



# PanAgora

This brochure provides information about the qualifications and business practices of PanAgora Asset Management, Inc. ("PanAgora"). If you have any questions about the contents of this brochure, please contact us at 1-617-439-6300 or [complianceofficer@panagora.com](mailto:complianceofficer@panagora.com). The information in this brochure has not been approved or verified by the United States Securities and Exchange Commission ("SEC") or by any state securities authority.

Additional information about PanAgora also is available on the SEC's website at [www.adviserinfo.sec.gov](http://www.adviserinfo.sec.gov).

The status of registered investment adviser does not imply a level of skill or training.

**March 30, 2020**

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## Item 2 -- Material Changes

Item 2 includes only material changes from the date of the last brochure of PanAgora, which was filed on March 28, 2019. Since the date of the last brochure, PanAgora has updated the brochure to incorporate the following material changes:

- Item 8: enhanced and updated discussion of methods of analysis, investment strategies and risk of loss to contemplate PanAgora's existing practices and recent developments
- Item 17: enhanced and updated discussion of oversight of proxy voting agent to reflect PanAgora's existing practices in this regard

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## Item 4 -- Advisory Business

PanAgora is a Delaware corporation that maintains its headquarters and investment advisory operations in Boston, Massachusetts. Organized in 1985 and incorporated in 1989, PanAgora is registered with the SEC as an investment adviser under the Investment Advisers Act of 1940, as amended (the “Advisers Act”). PanAgora also is registered as a Commodity Pool Operator (“CPO”), Commodity Trading Advisor (“CTA”) and Swap Firm with the Commodity Futures Trading Commission (the “CFTC”) and is a member of the National Futures Association (“NFA”). The voting interests in PanAgora are indirectly owned by Power Corporation of Canada (through a series of subsidiaries, including Great West Lifeco Inc. and Putnam Investments, LLC (“Putnam”)). In addition, certain PanAgora employees own non-voting interests in PanAgora. Assuming all employee stock and options are issued and exercised, up to 20% of the economic interest in PanAgora may be owned by PanAgora employees.

PanAgora is the sponsor and investment manager for certain private unregistered investment pools, including funds organized under U.S. tax-qualified group trusts (the “Group Trusts”), domestic private funds organized as limited liability companies, and offshore private funds organized as Cayman Islands exempted companies. PanAgora also provides investment advisory services to institutional separate account clients.

PanAgora utilizes broad investment capabilities across global regions, risk levels, and asset classes, including risk efficient, multi-asset, absolute return and active equity strategies. PanAgora’s investment philosophy is based on the belief that significant inefficiencies exist in the global capital markets, and that a structured investment process offers the best way to exploit these inefficiencies.

PanAgora’s investment process merges traditional investment theory with quantitative techniques — investment theory and portfolio manager experience serve as a foundation for all investment strategies, while quantitative techniques verify, refine, and apply those ideas to the portfolio management process.

PanAgora works directly with its clients to help them determine the most appropriate investment program for them using PanAgora’s various investment tools and expertise. To the extent a client retains PanAgora to provide investment advisory services for a separately managed account, the client may impose specific investment restrictions on that account with respect to investing in securities or certain types of securities.

Please see Item 8 for further information about PanAgora’s investment strategies.

PanAgora’s assets under management were approximately \$43.5 billion as of December 31, 2019. As of that date, approximately \$43.2 billion was managed on a discretionary basis and approximately \$0.3 billion was managed on a non-discretionary basis.

## Item 5 -- Fees and Compensation

PanAgora will only be delivering this brochure to clients that are “qualified purchasers” as defined in section 2(a)(51)(A) of the Investment Company Act of 1940, as amended (the “1940 Act”).

PanAgora’s compensation for its investment advisory services is negotiable and is generally based on the market value (or notional value, when applicable) of a client’s account at specified month/quarter ends. Most of PanAgora’s clients are billed by PanAgora for fees incurred, although clients may direct PanAgora to deduct fees from the client’s account. PanAgora works with its clients to determine the most appropriate method of payment.

Funds and client accounts also incur custody, brokerage and other transactions fees. Additionally, participants in funds managed by PanAgora may incur their own transaction costs, as described in each fund’s offering materials. Please see Item 12 for more information about PanAgora’s brokerage practices.

Whenever possible, vendor and professional service provider expense invoices are issued, specifically, to the applicable fund. If a vendor or professional service provider expense invoice is issued to more than one fund, or to PanAgora, expenses related to multiple funds shall be allocated among the funds equally. Investment-related expenses among a fund, one or more other funds or separate accounts, shall be allocated among such funds and separate accounts pro rata based on investment participation. Other expense allocations, including any deviation from the principles above or the allocation of expenses to PanAgora and to one or more funds, shall be approved by PanAgora’s Private Fund Oversight Committee.

For billing purposes, the market values of clients’ accounts will generally be determined using an independent third party service provider, unless PanAgora and the client agree on an alternative source. Unless otherwise agreed upon between PanAgora and a client, PanAgora calculates the market values of client accounts using the average monthly net assets of such accounts.

If any advisory relationship terminates at a time other than the end of the specified period used to determine the market value of the account for the purposes of calculating compensation (e.g., monthly/quarterly), fees will be prorated and an adjustment will be made by PanAgora, unless a different agreement was made with the client.

From time to time, certain private funds may enter into so-called “side letters” with certain investors, that may provide for investment terms that may be more favorable to the terms described in the applicable fund’s offering materials. Such terms may include, among other things, differing fee rates and/or the waiver of fees. PanAgora will not enter into any side letter arrangement that is inconsistent with its fiduciary duties to other investors in a private fund.

## Item 6 -- Performance Fees and Side by Side Management

Special fee arrangements may be negotiated with some clients and private fund investors. PanAgora may, from time to time, enter into performance-based fee arrangements with certain clients in accordance with the conditions and requirements of Rule 205-3 under the Advisers Act. While such performance fee arrangements will be negotiated with each client and thus the terms vary, they typically provide for a management fee comprised of a base fee plus a performance fee. Base fees are generally billed periodically (e.g., monthly or quarterly) and are typically calculated by determining the average market value of the portfolio over the defined period and multiplying that by the effective fee stipulated in the investment advisory agreement. Performance fees are based on the portfolio return for the relevant period (e.g., annual) relative to a designated market or customized index return. If a portfolio outperforms the designated benchmark, a portion of that outperformance, as stipulated in the investment advisory agreement, will be paid to PanAgora as a performance fee. The performance fee generally will be equal to the outperformance of the portfolio multiplied by the stipulated performance participation rate multiplied by the average market value of the portfolio (over the measurement period).

PanAgora may face conflicts of interest in advising accounts that are charged an asset-based fee and accounts that are charged a performance fee, including having an incentive to favor accounts charged a performance fee when allocating investment opportunities. Similarly, PanAgora may have an incentive to favor private investment vehicles in which its personnel have invested, or accounts owned by related parties. PanAgora has implemented a policy, as described below, to address these potential conflicts. Please see Item 12 for more information about PanAgora's trade allocation practices.

Certain investments may be appropriate for more than one client advised by PanAgora. Investment decisions for each client are made with a view to achieving each client's investment objectives and after the consideration of factors such as current holdings, availability of cash for investment, and the size of the client's investments generally. A particular security may be bought or sold by PanAgora for only one client, or in different amounts and at different times for more than one but less than all clients.

In order to help ensure that all clients are treated equitably, regardless of the fee being paid to PanAgora, PanAgora has instituted an allocation policy and procedure designed to ensure that all clients are treated fairly and equitably, and to prevent this conflict from influencing the allocation of investment opportunities among clients.

Potential conflicts of interest may also arise where PanAgora takes opposing investment positions in the same security for different clients. For example, a particular investment may be bought by PanAgora for one or more clients while, at the same time, PanAgora is selling the same investment for one or more other clients. PanAgora may also cause certain clients to engage in short sales of an investment owned or being purchased by certain other clients. Such conflicts of interest are mitigated by the fact that, as a quantitative asset manager, clients' assets are managed pursuant to a model-driven strategy developed by PanAgora in advance of trading. In addition, PanAgora conducts a periodic review of a random selection of trades in order to assess whether such trades were fair and equitable.

Further to the above, PanAgora has a trading schedule in which each trading group may make trades (ranging from daily to quarterly) and because of PanAgora's trading techniques, a short equity position could be established by the model or the trading technique before an active long position in a 'long-only' account is closed. PanAgora believes that this practice should not have a materially adverse effect on the performance of any client's account as there is no systematic bias as to which accounts (long only or long/short) trades at any particular time. With respect to any account, the relative attractiveness of securities is determined daily by the model and the trading group of which such account is a part. PanAgora's investment personnel determine the timing and amount of purchases and sales. Trades for each trading group are made based upon rebalance schedules created by the investment team. The account's assignment to a trading group is subject to change only if approved by the Compliance Officer. PanAgora reviews all purchase and sale decisions so that, as of the date of the decision, the transaction complies with the Firm's Short Sales Policy for Equity Short Sales.

