

A world of investing.®



PanAgora Asset Management



A culture of cutting-edge investment research
Combining quantitative methods with fundamental insights
Managing global investments since 1989

Not FDIC insured | May lose value | No bank guarantee

PanAgora Asset Management



“As a firm, we love conducting original, practical research and applying the insights to our client portfolios.”

— ERIC SORENSEN, Ph.D.

A premier provider of research-driven investment solutions

PanAgora manages systematic strategies that combine cutting-edge quantitative techniques with fundamental insights of experienced investment professionals. Offerings include alternative, risk premia, and active strategies spanning all major asset classes and risk ranges. Founded in 1989 and headquartered in Boston, PanAgora serves global institutions, public and private retirement funds, sovereign wealth funds, endowments and foundations, and sub-advisory partners.

Quantitative methods designed to pursue fundamental insights

PanAgora manages portfolios using sophisticated quantitative techniques that incorporate vast amounts of market information in order to capitalize on the firm’s fundamental research insights. Innovative research is a key ingredient in differentiating the firm’s results. The investment teams are committed to fully understanding the underlying factors that influence a security’s performance, including company operations, investor behavior, and macroeconomic signals.

A systematic approach to management

PanAgora invests with the philosophy that capital markets are not perfectly efficient and instead offer attractive opportunities for investors who pursue disciplined, systematic strategies. A pioneer in innovative portfolio construction techniques, PanAgora has implemented risk-budgeting across and within asset classes for over a decade, becoming a recognized industry leader. Its goal is to generate more attractive risk-adjusted returns on a persistent basis.

Blending creativity with innovative investment research

Organized in Equity and Multi-Asset teams, PanAgora’s investment professionals think creatively to develop unique investment strategies and techniques. Team members hold 50 advanced academic degrees, including 11 Ph.D.s and one M.D., and most are engaged in original research, applying fundamental intuition to unlock investment opportunities. With diverse yet complementary backgrounds, team members collaborate to compound the value of research insights.

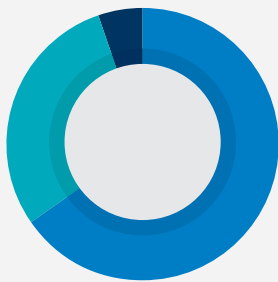
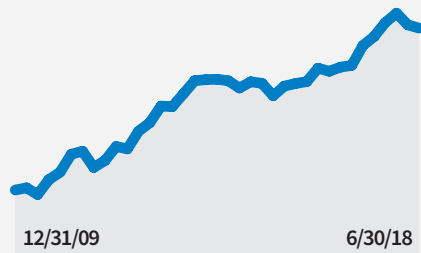
PANAGORA AT A GLANCE

29 YEARS SERVING INVESTORS

150 INSTITUTIONAL CLIENTS GLOBALLY

\$51 BILLION IN ASSETS UNDER MANAGEMENT as of June 30, 2018

INCREASED \$34 BILLION since December 31, 2009



DIVERSE INVESTMENT CAPABILITIES

● Active equity strategies	\$33.1B
● Alternative strategies	\$15.0B
● Asset allocation and customized mandates	\$2.6B

LEADERS IN FINANCIAL THEORY



ERIC H. SORENSEN, Ph.D.
President and Chief Executive Officer
Investing since 1986
PanAgora since 2004



EDWARD E. QIAN, Ph.D., CFA
Chief Investment Officer and Head of Research, Multi Asset
Investing since 1996
PanAgora since 2005



GEORGE D. MUSSALLI, CFA
Chief Investment Officer and Head of Research, Equity
Investing since 1995
PanAgora since 2004



MICHAEL H. TURPIN, CFA
Chief Operating Officer
Industry since 1991
PanAgora since 1991



ROBERT JOB, CFA
Head of Global Strategic Relations
Industry since 1992
PanAgora since 2004



PanAgora researchers have published two important books on financial theory as well as numerous academic articles that can be found at panagora.com.

Sub-advisory relationship with Putnam Investments

PanAgora Asset Management is a sub-advisor to three mutual funds that pursue liquid alternative strategies and are distributed by Putnam Retail Management.

Founded in 1937, Putnam Investments is a global money management firm with over 80 years of experience serving investors, financial advisors, and institutions. Putnam managed \$172 billion in assets as of June 30, 2018. Putnam operates from offices in Boston, London, Frankfurt, Tokyo, Singapore, and Sydney.

PanAgora Asset Management and Putnam Investments are affiliated members of the Power Financial Corporation group of companies.

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All funds involve risk, including the loss of principal.

Investors should carefully consider the investment objectives, risks, charges, and expenses of a fund before investing. For a prospectus, or a summary prospectus if available, containing this and other information for any Putnam fund or product, call your financial representative or call Putnam at 1-800-225-1581. Please read the prospectus carefully before investing.