



QMA LLC

Gateway Center Two, 6th Floor, Newark, NJ 07102

973.367.4653

www.qma.com

March 27, 2020

This brochure provides information about the qualifications and business practices of QMA LLC (“QMA”). If you have any questions about the contents of this brochure, please contact us at 973.367.4653. 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.

QMA is a registered investment adviser. Registration of an investment adviser does not imply any level of skill or training.

Additional information about QMA is also available on the SEC’s website at www.adviserinfo.sec.gov.

Item 2 – Material Changes

This brochure dated March 27, 2020 updates and replaces our prior brochure dated March 29, 2019.

Although we have made changes and updates to our previous brochure, we do not consider such changes to be material.

Clients and prospective clients should review the brochure carefully.

Item 3 – Table of Contents

Contents

Item 1 – Cover Page.....	i
Item 2 – Material Changes.....	1
Item 3 – Table of Contents	2
Item 4 – Advisory Business.....	3
Item 5 – Fees and Compensation	6
Item 6 – Performance Based Fees and Side-by-Side Management	8
Item 7 – Types of Clients	11
Item 8 –Methods of Analysis, Investment Strategies and Risk of Loss	12
Item 9 – Disciplinary Information.....	21
Item 10 – Other Financial Industry Activities and Affiliations.....	22
Item 11 – Code of Ethics, Participation of Interest in Client Transactions and Personal Trading	28
Item 12 – Brokerage Practices.....	32
Item 13 – Review of Accounts	38
Item 14 – Client Referrals and Other Compensation	40
Item 15 – Custody.....	41
Item 16 – Investment Discretion	42
Item 17 – Voting Client Securities.....	43
Item 18 – Financial Information.....	46
Appendix A - Representative Fee Schedules by Strategy.....	47

Item 4 – Advisory Business

Our Firm

Our business operates through two legal entities, QMA LLC (“QMA”) in the United States and QMA Wadhvani LLP (“QMAW”) in the United Kingdom. Headquartered in Newark, New Jersey, QMA is an SEC-registered investment adviser organized as a New Jersey limited liability company. QMAW is based in London and is organized as a limited liability partnership authorized and regulated by the Financial Conduct Authority of the United Kingdom. It is also registered as an investment adviser with the SEC. The investment platforms of QMA and QMAW operate independently of each other, but other non-investment functions of QMAW have been, or continue to be, integrated with those of QMA. This integration began in January 2019, and will occur over a period of time. As is the case with respect to our other affiliates, we may delegate advisory and other services to QMAW and they to us.

In addition to being registered investment advisers, both QMA and QMAW are members of the National Futures Association (NFA) and are registered as commodity trading advisors with the Commodity Futures Trading Commission (CFTC). QMAW is also registered with the CFTC as a commodity pool operator. QMA and QMAW are indirect, wholly-owned subsidiaries of Prudential Financial, Inc. (Prudential Financial), a publicly held company (NYSE Ticker “PRU”).¹

QMA’s investment team began managing U.S. equity accounts for institutional clients in January 1975. For many years, the team operated as a unit within PGIM, Inc., which is part of the PGIM division of Prudential Financial. PGIM is Prudential Financial’s global investment management business. Subsequently, QMA became a wholly-owned subsidiary of PGIM, Inc. and an investment adviser registered with the SEC. The team has conducted its investment management activities as QMA since July 2004. As described below, QMA is the quantitative equity and global multi-asset solutions manager of PGIM. QMA’s investment management and research, trading, operations, client service and distribution activities are conducted at our headquarters in Newark, NJ. QMA’s office in San Francisco also conducts investment management services and investment research and is utilized for the purposes of institutional sales as well.

QMAW is a quantitative macro-focused investment management firm. It acts as an investment manager primarily to various private funds as well as to pooled vehicles (as subadviser) on affiliated platforms, and also provides advisory services to separately managed accounts. As an SEC-registered investment adviser and a separate legal entity, QMAW files and will continue to file its own Form ADV, available on the SEC’s website at www.adviserinfo.sec.gov, which contains detailed information about its business and strategies.

This brochure describes QMA’s business, and hereinafter when we use the terms “we,” “us” and “our,” we are referring to QMA and our U.S. operations unless we specify otherwise.

Our Advisory Business in General

- **Our Advisory Services**

We offer a variety of actively and passively managed equity strategies measured against U.S., non-U.S., global and custom benchmarks. Some strategies take both long and short positions in

¹ Prudential Financial, Inc. of the United States is not affiliated in any manner with Prudential plc, a company incorporated in the United Kingdom or with Prudential Assurance Company, a subsidiary of M&G plc, incorporated in the United Kingdom.

individual securities depending upon the specific investment objective and client guidelines. As described below under “Customization of our Advisory Services,” we do not believe that “one size fits all,” and strive to meet the specific needs of each institutional and subadvised client.

In addition to strategies that emphasize individual security selection, we also offer multi-asset class strategies. These strategies allocate assets among multiple asset classes and management styles in accordance with our evaluations of their corresponding investment potential and client guidelines. Depending upon investment objectives, these asset classes typically include publicly traded equity and fixed-income securities, and could also include real estate, commodities, currencies and other non-traditional asset classes. Affiliated investment advisers or third parties, as well as QMA, manage assets held in the underlying portfolios that invest in these asset classes. (See Item 10 for additional information regarding our relationships with affiliated entities.)

- Our Quantitative Processes**

We specialize in the utilization of quantitative methods to guide investment decisions, and employ both proprietary and non-proprietary analytical tools and models to help direct our investment choices. Our proprietary quantitative models are our intellectual property. Specific models vary with the corresponding investment strategy. For example, models range from straightforward algorithms intended to help our index strategies replicate benchmark indices to more complex models that help identify attractive individual securities and combine them into portfolios underlying actively managed equity strategies. Models and quantitative tools implemented in our multi-asset class strategies help assess the attractiveness of global asset classes. Although many of our investment decisions derive primarily from the output of our models, our portfolio managers apply oversight and judgment to that output.

We believe that research is the cornerstone of a successful investment organization and we are continually seeking ways to enhance our investment strategies and processes. As a result of our ongoing in-house research, our models may change from time to time. We consider these research-based enhancements and changes to be a normal part of our investment activities.

Customization of our Advisory Services

Our investment management agreements and sub-advisory agreements with clients typically include investment guidelines that are negotiated to incorporate mutually acceptable terms. Under these agreements, clients can impose limitations on our investment positions. The investment guidelines could, for example, restrict the types of securities or instruments (such as derivatives or interests in commingled funds) in which we invest for the client. They could prohibit us from investing in particular issuers or industries. They could limit the percentage of portfolio assets that we are allowed to invest in single issuers, types of securities or industries. They could limit the amount of cash that we can hold in the portfolio. A client could also require us to comply with the client’s investment policies and procedures applicable to its external investment managers. On occasion, in our discretion, we tailor certain features of our models and risk parameters at the request of a client with the objective of achieving a client-specific investment goal. Such changes would apply to that client only.

Certain Non-Discretionary Advisory Services

We currently provide certain services to an affiliated wrap fee program sponsor as well as to an unaffiliated

managed account program sponsor, in each case on a non-discretionary basis. Our services to the wrap fee program sponsor consist of the furnishing of asset allocation model recommendations for a digital advice program, as well as recommendations of exchange traded funds that we believe correspond to the asset classes in our models. Our services to the managed account program sponsor consist of the furnishing of model securities portfolios in various strategies. In both cases, the program sponsor may or may not choose to employ the models and recommendations we provide, in its discretion. We do not effect or arrange for the purchase or sale of any securities in connection with these services. Again in both cases, the program sponsor charges a single program fee to its clients for all services provided under the program and pays QMA a portion of that fee. We seek to manage these non-discretionary model portfolios and our discretionary institutional accounts in a similar manner within the same strategy.

We also offer non-discretionary multi-asset class model strategies on affiliated and unaffiliated platforms. In these arrangements, the platform sponsors would typically make our model portfolios available to investors, generally through intermediaries such as financial planners. We do not have discretion over the implementation of these models in individual investor portfolios.

On occasion, clients have requested that they approve our investment recommendations. In such circumstances, we consider those mandates non-discretionary.

Significant Shareholder Reporting

From time to time, we are required by applicable laws, rules and regulations to file reports with regulators that contain information about our clients' holdings of an issuer when the holdings are large enough to require reporting. Those reports are often publicly available and in certain circumstances require disclosure of the client's identity and holdings. In addition, our clients can hold a position in the securities of a portfolio company that is large enough to require reporting by the client to the regulators under applicable laws, rules and regulations. We do not monitor or advise on reporting requirements for clients because, among other reasons, we do not have an ability to properly monitor the aggregate of clients and such monitoring is generally handled by a client's other service providers.

Our Assets Under Management

As of December 31, 2019, our assets under management were as follows:

- Discretionary: \$126,001,157,531
- Nondiscretionary: \$271,836,113

Note that we do not include assets managed by other persons based on non-discretionary model portfolios provided by QMA in our assets under management.

Also note, for purposes of determining discretionary assets under management, that QMA includes all assets managed by the asset allocation team for which it provides oversight, analysis and investment direction regarding the transfer of assets among investment choices in each client's portfolio. Our total discretionary assets under management is adjusted to avoid double counting any assets managed directly by us in certain commingled funds or accounts to which we allocate under our multi-asset class strategies (see Item 10 for additional disclosure).

Item 5 – Fees and Compensation

Advisory Fees

We negotiate fees with our clients individually. Fees paid by clients vary based on the type of advice provided and other factors such as account size (including the aggregate size of multiple accounts for the same client or related clients), the relationship with the client (including whether the client is an affiliate or has a relationship with one of our affiliates) or a client's consultant and the required nature and level of service. Fees may also differ based on account type. For example, fees for commingled vehicles, including those that we subadvise, may differ from fees for single client accounts. Since fees are negotiable, clients with similar investment objectives or strategies may pay different fees. When we act as subadviser to the manager of an account, the manager will pay us a portion of the fee it receives from the client, but we do not generally negotiate our fee with the manager's client.

We are generally compensated for our advisory services under both asset-based fee schedules and performance-based fee schedules. Our asset-based fees are customarily offered in tiered schedules with breakpoints linked to the amount of assets in the account, so that the fee rate decreases as the level of assets increases. In circumstances where we manage multiple accounts for a single client relationship (including the client's affiliates), we have, in some cases, agreed with the client to aggregate the client's assets across related accounts to enable the client to benefit from a lower fee tier or to consider such total assets in determining a fee schedule for each account of such client. (See also our discussion in Item 6 below of asset-based fees and performance-based fees.)

Please see [Appendix A](#) for fee schedules that are representative of our fees for specific strategies.

As described in Items 4, 8 and 10, some of our institutional clients have engaged us to assist them in determining an appropriate asset allocation framework (which we refer to as "macromanagement"), consistent with their funds available for investment, business needs, risk tolerance and expectations of returns. Once macromanagement allocation decisions are made for a client, we allocate the client's assets to commingled vehicles corresponding to the asset classes selected. These vehicles are managed by us or our affiliates unless our available vehicles do not include an asset class or strategy desired by the client. In such a case, we typically allocate to unaffiliated vehicles. (See also Item 10 with respect to conflicts of interests related to our affiliations.) In most of these arrangements, except with respect to real estate investments, our clients pay a macromanagement fee but do not pay the fees of the underlying vehicles to which we allocate their assets. The fees of the underlying vehicles are paid out of our macromanagement fee. Our fees are customarily asset-based, but may be another negotiated type of fee. When we allocate assets to real estate investment strategies, each manager of the real estate investment vehicle (affiliated and unaffiliated) charges its fee to the macromanagement client separately. We do not charge a macromanagement fee on assets that we allocate to affiliated real estate strategies, but we do charge a macromanagement fee on assets allocated to unaffiliated real estate strategies.