## Item 7 -- Types of Clients

PanAgora provides investment advice to investment companies, domestic and offshore private funds, group trusts, other trusts, estates, or other charitable organizations, pension and profit-sharing plans, state or municipal government entities, and corporations or other business entities not previously listed. Each of PanAgora's U.S. clients is a "qualified purchaser" as defined in section 2(a)(51)(A) of the 1940 Act.

Although PanAgora does not have an absolute minimum investment size for clients, PanAgora generally requires an advisory account at or shortly after commencement to have, depending on the strategy or product, minimum assets of \$20 million, and typically assumes discretionary investment authority over the account. Exceptions to these policies may be made in certain cases in the discretion of PanAgora. Participants in pooled investment vehicles managed by PanAgora are generally subject to the minimum investment size disclosed in the relevant offering materials.

## Item 8 -- Methods of Analysis, Investment Strategies and Risk of Loss

While PanAgora seeks to achieve each client's stated investment objective, there is no guarantee that it will succeed. Investing in securities and other financial instruments involves risk of loss that clients should be prepared to bear. This section gives more information on the material risks that may apply to a client portfolio depending on its investment strategy. Investors in group trusts, private funds, and other pooled investment vehicles managed by PanAgora should review the offering materials of such funds for additional information regarding the risks associated with their investment.

### **Investment Program**

PanAgora's investment programs are considered speculative, as there can be no assurance that PanAgora's assessments of the short-term or long-term prospects of investments will prove accurate. A client may lose money and a portfolio may underperform other investments if the results of PanAgora's beliefs regarding the value or likely performance of an investment prove to be wrong.

### **Quantitative Model Risk**

PanAgora employs a quantitative analysis method in the management of its client portfolios. PanAgora uses quantitative research which applies concepts of fundamental valuation and security selection via computer models. All of PanAgora's investment strategies share a quantitative foundation and disciplined implementation. In turn, each strategy has unique characteristics which reflect PanAgora's understanding of the varied nature of different investment markets and asset classes. A risk in using quantitative analysis is that the models used may be based on assumptions that prove to be incorrect. Investments made based on these quantitative methods may perform differently from the market as a whole or from their expected performance for many reasons, including but not limited to, factors used in creating the quantitative model, the relative weights placed on each factor, and changing sources of market returns. Any errors or imperfections in PanAgora's quantitative analyses or models, or in the data on which they are based, could adversely affect the ability of PanAgora to implement such analyses or models effectively, which in turn could adversely affect performance. There can be no assurance that these methodologies will help PanAgora to achieve a client's portfolio investment objective.

In using quantitative models, PanAgora relies on information and data supplied by third-party vendors ("Data"). Data is an important factor in the proper functioning of the quantitative process, and, in certain circumstances, is subject to input and quality errors risk. For example, when Data proves to be incorrect or incomplete, or is inputted incorrectly, the analyses and models may not function properly, and any decisions made in reliance thereon may expose a client's portfolio to potential risks. The success of the quantitative analysis may depend on the accuracy and reliability of historical Data supplied by third-party vendors.

If incorrect market Data is entered into even a well-founded model, the resulting information will be incorrect. However, even where market Data is inputted correctly, "model prices" will often differ substantially from market prices, especially for securities with complex characteristics, such as derivative securities. The market or price of an individual security or investment may be affected by factors not foreseen in developing the models. Additionally, to the extent that the models require judgment or discretion by an investment professional, models are subject to the additional risk that any decision taken pursuant to such judgment or discretion could adversely affect the performance of a client's account.

Models also rely on the proper functioning of hardware and technology, which are subject to disruption risk. There is no guarantee that the hardware and technology on which the models rely will be uninterrupted or error free, or that any defects in such hardware or technology will be able to be corrected in a short period of time. Disruption risk includes natural or man-made occurrences, such as extreme weather, fires, power loss, telecommunication failures, terrorist attacks, hacking, or similar events or misconduct. Any failure, interruption, or destruction of any hardware and technology used by PanAgora could have a material adverse impact on PanAgora's operations and client accounts.



## **Fundamental and Technical Analysis**

PanAgora also employs fundamental and technical analysis. Fundamental analysis attempts to measure the intrinsic value of a security by looking at economic and financial factors (including the overall economy, industry conditions, and the financial condition and management of the company itself) in order to determine if the company is underpriced or overpriced. However, fundamental analysis does not attempt to anticipate market movements. A risk in using fundamental analysis is that the price of a security can move up or down along with the overall market regardless of the economic and financial factors considered in evaluating the security.

Conversely, technical analysis evaluates past market movements and applies that analysis to the present in an attempt to recognize recurring patterns of investor behavior and potentially predict future price movements. Technical analysis does not consider the underlying financial condition of a company. This presents the risk in that a poorly managed or financially unsound company may underperform regardless of overall market movement.

## **Equity Risk**

Equity risk is the risk that the value of securities will fall due to general market or economic conditions, perceptions regarding the industries in which the issuers of securities participate, and the specific circumstances and performance of particular companies. Equity securities and derivatives linked to equity markets (“equity securities”) have historically experienced volatility in returns. The prices of equity securities fluctuate for many reasons, including changes in investors’ perceptions of the financial condition of an issuer, the general condition of the relevant stock market, or when political or economic events affecting issuers occur. However, actual or perceived adverse developments in one or more of these areas could cause a substantial decline in the value of equity securities.

## **Small- and Mid-Capitalization Issuers**

Investing in the securities of companies with small- or mid-capitalization can involve greater risk and the possibility of greater portfolio price volatility than is typically associated with equity investments in larger, more established companies.

Historically, stocks of small- or mid-capitalization companies and recently organized companies have been more volatile in price than those of the larger market capitalization companies. Small- and mid-capitalization companies often have sales and earnings growth rates that exceed those of companies with larger market capitalization. Such growth rates may in turn be reflected in more rapid share price appreciation. However, companies with smaller market capitalizations often have limited product lines, markets, or financial resources and may be dependent upon a relatively small management group. These securities may have limited marketability and may be subject to more abrupt or erratic movements in price than securities of companies with larger market capitalization or market averages in general.

## **Fixed-Income Securities**

Fixed-income securities are subject to interest rate risk, market risk, and credit risk. Interest rate risk relates to changes in a security’s value as a result of changes in market interest rates. Even though such instruments may promise a stable stream of income, the prices of such securities are inversely affected by changes in interest rates and therefore are subject to the risk of market price fluctuations. Market risk relates to the changes in the risk or perceived risk of an issuer, country, or region. Credit risk relates to the ability of the issuer to make payments of principal and interest. The values of fixed-income securities may be affected by changes in the credit rating or financial condition of the issuing entities.

The debt securities a client portfolio may hold are not necessarily required to satisfy any minimum credit rating standard and may include instruments that have predominantly speculative characteristics with respect to capacity to pay interest and repay principal, or be below investment grade, including high-risk instruments that are low rated or unrated.

Client portfolios may be exposed directly or indirectly through derivatives to asset backed securities of all types (“ABS”). ABS are subject to structural risks associated with both the assets assigned to the ABS structure and the degree of diligence used by underwriters of the ABS, or mortgage originators, in assuring that bond holders can enforce their purported rights to realize value from the underlying assets.

## Exchange-Traded Funds

The risks of owning an exchange-traded fund (“ETF”) generally reflect the risks of owning the underlying securities they are designed to track, although lack of liquidity in an ETF could result in its share price being more volatile. ETFs can trade at discounts or premiums to the NAV of their underlying investments, which could cause a portfolio to experience an unanticipated loss. As a shareholder of an ETF, a portfolio would bear its pro rata portion of the ETF’s expenses, including advisory fees. These expenses would be in addition to the fees and other expenses that a portfolio bears directly in connection with its own operations. PanAgora may also invest in exchange-traded notes (“ETNs”), ETFs traded in foreign markets, and other instruments with similar characteristics and risks.

## Derivatives

PanAgora may obtain exposure to asset classes by investing in derivatives. Derivatives may be exchange or over-the-counter (“OTC”) traded and include, but are not limited to, futures, options, swaps, and forwards PanAgora may, but is not required to, use derivatives to seek to hedge market risks (such as broad or specific equity market or stock movements, interest rate movements, or currency exchange rate movements) or to enhance potential gain. Techniques and instruments used may change over time as new instruments and strategies are developed or regulatory changes occur.

In the course of pursuing a portfolio’s investment objective, PanAgora may purchase and sell (write) exchange-listed and OTC covered and uncovered put and call options on securities, indices and other financial instruments; enter into swap transactions; and purchase or sell instruments that incorporate the characteristics of the foregoing instruments and other esoteric and non-esoteric instruments that may be developed in the future (collectively, all the above referred to herein as “Derivatives”).

