



NEPC, LLC

WILLIAM Y. BOGLE, IV  
PARTNER, CHIEF COMPLIANCE OFFICER

July 3, 2019

Ms. Daphyne SESCO  
Procurement Specialist 3  
City of Gainesville  
200 East University Avenue  
Gainesville, FL 32601

**RE: Investment Consulting Solution for the City of Gainesville**

Dear Ms. SESCO:

NEPC, LLC ("NEPC") is pleased to provide you information on our firm. NEPC has been providing consulting services since 1986. NEPC was founded on three main principles: strive to maintain **independence**, provide **proactive counsel** in an attempt to help our clients exceed their goals and objectives, and service our clients with **seasoned professionals**.

The commitment to our clients and guiding principles remains intact, recognizing that our efforts can enhance benefits for the millions of beneficiaries in our care. Our focus has led to favorable client satisfaction ratings relative to our nine largest competitors. Many of our competitors point to specific capabilities as differentiators, and we can as well, but we believe it is hard work and trust that really drives these consistently high ratings from our clients. We hope to provide this commitment and focus to City of Gainesville.

As you assess NEPC's capabilities, we ask you to consider the following:

1. We are one of the largest **independent** investment consulting firms in the industry. We advise 373 retainer clients with \$1.0 trillion in assets<sup>1</sup>. Our growth is attributed to the high quality results our clients have achieved and our high service model.
  2. We have a **dedicated public fund team** that advises 69 public funds representing \$607 billion in assets<sup>2</sup>.
  3. NEPC research is **award winning**<sup>3</sup>. We have one of the largest research staffs among independent firms and have subject matter specialists in all facets of traditional and alternative investments.
- In 2018, Allan C. Martin, a Partner on the public fund team, was named in *CIO* magazine's "The Knowledge Brokers 2018" edition as one of the **world's most**

<sup>1</sup> As of 4/1/2019, includes 57 clients with discretionary assets of \$22.4 billion.

<sup>2</sup> As of 4/1/2019

<sup>3</sup> Please see Disclosures for important disclosures related to awards and recognitions.



**influential investment consultants** and at the CIO Innovation Awards he was named **consultant of the year**.

- NEPC's Chief Investment Officer was named on *CIO* magazine's 2016 annual ranking of the **World's Most Influential Investment Consultants**.
4. We are **thought leaders**, guiding our collective client base to **outperform** the InvestorForce/ICC median<sup>4</sup> in 28 of the 33 years since our founding in 1986.

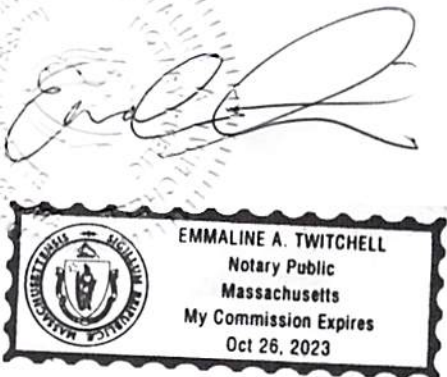
Thank you in advance for your consideration and we hope to have the opportunity to present our consulting capabilities to you in person. Should you have any questions, please call me, or your proposed lead consultant, Doug Moseley, Partner, at (617) 374-1300.

I, William Y. Bogle, IV, Partner, Chief Compliance Officer, am authorized to bind the firm.

Best regards,

A handwritten signature in black ink, appearing to read 'W. Y. Bogle, IV', is written over the 'Best regards,' text.

Enclosures



<sup>4</sup> The median fund in the \$1.7 trillion InvestorForce Universe (or the ICC Universe through 2011) represents average performance among a nationwide sample of plan sponsor results.



# **INVESTMENT CONSULTING SOLUTION FOR**

**The City of Gainesville**

**July 2019**



BOSTON | ATLANTA | CHARLOTTE | CHICAGO | DETROIT | LAS VEGAS | PORTLAND | SAN FRANCISCO

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## NEPC, LLC Executive Summary

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NEPC, LLC, is one of the country's leading investment consulting firms. We service 373 retainer relationships, representing assets of \$1.0 trillion<sup>5</sup>, with approximately \$63.0 billion in alternative assets<sup>6</sup>. Headquartered in Boston, Massachusetts, NEPC has been providing investment consulting services since 1986. Today, the firm has formal offices in Atlanta, Boston, Charlotte, Chicago, Detroit, Las Vegas, Portland and San Francisco.

### Public Fund Expertise

NEPC has been consulting to public retirement plans since its inception in 1986. NEPC currently consults to 69 public funds representing \$607 billion in assets. Our dedicated Public Fund Consulting Team has deep knowledge of asset allocation, asset liability hedging as well as a proactive strategic approach, which understands the nuances specific to the public fund marketplace.

### Our Approach/Philosophy

**Our clients define us. They come first in everything we do.** Everything we do is driven by our passion to improve lives one investment at a time. We gain a clear understanding of unique client situations and calibrate every investment decision with client success in mind. In order to prioritize client interests we remain independent, and invest heavily in research to have well-founded opinions.

Our investment philosophy is to create outstanding returns while focusing on risk awareness within portfolios that are customized to each client's goals. It is critical to start with an assessment of each client's ability to take risk and ask, "What can go wrong?" By understanding a client's goals, we can develop thoughtful asset allocation strategies that diversify programs to help mitigate risk consistent with the client's goals.

Following a traditional path can be entirely appropriate in building a particular portfolio. That said, we do not shy away from breaking with standard methods when we think that a new direction offers a better approach. Expect our analysis to be thorough and our recommendations to be made with conviction. Our client portfolios are typically broadly diversified across the global landscape, across and within both traditional and alternative asset classes and strategies. We proactively build investment programs with long-term strategic asset allocations; however, we will recommend clients make tactical asset allocation shifts when significant opportunities or risks exist in the markets. We strive for continuous improvement to position client portfolios for the future.

NEPC's full service retainer relationships are characterized by a trustworthy service commitment, featuring ready access to our staff and resources, state-of-the-art technology, and comprehensive solutions to our clients' investment needs. We offer an array of services to our clients, highlights of which are outlined below.

### Investment Policy - Your Goals, Your Plan

Creating/reviewing your Investment Policy Statement (IPS) is our first priority. A well-conceived, actionable plan developed in close collaboration with the client, the IPS sets forth your goals and objectives within risk tolerances and investment constraints. Serving as the

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<sup>5</sup> As of 4/1/2019, includes 57 clients with discretionary assets of \$22.4 billion.

<sup>6</sup> As of 12/31/2018, only includes assets/clients for which NEPC has due diligence responsibility for their alternative assets.



investment program's blueprint, the IPS defines asset classes and investment managers, an asset allocation target, investment guidelines and restrictions, including rebalancing guidelines and performance benchmarks, and the roles of the plan's fiduciaries and reporting requirements. We extend and reinforce the IPS by developing investment guidelines for each investment manager in a client's portfolio.

### **Asset Allocation - Multifaceted, Customized, Risk-controlled**

Along with leveraging our dedicated research group and asset class experts, NEPC uses sophisticated and comprehensive proprietary asset modeling systems to customize each client's investment program. After a careful analysis of your objectives and constraints — cash flow projections, risk aversions, rate of return requirements, permissible asset classes, and any unique policy or regulatory considerations — we seek to develop investment portfolios. Employing a multifaceted approach that integrates several asset allocation models, including mean-variance optimization, risk budgeting, economic scenario analysis, factor analysis and liquidity analysis to minimize risk, we identify strategies that represent the most efficient risk-return-liquidity tradeoffs.

### **Manager Search – A Rigorous, Proprietary Process**

We believe that identifying managers that can meet a fund's objectives is one of the most important parts of an investment consultant's role. Our proprietary process begins with documenting the reasons for the search, and taking note of the client's specific needs, objectives, and sensitivities. NEPC has developed minimum criteria for each asset class, and we monitor a variety of internal systems and databases, including eVestment to find and track managers for our focused placement list of managers.

Of most impact to finding the best managers first are two resources unique to us: the NEPC database, housing all of our Due Diligence data, and our proprietary Performance Analytics Statistical Software (PASS), which allows our analysts to validate and compare investment returns and other key performance indicators.

We review investment manager candidates objectively and methodically. When a list is vetted, we can assist with the interview process, either with you or on your behalf, to create the most appropriate portfolio of managers to reach the risk and return goals of the Fund.

### **Alternative Assets – Improving Diversification and Risk-adjusted Returns**

NEPC has significant experience building alternative asset programs and identifying high quality private equity, private debt, hedge funds and real assets managers for our clients' alternative investments programs. NEPC has been actively working with client investments in alternative assets for the past 25 years and has the commitment, experience, and research resources to meet all of your alternative asset consulting needs. We work with \$63.0 billion in alternative assets across 245 clients<sup>7</sup>. During 2018 alone, we completed 275 alternatives searches encompassing over \$2.9 billion. Our alternative assets services include: education, portfolio design, manager search, due diligence reviews, and monitoring/reporting.

We currently have 27 full-time individuals dedicated to Alternative Investments led by Neil Sheth, Partner, Director of Alternatives Research. The Alternative Assets Group includes two principal groups: Private Markets and Absolute Return. In addition, three people,

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<sup>7</sup> As of 12/31/2018, only includes assets/clients for which NEPC has due diligence responsibility for their alternative assets.

including NEPC's Chief Compliance Officer, William Y. Bogle, are focused primarily on operational due diligence of Hedge Fund and Fund of Hedge Fund managers and strategies.

### **Performance Measurement - Broader, Deeper Analysis**

Investment Performance Analysis (IPA) reports are highly graphic, customized documents, providing performance results, risk analyses and comparisons for the total fund, all asset classes, capitalization ranges, and style combinations and investment managers versus goals and objectives. We work with each client to develop an appropriate reporting tool for their program.

### **Client Education - Timely, Tailored Programs**

As a research-driven organization whose consultants are among the industry's foremost thought leaders, we take every opportunity to share our resources and insights with our clients. As we see it, the better informed you are, the stronger our collaboration. That's why, in addition to your access to a team of NEPC consultants and analysts, we provide a range of tailored educational programs and services. Of course, we also offer informative resources such as white papers, in which we present our perspectives on industry issues, legislative changes, and investment strategies that can affect an investment program.

Covering everything from the basics of investing to trustee responsibilities, details on various alternative assets, and the latest research, products, and results, our outreach takes many forms. Our featured event, the NEPC Investment Conference, is held annually in Boston, Massachusetts. We also host an annual Public Fund Workshop that is tailored to address the issues and concerns impacting our public fund clients.

# Response to Questionnaire

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## B. Qualifications/Statement of Qualifications

### 1. Letter of Understanding

**Please provide a brief statement of the proposer's understanding of the Board of Trustees' and City's needs and a discussion of the services provided by your firm to meet those needs.**

### 2. Organization

**Please describe the organization and structure of your firm as it relates to investment consulting. Items to include:**

**a. When was your firm founded?**

NEPC, LLC has been providing investment consulting services since 1986. NEPC was founded on three main principles: strive to maintain **independence**, provide **proactive counsel** in an attempt to help our clients exceed their goals and objectives, and service our clients with **seasoned professionals**. This focus has generated 33 consecutive years of controlled growth.

NEPC takes pride in our long record of success providing independent, objective investment counsel to our clients. Clients can be confident in NEPC's integrity, as our revenue model is completely aligned with our clients' interests and goals. NEPC receives **100% of our revenue** exclusively from providing advisory consulting and discretionary investment services to our clients. NEPC's client-focused approach, paired with our experience and deep research resources, helps to ensure that we will continue to meet our clients' needs, through all types of market conditions.

**b. Location of national headquarters, and location of any branch offices. If you have a Florida branch office, would there be a Florida representative assigned to our account? What is the number of professional employees at your firm?**

While we have offices in Atlanta, Georgia; Charlotte, North Carolina; Chicago, Illinois; Detroit, Michigan; Las Vegas, Nevada; Portland, Oregon, and Redwood City, California, our primary office is:

NEPC, LLC  
255 State Street  
Boston, MA 02109  
Telephone: (617) 374-1300  
Facsimile: (617) 374-1313  
Website: [www.nepc.com](http://www.nepc.com)

NEPC has a staff of 292 professional employees, all of whom are solely dedicated to the practice of investment consulting<sup>8</sup>. Our 103 consultants include 71 consultants who work directly with clients, and 32 consultants involved in asset allocation, traditional and

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<sup>8</sup> As of 4/1/2019



alternative assets research. We are organized by practice teams to provide specialized consulting services to different fund types. NEPC has seven consulting practice teams devoted to Taft-Hartley, Public Funds, Endowment/Foundation, Healthcare Organizations, Corporations, Private Wealth Clients and Defined Contribution Plans.

Additionally, 129 analysts function under the areas of consulting, research across traditional and alternative asset classes and preparation of performance measurement, manager search, and asset allocation studies. There are 20 members of our staff who are responsible for compliance, financial reporting, human resources and marketing. Seventeen members of our staff are responsible for our systems, nine members of our staff are responsible for operations, and 14 employees have administrative responsibilities.

**c. Provide an organizational chart of your firm.**

NEPC's Organizational Charts can be found in Tab 3.

**d. How do you customize your services to a particular client?**

All clients have unique needs and are treated as such. NEPC has no standardized approach or model Policy portfolio and, hence, each client, program, search, and investment recommendation is unique and reflects risk tolerances, liquidity requirements, actuarial return assumptions and biases regarding key decisions like benchmarking, reporting and the use of active vs. passive implementation.

We pride ourselves on our ability to customize our products and services to each client's needs, including our approach to communication and setting priorities. NEPC's Consulting and Performance teams work closely with our clients to develop a customized performance reporting package that meets each client's needs, at no additional charge. Requests for changes to reports or their frequency can be accommodated at any time.

Below are five possible ways we customize reports:

1. **Depth of analysis:** Certain clients prefer a portfolio summary analysis while others prefer manager level analysis. We are able to be as granular or as detailed as the client would like.
2. **Length of Content:** We customize reports for length so the client is receiving the desired amount of detail to make investment decisions
3. **Display of Content:** There is not a rigid prescribed format of how to report performance analysis. Typically, through the onboarding process, there is an in-depth discussion with staff regarding quarterly report content and format. This is typically an iterative process until the right balance is met.
4. **Graphical images/calculations:** Some people prefer charts, some prefer data tables and others prefer alternative metrics. We are able to adjust graphics, charts and calculations to effectively communicate with our clients.

**e. The average number of accounts per consultant.**

**The firm's client-to-consultant ratio is 5:1 – one of the lowest in the industry.**

We service 373 retainer relationships with 71 *full-time equivalent* client servicing consultants. We proudly maintain a level that is significantly below the industry averages.

**Importantly, the average of five clients per consultant does not include our research consultants.** Most of our competitors include their research personnel in their client coverage which we believe can materially misstate the true coverage clients should enjoy from a well-resourced firm.

We limit the number of accounts per consultant based on the client's complexity and servicing requirements. We decline new business when we determine that we cannot maintain our service standards without first hiring additional consultants and support staff. In 2018, we declined to respond to 161 RFP submissions.

We have carefully grown our consulting and technical staff to service our existing client base and to accommodate future growth. Therefore, we only succeed and grow if our clients are happy and their needs have been met.

**f. Number of years your firm has been providing consulting services to tax exempt plans.**

NEPC, LLC has been providing investment consulting services to tax exempt plans since 1986.

**g. Is your firm S.E.C. registered? If so, please provide a complete copy of your A.D.V. Form Part II or such other form that may disclose similar information.**

Yes. NEPC is a Registered Investment Advisor under the 1940 Act. Enclosed please find a copy of NEPC's Form ADV Parts 1 and 2 in the Appendix.

**h. What percentage of revenues is a result of investment consulting? What other services or products are offered? Does your firm or affiliate manage money for clients?**

Advisory and discretionary investment consulting are NEPC's sole lines of business; therefore, 100% of our revenues are a result of providing advisory and discretionary investment services to our clients.

We do not provide trust, actuarial or brokerage services. NEPC provides discretionary investment services for certain clients as an extension of our traditional consulting business. Under this service, we primarily determine asset allocation, and select and implement investment managers and certain strategies for our clients, based on the client's goals and objectives. We do not trade or otherwise manage individual securities.

**i. Is your firm or its parent or affiliates a broker/dealer? Does your firm accept trades for client accounts through this broker/dealer? What are the commission rates per share? Does your firm accept soft dollars as a method of payment for services provided? If so, please provide details.**

No.

**j. Describe the history, ownership, and organizational structure of your firm. Has there been a substantial change in ownership or organization during the past three years? If so, please explain. Does your firm anticipate any near-term changes in ownership or organization structure?**

NEPC is a Limited Liability Company (LLC). Since inception in 1986, NEPC has been 100% employee-owned and is therefore neither an affiliate nor a subsidiary of any organization. Today, ownership is shared among 41 Partners. We have an active process that allows for the annual distribution of firm equity. The equity plan ensures continuity and stability through the ongoing transition of the firm's ownership to future generations. **This ownership is not a phantom equity program but an actual ownership transfer.** In the current world of industry consolidation, our thoughtful approach to the business model sets NEPC apart from many of our competitors who are just now addressing the critical challenge of intergenerational wealth transfer and management continuity. NEPC's sole focus on **investment consulting** while being 100% employee owned with no one person owning more than 8% of the organization assures our clients that we will be able to keep doing what we love for many years to come.

Our ownership is broadly shared and is remarkably stable. As such, there have been no significant changes in the last 3 years nor are there any pending changes. Our ownership structure is a source of pride and a large contributor to our stability and success. Early on, the founder and subsequent shareholders recognized the strength of an employee-owned firm. As a result, NEPC has many of its original employees and continues to attract individuals from competing consulting firms. In fact, NEPC has hired 32 consultants from other investment consulting firms. Over the years, we have deepened our overall infrastructure and broadened the ownership base. By adding new partners, NEPC has distributed more ownership among the firm's professionals.

Several years ago, our Management Team and founder, Richard "Dick" Charlton, agreed upon a transition program under which Dick would gradually phase out his active involvement in the management of NEPC. Our principal objective was to ensure a thoughtful transition to a seasoned and talented management team, well-positioned to carry on the culture, client commitment and traditions that have earned NEPC remarkable distinction in the industry. Effective January 1, 2016, the 30<sup>th</sup> anniversary of our founding, Dick formally transitioned to Chairman Emeritus of NEPC.

Looking forward, we do not anticipate any material changes in the future, other than the continued transition of the firm's equity to current and future key professionals and our continued focus on being a "true partnership."

- k. If any or part of the work to be performed under this RFP is to be subcontracted, the respondent shall provide a complete description of services to be subcontracted together with a complete description of the qualifications and capabilities of the subcontractor to perform same. As part of the contract, the Board of Trustees reserves the right to approve or disapprove any and all subcontractors and to revoke any approval previously given.**

NEPC does not outsource any core services for clients operating primarily in the United States. While we use outside data sources and some technology resources, all manager research and reporting work for clients is conducted by NEPC employees (only). However, in the interest of full disclosure, we have one large corporate client that has Canadian subsidiaries, however, and we have engaged a consulting firm in Toronto to assist us with the unique aspects of providing advice to Canadian retirement plans.

- l. Identify any clients lost and gained over the last two (2) years and circumstances.**



Over the past three calendar years, NEPC has had an average annual client retention rate of 93.2%. Despite our strong client retention, we take our clients' satisfaction seriously and any client loss is significant. With that in mind, we do the following:

- ▶ We survey our clients every two years.
- ▶ We conduct focus groups with a cross section of our clients to discuss future needs, investing trends, challenges, etc. *Due to NEPC's contractual obligation with our clients, we cannot disclose specific information about our current or former clients without their consent. See table below.*

	Year Ending Mar-19	Year Ending Mar-18
<b>Total # of Clients Gained*</b>	<b>20</b>	<b>21</b>
Reason for Termination		
Decided not to use a consultant	0	2
Outsourced to a 3rd party/discretionary provider	2	3
Rebid the contract and hired someone else	12	10
Change at client (merger, fund termination, etc.)^	4	2
<b>Total # of Clients Lost*</b>	<b>18</b>	<b>17</b>

\* Clients represent all institutional retainer clients with assets in excess of \$100 million (NEPC's target market).

^ Client losses due to reasons outside of NEPC's control.

Due to client confidentiality issues, we cannot provide you with a complete list of clients gained in the past 2 years. We have provided a representative client list in Tab 4.

**m. Have there been any legal, administrative, or other proceedings against your firm, and/or the representatives who will be assigned to our account? Have there been any notices or actions taken against your firm, and/or representatives that could have ripened into such proceedings? If so, describe in detail.**

No. NEPC is not currently involved in any litigation, nor are we aware of any pending litigation. During our 33-year history, NEPC has been involved in a small number of cases, none of which had a material impact on our business. Within the past five years there was no litigation connected with clients and only one non-client matter: In the spring of 2017, one of NEPC's competitors (CTC|myCFO) filed a lawsuit against NEPC and four NEPC consultants alleging improper solicitation of CTC employees and CTC clients. The lawsuit was resolved and has been dismissed.

**n. What is the maximum profession liability and errors and omissions insurance coverage afforded to any of your existing clients?**

NEPC carries Errors and Omissions coverage – also known as Professional Liability coverage – for the overall firm which includes a Director and Officers Policy. The limit is \$25 million annually, with E&O retention of \$1 million per claim; D&O retention of \$500k per claim; and Fiduciary Liability retention of \$0. The primary insurance carrier is QBE Specialty Insurance Company, the second carrier is Argonaut Insurance Company, the third carrier is Freedom Specialty, the fourth carrier is Houston Casualty Co and the fifth carrier is Everest National Insurance Company.

Additional coverage includes but is not limited to:

- Commercial Umbrella - \$10 million in additional coverage (The Hartford)
- Business Owner's Policy (The Hartford), which includes:
  - General Liability - \$1 million each occurrence, \$2 million aggregate
  - Products Completed/Operations Coverage - \$2 million
  - Personal & Advertising Injury Liability - \$1 million
- Workers Compensation - \$1 million/accident, \$1 million/disease, \$1 million/policy limit (The Hartford)
- Employment Practice Insurance - \$5 million per claim, \$5 million aggregate with a \$25,000 deductible (Mount Vernon Fire)
- Commercial Crime Insurance (NEPC) - \$2 million limit, \$50,000 deductible (Great American Insurance Company)
- Chief Compliance Officer Individual Liability Coverage - \$500,000 per claim (Travelers Insurance Company)
- ERISA Bond (NEPC/PS & 401k) - \$1 million employee dishonesty (The Hanover)
- Commercial Crime Bond/ERISA Bond - Client Related (Great American Co)
- Cyber Liability (a Chubb-Ace American Insur Co) - \$5 million each Wrongful Act, \$5 million aggregate for all coverages combined & including defense costs

### 3. Qualifications and Experience of Key Personnel

**List your key personnel who will be assigned to our account including any advanced degrees or educational achievements and/or credentials (MBA, CFA, J.D., etc.) The following should also be included:**

The City of Gainesville relationship would be a very important one to NEPC, and as such would be serviced by Doug Moseley, Partner, as the lead consultant and David Barnes, CFA, CAIA, Senior Consultant, as the backup consultant. Their biographies follow. They will be supported by a dedicated Consulting Analyst, a dedicated Performance Analyst and dedicated research specialists where appropriate.

#### **Douglas W. Moseley** **Partner**

Doug's investment experience dates back to 1995, and he joined NEPC in 1998. Doug works with a broad range of clients, including public funds, corporate plans and endowments. Doug is also a member of NEPC's Traditional Due Diligence Committee and the Fixed Income Advisory Group.

Prior to joining NEPC, Doug worked for three years as a Senior Investment Analyst for the Massachusetts Pension Reserves Investment Management ("PRIM") Board, a \$21 billion public fund. While at PRIM, he assisted in asset allocation reviews and manager searches and monitored portfolio compliance. Prior to working at PRIM, Doug worked for State Street Bank & Trust Co. as a Fund Auditor and Portfolio Accountant in their Public Funds Division.

Doug earned an M.B.A. from Bentley College in 1999, and a B.S. in Business Administration from the University of Massachusetts at Amherst in 1993. He currently serves as a Board member for the Quincy Community Action Program, a not-for-profit providing services to lower-income residents in the communities south of Boston.

**David Barnes, CFA, CAIA**  
**Senior Consultant**

David started his investment career in 2000 and joined NEPC in 2011. His consulting responsibilities and background include servicing public pension plans, corporate pension plans, endowments, and foundations. David serves as a member of NEPC's International and Global Equity Research Advisory Group.

Prior to joining NEPC, David was a Senior Investment Consultant at Hewitt EnnisKnupp where he held a variety of leadership roles, such as heading the U.S.-based global, non-U.S., and emerging markets equity research for the firm's Global Investment Management team. During his tenure at Hewitt EnnisKnupp, he authored several technical research papers and reports on investment topics such as portfolio transition management, credit default swaps, 401(k) plan design, active versus passive management, and soft dollars. Before Hewitt EnnisKnupp, David was an Investment Consultant with Willis Towers Watson Investment Consulting.

David received his B.B.A. in Finance from Georgia Southern University and holds the Chartered Financial Analyst designation. He is a member of the CFA Institute and a member of the Atlanta Society of Finance and Investment Professionals. David also holds the Chartered Alternative Investment Analyst (CAIA) designation. Prior to his investment career, David served three years on active duty in the United States Army followed by two years in the Florida National Guard.

**a. Professional history.**

Please see team biographies above.

**b. Current position and responsibilities.**

Both Doug and David are focused on working with clients to support the group decision-making process with staff and Trustees. Through various client initiatives and participation in peer-review Committees internally, they also support the manager research function.

**c. Time in current position.**

Doug Moseley, Partner, has been in this current position since being promoted to Partner in 2007.

David Barnes, CFA, CAIA, Senior Consultant has been in this current position since joining NEPC in 2011.

**d. List significant new hires and terminations over the last three (3) years.**

Our consulting staff is one of the most stable in the industry with an annual average consultant retention rate of **93% over the last 10 calendar years**. We work continuously to become the employer of choice within the industry, having attracted more than 32 professionals from our competitors. It is NEPC's policy not to disclose specific employment information out of respect for our current and former employees' privacy. The table below provides data on the turnover of our professional staff.



**NEPC's Professional Staff Turnover\***

	Year Ending Mar-19	Year Ending Mar-18	Year Ending Mar-17
Departures (Managed/Voluntary)	(7)	(8)	(5)
Retirement/Deceased	(1)	(1)	(1)
External Hires	6	6	7
Internal Promotions	3	5	4
<b>Net Professional Staff Gains</b>	<b>1</b>	<b>2</b>	<b>5</b>

\*Includes Partners, Senior Consultants and Consultants.