Our typical macromanagement fee schedule for the services described in the preceding paragraph is as follows:

- 65 bps on the first \$10 million
- 50 bps on the next \$15 million
- 40 bps on the next \$75 million
- 30 bps thereafter.

In addition to the macromanagement services we provide to our institutional clients, we also offer non-discretionary asset allocation model portfolios to affiliated and non-affiliated clients, as noted in Item 4. For these model portfolios, we receive a fee from the clients, which may be an asset-based fee or a fixed fee.

Payment of Fees

Depending on the client's preference, we either bill a client for our fees or deduct fees from the client's account. Asset-based fees are typically payable either monthly or quarterly in arrears. Performance-based fees, if earned, are payable after the calculation period for such fees. We do not require or solicit clients to pay advisory fees in advance. If a client were to pay advisory fees in advance and the client's advisory contract were to terminate before the end of a billing period, we would refund any unearned, prepaid fees on a pro rata basis. Generally, unless otherwise instructed by clients, asset-based and performance-based fees are calculated based on custodian and/or administrator pricing and not QMA's internal valuations.

Other Amounts Payable by Clients

Our advisory fees are the only amounts payable by clients to QMA. Clients are generally responsible for other fees and expenses related to their accounts, including custodian fees, brokerage fees, administrator fees for certain commingled vehicles and other transactions costs. In some strategies, QMA invests a portion of the client's assets in exchange traded funds (ETFs). Assets invested in such investment companies are included in computing the management fees paid to QMA and are also subject to additional fees and expenses, as set forth in the prospectuses of those investment companies, paid by the investment companies but ultimately borne by clients.

Other Compensation

We do not receive any compensation related to the sale of securities or other investment products. Our supervised persons do not receive any compensation directly related to our sale of securities or other investment products, but the sale of our advisory services or interests in funds we manage is considered in determining the compensation of our sales personnel. Any such compensation would be payable by QMA and not our clients or investors in the funds.

Item 6 – Performance Based Fees and Side-by-Side Management

Performance-Based Fees

As described above in Item 5, we negotiate fees with our clients individually. While the majority of our fees are asset-based, performance-based fees are available at the request of a client in some of our strategies. Asset-based fees are calculated based on the value of a client's portfolio at periodic measurement dates or over specified periods of time. Performance-based fees are generally based on a share of the total return of a portfolio, and may offer greater upside potential to us than asset-based fees, depending on how the fees are structured. Most of our performance-based fees are derived from the percentage by which we outperform the benchmark or performance hurdle against which the client's portfolio is measured. We will generally be entitled to be paid a portion of that percentage, although the formulas and specifics of these negotiated fees vary. Our performance-based fee schedules also typically include an asset-based component, which we collect regardless of the performance of the account.

Side-by-Side Management of Accounts and Related Conflicts of Interest

We manage accounts with asset-based fees alongside accounts with performance-based fees. This side-by-side management could create an incentive for us to favor one account over another. Specifically, we could have the incentive to favor accounts for which we receive performance fees, and possibly take greater investment risks in those accounts, in order to bolster performance and increase our fees.

Other types of side-by-side management of multiple accounts can also create incentives for us to favor one account over another. Examples are detailed below. We seek to address conflicts arising out of our side-by-side management by implementing various policies and procedures, which we discuss below under "*How We Address These Conflicts of Interest.*"

- **Long Only/Long-Short Accounts**

We manage accounts that only allow us to hold securities long as well as accounts that permit short selling. We may, therefore, sell a security short in some client accounts while holding the same security long in other client accounts, creating the possibility that we are taking inconsistent positions with respect to a particular security in different client accounts.

- **Compensation/Benefit Plan Accounts/Other Investments by Investment Professionals**

We manage certain strategies whose performance is considered in determining long-term incentive plan benefits for certain investment professionals. Investment professionals involved in the management of accounts in these strategies have an incentive to favor them over other accounts they manage in order to increase their compensation. Additionally, our investment professionals may have an interest in funds in those strategies if the funds are chosen as options in their 401(k) or deferred compensation plans offered by Prudential or if they otherwise invest in those funds directly. (See description in Item 11 of our compensation of investment professionals.)

- **Affiliated Accounts**

We manage accounts on behalf of our affiliates as well as unaffiliated accounts. We could have an incentive to favor accounts of affiliates over others.

- **Non-Discretionary Accounts or Model Portfolios**

We provide non-discretionary model portfolios to some clients and manage other portfolios on a discretionary basis. When QMA manages accounts on a non-discretionary basis, the investment team will typically deliver a model portfolio to a non-discretionary client at or around the same time as executing discretionary trades in the same strategy. The non-discretionary clients may be disadvantaged if we deliver the model investment portfolio to them after we initiate trading for the discretionary clients, or vice versa.

- **Large Accounts/Higher Fee Strategies**

Large accounts typically generate more revenue than do smaller accounts, and certain strategies have higher fees than others. As a result, a portfolio manager has an incentive when allocating investment opportunities to favor accounts that pay a higher fee or generate more income for us.

- **Securities of the Same Kind or Class**

- We sometimes buy or sell, or direct or recommend that a client buy or sell, securities of the same kind or class that are purchased or sold for another client, at prices that may be different. Although such pricing differences could appear as preferences for one client over another, our trade execution in each case is driven by our consideration of a variety of factors as we seek the most advantageous terms reasonably attainable in the circumstances. (See Item 12 – Brokerage Practices.)
- We may also, at any time, execute trades of securities of the same kind or class in one direction for an account and in the opposite direction for another account, or not trade in any other account. Opposite way trades are generally due to differences in investment strategy, portfolio composition, or client direction.

- **Side Letters**

We have entered into side letters with respect to certain of the funds that we manage, and may do so with respect to funds that we manage in the future. Such side letters are agreements with investors in the funds (including affiliated investors) that grant such investors terms and conditions more advantageous than those granted to other investors. For example, investors may have side letters granting more favorable redemption rights, reduced fees or expenses, or access to more frequent or detailed information regarding the fund's investments. We may have multiple side letters with respect to a single fund, each with a different investor.

How We Address These Conflicts of Interest

The conflicts of interest described above with respect to our different types of side-by-side management could influence our allocation of investment opportunities as well as our timing, aggregation and allocation of trades. We have developed policies and procedures designed to address these conflicts of interest. Our Conflicts of Interest and related policies stress that investment decisions are to be made in accordance with the fiduciary duties owed to each account without giving consideration to our or our personnel's pecuniary, investment or other financial interests.

In keeping with our fiduciary obligations, our policies with respect to allocation and aggregation are to treat all of our accounts fairly and equitably over time. Our investment strategies generally require that we invest our clients' assets in securities that are publicly traded. We generally do not participate in initial public offerings. Our investment strategies are team managed, reducing the likelihood that one portfolio would be favored over other portfolios managed by the team. These factors reduce the risk that we could favor one client over another in the allocation of investment opportunities. (See Item 12 for additional information

regarding our trade aggregation and allocation policy.)

Our compliance procedures with respect to these policies include independent reviews by our compliance unit of the timing, allocation and aggregation of trades, allocation of investment opportunities and the performance of similarly managed accounts. These procedures are designed to detect patterns and anomalies in our side-by-side management and trading so that we may take measures to correct or improve our processes. Our Trade Management Oversight Committee, which consists of senior members of our management team, reviews, among other things, trading patterns, execution impact on client accounts and broker performance, on a periodic basis.

We rebalance portfolios periodically with frequencies that vary with market conditions and investment objectives and may differ across portfolios in the same strategy based on variations in portfolio characteristics and constraints. We may choose to aggregate trades for multiple portfolios rebalanced on any given day, where appropriate and consistent with our duty of best execution.

Orders are generally allocated at the time of the transaction or as soon as possible thereafter, on a pro rata basis equal to each account's appetite for the issue when such appetite can be determined.

With respect to our management of long-short and long only active equity accounts, the security weightings (positive or negative) in each account are typically determined by a quantitative algorithm. An independent review is performed by the compliance unit to assess whether any such positions would represent a departure from a quantitative algorithm used to derive the positions in each portfolio. Our review is intended to identify situations where we would seem to have conflicting views of the same security in different portfolios, although such views may actually be reasonable due to differing portfolio constraints.



Item 7 – Types of Clients

Our clients currently include corporate pension and profit-sharing plans, Taft-Hartley plans, charitable institutions, foundations, endowments, state and municipal government plans, trusts, registered investment companies (including mutual funds and ETFs) and their investment managers, collective and common trusts, insurance companies with respect to their separate and general accounts, sovereign funds, non-U.S. funds such as Undertakings for Collective Investment in Transferable Securities (UCITS) and alternative investment funds, and other U.S. and international institutions. We provide our services to both affiliated and non-affiliated clients. Our minimum account size varies by product, investment vehicle and by the characteristics of the mandate. Single client accounts typically have higher minimums than investments in commingled vehicles. We do not currently provide investment advisory services directly to individuals.

Item 8 – Methods of Analysis, Investment Strategies and Risk of Loss

Our Investment Strategies and Methods of Analysis

We offer a variety of equity and multi-asset class strategies. Our strategies include both long-only and short-enabled portfolios measured against standard as well as customized benchmarks. Our investment strategies are primarily based on quantitative analysis and are team-managed. Dedicated investment management teams use proprietary and non-proprietary computer-based models and tools to generate top-down and bottom-up fundamental and economic signals that guide asset allocation and security selection decisions. Portfolio manager judgment is also applied to each strategy.

Our approach is adaptive and disciplined, applying market signals, tools and other perspectives where and how we believe they will have the greatest impact for clients.

- **General Portfolio Management**

Portfolio performance and characteristics are reviewed regularly by designated portfolio managers using a variety of performance attribution, risk monitoring and portfolio management tools and reports. Portfolio monitoring tools consist of a combination of proprietary and non-proprietary computer programs. Portfolio managers are responsible for reviewing model-recommended trades for reasonableness, adherence to portfolio guidelines and consistency with the corresponding investment strategy. Additionally, the investment management teams use a number of tools to periodically review the general effectiveness of the underlying investment processes.

Specific Strategies

- **Equity Strategies**

Our equity strategies consist of both passive and active management across global and regional markets, applying a disciplined methodology specific to the characteristics of each mandate. Our products cover a broad spectrum of stock market capitalizations, regions and investment styles to help meet a diverse range of client needs. Depending on objectives, some strategies take both long and short positions. Some portfolios also hold derivative instruments and/or ETFs and other pooled investments. In many cases, these instruments are used to manage cash flows or to efficiently obtain certain investment exposures. Positions in portfolios reflect both our evaluation of a stock's investment potential and our expectation of a stock's contribution to portfolio risk.

- **Multi-Asset Class Strategies**

Our multi-asset class strategies actively allocate among different asset classes and market segments to meet client objectives and risk/reward profiles. The firm's investment approach shifts among and within asset classes based on both tactical and long-term strategic performance and volatility expectations derived from extensive quantitative and qualitative analysis. Strategies are managed to reflect a variety of potential risk/return characteristics, including traditional and non-traditional asset classes as well as real asset and total and absolute return portfolios.

- **Commodity Strategies**

Our commodities strategies are intended to provide exposure to commodities through investment in highly liquid futures contracts on broad baskets of commodities, while seeking to outperform a specified benchmark over a market cycle. These strategies can provide diversification and potentially hedge

inflation in a multi-asset class portfolio. As with many of our equity strategies, our investment process in our commodities strategies is systematic and factor-based, incorporating risk constraints and conservative collateral management.

Other Features of Our Methodologies and Strategies

- **Ongoing Investment Research and Model Enhancements**

We periodically make enhancements to our proprietary models and develop new strategies as a result of our ongoing research. These advances undergo testing before they are implemented. Research may be original to QMA or an extension of published or unpublished academic findings. Data and tools used in conducting research may be developed internally or may come from third parties.