Derivatives involve a number of risks, including possible default by the other party to the transaction, illiquidity and, to the extent PanAgora’s view of certain market, interest rate or currency exchange rate movements is incorrect, the risk that the use of such Derivatives could result in losses greater than if they had not been used.

Derivatives involve a risk of loss or depreciation due to a variety of factors, including but not limited to (i) unanticipated adverse changes in securities prices, interest rates, indices, the prices of other financial instruments referenced by Derivatives, or currency exchange rates; (ii) the inability to close out a position; (iii) default by the counterparty; (iv) imperfect correlation between a derivative position and the desired investment exposure represented by the position; (v) tax constraints on closing out positions; and (vi) portfolio management constraints on securities subject to such transactions.

The loss on derivative instruments (other than purchased options) may substantially exceed the size of an investment in these instruments. In addition, the entire premium paid for purchased options may be lost before they can be profitably exercised. Transaction costs are incurred in opening and closing positions. Derivative instruments may sometimes increase or leverage exposure to a particular market risk, thereby increasing price volatility of derivative instruments. PanAgora’s success in using derivative instruments to hedge portfolio assets depends on the degree of price correlation between the derivative instruments and the hedged asset. Imperfect correlation may be caused by several factors, including temporary price disparities among the trading markets for the derivative instrument, the assets underlying the derivative instrument and assets of PanAgora’s portfolios. The use of derivatives is a highly specialized activity that involves skills different from conducting ordinary portfolio securities transactions. There can be no assurance that PanAgora’s use of derivative instruments will be advantageous to a client portfolio.

The CFTC and certain futures exchanges impose limitations governing the maximum number of futures contract positions and “economically equivalent” swaps that may be held by a single investor or group of related investors, whether acting alone or in concert with others. Because PanAgora trades for multiple accounts and funds, commodity interest positions of all such accounts and funds will generally be required to be aggregated for purposes of determining compliance with these position limits. These trading and position limits, and similar limits in non-U.S. jurisdictions, could limit PanAgora’s ability to enter into and maintain certain derivatives for client accounts.

In addition, the regulation of derivatives in the U.S. and in foreign jurisdictions continues to evolve. For example, global financial regulators adopted new rules and regulations which require certain accounts to meet minimum margin requirements when entering into uncleared swap agreements and require for central clearing of derivatives that in the past were traded exclusively OTC. While the ultimate impact of these regulatory actions is not clear, it

is possible that these and future regulatory measures taken in the U.S. and in foreign jurisdictions could limit or completely restrict the ability of an account to use these instruments as a part of its investment strategy, increase the costs of using these instruments, or make them less effective.

## **Futures Contracts**

There are several risks associated with the use of futures contracts. Futures markets are highly volatile and are influenced by factors such as changing supply and demand relationships, governmental programs and policies, national and international political and economic events and changes in interest rates. In using futures contracts to seek to increase or reduce market exposure, there can be no guarantee that there will be a correlation between price movements in the futures contract and in the portfolio exposure sought. In addition, there are significant differences between the securities and futures markets that could result in an imperfect correlation between the markets, causing a given transaction not to achieve its objective. The degree of imperfection of correlation depends on circumstances such as: variations in speculative market demand for futures and the related securities, including technical influences in futures trading, and differences between the securities markets and the securities underlying the standard contracts available for trading. For example, in the case of index futures contracts, the composition of the index, including the issuers and the weighing of each issuer, may differ from the composition of a portfolio, and in the case of interest rate futures contracts, the interest rate levels, maturities, and creditworthiness of the issuers underlying the futures contract may differ from those of the financial instruments held by the portfolio. A decision as to whether, when and how to use futures contracts involves the exercise of skill and judgment, and even a well-conceived transaction may be unsuccessful to some degree because of market behavior or unexpected stock price or interest rate trends.

In entering into futures contracts, there is a credit risk that a counterparty will not be able to meet its obligations to a portfolio. The counterparty for futures contracts traded in the United States and on most foreign futures exchanges is the clearinghouse associated with such exchange. In general, clearinghouses are backed by the corporate members of the clearinghouse who are required to share any financial burden resulting from the non-performance by one of its members and, as such, should significantly reduce this credit risk.

Futures contracts gains and losses are marked-to-market daily for purposes of determining margin requirements. Option positions generally are not, although short option positions will require additional margin if the market moves against the position. Due to these differences in margin treatment between futures and options, there may be periods in which positions on both sides must be closed down prematurely due to short-term cash flow needs. Were this to occur during an adverse move in the spread or straddle relationships, a substantial loss could occur.

Futures exchanges may limit the amount of fluctuation permitted in certain futures contract prices during a single trading day. The daily limit establishes the maximum amount that the price of a futures contract may vary either up or down from the previous day's settlement price at the end of the current trading session. Once the daily limit has been reached in a futures contract subject to the limit, no more trades may be made on that day at a price beyond that limit. The daily limit governs only price movements during a particular trading day and therefore does not limit potential losses because the limit may work to prevent the liquidation of unfavorable positions. For example, futures prices have occasionally moved to the daily limit for several consecutive trading days with little or no trading, thereby preventing prompt liquidation of positions and subjecting some holders of futures contracts to substantial losses. Stock index futures contracts are not normally subject to such daily price change limitations.

There can be no assurance that a liquid market will exist at a time when PanAgora seeks to close out a futures position. In such a situation, a portfolio would be exposed to possible loss on the position during the interval of inability to close and would continue to be required to meet margin requirements until the position is closed. There can be no assurance that an active secondary market will develop or continue to exist.

## **Futures Trading**

Trading in commodity futures, including commodity futures contracts and futures on commodity indices, may involve substantial risks. The low margin or premiums normally required in such trading may provide a large amount of leverage, and a relatively small change in the price of a security or contract can produce a disproportionately larger profit or loss. There is no assurance that a liquid secondary market will exist for commodity futures contract trades, and a portfolio may be required to maintain a position until expiration, which could result in losses. In addition, PanAgora may not be able to execute futures contract trades at favorable prices if trading volume in such contracts is low. It also is possible that an exchange or the CFTC may suspend trading in a particular contract, order immediate

liquidation and settlement of a particular contract, or order that trading in a particular contract be conducted for liquidation only. In addition, the CFTC and various exchanges impose speculative position limits on the number of positions that may be held in particular commodities. Trading in commodity futures contracts is a highly specialized activity that may entail greater than ordinary investment or trading risks.

### **Forward Trading**

A portfolio may invest in forward contracts and options thereon, which, unlike futures contracts, are not traded on exchanges and are not standardized. Banks and dealers act as principals in these markets, negotiating each transaction on an individual basis. Forward and “cash” trading is substantially unregulated; there is no limitation on daily price movements, and speculative position limits are not applicable. The principals who deal in the forward markets are not required to continue to make markets in the currencies or commodities they trade, and these markets can experience periods of illiquidity, sometimes of significant duration. There have been periods during which certain participants in these markets have refused to quote prices for certain currencies or commodities or have quoted prices with an unusually widespread between the price at which they were prepared to buy and that at which they were prepared to sell. Disruptions can occur in any market traded due to unusually high trading volume, political intervention or other factors. The imposition of controls by government authorities might also limit such forward (and futures) trading to less than that which PanAgora would otherwise recommend, to the possible detriment of a client portfolio. Market illiquidity or disruption could result in major losses to a portfolio to the extent the portfolio is invested in forward contracts.

### **Equity Index Futures**

Trading in equity index futures may involve substantial risks. The price of equity index futures contracts may not correlate perfectly with the movement in the underlying equity index because of certain market distortions. First, all participants in the futures market are subject to margin deposit and maintenance requirements. Rather than meeting additional margin deposit requirements, investors may close futures contracts through offsetting transactions that would distort the normal relationship between the index and futures markets. Second, from the point of view of speculators, the deposit requirements in the futures market are less onerous than margin requirements in the securities market. Therefore, increased participation by speculators in the futures market also may cause temporary price distortions. Successful use of equity index futures contracts also is subject to PanAgora’s ability to correctly predict movements in the direction of the market.

### **OTC Transactions**

A Portfolio may invest in instruments, such as options, forwards, and swaps, that are not traded on organized exchanges and, as such, are not standardized. These transactions, known as OTC transactions, are subject to less governmental regulation and supervision than transactions entered into on an organized exchange. In addition, many of the protections afforded to participants on some organized exchanges, such as the performance guarantee of an exchange clearinghouse, will not be available in connection with OTC transactions. This exposes a portfolio to the risks that a counterparty will not settle a transaction because of a credit or liquidity problem or because of disputes over the terms of the contract. These risks may differ materially from those entailed in exchange-traded transactions which generally are backed by clearing organization guarantees, daily marking-to-market and settlement, and segregation and minimum capital requirements applicable to intermediaries. Transactions entered directly between two counterparties generally do not benefit from such protections. In addition, a portfolio will be subject to the risk of the inability of counterparties to perform with respect to transactions, whether due to insolvency, bankruptcy, governmental prohibition, or other causes. Such “counterparty risk” is accentuated for contracts with longer maturities where events may intervene to prevent settlement, or where a portfolio has concentrated their transactions with a single or small group of counterparties.