**e. Client assignments - number, type, length of relationship. Is there a cap on the number of clients our primary consultant will be responsible for?**

Doug Moseley, Partner, is the lead consultant on 5 accounts and the backup consultant on 3 accounts.

David Barnes, CFA, CAIA, Senior Consultant is the lead consultant on 3 accounts and the backup consultant on 2 accounts.

While we do not have a specific limitation on the number of clients that we intend to accept, we do limit the number of accounts per consultant based on the client's complexity and servicing requirements. We are very sensitive to the servicing requirements of current and prospective clients and have regularly turned down new business opportunities when we determine that we cannot maintain our service standards without first hiring additional consultants and support staff.

**f. Please provide a sample of a current manager performance report and a sample of an equity manager search report that the primary consultant who would be assigned to our account has prepared and presented to an existing client.**

Please see Tab 5 for a sample manager performance report and Tab 6 for a sample manager equity search report.

**g. Briefly describe the staff resources available to support the consulting team.**

All of NEPC's retainer relationships are managed on a team basis which provides continuity for a client. The team outlined in this proposal will work closely together to ensure that a) the collective expertise and experience of the firm is fully utilized, giving City of Gainesville the best possible consulting advice, and b) there will be multiple individuals at NEPC who are intimately familiar with the City of Gainesville portfolio.

Each client has a dedicated consulting team that plays an integral role in all of the tasks performed for the Fund. All of NEPC's clients are supported on a team basis, typically consisting of a "lead" consultant who will attend all meetings and be the point person in the relationship. In addition, a "second" consultant is assigned to each relationship to ensure continuity of service. Generally, you will see both consultants fully integrated into your activities. A consulting analyst will also assist the consultants with ongoing projects and management of day-to-day requests. In delivering our consulting services, these team members will leverage the expertise of professionals in other areas of the firm as well. You can be assured that your primary or lead consultant will be involved on a day-to-day basis and will not be removed from the account unless there is a specific request by the client.

We would certainly tailor our approach to delivering our consulting services to City of Gainesville's unique needs and circumstances.

**h. What percentage of staff turnover has your investment-consulting group experienced in each of the last three years?**

Please see our response to letter d. above.

**i. What steps does your firm take to ensure continuity with an account?**

Please see our response to letter g. above.

#### **4. Review of Investment Managers**

**Please discuss your techniques for reviewing and evaluating investment Managers that will meet the Board's needs.**

##### **Manager Evaluation Criteria**

Our overall criteria for including investment managers in a search:

- An identifiable investment thesis that will allow the manager to generate excess returns. If we can't articulate a manager's edge, we do not recommend the strategy.
- Appropriate understanding of and appropriate procedures for all types of risk that may be present in the execution of the strategy (i.e. market risk, operational risk, key man risk etc.)
- An experienced team that has worked together effectively. Investment management success is highly dependent on people working together; therefore, it is incumbent upon NEPC to confirm that key people and teams are likely to stay in place over the course of the investment period.
- A well-documented investment and operations process. Firms that have strong processes should be better positioned from a risk management perspective.
- Appropriate alignment of interests, including compensation that aligns with employee contribution and significant employee investment in the fund. We believe that it's incredibly important that investment managers have significant capital alongside your capital to best align interests.
- A compliant track record that is consistent with the manager's approach and our expectations of their performance over multiple market cycles. Understanding how a manager will perform in different market cycles is important so that expectations are clearly set and clients understand the potential outcomes.

Vetted managers are recommended based on their fit with the client's goals and objectives, which are determined through the interactions with the client, and can be supported through our active risk budgeting tool. This process helps size the managers within the context of the overall portfolio. We typically prepare a manager search book and will assist with the interview process on behalf of the client as well.

**a. Describe your manager search database (i.e., the number of managers it contains, the sources of information, the types of information it contains, etc.).**

NEPC has long maintained a unique and robust proprietary database of our research on investment managers. NEPC's database houses our qualitative views on a broad group

of investment managers, as well as more in-depth analysis and commentary on NEPC's **Focused Placement List ("FPL")** and high-exposure investment managers. Our database includes due diligence observations and assessments, one-on-one manager meeting write-ups, investment theses, and key historical data regarding products, personnel, organizational changes and our own 48-hour notification letters. The table below provides the breadth of coverage of NEPC's database:

### NEPC's Manager Database

	Rated Products/Strategies*	Focused Placement List Products/Strategies
<b>US Equity</b>	967	145
<b>US Fixed Income</b>	724	102
<b>International Equity – Developed</b>	302	62
<b>Global Equity</b>	272	32
<b>Global Fixed Income</b>	236	29
<b>Global Balanced (includes US)</b>	99	31
<b>Emerging Markets Equity</b>	138	32
<b>Emerging Markets Fixed Income</b>	34	20
<b>Target Date</b>	129	13
<b>Hedge Funds</b>	684	77
<b>Private Equity (includes Closed-end Private Equity, Private Debt, and Credit Opportunities funds)</b>	2,678	264 added over the last ten years (2009-2018)**
<b>Real Estate</b>	897	77 added over the last ten years (2009-2018)**
<b>Real Assets</b>	706	56 added over the last ten years (2009- 2018)**
<b>TOTAL</b>	<b>7,866</b>	<b>940</b>

As of 12/31/2018

\*Includes all unique products and strategies tracked in NEPC's database on which NEPC has developed an opinion (Due Diligence Rating of 1 through 5, with 1 being the highest conviction). Private equity, real estate and real assets categories include all products/strategies tracked in NEPC's internal database.

\*\*Private equity, real estate and real asset funds generally have 12-18 month marketing windows.

Most of the systems we use to analyze investment managers and their performance records are proprietary analytics tools developed exclusively by NEPC. NEPC also uses the eVestment database and Morningstar to provide data on traditional asset managers. The eVestment database covers over 21,000 products across over 2,500 managers. Morningstar lists a total of 27,570 mutual funds.

For alternative assets, NEPC utilizes the Preqin, Pitchbook and Cambridge Associates databases to supplement the private markets funds tracked in our client portfolios. Additionally, we utilize the PerTrac and HFR databases for hedge funds. As of 12/31/18, HFR had 9,655 hedge funds in the database, including ~1,900 institutional quality funds defined as funds with assets under management greater than \$250 million.

#### **b. Describe how your firm categorizes investment managers into specific styles.**

We utilize returns-based factor analysis to monitor a manager's style. This regression technique is based on analysis of the historical returns of the aggregate portfolio versus a passive set of market indices representing the major asset classes. The regression technique is applied to rolling periods of historical returns and provides a clearer picture of a fund's asset class exposure.

## Equity (US and International)

On the equity side, we both categorize and monitor consistency of style through our equity style spectrum analysis. The equity style spectrum analysis is used to quantify the investment approach of each managed portfolio in the universe, and to group portfolios with similar styles of investing. The style spectrum included in each quarterly performance report, provides a map based on Capitalization (y-axis) and Style (x-axis), the two most important determinants of domestic equity performance. This map is divided into nine distinct groupings based on Capitalization (small, medium and large) versus Style (Growth, Core and Value). The goal of this exhibit is to identify gaps and overlap in the allocation among styles, while depicting the magnitude of each manager's style bias. In addition, Style Spectrum measures changes in an investment manager's style bias over time (each quarter, for a period of eight trailing quarters), to appropriately capture "style drift".

Capitalization and style are critical to our manager selection process and to our construction efforts in building a well-diversified investment program, and are used in every manager search and every performance evaluation that we undertake. Our style analysis is based on a factor analysis of actual portfolio holdings (over the last eight quarters) as well as returns based.

## Fixed Income

Our domestic fixed income styles are determined more subjectively based on key portfolio characteristics (current and historical) including duration, credit quality distribution and use of out of benchmark securities. Key categories include: short, intermediate, long, core, core plus and specialized mandates like high yield, bank loans and emerging markets debt.

## Alternatives

A broad range of strategies fall under the alternative investment umbrella including private equity, private debt, natural resources, managed futures and commodities, various hedge funds (relative value, event driven, equity hedge and tactical), and real estate (core, value-added and opportunistic). Each of the different strategies has unique risk, return, evaluation, liquidity and fee arrangements and characteristics.

### c. How do you verify the validity of a manager's performance records?

The Global Investment Performance Standards (GIPS®), which were previously AIMR's Performance Presentation Standards, provide consistent, globally accepted standards for investment management firms in calculating and presenting their results to potential clients. According to the CFA Institute, only investment firms may claim compliance with the GIPS standards. Consultants may not claim to be GIPS-compliant.

[From "Global Investment Performance Standards," Philip Lawton and W. Bruce Remington, published by the CFA Institute, 2005]

By requiring GIPS® compliance of investment managers, we are assured that managers' performance will be presented fairly and consistently; GIPS® compliance ensures fair comparisons between different managers. We want to know (1) if each manager's performance numbers are GIPS® compliant, (2) the date that compliance began, and

(3) if the performance is audited for GIPS® compliance, including the name of the Auditing firm and date of audit. We use eVestment to collect this information.

We also evaluate the % of product assets reflected in the GIPS composite to flag track records that may only capture less than 50% of the assets managed in a strategy. In addition, we also regularly evaluate composite dispersion to assess whether composite, or average results for a group of accounts does not include disparity or groupings of accounts with both excess- and under-performance relative to the benchmark. We do not act as a third-party compliance vendor, and as such do not verify compliance for the converged standards.

**d. Do you conduct on-site visits to investment managers that are in your universe? How many on-site visits has your firm conducted in the last year?**

As part of the initial research process, our researchers conduct an onsite due diligence meeting with the majority of prospective managers. All managers are visited before they can be added to one of our Focused Placement Lists. On an ongoing basis, meetings take place either at NEPC offices, at the manager's office or via conference call. Further, many of our consultants meet regularly with investment managers through client meetings and participation in due diligence meetings. We generally meet with the investment managers in our clients' portfolios at least annually to ensure our conviction remains high in those managers. Exceptions may occur if a manager has been terminated or a fund is being liquidated.

NEPC generally conducts over 3,000 manager meetings annually, with over 1,500 firms per year, covering all asset classes. In 2018, we met with 537 traditional asset manager firms and 980 alternative asset manager firms, or approximately 29 firms a week, on average. While many of these meetings occur in our main office in Boston, Massachusetts, we routinely travel to managers' offices to conduct on-site due diligence. Approximately 13% of our meetings were conducted on-site in 2018.

Our staff visits alternative managers throughout the year in both our offices and theirs. In fact, during the last few years, NEPC has done due diligence on managers in all the major U.S. financial centers, Singapore, Hong Kong, London, Paris, the Netherlands and Edinburgh.

NEPC's 2018 Manager Meetings / Research Write-Ups		
Primary Topic Covered	# of Meetings	# of Firms
Traditional	1329	537
Hedge Funds	556	254
Private Equity	615	418
Real Estate / Real Assets	504	308
<b>TOTAL</b>	<b>3,004</b>	<b>1,517</b>

**e. Please describe in detail your on-site review process.**

Predominantly, the research team meets with managers, especially in the introduction and vetting process. Update meetings may involve client teams with exposure to the specific manager. In these meetings, firm and organizational structures are discussed

along with the portfolio management team. Discussion of the investment strategy is broken down to investment philosophy and process. Issues of risk management and portfolio construction are reviewed at length. Performance from a historical and more recent perspective is examined to determine if the manager is performing in line with expectations considering market conditions, peers, and/or benchmarks.

Investment and operational issues may be covered in the same meeting, but usually our ODD team conducts a separate on-site visit. Typical on-site meetings can range from 2 to 8 hours depending what needs to be covered. On-sites are generally not the first step in the investment due diligence process and multiple calls will prelude an official on-site. All onsite meetings and calls are written up and reviewed by the Hedge Fund team.

On-site meetings are valuable to our research process because they provide us the opportunity to meet with more than the 1-2 key professionals who would normally travel for presentations. Typically, we spend time with other members of the investment team to get a sense of the culture and how they work together. Meeting with more junior members individually not only confirms that the philosophy and process are consistent, but it can often reveal how cohesive the team is and whether the dynamics on the team empower everyone to focus on delivering the best results. In addition, meeting with people responsible for internal controls is insightful to understand whether there is a separate group responsible for investment oversight, how often they are reviewing the strategy, and what their tolerances are for portfolio construction limits and underperformance. Finally, it is helpful to meet with the business leader to assess the non-investment aspects that may impact the investment professionals managing the strategy. As examples, discussions on how they attract and retain investment talent and how much influence they give their investment team on product capacity and investment guidelines may lead to potential issues with key investment departures. Ultimately, on-site meetings provide a more complete picture of the team and infrastructure in place to ensure that interests are aligned with the clients.

**f. Are managers charged fees for inclusion in your database? If so, please describe in detail.**

No. NEPC does **not** charge fees to include managers in our investment manager database or searches, nor does eVestment, our third party database vendor, charge managers to be included in their database. We believe to do so would create an irreconcilable conflict of interest.

**g. Are your software and manager databases developed in-house or contracted through an outside service?**

NEPC uses a variety of databases in its proprietary manager search process, including the eVestment database and Morningstar. In addition, NEPC maintains an internal database which houses all of our due diligence data, including our one-on-one manager meeting write-ups, investment theses, and key historical data regarding products, personnel, organizational changes and our own 48-hour notification letters.

NEPC additionally uses our internally-developed Performance Analytics Statistical Software (PASS). The PASS system allows NEPC to compare investment returns across the full spectrum of investment styles. Importantly, the system allows for the examination of each candidate manager's excess return stream, or "alpha", over time. PASS allows us to contrast each manager's true, embedded beta to a variety of market factors and helps rank managers according to an array of customizable criteria.

Quantitative tools that support the creation of custom risk-based models include an active risk analysis approach which includes a study of manager alpha volatility, correlations across manager alphas and risk allocations of active strategies within a model. We also analyze the style and size of managers using holdings based analysis to identify each manager's fit within the model.

**h. What do you believe differentiates your manager search services from the competition?**

We do not charge extra for manager searches. This removes any incentive to conduct searches simply for incremental revenue. We have invested heavily in our research effort to help our clients find high quality managers. Our manager search service benefits from our manager research process, staffing and the experience of the analysts and consultants contributing to the process. Our main research focus is on the investment thesis of a particular strategy. The investment thesis serves as the bridge between the historical results of an investment strategy and conviction that strong investment performance will be delivered in the future. The people, philosophy and process of an investment all play an important role in determining an investment thesis. Identification of an investment thesis focuses not simply on the historical returns, but rather on the repeatable nature of the process. Simply put, we are looking for a sustainable alpha source and whether or not alpha production is repeatable.

## **5. Comparative Analysis of Investment Results**

**Discuss your methods used to evaluate the manager's decisions in constructing the portfolio and how the pension fund is being rewarded for those actions. Discuss with which peer group universes our fund will be compared. Does your analysis include annualized rates of returns for various indices, including pension/tax exempt fund (on both balanced and specific asset class basis)?**

NEPC utilizes various comparisons for individual managers, asset classes and Total plan performance to evaluate short- and long-term decision-making, including direct benchmark comparisons, peer comparisons and Total Fund peer groups that can be customized by plan size and type. Importantly, these comparisons evaluate both relative return and risk. We also look at individual manager attribution and Plan level policy attribution to provide insight into decision-making. When Total Fund comparisons are presented vs. peer groups (i.e. Public Funds) NEPC also provides detailed information on how those peers have allocated their portfolio so that differences in Policy allocation can be evaluated.

### **Performance Attribution**

NEPC utilizes the InvestorForce Performance Reporting Network (iPRN) for our client performance reports. iPRN provides total plan, asset class and manager-level attribution. The methodologies employed are the Brinson Fachler and Brinson Hood Beebower models. Attribution is calculated based on the beginning of the period (month or quarter) market values and assumes a "buy and hold" methodology. Attribution is broken down into 1) Manager Selection Effect; 2) Asset Allocation Effect and 3) Interaction Effect.

### **Peer Analysis**



To provide our clients with plan-level peer analysis, NEPC utilizes the InvestorForce Plan Universes, which includes 2,609 plans totaling over \$1.7 trillion in assets. This data is drawn from 42 independent investment consulting firms, including NEPC. For manager-level comparisons, NEPC utilizes the eVestment and MorningStar databases, which are the industry's most comprehensive. The eVestment database provides our clients with a very robust history of asset class and manager's returns. The InvestorForce platform also calculates portfolio attribution both at the total plan and manager level to measure the effectiveness of manager selection and total plan performance.

## Returns

We reflect actual NEPC client manager returns when we show universe rankings in our performance reports. We compare our clients' manager returns against the eVestment universes which are based on manager composite returns. The eVestment universes are the very same universes used by our Research Department when conducting searches and monitoring manager performance.

For total fund universes we use actual client returns, not manager composite returns, to compare our clients' total funds against. InvestorForce creates these universes on a quarterly basis using data from 2,609 total funds and provides rankings in our quarterly investment performance analytics reports.

## 6. Strategic Planning Overview

### a. Briefly describe the approach you would use to assist the Board in strategic planning, including the review and possible revision of the investment policy and investment guidelines.

NEPC has extensive experience in developing and reviewing investment policies and strategies for clients, and we would work with City of Gainesville to develop a list of priorities and refine the existing investment policy statement(s) in the beginning stages of the relationship. By doing this, we will provide recommendations on the establishment of objectives of the investment program after conducting a thorough evaluation of your existing portfolio and past practices. This process typically coincides with an asset/liability study to fully understand the direction of the program and to ensure the stated goals and objectives are consistent with the financial condition of the program. On an ongoing basis, typically annually, the objectives will be reviewed and revised, as necessary.

We believe that a well-conceived investment policy statement is the cornerstone of a successful investment program and provides a beneficial element of continuity. The development of an appropriate policy involves the management of competing interests. Critical inputs include: risk tolerance from the perspective of both the Board and Staff, legal constraints and investment restrictions, funded status, liquidity needs, stability of returns and time horizon. We would begin our relationship by reviewing City of Gainesville's existing policy statement(s) and suggesting changes and enhancements. This type of effort is important, since the policy is the vehicle that we use to truly customize each investment program to the unique needs, risk tolerances and return requirements of each client.

## Investment Policy Review

We recommend our clients revisit their investment policy on an annual basis. Barring material changes in the economy, the markets or a client's specific circumstances, we recommend that a formal spending driven asset allocation study be conducted every three to five years, the length of a typical planning cycle. In the interim, we recommend an annual asset based asset allocation study to review the current mix and attainment of return and risk goals.

### Modifications

In general, we believe that an annual review of the IPS should be considered. Additionally, our dynamic approach to asset allocation also requires regular monitoring and review. Ongoing reviews will include:

- Annual asset-based asset allocation study to review the current mix and attainment of return and risk goals. Any changes to the target allocation would require an update to the policy statement
- Annual review of the portfolio's spending policy. If any changes are made to the spending methodology or rate, it would require an update of the policy
- Annual review of the investment policy statement to ensure all investment guidelines for traditional and non-traditional asset classes including hedge funds, real assets and private equity are up to date
- Monitoring compliance with policy and procedures on a quarterly basis through our investment performance reports.
- Monthly investment performance reports to monitor the target allocation, rebalancing recommendations and portfolio performance
- Reporting, as necessary, on issues that emerge in the ongoing monitoring or which, we believe, should be reconsidered in light of changing conditions, such as legislative changes that may impact the portfolio, or manager changes.

Although the official review process may be annual, monitoring of the portfolio is ongoing and consistent. Therefore, any recommendations for changes in policy can occur as needed.

- b. Describe your firm's process for conducting asset/liability studies. Who developed the software you use? How much flexibility is allowed in the model? How do you develop your risk, return, and correlation assumptions for the asset classes?**

### Analytic Tools and Market Data

All of our asset allocation and asset-liability analysis begins with forward looking assumptions of risk, return, and correlation that are developed internally by our asset allocation team. Our asset class assumptions and economic scenario forecasts are internally generated for forward-looking five to seven-year time periods. All assumptions rely on building blocks and market factors unique to each asset class based on a wide range of capital market data. For example, the return assumption for US Large Cap Equities is based on building blocks of real economic growth, inflation, dividend yield, and valuation. The return expectation for US Corporate Investment Grade Bonds is based on current Treasury yields, the forward yield curve as priced by the market, current credit spread levels, and a forecast of how spreads will adjust over a 5-7 year period. Risk and correlation assumptions are based on expectations for the market environment and expected dynamics of relationships across asset classes. All

assumptions are updated annually along with economic scenarios, which forecast various economic environments over a five year period.

Our asset allocation studies are based on an analysis of both assets and liabilities. We use multiple tools for asset allocation modeling. The traditional efficient frontier modeling utilizes Morningstar Direct software. Our proprietary asset/liability model was developed by NEPC, with stochastic functionality supported by Palisade @Risk. NEPC's asset/liability model can be customized to particular benefit formulas and actuarial assumptions. Using participant data, we project plan costs based on our internally generated economic forecasts. We have internally developed our risk budgeting model, which re-characterizes asset allocation into its component risks, both on an asset-only, and an asset-liability basis.

Risk budgeting and Scenario Analysis rely on NEPC proprietary models. Additional supplemental tools such as Factor Analysis, Liquidity Analysis, and Active Risk Budgeting also rely on proprietary NEPC models. Rather than focusing simply on the single summary term of total portfolio volatility, we determine the contribution to the portfolio's volatility from each underlying asset class. This allows us to understand not just the total level of risk, but also the sources of risk. We find that portfolios with 60% or more in equity investments will have more than 90% of their overall portfolio volatility sourced from equity returns. In other words, performance of the broad equity market will determine the overall direction of the plan's return. Through this approach, we have counseled clients to strive for more balance in their portfolio's risk allocation, leading to asset allocations that are more resilient when equity markets decline.

Collectively, the mosaic of multiple asset allocation models produces a more comprehensive and robust framework for evaluating current and alternative asset allocations, producing portfolios less dependent on a single asset class such as equities for long-term returns and more resilient to market downturns.

NEPC's Asset Allocation Team directs all of the firm's efforts in performing asset allocation and asset-liability studies, and leads the development of the firm's asset class return, risk, and correlation assumptions. Since asset allocation is the primary driver of success, we believe it is important to understand, analyze and challenge assumptions to create more efficient portfolios. We do this by staffing this team with very senior members of the firm. NEPC's Asset Allocation professionals are dedicated entirely to performing asset-liability studies and asset allocation analysis for our clients' portfolios utilizing our extensive suite of tools and researching innovative approaches that might enhance our current approach. These professionals are dedicated to performing asset allocation studies and have limited client responsibilities, allowing them to focus and specialize on this important area. The following is the team of individuals:

- Timothy McCusker, FSA, CFA, CAIA, Chief Investment Officer
- Phillip Nelson, CFA, Partner, Director of Asset Allocation
- Lynda K. Dennen, ASA, EA, Senior Research Consultant
- Robert Goldthorpe, ASA, Senior Research Analyst
- Jennifer Appel, CFA, Senior Research Analyst
- Jack Yuan, Research Analyst
- The Asset Allocation Team is supported by the Asset Allocation Committee, comprised of representatives from Research and Consulting and co-chaired by Christopher Levell, ASA, CFA, CAIA, Partner and James Reichert, CFA, Partner.

## **Risk Budgeting Approach**

Our Asset Allocation Team has developed a risk budgeting exercise that reviews the contribution of each asset class to the portfolio's overall risk. In addition, we can incorporate liabilities into our risk assessment.

Rather than focusing simply on the single summary term of total portfolio volatility, we determine the contribution to the portfolio's volatility from each underlying asset class. This allows us to understand not just the total level of risk, but also the sources of risk. We find that portfolios with 60% or more in equity investments will have more than 90% of their overall portfolio volatility sourced from equity returns. In other words, performance of the broad equity market will determine the overall direction of the plan's return. Through this approach, we have counseled clients to strive for more balance in their portfolio's risk allocation, leading to asset allocations that are more resilient when equity markets decline.

## **Asset-Liability Study Process**

The process for developing investment policy using asset/liability modeling is outlined below:

1. We begin with your current actuarial valuation report so that we may obtain the funding policies, demographics, benefits formulas and other actuarial assumptions to be used in our asset-liability modeling.
2. We evaluate current benefit obligations and forecast the future liabilities of the Plan, using your current actuarial assumptions and the actual demographic characteristics of your participants (we do not use proxies).
3. Next, we develop expected risk and return profiles for the Plan's current asset mix and several alternative asset strategies. Our model can accommodate multiple asset classes, but we believe that the highest value from asset-liability studies comes from identifying and prioritizing key allocation opportunities, so we will not, for example, try to optimize a small cap allocation to the nearest 1%.
4. Once our liability analyses (including analyses of age-service distributions, separation ratios, employee migration and demographic characteristics, male and female mortality characteristics, and other actuarial factors) and asset forecasts are completed, we integrate these projections. The asset/liability model combines the asset structures (item 3 above) with the liability projections (item 2 above) to forecast the financial status of the pension plan. The resultant comparisons help the client determine which investment alternatives have the best probability of generating the returns and earnings necessary to fund the obligations of the Plan and possibly allow for benefit increases and/or contribution reductions. Projections include benefit payments, contributions, GASB accounting calculations, and funded status (assets compared with liabilities) over the next ten years.
5. With the model, we can conduct "what if" scenarios to determine the impact of changes in actuarial assumptions on the Plan's liability stream (future benefit and expense obligations). We have the capability to demonstrate the impact of plan changes (benefit formula or assumption changes, work force growth, or earnings assumption, for example) on contributions, funded status, and benefit payments for all asset mixes.

6. We then prepare a detailed report on our findings and recommendations. The report includes our inputs and assumptions, projections of liabilities, asset class returns, risk levels, yield and correlation assumptions, optimal combinations of asset classes, and projections of assets, contributions, benefit payments, and funded status.

### **Dynamic Asset Allocation**

We view asset allocation as a long-term strategic target, with initial steps put in place to reach the final target allocation. We recognize, however, that the long-term strategic target is constantly evolving as opportunities and risks within the capital markets dynamically shift. While client preferences and comfort drive our approach, we typically consider a three phase approach to dynamic or tactical investing:

1. Annual review of strategic asset allocation – identifying areas of opportunity under-represented in the long-term strategic targets and reducing existing allocations that may have less risk-adjusted return potential. This review is facilitated through our annual update to our 5-7 year capital market expectations and actions for clients.
2. Opportunistic allocations - setting aside a portion of the portfolio with the flexibility to allocate to attractive asset classes or strategies when opportunities are quite attractive. The Opportunistic Allocation can have a 0% target in the strategic asset allocation, with a 0-10% range. Past and present allocations to this segment include credit and energy market strategies.