- **Our Approach to Environmental, Social, and Governance (ESG) Factors**

We believe ESG-related factors can be an important element in predicting equity prices and/or managing investment/portfolio risk in certain strategies. Through our focused research, we seek to identify ways to capture ESG effects in our analysis of securities. In addition, through our work with ESG-related organizations and data providers, we advocate for greater disclosure of ESG data, which we view as essential to identifying potential sources of risk that might not be reflected in market valuations and to the further assimilation of ESG into mainstream investment practices.

- **Use of Derivatives**

In our equity strategies, we typically use broad based stock index futures to equitize un-invested cash in lieu of direct investments in individual securities. In these portfolios, futures are generally not intended to be a source of value and are not a large component of the portfolios. However, when permitted in client guidelines, we also use futures, swaps and other derivatives to gain exposure to certain non-U.S. equity markets where it is more expensive or would not be possible to achieve the same exposure through investment directly in the underlying securities.

In some of our equity and multi-asset class strategies, we use futures, forwards and swaps to meet specific risk and return objectives or to gain exposure to certain commodities, currencies, baskets of securities or other underlying asset classes or market segments.

Primary Risks Associated with Our Methodology and Strategies

Investing in securities and other financial instruments involves risk of loss that clients should be prepared to bear. Investment strategies may not achieve their performance objectives and may result in losses. We have summarized below certain important risks for our clients and prospective clients to consider.

Risks Related to Quantitative Investing

In addition to the common risks relating to investments (discussed below), quantitative investing presents unique risks which may result, despite our best efforts, in our strategies not performing as we expect.

- **Model and Data Risk**

Given the complexity of QMA's strategies, we rely heavily on quantitative models (both proprietary models developed by QMA, and those supplied by third parties) and we utilize a large amount of internally and externally supplied data, much of which may change frequently ("Models and Data").

Models and Data are used to construct sets of transactions and investments, to value investments or potential investments and to provide risk management insights. Although we routinely review the data we use, it is possible that we will not identify all data inaccuracies. Additionally, certain data items may become unavailable at any time for reasons outside of our control, potentially reducing the efficacy of our models or delaying the implementation of our investment decisions. When Models and Data prove to be incorrect or incomplete, any decisions made in reliance thereon expose clients to potential risks. For example, by relying on Models and Data, QMA may be induced to buy certain investments at prices that are too high (or to sell certain investments at prices that are too low), or to miss favorable opportunities altogether.

- **Model Design Risk**

The design of our models may be flawed or incomplete. There can be no guarantee that these designs will correlate with security price behavior in the manner assumed by our models. Additionally, the quantitative techniques that underlie our portfolio construction processes may fail to fully anticipate important risks or highly unusual market conditions. If the assumptions underlying the models we use to implement our strategies are inaccurate or become inaccurate, it is likely that favorable trading signals will not be generated. In addition, if and to the extent that the models do not reflect certain factors, and we do not successfully address the omission of such factors through our testing and evaluation and modify the models accordingly, losses may result. QMA will continue to test and evaluate its models and assumptions such that existing models may be adjusted or discontinued, and new models may be added from time to time. There can be no assurance as to the effects (positive or negative) of any modification on a client's portfolio.

- **Model Implementation Risks**

While we strive to mitigate the likelihood of material implementation errors, it is impossible to completely eliminate the risk of error in the implementation of the computer models that guide our quantitative investment processes. Additionally, it may be difficult to implement model recommendations in volatile and rapidly changing market conditions. Risks associated with model implementation include the following:

- The model may not operate as expected due to coding shortcomings, the quality of inputs or other similar modeling challenges.
- Although we have back-up facilities, it is possible that computing or communication technology may be disrupted, making it difficult or impossible for us to run our models.
- While we use computer-based models in connection with some of our investment strategies, the implementation of these certain strategies allows for non-quantitative inputs from our portfolio managers. Judgment-based decisions made by the investment team may detract from the investment performance that might otherwise be generated by our models.

- **Risks Related to Crowding**

There is significant competition among investment managers that employ quantitative strategies, and it is possible that our models may come to resemble those used by other managers. This increases the risk that, in the event of a market disruption that adversely affects predictive models, investment losses may be amplified by rapid reductions in liquidity or repricing due to simultaneous trading by multiple quantitative managers.

- **Proprietary Trading Methods**

QMA's trading methods are proprietary, as such, a client will not be able to determine any details of such methods or whether they are being followed.

Risks Related to Investment in Equity Securities and Derivatives

- **Equity Market Risk**

Our equity strategies involve investing in U.S. and non-U.S. stocks. Equity markets increase or decrease in value depending on fundamental, economic, political and other factors. Stock markets can be volatile and may sometimes move up or down rapidly and unpredictably. Regardless of how an individual company performs, its stock price can decrease if financial markets fall.

- **Non-U.S. Securities Risk**

Investing in securities of non-U.S. issuers generally involves more risk than investing in those of U.S. issuers. Non-U.S. political, economic and legal systems may be less stable and more volatile than those in the U.S. Non-U.S. legal systems often have fewer regulatory requirements than does the U.S. legal system. The changing value of foreign currencies could also affect the value of securities. Some non-U.S. countries may impose restrictions on the ability of their issuers to make payment of principal and interest or dividends to investors located outside the country, due to the blockage of foreign currency exchanges or other problems. Investments in non-U.S. securities may be subject to non-U.S. withholding and other taxes.

- **Emerging and Frontier Markets Securities Risk**

In addition to the risks described above with respect to non-U.S. securities, investing in emerging and frontier markets involves heightened risks and special considerations. Such risks may include, but are not limited to: (a) greater social, economic and political uncertainty, including war; (b) higher dependence on exports and the corresponding importance of international trade; (c) greater risk of inflation; (d) increased likelihood of governmental involvement in, and control over, the economies; (e) governmental decisions to cease support of economic reform programs or to impose centrally planned economies; (f) greater volatility, less liquidity and smaller capitalization of markets; (g) greater volatility in currency exchange rates; (h) greater controls on foreign investment and limitations on realization of investments, repatriation of invested capital and on the ability to exchange local currencies for U.S. Dollars; (i) differences in auditing and financial reporting standards, which may result in the unavailability of material information about issuers; (j) less extensive regulation of the markets; (k) longer settlement periods for transactions and less reliable settlement, clearance and custody arrangements; (l) less developed corporate laws regarding fiduciary duties of officers and directors and the protection of investors; (m) risk of nationalization or expropriation of assets or confiscatory taxation; (n) higher transaction costs generally; and (o) difficulty in enforcing contractual obligations and judgments.

Additionally, local custody services remain underdeveloped in many emerging and frontier markets and there are transaction and custody risks involved in dealing in such markets. In certain circumstances, the client may not be able to recover or may encounter delays in the recovery of some of its assets. In addition, restrictions on the opening of sub-custody accounts in certain countries may require us to gain exposure to those markets through other types of investments and could delay or impair implementation of our strategy.

- **Liquidity Risk**

Liquidity risk is the risk that a portfolio may not be able to sell some or all of the securities it holds, either at the price it values the security or at any price. We manage liquidity risk in our quantitative core equity portfolios by applying daily trading and holding thresholds based on a security's average daily trading volume.

- **Settlement Risk**

Settlement risk is the possibility that a trading counterparty fails to pay cash or deliver securities upon the scheduled settlement of a trade. All securities trading involves a degree of settlement risk, and such risk can be exacerbated by adverse market conditions. The inability to dispose of a security due to settlement problems could result in losses, and a delay in the settlement of a purchase could result in periods when cash is uninvested and no return is earned thereon.

- **Derivatives Risk**

Derivatives involve risk and can result in the loss of principal. We use derivatives only when permitted by applicable investment guidelines. Derivatives are a financial arrangement between two parties in which the value is based on, or "derived" from, the performance of an agreed-upon security, commodity or other underlying reference asset or benchmark. When approved by client guidelines, we may enter into derivative transactions including, but not limited to, commodity, equity and currency swaps; equity and currency options; futures and options on futures; options on swaps; commodity-linked notes and forward currency exchange contracts.

Derivatives generally fall into two categories: cleared and uncleared. Cleared derivatives, such as futures contracts and certain standardized swap agreements, are typically traded on an exchange or similar marketplace, are centrally cleared by a clearinghouse, and have standardized terms with enhanced transparency. Uncleared derivatives, such as non-standardized swap agreements, are privately negotiated transactions, the terms of which are tailored to the specific needs of the parties.

The primary risks associated with derivatives are:

- Market risk - the risk that the market value of the investment will decline;
- Credit risk - the risk that the counterparty to the transaction (especially in the case of uncleared derivatives) will default on its obligations;
- Liquidity risk - the risk that the instrument (especially in the case of uncleared derivatives) will not be readily marketable;
- Valuation risk - the risk that because the instrument is thinly traded, it may have only one pricing source; and
- Correlation risk – if using derivatives for hedging, the risk that the value of the derivative will move more or less than the value of the hedged investment.

Futures, forwards, swaps, options and other derivative instruments contain inherent leverage in that they provide more market exposure than the amount paid on the initiation of the transaction. As a result, a relatively small adverse market movement can not only result in the loss of the entire investment, but may also expose a client to the possibility of a loss exceeding the original amount invested. In addition, many derivatives are subject to variation or other interim margin requirements, which may force premature liquidation of investment positions.

Risks Related to Our Strategies

- **Security Selection Risk**

The value of an individual security and, similarly, the value of an investment in that security, may rise or fall. Our investment processes and algorithms may favor specific securities, industries or sectors that underperform investments in other securities, industries, sectors, or the market generally.

- **Asset Allocation Risk**

We make decisions about which asset classes to overweight and which ones to underweight, relative to a stated benchmark. As a result, we may overweight an asset class that ultimately underperforms. Similarly, we may underweight an asset class that subsequently outperforms. In addition, the underlying funds within each asset class may not perform as anticipated.

- **Dispersion Risk**

Performance dispersion among client portfolios may result from differences in cash flows, portfolio size and time of rebalances. A client's portfolio may perform better or worse than other similarly managed accounts for different reasons including, among other variables, the frequency and timing of rebalancing and trading each portfolio, the size of each portfolio, and the number of positions in each portfolio. We do not manage portfolios with the intention of holding specific securities; rather, we target specific combined portfolio characteristics. This process will result in differences in the securities held across similarly managed portfolios, leading to potential differences in performance.

- **Turnover Risk**

Our investment strategies may include long-term purchases, short-term purchases, short sales or margin transactions. Frequent investments may result in higher portfolio turnover and higher transaction costs in an account.

- **Short Selling Risk**

When permitted by clients, our investment strategies may include short selling. A short sale involves borrowing and selling a security with an obligation to buy the security back later based upon an expectation that the price of the security will have declined by the time it has to be repurchased. There is a potentially unlimited risk in uncovered short selling if the price of the stock goes up before we are able to close the short position.

- **Leverage Risk**

When permitted by clients, some of our investment strategies employ leverage (a form of borrowing) in order to maximize capital available to invest in securities. The use of leverage magnifies changes in value (volatility). This means it is possible to lose more in a leveraged strategy than in an unleveraged strategy.

- **Investment Management Risk**

Each actively managed account is subject to investment management risk. We apply investment techniques and risk analyses in making investment decisions for actively managed accounts, but there can be no guarantee that these decisions will produce the desired results. The discussions of risk management in this brochure are intended to describe our efforts to monitor and manage risk but do not

imply low risk.

- **Currency Risk**

Currencies may be purchased or sold for an account through the use of forward contracts or other instruments. An account that seeks to trade in foreign currencies may have limited access to certain currency markets due to a variety of factors, including governmental regulations, adverse tax treatment, exchange controls and currency conversion issues. An account may hold or trade investments denominated in currencies other than the currency in which the account is denominated. Currency exchange rates can be volatile, particularly during times of political or economic unrest or as a result of actions taken by central banks. A change in the exchange rates may produce significant losses in an account.