### **Options**

The writing of put and call options may result in losses to a portfolio, force the purchase or sale, respectively, of portfolio securities at inopportune times or for prices higher than (in the case of purchases due to the exercise of put options) or lower than (in the case of sales due to the exercise of call options) current market values, limit the amount of appreciation the portfolio can realize on its investments, or cause the portfolio to hold a security it might otherwise sell or sell a security it might otherwise hold. PanAgora also may purchase and sell call and put options on stock indices. These options may be traded in the OTC market for the purpose of realizing a portfolio’s investment objective or for the purpose of hedging the portfolio. A stock index fluctuates with changes in the market values of the stocks

included in the index. The effectiveness of purchasing or writing stock index options for hedging purposes will depend upon the extent to which price movements in a portfolio's investment portfolio correlate with price movements of the stock indices selected. Because the value of an index option depends upon movements in the level of the index rather than the price of a particular stock, whether the portfolio will realize gains or losses from the purchase or writing of options on indices depends upon movements in the level of stock prices in the stock market generally or, in the case of certain indices, in an industry or market segment, rather than movements in the price of particular stocks. Accordingly, successful use of options on stock indices will be subject to the ability of PanAgora to correctly predict the relationship between movements in the direction of the stock market generally or of particular industries or market segments and the direction of movements in the value of the portfolio of stocks.

## **Swap Transactions**

A portfolio also may engage in swap transactions involving equities, commodities, or other financial instruments with financial institutions. Swaps are individually negotiated transactions where each party agrees to make periodic payments to the other party by reference to agreed-upon base rates, which may be fixed or variable. The parties to a swap transaction typically do not obligate themselves to make "principal" payments, but only to pay the agreed upon rates as applied to an agreed upon "notional" size. This risk may differ materially from those entailed in exchange-traded transactions which generally are supported by guarantees of clearing organizations, daily marking-to-market and settlement, and segregation and minimum capital requirements applicable to intermediaries. Transactions entered directly between two counterparties generally do not benefit from such protections and expose the parties to the risk of counterparty default.

In the international securities markets, the existence of less mature settlement structures and systems can result in settlement default and exposure to counterparty credits. In addition, many swaps are centrally cleared and exchange-traded under the provisions of the Dodd-Frank Wall Street Reform and Consumer Protection Act. Such swaps will be subject to the same risks as futures contracts, as discussed above. There are various types of swaps, including but not limited to, total return swaps, credit default swaps, and interest rate swaps; all of these and other swaps are derivatives and as such, each is subject to the general risks relating to derivatives described above.

## **Total Return Swaps**

Total return swaps ("TRSs") are contracts in which one party, the total return payer, agrees to make payments of the total return from the designated underlying asset(s), which may include securities, baskets of securities, or securities indices, during the specified period, in return for receiving payments equal to a fixed or floating rate of interest and, typically, a spread based on a reference or benchmark rate (or the total return from the other designated underlying asset(s)). If a portfolio is the total return receiver, then the credit risk for the underlying asset is transferred to the portfolio in exchange for its receipt of the return on that asset.

TRSs may be used to obtain exposure to a security or market without owning or taking physical custody of such security or market. TRSs may effectively add leverage to a portfolio because, in addition to its total net assets, the portfolio would be subject to investment exposure on the notional amount of the swap.

## **Credit Default Swaps**

In a credit default swap ("CDS"), the "buyer" of the CDS is obligated to pay the "seller" a periodic stream of payments over the term of the contract in return for a contingent payment upon the occurrence of a credit event with respect to an underlying reference obligation, typically a bond. A credit event generally means a bankruptcy, failure to pay or obligation acceleration. If a credit event occurs, the seller typically must pay the contingent payment to the buyer, which typically is the "par value" (full notional value less recovery rate) of the reference obligation. The contingent payment may be a cash settlement or physical delivery of the reference obligation in return for payment of the face amount of the obligation. A portfolio may be either the buyer or seller in a CDS. If a portfolio is a buyer and no credit event occurs, the portfolio may lose its investment (or premium) and recover nothing. If a credit event occurs, however, the buyer typically receives full notional value less recovery rate for a reference obligation that may have little or no value. As a seller, a portfolio receives a fixed rate of income throughout the term of the contract, which typically is between one month and five years; *provided* that no credit event occurs. If a credit event occurs, the seller may pay the buyer the full notional value less recovery rate of the reference obligation.

## **Interest Rate Swaps**

Interest rate swaps involve the exchange by a portfolio, with another party, of interest payments, such as an exchange of floating rate payments for fixed rate payments with respect to a notional amount of principal. For example, a portfolio may enter into an interest rate swap in order to protect against declines in the value of fixed-income securities held by the portfolio. In such an instance, the portfolio may agree with a counterparty to pay a fixed rate (multiplied by a notional amount) and the counterparty to pay a floating rate multiplied by the same notional amount. If long-term interest rates rise, resulting in a diminution in the value of a portfolio, the portfolio would receive payments under the swap that would offset, in whole or in part, such diminution in value; if interest rates fall, the portfolio would likely lose money on the swap transaction.

## **Leverage**

PanAgora may use borrowed money, derivatives (including futures and forward contracts), and borrowed equity securities to generate a significant degree of leverage for a portfolio. While leveraging creates an opportunity for increased net income or capital appreciation, it also creates special risk considerations, including, for example, significantly exaggerated changes in the value of a portfolio's investments. If an investment is highly leveraged, a relatively modest adverse movement in the investments value may result in a portfolio incurring significant losses. It may be necessary to close out such a position at a significant loss even if PanAgora believes that the decline in value is only temporary. Leveraged portfolios can experience total losses of their capital, and investors may lose their entire investments over a short period of time.

A portfolio would be adversely affected by changes in the liquidity of the financial instruments that are used to implement some of its investment strategies. During periods of market disruption or significant movements in the financial markets, PanAgora may have difficulty closing out a position or the portfolio may incur a significant loss before it is able to do so.

## **Real Estate Investment Risk**

A portfolio may invest a portion of its assets in real estate investment trusts ("REITs"). Investments in REITs may be particularly sensitive to falling property values and increasing defaults on real estate mortgages. Due to their dependence on the management skills of their managers, REITs may underperform if their managers are incorrect in their assessment of particular real estate investments. REITs are subject to heavy cash flow dependency, defaults by borrowers, self-liquidation, and the possibility of failing to qualify for tax-free pass through of income under the Internal Revenue Code of 1986, as amended, or failing to maintain exemption from the 1940 Act. An adverse development in any of these areas could cause the value of a REIT to fall and the performance of an underlying portfolio to decline. In the event an issuer of debt securities collateralized by real estate defaults, it is conceivable that a REIT could end up holding the underlying real estate. The disposition of such real estate could cause a REIT to incur unforeseen expenses that could reduce the value of the REIT.

## **Short Selling**

PanAgora may obtain short exposure through derivative positions or through selling securities in a client portfolio short. When engaging in a short sale of securities, PanAgora may sell borrowed securities with the intent of repurchasing them at a lower price before returning them to the lender. A client portfolio that sells securities short will be subject to the risk of loss, which may be significant, in the event that the market value of the securities sold short plus related transaction costs exceeds the proceeds from the short sale. The regulations of the Board of Governors of the U.S. Federal Reserve System and stock exchange rules that govern executing brokers require that the portfolios selling securities short maintain a margin account and collateral to secure their obligations on short positions. Therefore, cash and securities are pledged to secure the short sale obligations and, in the event of an increase in the market value of the securities sold short, additional cash or convertible securities must be transferred to the margin account in order to meet such obligations. Selling securities short also exposes a portfolio to counterparty credit risk associated with re-hypothecation and loss of collateral, the potential bankruptcy of the executing broker and the risk of lost profits and/or the misuse of collateral by the executing broker. Also, a client portfolio with short exposure may experience greater volatility due to potential leverage. The potential for loss when a client portfolio has short exposure is theoretically unlimited.