### **Asset Allocation Software**

We use multiple tools for asset allocation modeling. Our asset class assumptions and economic scenario forecasts are internally generated for forward-looking five to seven year time periods. These inputs are used in proprietary models. For traditional efficient frontier modeling, we use Morningstar Direct software. Our proprietary asset/liability model was developed by NEPC, with stochastic functionality supported by Palisade @Risk. For this system, our mean/variance assumptions are translated to growth and yield assumptions, to accurately reflect the impact of inflation and interest rates on asset returns and liability calculations. Our asset/liability model can be customized to particular benefit formulas and actuarial assumptions. Using participant data, we project plan costs using our internally generated economic forecasts. Finally, we have internally developed our risk budgeting model, which re-characterizes asset allocation into its component risks, both on an asset-only, and an asset-liability basis.

### **Capital Market Assumptions**

NEPC's capital market assumptions are developed internally. They are forward-looking and fundamentally based forecasts developed with proprietary valuation models to generate both an intermediate and long-term outlook. The long-term outlook represents a foundation on which to build a strategic allocation to meet long-term objectives. The intermediate outlook represents a planning horizon over which more dynamic asset allocation decisions can be developed.

Asset class forecasts for expected returns, volatility, and correlations are based on a combination of forward-looking analysis and historical data. Forecasts are produced for 22 traditional asset classes and 25 alternative strategies with both pre-tax and post-tax assumptions. Historical information dating back to 1926, which includes monthly index returns, cash rates, inflation rates, bond yields, and valuation metrics are utilized to both frame the current economic environment and serve as the foundation for the

volatility and correlation assumptions for all asset classes. Volatility assumptions are based primarily on the long-term history of the asset class with some adjustments for the current environment, while correlation assumptions are based on a mix of both long-term history and current trend.

Expected return forecasts are based on current market prices and forward-looking estimates. The forward-looking estimates rely on a fundamental building blocks approach that broadly includes intermediate and long-term assumptions for economic growth, supply/demand dynamics, inflation, valuation changes, currency markets, forward-looking global yield curves, and credit spreads. The building blocks are specific to each major asset class and represent the primary drivers of future returns. For example, the equity forecast model is based upon assumptions for real earnings growth with adjustments incorporated for profit margin changes, inflation, dividend yield, and current valuations trending to long-term averages. Fixed income return forecasts are based upon changes in real interest rates and forward yield curves, with credit sectors including an assumption for changes in credit spreads and credit defaults. Alternative investment strategies are similarly built from the bottom up with a building blocks approach based upon public market beta exposures while also incorporating an appropriate risk premium for illiquidity.

The asset class assumptions are formally prepared annually but may be revised during the year should significant shifts occur within the capital markets. The review process is overseen by the Asset Allocation Committee, which includes the asset allocation team and various members of the consulting practice groups. The responsibilities of the Asset Allocation Committee include highlighting current market risks, developing our annual "General Actions for Clients", and generating capital market assumptions. Asset class assumptions and "General Actions for Clients" are ultimately approved by NEPC's Partners Research Committee.

The assumption development process informs our Investment Outlook, which is published on an annual basis. The key market themes and current opportunities identified in our Investment Outlook form a baseline from which consulting teams develop recommendations suitable for individual client portfolios. While the formal process is earmarked for an annual cycle, we regularly assess markets and opportunities. Should our return and risk expectations change, or an event take place, either domestically or abroad, that we feel will have an impact on our clients' portfolios, we make our clients aware as soon as possible and recommend actions accordingly.

Please refer to Tab 7 for NEPC's 2019 Themes, Actions and Opportunities, which includes text and graphical descriptions of NEPC's assumption development for each asset class. This information is presented annually to every client, generally at the beginning of the calendar year and we also provide updates on a quarterly basis. Also, please see Tab 8 for our 2019 client asset allocation letter. NEPC's annual asset allocation letter examines the investment landscape, exploring the pockets of opportunity presented by the current volatility. It recommends investors seek opportunities to rebalance toward higher return-seeking investments and consider increasing strategic weights to equity and credit should markets continue to decline.

### Assumptions

Please refer to Tab 7 for NEPC's 2019 Themes, Actions and Opportunities, which includes text and graphical descriptions of NEPC's assumption development for each asset class. This information is presented annually to every client, generally at the beginning of the



calendar year and we also provide updates on a quarterly basis. We distinguish between medium term 5-7 year assumptions, appropriate for a planning period or market cycle, and long-term 30 year assumptions, appropriate for assumption setting of long-term expected returns.

## Experience

NEPC has been conducting asset allocation studies since the firm's inception in 1986. We generally conduct an asset-liability study at the onset of new client relationships, and on average every three to four years after that. Over the past three years, we have conducted 1259 spending-based and liability-based asset allocation studies.

**c. How often do you recommend reviewing or amending an asset allocation policy? Under what circumstances would you consider changing a client's asset allocation recommendations?**

As previously mentioned, we recommend that a formal liability-driven asset allocation study be conducted every three to five years, the length of a typical planning cycle. We also conduct asset-based asset allocation studies annually to review and confirm the appropriateness of the current asset allocation targets or to recommend action based on the outcome of our annual capital markets review process. We will consider recommending changes to a clients' Policy asset allocation when market conditions warrant, including when markets become over-valued or attractive based on sharp market movements, or when a client's implementation approach needs to change because of liquidity needs to changes to Board governance process.

While we tailor our asset allocation recommendations to each client's circumstances, NEPC is generally a proponent of creating well diversified portfolios that have less reliance on public equity allocations. Larger allocations to public equities do produce portfolios with higher expected returns but they also put portfolios at higher risks for large draw-downs that often take many years to recover. As a result, NEPC generally speaking, prefers broadly diversified portfolio allocations that reduce the impact of equities on the portfolio's risk budget.

We typically set target levels for each asset class and ranges around each target. We encourage clients to establish a formal rebalancing policy to remove emotion from the decision. Typically, the policy calls for rebalancing to the target weights when an asset class is near or at the upper or lower end of its target range. The most effective way to manage this process and minimize deviations is to implement an overlay strategy that can be managed by either a dedicated investment staff or external manager.

The timing or frequency of rebalancing does vary from client to client. Some clients have delegated the rebalancing procedure to their staff and therefore, rebalancing can happen more dynamically. Other clients retain that authority and therefore, rebalancing happens more mechanically and usually after a quarterly meeting.

Enclosed please find a sample asset allocation study in Tab 9.

**d. Describe the analytic basis for your recommendations of an investment manager structure. Include a discussion describing your firm's philosophy of**

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<sup>9</sup> As of 6/30/2018



## **core versus specialty portfolios, active versus passive management, and mix of investment styles.**

### **Active vs. Passive Management**

The vast majority of NEPC's clients' investment programs incorporate a healthy balance of both active and passive management. We believe there is no one "right" answer to the active/passive discussion, as it depends on the investment program, the asset class, the market environment, available resources (staff time, active risk budget, management fees) and the governance structure (clients may seek excess return in all components of fund structure).

We believe the investment categories where active management will be more successful tend to be those that are heterogeneous in nature. Additional characteristics such as a lack of readily available research, poor liquidity and/or relatively few investment constraints also contribute to a favorable environment for active management. Examples of areas where we believe active management is likely to be most successful include global equity, emerging markets equity, credit markets, hedge funds, private equity and real estate.

The decision to implement active or passive strategies is highly unique to each client, but we consistently strive to implement our positions on active versus passive decision-making in a way that adds value within key areas for our clients: asset allocation, portfolio positioning, and investment selection and monitoring. The goal is to combine our research and help clients understand the active/passive paradigm within their program in order to make use of the benefits of both approaches and to minimize the challenges of each.

- **Business Sectors** – From time-to-time we also advocate specific sector allocations. For example, when the price of oil declined in 2015, we developed an "Energy Trauma Response Team". This was a group of our research and consulting team members that spanned all research disciplines (i.e. traditional, hedge funds, real assets) and client types to identify various ways to maximize returns given the perceived price dislocation. The result of the Team's work was a detailed analysis on how to make a business sector investment.
- **Active versus passive management** - We are advocates of active and passive management with the role of each tied to the client's needs and approach to portfolio construction. Generally speaking, we are advocates of active management in most asset classes, primarily focused on areas where we think active management can add value net of fees. We also believe there is a role for passive strategies in the portfolio construction process. Our passive recommendations are often focused on the U.S. large cap equity space, international developed (hedged), and more efficient segments of the market (e.g., Treasuries, TIPS). Clients typically use passive strategies if their goals are to: a) gain market exposure on a cost effective basis, b) complement existing managers that may be benchmark agnostic or exhibit very high tracking error, or c) reduce their administrative burden to free time to focus on other priorities.

### **Core Investment Beliefs**

The fundamental beliefs that we endorse for client portfolios include:

- **Meeting return goals** – How can you meet your goals in conjunction with your risk tolerance and liquidity needs?
- **Diversification** – We believe a sound investment program should be broadly diversified across traditional and alternative asset classes and investment strategies.
- **Risk Control** – Within each inefficient asset class, active managers should be selected and risk controlled through appropriate style balancing.
- **Rebalancing** – Deviations from target allocations, by asset class or style, should be continually compared to pre-specified ranges to insure against unwanted “drift”.
- **Asset Allocation Tied to the Liabilities** – Success is measured by your ability to fund the liabilities your asset portfolios are supporting.
- **Continuous Improvement** – The capital markets are dynamic, you need to explore new solutions to address your needs.

**e. Please describe your firm’s capabilities in evaluating alternative investments such as private equity, real estate, hedge funds, and hedge fund of funds. Please include the number of alternative searches conducted in the last 24 months and the type of alternative search.**

### Expertise

NEPC has significant experience building alternative asset programs and identifying high quality private equity, private debt, hedge fund, opportunistic and real assets managers for our clients’ alternative investments programs. NEPC has been actively working with client investments in alternative assets for the past 25 years and has the commitment, experience, and research resources to meet all of your alternative asset consulting needs. We work with \$63.0 billion in alternative assets across 245 clients<sup>10</sup>. Our alternative assets services include: education, portfolio design, manager search, due diligence reviews, and monitoring/reporting. During 2018, we completed 275 alternatives searches encompassing over \$2.9 billion across hedge funds, private equity and real assets.

As you review other’s alternatives capability, what really differentiates our process is our Alternative Asset Committee, comprised of Partners, the key professionals involved in evaluating alternative assets, in addition to other senior members of the research, management and consulting staff. The Committee is ultimately responsible for vetting any manager that is to be placed in a NEPC client portfolio, as well as those that have already been retained by our clients. The sheer breadth of experience (with some members having 30+ years’ alternatives experience) and accountability creates a dynamic and skeptical environment. It truly balances innovation with experience and does so while aligning the firm’s interests with those of our clients. This Committee allows NEPC to lever the deep resources of our consulting staff, while ensuring that each manager we recommend is thoroughly and consistently evaluated.

Aside from our Alternative Assets Committee, which helps monitor the process, we have 27 full-time individuals dedicated to Alternative Investments led by Neil Sheth, Partner, Director of Alternatives Research. The Alternative Assets Group includes two principal groups, Private Markets and Hedge Funds. Three people, including NEPC’s Chief Compliance Officer, William Y. Bogle, are focused primarily on operational due diligence of Hedge Fund and Fund of Hedge Fund managers and strategies.

<sup>10</sup> As of 12/31/2018, only includes assets/clients for which NEPC has due diligence responsibility for their alternative assets.

NEPC was one of the first firms to embrace the Chartered Alternative Investment Analyst (CAIA) program with Mr. Sean Gill's induction in the inaugural class of 2003. Currently, NEPC has 41 CAIA designees on staff and eight professionals pursuing the designation. Also of interest, NEPC was honored to work with the CFA Institute in authoring a chapter on Alternative Investments for the new Claritas Investment Certificate. The program is intended for all professional disciplines in the financial services industry outside of investment roles and provides a clear understanding of the essentials of the investment industry and the various roles and responsibilities within it.

To identify appropriate investment managers, NEPC develops preliminary guidelines and criteria for candidate managers. These guidelines and criteria include stability of the organization, investment performance, consistency of the track record, professional staff experience and years with firm, assets under management, and appropriateness of terms. Next we perform extensive due diligence on managers passing the initial screening criteria. This includes an assessment of each firm's organization, staff, investment process, philosophy, track record, access to deal flow, and due diligence capabilities, through in-depth meetings with the investment professionals of the manager. With respect to hedge fund of fund managers, while we generally do not directly review every underlying hedge fund, we use these conversations with managers to gain an understanding of the managers' general thought process and knowledge in selecting the underlying funds. This may include discussions of certain specific hedge funds to understand the hedge fund sourcing process, the hedge fund evaluation and due diligence effort, and the portfolio construction techniques that a manager uses.

Additionally, NEPC conducts a thorough quantitative evaluation of each manager. For private equity managers, NEPC evaluates the cash flows of each investment made by the organization to determine the key drivers of performance, such as key people, geography, industry, stage, size, style, and structure. For hedge funds, NEPC looks at the stability of the returns, the types of strategies and trades utilized, and drivers of returns.

To enhance our knowledge of managers, NEPC prepares *Due Diligence Questionnaires* for manager candidates requesting detailed information on the company background, organizational history, assets under management, professional staff breakdown, investment strategy and focus, investment process, product structure, and performance. These questionnaires help us understand the manager's process in more detail than the offering memoranda and marketing material permit. However, we do review the pitch books, private placement memoranda, limited partner agreement, and subscription documents, as well.

Our research group has a budget to conduct a certain amount of on-site manager research every year. We have sent our analysts to cover managers in the major financial centers in the U.S. and around the world, and continue to dedicate even more resources to this effort as we grow. Whenever we visit a client, we always try to schedule as many manager meetings around the client meeting as possible, maximizing the benefit from each trip we make.

Upon completing the work on a manager, a formal investment memorandum is prepared for the Alternative Assets Committee (AAC). The due diligence process is overseen by the AAC, which is made up of the key professionals involved in evaluating alternative assets, in addition to other senior (and very experienced) members of the consulting staff. The AAC is ultimately responsible for vetting any manager that is to be placed in NEPC's clients' portfolios, as well as those that have already been retained by our

clients. The AAC allows NEPC to lever the deep resources of our consulting staff, while ensuring that each manager we recommend is thoroughly and consistently evaluated.

### Manager Search Statistics

NEPC performed 640 searches and reviews in 2018 with over \$25.0 billion in search assets. Following is a list of the searches and reviews initiated last year by asset class. Importantly, these searches have typically been proactive – to expand the diversification characteristics of plans (e.g. diversified fixed income) – as well as to replace under-performing managers placed by predecessor consulting firms. We track the performance of all managers placed in our investment program (by style and capitalization) against appropriate benchmarks and peer groups and the performance of managers we would likely recommend.

Following is a list of the searches and reviews initiated in each of the last 2 years by asset class.

<b>Searches By Asset Class:</b>	<b>2017</b>	<b>2018</b>
Large Cap Equity	26	7
Small/Mid Cap & Mid Cap Equity	9	16
Small Cap Equity	18	29
Misc. Equity (All Cap, Passive Index, Sector/Specialty, MLP's)	18	37
Fixed Income	60	61
High Yield Bonds	7	9
International Equity/Global Equity, Emerging Equity	133	124
Global Bonds/EMD	50	46
GAA/TAA (Includes Risk Parity and Life Cycle)	35	28
LDI*	8	8
Alternatives	251	275
Total Searches and Reviews	615	640
Total Assets Placed (\$billions)	\$35.4	\$25.0

\*Most of our clients implemented LDI strategies in the 2006-2008 timeframe.

## 7. Familiarity with Public Fund Investment Environment

### **Describe your familiarity and experience with issues facing Florida Public Retirement Systems.**

NEPC is familiar with the Florida statutes that govern the investment and administration of public retirement systems, including Chapters 112, 175 and 185 and the relevant sections of the Florida Administrative Code, as well as the role of the Bureau of Local Retirement Systems in monitoring local government, defined-benefit pension plans. Through our participation in national organizations like NCPERS and NAST we also monitor legislative initiatives that impact the investment and actuarial requirements within each state we have client exposure. In addition to our experience working with the City of Orlando, senior staff on NEPC's public funds team have also worked with other Florida public funds while working at prior firms like Segal Marco and Callan Associates.

## 8. Code of Ethics

**Explain in detail any potential for conflict of interest that may be created by your firm's representation of the City's pension fund. Include other client relationships that may inhibit services to the Board. Please indicate:**

We are unaware of any potential conflicts of interest that would be created in servicing City of Gainesville. **You should never wonder if your interests are first and foremost when working with your consultant.** NEPC strives to avoid and mitigate conflicts of interest whenever possible, and we have structured our business model with this in mind. Examples of our focus on mitigating potential conflicts of interest include the following:

- We do not offer investment products
- We are not affiliated with divisions or firms that offer investment products
- We do not provide brokerage services
- We do not offer actuarial services
- We do not accept or pay referral fees, finder's fees or other commissions for placing managers with clients or for any other activity
- We do not charge investment managers for inclusion in our manager search databases
- All fees paid to NEPC are cash-based ("hard dollars") and we do not accept any "soft dollars"
- Our annual investment conference is not subsidized by investment managers

NEPC also has an "Allocation Policy" that is applied whenever NEPC receives advance notice that any investment product (i) has limited capacity and may close in the relatively near future, or (ii) will be subject to a change in terms for investments made after a particular date. This policy ensures that clients are granted a fair and reasonable opportunity to invest in the product prior to the closure or change in terms.

Our business model has been designed to mitigate potential conflicts of interests, so that we continually maintain our independence and objectivity.

**a. Are there any circumstances under which you or any individual in your firm receive any compensation or benefits from investment managers or any third party? If yes, please describe.**

No, we do **not** use a third party to solicit business and do not accept or pay referral fees or commissions of any kind. All fees to NEPC are cash-based and paid in "hard dollars". Regarding compensation from investment managers, NEPC has a small number of client relationships (currently three) with companies that have a money manager subsidiary whereby we (a) provide advice regarding the employee retirement plan, or (b) provide research and advice connected to the selection of third-party investment managers. These three clients make up less than 1% of NEPC's annual revenue.

**b. Does your firm have any financial relationship or joint ventures with any organizations, such as an insurance company, brokerage firm, commercial bank, investment banking firm, etc? Please describe in detail the extent of this involvement with regard to both personnel and financial resources.**

NEPC provides consulting services to the employee benefit plans of two firms whose parent or subsidiary organizations are in the financial services industry. In addition, we provide research on external investment managers to a third firm. Although these relationships contribute less than 1% to our annual revenue, all are fully disclosed when NEPC conducts manager searches, and are listed below.

- NEPC provides its defined contribution consulting services to the retirement plan participants of Affiliated Managers Group (AMG). AMG does not manage investments, but has ownership stakes in a group of mid-sized asset management firms. The AMG subsidiary firms operate independently while AMG provides them with strategic, operational, marketing, and distribution support.
- NEPC provides investment advice to the employee 401(k) Plan of Brookfield Properties (NYSE: BPO), a subsidiary of Brookfield Asset Management Inc. (NYSE: BAM).
- NEPC provides research and consulting services to Westwood Trust, a Texas Trust Company. The parent of Westwood Trust owns a mid-sized asset management firm, Westwood Management.

We use the services of investment management firms to manage our employee Profit Sharing and 401(k) Plans, as do nearly all firms offering retirement plan benefits to their employees.

- T. Rowe Price provides investment and record keeping services to NEPC's 401(k) plan. The 401(k) plan is self-directed; therefore, NEPC does not compensate T. Rowe Price directly. Management fees are assessed to the participant accounts.

**c. Do you sell or broker any investment vehicles? If so, please describe in detail.**

No.

**d. Do you actively manage the investments of any accounts? If so, please describe in detail.**

No. NEPC does not actively make security selection decisions or control the movement or allocation of capital between the external asset managers employed by our advisory clients.

**e. Does your firm or any individual in your firm accept or pay finders fees from or to investment managers or any third party? If so, please describe in detail.**

No. We do **not** use a third party to solicit business and do not accept or pay referral fees or commissions of any kind. All fees to NEPC are cash-based and paid in "hard dollars". Regarding compensation from investment managers, NEPC has a small number of client relationships (currently three) with companies that have a money manager subsidiary whereby we (a) provide advice regarding the employee retirement plan, or (b) provide research and advice connected to the selection of third-party investment managers. These three clients make up less than 1% of NEPC's annual revenue.

## References

**a. Please provide at least five (5) client references.**

Our clients are our only customers, and we have grown substantially through their referrals over the years. While we submit five client references per your request, we respectfully request that you not contact them without notifying us first.

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**b. Please list all Florida Public Plan clients.**

NEPC is currently advising the City of Orlando General Employees, Police and Fire Retirement Systems and OPEB plans.

**Compensation/Fees**

**Please state the annual hard dollar fee, payable quarterly to cover the required services listed in Section VI. The fee proposal must include all expenses such as travel, lodging, meals, and other out-of-pocket expenses. Please list any additional costs that may not be.**



Please see our proposed fees in the separately sealed envelope.

### Awards and Recognitions Disclosure

- CIO's Most Influential Investment Consultants: CIO Magazine interviews pension and non-profit CIOs, asset managers and former consultants to approximate what it calls "the hierarchy of today's institutional consultant industry". The results should not be considered a recommendation of any specific firm or individual consultant. For more information, please visit CIO Magazine's web site at [www.ai-cio.com/lists/2018-knowledge-brokers/](http://www.ai-cio.com/lists/2018-knowledge-brokers/).
- Wealth & Finance International's Alternative Investment Awards: Sustained Excellence in Client Investment Management and Macro Strategy Specialist of the Year –USA awards. "The in-depth and rigorous research process, carried out by our dedicated in-house award committee, takes over 6 months, during which they count and research votes, analyse all supporting evidence and perform additional interviews to ensure that only the most deserving and top performing individuals, firms and products are recognised." [Source: <http://www.wealthandfinance-intl.com>]
- These rating or awards may not be representative of any one client's experience with NEPC. Any rating or award is representative of NEPC's past performance only and is not indicative of NEPC's future performance, nor does it indicate an endorsement of NEPC. NEPC did not pay any of these organizations to be considered for an award.
- An award presented to a client of NEPC is not a recognition of NEPC's performance and should not be considered an endorsement of NEPC.

### Client Results Disclosure – All Clients

- Past performance is no guarantee of future results.
- NEPC acts in an advisory capacity-only for many clients and does not have discretion over those client assets. As a result, a client's investment performance may not be attributable solely to NEPC's advice.
- NEPC's Overall Composite is compiled from all Pension Plans, Endowments and Foundations for which NEPC is the sole full-retainer consultant. Plans are included in the Composite provided they have exposure to equity and bonds (including alternatives) of at least 25% each, and no more than 20% to other assets such as cash and GIC's.
- New clients are added to the Overall Composite with the first full quarter of a new manager selected from an NEPC search, or after one year as an NEPC client, whichever comes first, provided that the plan is globally diversified.
- Results are reported gross of NEPC advisory fees.
- NEPC's fees for advisory clients vary considerably depending on client size and complexity.

### Information Disclosure

- InvestorForce Plan Universe
- As of 12/31/2017, the InvestorForce Universe contained actual, custodian-supplied and audited data on over 2,056 plan sponsors, representing roughly \$3.4 trillion in assets. This data is drawn from 42 independent investment consulting firms, including NEPC.
- ICC Universe
- Through 2011, universe rankings were based on the ICC Universe, which was populated by 12 independent investment consulting firms, including NEPC, and supplemented by many of the performance measurement clients of State Street Bank.
- Certain information, including that relating to market indices, was provided by sources external to NEPC. While NEPC has exercised reasonable professional care in preparing this report, we cannot guarantee the accuracy of all source information contained within.
- This document may contain confidential or proprietary information and is intended only for the designated recipient(s). If you are not a designated recipient, you may not copy or distribute this document.

### Alternative Investment Disclosure

It is important that investors understand the following characteristics of non-traditional investment strategies including hedge funds, real estate and private equity:

- Performance can be volatile and investors could lose all or a substantial portion of their investment.
- Leverage and other speculative practices may increase the risk of loss.
- Past performance may be revised due to the revaluation of investments.
- These investments can be illiquid, and investors may be subject to lock-ups or lengthy redemption terms.
- A secondary market may not be available for all funds, and any sales that occur may take place at a discount to value.
- These funds are not subject to the same regulatory requirements as registered investment vehicles.
- Managers may not be required to provide periodic pricing or valuation information to investors.
- These funds may have complex tax structures and delays in distributing important tax information.
- These funds often charge high fees.
- Investment agreements often give the manager authority to trade in securities, markets or currencies that are not within the manager's realm of expertise or contemplated investment strategy.

### Private Equity, Real Estate and Real Assets Performance Benchmarking Methodology and Information Disclosure

- Past performance is no guarantee of future results.
- Investment results include funds that were rated "Preferred" by the NEPC Alternative Assets Committee. Investment results include those clients for which NEPC has discretionary authority as well as those where NEPC acts in an advisory capacity. They include all types of clients and plans for whom NEPC serves or served as a consultant and provided advice on private equity.
- Returns are based on the client commitment that had the earliest cash flow into each recommended product. Vintage year classifications are made based upon the year of the first cash flow from this client into the Fund.
- In cases where no current NEPC client is invested in a product (due to a client changing consultants), vintage year and return data was used from either the manager, Preqin or from another limited partner in the fund who publicly discloses investment returns.
- Each internal rate of return is net of management fees and carried interest (both paid and accrued) and is computed on an annualized, dollar-weighted basis. Performance aggregates are created by equal-weighting each Preferred-rated fund.
- Strategy classifications are made by NEPC based on a review of the stated strategy of each investment. Funds included are primarily limited partnerships, including funds-of-funds. Private equity investments include buyouts, venture capital, growth equity, special situations/turnarounds, equity-oriented distressed buyouts, co-investment funds, primary fund-of-funds and secondary funds. Real estate investments include value-add, debt and opportunistic funds. Real assets investments include energy, energy credit/mezz, multi-strategy, natural resources, metals & mining and infrastructure funds.
- Only funds from vintage years 2007–2014 were benchmarked, as performance for funds who have been investing for less than three years is deemed to be too young to be meaningful.
- To compute the quartile performance of each fund, funds were matched against similar strategies and geographic regions tracked by CJA and Preqin; however, it is important to

note that some funds have investment strategies that could be benchmarked against multiple categories.