- **Commodities Risk**

Commodity investments are affected by business, financial market, geopolitical or legal uncertainties. There can be no assurance that QMA will correctly evaluate the nature and magnitude of the various factors that could affect the value and return on its commodity strategies. Prices of commodities are volatile, and a variety of factors that are inherently difficult to predict, such as domestic or international economic and political developments can affect pricing.

- **ESG Risk**

QMA's process for evaluating securities based on ESG factors is not intended to be predictive of a company's ESG status or performance. In addition, the potential benefits to a company of having "good" ESG characteristics may be long term and not visible in performance (or otherwise) for many years, if at all. Companies having "poor" ESG characteristics may outperform contrary to our assumptions.

Other Risks Related to Our Business

- **Risks Related to Regulation**

Laws and regulations affecting our business change from time to time, and we are currently operating in an environment of significant global regulatory reform. We cannot predict the effects, if any, of future legal and regulatory changes on our business or the services we provide.

- **Brexit Risk**

On January 31, 2020, the United Kingdom ("UK") exited the European Union ("EU") (following a non-binding referendum in June 2016) with a transition period in relation to existing laws and regulations until December 31, 2020. There is still a high degree of uncertainty regarding the outcome of negotiations between the UK and EU on trade and the on-going relationship between the UK and EU beyond 2020 (the transition period could be extended subject to agreement between the UK and EU by July 2020). At this time, it is not possible to state with any certainty what might be the terms of any trade agreement between the UK and EU. A passporting regime currently allows regulated entities licensed or authorized in the UK (and each other EEA country) to operate on a cross-border basis in other EEA countries without the need for a separate license or authorization. There can be no assurance that the terms of the UK's trade agreement with the EU will include arrangements for the continuation of the existing passporting regime or mutual access rights to market infrastructure.

We rely on the passporting rights of our UK affiliate, PGIM Limited, to conduct investment business in the EU. In the case of a hard Brexit where the UK becomes a "third country" from January 01, 2021, PGIM Limited would no longer have these passporting rights. We have implemented contingency plans to address

Brexit (including a potential hard Brexit), which include the formation of PGIM Netherlands B.V. (and authorization in the Netherlands) and the potential reliance on “third country license regimes” in certain EU countries, where applicable. Despite these measures, the ability of PGIM Limited to source investment opportunities for QMA in the EU, including for our clients, may be adversely affected by Brexit.

- **Certain Risks Related to Cybersecurity and Technology**

Investment advisers, including QMA, must rely in part on digital and network technologies to conduct their businesses and to maintain substantial computerized data relating to client account activities. These technologies include those owned or managed by ourselves as well as those owned or managed by others, such as custodians, financial intermediaries, transfer agents and other parties to which we or they outsource the provision of services or business operations.

Like all businesses that use computerized data, we and our affiliates and the systems we use might in some circumstances be subject to a variety of possible cybersecurity incidents or similar events that could potentially result in the inadvertent disclosure of data to unintended parties, or the intentional misappropriation or destruction of data by malicious hackers mounting an attack on computer systems. We and our affiliates have implemented and maintain an information technology security policy and program that includes certain technical and physical safeguards intended to protect the integrity, availability and confidentiality of the data we have and the systems that store it, and take other reasonable precautions to limit the potential for cybersecurity incidents, and to protect data from inadvertent disclosure or wrongful misappropriation or destruction.

Nevertheless, despite reasonable precautions, cybersecurity incidents could occur, and might in some circumstances result in unauthorized access to sensitive information about us or our clients. In addition, such incidents might cause damage to client accounts, data or systems or affect client services.

Furthermore, these systems may fail to operate properly or become disabled as a result of events or circumstances wholly or partly beyond our or others’ control. Failures (e.g., technology), whether deliberate or not, including those arising from use of third-party service providers or client usage of systems to access accounts, could have a material adverse effect on our business or our clients and could result in, among other things, financial loss, reputational damage, regulatory penalties or the inability to transact business.

- **Risks Related to Conflicts of Interest**

Various conflicts of interest are discussed throughout this document. Please review this information carefully and contact us if you have any questions.

Like other investment advisers, we are subject to various conflicts of interest in the ordinary course of our business. We strive to identify potential risks, including conflicts of interest, which are inherent in our business, and conduct annual conflict of interest reviews. When actual or potential conflicts of interest are identified, we seek to address such conflicts through one or more of the following methods:

- Elimination of the conflict;
- Disclosure of the conflict; or
- Management of the conflict through the adoption of appropriate policies, procedures or other mitigants.

We follow Prudential Financial’s Standards on business ethics, personal securities trading and

information barriers. We have adopted a code of ethics (see Item 11), allocation policies and conflicts of interest policies, among others, and have adopted supervisory procedures to monitor compliance with our policies. We cannot guarantee, however, that our policies and procedures will detect and prevent, or result in the disclosure of, each and every situation in which a conflict may arise.

- **Operational Risk**

QMA relies on its portfolio management, trading, accounting and other data processing systems. Operational risks arising from failed processes and systems, human error or external events, as part of the trading lifecycle (execution, confirmation and settlement) as well as other activities in support of our clients, may cause financial loss, disruption to our business, liability to clients or third parties, regulatory action or reputational harm. An increase in the volume and complexity of transactions could increase these risks.

- **Public Health Risk**

Occurrences of epidemics and pandemics, depending on their scale, may cause different degrees of damage to the national and local economies. Global economic conditions may be disrupted by widespread outbreaks of infectious or contagious diseases, and such disruption may adversely affect the returns of your portfolio. For example, the continuing spread of the virus named “SARS-CoV-2” (sometimes referred to as the “coronavirus” and abbreviated as “COVID-19”) may have an adverse effect on the value, operating results and financial condition of some or all of the companies and holdings in your portfolio. The impact of COVID-19, and other public health issues that may arise in the future, could adversely affect the economies of many nations, individual companies and investment products, and the market in general in ways that cannot necessarily be foreseen at the present time.

Conflicts of Interest Associated with our Strategies

- **Conflict Associated with our Intellectual Property Protections**

We may determine to share certain information about our models with a client or prospective client to the extent we consider necessary to address their questions regarding our investment processes. Nevertheless, we reserve the right to maintain confidentiality with respect to any and all aspects of our models, algorithms and processes, in our discretion, to protect our proprietary rights in our investment strategies and processes.

- See Item 10 regarding conflicts of interest associated with our multi-asset class services.
- See Item 11 for a description of conflicts of interest relating to our compensation of investment professionals.

Item 9 – Disciplinary Information

Under this Item 9, we are required to disclose all material facts regarding any legal or disciplinary events that would be material to an evaluation of us or the integrity of our management. We have no facts or events to report in response to this Item.

Item 10 – Other Financial Industry Activities and Affiliations

Our Staff's Broker-Dealer Activities

Certain of our management persons and other employees are registered representatives of Prudential Investment Management Services LLC (PIMS), an affiliated SEC-registered broker-dealer.

Our Commodity Trading Activities

We are registered as a commodity trading advisor with the Commodity Futures Trading Commission, and certain of our management persons are associated persons when we act in that capacity. QMA relies on exemptions from registration as a commodity trading advisor with respect to certain accounts and pools. In addition, we rely on an exemption for relief from certain reporting and recordkeeping requirements applicable to commodity trading advisors.

Our Relationships with Affiliates and Related Conflicts of Interest

As an indirect wholly-owned subsidiary of Prudential Financial, we are part of a diversified, global financial services organization. We are affiliated with many types of U.S. and non-U.S. financial service providers, including insurance companies, broker-dealers, commodity trading advisors, commodity pool operators and other investment advisers. Some of our employees are officers of and/or provide services to some of these affiliates.

- **Relationships with Affiliated Broker-Dealers**

PIMS provides marketing in connection with the offer and sale of securities of certain commingled vehicles that we advise or subadvise from time to time. As noted above, some of our officers and employees are registered representatives of PIMS. Other affiliated brokers distribute insurance or annuity products that include investment portfolios we subadvise. We do not currently use affiliated broker-dealers for trading activity on behalf of client accounts.

- **Relationships with Affiliated Investment Vehicles**

- **Insurance Company Separate Accounts**

We are the subadviser of certain separate accounts of The Prudential Insurance Company of America (PICA), Prudential Retirement Insurance and Annuity Company (PRIAC) and Prudential Legacy Insurance Company of New Jersey (PLIC). We also provide asset allocation services to PICA and PRIAC with respect to certain funds of funds, as well as to other clients, and in the course of doing so, allocate assets to a number of these separate accounts. (See description of our multi-asset class strategies under Item 8). In addition, we manage certain separate accounts in which Prudential Financial's retirement and welfare plans invest, and some of these separate accounts are also investment options under the Prudential's Employee Savings Plan.

- **Registered Investment Companies (Mutual Funds and ETFs)**

We serve as subadviser to registered investment companies, including mutual funds and ETFs managed or co-managed by our affiliates PGIM Investments LLC (PGIM Investments) and AST Investment Services, Inc. These include certain funds in the PGIM Investments family of funds, the Prudential Series Fund and Advanced Series Trust. We also perform asset allocation

services for certain of these affiliated funds under subadvisory agreements.

- **Collective and Commingled Trust Funds**

Our affiliate Prudential Trust Company (Pru Trust), a trust company organized under the Pennsylvania Department of Banking and Securities, is the trustee of several collective and common trust fund structures, as well as certain other Pru Trust assets. We provide investment and/or asset allocation advice, allocate to, and provide certain ancillary services to Pru Trust with respect to funds established within these trust structures and other trust accounts, including asset allocation services with respect to certain funds of funds within one of the collective trusts. Certain of our employees are officers and directors of Pru Trust.

- **Affiliated Non-U.S. Funds**

We act as investment subadviser, through our affiliate Prudential International Investments Advisers, LLC (operating as PGIM Global Partners), to certain funds domiciled in Italy and Luxembourg that are sponsored and organized by Pramerica SGR S.p.A., a joint venture owned in part by our affiliate Prudential International Investments Company, LLC. We act as subadviser to our affiliate PGIM, Inc. with respect to certain sub-funds of an umbrella Qualifying Investor Fund (QIF), as well as an umbrella UCITS, both domiciled in Ireland. A majority of directors of both the QIF and the UCITS are employees of PGIM, Inc. One Board member of each is an employee of QMA. We also act as investment subadviser to certain funds domiciled in Taiwan that are sponsored and organized by our affiliate Prudential Financial Securities Investment Trust Enterprise. Finally, we act as investment subadviser to certain funds domiciled in Japan that are sponsored and organized by our affiliate PGIM Japan Co., Ltd.

- **Relationships with Affiliated Investment Advisers.**

- **General**

In addition to PGIM Investments, PGIM, Inc., Prudential Financial Securities Investment Trust Enterprise and PGIM Japan Co., Ltd., which are described above, other affiliated investment advisers include QMAW, Jennison Associates LLC, Prudential Customer Solutions LLC, Prudential Trust Company, Global Portfolio Strategies, Inc., PGIM Limited, AST Investment Services, Inc., Prudential International Investments Advisers, LLC, Pruco Securities, LLC, PGIM (Singapore) Pte. Ltd. and PGIM Netherlands B.V. (PGIM Netherlands). From time to time, we provide investment advisory and ancillary services to these affiliates. We also have service agreements with some of these affiliates under which we may perform services for them or they may perform services for us.

As noted above, we provide advisory and certain ancillary services to PGIM Investments. From time to time, PGIM Investments also provides certain services to us in connection with our multi-asset class strategies for registered investment companies and other multi-asset class products, including the selection of investment managers (both affiliated and unaffiliated) to manage the assets that we allocate to various asset classes.

See Item 4 for additional information regarding our relationship with QMAW.