## **Non-U.S. Securities**

PanAgora may invest a portion of a client portfolio's assets in equity and equity-related securities of non-U.S. issuers, depository receipts and other securities or instruments that represent an indirect interest in securities of non-U.S. issuers, collective vehicles that invest in non-U.S. securities and other securities, derivatives or instruments whose performance is linked to the performance of non-U.S. securities or baskets of non-U.S. securities. Investments in non-U.S. securities are affected by risk factors that include, but are not limited to, the following: varying custody, brokerage and settlement practices; difficulty in valuation and pricing; insufficient public information about issuers; limited governmental regulation and supervision over the issuance and trading of securities; the unavailability of financial information regarding the issuer or the difficulty of interpreting financial information prepared under non-U.S. accounting standards; low liquidity and high volatility in non-U.S. markets; the possibility of expropriation or nationalization; the imposition of withholding and other taxes; adverse political, social, or diplomatic developments; limitations on the movement of funds or other assets between different countries; difficulties in invoking the legal process and enforcing contractual obligations; and the difficulty of assessing economic trends. Moreover, governmental issuers of non-U.S. securities may be unwilling to repay principal and interest due and may require that the conditions for payment be renegotiated. Investment in non-U.S. countries also involves higher brokerage and custodian expenses than does investment in U.S. securities traded on a U.S. securities exchange or market.

## **Emerging Market Economies**

The risks of investing in non-U.S. securities described above apply to an even greater extent to investments in emerging markets. The economies of these markets may differ significantly from the economies of certain developed countries in such respects as gross domestic product or gross national product, rate of inflation, currency depreciation, capital reinvestment, resource self-sufficiency, structural unemployment, and balance of payments position. In particular, these economies frequently experience high levels of inflation. Systemic and market factors may affect the acquisition, payment for or ownership of investments including: (i) political instability; (ii) the inaccuracy or unreliability of business and financial information; (iii) the instability or volatility of banking and financial systems, or the absence or inadequacy of an infrastructure to support such systems; (iv) custody and settlement infrastructure of the market in which such investments are traded and held; (v) the acts, omissions, and operation of any securities depository; (vi) the risk of the bankruptcy or insolvency of banking agents, counterparties to cash and securities transactions, registrars, or transfer agents; and (vii) the existence of market conditions that prevent the orderly execution or settlement of transactions or that affect the value of assets.

Emerging market economies are smaller in size, less liquid, and frequently experience high levels of inflation and greater volatility than in more developed securities markets, such as U.S. securities markets. Disclosure and regulatory standards are in many respects less stringent than U.S. standards. Issuers in emerging markets are subject to accounting, auditing, and financial standards and requirements that differ, in some cases significantly, from those applicable to U.S. issuers. There is substantially less publicly available information about emerging market issuers than there is about U.S. issuers. In addition, emerging market issuers are not subject to regulations similar to the U.S. Sarbanes-Oxley Act of 2002 that imposes many restrictions and mandates on the activities of companies.

Among numerous other types of securities, a portfolio may purchase American Depositary Receipts ("ADRs"), European Depositary Receipts ("EDRs"), Global Depositary Receipts ("GDRs"), and Non-Voting Depositary Receipts ("NVDRs") (collectively, "Depository Receipts"). Depository Receipts are certificates evidencing ownership of shares of a non-U.S. issuer and are alternatives to directly purchasing the underlying non-U.S. securities in their national markets and currencies. However, such investments continue to be subject to many of the risks associated with investing directly in non-U.S. securities. Depository Receipts may be sponsored or unsponsored. Unsponsored receipts are established without the participation of the issuer. Unsponsored receipts may involve higher expenses, they may not pass-through voting or other shareholder rights, and they may be less liquid. The performance of Depository Receipts may be different from the performance of the ordinary shares of the non-U.S. issuers to which they relate.

Legal principles relating to corporate affairs and the validity of corporate procedures, directors' fiduciary duties and liabilities, and shareholders' rights may differ from those that may apply in other jurisdictions. Shareholders' rights under the law of emerging market countries may not be as extensive as those that exist under the laws of the United States. A portfolio may therefore have more difficulty asserting its rights as a shareholder of an emerging markets issuer in which it invests than it would as a shareholder of a comparable U.S. company.

## **Political Considerations**

The political stability of some of the countries in which the less developed securities and/or derivatives markets operate could differ significantly from that of certain developed countries. There may be, for example, risk of nationalization, sequestration of assets, expropriation or confiscatory taxation, currency blockage or repatriation, changes in government policies or regulations, political, religious, or social instability, diplomatic or political developments and changes, terrorism, or war. Any one or more of these factors could adversely affect the economies and markets of such countries that in turn could affect the value of a portfolio's investments in those markets.

## **Foreign Sovereign Debt**

Investment in sovereign debt, including debt obligations issued or guaranteed by supranational entities, involves special risks. The issuer of the debt or the governmental authorities that control the repayment of the debt may be unable or unwilling to repay principal and/or interest when due in accordance with terms of such debt, and a portfolio may have limited legal recourse in the event of a default because, among other reasons, remedies must be pursued in the courts of the defaulting party. In addition, political conditions, especially a sovereign entity's willingness to meet the terms of its debt obligations, are of considerable significance. A sovereign debtor's willingness or ability to repay principal and interest due in a timely manner may be affected by, among other factors, its cash flow situation, the extent of its foreign reserves, the availability of sufficient foreign exchange on the date a payment is due, the relative size of the debt service burden to the economy as a whole, the sovereign debtor's policy toward principal international lenders and the political constraints to which a sovereign debtor may be subject.

## **Foreign Currency Exposure and Currency Hedging Risks**

While PanAgora client portfolios are denominated in U.S. Dollars, some of the underlying investments of a client portfolio may be denominated in other currencies. In such circumstances, the portfolio is subject to the risk that the value of a particular currency in which an investment is denominated will change in relation to the U.S. Dollar. The weakening of such a currency relative to the U.S. Dollar will negatively affect the dollar value of a portfolio's assets. A portfolio may even realize a net loss on an investment, even if there were a gain on the underlying instrument before currency losses were taken into account. Among the factors that may affect currency values are trade balances, the level of short-term interest rates, differences in relative values of similar assets in different currencies, long-term opportunities for investment and capital appreciation, central bank policy, and political development.

PanAgora may try to hedge these risks by entering into foreign exchange swaps, foreign exchange forwards or other similar currency hedging transactions. There can be no assurance that such transactions will be implemented or that financial instruments suitable for such hedging will be available at the time when PanAgora wishes to use them. In addition, there can be no assurance that such hedging strategies will be effective.

Foreign exchange swaps and foreign exchange forwards typically are OTC, as opposed to exchange-traded, transactions wherein PanAgora and its counterparty will agree to exchange the subject currencies on one or more dates in the future. To the extent PanAgora enters into such transactions on behalf of a client portfolio, the client portfolio will assume the credit risk associated with its counterparty as well as the risk of settlement default. This risk may be exacerbated by the fact that such transactions may be highly leveraged, with little or no initial margin requirement. In addition, such transactions are highly illiquid and may increase the volatility of the portfolio.

## **Investment Concentration**

At times, a substantial portion of a portfolio's assets may be concentrated in the securities of a limited number of issuers. Investing a significant portion of a portfolio's assets in a limited number of issuers or industries makes the portfolio significantly more susceptible to risks affecting investments in such issuers or industries. Such concentration of investments may increase the volatility of the portfolio's investments.

## **High Portfolio Turnover**

PanAgora will actively manage its client portfolios. Accordingly, a client's portfolio turnover rate and its brokerage commissions, fees, and other transaction costs may be higher than that of many other funds.



Active strategies are based on models which combine fundamental analysis and quantitative techniques. Buy and sell decisions are based on the rigorous implementation of the models' recommended allocations. Individual portfolios are adjusted for the client's return objective, risk tolerance and investment guidelines. Active strategies may involve frequent trading, which may affect investment performance, through increased brokerage and other transaction costs and taxes.

### **Market Disruptions**

A client account may incur major losses in the event of disrupted markets and other extraordinary events which may affect markets in a way that is not consistent with historical pricing relationships. The risk of loss from a disconnect with historical prices is compounded by the fact that in disrupted markets many positions become illiquid, making it difficult or impossible to close out positions against which the markets are moving. The financing available to a portfolio from banks, dealers, and other counterparties will typically be reduced in disrupted markets. Such a reduction may result in substantial losses to a portfolio. In addition, market disruptions caused by unexpected political, military, and terrorist events may from time to time cause dramatic losses and such events can result in otherwise historically low-risk strategies performing with unprecedented volatility and risk.

A financial exchange may from time to time suspend or limit trading. Such a suspension could render it difficult or impossible to liquidate affected positions and thereby expose a portfolio to losses. There also is no assurance that off-exchange markets will remain liquid enough to close out positions.

