADV, Part 2A, Items 11 and 14.

Item 6 Supervision

The firm supervises the supervised person and monitors the advisory services provided to clients through regular review of trading and positions for adherence to internal and strategy guidelines. The name and contact information for the person responsible for supervising the supervised person's advisory activities is: Saira Malik, Senior Managing Director, Head of Nuveen Equities, Nuveen Asset Management, LLC, (415) 882-3708.

Item 2 Educational Background and Business Experience

Name: Weilien (Willis) Tsai

Year of Birth: 1983

Formal Education after high school:
Georgetown University, Washington, DC (BS, Business Administration - Finance, 2005)

Business background for preceding five years and selected additional information:
Managing Director, Head of International Equities Portfolio Management,
Nuveen Asset Management, LLC, Teachers Advisors, LLC and TIAA-CREF Investment Management, LLC (12/21 - present)
Managing Director, Equities Director of Research for Asia and Emerging Markets,
Nuveen Asset Management, LLC, Teachers Advisors, LLC and TIAA-CREF Investment Management, LLC (10/19 – 12/21)
Research Analyst, Global Technology, Nuveen Asset Management, LLC, Teachers Advisors, LLC and TIAA-CREF Investment Management, LLC (10/19-present)
Research Analyst, Global Technology, Teachers Advisors, LLC and TIAA-CREF Investment Management, LLC (7/16-10/19)

Item 3 Disciplinary Information

There are no reportable legal or disciplinary events for the supervised person.

Item 4 Other Business Activities

The supervised person is not actively engaged in any investment-related business or occupation other than as described herein.

Item 5 Additional Compensation

The supervised person serves primarily in an investment capacity and is not compensated based on sales, client referrals, or new accounts.

The firm's employees are subject to certain limitations regarding the receipt of gifts and other benefits in the form of entertainment, including meals, golfing and tickets to cultural and sporting events from parties with whom the firm does business. See Form ADV, Part 2A, Items 11 and 14.

Item 6 Supervision

The firm supervises the supervised person and monitors the advisory services provided to clients through regular review of trading and positions for adherence to internal and strategy guidelines. The name and contact information for the person responsible for supervising the supervised person's advisory activities is: Saira Malik, Senior Managing Director, Head of Nuveen Equities, Nuveen Asset Management, LLC, (415) 882-3708.

Item 2 Educational Background and Business Experience

Name: Thomas J. Assicurato

Year of Birth: 1969

Formal Education after high school:
University of Massachusetts, Amherst, MA (BA – Economics, 1991)

Business background for preceding five years and selected additional information:
Overlay Portfolio Manager for Retail SMA Multi-Strategy Accounts (MSA),
Nuveen Asset Management (8/18 - present)
Vice President, Investment Operations, Nuveen (12/05 – present)
Associate Principal, Seslia Securities (10/03 – 12/05)

Item 3 Disciplinary Information

There are no reportable legal or disciplinary events for the supervised person.

Item 4 Other Business Activities

The supervised person is not actively engaged in any investment-related business or occupation other than as described herein.

The supervised person is an associated person of Nuveen Securities LLC, a broker-dealer affiliated with the firm, but is not compensated based on the sale of securities or other investment products.

Item 5 Additional Compensation

The supervised person serves primarily in an investment capacity and is not compensated based on sales, client referrals, or new accounts.

The firm's employees are subject to certain limitations regarding the receipt of gifts and other benefits in the form of entertainment, including meals, golfing and tickets to cultural and sporting events from parties with whom the firm does business. See Form ADV, Part 2A, Items 11 and 14.

Item 6 Supervision

The firm supervises the supervised person and monitors the advisory services provided to clients through regular review of trading and positions for adherence to internal and strategy guidelines. The name and contact information for the person responsible for supervising the supervised person's advisory activities is Mark Slevin, Managing Director, SMA & Investment Operations, Nuveen, (312) 917-9759.