- **Participating Affiliate Arrangement**

Within the guidance set forth under applicable law, relevant no-action letters and related SEC staff guidance, SEC-registered investment advisers are permitted to access, under prescribed

conditions, the services of unregistered affiliates (“participating affiliates”). The prescribed conditions include that the participating affiliate provide the SEC access to trading and other records, observe specific recordkeeping rules, submit to the jurisdiction of U.S. courts and cooperate with the SEC as it relates to relevant accounts. PGIM Netherlands, an affiliate located in Amsterdam, Netherlands, is licensed with the Dutch Authority for the Financial Markets and is authorized as an alternative investment fund manager with the ability to provide MiFID top-up services. It is also possible that PGIM Netherlands could become a participating affiliate of QMA and that it and certain of its personnel will be subject to the supervision of QMA with respect to the services that PGIM Netherlands provides to QMA as a participating affiliate.

- **Relationships with Affiliated Commodity Pool Operators**

As noted above, we subadvise various registered investment companies managed or co-managed by our affiliate PGIM Investments. Some of these funds are “commodity pools” (and other PGIM Investments funds subadvised by us or by others in the future may fall within that definition as well). Accordingly, PGIM Investments is registered as a commodity pool operator. Our parent company, PGIM, Inc., is also registered as a commodity pool operator, as is QMAW.

- **Relationships with Affiliated Insurance Companies**

We provide advisory and ancillary services with respect to the general account of PICA and certain of its subsidiaries and affiliates. We also provide advisory services with respect to the separate accounts of PICA, PRIAC and PLIC, as well as asset allocation services that utilize some of these separate accounts, as described above. Certain of these separate accounts are investment options under the Prudential Employee Savings Plan.

Conflicts Related to Our Affiliations

- **Conflicts Arising Out of Legal Restrictions**

We may be restricted by law, regulation, contract or other constraints as to how much, if any, of a particular security we may purchase or sell on behalf of a client, and as to the timing of such purchase or sale. Sometimes these restrictions apply as a result of our relationship with Prudential Financial and its other affiliates. For example, our holdings of a security on behalf of our clients are required, under certain regulations, to be aggregated with the holdings of that security by other Prudential Financial affiliates. These holdings could, on an aggregate basis, exceed certain reporting or ownership thresholds. Prudential tracks these aggregated holdings and we may restrict purchases, sell existing investments, or otherwise restrict, forego or limit the exercise of rights to avoid crossing such thresholds because of the potential consequences to us, Prudential or our clients if such thresholds are exceeded. In addition, we could receive material, non-public information with respect to a particular issuer from an affiliate and, as a result, be unable to execute purchase or sale transactions in securities of that issuer for our clients. We are generally able to avoid receiving material, non-public information from our affiliates by maintaining information barriers to prevent the transfer of information between affiliates. (See discussion of our information barriers under Item 11.) Our trading of Prudential Financial common stock for our clients’ portfolios also presents a conflict of interest and, consequently, we do so only when expressly permitted by our clients.

- **Conflicts Related to Co-investment by Affiliates**

From time to time, our affiliates provide initial funding or otherwise invest in vehicles managed by us. When an affiliate provides “seed capital” or other capital for a fund, it may do so with the intention

of redeeming all or part of its interest at a particular future point in time or when it deems that sufficient additional capital has been invested in that fund.

- The timing of redemption by an affiliate could benefit the affiliate. For example, the fund may be more liquid at the time of the affiliate's redemption than it is at times when other investors may wish to withdraw all or part of their interests.
- In addition, a consequence of any withdrawal of a significant amount, including by our affiliate, is that investors remaining in the fund will typically bear a proportionately higher share of fund expenses following the redemption.
- We could also face a conflict if the interests of an affiliated investor in a fund we manage diverge from those of the fund or other investors. For example, certain affiliates may seek to hedge their investments in funds we manage and may seek our advice on the structure of the hedge.

To help mitigate these conflicts, we have procedures in place that include independent reviews by our compliance unit of the allocation and aggregation of trades across all portfolios to verify that a seeded portfolio is not being advantaged over a non-seeded portfolio. We also have procedures to review that all portfolios are rebalanced consistently over time or in response to changing market conditions. Additionally, performance of all accounts within a strategy is reviewed to confirm that differences in performance, if any, resulted from account-specific factors (such as cash flows) and not from differential treatment.

- **Conflicts Related to Our Multi-Asset Class Services**

In performing services for our institutional macromanagement clients, we often assist clients in evaluating investment guidelines and strategies in light of the clients' investment objectives and tolerances. We then allocate assets among investment strategies in accordance with each client's guidelines as well as fulfillment guidance. In these strategies, we intend and expect to allocate assets to investment vehicles that we or our affiliated investment advisers manage; however, where our available vehicles do not include an asset class or strategy desired by the client, we would typically allocate to an unaffiliated third party manager. We also allocate client assets to investment vehicles that invest in affiliated funds. (See description of our macromanagement fees under Item 5.)

To mitigate the conflict of interest of favoring affiliated accounts, macromanagement accounts are managed within guidelines determined by each client and the account performance is reviewed with each client on a periodic basis. Guidelines typically include a pre-determined list of ranges or limits for each asset class. The performance reviews with clients will include a discussion related to the advisory decisions made during the period and the contribution of each asset class as compared to defined benchmarks. Our compliance unit also reviews macromanagement accounts to determine if investments were made outside of established guidelines.

As described above, we also perform asset allocation services as subadviser for affiliated mutual funds managed or co-managed by PGIM Investments. In many cases, under these arrangements, we allocate assets to an asset class within which funds, vehicles or accounts that we directly manage will be selected. In these circumstances, we generally receive both an asset allocation fee and a management fee. As a result, we have an incentive to allocate assets to an asset class or vehicle that we manage in order to increase our fees. Similarly, and also as described above, we provide asset

allocation services to certain funds of funds managed by PRIAC and Pru Trust, and in connection with those services, we can allocate assets to underlying funds that we also manage (and for which we are paid management fees). As in the case of other asset allocation conflicts that we have described, the compliance group reviews the asset allocation to determine that the investments were made within the established guidelines by asset class.

Our affiliates can have an incentive to seek to influence our asset allocation decisions, for example to facilitate hedging or improve profit margins. Through training and the establishment of communication barriers, however, we seek to avoid any influence by our affiliates and implement our asset allocation decisions solely in what we believe to be the best interests of the funds and in compliance with applicable guidelines. We also believe that we make such allocations in a manner consistent with our fiduciary obligations.

- **Conflicts Arising Out of Certain Guaranteed Products Offered by Our Affiliates**

Certain of our affiliates offer annuity products that provide guaranteed benefits. Assets from these products are invested in various commingled vehicles, some of which are subadvised by us. In order to manage the liabilities associated with guaranteed benefits (particularly in times of extreme market volatility), managers of the annuity products, pursuant to pre-determined mathematical formulas, will direct transfers between various commingled portfolios. From time to time, these transfers may result in substantial asset flows. As with any client-directed flow or transfer, our ability to implement the investment strategy of the affected portfolio(s) may be impaired due to the requested timing or amount of the asset flow. We may also be trading for other accounts in similar strategies at the time we are implementing client direction of asset flows or transfers. In these circumstances, we do not favor one account over another and seek to treat all accounts fairly and equitably, applying our policy with respect to aggregation and allocation of trades as necessary or appropriate.

- **Conflicts Related to Our Financial Interests and the Financial Interests of Our Affiliates**

We, Prudential Financial, PICA and other affiliates of ours at times have financial interests in, or relationships with, companies whose securities we hold, purchase or sell in our client accounts. Certain of these interests and relationships are material to us or to the Prudential enterprise. At any time, these interests and relationships could be inconsistent or in potential or actual conflict with positions held or actions taken by us on behalf of our client accounts. For example:

- We invest in the securities of one or more clients for the accounts of other clients.
- Our affiliates sell various products and/or services to certain companies whose securities we purchase and sell for our clients.
- Our affiliates hold public and private debt and equity securities of a large number of issuers. We invest in some of the same issuers for our client accounts but at different levels in the capital structure. For instance, we may invest client assets in the equity of companies whose debt is held by an affiliate.
- Certain of our affiliates (as well as directors of our affiliates) are officers or directors of issuers in which we invest from time to time. These issuers may also be service providers to us or our affiliates.

In general, conflicts related to the financial interests described above are addressed by the fact that we make investment decisions for each client independently considering the best economic interests of such client.

- **Conflicts Related to Investment Consultants**

Many of our clients and prospective clients retain investment consultants (including discretionary investment managers and OCIO providers) to advise them on the selection and review of investment managers (including with respect to the selection of investment funds). We have dealings with these investment consultants in their roles as discretionary managers or non-discretionary advisers to their clients. We also have independent business relationships with investment consultants.

We provide investment consultants with information about accounts that we manage for their clients (and similarly, we provide information about funds in which such clients are invested), in each case pursuant to authorization from the clients. We also provide information regarding our investment strategies to investment consultants, who use that information in connection with searches that they conduct for their clients. We often respond to requests for proposals in connection with those searches.

Other interactions we have with investment consultants include the following:

- we invite investment consultants to events or other entertainment hosted by us;
- we purchase software applications, market data, access to databases, technology services and other products or services from some investment consultants; and
- we may pay for the opportunity to participate in conferences organized by investment consultants.

We will provide you with information about our relationship with investment consultants upon request. In general, we rely on the investment consultant to make the appropriate disclosure to its clients of any conflict that the investment consultant believes to exist due to its business relationships with us.

Please note that your relationship with an investment consultant may result in restrictions in the eligible securities or trading counterparties for your account. For example, accounts of certain clients (including clients that are subject to ERISA) may be restricted from investing in securities issued by the client's consultant or its affiliates and from trading with, or participating in transactions involving, counterparties that are affiliated with the investment consultant.

- **Conflicts Related to Service Providers**

We retain third party advisors and other service providers to provide various services for our firm as well as for funds that we manage or subadvise. A service provider may provide services to us or one of our funds while also providing services to PGIM, other PGIM-advised funds, or affiliates of PGIM, and may negotiate rates in the context of the overall relationship. We may benefit from negotiated fee rates offered to our funds and vice-versa. There is no assurance, however, that we will be able to obtain advantageous fee rates from a given service provider negotiated by our affiliates based on their relationship with the service provider, or that we will know of such negotiated fee rates.

Item 11 – Code of Ethics, Participation of Interest in Client Transactions and Personal Trading

Code of Ethics

We maintain a code of ethics as required by applicable SEC rules. Our code of ethics requires employees to conduct business in an honest and forthright manner in accordance with the highest of ethical standards. In addition, the code of ethics requires employees to put client interests ahead of our own and disclose actual and potential meaningful conflicts of interest. The code of ethics incorporates our information barrier and personal securities trading policies that are described in greater detail below. Our employees are required to report any violation of the code of ethics promptly.

We will provide a copy of our code of ethics to clients or prospective clients upon request.

Information Barrier Policy

QMA's Information Barrier Policy is designed to prevent the communication of material, non- public information across the various Prudential U.S. asset management investment sectors. Under the policy, an employee of one investment sector, including QMA, may not communicate material, non-public information to an employee of another investment sector without approval from each sector's compliance unit. The information barrier policy also restricts physical access to an investment sector's offices by employees of a different investment sector. Additionally, controls have been implemented to identify inadvertent information sharing or misuse of material, non-public information. Exceptions may be granted by QMA's compliance unit and Prudential's chief compliance officer with consideration for mitigating controls.

QMA's compliance unit maintains a restricted list of issuers about which we have material, non- public information as well as securities subject to other firm-wide restrictions. Our trade orders are screened on a pre-trade basis against our restricted list. Investment personnel must receive an override from our compliance unit prior to transacting for client accounts in the securities of any issuers that are restricted in the trading system.