### **Pandemic**

An epidemic outbreak and governments' reactions to such an outbreak could cause uncertainty in the markets and may adversely affect the performance of the global economy. In the winter of 2020, the global outbreak of Coronavirus (or Covid-19) created enormous unprecedented economic and social uncertainty throughout the world. At the date of this filing, that uncertainty continues and has increased in scope and intensity. The ultimate impact of the Coronavirus outbreak (or of any future pandemic, epidemic or outbreak of a contagious disease) is difficult to predict, but as of the date of this filing, Coronavirus and the reactions to it have already had dramatic adverse effects on global, national and local economies and on financial markets, and there is a significant likelihood that that negative impact will persist for some time. In particular, disruptions to commercial activity across economies due to the imposition of quarantines, remote working policies, "social distancing" practices and travel restrictions, and/or failures to contain the outbreak despite these measures, could materially and adversely impact our clients' investments, both in the near- and long-term in a variety of industries and regions or globally. The imposition of such restrictions (including "shelter-in-place" or "lock-down" directives) could materially disrupt our business activities, including travel by our personnel in connection with potential or existing investments, in turn negatively affecting our ability to effectively identify, monitor, operate and dispose of client investments. Similar disruptions have occurred and may continue to occur in respect of our service providers and counterparties (including providers of financing). In addition, the outbreak of Coronavirus has contributed to, and may continue to contribute to, volatility in financial markets, which may disrupt historical pricing relationships or trends, cause positions to become illiquid, disrupt the availability of financing or negatively impact the performance of our clients' accounts. Governmental responses to the Coronavirus outbreak may be inadequate to limit the outbreak's spread or to mitigate its impact on any nation's economy or the global economy, and those responses could have adverse effects (intended and unintended) on market structures, and the overall, long term performance of markets. The extent to which Coronavirus affects PanAgora and its clients will depend on developments, which can occur extremely rapidly and cannot be predicted -- including emerging new information about the severity of the Coronavirus pandemic, and actions, proposed or taken, to contain and mitigate the impact of Coronavirus.

### **Cybersecurity**

Intentional cybersecurity breaches include: unauthorized access to systems, networks, or devices (such as through "hacking" activity); infection from computer viruses or other malicious software code; and attacks that shut down, disable, slow, or otherwise disrupt operations, business processes, or website access or functionality. In addition, unintentional incidents can occur, such as the inadvertent release of confidential information (possibly resulting in the violation of applicable privacy laws). A cybersecurity breach could result in the loss or theft of customer data or funds, the inability to access electronic systems ("denial of services"), loss or theft of proprietary information or corporate data, physical damage to a computer or network system, or costs associated with system repairs. Such incidents could cause PanAgora or a service provider to incur regulatory penalties, reputational damage, additional compliance costs, or financial loss. In addition, such incidents could affect issuers in which PanAgora invests a

portfolio, and thereby cause the portfolio's investments to lose value. PanAgora has adopted information security, incident response, backup, and disaster recovery procedures intended to prevent or mitigate damage if an intentional or unintentional breach occurs. However, such procedures could fail or be insufficient to avoid, mitigate, or successfully address the breach.

### **Dark Pools and Other Private Trading Venues**

PanAgora, on behalf of its Clients, may utilize so-called "dark pools" and other private trading venues to execute trades of securities. In a dark pool, buyers and sellers do not reveal their identities and often reveal very little, if anything, about their order sizes, as opposed to a traditional exchange, where orders are transparent. There are a number of different types of non-displayed liquidity providers, including electronic communications networks ("ECNs"), broker-sponsored dark pools, crossing networks and broker-led consortium dark pools. Dark pools and other anonymous venues may provide price improvement and the ability to protect trade orders from others in the market that would take advantage of information revealed during a trade. Dark pools and other private trading venues generally look to traditional exchanges to get their pricing information. However, if more and more trades are conducted through dark pools and other private trading venues, the prices used in dark pool trades might not be as reliable and up-to-date as they should be. Moreover, the use of dark pools means that firms cannot take advantage of changes in prices because the market cannot react immediately to transactions occurring in dark pools. Furthermore, different entities in a dark pool cannot see each other and therefore do not have a sense of what each other's strategies and motives are. In addition, the prices charged by dark pools may be higher than those charged by traditional exchanges. The prices charged by dark pools and independently operated crossing networks also may cover execution only and not investment research and other services and may also be used to fund contributions to commission-sharing arrangements.

## Item 9 -- Disciplinary Information

None.

## Item 10 -- Other Financial Industry Activities and Affiliations

PanAgora is registered with the SEC as an investment adviser under the Advisers Act. PanAgora is also registered as a CPO, CTA and Swap Firm with the CFTC and a member of the NFA. Power Corporation of Canada (“Power”), through its subsidiaries, Great West Lifeco Inc. and Putnam, maintains, indirectly through one or more subsidiaries, 100% of the voting interests in PanAgora. PanAgora has established an equity ownership plan for its senior executives that allows for an up to 20% economic interest in the firm to be awarded to such executives. PanAgora has also established a strategic relationship with a Chinese financial services firm in which Power owns an indirect minority stake, pursuant to which PanAgora provides nondiscretionary investment services.

In addition, PanAgora’s indirect parent company, Power, owns insurance, investment management, brokerage and other financial businesses (including registered broker-dealers) with which PanAgora may engage in business activities, such as providing subadvisory services to Power affiliates’ portfolios, seeking to include PanAgora fund products on affiliates’ distribution platforms, or partnering in the design and promotion of packaged retirement solutions. PanAgora may have an incentive to allocate more profitable trades to, or otherwise favor, affiliated accounts over other accounts. PanAgora manages these potential conflicts by treating affiliated accounts in a manner consistent with all other client accounts with respect to trade rotation and allocation. Please see Item 12 for more information about PanAgora’s allocation practices.

The investment management and trading functions at other investment firms in the Power group of companies and PanAgora are autonomous and operate separately from each other. These functions include all decision-making on what, how and when to buy, sell or hold in client portfolios and the trading related to implementation of these decisions. This policy is intended to permit the investment management and trading functions of each firm to operate without regard to or interference from the other. Additionally, PanAgora does not rely on any Power affiliate to solicit or refer potential clients to PanAgora, even though a Power affiliate may hire PanAgora to act as subadviser to certain products or clients of such affiliate. PanAgora believes this separation is in the best interest of clients of the firms, as operating independently permits each firm to pursue the investment objectives of its respective clients without regard to limitations resulting from the investment activities of the other. To support this policy, PanAgora has adopted certain procedures, including a portfolio information barrier between PanAgora and the other affiliated investment firms.

# Item 11 -- Code of Ethics, Participation or Interest in Client Transactions and Personal Trading

PanAgora maintains a Code of Ethics, which applies to all employees of PanAgora, that regulates the personal securities trading activities of all PanAgora employees and certain family members and entities (such as corporations, trusts, or partnerships) that an employee may be deemed to control or influence. A copy of PanAgora's Code of Ethics will be provided to any of its advisory or prospective clients on request by contacting PanAgora at 617-439-6300 or via email to [complianceofficer@panagora.com](mailto:complianceofficer@panagora.com).

The Code of Ethics imposes limits on activities of employees of PanAgora and, in certain circumstances, affiliates and/or other third parties ("Access Persons"), where an activity may conflict with the interests of PanAgora clients. These include certain personal trading restrictions and prohibitions against the buying and selling of any security while either PanAgora or the employee is in possession of material, non-public information concerning the security or the issuer. As a condition of employment, every employee accepts the absolute obligation to comply with the letter and the spirit of the Code of Ethics. An independent PanAgora board director ("Director") will not be considered an Access Person so long as the Director is not involved in making securities recommendations for PanAgora clients, does not have access to nonpublic information regarding the purchase or sale of securities for any PanAgora client, does not have access to nonpublic information regarding the portfolio holdings of any fund sponsored or advised by PanAgora, and does not have access to securities recommendations to PanAgora clients that are nonpublic. Each Independent PanAgora Director will certify in writing annually that he or she satisfies all aforementioned conditions.

Employees are required to provide confirmations for or account statements of personal securities transactions, including the transactions of immediate family members and accounts over which the employee has investment discretion or influence, to the Code of Ethics Officer. Employees may not buy or sell any security for their own account without prior approval of the proposed transaction (certain securities are exempted from this pre-clearance requirement). In general, the Code of Ethics also prohibits excessive personal trading by employees and the short sale of any security, whether or not it is held in a client portfolio (short selling against broad market indices and "against the box" are permitted). All employees of PanAgora (including portfolio managers) are deemed to be Access Persons.

Access Persons are subject to additional restrictions with respect to most personal trades, including but not limited to the following: Access Persons may not sell a security at a profit within 60 calendar days of purchasing it or buy a security at a price below which he or she sold that security within 60 calendar days. No investment professional may sell any security or related derivative security for his or her personal account until seven calendar days have passed since the most recent purchase of that security or related derivative security by any portfolio he or she manages. No investment professional may buy any security or related derivative security for his or her personal account until seven calendar days have passed since the most recent sale of that security or related derivative security by any portfolio he or she manages. No investment professional may sell out of his or her personal account any security or related derivative security that is held in any portfolio he or she manages unless he or she has received the written approval of the Code of Ethics Officer. No investment professional may cause a client to take action for the investment professional's own personal benefit. These restrictions do not apply to "de minimis" transactions in fixed income securities and certain listed equity securities. PanAgora has established standards to determine whether a transaction is a "de minimis" transaction based on PanAgora's assessment that Access Persons are likely to experience any benefit or detriment from engaging in such a transaction before, after, or concurrently with a transaction in a client portfolio. These standards are stated in our Code of Ethics and may be adjusted from time to time.