- Attempts were made to match the geographic strategy of each fund. In cases where the benchmark provider did not have a large data set a global strategy benchmark was used.
- For some vintage years, the benchmark provider may have provided median but not upper and lower quartile cut-off metrics. In these cases, to estimate the upper and lower quartile cut-offs, NEPC used the average quartile-to-median differential for the vintage years preceding and following the vintage year with the missing quartile cut-offs.
- All fund and benchmark returns are as of December 31, 2017.
- The information in this report has been obtained from sources NEPC believes to be reliable. While NEPC has exercised reasonable professional care in preparing this report, we cannot guarantee the accuracy of all source information contained within.

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As of 4/1/2019. \*Ownership interest in NEPC (Partner) +Principal designation for leadership within the Firm.

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**Paul Kenney, Jr., CFA**  
Partner\*

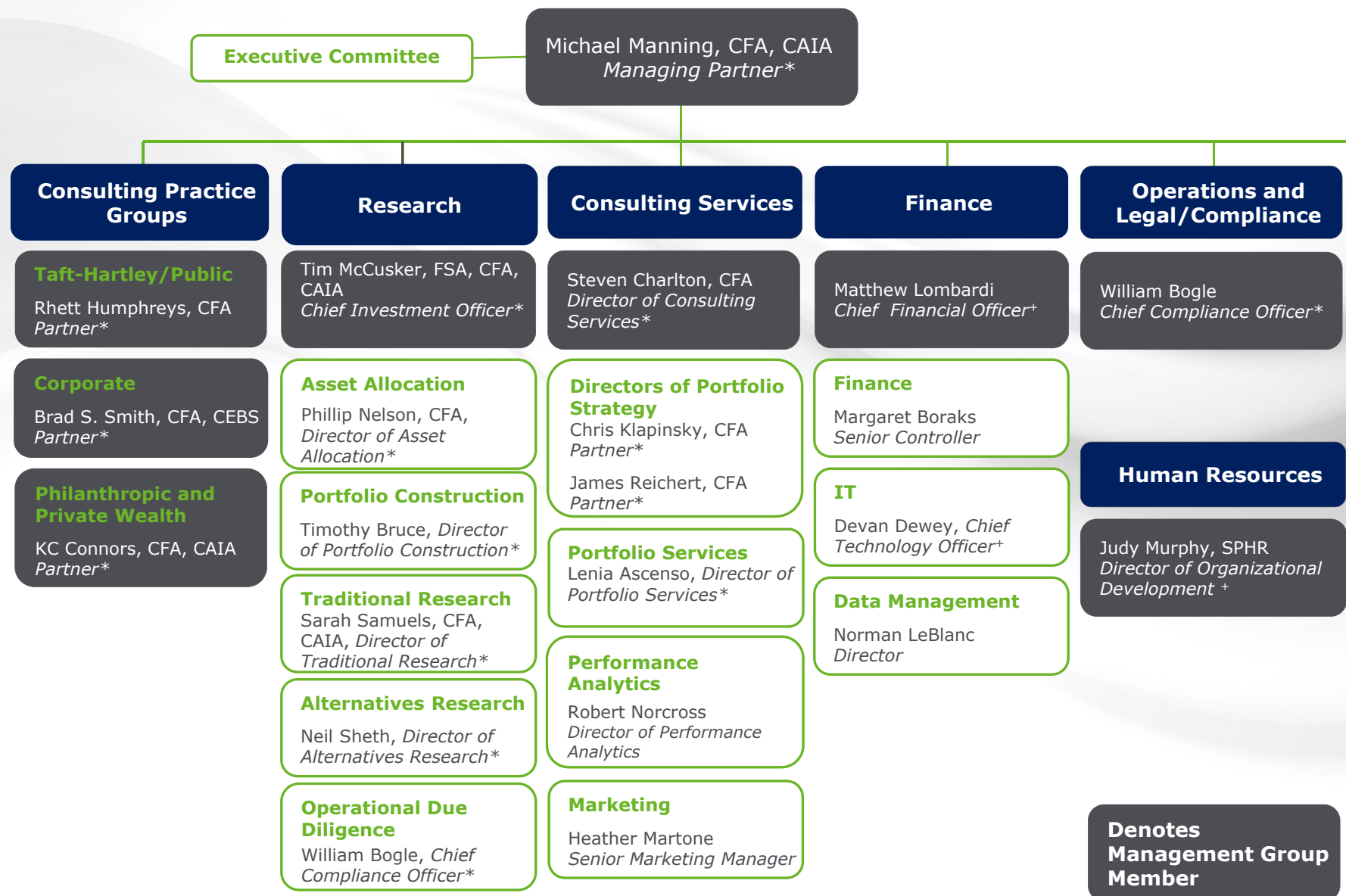
**Dan Gimbel, CIMA**  
Sr. Consultant+

**Stacey Flier, CFA**  
Senior Consultant+

**Isabelle Campbell**  
Consultant

**Ryan Warren, CFA,  
CFP**  
Consultant

# NEPC'S ORGANIZATIONAL STRUCTURE



As of 4/1/2019. \*Ownership interest in NEPC (Partner) +Principal designation for leadership within the Firm.



# REPRESENTATIVE CLIENT LIST

## Public

AC Transit Employees' Retirement  
Arizona Public Safety Personnel Ret. System  
Arizona State Retirement System  
Baltimore County ERS  
Boston Water and Sewer Commission  
Chicago Policemen's Annuity & Benefit Fund  
City of Boston - Trust Funds  
City of Detroit, Michigan  
City of Fresno Retirement Systems  
Fairfax County Uniformed Retirement System  
Los Angeles County Savings Plan  
Los Angeles Deferred Compensation Plan  
Louisiana State Employees Retirement System  
Massachusetts Water Resource Authority  
New Mexico Educational Retirement Board  
Ohio Public Employees Retirement System  
Philadelphia Housing Authority  
San Antonio Fire & Police Pension Fund  
San Bernardino County ERA  
San Francisco Employees' Retirement System  
Seattle City Employees' Retirement System  
St. Louis Public School Retirement System  
State Boston Retirement System  
State of Vermont  
State of Wisconsin Investment Board  
Ventura County ERA  
West Virginia Board of Treasury Investments

## Taft-Hartley

ABC-NABET  
Boston Newspaper  
Boston Plasterers' & Cement Masons' Local 534  
Boston Shipping Association  
Desert States UFCW Pension Fund  
Fulton Fish Market  
IBEW Local 357  
IUOE Locals 12 & 324  
Sheet Metal Workers Local 40  
Southern California IBEW-NECA  
Teamsters Local 856  
UFCW - Northern California  
Western Pennsylvania Teamsters & Employers

## Corporate

Becton Dickinson and Company  
Bose Corporation  
Colgate-Palmolive Co.  
JM Family Enterprises, Inc.  
Jones Day  
Marriott International  
National Grid  
Ocean Spray Cranberries, Inc.  
Southwest Airlines Co.  
ThermoFisher Scientific, Inc.  
TimkenSteel Co.

## Healthcare Related

Baylor, Scott & White Health LLC  
Boston Medical Center  
Christus Health  
Henry Ford Health System  
Johns Hopkins Health System  
Lahey Clinic  
Multicare Health System  
Rochester Regional Health  
Rush University Medical Center  
Shriners Hospitals for Children, Inc.  
St. Barnabas Hospital  
University of Maryland Medical System

## Endowments & Foundations

Community Foundation for SE Michigan  
Dartmouth Hitchcock Hospital & Clinic  
Hebrew Immigrant Aid Society (HIAS)  
MaineGeneral Healthcare  
Several High-Net Worth Foundations  
Unitarian Universalist Association of Congregations

As of 4/1/2019. The above client list is only a sample. It is not known whether or not the clients approve of the services received. It should not be considered an endorsement by any individual client listed.

# **Q4 2017 INVESTMENT PERFORMANCE REPORT**

## **Sample ABC Client**

**Quarter Ending December 31, 2017**



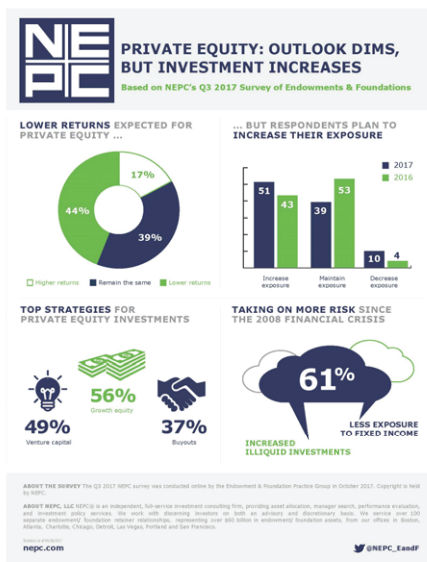
BOSTON | ATLANTA | CHARLOTTE | CHICAGO | DETROIT | LAS VEGAS | PORTLAND | SAN FRANCISCO

# NEPC UPDATES

NEPC, LLC

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# HIGHLIGHTS OF FOURTH QUARTER HAPPENINGS AT NEPC



## NEPC INSIGHTS

- White Paper: Terminated-Vested Lump Sum Payouts
- White Paper: Power Up Your Pension Plans
- Taking Stock: Could ESG Analysis Have Helped Equifax Investors?
- Taking Stock: Ten Years Since The Global Financial Crisis, Part 1: Then and Now
- Taking Stock: No Lull After the Storm for Puerto Rico Bonds
- Taking Stock: Tax Reform Update
- Market Chatter: It's Always Sunny on Sand Hill Road
- Market Chatter: The E-Commerce Grinch that Stole the US Storefront?
- Market Chatter: Endowment Tax Reform Leaves Less to be Thankful for
- NEPC's 2017 Hedge Fund Operational Due Diligence Survey Results
- NEPC's 2017 Defined Benefit Trends Survey Infographic
- NEPC's 2017 Defined Benefit Plan Trends Survey – Healthcare Highlights Infographic
- Taking Stock: What Do Revised Mortality Tables Mean for Terminated-Vested Lump Sum Payouts?
- 2017 Third Quarter Market Thoughts
- 2017 Q3 Endowment & Foundation Survey Results and Infographic

## WEBINAR REPLAYS

- NEPC's 2017 Defined Benefit Plan Trends Survey

To download NEPC's recent insights and webinar replays, visit: [www.NEPC.com/insights](http://www.NEPC.com/insights)

## RECENT UPDATES

- Our team continues to grow: Please join us in welcoming our senior consultant and insurance specialist, Andrew Coupe.
- NEPC was featured in over 35 news articles including *Bloomberg*, *Pensions & Investments* and *FundFire*, to name a few.
- NEPC's Chris Levell, ASA, CFA, CAIA, Partner, Client Strategy, was named a finalist in *Chief Investment Officer's* Consultant of the Year list.
- NEPC's Brandon Parrish, CFA, CAIA, Private Wealth Consultant, was featured in *Private Asset Management's* Top Read Stories for 2017 for his article "An Intuitive Approach for High Net Worth Clients."



# HIGHLIGHTS OF FOURTH QUARTER HAPPENINGS AT NEPC



## NEPC GIVES BACK

This quarter NEPC participated in four charity events: The Greater Boston Food Bank, American Cancer Society Denim Day, the Movember Movement and our Annual United Way Campaign.

- NEPC helped sort through 12,988 pounds of donated food from local grocery store donation bins. GBFB is the largest hunger-relief organization in New England and among the largest food banks in the country.
- ACS's Denim Day is one of the largest single-day fundraisers supporting the American Cancer Society's breast cancer programs. NEPC employees showed their support and raised a total of \$2,310!
- NEPC's Movember Team, "You Demand Mo!" got involved in this year's Movember movement - a charity dedicated to help change the face of men's health on a global scale – raising \$4,480.
- As part of NEPC's Annual United Way Campaign, our firm donated over \$28,000 and held a volunteer event to assemble Literacy Kits. Literacy kits inspire creativity among volunteers and bring books to life to deepen children's reading experience.

## SAVE THE DATE!

We will be hosting our 23<sup>rd</sup> Annual Investment Conference on May 14-15, 2018. More details to come!



# **Q4 2017 MARKET UPDATE**

NEPC, LLC

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# MARKET ENVIRONMENT

## Introduction

Like a record spinning right round, the music played on for US equities in 2017. Hitting new highs, the S&P 500 Index spent its ninth straight year in the black. The flagship US index has posted 14 consecutive months of gains with only one of the last 20 quarters in the red.

While non-US stocks joined the chorus only in 2017, they caught on pretty quickly with developed market equities up 25% in 2017, according to the MSCI EAFE Index. That said, it was emerging market equities that really hit the highest notes last year, with returns of 38%. Not to be left out, high-yield debt and dollar-denominated emerging market bonds outperformed within credit.

It was a banner year for global equities amid optimism around US corporate tax cuts and the continued acceleration of economic growth the world over. However, we would like to hit pause for a moment to remind investors that, at some point, the music will stop. To this end, we advise caution and vigilance. We recommend investors dial up exposure to safe-haven fixed-income assets—core bonds, municipal debt and Treasury Inflation Protected Securities—back to strategic asset allocation targets. Furthermore, we suggest reducing assets that have outperformed expectations over a prolonged period, such as US stocks and highyield bonds, in favor of international equities and TIPS.

We believe non-US equities offer continued gains for investors as they benefit from easy financial conditions, synchronized global growth and a robust outlook for corporate earnings. As such, we recommend investors maintain an overweight position on international equities relative to market-cap benchmark weights.

Within developed markets, we believe a multi-year earnings recovery offers the potential for an elevated return. Preferring non-US small-cap and global equity strategies for implementation, we favor approaches that can exploit improving economic conditions in Europe and the ongoing corporate governance reforms in Japan.





# MARKET ENVIRONMENT

## Introduction Continued

Meanwhile, emerging market equities, despite their strong showing in 2017, offer potentially high total returns for investors. We reinforce our overweight recommendation to this segment as valuations and fundamentals remain compelling. Furthermore, strategies that invest lower in the market-capitalization spectrum relative to a traditional index offer investors a more pure exposure to improving local growth rates.

Shifting to fixed income, we favor TIPS over core bonds. The market-implied pricing of inflationary expectations remains attractive for TIPS, which are likely to benefit relative to core bonds should we see an uptick in inflation. In addition, duration exposure is a core asset-allocation building block and TIPS represent a safe-haven exposure that bolsters a portfolio during periods of market stress.

Across most return-seeking credit sectors, we believe spreads have reached levels that do not adequately compensate investors for risk. This includes high-yield bonds, US bank loans, and dollar-based emerging market debt. We suggest investors reallocate gains from liquid credit markets to other areas of the portfolio, such as equity, private markets, or idiosyncratic credit opportunities paired with safe-haven fixed income. For more tactically-oriented investors, we advocate emerging market local debt, as above average index yields and attractive currency valuations make it an appealing total-return opportunity.

While we currently have a positive outlook on global equities, we encourage investors to look for opportunities to manage portfolio volatility should the music stop. To this end, exposures, such as systematic global macro or long volatility, offer low-to-negative correlations to equity markets and help to mitigate the left-tail of a portfolio return distribution.



# MARKET ENVIRONMENT

## Global Equities

Global equities returned 5.7% in the fourth quarter and 24% for the year. Global stocks saw earnings per share rise nearly 19% in 2017, according to FactSet, the fastest growth since 2011.

The S&P 500 Index was up 6.6% in the fourth quarter, bolstered by the prospect of corporate tax cuts. Maintaining their lead, emerging market equities gained 7.4% in the fourth quarter and ended the year with returns of 37.3%. Healthcare and consumer discretionary dominated sector performance for the quarter, while utilities and telecommunication services lagged. Information technology led in 2017, largely driven by one stock, Chinese internet giant Tencent, which was up 114.3% for the year. Among countries, South Africa, Greece and India led performance, while Malta, Mexico and Pakistan were the stragglers.

Within private equity, buyout deal activity fell 2% in 2017, while the number of buyout exits dropped 11%. Fundraising totaled \$180 billion last year, up 40% from 2016; mega buyout funds dominated with 11 funds larger than \$5 billion accounting for over 60% of the capital raise.

Hedged equity strategies posted strong gains through the fourth quarter with the HFRI Equity Index up 3.2%. Quantitative strategies also drove returns, along with relative-value and other trading strategies, as a result of dispersion in isolated areas of the market. Mergers and acquisitions boosted hedged equity returns, particularly in the technology, healthcare, retail and manufacturing sectors.

## Final Thoughts

As global equities show no signs of slowing down, investors must steer clear of complacency. At the cost of sounding like a broken record, we encourage investors to prepare for the inevitable market disruption by increasing exposure to strategies that help mitigate market drawdowns. While our investment outlook for 2018 is positive for risk assets as global economic growth improves, we believe caution is warranted.



# INDEX PERFORMANCE SUMMARY AS OF 12/31/2017

	2010	2011	2012	2013	2014	2015	2016	Q1	Q2	Q3	Oct	Nov	Dec	Q4	YTD
<b>MSCI EM</b>	18.9%	-18.4%	18.2%	-2.6%	-2.2%	-14.9%	11.2%	11.4%	6.3%	7.9%	3.5%	0.2%	3.6%	7.4%	37.3%
<b>MSCI EAFE</b>	7.8%	-12.1%	17.3%	22.8%	-4.9%	-0.8%	1.0%	7.2%	6.1%	5.4%	1.5%	1.0%	1.6%	4.2%	25.0%
<b>MSCI ACWI</b>	12.7%	-7.3%	16.1%	22.8%	4.2%	-2.4%	7.9%	6.9%	4.3%	5.2%	2.1%	1.9%	1.6%	5.7%	24.0%
<b>S&amp;P 500</b>	15.1%	2.1%	16.0%	32.4%	13.7%	1.4%	12.0%	6.1%	3.1%	4.5%	2.3%	3.1%	1.1%	6.6%	21.8%
<b>Russell 1000</b>	16.1%	1.5%	16.4%	33.1%	13.2%	0.9%	12.1%	6.0%	3.1%	4.5%	2.3%	3.0%	1.1%	6.6%	21.7%
<b>Russell 2500</b>	26.7%	-2.5%	17.9%	36.8%	7.1%	-2.9%	17.6%	3.8%	2.1%	4.7%	1.5%	3.3%	0.3%	5.2%	16.8%
<b>JPM GBI-EM Glob Div</b>	15.7%	-1.8%	16.8%	-9.0%	-5.7%	-14.9%	9.9%	6.5%	3.6%	3.6%	-2.8%	1.7%	2.0%	0.8%	15.2%
<b>Russell 2000</b>	26.9%	-4.2%	16.3%	38.8%	4.9%	-4.4%	21.3%	2.5%	2.5%	5.7%	0.9%	2.9%	-0.4%	3.3%	14.6%
<b>BC US STRIPS 20+ Yr</b>	10.9%	58.5%	3.0%	-21.0%	46.4%	-3.7%	1.4%	1.8%	6.1%	0.7%	0.1%	1.5%	2.8%	4.5%	13.7%
<b>BC US Long Credit</b>	10.7%	17.1%	12.7%	-6.6%	16.4%	-4.6%	10.2%	1.7%	4.7%	2.2%	0.7%	0.4%	2.0%	3.2%	12.2%
<b>BC US Govt/Cred Long</b>	10.2%	22.5%	8.8%	-8.8%	19.3%	-3.3%	6.7%	1.6%	4.4%	1.5%	0.4%	0.5%	1.9%	2.8%	10.7%
<b>JPM EMBI Glob Div</b>	12.2%	7.3%	17.4%	-5.3%	7.4%	1.2%	10.2%	3.9%	2.2%	2.6%	0.4%	0.1%	0.7%	1.2%	10.3%
<b>BC Muni High Yield</b>	7.8%	9.2%	18.1%	-5.5%	13.8%	1.8%	3.0%	4.1%	2.0%	1.5%	0.3%	0.3%	1.3%	1.8%	9.7%
<b>BC US Corporate HY</b>	15.1%	5.0%	15.8%	7.4%	2.5%	-4.5%	17.1%	2.7%	2.2%	2.0%	0.4%	-0.3%	0.3%	0.5%	7.5%
<b>BC Global Agg</b>	-5.3%	-5.3%	-4.1%	2.7%	-0.6%	3.3%	2.1%	1.8%	2.6%	1.8%	-0.4%	1.1%	0.3%	1.1%	7.4%
<b>CS Hedge Fund</b>	10.9%	-2.5%	7.7%	9.7%	4.1%	-0.7%	1.2%	2.1%	0.8%	1.8%	1.3%	0.1%	-	1.4%	6.2%
<b>BC Municipal</b>	2.4%	10.7%	6.8%	-2.6%	9.1%	3.3%	0.2%	1.6%	2.0%	1.1%	0.2%	-0.5%	1.0%	0.7%	5.4%
<b>FTSE NAREIT Eqty REITs</b>	28.0%	8.3%	18.1%	2.5%	30.1%	3.2%	8.5%	1.2%	1.5%	0.9%	-1.0%	2.7%	-0.2%	1.5%	5.2%
<b>CS Leveraged Loan</b>	10.0%	1.8%	9.4%	6.2%	2.1%	-0.4%	9.9%	1.2%	0.8%	1.1%	0.7%	0.1%	0.4%	1.2%	4.2%
<b>BC US Agg Bond</b>	6.5%	7.8%	4.2%	-2.0%	6.0%	0.5%	2.6%	0.8%	1.4%	0.8%	0.1%	-0.1%	0.5%	0.4%	3.5%
<b>BC TIPS</b>	6.3%	13.6%	7.0%	-8.6%	3.6%	-1.4%	4.7%	1.3%	-0.4%	0.9%	0.2%	0.1%	0.9%	1.3%	3.0%
<b>BBG Commodity</b>	16.8%	-13.3%	-1.1%	-9.5%	-17.0%	-24.7%	11.8%	-2.3%	-3.2%	2.5%	2.1%	-0.5%	3.0%	4.7%	1.7%
<b>BC US Govt/Cred 1-3</b>	2.8%	1.6%	1.3%	0.6%	0.8%	0.7%	1.3%	0.4%	0.3%	0.3%	0.0%	-0.2%	0.0%	-0.2%	0.8%
<b>Alerian MLP</b>	35.9%	13.9%	4.8%	27.6%	4.8%	-32.6%	18.3%	3.9%	-6.4%	-3.0%	-4.1%	-1.4%	4.7%	-0.9%	-6.5%

Source: Bloomberg, Barclays, Alerian, Nareit, MSCI, JP Morgan, Credit Suisse



# **EXECUTIVE SUMMARY**

NEPC, LLC

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# EXECUTIVE SUMMARY

- **Asset Growth and Allocation**

- As of December 31, 2017, the System's assets totaled \$1.37 billion, an increase of \$40.0 million during the quarter.
- The System's equity allocation of 74.9% is slightly above the target of 73%. The System's fixed income allocation of 20.2% is slightly below the target of 22.0%.

- **Performance**

- The System posted a 4.6% return during the quarter, ranking in the 1<sup>st</sup> percentile of public funds. The System outperformed both the Policy Index and Allocation Index.
- For the trailing year, the System returned 21.0%, ranking in the 1<sup>st</sup> percentile of public funds.
- 3-year annualized returns through December 31, 2017 were 8.8%, ranking in the 2<sup>nd</sup> percentile.
- 5-year annualized returns through December 31, 2017 were 10.6%, ranking in the 3<sup>rd</sup> percentile.
- 10-year annualized returns through December 31, 2017 were 7.2%, ranking in the 3<sup>rd</sup> percentile.



# EXECUTIVE SUMMARY

## What helped performance in the quarter

- The US Small/Mid Cap Equity Portfolio, which collectively returned 7.6%, outperformed the Russell 2500 Index by 240 basis points.
  - Manager D returned 9.5% for the quarter, outperforming the Russell 2500 Index by 430 basis points and ranking in the 4<sup>th</sup> percentile relative to their peers.
  - Manager B returned 9.0% for the quarter, outperforming the Russell 2500 Growth Index by 270 basis points and ranking in the 10<sup>th</sup> percentile relative to their peers.
  - Manager O returned 6.5% for the quarter, outperforming the Russell 2500 Value Index by 220 basis points and ranking in the 14<sup>th</sup> percentile relative to their peers.
- Manager H returned 7.4% for the quarter, outperforming the Russell 1000 Value Index by 210 basis points and ranking in the 21<sup>st</sup> percentile relative to their peers.

## What hurt performance in the quarter

- The International Equity Portfolio, which collectively returned 3.3%, underperformed the International Policy Index<sup>1</sup> by 140 basis points.
  - Manager L returned 2.4% for the quarter, underperforming the International Policy Index<sup>1</sup> by 230 basis points and ranking in the 92nd percentile relative to their peers.
- Manager S returned 5.9% for the quarter, underperforming the Russell 1000 Growth Index by 200 basis points and ranking in the 73rd percentile relative to their peers.

<sup>1</sup>Int'l Equity Policy Index comprised of 85% MSCI EAFE Index and 15% MSCI Emerging Markets Index.