Personal Securities Trading Policy

QMA maintains a personal securities trading policy that governs the trading activities of our employees as well as their household members and dependents. QMA's policy follows Prudential's Personal Securities Trading Standards. All QMA employees are considered access persons and subject to certain limited exceptions, employees are required by the standards to:

- report personal securities transactions to our corporate compliance unit;
- pre-clear personal securities transactions;
- maintain brokerage accounts only with certain approved brokers that report transaction information to our corporate compliance unit;
- annually report securities accounts (including mutual funds) and holdings to our corporate compliance unit;
- subject to a de minimis threshold, refrain from knowingly trading any security on the same day that we trade such security for client accounts (excluding client accounts that replicate a broad-based index); and
- refrain from writing uncovered call options or buying uncovered put options on a security that is also held in a client account.

Our investment personnel are subject to additional restrictions, including the following:

- investment personnel are generally prohibited from purchasing securities in initial public offerings;
- subject to a de minimis threshold, investment personnel are prohibited from trading any security within seven days before or after we trade such security (or an equivalent security) for client accounts (excluding client accounts that replicate a broad-based index);
- investment personnel who invest in proprietary and certain non-proprietary mutual funds must hold such investments for a period of at least 60 days; and
- subject to a de minimis threshold, investment personnel are prohibited from frequent trading on a short-term basis.

We compare personal trading activity versus firm trading and restricted list content as well as the rules listed above, and any matches are investigated by our compliance unit. An ethics committee meets regularly to consider possible violations and take disciplinary action where appropriate.

All employees receive routine training regarding our personal securities trading and information barrier policies. In addition, employees must annually confirm that they have read and understand our code of ethics, including the personal securities trading and information barrier policies and standards.

Gift & Entertainment Policy

Our employees may occasionally give or receive gifts, meals or entertainment of moderate value, subject to compliance with applicable laws and regulations and rules of self-regulatory organizations. QMA has adopted a policy to address the conflicts of interest related to gifts and entertainment, such as the appearance of having given or received something of value that influenced our business decisions or the business decisions of our clients. The policy requires the reporting and preclearance of gifts, meals and entertainment given or received which exceed certain thresholds. In addition, our employees are prohibited from soliciting the receipt of gifts, meals or entertainment. Senior management periodically reviews summaries of gifts and entertainment activity to detect trends of abuse, conflicts of interest, or possible violations of the policy.

Political Contributions

Due to the potential for conflicts of interest, QMA has established policies and procedures relating to political contributions that are designed to comply with applicable federal, state and local law. Under QMA's political contributions policy, all employees (including spouses and dependent children) must obtain preapproval before making any political contribution. This policy also prohibits our employees from making any political contributions with the intent of influencing a public official regarding the award of a contract to QMA.

Compensation of Our Investment Professionals

QMA's investment professionals are compensated through a combination of base salary, a performance-based annual cash incentive bonus and an annual long-term incentive grant. QMA regularly uses third party surveys to compare its compensation program against leading asset management firms to monitor competitiveness.

The salary component is based on market data relative to similar positions within the industry as well as the past performance, years of experience and scope of responsibility of the individual.

An investment professional's incentive compensation, including both the annual cash bonus and long-term incentive grant, is largely driven by such person's contribution to our goal of providing investment performance to clients consistent with portfolio objectives, guidelines and risk parameters, as well as such person's qualitative contributions to the organization.

- **Conflicts Related to Long-Term Compensation**

A portion of the long-term incentive grant of some of our investment professionals will increase or decrease based on the performance of several of our strategies over defined time periods. Consequently, some of our portfolio managers from time to time have financial interests in the accounts they advise. To address potential conflicts related to these financial interests, we have procedures, including supervisory review procedures, designed to verify that each of our accounts is managed in a manner that is consistent with our fiduciary obligations, as well as with the account's investment objectives, investment strategies and restrictions. Specifically, our chief investment officer will perform a comparison of trading costs between accounts in the strategies whose performance is considered in connection with the long-term incentive grant and other accounts, to verify that such costs are consistent with each other or otherwise in line with expectations. The results of the analysis are discussed at a meeting of our Trade Management Oversight Committee.

Conflicts Related to Our Trading

- **Personal Trading by Our Employees**

Personal trading by our employees creates a conflict when they are trading the same securities or types of securities as we trade on behalf of our clients. This conflict is mitigated by our personal trading policy and procedures, described above.

- **Side-by-side Management of Accounts**

See Item 6 for a description of conflicts of interest related to our side-by-side management of accounts.

Conflicts Related to the Offer and Sale of Securities

Certain of our employees offer and sell securities of, and interests in, commingled funds that we manage or that are managed by QMAW. Employees offer and sell securities in connection with their roles as registered representatives of PIMS, officers of Pru Trust, agents of PICA, approved persons of PGIM Limited or QMAW, associated persons of the NFA or other roles related to such commingled funds. (See discussion of these affiliations in Item 10.) There is an incentive for our employees to offer these securities to investors regardless of whether the investment is appropriate for such investor since increased assets in these vehicles will result in increased advisory fees to us. In addition, although sales commissions are not paid for such activities, such sales could result in increased compensation to the employee. To mitigate this conflict, QMA performs suitability checks on new clients as well as on an annual basis with respect to all clients. (See "Other Compensation" in Item 5.)

Conflicts Related to Outside Business Activity

From time to time, certain of our employees or officers engage in outside business activities, including outside directorships. Any outside business activity is subject to prior approval pursuant to our personal conflicts of interest and outside business activities policy. Actual and potential conflicts of interest are analyzed during such approval process. We could be restricted in trading the securities of certain issuers in client portfolios in the unlikely event that an employee or officer, as a result of outside business activity, obtains material, nonpublic information regarding an issuer.

Item 12 – Brokerage Practices

Factors Used in Selecting or Recommending Broker-Dealers Approved Counterparty List

Transactions for client accounts must be made through brokers (including prime brokers), futures commission merchants and other counterparties (for example, swap counterparties) on our approved counterparty list.

Counterparties are approved by our chief investment officer. In selecting a counterparty for a particular transaction, we consider factors such as the following:

- the nature of the portfolio transaction;
- the size of the transaction;
- the desired timing of the trade;
- financial and operational stability (including, but not limited to, profitability, liquidity, capital, financial metrics, economic factors, size, market presence and reputation);
- execution, clearance and settlement capabilities;
- commission rates (if applicable) and other transaction costs;
- the activity existing and expected in the market for the particular transaction;
- confidentiality – i.e., not revealing details about our trades or trading patterns with other brokers or market participants;
- the amount of capital, if any, that would be contributed by firms executing the transaction;
- administrative cooperation; and
- client or regulatory restrictions on use of certain counterparties.

A prime brokerage relationship is one in which services such as securities lending, leveraged trade execution and cash management are provided. At QMA, prime brokerage services are integral for investment strategies that require short sales of equity securities. Specific criteria for prime broker selection and approval include depth of shorting availability, strong knowledge of local shorting laws and regular shorting costs updates.

Monitoring of certain counterparties is performed on an ongoing basis by reviewing specific credit metrics such as credit spread and credit rating. Our chief investment officer and head of trading review the metrics to assess potential exposures. Other non-credit metrics reviewed by our risk management function include stock price and collateral posting activity.

Our compliance group maintains the approved counterparty list. In some cases, we set dollar exposure limits on a net basis for a counterparty. Class types and corresponding dollar limits are directly related to the risk of the transaction, transaction collateral and our opinion regarding the creditworthiness of the counterparty. We analyze the financial and operational stability of approved counterparties, and consider new proposed counterparties from time to time. We may add or remove counterparties from our approved list based on this ongoing review. Our Trade Management Oversight Committee, which meets periodically, reviews and assesses counterparty usage data, patterns (if any) relating to counterparty use, and other information relevant to our counterparty selection process.

Execution of Trades

We seek to execute transactions in client accounts at the most advantageous terms reasonably attainable in the circumstances. The applicability and importance of the factors that we consider in selecting or recommending counterparties will vary based on, among other things, the size, timing and nature of the transaction, the market in which it occurs, the number of counterparties capable of executing the transaction, the liquidity and other characteristics of the securities being traded and market conditions. Transactions may not always be executed at the best price available due to the consideration of relevant factors other than price, and our clients may pay commission costs in excess of those which another firm might have charged for executing the same transaction.

We use agency (including algorithmic) and principal techniques to trade equity securities. Our determination of whether to trade securities on an agency or principal basis takes into account various factors including market volatility, liquidity and the judgment of the trading team. When we trade securities on an agency basis, we pay only a brokerage commission but assume the risk of market price fluctuations in the securities prior to the time the trade is executed. When we trade on a principal basis, the broker will commit to a price on a basket of securities and will assume the risk of the market movement; however, to compensate the broker for assuming this risk, we negotiate and pay a risk premium, or dealer spread, for each principal trade. We conduct periodic reviews of the brokerage allocation among firms and the commissions and spreads that clients are charged.

We execute foreign currency (FX) transactions in client accounts that use international trading strategies. We use FX primarily for the purpose of settling transactions in non-U.S. markets using local currency and repatriation of cash or dividends. In certain strategies, we take active long and short positions in foreign currencies and currency forwards to help meet the strategies' objectives. We manage FX transactions through our approved counterparties or our clients' custodians. When we use approved counterparties, we primarily execute FX through an electronic system that seeks timely execution at a current quoted market exchange rate, and we receive real-time execution confirmations that enable us to compare the execution prices we have paid to the market at that time. We also place orders directly (manually) with counterparties. We will execute FX transactions through client custodians when directed by a client or when local market rules or settlement practices indicate this to be a required or more efficient method for settling our equity trade orders. When we execute through custodians at the direction of a client, our execution is generally subject to the limitations and considerations described below under "Directed Brokerage." Our traders and portfolio managers review FX transaction prices and executions taking into account factors such as available market quotations, liquidity, capability of our counterparties and local rules and practices.

Cross-Trades

Cross-trades involve the transfer, sale or purchase of assets from one client to another client without the use of a broker-dealer to effect the trades. We may (but are not obligated to) engage in cross-trading to the extent permissible under applicable law and our agreement with the client, if we determine that such action would be beneficial to both clients and the conditions for the transaction are fair to both parties. Upon a client request or direction, we may also engage in trades between two accounts owned by the same client or by affiliated clients using a broker-dealer to effect the trades.

Soft Dollars and Research Services

We do not enter into arrangements whereby brokerage business is promised in exchange for services, information or other benefits (e.g., soft dollars or soft commissions).

We receive a broad range of information and data from broker-dealers and other counterparties, including information on the economy, industries, groups of securities and individual companies, statistical information, market data, information regarding political developments, pricing and appraisal services, credit analysis, risk measurement analysis, performance analysis and other information regarding matters that may affect the economy and/or security prices. We may receive written reports, periodicals, investment seminars, software, hardware, access to databases, dedicated phone lines to be used to communicate trades, and electronic access to, and telephone contacts and personal meetings with, economists and industry participants.

We use the information, data, services and other items referenced above in connection with our investment activities. Information, data, services and other items that we consider in connection with the execution of transactions for one client account may be used in managing other accounts, including the accounts of affiliates.

We do not consider the receipt of such information, data, services or other items in connection with our selection or evaluation of counterparties to execute trades.

Changes Related to MiFID II

The European Unions' Markets in Financial Instruments Directive II ("MiFID II") provides that investment advisers registered in the European Union may receive investment research provided by third parties only if certain requirements are met. As a U.S. registered investment adviser, and as a firm not authorized with the FCA in the UK or any other European regulator, QMA is not directly subject to the requirements imposed by MiFID II and will continue to follow U.S. practices regarding the payment for broker research for registered investment advisers.

Brokerage for Client Referrals

In selecting or recommending counterparties, we do not consider whether we or any of our related persons receive referrals from such counterparties or any other third parties.