PanAgora may impose sanctions for violations of the Code of Ethics. Sanctions may include monetary fines, bans on personal trading, reductions in salary increases or bonuses, disgorgement of trading profits, suspension of employment, and termination of employment.

Where appropriate, PanAgora may recommend to its clients that they invest in the group trusts or in other private investment vehicles exempt from registration under the 1940 Act pursuant to Sections 3(c)(1) or 3(c)(7) thereof, for

which PanAgora acts as an investment adviser and/or managing member. Employees, officers, and directors of PanAgora may also invest in private investment vehicles.

PanAgora may make a recommendation to a client to buy or sell securities that PanAgora, or a related person, also buys or sells at or about the same time, or in which PanAgora, or a related person, has a material financial interest. On occasion, PanAgora or its employees, directors and officers may buy or sell securities or investment products which are recommended to its clients. However, no employee, officer or director is permitted to do so (a) where such purchase or sale is expected to affect the market price of such securities or investment products, or (b) in anticipation of the effect of such recommendation on the market price. All employees of PanAgora are subject to its Code of Ethics, which addresses conflicts of interest that may arise with respect to the recommendation of securities. For information regarding the related persons of PanAgora, other than its employees, officers and directors, see *“Participation or Interest of Certain Related Persons in Client Transactions”* below.

### **Participation or Interest of Certain Related Persons in Client Transactions**

The direct and indirect owners of PanAgora’s voting interests are large diversified financial organizations. As a result, it is possible that related persons of PanAgora, other than its officers and directors (as used under this heading “related persons”), may from time to time invest in the same securities that PanAgora recommends to clients. In addition, from time to time, our related persons may have business relationships with the issuers of securities that PanAgora recommends to our clients.

While PanAgora generally does not engage in such transactions, it may do so from time to time at the request of a client or as permitted by applicable law, and where consistent with PanAgora’s duties of loyalty and fair dealing. In such cases, PanAgora will engage in such transactions to the extent permitted by, and in accordance with, the requirements (including disclosure, client consent and reporting requirements) of the laws and regulations applicable (e.g., the Employee Retirement Income Security Act of 1974, as amended (“ERISA”), the Advisers Act, the 1940 Act, the Securities Exchange Act of 1934, as amended (the “Exchange Act”), state law (as applied to trusts and government funds) in the particular situation in light of (a) the type of transaction (e.g., principal transactions, agency brokerage transactions, purchases in underwritings, open market purchases of securities issued by related persons), and (b) the nature of the client account (e.g., ERISA, non-ERISA, investment company). PanAgora does not exercise its discretion on behalf of its clients to engage in principal transactions nor place brokerage transactions with such related persons except as outlined above. Portfolio transaction decisions for PanAgora clients are made independently by PanAgora and are not based upon the interests of a related person. No client is required by PanAgora to enter into a relationship with a related person as a condition to the establishment or continuation of an advisory relationship.

In addition, it is possible from time to time that such participations or interests may be established independently by a related person without the knowledge of PanAgora pursuant to recommendations and arrangements independent of the services provided by an adviser and/or in situations where PanAgora is not exercising investment management discretion of a type that would give rise to the application of the policies and procedures described in the preceding paragraphs.

# Item 12 -- Brokerage Practices

## Selection of Broker Dealers

As a fiduciary, PanAgora has a duty to seek to achieve best execution for its clients' brokerage transactions. PanAgora seeks to execute securities transactions for its clients in a manner such that the net economic results to the client are the most favorable under the circumstances. PanAgora's policy is to select brokers or counterparties to execute client transactions in a manner that is consistent with the best interests of its clients and to employ a trading process that attempts to maximize the value of a client's portfolio within the client's stated investment objectives and constraints. In carrying out this duty, PanAgora considers the full range and quality of a broker's services in placing transactions, including, among other factors, commission rates, financial responsibility, and responsiveness. In seeking to achieve best execution, PanAgora may not always obtain the lowest possible commission cost.

Consistent with section 28(e) of the Exchange Act and subject at all times to its duty to seek to achieve best execution, PanAgora may obtain brokerage or research products and services from broker-dealers in connection with placing securities transactions on behalf of client ("soft dollar arrangements"). This is a benefit to PanAgora and its clients since PanAgora would otherwise have to produce or pay for these services or products. Such products and services may include, but are not limited to, fundamental research reports (both third party and proprietary), technical and portfolio analyses, pricing services, economic forecasting and interest rate projections, historical and statistical securities information, and computer software that assists in PanAgora's investment management process. During the past fiscal year, PanAgora obtained the following with client brokerage commissions: market and securities data, access to analytical tools, and proprietary research. Certain of the brokerage or research products or services received with respect to commissions paid by certain accounts may benefit other accounts under the management of PanAgora. Broker-dealers who provide such services may receive a commission which is in excess of the amount of the commission another broker-dealer may have charged if, in PanAgora's judgment, the higher commission is reasonable in relation to the value of the brokerage or research products or services rendered. PanAgora may have an incentive to select or recommend broker-dealers based on PanAgora's interest in receiving the research or other products or services which could differ from a client's interest in receiving most favorable execution. Soft dollar arrangements are internally reviewed periodically to determine if the products or services are needed, whether such products or services provide legitimate assistance in the investment decision making process, and the reasonableness of the commissions paid in relation to the value of the products or services received. Additionally, in certain instances, PanAgora may receive access to certain proprietary research tools from executing broker-dealers. However, commissions paid to such broker-dealers are not in excess of the amounts other broker-dealer would charge for the same transaction. These benefits are used in the servicing of all client accounts, not just those that paid for the benefit.

Certain clients may be subject to non-US regulations that are inconsistent with PanAgora's standard trading practices. For example, recent revisions to the EU Markets in Financial Instruments Directive ("MiFID") and related regulations limit a MiFID-licensed manager's ability to receive products and services from executing brokers. While PanAgora is not directly subject to these regulations, PanAgora may adjust its standard trading practices to accommodate compliance with MiFID and other non-US regulations, which may include certain affiliates. These accommodations may include but are not limited to: expanded use of client commission arrangements, commission sharing arrangements and similar arrangements; enhanced reporting on client commissions and the products and services obtained; non-participation in the generation of soft dollar credits. PanAgora expects the effective commission rates in these circumstances to be substantially similar to those paid by similarly situated clients. However, as a result of these accommodations, clients from certain non-US jurisdictions may account for a lower percentage of soft dollar credits than otherwise similar clients from other non-US jurisdictions.

PanAgora may recommend futures commission merchants ("FCMs") to clients for financial futures trading. In doing so, the primary consideration in making recommendations is to seek to obtain best execution at the most favorable and reasonable commission rates. PanAgora attempts to achieve these results by choosing FCMs based on their professional capabilities (including use of capital, clearance and settlement procedures), the value and quality of their services, and the comparative brokerage commission rates which they offer.

Clients may occasionally direct PanAgora to place transactions with certain broker-dealers. These client directed brokerage arrangements may affect the manner in which PanAgora handles a client's account with respect to negotiating commissions, the inclusion of the client's account in aggregated transactions with other client accounts, seeking to obtain best execution, and generating soft dollar credits. A client who designates the use of a particular broker-dealer should consider whether commission expenses, execution, and clearance and settlement capabilities will be comparable to those otherwise obtainable by the client if such a designation was not made. PanAgora will make an effort to obtain prices for a client's trades with a client directed brokerage that are comparable to those obtained for clients without directed brokerage arrangements. However, trades for client directed brokerage accounts will generally occur after trades for accounts without a client directed brokerage. In those cases, trades will be prioritized among accounts with a directed brokerage in a fair and equitable manner. A client who designates use of a particular broker-dealer should understand that it may lose the possible advantage which non-designating client accounts may derive from aggregation of orders for several accounts as a single transaction for the purchase or sale of a particular security.

If a client limits PanAgora to directed brokerage arrangements and/or prohibits use of the client's brokerage to purchase legitimate research products or services, PanAgora clients who do not impose such prohibition or limitation may potentially pay higher commissions on their brokerage due to PanAgora's soft dollar arrangements compared to the commissions paid by clients who do have such prohibition or limitation; in these instances, clients without such prohibition or limitation may pay a commission which may be in excess of the amount of the commission paid by clients with such prohibition or limitation if in the judgment of PanAgora the higher commission is reasonable in relation to the value of the legitimate brokerage or research products or services rendered. The research paid for by commissions of client accounts that permit use of client brokerage to purchase legitimate research products and services may nevertheless benefit clients who impose such prohibitions or direct the brokerage on their accounts.