# EXECUTIVE SUMMARY – MANAGER ALERTS

## **Manager S (Large Cap Growth Equity)**

- Returned 5.9% for the quarter, underperforming the Russell 1000 Growth Index by 200 basis points
- This brings their underperformance since inception to 10 basis points, per annum





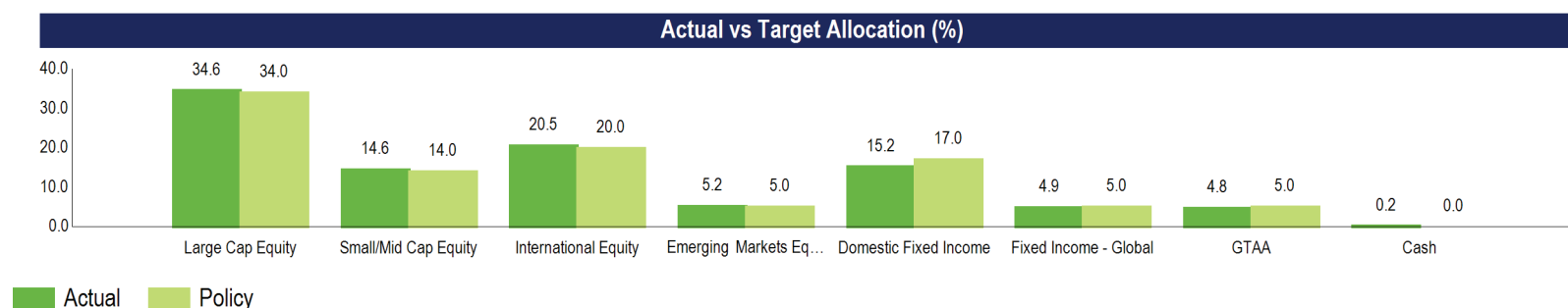
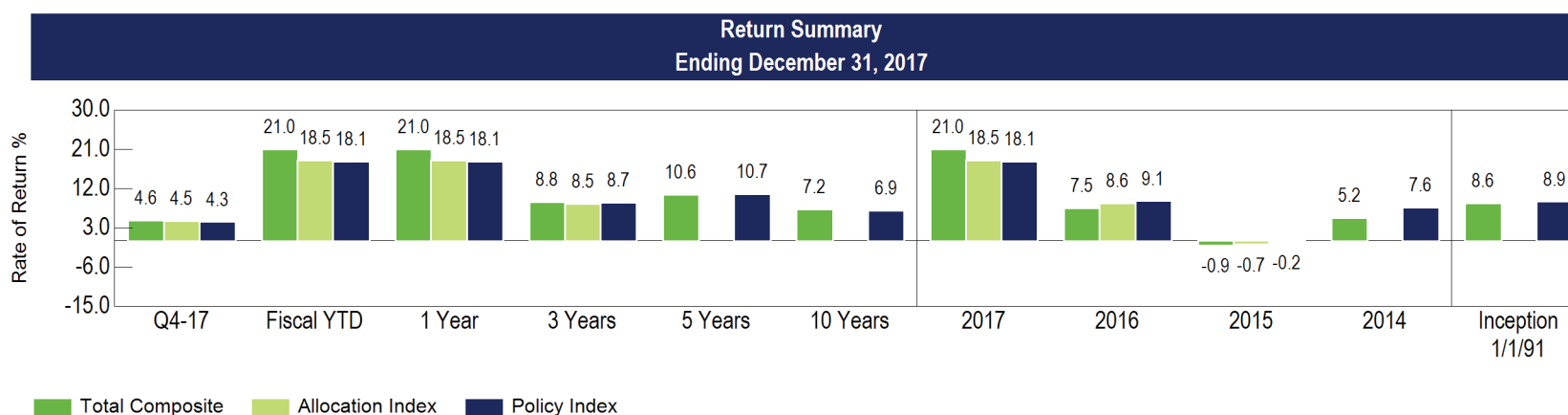
# PERFORMANCE

NEPC, LLC

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## TOTAL FUND PERFORMANCE SUMMARY

	Market Value	3 Mo Rank	Fiscal YTD Rank	1 Yr Rank	3 Yrs Rank	5 Yrs Rank	10 Yrs Rank	Return	Since						
Total Composite	\$1,369,731,395	4.6%	1	21.0%	1	21.0%	1	8.8%	2	10.6%	3	7.2%	3	8.6%	Jan-91
Allocation Index		4.5%	2	18.5%	3	18.5%	3	8.5%	4	--	--	--	--	--	Jan-91
Policy Index		4.3%	6	18.1%	4	18.1%	4	8.7%	3	10.7%	2	6.9%	4	8.9%	Jan-91
InvestorForce Public DB Net Median		3.5%		14.5%		14.5%		7.0%		8.3%		5.6%		8.0%	Jan-91

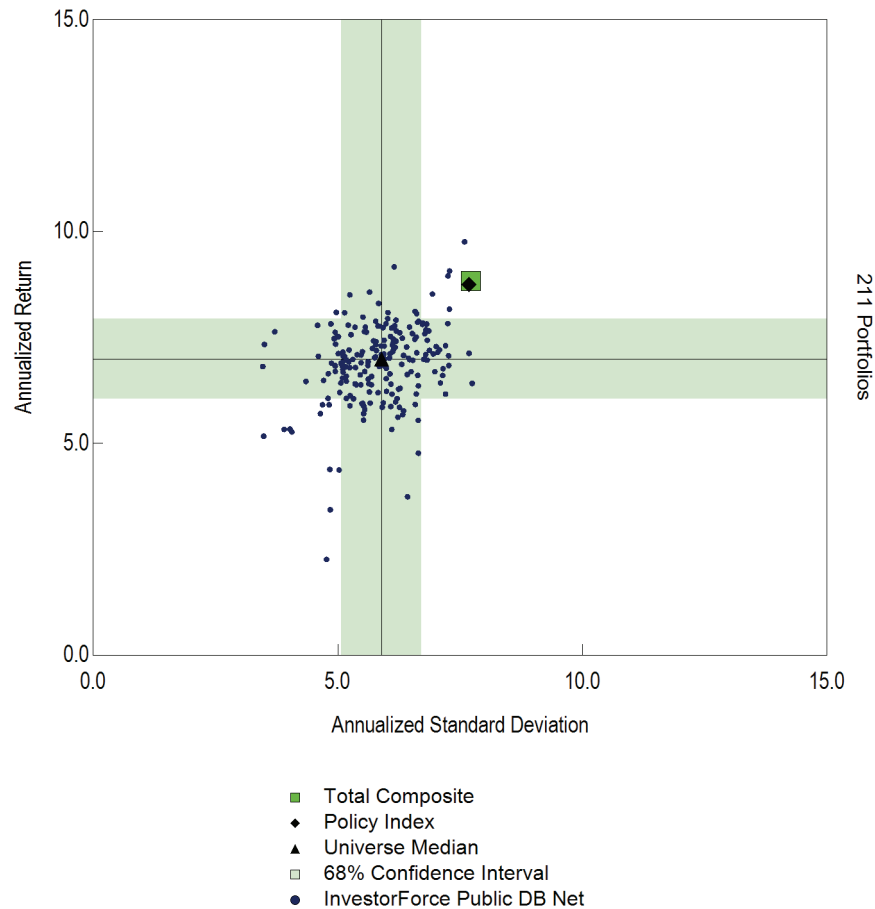


Fiscal year ends December 31.



# TOTAL FUND RISK/RETURN - 3 YEARS

3 Years Ending December 31, 2017



3 Years Ending December 31, 2017

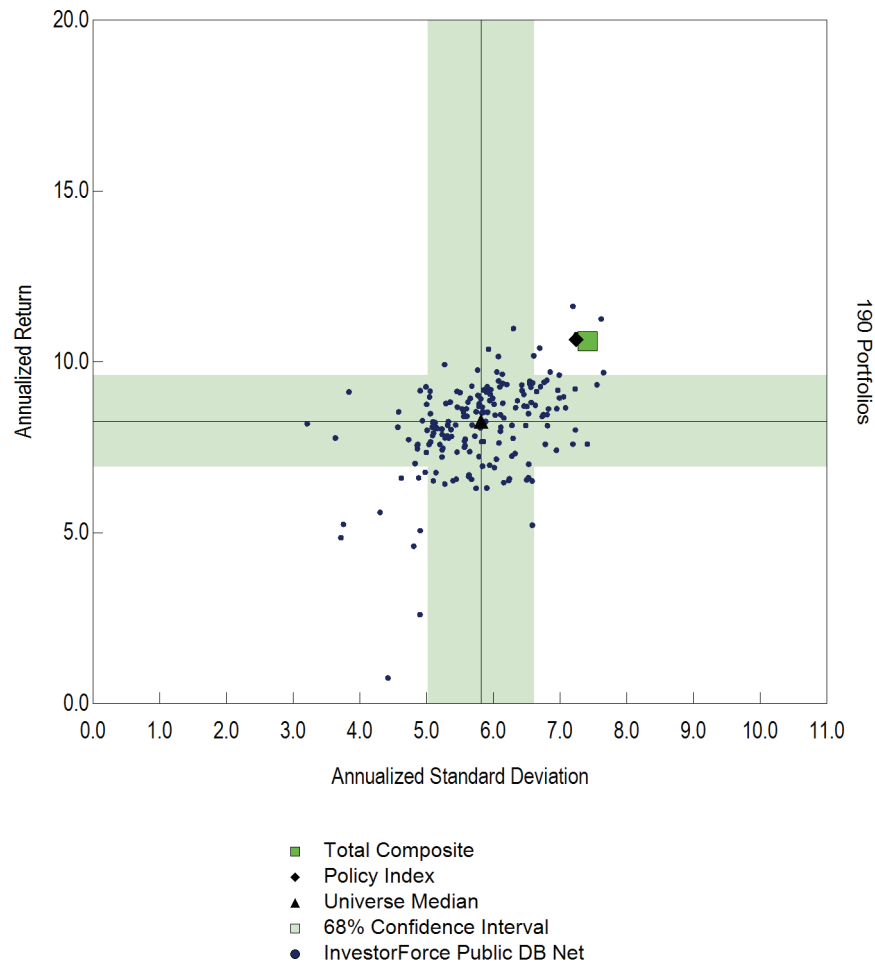
	Annualized Return (%)	Rank	Annualized Standard Deviation	Rank
Total Composite	8.82%	2	7.73%	99
Policy Index	8.75%	3	7.69%	99

3 Years Ending December 31, 2017

	Sharpe Ratio	Rank	Sortino Ratio	Rank
Total Composite	1.09	62	1.61	50
Policy Index	1.08	63	1.57	57

# TOTAL FUND RISK/RETURN - 5 YEARS

5 Years Ending December 31, 2017



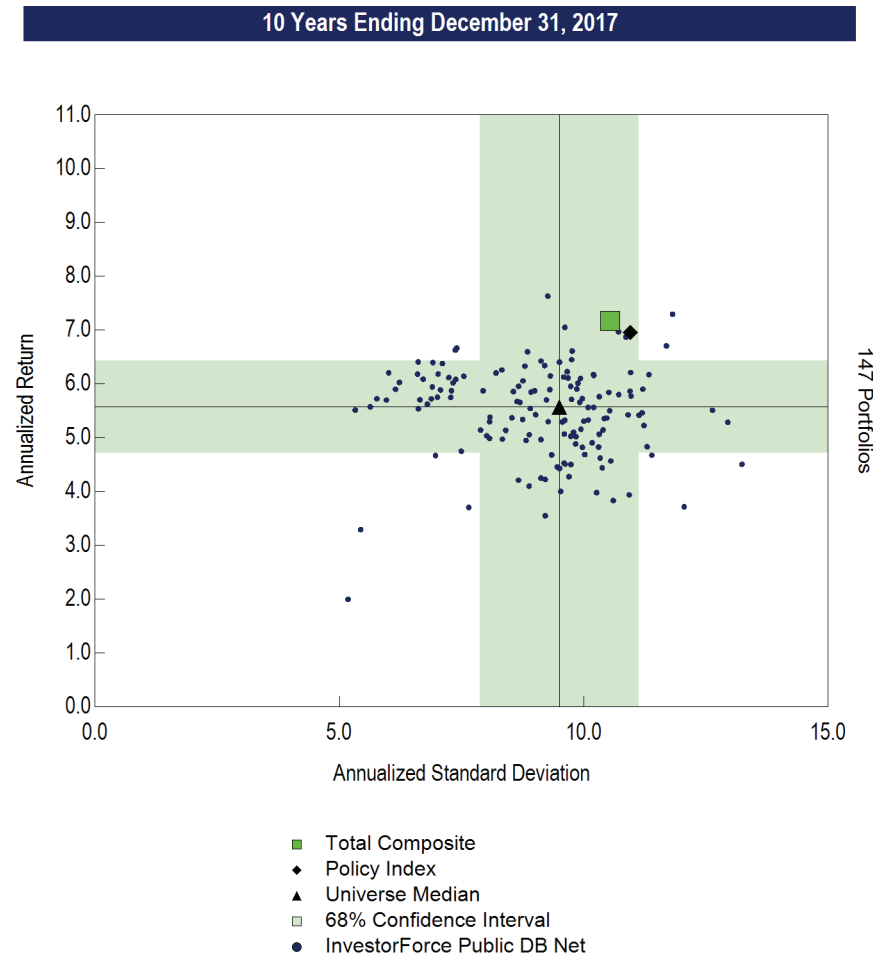
5 Years Ending December 31, 2017

	Annualized Return (%)	Rank	Annualized Standard Deviation	Rank
Total Composite	10.60%	3	7.42%	99
Policy Index	10.65%	2	7.24%	98

5 Years Ending December 31, 2017

	Sharpe Ratio	Rank	Sortino Ratio	Rank
Total Composite	1.39	49	2.34	48
Policy Index	1.43	42	2.34	47

# TOTAL FUND RISK/RETURN - 10 YEARS



10 Years Ending December 31, 2017				
	Annualized Return (%)	Rank	Annualized Standard Deviation	Rank
Total Composite	7.17%	3	10.55%	85
Policy Index	6.95%	4	10.96%	91

10 Years Ending December 31, 2017				
	Sharpe Ratio	Rank	Sortino Ratio	Rank
Total Composite	0.65	28	0.86	26
Policy Index	0.61	39	0.78	36

## TOTAL FUND PERFORMANCE DETAIL

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Return (%)	Since
<b>Total Composite</b>	<b>1,369,731,395</b>	<b>100.0</b>	<b>4.6</b>	<b>2</b>	<b>21.0</b>	<b>1</b>	<b>21.0</b>	<b>1</b>	<b>8.8</b>	<b>2</b>	<b>10.6</b>	<b>3</b>	<b>7.2</b>	<b>3</b>	<b>8.6</b>	<b>Jan-91</b>
Allocation Index			4.5	3	18.5	3	18.5	3	8.5	4	--	--	--	--	--	Jan-91
Policy Index			4.3	6	18.1	4	18.1	4	8.7	3	10.7	3	6.9	5	8.9	Jan-91
InvestorForce Public DB Net Median			3.5		14.7		14.7		7.1		8.4		5.6		8.0	Jan-91
<b>Total Equity</b>	<b>1,025,497,580</b>	<b>74.9</b>	<b>5.9</b>	<b>--</b>	<b>26.2</b>	<b>--</b>	<b>26.2</b>	<b>--</b>	<b>10.8</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>10.0</b>	<b>Sep-14</b>
Russell 3000			6.3	--	21.1	--	21.1	--	11.1	--	15.6	--	8.6	--	10.9	Sep-14
<b>Total Domestic Equity</b>	<b>673,140,016</b>	<b>49.1</b>	<b>6.9</b>	<b>25</b>	<b>23.6</b>	<b>27</b>	<b>23.6</b>	<b>27</b>	<b>10.8</b>	<b>35</b>	<b>14.8</b>	<b>46</b>	<b>8.5</b>	<b>52</b>	<b>10.2</b>	<b>Apr-91</b>
Domestic Equity Policy Index			5.9	45	20.2	44	20.2	44	11.1	31	15.4	33	8.7	47	10.1	Apr-91
eV All US Equity Net Median			5.6		18.7		18.7		9.8		14.5		8.5		10.9	Apr-91
<b>Total Large Cap</b>	<b>473,810,304</b>	<b>34.6</b>	<b>6.7</b>	<b>46</b>	<b>25.0</b>	<b>29</b>	<b>25.0</b>	<b>29</b>	<b>10.7</b>	<b>37</b>	<b>14.8</b>	<b>52</b>	<b>7.5</b>	<b>69</b>	<b>7.9</b>	<b>Jul-02</b>
Russell 1000			6.6	48	21.7	46	21.7	46	11.2	27	15.7	33	8.6	39	9.1	Jul-02
eV US Large Cap Equity Net Median			6.5		21.1		21.1		10.0		14.8		8.3		9.0	Jul-02
Manager N	235,530,636	17.2	6.6	48	21.8	46	21.8	46	--	--	--	--	--	--	20.7	Feb-16
S&P 500			6.6	48	21.8	46	21.8	46	11.4	19	15.8	25	8.5	38	20.7	Feb-16
eV US Large Cap Core Equity Net Median			6.6		21.4		21.4		10.2		14.8		8.3		19.4	Feb-16
Manager S	115,736,206	8.4	5.9	73	32.7	22	32.7	22	11.4	52	16.1	48	9.2	43	9.7	Jul-07
Russell 1000 Growth			7.9	16	30.2	38	30.2	38	13.8	16	17.3	17	10.0	21	9.8	Jul-07
eV US Large Cap Growth Equity Net Median			6.7		28.5		28.5		11.6		16.0		8.9		9.1	Jul-07
Manager H	122,526,656	8.9	7.4	21	23.9	4	23.9	4	12.3	3	16.5	4	--	--	16.5	Jan-13
Russell 1000 Value			5.3	73	13.7	86	13.7	86	8.7	56	14.0	49	7.1	61	14.0	Jan-13
eV US Large Cap Value Equity Net Median			6.2		16.7		16.7		9.0		14.0		7.5		14.0	Jan-13

Note: Performance prior to 2010 is gross of manager fees; otherwise, returns are net of fees.

Policy Index comprised of 17% S&P 500, 8.5% Russell 1000 Growth, 8.5% Russell 1000 Value, 14% Russell 2000, 20% MSCI EAFE, 5% MSCI EM, 17% Barclays Aggregate, 5% CITI WGBI and 5% to the 60% MSCI World (Net)/40% Barclays Aggregate Index as of 10/1/2015.

Domestic Equity Policy Index comprised of 26% S&P 500, 26% Russell 1000 Growth, 26% Russell 1000 Value and 22% Russell 2000 Index.

Manager N was funded as of 1/20/2016. Performance calculation starts from first full month of performance.

Fiscal year ends December 31.

## TOTAL FUND PERFORMANCE DETAIL

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Return (%)	Since
<b>Total US Small/Mid Cap</b>	<b>199,329,712</b>	<b>14.6</b>	<b>7.6</b>	<b>15</b>	<b>20.2</b>	<b>33</b>	<b>20.2</b>	<b>33</b>	<b>11.0</b>	<b>26</b>	<b>14.8</b>	<b>32</b>	<b>11.9</b>	<b>6</b>	<b>12.2</b>	<b>Aug-02</b>
Russell 2500			5.2	54	16.8	52	16.8	52	10.1	38	14.3	38	9.2	49	11.3	Aug-02
eV US Small-Mid Cap Equity Net Median			5.5		17.1		17.1		9.3		13.7		9.1		11.3	Aug-02
Manager C	48,399,506	3.5	5.1	27	13.8	55	13.8	55	12.0	25	15.3	33	12.4	5	12.5	Oct-93
Russell 2000			3.3	64	14.6	49	14.6	49	10.0	52	14.1	53	8.7	56	9.2	Oct-93
eV US Small Cap Equity Net Median			3.9		14.4		14.4		10.0		14.3		9.0		11.2	Oct-93
Manager D	50,630,656	3.7	9.5	4	25.7	14	25.7	14	15.5	1	17.6	2	13.2	2	12.9	Jul-07
Russell 2500			5.2	54	16.8	52	16.8	52	10.1	38	14.3	38	9.2	49	8.0	Jul-07
eV US Small-Mid Cap Equity Net Median			5.5		17.1		17.1		9.3		13.7		9.1		8.0	Jul-07
Manager B	52,400,781	3.8	9.0	10	27.6	26	27.6	26	8.6	66	--	--	--	--	10.2	Nov-13
Russell 2500 Growth			6.3	35	24.5	54	24.5	54	10.9	37	15.5	28	9.6	33	11.0	Nov-13
eV US Small-Mid Cap Growth Equity Net Median			5.9		24.9		24.9		10.2		13.8		8.7		9.2	Nov-13
Manager O	47,898,769	3.5	6.5	14	14.0	34	14.0	34	7.1	78	--	--	--	--	7.0	Nov-13
Russell 2500 Value			4.3	52	10.4	73	10.4	73	9.3	36	13.3	53	8.8	51	9.5	Nov-13
eV US Small-Mid Cap Value Equity Net Median			4.4		12.4		12.4		8.6		13.4		8.8		9.2	Nov-13
<b>Total International Equity</b>	<b>281,195,163</b>	<b>20.5</b>	<b>3.3</b>	<b>81</b>	<b>30.5</b>	<b>30</b>	<b>30.5</b>	<b>30</b>	<b>10.1</b>	<b>36</b>	<b>9.2</b>	<b>46</b>	<b>2.3</b>	<b>73</b>	<b>6.6</b>	<b>Mar-96</b>
Int'l Equity Policy Index			4.7	37	26.8	49	26.8	49	8.1	64	7.4	82	2.0	85	5.5	Mar-96
eV All EAFE Equity Net Median			4.2		26.6		26.6		8.9		9.0		3.4		7.1	Mar-96
Manager A	143,603,204	10.5	4.2	50	31.2	27	31.2	27	9.7	39	9.2	45	3.8	44	8.3	May-96
Int'l Equity Policy Index			4.7	37	26.8	49	26.8	49	8.1	64	7.4	82	2.0	85	5.3	May-96
eV All EAFE Equity Net Median			4.2		26.6		26.6		8.9		9.0		3.4		7.0	May-96
Manager L	137,591,959	10.0	2.4	92	29.8	33	29.8	33	10.4	32	10.5	28	--	--	11.2	Jun-10
Int'l Equity Policy Index			4.7	37	26.8	49	26.8	49	8.1	64	7.4	82	2.0	85	8.1	Jun-10
eV All EAFE Equity Net Median			4.2		26.6		26.6		8.9		9.0		3.4		9.8	Jun-10
<b>Total Emerging Market Equity</b>	<b>71,162,400</b>	<b>5.2</b>	<b>6.5</b>	<b>54</b>	<b>34.2</b>	<b>69</b>	<b>34.2</b>	<b>69</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>21.7</b>	<b>Jun-16</b>
MSCI Emerging Markets			7.4	30	37.3	48	37.3	48	9.1	52	4.3	74	1.7	75	28.7	Jun-16
eV Emg Mkts Equity Net Median			6.7		37.1		37.1		9.1		5.4		2.7		27.5	Jun-16
Manager M	71,162,400	5.2	6.5	54	34.2	69	34.2	69	--	--	--	--	--	--	21.7	Jun-16
MSCI Emerging Markets			7.4	30	37.3	48	37.3	48	9.1	52	4.3	74	1.7	75	28.7	Jun-16
eV Emg Mkts Equity Net Median			6.7		37.1		37.1		9.1		5.4		2.7		27.5	Jun-16

Note: Performance prior to 2010 is gross of manager fees; otherwise, returns are net of fees.

Int'l Equity Policy Index comprised of 85% MSCI EAFE Index and 15% MSCI Emerging Markets Index.





## TOTAL FUND PERFORMANCE DETAIL

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Return (%)	Since
<b>Total Fixed Income</b>	<b>276,214,497</b>	<b>20.2</b>	<b>0.1</b>	<b>91</b>	<b>5.2</b>	<b>5</b>	<b>5.2</b>	<b>5</b>	<b>2.4</b>	<b>57</b>	<b>2.0</b>	<b>75</b>	<b>4.1</b>	<b>71</b>	<b>5.9</b>	<b>Jan-91</b>
BBgBarc US Aggregate TR			0.4	66	3.5	66	3.5	66	2.2	69	2.1	62	4.0	77	5.9	Jan-91
eV US Core Fixed Inc Net Median			0.4		3.8		3.8		2.4		2.3		4.4		6.0	Jan-91
<b>Total Domestic Fixed Income</b>	<b>208,552,859</b>	<b>15.2</b>	<b>0.3</b>	<b>81</b>	<b>3.1</b>	<b>85</b>	<b>3.1</b>	<b>85</b>	<b>2.2</b>	<b>71</b>	<b>1.9</b>	<b>78</b>	<b>4.1</b>	<b>73</b>	<b>5.9</b>	<b>Jan-91</b>
BBgBarc US Aggregate TR			0.4	66	3.5	66	3.5	66	2.2	69	2.1	62	4.0	77	5.9	Jan-91
eV US Core Fixed Inc Net Median			0.4		3.8		3.8		2.4		2.3		4.4		6.0	Jan-91
Manager I	52,591,378	3.8	0.4	70	3.5	69	3.5	69	2.5	47	2.3	43	4.3	53	4.3	Jan-03
BBgBarc US Aggregate TR			0.4	66	3.5	66	3.5	66	2.2	69	2.1	62	4.0	77	4.1	Jan-03
eV US Core Fixed Inc Net Median			0.4		3.8		3.8		2.4		2.3		4.4		4.3	Jan-03
Manager R	51,752,478	3.8	0.0	94	2.5	94	2.5	94	1.9	86	1.8	90	3.7	88	5.4	Jan-93
Manager R Policy Index			-0.2	99	2.1	97	2.1	97	1.8	93	1.6	96	3.7	87	5.4	Jan-93
eV US Core Fixed Inc Net Median			0.4		3.8		3.8		2.4		2.3		4.4		5.6	Jan-93
Manager O	51,771,958	3.8	0.3	79	3.0	88	3.0	88	1.8	92	1.7	93	--	--	3.1	Apr-11
BBgBarc US Aggregate TR			0.4	66	3.5	66	3.5	66	2.2	69	2.1	62	4.0	77	3.3	Apr-11
eV US Core Fixed Inc Net Median			0.4		3.8		3.8		2.4		2.3		4.4		3.5	Apr-11
Manager F	52,437,045	3.8	0.4	65	3.4	77	3.4	77	2.5	45	2.4	37	--	--	3.6	May-11
BBgBarc US Aggregate TR			0.4	66	3.5	66	3.5	66	2.2	69	2.1	62	4.0	77	3.1	May-11
eV US Core Fixed Inc Net Median			0.4		3.8		3.8		2.4		2.3		4.4		3.3	May-11
<b>Total Global Fixed Income</b>	<b>67,661,639</b>	<b>4.9</b>	<b>-0.5</b>	<b>99</b>	<b>12.8</b>	<b>2</b>	<b>12.8</b>	<b>2</b>	<b>2.7</b>	<b>22</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>2.0</b>	<b>Aug-14</b>
Citi WGBI			1.0	26	7.5	51	7.5	51	1.7	59	0.1	87	2.7	88	0.2	Aug-14
eV Global Agg Fixed Inc Net Median			0.8		7.5		7.5		2.0		1.1		3.5		0.9	Aug-14
Manager K	67,661,639	4.9	-0.5	99	12.8	2	12.8	2	2.7	22	--	--	--	--	2.0	Aug-14
Citi WGBI			1.0	26	7.5	51	7.5	51	1.7	59	0.1	87	2.7	88	0.2	Aug-14
eV Global Agg Fixed Inc Net Median			0.8		7.5		7.5		2.0		1.1		3.5		0.9	Aug-14

Domestic Fixed Income Composite performance history includes Brandywine data for August and September 2014.