Our Relationships with Trading Counterparties

Our relationships with broker-dealers and other counterparties, particularly those affiliated with large financial services organizations, are complex. These relationships with trading counterparties include the following:

- We invest client assets in securities issued by trading counterparties or their affiliates;
- We provide investment management services with respect to the accounts of certain trading counterparties or their affiliates;
- Trading counterparties or their affiliates select us to manage accounts of their clients and invest assets of their clients in funds we manage;
- Trading counterparties distribute funds we manage or subadvise and such funds may be included on the investment platforms of trading counterparties;

- Broker-dealers serve as prime brokers to funds we manage;
- Trading counterparties provide both internally generated and third-party research to us (as described above, however, we do not receive such research pursuant to an arrangement or agreement to exchange brokerage business for services or benefits and such research is not considered to be obtained using soft dollars); and
- Family members of some of our personnel may be employed by trading counterparties or their affiliates.

All of these relationships pose the potential for a conflict in the selection of counterparties to execute client transactions.

Directed Brokerage

We do not recommend, request or require that clients direct us to execute transactions through a specified counterparty. We do permit clients to direct the use of a particular counterparty for their account. Any such direction must be in writing or evidenced in our clients' contracts with the counterparty. We also accommodate arrangements certain clients have with brokers under which the clients recapture a portion of the commissions paid to such brokers. If a client directs us to use a particular counterparty:

- we may or may not be able to negotiate commission rates on its behalf and, as a result, the client may pay higher commissions, depending on its arrangements with the counterparty, and upon other factors such as the trading volume, the market for the security and market-making capabilities of that particular counterparty;
- the client may lose the possible advantage which non-directing clients derive from the aggregation of orders for multiple clients as a single "batch" transaction, where we would, in some instances, be in a better position to negotiate commissions if the brokerage were not directed;
- the client would be responsible for monitoring the creditworthiness of the counterparties it has selected; and
- in an arrangement a client has with a broker to recapture a portion of the commissions paid to such broker, the client may not receive best execution and, if execution costs do increase, the commissions the client recaptures may be less than the additional execution costs.

ERISA accounts may be subject to additional requirements and restrictions with respect to directed brokerage.

Clients should evaluate the relative costs, advantages and disadvantages to them of directed brokerage when considering whether or not to direct us to use one or more specific counterparties. Similar considerations apply in instances where a client restricts the universe of eligible trading counterparties pursuant to investment guidelines or otherwise.

Trade Aggregation and Allocation

- **Our Allocation Policy**
Our policy is that all clients must receive fair and equitable treatment in the allocation of securities transactions. Our general practice is that all orders will be allocated at the time of the transaction, or

as soon as possible thereafter, on a basis equal to each account's appetite for the issue, including affiliated accounts. Order allocation is not based upon account performance, fee structure, or any proprietary interest that we or our affiliates may have in an account.

Supervisors or their delegates who review trading activity are responsible for reasonably ascertaining that allocations are in compliance with the policy.

Index and quantitatively managed portfolios often trade multiple securities, or "basket" trades. Individual trade orders or orders consisting of baskets of securities may be executed separately or aggregated across a number of accounts when, in our reasonable judgment, aggregation may result in overall economic benefit to those accounts in terms of pricing and/or transaction costs.

- **Allocation of Derivatives**

From time to time we seek to enter a single derivatives order for multiple client accounts that are traded side-by-side. This is commonly referred to as a "block order." Block orders may result in "split fills" (an execution of a block order at more than one price) or "partial fills" (an execution of a block order at less than specified quantities). We allocate block orders and any resulting split and/or partial fills in a non-preferential, predetermined and objective manner.

- **Extended / Shortened Settlements**

From time to time we look to shorten the settlement of our equity trades in order to meet the demands of client cash flows. Additionally, for non-US trading we may extend or shorten the settlements for certain markets in order to effectively manage cash.

Our Trade Error Policy

We maintain a trading and operational errors correction policy that requires all errors covered under the policy to be corrected in a manner that is fair and reasonable. In the event of a loss in a client account resulting from an error for which we have concluded we are responsible, we will determine the amount of the loss, reimburse the client account and notify the client of the error. Not all mistakes or other issues will be considered errors under the policy, and not all errors will be considered compensable to, or reportable to, the client.

An error may result in a gain or a loss to an account or accounts. Unless prohibited by applicable regulation or agreement with the client, we may net the client's gains and losses under circumstances that include, without limitation, where more than one transaction must be effected to correct an error (e.g., unwinding both components of a relative value trade), or there occurs a series of related errors with the same root cause. The calculation of the amount of any net impact will depend on the facts and circumstances of an error, and the calculation methodology may vary. In some cases, the net impact will be as simple as the difference between the security purchase and sale prices. With respect to, for example, more complex errors or those continuing over a longer period of time, we may consider, among other factors, the performance during the period of the account, the account's benchmark, comparable securities and/or the industry in which the security is included. Reimbursement is generally limited to direct losses and does not include any amounts we determine to be speculative or uncertain or that would result in an undue performance gain, or windfall.

To avoid potential errors in client accounts, our policy permits trades, where appropriate, to be cancelled or modified prior to settlement. In addition, our policy provides that a transaction in one client's account may be avoided through reallocation, prior to settlement, to another client's account, subject to certain conditions.

Clients will not be notified if an error in their account is avoided through cancellation, modification or reallocation.

From time to time we are required to evaluate facts and circumstances relating to our models or modeling processes. Errors may occur in the programming or implementation of investment models or other models that are applied to client accounts. When such errors are identified, we seek to understand the cause and determine the impact of the coding error. In certain cases, coding errors may not significantly impact the overall objective of the model or the investment strategy and will not be compensable to the client. Certain data received from external sources are inputs to our models and/or other investment processes. Issues resulting from inaccuracies in data received from external sources will generally not be considered errors.

Other Matters Related to Account Transactions

- **Trading Ahead of Cash Settlement**

We are not required to invest cash flows in client accounts prior to confirmation that the cash has been received by the client's custodian. We may, in our discretion and at the request of our clients, choose to invest cash prior to such settlement so long as the client provides adequate assurances that the cash will be received by its custodian prior to the settlement date for the investment. Any losses or other costs incurred as a result of the failure to deliver cash by the date specified in our client's instruction will be the responsibility of the client.

Master Trading Agreements for Derivatives

- **General**

Certain investment strategies that we manage utilize derivatives such as swaps, futures and options. These types of transactions typically require the negotiation of an agreement with one or more counterparties (for example, ISDA master agreements and customer agreements with futures commission merchants (collectively, "Master Agreements")). These agreements are typically executed by our clients.

- **Timing**

Counterparties to Master Agreements generally require credit approval and the satisfaction of other due diligence requirements prior to executing a new agreement or adding a new account to an existing Master Agreement. This can be a lengthy approval process that typically does not begin until a client's investment management agreement is signed and delivered to the counterparty. Clients may receive requests for information for the counterparties. Any failure to provide the requested information in a timely manner can result in a delay in the launch of client accounts or delay in the ability to transact in derivatives for the account.

Item 13 – Review of Accounts

Periodic Review of Client Accounts by the Investment Teams

- **Asset Management Accounts in General**

Our investment strategies are generally team-managed. This approach seeks to bring to the review process the benefit of multiple perspectives and facilitates the comparison of accounts managed in the same strategy to verify that accounts are being treated fairly and equitably.

Team members from each strategy meet daily to discuss such topics as the output from the investment models, the results of trading, and the performance of client accounts, and to discuss new or ongoing issues and exchange ideas. Our chief investment officer and investment unit supervisors also have responsibility for reviewing client accounts on a periodic basis and providing oversight of their investment teams.

- **Commingled Vehicles**

Some of our assets under management are held in registered investment companies, collective investment trusts and other pooled investment funds that we subadvise. In these subadvised accounts, we and the investment portfolios we manage are subject to the oversight of the investment manager for the account, in addition to oversight by the boards of directors, plan trustees or investment committees of each account, as applicable. The account managers typically perform a periodic, onsite due diligence of our investment process, operations and compliance procedures.

- **Certain Asset Allocation Accounts**

With respect to asset allocation services for our macromanagement clients, a primary portfolio manager may be assigned to an account. The portfolio manager makes active allocation and reallocation decisions for the account and also reviews allocations to verify that they are consistent with the guidelines established by each client. A senior investment professional on the asset allocation team reviews these client accounts on a regular basis to compare the performance of the accounts to their benchmarks.

Additional Ongoing Review of Accounts

Control functions such as our compliance team also review and assess data and processes relating to our management and trading. They report results of these analyses independently to our senior management. Some examples of these independent reviews include:

- daily pre-trade compliance review of proposed transactions to verify consistency with guidelines and restrictions;
- daily post-trade compliance review of any exceptions to client guidelines;
- monthly review of account performance to verify that performance by accounts within a particular strategy is consistent;
- periodic review of trading to examine allocation, trade errors and timing; and
- periodic review by oversight committees regarding our investment management, trading and related activities.

Our oversight committees mentioned above include our:

- Trade Management Oversight Committee,

- Risk Management Committee,
- Pricing Committee, and
- Proxy Committee.

Reports to Clients

We provide written reports regularly to all of our clients regarding their accounts. In most cases, we furnish these reports quarterly, but may provide some reports monthly or annually. Our reports generally include:

- A list of transactions in the account during the applicable period,
- A list of holdings in the account with the aggregate cost and market value as of the last business day of the applicable period, and
- A calculation of the account's return.

In addition, our reports typically include current and historical performance returns versus benchmark, sector summary, performance attribution, and portfolio characteristics versus benchmark. We typically provide these reports by the tenth business day following month/quarter end.

Additionally, some of our clients receive commentaries in which our investment professionals discuss the general performance of the strategy during the preceding period. They describe economic and market conditions that may have influenced performance, as well as other factors, such as particular industry, sector, security or other weightings. Clients may also request reports pertaining to QMA's compliance with contractual investment guidelines.

We understand that our clients may have varying requirements to complete their due diligence and ongoing monitoring programs, and we work with them to provide the necessary information.



Item 14 – Client Referrals and Other Compensation

Other than information and services described in Item 12 under “Soft Dollars and Research Services,” we do not receive economic benefits from anyone who is not a client in connection with the advisory services we provide to our clients.

From time to time, we have arrangements where we compensate, either directly or indirectly, affiliated and/or unaffiliated solicitors for client referrals. The manner and amount of compensation would typically be negotiated on a case by-case basis. We do not currently have any solicitation arrangements with unaffiliated solicitors.

Item 15 – Custody

We do not take physical custody of the assets of our clients. Client assets are held in custodial accounts with banks, broker-dealers or other qualified custodians typically retained by our clients under arrangements negotiated by them. Although we do not have possession of client assets, when our clients permit us to deduct our management fees directly from their custodial accounts, the SEC nevertheless deems us to have custody over the assets of those clients. There are certain other circumstances under which the SEC may deem us to have custody of client assets as well.

A client's custody agreement with its custodian may contain authorizations with respect to the transfer of client funds or securities broader than those in the client's written investment management agreement with QMA. In these circumstances, QMA's authority is limited to the authority set forth in the client's written investment management agreement with QMA regardless of any broader authorization in the client's custody agreement with its qualified custodian. The custodian's monitoring, if any, of the client's account is governed by the client's relationship with its custodian.

Our clients will receive account statements from their custodians no less frequently than quarterly, and should carefully review those statements. Where our fees are deducted from the client's custodial account, the statements will show those deductions, among other information. As described in Item 13 above under "Review of Accounts: Reports to Clients," we also generally provide reports to our clients. Some of the types of information we provide in those reports are comparable to information in the account statements clients receive from their custodians. We urge our clients to compare the account statements they receive from their qualified custodians with reports that they receive from us.

Item 16 – Investment Discretion

We typically have the discretionary authority to purchase and sell assets for client accounts. This authority is granted pursuant to a written investment management or similar agreement between the client and QMA.

Our discretionary authority to manage client accounts is in all cases subject to the specific objectives, guidelines and limitations set forth in the investment management agreement or similar agreement.