### **Trade Aggregation and Trade Allocation Policy**

PanAgora has implemented a Trade Aggregation and Trade Allocation Policy (the "Policy") designed to ensure the fair and equitable treatment of clients with respect to aggregation and allocation of investment opportunities among different clients and different products and in order to ensure that proprietary trading by, and the financial interests of, PanAgora, its affiliates, and its personnel are not favored over clients and client accounts.

PanAgora's policy is to aggregate trades for different client accounts if, in PanAgora's judgment, such aggregation is in the best interest of each participating client and the allocation of completed trades is made among participating accounts in a fair and equitable manner. A client trade may be aggregated with a trade by another account managed by PanAgora only where certain conditions are met. These conditions include: (i) aggregation is consistent with PanAgora's duty to obtain best execution; (ii) aggregation is not in conflict with the terms of the investment advisory contract of each participating client; and (iii) no advisory clients will be favored over any other client as a result of such aggregation. Subject to the Policy and to the extent consistent with applicable law, the execution costs of an account that prohibits the use of brokerage to purchase legitimate research products and services may be lower than the execution costs of other accounts that participate in an aggregated trade.

Partial executions of aggregated equity trades are allocated pro rata to the participating accounts based on order size (*i.e.*, each client shall be allocated that percentage of the executed order that its order size bears to the total size of the order). Allocated amounts may be rounded to reflect market practices for lot sizes. All accounts generally receive the average price obtained. Execution costs for aggregated equity trades will be allocated pro rata to the participating accounts based, in part, on order size, and trades for client accounts of less than a certain number of shares may receive varying allocations intended to reduce the administrative cost on PanAgora and the client's custodian bank. PanAgora may make investments in equity initial public offerings within certain of its equity mandates.

Trades in fixed income securities may also be aggregated into a single order if, in the appropriate investment professional's opinion, there are benefits to the client accounts with respect to liquidity, timing, and other factors. For fixed-income aggregated transactions, all accounts generally receive the same purchase price and any transaction costs are shared pro rata among participating accounts.

The Compliance Officer may authorize the use of alternative allocation methodologies where PanAgora believes that the circumstances of a trade would cause inequitable allocations or may otherwise be unfair to the participating



accounts. Such allocation methodology may be employed only when the Compliance Officer determines that it will result in a fair and equitable allocation for all participating accounts and is based upon objective criteria.

### **Trade Errors**

PanAgora has adopted written policies and procedures to address trade errors, including, but not limited to, the failure to properly execute an intended transaction for a client account (“Trade Error”). Not all mistakes are considered Trade Errors under the policy. For example, an investment decision made by a PanAgora investment professional acting in good faith that produces a loss in a client account is not considered a Trade Error under the policy. The consequences of any Trade Error and the corrective measures required to rectify a Trade Error may differ depending upon the nature of the error or the account affected. PanAgora’s policy is to resolve Trade Errors in a manner that is fair and equitable to the client under the particular circumstances. PanAgora’s goals with respect to Trade Errors includes, among others, to: (i) identify Trade Errors in a timely manner; (ii) to seek to correct Trade Errors promptly in a way that mitigates losses; and (iii) to place any affected account in the same or no worse a position than it would have been in had the Trade Error not occurred.

## Item 13 -- Review of Accounts

Client portfolios are reviewed by investment personnel on a regular basis. The specific interval is a function of the particular investment strategy used for the portfolio, activity within the account (i.e., additions and withdrawals of funds), and the economic or market events affecting the portfolio. PanAgora's investment personnel reviews the performance of client portfolios and their conformity with the clients' respective investment objectives and policies. PanAgora employs approximately fifteen investment personnel who, acting together, review client portfolios. Such reviews are also conducted by the chief investment officer, directors in investment teams (including portfolio managers), as well as the compliance officer, compliance manager and compliance associates. The Trading and Investment Practices Committee also reviews the performance of all client portfolios on a monthly basis.

Client portfolios are also reviewed at least monthly by operations associates for the purpose of reconciling PanAgora's account records with those of the clients' respective accounting agent or administrator. Where data is available, the operations associate will reconcile custody, cash, and security share positions on a daily basis to the custodian, prime broker, counterparties and FCMs.

With respect to discretionary separate accounts, clients are provided with monthly and quarterly written reports which contain (1) a portfolio appraisal, (2) performance information, and, upon request, (3) a summary of transactions.

Private fund and Group Trusts investors receive monthly written account statements and annual audited financial statements.

## Item 14 -- Client Referrals and Other Compensation

PanAgora has entered into a service level agreement with another financial intermediary, whereby PanAgora has appointed and compensates such financial intermediary as a local service team to provide certain services that facilitate the bidding process for, and servicing of, overseas investment mandates for one or more non-U.S. government pension funds.

Furthermore, PanAgora has entered into an arrangement with a U.S. private banking institution and certain of its private banking affiliates as placement agents in connection with the offering and sale of private fund interests to its U.S. private banking and wealth management clients pursuant to offering documentation only offered to such private investors. The applicable private fund pays a portion of the management fee to the U.S. private banking institution as compensation for, among other things, servicing its clients who are invested in such private fund.

## Item 15 -- Custody

PanAgora separate account clients and funds typically maintain custody arrangements through independent qualified custodians. However, PanAgora may, in some circumstances, be deemed to have “custody” (as defined in Rule 206(4)-2 under the Advisers Act (the “Rule”)) of client securities and funds, even though it does not actually maintain possession of client assets.

To the extent PanAgora is deemed to have “custody” over the securities and funds for any advisory client, such advisory client will receive account statements from PanAgora at least quarterly. Such clients will also receive account statements from broker-dealers, banks or other qualified custodians with respect to the assets managed by PanAgora. PanAgora also will receive account statements from qualified custodians to determine that account transactions are proper. PanAgora urges advisory clients to compare account statements prepared by PanAgora with the custodian statements on at least a quarterly basis.

With regard to pooled investment vehicles for which PanAgora is deemed to have custody, PanAgora will ensure that annual audited financial statements are provided to the pool participants in accordance with the Rule.

## Item 16 -- Investment Discretion

PanAgora has discretionary investment authority as a sponsor and investment manager for certain private unregistered investment pools and as investment manager for the Group Trusts. PanAgora also has discretionary investment authority as an investment manager for separate account and subadvisory clients. PanAgora typically receives discretionary investment authority, including a power of attorney, through an investment management or similar agreement between PanAgora and the applicable client. In all cases, such discretion is to be exercised in a manner consistent with the stated investment objectives for the particular client's account.

## Item 17 -- Voting Client Securities

At the inception of each client account, each client must elect to either retain all voting rights in respect of all client securities or grant PanAgora all such voting rights in respect of all client securities.

PanAgora has adopted written policies and procedures, pursuant to Rule 206(4)-6 under the Advisers Act, reasonably designed to ensure that, where such authority is granted to PanAgora, it votes client securities in the best interest of clients. PanAgora has engaged Institutional Shareholder Services Inc. (“ISS”) as a third-party proxy service provider. While PanAgora retains final authority to determine how each proxy is voted, in most instances, PanAgora follows the proxy voting policies and recommendations (the “Guidelines”) of ISS. ISS tracks each proxy that PanAgora is authorized to vote on behalf of its clients and makes a recommendation to PanAgora management as to how ISS recommends voting such proxy per its Guidelines. Unless otherwise directed by PanAgora, ISS will vote on such matters on PanAgora’s behalf in accordance with its recommendations.

PanAgora has adopted procedures to oversee and monitor the services provided by any third-party proxy voting agents, such as ISS. Among other things, PanAgora reviews the agent’s policies and procedures, with a particular focus on those that relate to identifying and addressing conflicts of interest and ensuring that current and accurate information is used in creating recommendations. PanAgora also conducts onsite due diligence meetings and samples votes cast by the agent on a periodic basis to ensure that any guidelines approved by PanAgora are being followed. PanAgora also requires proxy voting agents to notify PanAgora if certain events occur, such as a material change in the agent’s conflicts of interest policy or its business practices. PanAgora also maintains an appropriate protocol in the event of any errors in voting by the agent as part of its oversight program.

PanAgora retains the right to override specific recommendations and/or may modify ISS’s Guidelines in the future. The best interest of its clients is the primary consideration in determining how proxies should be voted. Certain proxy voting proposals may raise conflicts between the interests of PanAgora’s clients and the interests of PanAgora and its employees. PanAgora’s Investment Committee and Compliance Officer are responsible for seeking to identify proxy voting proposals that present a conflict of interest. If they identify such a proposal, they will decide whether it presents a material conflict of interest and review to ensure that the proxy is voted in the best interest of the client.

Clients may obtain a copy of PanAgora’s proxy voting policies and procedures upon request. To obtain a copy of PanAgora’s proxy voting policy or proxy voting results for your account, please contact PanAgora at 617-439-6300 or by e-mail at [complianceofficer@panagora.com](mailto:complianceofficer@panagora.com).

## **Item 18 – Financial Information**

Not applicable