Note: Performance prior to 2010 is gross of manager fees; otherwise, returns are net of fees.

Manager R Policy Index comprised of 100% Barclays Intermediate Govt/Credit as of 7/1/2014 and 100% Barclays Aggregate as of 12/31/1992.



## TOTAL FUND PERFORMANCE DETAIL

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Return (%)	Since
<b>Total GAA</b>	<b>65,434,284</b>	<b>4.8</b>	<b>5.0</b>	<b>11</b>	<b>15.9</b>	<b>39</b>	<b>15.9</b>	<b>39</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>12.7</b>	<b>Jun-16</b>
60% MSCI World (Net) / 40% BBgBarc Agg			3.4	53	14.5	48	14.5	48	6.6	18	7.9	19	5.0	44	11.0	Jun-16
eV Global TAA Net Median			3.4		13.7		13.7		4.9		4.9		4.8		10.3	Jun-16
<b>Manager E</b>	<b>65,434,284</b>	<b>4.8</b>	<b>5.0</b>	<b>11</b>	<b>15.9</b>	<b>39</b>	<b>15.9</b>	<b>39</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>12.7</b>	<b>Jun-16</b>
60% MSCI World (Net) / 40% BBgBarc Agg			3.4	53	14.5	48	14.5	48	6.6	18	7.9	19	5.0	44	11.0	Jun-16
eV Global TAA Net Median			3.4		13.7		13.7		4.9		4.9		4.8		10.3	Jun-16
<b>Cash</b>	<b>2,585,034</b>	<b>0.2</b>	<b>0.3</b>	<b>13</b>	<b>1.8</b>	<b>1</b>	<b>1.8</b>	<b>1</b>	<b>0.8</b>	<b>14</b>	<b>0.5</b>	<b>13</b>	<b>0.5</b>	<b>67</b>	<b>3.5</b>	<b>Jan-91</b>
91 Day T-Bills			0.3	36	0.9	78	0.9	78	0.4	82	0.3	80	0.3	99	2.6	Jan-91
eV US Cash Management Net Median			0.3		1.0		1.0		0.6		0.4		0.6		2.3	Jan-91
<b>Manager G</b>	<b>2,585,034</b>	<b>0.2</b>	<b>0.3</b>	<b>13</b>	<b>1.8</b>	<b>1</b>	<b>1.8</b>	<b>1</b>	<b>0.8</b>	<b>14</b>	<b>0.5</b>	<b>13</b>	<b>0.5</b>	<b>67</b>	<b>3.5</b>	<b>Jan-91</b>
91 Day T-Bills			0.3	36	0.9	78	0.9	78	0.4	82	0.3	80	0.3	99	2.6	Jan-91
eV US Cash Management Net Median			0.3		1.0		1.0		0.6		0.4		0.6		2.3	Jan-91

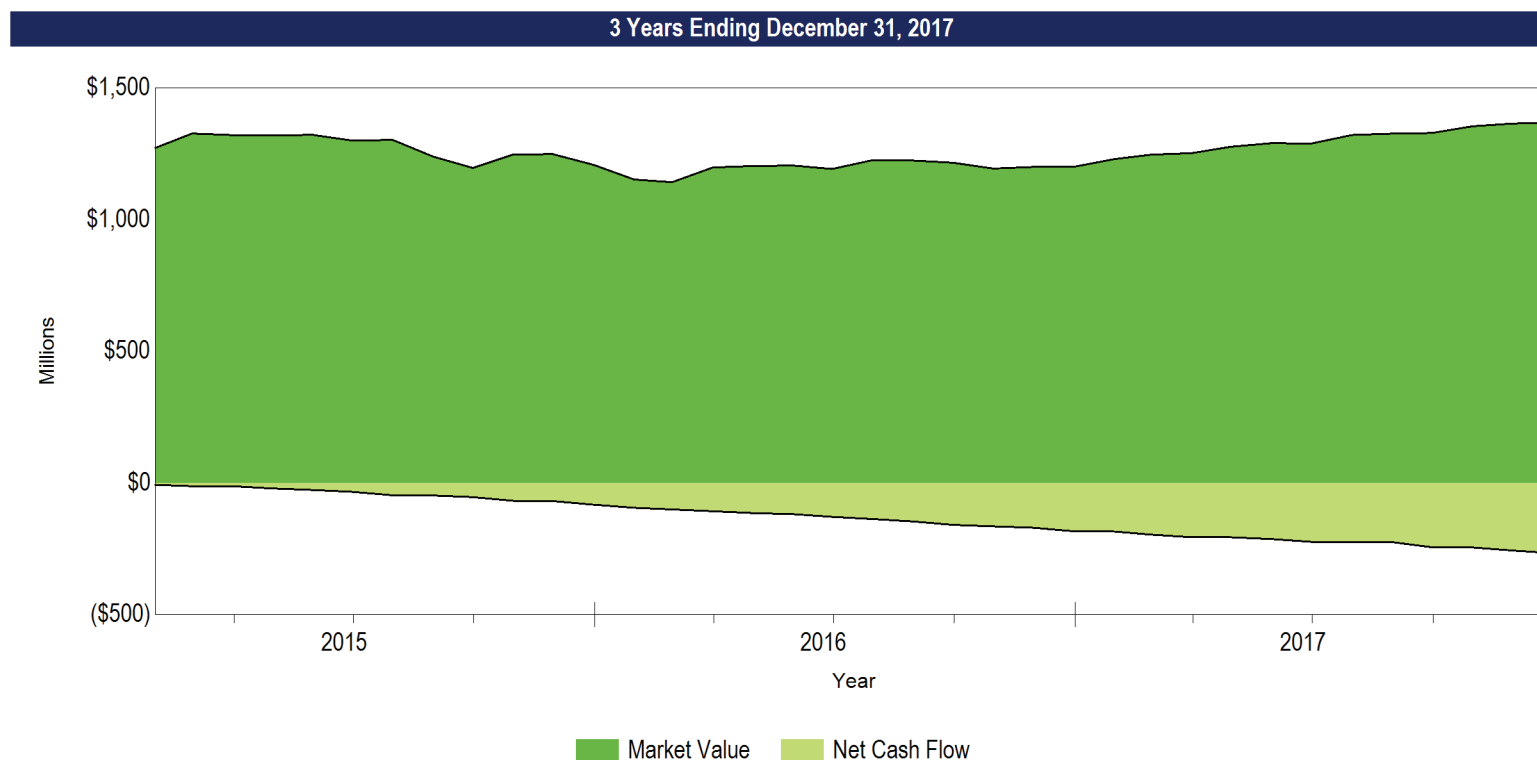
## TOTAL FUND ASSET GROWTH SUMMARY BY MANAGER

	Quarter Ending December 31, 2017					Ending Market Value
	Beginning Market Value	Contributions	Withdrawals	Net Cash Flow	Net Investment Change	
Manager A	\$137,780,062	\$0	-\$174,616	-\$174,616	\$5,997,759	\$143,603,204
Manager B	\$48,130,842	\$0	-\$55,832	-\$55,832	\$4,325,772	\$52,400,781
Manager C	\$46,063,483	\$0	-\$86,650	-\$86,650	\$2,422,673	\$48,399,506
Manager D	\$48,598,732	\$0	-\$2,593,018	-\$2,593,018	\$4,624,942	\$50,630,656
Manager E	\$62,322,738	\$0	-\$43,376	-\$43,376	\$3,154,923	\$65,434,284
Manager F	\$52,228,731	\$0	-\$26,329	-\$26,329	\$234,643	\$52,437,045
Manager G	\$6,607,962	\$20,056,561	-\$24,093,814	-\$4,037,254	\$14,325	\$2,585,034
Manager H	\$114,090,329	\$0	-\$220,788	-\$220,788	\$8,657,115	\$122,526,656
Manager I	\$52,322,815	\$86,589	-\$1,737	\$84,852	\$183,710	\$52,591,378
Manager J	\$27,246	\$0	-\$22,108	-\$22,108	\$28	\$5,166
Manager K	\$64,985,285	\$3,000,000	-\$95,884	\$2,904,116	-\$227,763	\$67,661,639
Manager L	\$140,334,492	\$0	-\$6,323,236	-\$6,323,236	\$3,580,703	\$137,591,959
Manager M	\$66,752,886	\$0	-\$52,019	-\$52,019	\$4,461,533	\$71,162,400
Manager N	\$229,525,228	\$0	-\$9,008,361	-\$9,008,361	\$15,013,769	\$235,530,636
Manager O	\$51,627,829	\$0	-\$40,230	-\$40,230	\$184,358	\$51,771,958
Manager P	\$44,983,462	\$0	-\$123,202	-\$123,202	\$3,038,509	\$47,898,769
Manager Q	\$11,639	\$0	\$0	\$0	\$0	\$11,639
Manager R	\$51,751,985	\$0	-\$32,304	-\$32,304	\$32,797	\$51,752,478
Manager S	\$111,620,693	\$0	-\$2,643,289	-\$2,643,289	\$6,758,802	\$115,736,206
<b>Total</b>	<b>\$1,329,766,441</b>	<b>\$23,143,150</b>	<b>-\$45,636,793</b>	<b>-\$22,493,643</b>	<b>\$62,458,597</b>	<b>\$1,369,731,395</b>

Z TERMINATED represents accounts that fully liquidated during the Quarter.



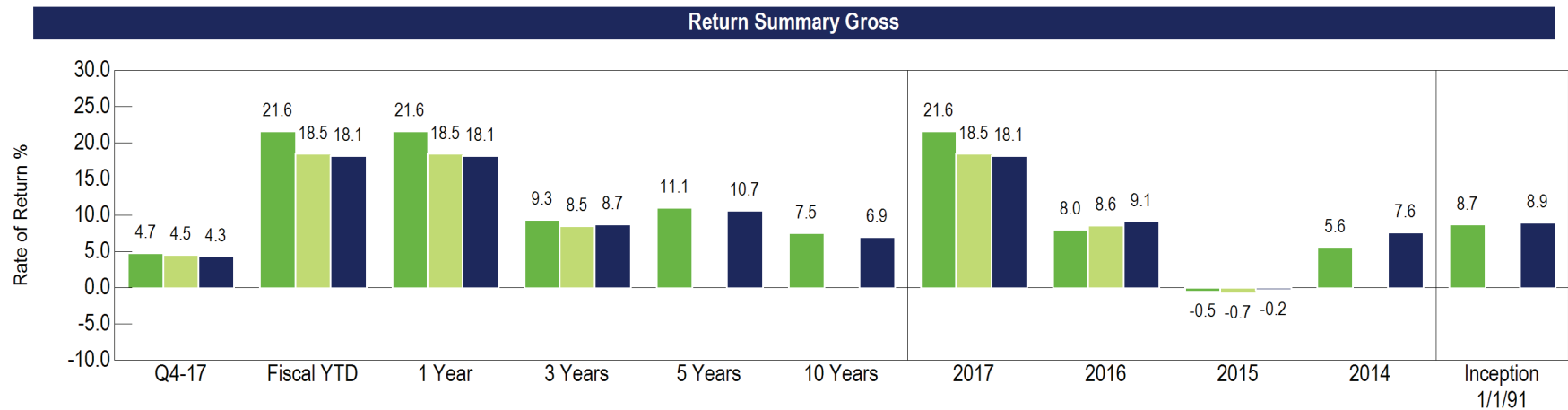
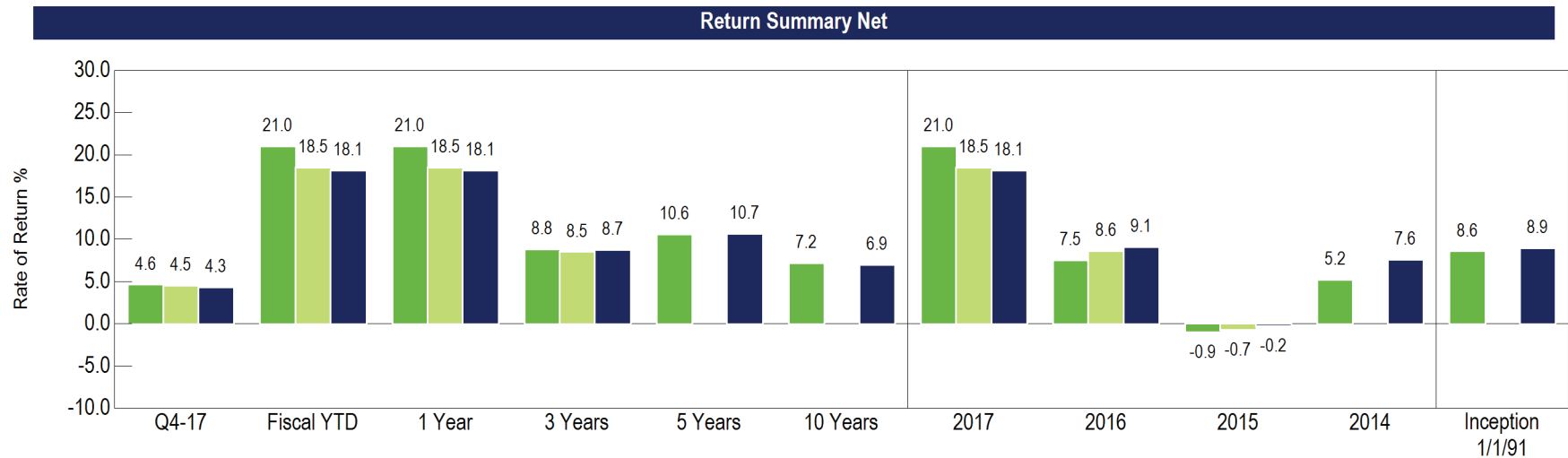
# TOTAL FUND ASSET GROWTH SUMMARY



	Last Three Months	Fiscal Year-To-Date	One Year	Three Years
Beginning Market Value	\$1,329,766,441	\$1,201,118,626	\$1,201,118,626	\$1,295,769,442
Net Cash Flow	-\$22,493,643	-\$83,180,621	-\$83,180,621	-\$266,783,319
Net Investment Change	\$62,458,597	\$251,793,390	\$251,793,390	\$340,745,272
Ending Market Value	\$1,369,731,395	\$1,369,731,395	\$1,369,731,395	\$1,369,731,395



# TOTAL FUND RETURN SUMMARY

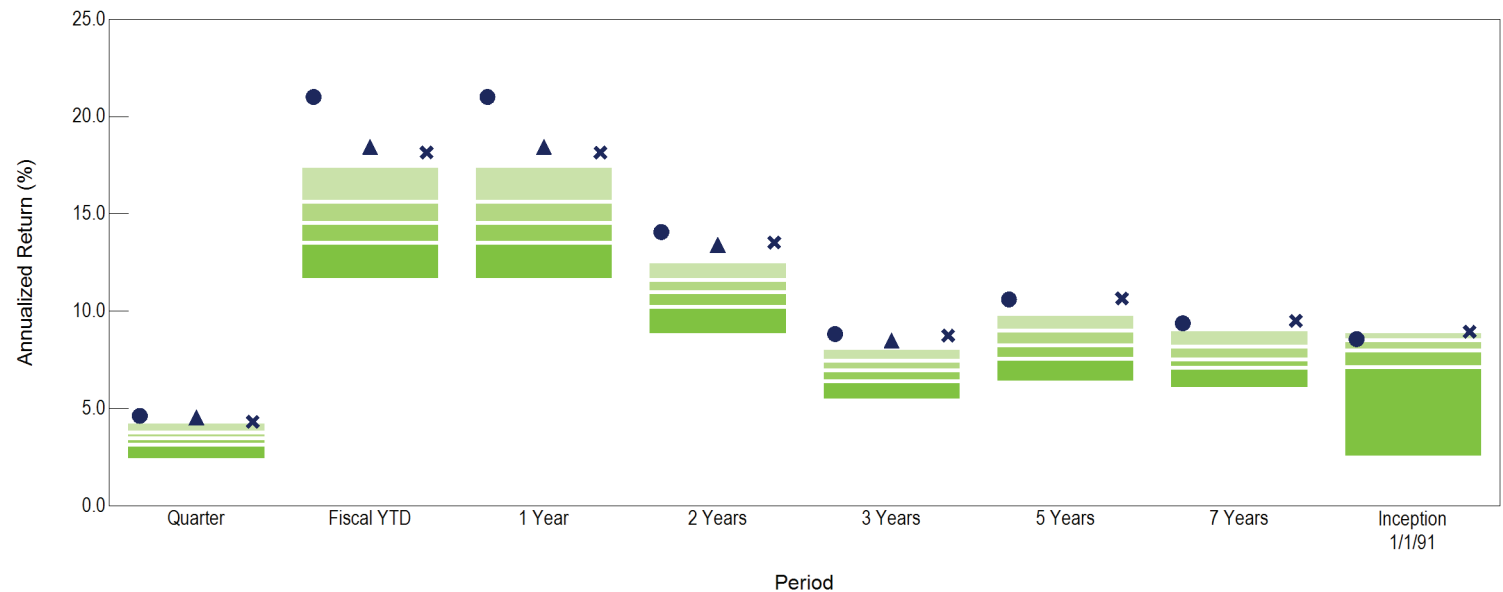


■ Total Composite 
 ■ Allocation Index 
 ■ Policy Index



# TOTAL FUND RETURN SUMMARY VS. PEER UNIVERSE

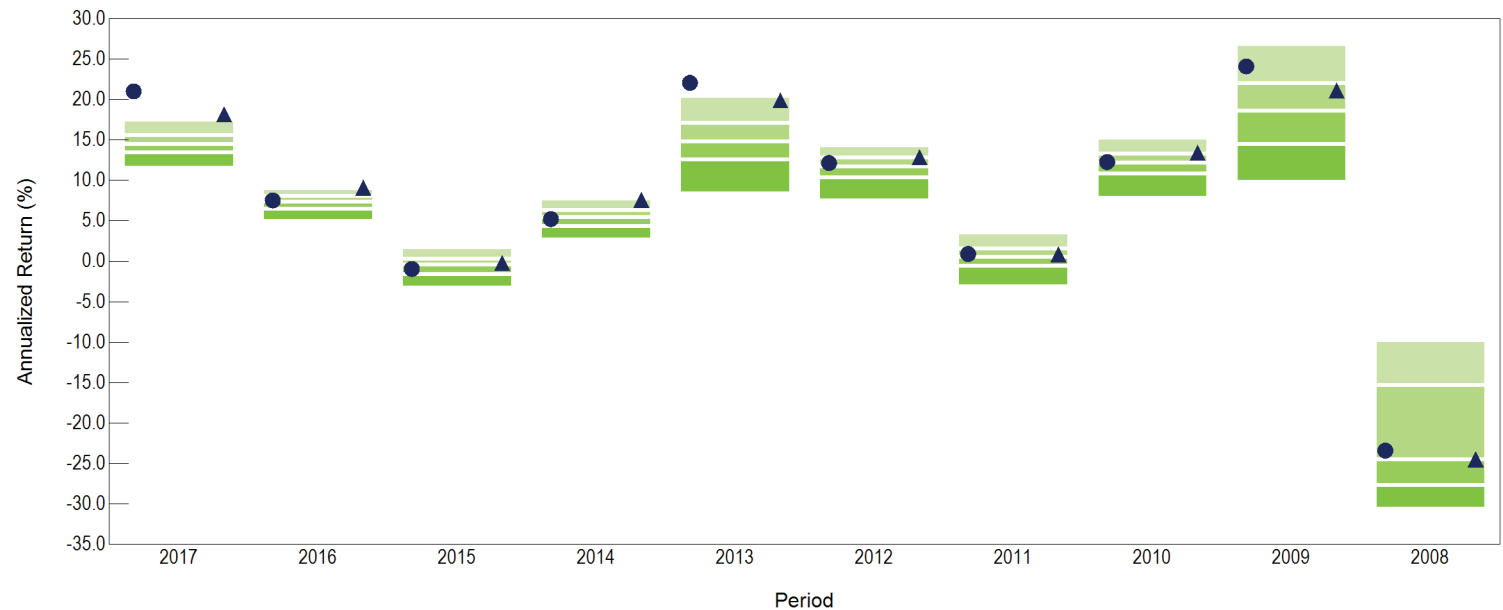
Total Composite vs. InvestorForce Public DB Net



		Return (Rank)															
5th Percentile		4.3	17.4	17.4	12.5	8.1	9.8	9.0	8.9								
25th Percentile		3.8	15.6	15.6	11.6	7.5	9.0	8.2	8.5								
Median		3.5	14.5	14.5	11.0	7.0	8.3	7.5	8.0								
75th Percentile		3.1	13.5	13.5	10.2	6.4	7.6	7.1	7.2								
95th Percentile		2.4	11.6	11.6	8.8	5.4	6.4	6.0	2.5								
# of Portfolios		218	218	218	215	211	190	167	39								
●	Total Composite	4.6	(1)	21.0	(1)	21.0	(1)	14.1	(1)	8.8	(2)	10.6	(3)	9.4	(2)	8.6	(24)
▲	Allocation Index	4.5	(2)	18.5	(3)	18.5	(3)	13.4	(2)	8.5	(4)	--	(--)	--	(--)	--	(--)
×	Policy Index	4.3	(6)	18.1	(4)	18.1	(4)	13.5	(2)	8.7	(3)	10.7	(2)	9.5	(2)	8.9	(5)

# TOTAL FUND RETURN SUMMARY VS. PEER UNIVERSE

Total Composite vs. InvestorForce Public DB Net

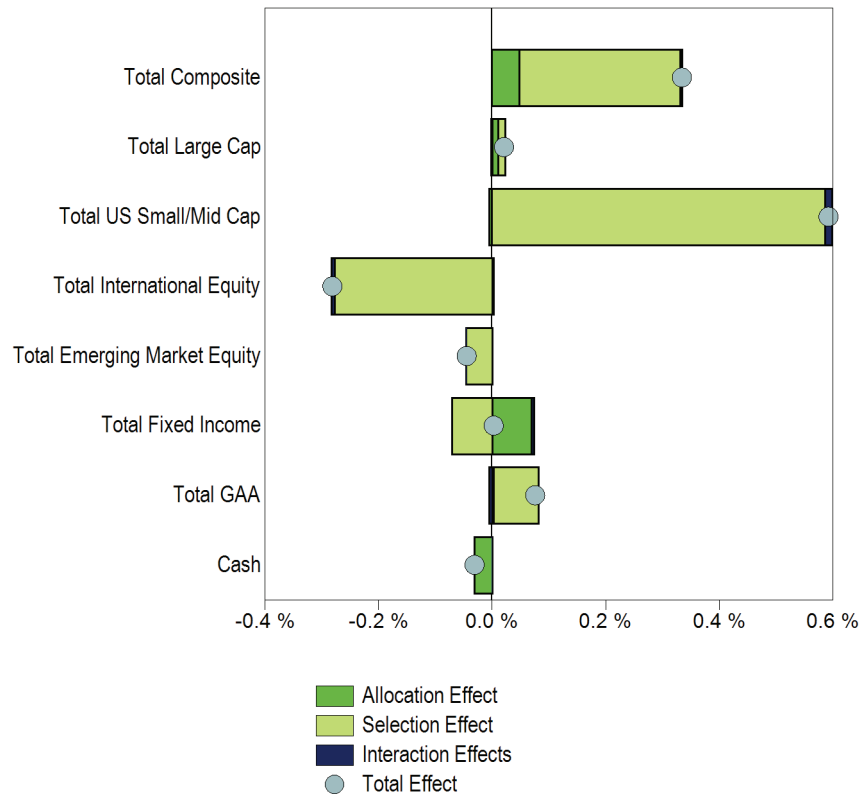


		Return (Rank)																			
5th Percentile		17.4	9.0	1.7	7.7	20.4	14.3	3.6	15.3	26.8	-9.8										
25th Percentile		15.6	8.1	0.4	6.4	17.2	12.9	1.6	13.4	22.0	-15.2										
Median		14.5	7.4	-0.4	5.5	14.9	11.8	0.6	12.2	18.6	-24.4										
75th Percentile		13.5	6.6	-1.5	4.4	12.7	10.4	-0.5	10.9	14.5	-27.6										
95th Percentile		11.6	5.0	-3.2	2.7	8.4	7.6	-3.1	7.9	9.9	-30.5										
# of Portfolios		218	269	262	210	191	159	137	131	128	125										
●	Total Composite	21.0	(1)	7.5	(47)	-0.9	(68)	5.2	(59)	22.1	(1)	12.1	(43)	0.9	(41)	12.3	(49)	24.1	(14)	-23.4	(47)
▲	Policy Index	18.1	(4)	9.1	(5)	-0.2	(44)	7.6	(7)	19.9	(8)	12.8	(27)	0.8	(42)	13.4	(25)	21.1	(32)	-24.5	(51)



# TOTAL FUND ATTRIBUTION ANALYSIS

Attribution Effects Relative to Total Fund Policy Index  
6 Months Ending December 31, 2017



Attribution Summary  
3 Months Ending December 31, 2017

	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
Total Large Cap	6.7%	6.6%	0.0%	0.0%	0.0%	0.0%	0.0%
Total US Small/Mid Cap	7.6%	3.3%	4.2%	0.6%	0.0%	0.0%	0.6%
Total International Equity	3.3%	4.7%	-1.4%	-0.3%	0.0%	0.0%	-0.3%
Total Emerging Market Equity	6.5%	7.4%	-0.9%	0.0%	0.0%	0.0%	0.0%
Total Fixed Income	0.1%	0.4%	-0.3%	-0.1%	0.1%	0.0%	0.0%
Total GAA	5.0%	3.4%	1.6%	0.1%	0.0%	0.0%	0.1%
Cash	0.3%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Total</b>	<b>4.6%</b>	<b>4.3%</b>	<b>0.3%</b>	<b>0.3%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.3%</b>

Returns are calculated using the benchmark return and weight of composites shown and may differ from returns shown on the performance summary.