Investment guidelines generally set forth the universe of eligible investments and issuers. As noted in Item 4 above, guidelines may also contain restrictions or limitations such as the following:

- a list of prohibited issuers or types of issuers;
- percentage limitations regarding the investment in certain issuers, groups of issuers or asset classes;
- percentage limitations regarding deviation from the holdings of the account's benchmark; and
- percentage limitations on outstanding voting shares of a company held in the account.

Certain regulated clients, such as U.S. mutual funds, UCITS and ERISA accounts, are subject to additional investment, diversification and other limitations imposed by applicable law.

Item 17 – Voting Client Securities

In General

We accept the authority to vote securities held in our clients' accounts when our clients wish to provide us with this authority. Our investment management agreements with our clients will generally specify whether or not we have the authority to vote proxies on their behalf.

Our Proxy Voting Policy and Procedures

Our policy is to vote proxies in the best long-term economic interests of our clients (i.e., the mutual interest of clients in seeing the appreciation in value of a common investment over time). In the case of pooled accounts, our policy is to vote proxies in the best long-term economic interest of the pooled account.

Our proxy voting policy contains detailed voting guidelines on a wide variety of issues commonly voted upon by shareholders. These guidelines reflect our judgment of how to further the best long-term economic interest of our clients through the shareholder voting process. They also reflect our general philosophy on corporate governance matters and our approach to governance and other issues that may often arise when voting ballots on the various securities held in client accounts. Our guidelines are not intended to limit the analysis of individual issues at specific companies nor do they indicate how we will vote in every instance. Rather, they express our views about various ballot issues generally, and provide insight into how we typically approach such issues. We may consider ESG factors in our voting decisions.

From time to time, ballot issues arise that are not addressed by our policy, or circumstances may suggest a vote not in accordance with our established guidelines. In these cases, our voting decisions are made on a case-by-case basis taking into consideration the potential economic impact of the proposal, as well as any circumstances that may result in restrictions on trading the security. Case-by-case, or manual, evaluation of a ballot item entails consideration of various, specific factors as they relate to a particular issuer and/or proposed action. For example, when performing manual evaluation of a ballot item relating to executive compensation (which will generally occur if QMA receives research suggesting a vote "against" the item), we consider such factors as stock performance, financial position and compensation practices of the issuer relative to its peers, change in control, tax gross-up and clawback policies of the issuer, pay inequality and other corporate practices, although not all factors may be relevant or of equal significance to a specific matter. With respect to contested meetings, which we always vote on a case-by-case basis, we consider research provided by QMA's proxy advisor as well as other sources of information available in the marketplace, in order to understand the issues on both sides of the contest and determine our view. With respect to mergers and acquisitions, we consider whether a fairness opinion as to valuation has been obtained.

Not all ballots are received by QMA in advance of voting deadlines, but when ballots are received in a timely fashion, we strive to meet our voting obligations. We cannot, however, guarantee that every proxy will be voted prior to its deadline.

With respect to non-U.S. holdings, we take into account additional restrictions in some countries that might impair our ability to trade those securities or have other potentially adverse economic consequences. Further, we may be unable to vote proxies in countries where clients or their custodians do not have the ability to cast votes due to lack of documentation or operational capacity, or otherwise. We generally vote non-U.S. securities on a best efforts basis if we determine that voting is in the best economic interest of our clients.

We currently use the services of a third party proxy voting advisor and have directed the proxy advisor, upon receipt of proxies, to vote in a manner consistent with our established proxy voting guidelines described above (assuming timely receipt of proxy materials from issuers and custodians). Our proxy advisor also makes available analyses of ballot issues and voting recommendations to its clients. QMA's voting guidelines include instructions to vote certain ballot issues consistent with recommendations made by the proxy advisor. In these cases, QMA periodically assesses the consistency of its view with that of the proxy advisor and retains ultimate responsibility for the voting decision. We conduct regular due diligence on our proxy advisor.

Our Proxy Voting Committee includes representatives of our Investment, Operations, Compliance, Risk and Legal teams. This committee is responsible for interpreting our proxy voting policy, identifying conflicts of interest, and periodically assessing the effectiveness of our policy and procedures. The committee also oversees the services provided by our proxy advisor by reviewing management reports and performing periodic reviews of the proxy advisor.

We provide disclosure of our proxy voting policy, guidelines and procedures to our clients who authorize us to vote proxies, generally at the time that we are negotiating our investment management agreement. Any client may obtain a copy of these items, as well as the proxy voting records for that client's securities, by contacting the client service representative responsible for the client's account.

Note with Respect to the Voting of Certain Securities

Some of our clients may participate in securities lending programs in their accounts. We do not control or participate in any way in these programs and cannot vote securities that are out of our clients' portfolios on loan or are otherwise excluded from voting privileges. We generally do not recall securities out on loan for the purpose of voting proxies.

Conflicts of Interest in the Voting Process

Occasionally, a conflict of interest may arise in connection with proxy voting. For example, the issuer of the securities being voted may also be a client or affiliate of ours. When we identify an actual or potential conflict of interest between our firm and our clients or affiliates, we vote in accordance with the policy of our proxy advisor rather than our own policy. In that manner, we seek to maintain the independence and objectivity of the vote.

Client Direction of Voting

Although most of our clients for whom we vote proxies authorize us to vote in accordance with our proxy voting policy, a client may request that we vote its proxies in accordance with a different policy. We try to accommodate such requests. In addition, a client may direct us to vote its securities in a particular way on a particular proposal and we will seek to do so, assuming timely receipt of the instruction. However, if the ballot pertains to the client's own meeting, the ballot will be voted in accordance with our third party proxy advisor's policy. (See "Conflicts of Interest in the Voting Process" immediately above.)

Accounts for Which We Do Not Vote Securities

Some of our clients elect to retain voting authority for themselves. Those clients receive proxies and other solicitation materials from their custodians, and if we receive these materials for the account of such a client,

we will forward them to the client's custodian. If a client has a question about a particular solicitation, the client may contact its client service representative and we will try to address the client's question. We will not, however, disclose how we intend to vote on an issue for other clients' accounts unless our disclosure would be consistently provided to all clients in routine communications.

Class Actions/Litigation

In addition to voting rights with respect to securities held in our clients' portfolios, there may be other rights associated with those securities, including the right or opportunity to participate in class actions.

Unless otherwise agreed with our clients, we do not take any action with respect to class action lawsuits relating to securities held, or formerly held, in their portfolios while managed by us. Where we have agreed to take action, our responsibilities are generally limited to filing proofs of claim for class action lawsuits in the U.S. Other clients may have their custodians handle proofs of claim or may handle such matters themselves.

If we handle proofs of claim filings for a client, we will generally use our best efforts to file such notices in U.S. class action lawsuits in which the client is eligible to participate. In so doing, we will not inquire into the particular circumstances of any client, and largely act in an administrative capacity to permit the client to participate in the recovery of proceeds that have been awarded to the class. As a result, we will not seek to determine on an individual basis whether facts and circumstances relevant to that client would suggest that non-participation in the class action is appropriate or more advantageous to that client. For example, a client on whose behalf a proof of claim is filed may, as a result of having joined the class, waive or relinquish other claims that it may have against the target of the class action. The client may also have an interest or position with respect to the nature of the class action claim that is adverse to that of the class of plaintiffs. We would generally not be aware of those circumstances. Had the client elected to handle class action lawsuits for itself, it might have determined not to file the proof of claim in such a class action.

Unlike the U.S. class action process, investors are generally required to join non-U.S. actions as named plaintiffs or to "opt-in" at commencement of the lawsuit. This "opt-in" process usually requires an affirmative decision to join the lawsuit at an early stage in order to participate in any subsequent recovery of proceeds. The investor is also usually required to enter into one or more legal contracts for retention of counsel, funding arrangements and limitations of liability. We do not provide any legal advice or analysis, so we generally do not handle non-U.S. class actions for our clients. In addition, we generally do not act on behalf of our unaffiliated clients as a lead plaintiff in a class action lawsuit or as a plaintiff in any potential direct action.

Corporate Actions

In addition to voting rights and class actions, investors from time to time have the right to participate in corporate actions in relation to securities that they hold, such as an issuer's merger, tender offer, or dividend distribution. We typically participate in corporate actions on behalf of clients unless instructed otherwise, taking such action as we deem to be in the best interest of the clients' accounts and consistent with the investment strategy and objectives.

Item 18 – Financial Information

We have no financial commitment that impairs our ability to meet contractual and fiduciary commitments to our clients.

Note to clients subject to ERISA:

This brochure is being provided for informational purposes. In providing this brochure, QMA (i) is not acting as your fiduciary as defined by the Department of Labor and is not giving advice in a fiduciary capacity and (ii) is not undertaking to provide impartial investment advice as QMA will receive compensation for its investment management services.

Appendix A – Representative Fee Schedules by Strategy

The below representative fee schedules assume a single client account portfolio with standard reporting, servicing and portfolio management requirements and are subject to change and negotiation. Actual advisory fees charged vary by account due to various factors as described in Item 5.

Strategy Classification	Stated Fee Schedule
US Market Participation Strategy	30 bps first \$50 mm; 25 bps thereafter
Diversified Multi Asset Growth Strategy	65 bps
Global Equity Opportunities	65 bps first \$50 mm; 60 bps next \$50 mm; 55 bps thereafter
Global Macro Strategy	95 bps
International Equity Opportunities	65 bps first \$50 mm; 60 bps next \$50 mm; 55 bps thereafter
Emerging Markets All Cap Equity	75 bps first \$50 mm; 70 bps next \$50 mm; 65 bps thereafter
Emerging Markets Core Equity	65 bps first \$50 mm; 60 bps next \$50 mm; 55 bps thereafter
Emerging Markets Small Cap Equity	100 bps \$50 mm; 95 bps next \$50 mm; 90 bps thereafter
Global Core Equity (MSCI World Index)	45 bps first \$50 mm; 40 bps next \$50 mm; 35 bps thereafter
International All Cap Equity	65 bps first \$50 mm; 60 bps next \$50mm; 55 bps thereafter
International Core Equity	55 bps first \$50 mm; 50 bps next \$50 mm; 45 thereafter
International Equity	65 bps first \$50 mm; 60 bps next \$50mm; 55 bps thereafter
International Small Cap Equity	85 bps first \$50 mm; 80 bps next \$50 mm; 75 bps thereafter
Japan Equity	65 bps first \$50 mm; 60 bps next \$50mm; 55 bps thereafter



Pacific Basin Core Equity	60 bps first \$50 mm; 55 bps next \$50mm; 50 bps thereafter
US All Cap Core Equity	35 bps first \$50 mm; 30 bps next \$50 mm; 25 bps thereafter
US Core Equity	35 bps first \$50 mm; 30 bps next \$50 mm; 25 bps thereafter
US Core Equity Extended	65 bps first \$50 mm; 60 bps next \$50 mm; 55 bps thereafter
US Large Cap Core Equity	35 bps for first \$50 mm; 30 bps next \$50 mm; 25 bps thereafter
US Long Short Equity	70 bps
US Market Neutral	100 bps
US Mid Cap Core Equity	55 bps first \$25 mm; 50 bps next \$75 mm; 45 thereafter
US Small Cap Core Equity	65 bps first \$50 mm; 60 bps next \$50 mm; 55 bps thereafter
US Small Company Core Equity	65 bps first \$50 mm; 60 bps next \$50 mm; 55 bps thereafter
US SMID Cap Core Equity	60 bps first \$50 mm; 55 bps next \$50 mm; 50 bps thereafter
Large Cap Value Equity	55 bps first \$50 mm; 50 bps next \$50 mm; 45 thereafter
Mid Cap Value Equity	65 bps first \$50 mm; 60 bps next \$50 mm; 55 bps thereafter
Small Cap Value Equity	75 bps first \$50 mm; 70 bps next \$50 mm; 65 bps thereafter
Value Equity	50 bps first \$25 mm; 40 bps thereafter
Small Cap Growth	75 bps first \$50 mm; 70 bps next \$50 mm; 65 bps thereafter