FOR ERISA PLAN CLIENTS IN FULLY-BUNDLED WRAP FEE MANAGED ACCOUNT PROGRAMS

We serve as a manager for your managed account through a fully-bundled wrap fee managed account program sponsored by a third party financial services firm ("Program Sponsor"). U.S. Department of Labor ("DOL") regulations under Section 408(b)(2) of the Employee Retirement Income Security Act of 1974, as amended ("ERISA"), impose disclosure requirements on "covered service providers" to ERISA plans. While it is unclear whether we are a "covered service provider" to your ERISA plan ("Plan"), we are providing the following information in the event that it is applicable.

Services

Pursuant to an agreement with the Program Sponsor (the "Agreement"), we provide discretionary management services for your separately managed account ("SMA" or "Account") in accordance with the investment strategy selected for your Account and other information provided to us. The services we expect to provide under the program with respect to your Account are included in the Agreement. For further information about our services, please refer to our Form ADV, Part 2A (in particular, Items 4 and 5). Clients are encouraged to review all Program Sponsor materials relating to their wrap fee program (including the program brochure, if applicable) for information regarding the program's terms and conditions (including matters relating to fees, billing and termination).

We are registered as an investment adviser under the Investment Advisers Act of 1940, as amended ("Advisers Act") and such registration is currently effective. In addition, to the extent applicable, we acknowledge we are a "fiduciary" as that term is defined in Section 3(21)(A) of ERISA with respect to the Plan's assets under our management.

Direct and Indirect Compensation

Given the structure of a wrap fee program, we do not receive any direct compensation from your Plan. However, we receive indirect compensation in the form of advisory fees from the wrap fee Program Sponsor as provided for under the Agreement, with such amounts paid to us by the Program Sponsor in the manner prescribed under the Agreement.

Investment Advisory Fees

The investment advisory fees we receive are determined based on a percentage of the market value of the assets under our management in accordance with the Agreement. Information on fees may be found at http://www.nuveen.com/smafees. In the event of termination, we expect to receive our agreed-upon compensation through the effective date of termination, but do not expect to receive any additional compensation in connection with termination of our services.

A portion of the fees we receive may be used to compensate affiliates for support services. These arrangements are generally effected pursuant to internal accounting allocations and do not involve actual payments.

Nonmonetary compensation

As provided in our Form ADV, Part 2A (in particular, Items 11 and 14), our employees may receive corporate gifts, meals and entertainment from individuals or entities in the ordinary course of business. These gifts and other benefits may take the form of a conference, program or event attendance, participation or exhibition fees, educational and training fees, or payment of travel, meal and entertainment expenses. The receipt of gifts and other benefits is subject to limitations under our firm's Global Business Gift, Meal and Entertainment Policy. In particular, employees may not accept gifts from an individual or entity in an amount that exceeds a market value of $100 per year, either as an individual item or in the aggregate.

We may also receive indirect compensation in the form of ordinary course, commercially reasonable business-related nonmonetary compensation, such as food at educational conferences.

Based on prior experience and our compliance policies and procedures, we believe that the aggregate annual value of nonmonetary gifts from any one individual or entity would not be expected to become reportable with respect to the Plan for purposes of the DOL's Form 5500 Schedule C reporting rules.

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We believe the foregoing reflects, to the best of our knowledge and in light of available guidance, the information required to be provided under Section 408(b)(2) of ERISA with respect to the Plan.

We may supplement and update the information in this disclosure from time to time without further notice at http://www.nuveen.com/smafees.

This document is not itself an agreement for services, nor is it intended to replace or amend any agreement or other contract we may have with or in respect of your Plan, nor is it any guarantee with respect to the pricing of any of our services. In the event of any discrepancy between the information contained in these materials, on the one hand, and the terms which govern our contractual relationships with respect to the Plan on the other, the latter will govern. This disclosure is only for ERISA plan clients. If you have received this disclosure and you are not an ERISA plan client, then please disregard it.

If you have any questions or require any further information, please do not hesitate to contact us through your financial advisor.