## TOTAL FUND RISK STATISTICS

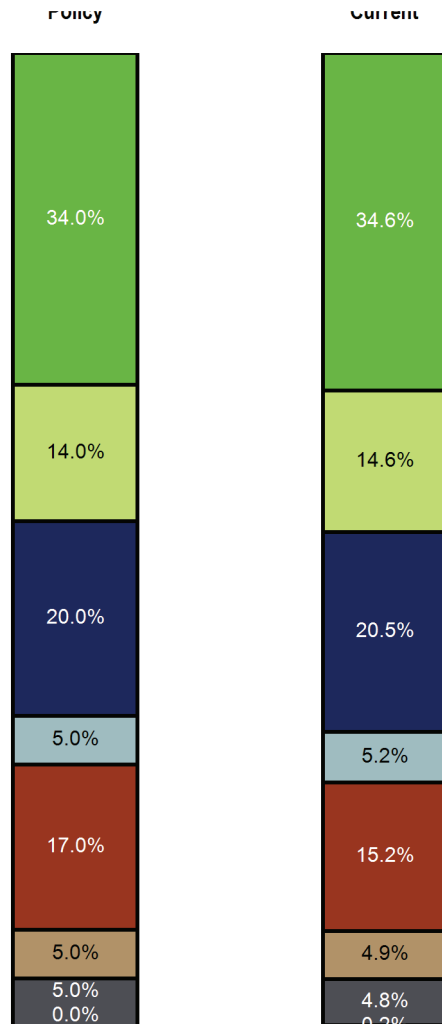
5 Years Ending December 31, 2017													
	% of Tot	Anlzd Ret	Rank	Anlzd Std Dev	Rank	Anlzd AJ	Rank	Sharpe Ratio	Rank	Sortino Ratio RF	Rank	Tracking Error	Rank
Total Composite	100.00%	10.60%	3	7.42%	99	--	--	1.39	49	2.28	46	--	--
Allocation Index	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Equity	74.87%	--	--	--	--	--	--	--	--	--	--	--	--
Russell 3000	--	15.58%	--	9.75%	--	0.00%	--	1.57	--	2.60	--	0.00%	--
Total Domestic Equity	49.14%	14.78%	46	9.84%	20	-0.09%	37	1.47	23	2.40	30	1.66%	1
Domestic Equity Policy Index	--	15.45%	33	10.09%	26	0.00%	36	1.50	20	2.43	29	0.00%	1
Total Large Cap	34.59%	14.78%	52	9.72%	31	-0.91%	54	1.49	38	2.67	25	1.64%	2
Russell 1000	--	15.71%	33	9.59%	26	0.00%	32	1.61	15	2.73	22	0.00%	1
Total US Small/Mid Cap	14.55%	14.76%	32	11.02%	19	2.23%	24	1.32	18	2.12	28	3.29%	13
Russell 2500	--	14.33%	38	12.19%	53	0.00%	56	1.15	43	1.81	55	0.00%	1
Total International Equity	20.53%	9.16%	46	11.94%	81	1.84%	55	0.74	57	1.18	66	3.49%	35
Int'l Equity Policy Index	--	7.42%	82	11.59%	67	0.00%	88	0.62	85	1.05	82	0.00%	1
Total Emerging Market Equity	5.20%	--	--	--	--	--	--	--	--	--	--	--	--
MSCI Emerging Markets	--	4.35%	74	14.39%	69	0.00%	74	0.28	73	0.48	66	0.00%	1
Total Fixed Income	20.17%	1.97%	75	3.11%	85	-0.19%	81	0.55	87	0.77	82	0.99%	83
BBgBarc US Aggregate TR	--	2.10%	62	2.85%	51	0.00%	64	0.64	65	0.90	58	0.00%	1
Total Domestic Fixed Income	15.23%	1.93%	78	2.67%	22	-0.05%	70	0.62	71	0.85	71	0.36%	21
BBgBarc US Aggregate TR	--	2.10%	62	2.85%	51	0.00%	64	0.64	65	0.90	58	0.00%	1
Total Global Fixed Income	4.94%	--	--	--	--	--	--	--	--	--	--	--	--
Citi WGBI	--	0.12%	87	5.41%	92	0.00%	87	-0.03	87	-0.04	87	0.00%	1
Total GAA	4.78%	--	--	--	--	--	--	--	--	--	--	--	--
60% MSCI World (Net) / 40% BBgBarc Agg	--	7.86%	19	6.04%	38	0.00%	24	1.26	5	2.11	4	0.00%	1
Cash	0.19%	0.53%	13	1.05%	99	0.26%	13	0.25	76	0.37	77	1.04%	99
91 Day T-Bills	--	0.27%	80	0.11%	42	0.00%	80	0.00	80	--	--	0.00%	1

# **ASSET ALLOCATION**

NEPC, LLC

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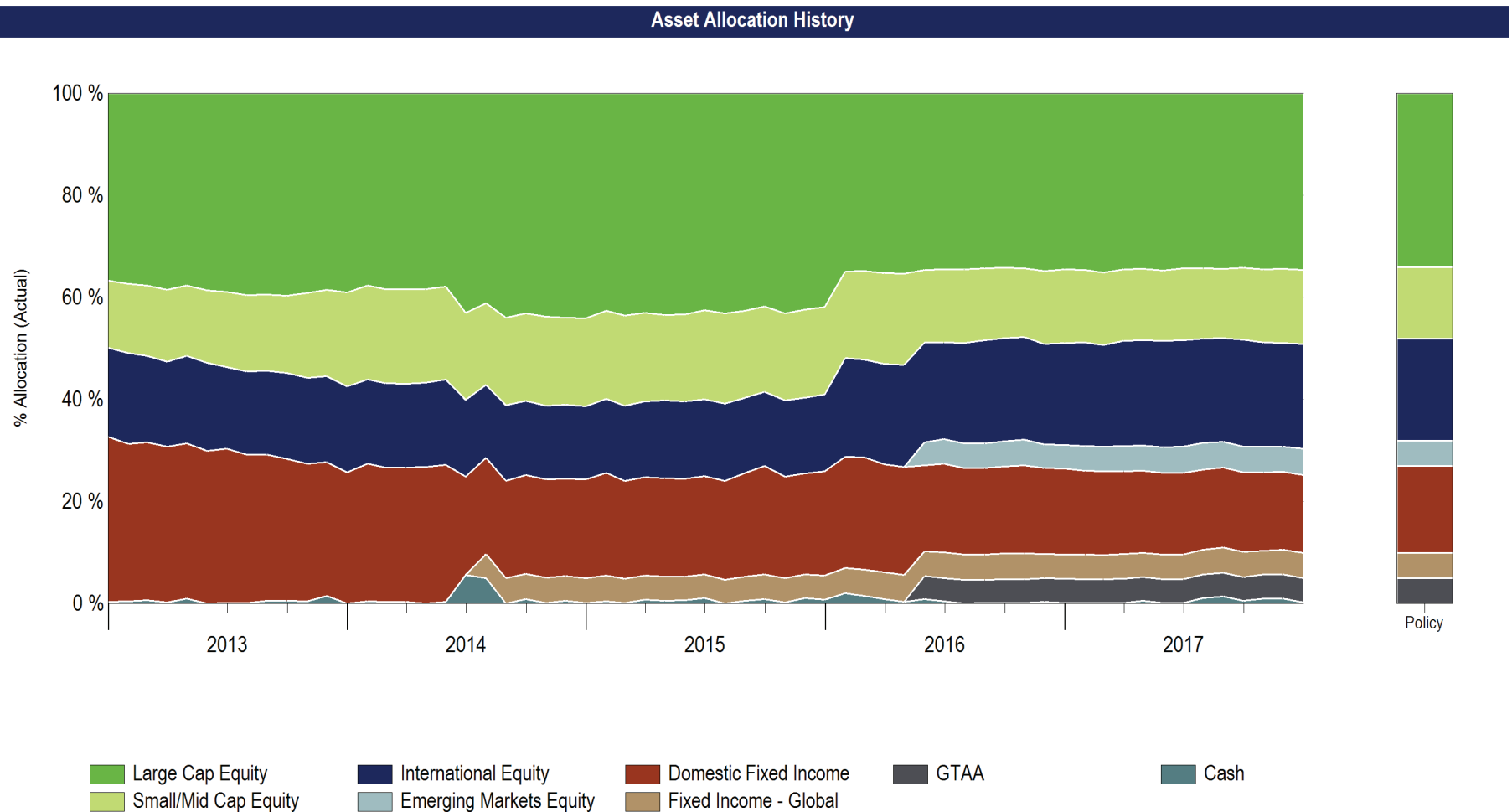
# TOTAL FUND ASSET ALLOCATION VS. POLICY TARGETS



Asset Allocation vs. Target							
	Current	Policy	Current	Difference*	Policy Range	Within Range	
Large Cap Equity	\$473,810,304	34.0%	34.6%	0.6%	29.0% - 39.0%	Yes	
Small/Mid Cap Equity	\$199,329,712	14.0%	14.6%	0.6%	9.0% - 19.0%	Yes	
International Equity	\$281,195,163	20.0%	20.5%	0.5%	15.0% - 25.0%	Yes	
Emerging Markets Equity	\$71,162,400	5.0%	5.2%	0.2%	2.5% - 7.5%	Yes	
Domestic Fixed Income	\$208,552,859	17.0%	15.2%	-1.8%	12.0% - 22.0%	Yes	
Fixed Income - Global	\$67,661,639	5.0%	4.9%	-0.1%	2.5% - 7.5%	Yes	
GTAA	\$65,434,284	5.0%	4.8%	-0.2%	2.5% - 7.5%	Yes	
Cash	\$2,585,034	0.0%	0.2%	0.2%	0.0% - 5.0%	Yes	
<b>Total</b>	<b>\$1,369,731,395</b>	<b>100.0%</b>	<b>100.0%</b>				

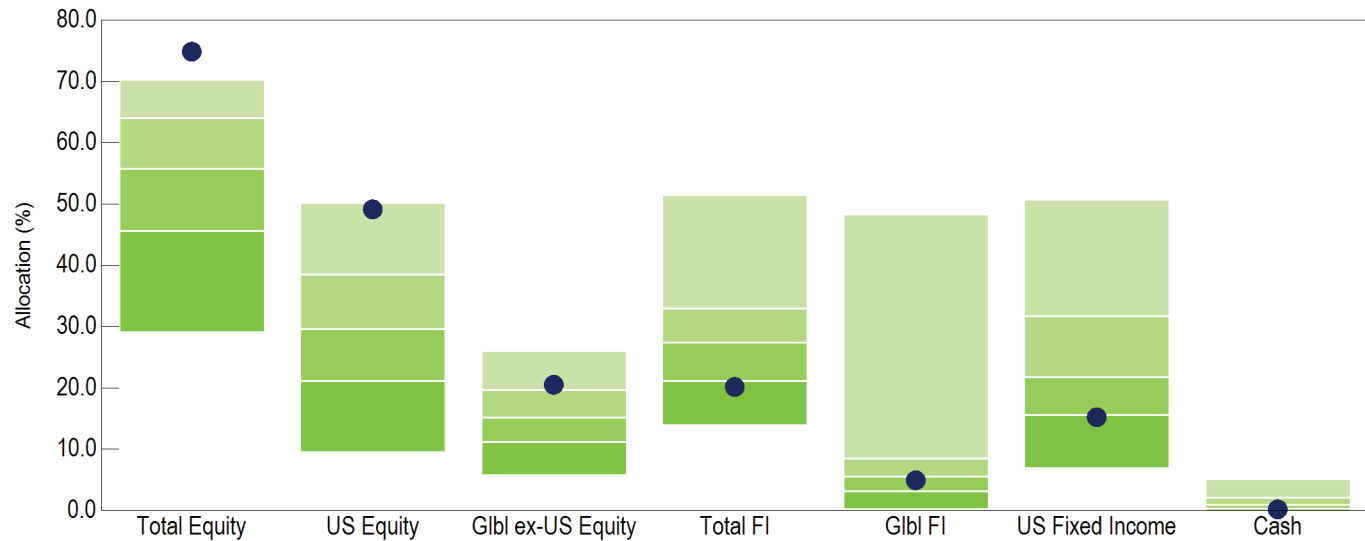
\*Difference between Policy and Current Allocation

# TOTAL FUND ASSET ALLOCATION HISTORY



# TOTAL FUND ALLOCATIONS VS. PEER UNIVERSE

Total Plan Allocation vs. InvestorForce Public DB Net  
As of December 31, 2017



## Allocation (Rank)

	Total Equity	US Equity	Gbl ex-US Equity	Total FI	Gbl FI	US Fixed Income	Cash
5th Percentile	70.3	50.2	26.0	51.5	48.4	50.8	5.1
25th Percentile	64.2	38.6	19.8	33.1	8.6	31.8	2.2
Median	55.9	29.7	15.2	27.5	5.6	21.9	1.1
75th Percentile	45.8	21.3	11.3	21.2	3.3	15.6	0.4
95th Percentile	29.1	9.6	5.8	14.0	0.4	7.0	0.0
# of Portfolios	209	155	176	206	31	151	193
● Total Composite	74.9 (2)	49.1 (6)	20.5 (20)	20.2 (78)	4.9 (52)	15.2 (77)	0.2 (84)

# **MONITORING/POLICY VERIFICATIONS**

NEPC, LLC

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# DUE DILIGENCE MONITOR

Investment Options	Manager Changes/ Announcements (Recent Quarter)	NEPC Due Diligence Committee Recommendations
<b>Manager M</b>	Loss of Personnel: Manager M Investment Team Change 10/2017	No Action
<b>Manager T</b> <i>S&amp;P 500 Index</i>	Other: Manager T Organizational Announcements 11/2017	No Action
<b>Manager O</b> <i>Core Fixed Income</i>	Change of Firm Ownership: Manager O Ownership Change 12/2017	No Action

NEPC Due Diligence Status Key	
<b>No Action</b>	Informational items have surfaced; no action is recommended.
<b>Watch</b>	Issues have surfaced to be concerned over; manager can participate in future searches, but current and prospective clients must be made aware of the issues.
<b>Hold</b>	Serious issues have surfaced to be concerned over; manager cannot be in future searches unless a client specifically requests, but current and prospective clients must be made aware of the issues.
<b>Client Review</b>	Very serious issues have surfaced with a manager; manager cannot be in future searches unless a client specifically requests. Current clients must be advised to review the manager.
<b>Terminate</b>	We have lost all confidence in the product; manager would not be recommended for searches and clients would be discouraged from using. The manager cannot be in future searches unless a client specifically requests. Current clients must be advised to replace the manager.





# DUE DILIGENCE UPDATES

Investment Option	Commentary	NEPC Rating
<b>Manager M</b>	Manager M's Emerging Markets Equity team notified NEPC that it is losing one of the team's most junior members, Employee A, who will be leaving to pursue opportunities outside of the industry. Employee A started with the team in 2013, took a family break and rejoined in August 2016 covering Latin America. Employee B, Head of Research who covered LatAm for 15 years before Employee A came back, will be providing oversight as current team member Employee C takes over coverage. Employee C was previously Employee A's back up on Latin America. The team has also decided to promote its European institutional PM Employee D to the associate PM role and will be looking to fill her previous role. NEPC Research is comfortable with the depth of existing coverage and recommends NO ACTION.	<b>Preferred</b>
<b>Manager T</b> <i>S&amp;P 500 Index</i>	NEPC was notified by Manager T of an upcoming number of C-suite transitions. Employee E, CEO, will be retiring at the end of 2018 after 30 years with the firm. Employee E will remain with Manager T as chairman throughout 2019. Concurrently, Employee F, vice chairman of Manager T, and president and CEO of Manager T has been appointed by Manager T's board of directors to the role of President and Chief Operating Officer. Following Employee E's retirement, Employee F will assume the CEO role. In addition, Employee G, Executive Vice President and Global Head of Product and Marketing at Manager T has been named president and CEO of Manager T. Employee G has been a part of the leadership team at Manager T since he joined the firm in April 2016. NEPC is comfortable with the transition of responsibilities at Manager T given the extended duration between the announcement and the transition. There should be minimal impact to investment personnel. NEPC Research recommends a due diligence status of NO ACTION.	<b>Preferred</b>
<b>Manager O</b> <i>Core Fixed Income</i>	<p>Manager O has informed NEPC Research that Company A will purchase a 24.75% minority stake in Manager O from Group A. Currently, Group A holds a 60% stake in the firm, with Manager O management and employees owning the balance of 40%, on a fully diluted basis. As a result of this transaction, Manager O employee ownership will increase to 44.07%, and Group A will maintain a 31.18% stake in the company. This announcement is the latest in a trend of Asian interest in the US asset management industry following SoftBank's acquisition of Fortress Investment Group earlier this year. Group A bought its original 60% stake in Manager O from French bank Société Générale in 2013, and still plans to hold on to its remaining ownership. There is no plan at this time to divest further.</p> <p>NEPC Research recommends No Action. After speaking with Manager O, it is clear that there will be no change to investment philosophy, process, or product offerings as a result of this transaction. There is comfort in the fact that Manager O will remain operating autonomously. NEPC Research believes that Group A does not plan to divest further at this time.</p>	<b>Neutral</b>

# POLICY VERIFICATION – GAA

## Quarterly Manager Policy Compliance Verification - GAA Sample ABC Client

### Manager E

Fulfilled all reporting  
requirements

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Yes

Portfolio complies with  
Investment Guidelines

Yes

Derivative holdings in full  
compliance

Yes

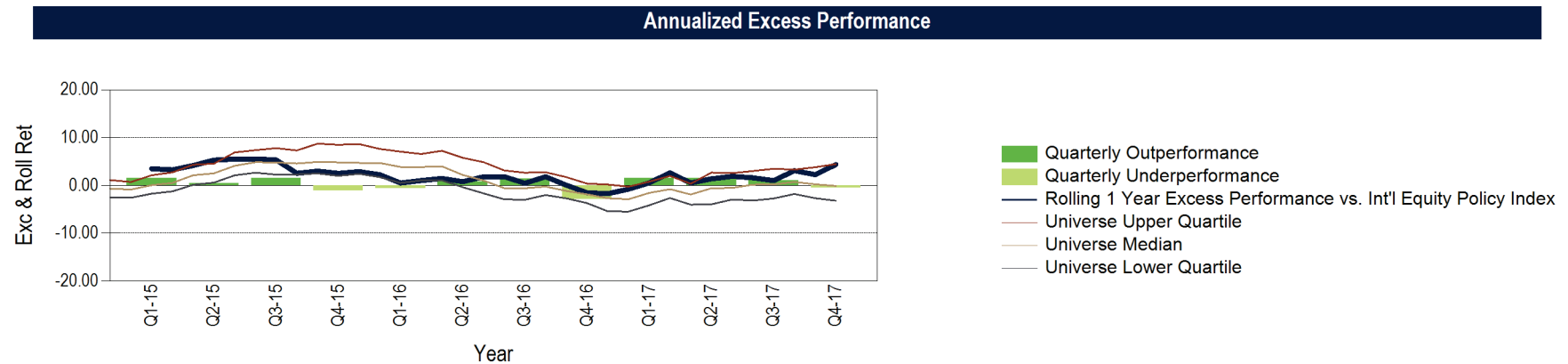
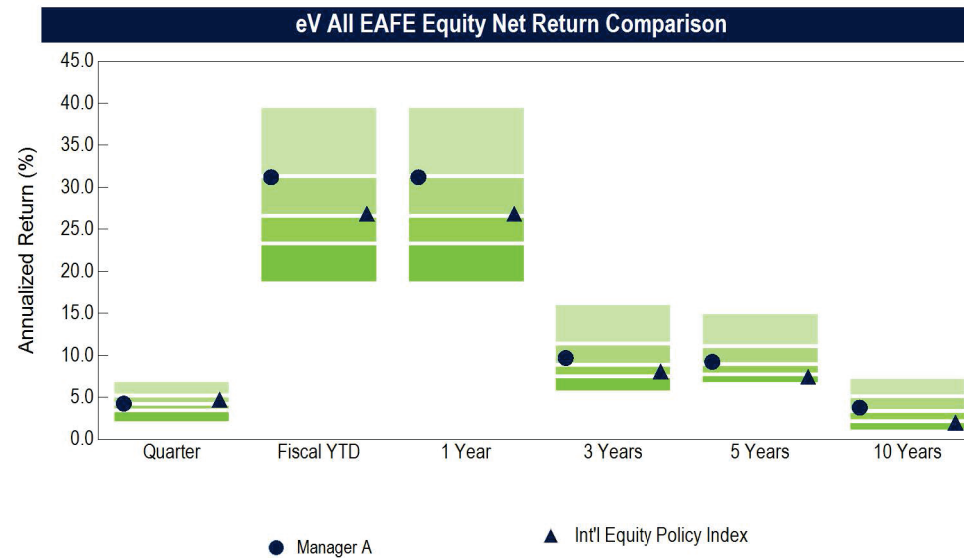


# MANAGER PROFILES

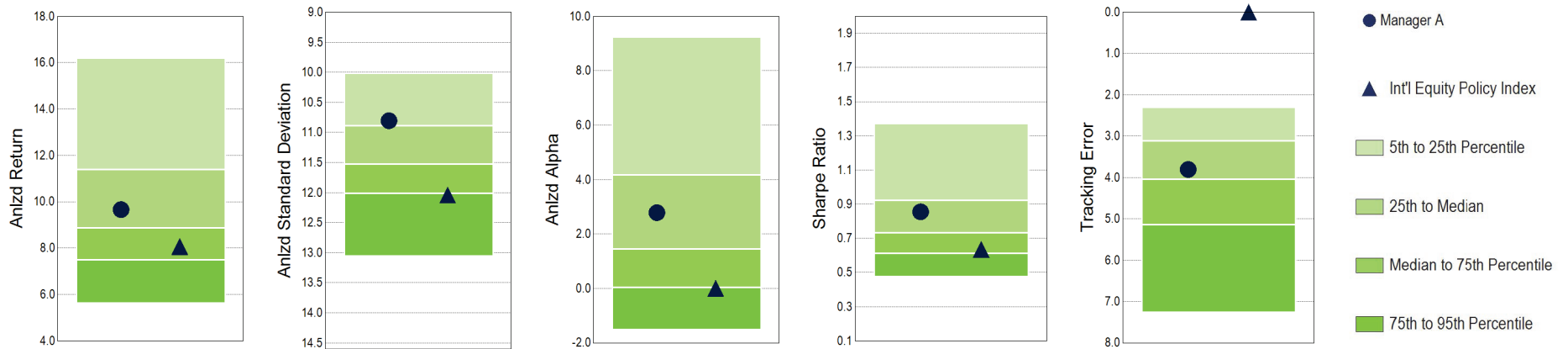
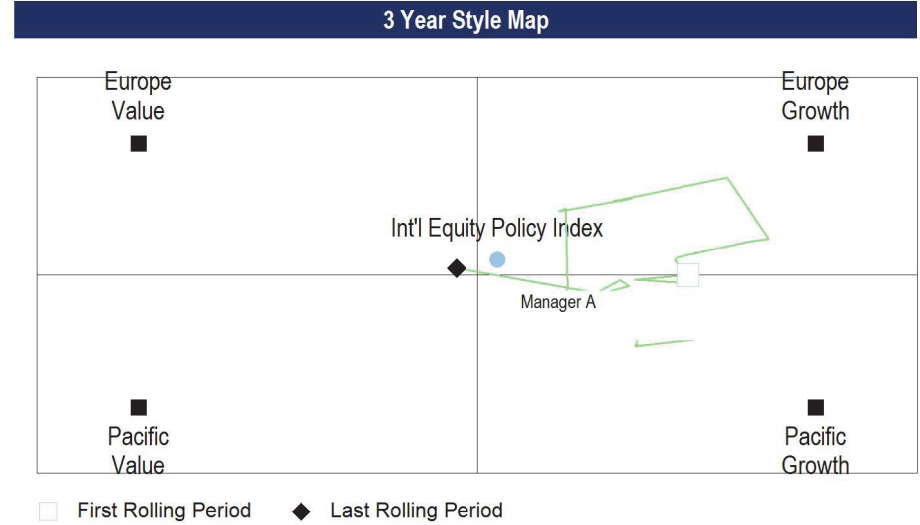
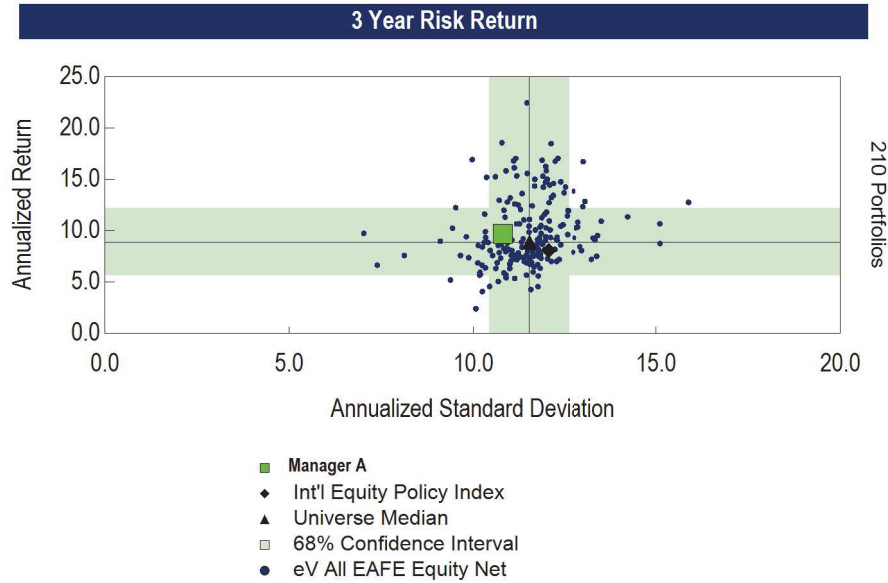
NEPC, LLC

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# Sample ABC Client Manager A

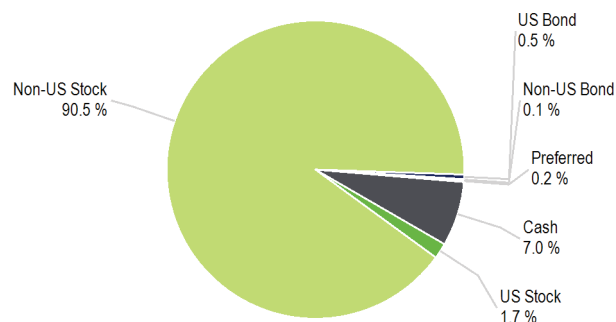


# Sample ABC Client Manager A



# Sample ABC Client Manager A

## Mutual Fund Allocation as of December 31, 2017



## Top Holdings as of December 31, 2017

SAMSUNG ELECTRONICS CO LTD	3.3%
AIA GROUP LTD	2.6%
BRITISH AMERICAN TOBACCO PLC	2.5%
TAIWAN SEMICONDUCTOR MANUFACTURING CO LTD	2.0%
ALIBABA GROUP HOLDING LTD ADR	2.0%
RELIANCE INDUSTRIES LTD	2.0%
AIRBUS SE	2.0%
HDFC BANK LTD	2.0%
TENCENT HOLDINGS LTD	1.9%
SOFTBANK GROUP CORP	1.8%

## Portfolio Fund Information as of December 31, 2017

Ticker	RERGX
Morningstar Category	Foreign Large Growth
Average Market Cap (\$mm)	49,692.3
Net Assets (\$mm)	65,715.1
% Assets in Top 10 Holdings	22.1
Total Number of Holdings	386
Manager Name	Mark E. Denning
Manager Tenure	26
Expense Ratio	0.5%
Closed to New Investors	No

## Sector Allocation as of December 31, 2017

BASIC MATERIALS	7.0%
COMMUNICATION SERVICES	3.8%
CONSUMER CYCLICAL	11.6%
CONSUMER DEFENSIVE	9.9%
ENERGY	6.3%
FINANCIAL SERVICES	19.6%
HEALTHCARE	6.0%
INDUSTRIALS	9.4%
REAL ESTATE	1.4%
TECHNOLOGY	22.5%
UTILITIES	2.6%

## Fund Characteristics as of December 31, 2017

Sharpe Ratio (3 Year)	0.9
Average Market Cap (\$mm)	49,692.3
Price/Earnings	16.2
Price/Book	2.1
Price/Sales	1.7
Price/Cash Flow	6.8
Dividend Yield	1.8
Number of Equity Holdings	246
R-Squared (3 Year)	0.9
Alpha (3 Year)	0.2%

## Top Countries as of December 31, 2017

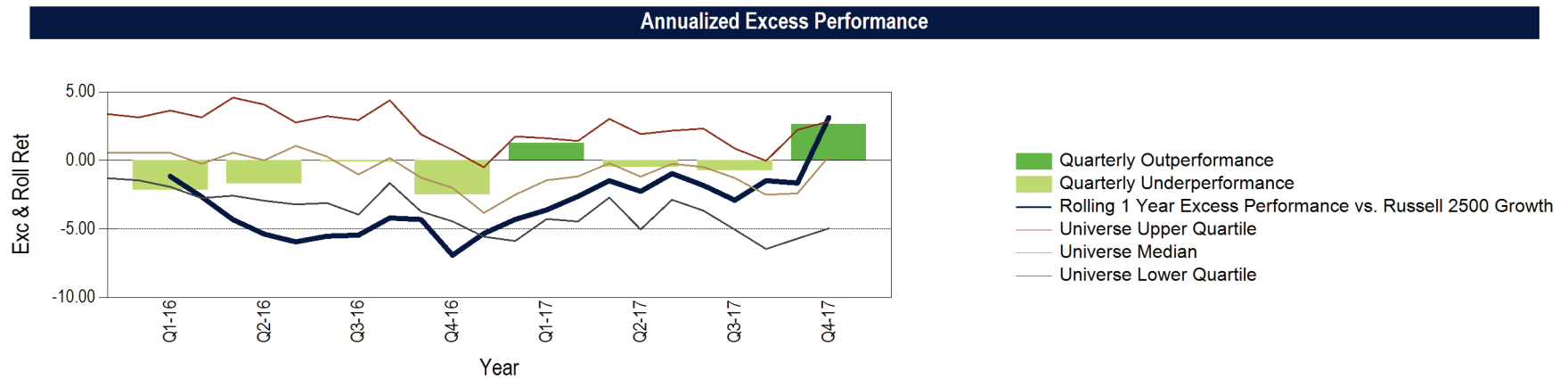
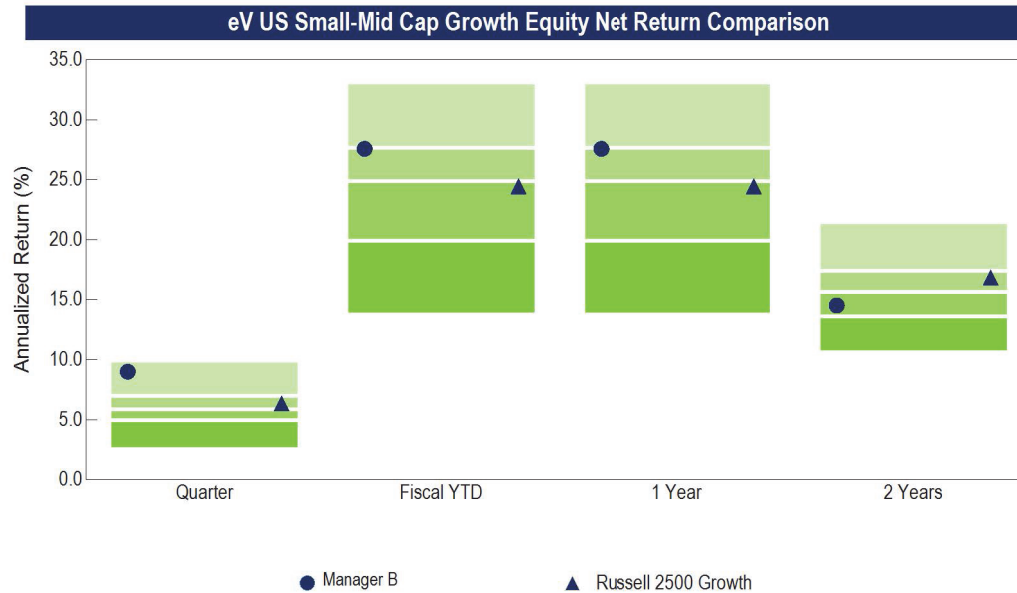
Japan	14.1%
United Kingdom	13.6%
India	8.9%
China	7.4%
South Korea	6.9%
Hong Kong	5.7%
France	5.3%
Netherlands	4.6%
Germany	3.8%

## Top Regions as of December 31, 2017

ASIA EMERGING	19.1%
EUROZONE	19.1%
ASIA DEVELOPED	16.4%
JAPAN	14.2%
UNITED KINGDOM	13.7%

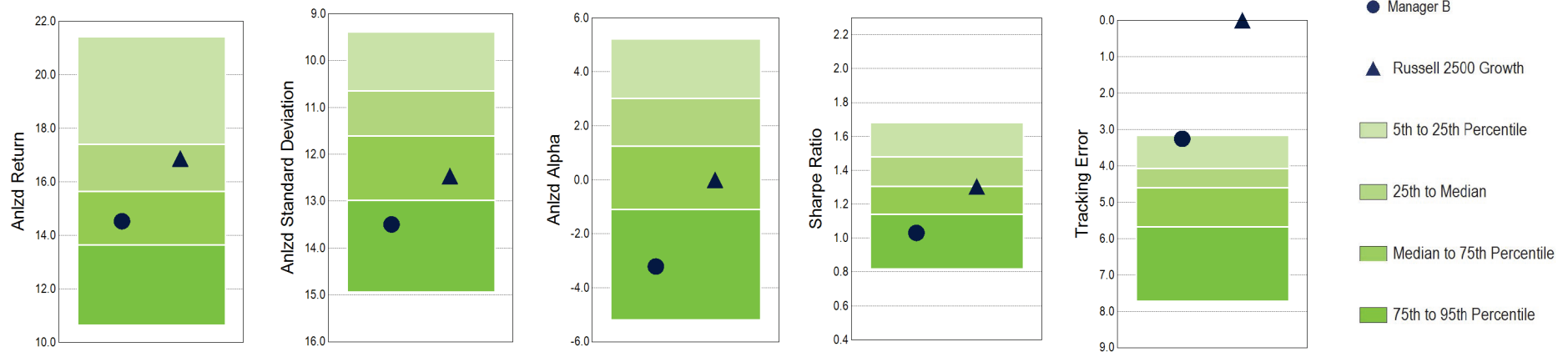
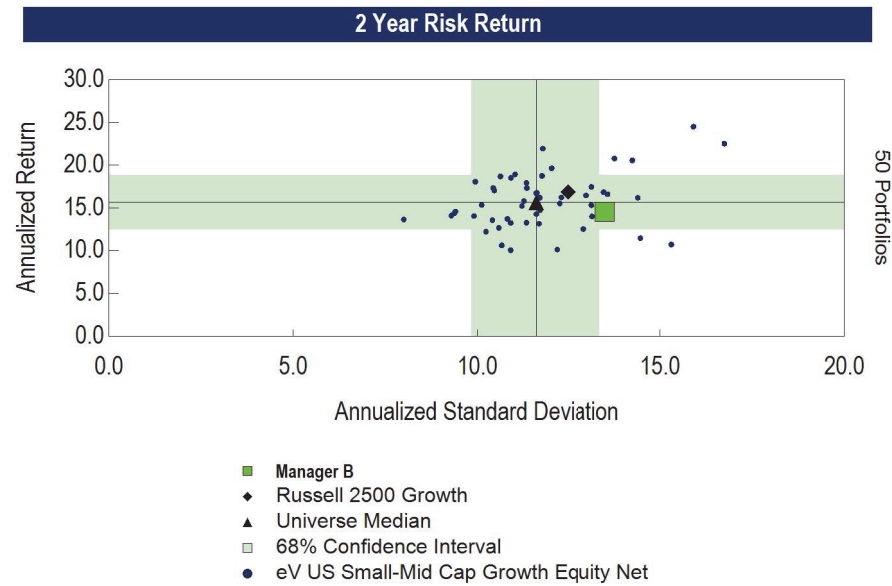


# Sample ABC Client Manager B



# Sample ABC Client

## Manager B





# Sample ABC Client Manager B

Characteristics		
	Portfolio	Russell 2500 Growth
Number of Holdings	64	1,435
Weighted Avg. Market Cap. (\$B)	7.7	5.5
Median Market Cap. (\$B)	6.3	1.4
Price To Earnings	36.3	25.9
Price To Book	6.5	6.7
Price To Sales	4.1	3.7
Return on Equity (%)	23.2	14.7
Yield (%)	0.5	0.7
Beta	1.0	1.0
R-Squared	0.9	1.0

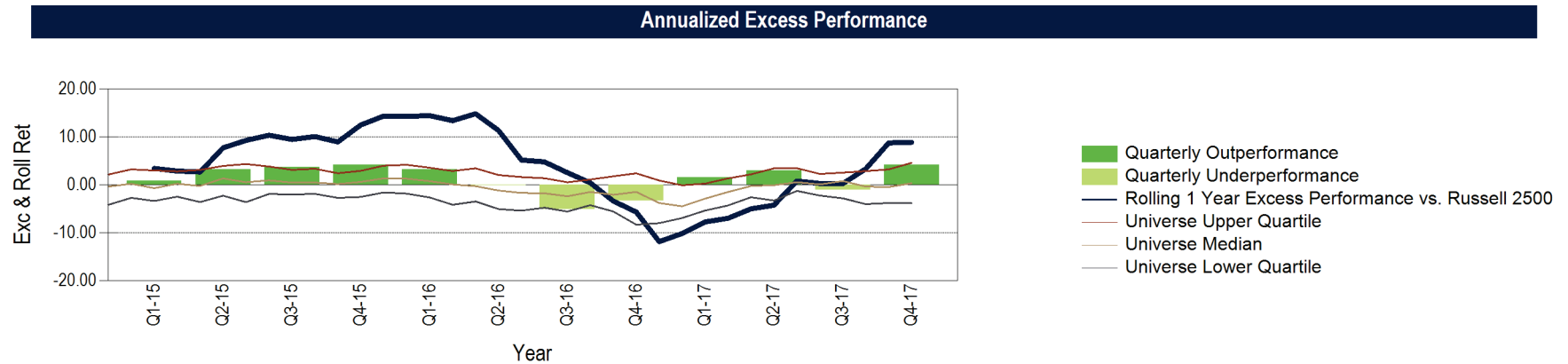
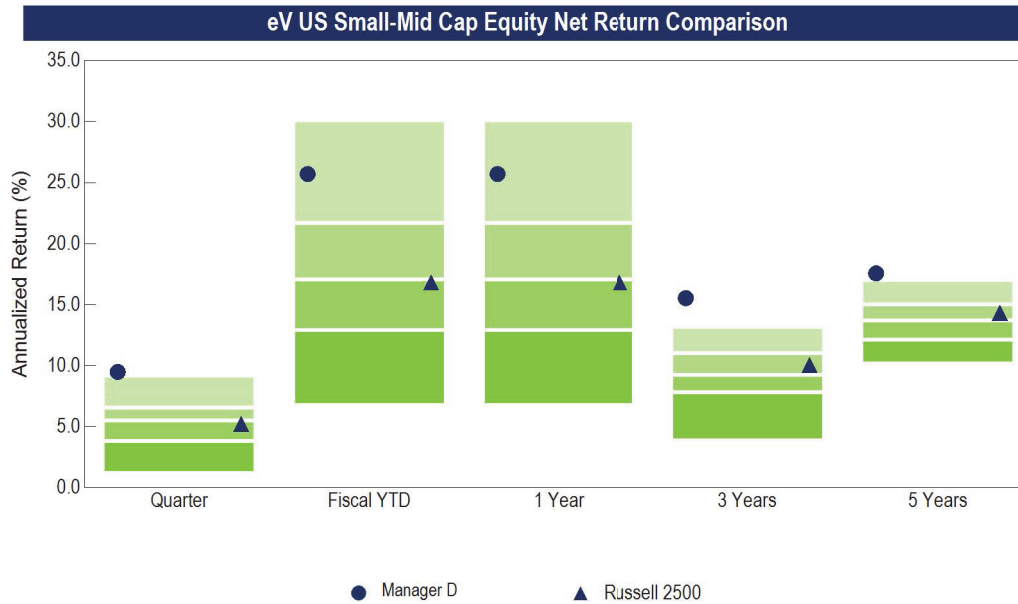
Top Positive Contributors		
	Relative Contribution %	Return %
CHINA LODGING GROUP SPN. ADR 1:4	0.5%	22.3%
GRUBHUB	0.5%	36.3%
PULTEGROUP	0.5%	22.0%
MERCADOLIBRE	0.5%	21.6%
UNITED RENTALS	0.4%	23.9%
TOTAL SYSTEM SERVICES	0.4%	20.9%
COPART	0.4%	25.7%
OLD DOMINION FGT.LINES	0.4%	19.6%
NORDSON	0.3%	23.8%
DIAMONDBACK ENERGY	0.3%	28.9%

Top Negative Contributors		
	Relative Contribution %	Return %
MEDIDATA SOLUTIONS	-0.3%	-18.8%
MOMENTA PHARMACEUTICALS	-0.2%	-24.6%
TESARO	-0.2%	-35.8%
NAVIENT	-0.1%	-10.2%
CSRA	-0.1%	-7.3%
CAMBREX	-0.1%	-12.7%
PRESTIGE BRANDS HOLDINGS	-0.1%	-11.3%
VAIL RESORTS	-0.1%	-6.0%
GUIDEWIRE SOFTWARE	-0.1%	-4.6%
LITHIA MOTORS 'A'	-0.1%	-5.4%

Equity Sector Attribution											
	Attribution Effects						Returns		Sector Weights		
	Total	Selection	Allocation		Interaction	Portfolio	Benchmark	Portfolio	Benchmark		
	Effects	Effect	Effect	Effects							
Energy	0.4%	0.2%	0.0%		0.2%	18.9%	7.5%	3.5%	1.6%		
Materials	0.1%	0.1%	0.0%		0.0%	6.1%	4.8%	4.0%	6.6%		
Industrials	1.3%	1.5%	0.0%		-0.1%	16.4%	8.6%	17.3%	19.1%		
Consumer Discretionary	0.0%	0.0%	0.0%		0.0%	8.4%	8.5%	16.0%	14.9%		
Consumer Staples	0.0%	--	0.0%		--	--	8.3%	0.0%	2.3%		
Health Care	-1.0%	-1.3%	0.1%		0.2%	-3.8%	3.4%	14.9%	18.1%		
Financials	-0.2%	-0.2%	-0.1%		0.1%	6.4%	9.5%	5.7%	7.5%		
Information Technology	1.3%	1.2%	0.0%		0.1%	10.2%	5.4%	26.7%	25.3%		
Telecommunication Services	0.0%	--	0.0%		--	--	1.2%	0.0%	0.8%		
Utilities	0.0%	--	0.0%		--	--	7.0%	0.0%	0.4%		
Real Estate	0.3%	0.4%	0.0%		-0.2%	14.3%	3.5%	2.1%	3.6%		
Cash	-0.6%	0.0%	-0.6%		0.0%	0.3%	--	9.8%	0.0%		
Portfolio	1.6%	=	1.8%	+	-0.5%	+	0.2%	7.9%	6.4%	100.0%	100.0%

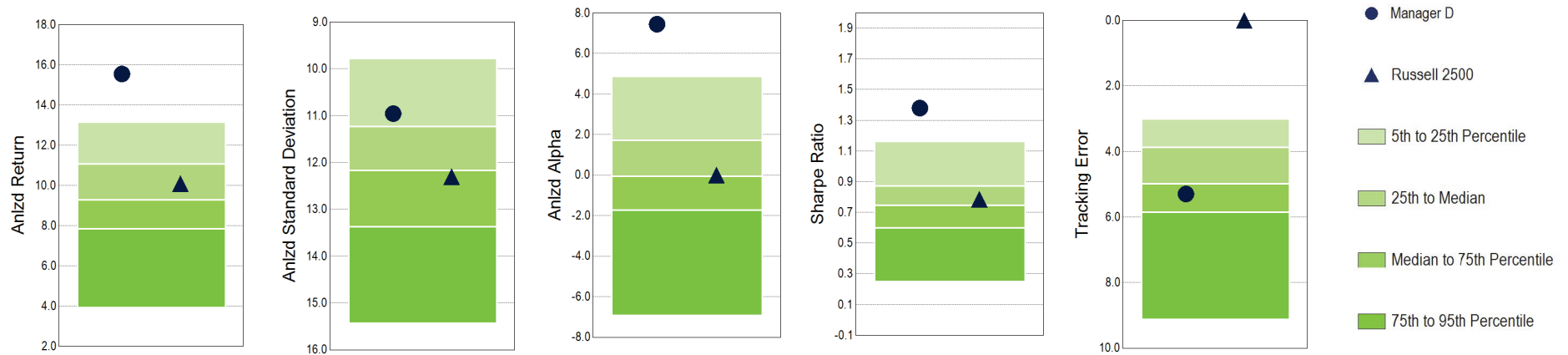
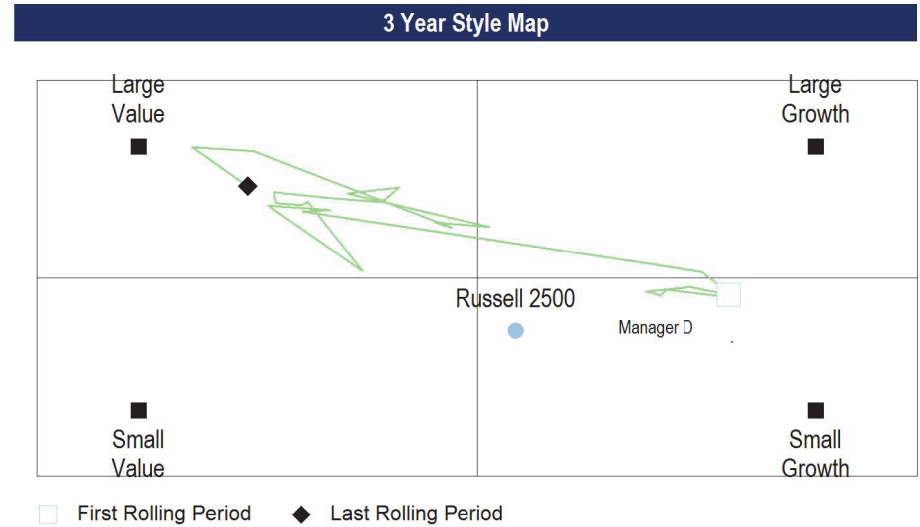
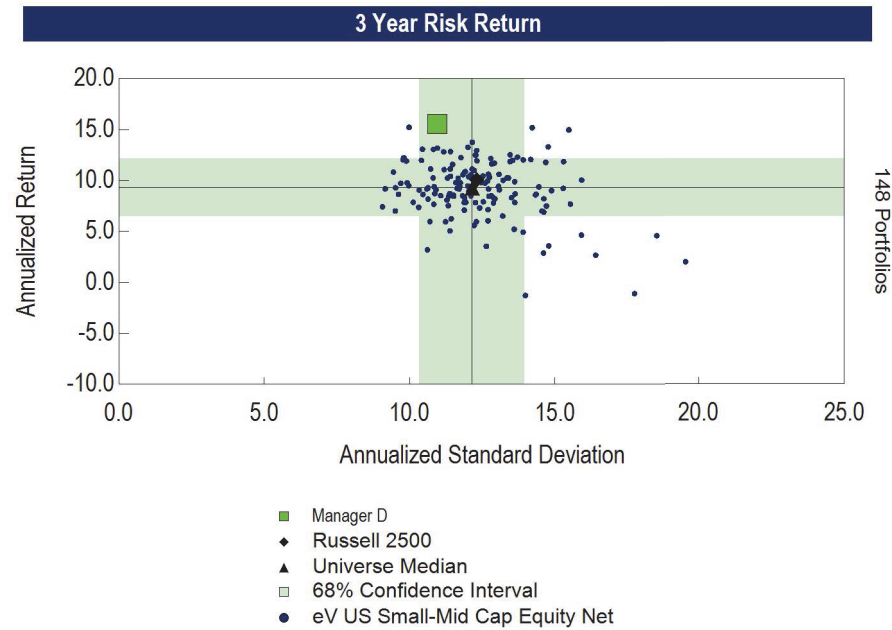


# Sample ABC Client Manager D



# Sample ABC Client

## Manager D



# Sample ABC Client Manager D

Characteristics		
	Portfolio	Russell 2500
Number of Holdings	47	2,472
Weighted Avg. Market Cap. (\$B)	8.6	5.1
Median Market Cap. (\$B)	7.6	1.2
Price To Earnings	43.5	22.4
Price To Book	6.4	3.7
Price To Sales	3.4	3.2
Return on Equity (%)	20.2	10.6
Yield (%)	0.7	1.2
Beta	0.8	1.0
R-Squared	0.8	1.0

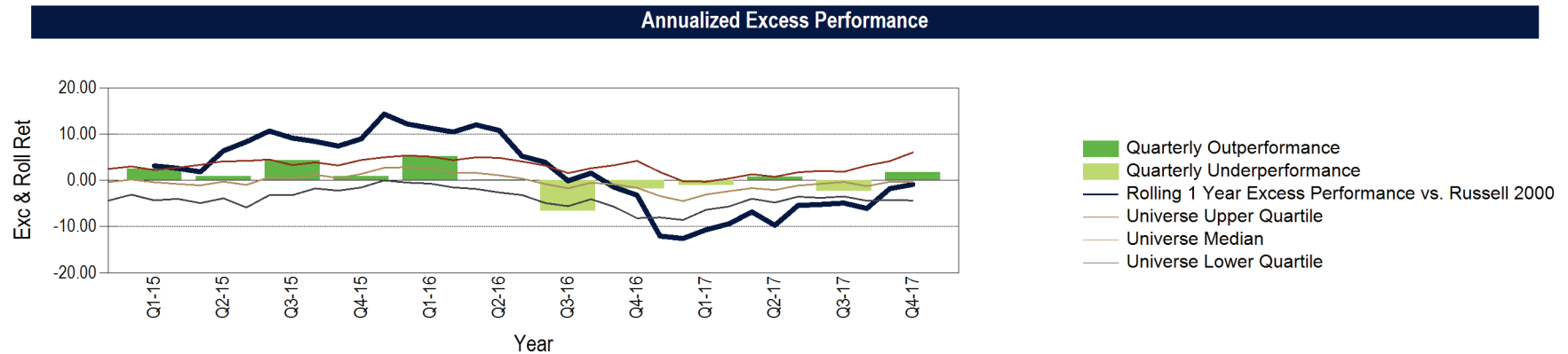
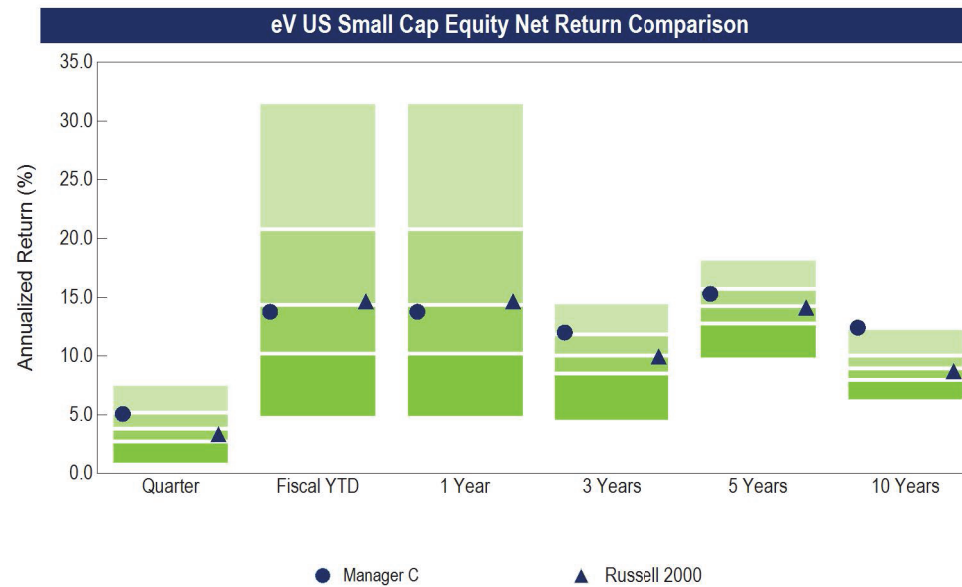
Top Positive Contributors		
	Relative Contribution %	Return %
ANSYS	0.8%	20.3%
SEI INVESTMENTS	0.6%	18.2%
WEX	0.6%	25.9%
TRANSUNION	0.5%	16.3%
MANHATTAN ASSOCS.	0.4%	19.2%
NORDSON	0.4%	23.8%
LENNOX INTL.	0.3%	16.6%
CARLISLE COS.	0.3%	13.7%
JACK HENRY & ASSOCS.	0.3%	14.1%
JONES LANG LASALLE	0.3%	20.9%

Top Negative Contributors		
	Relative Contribution %	Return %
HENRY SCHEIN	-0.2%	-14.8%
SALLY BEAUTY HOLDINGS	-0.1%	-4.2%
GARTNER 'A'	0.0%	-1.0%
APTARGROUP	0.0%	0.3%
WESTAMERICA BANCORP.	0.0%	0.7%
KIRBY	0.0%	1.3%
RPM INTERNATIONAL	0.0%	2.7%
CHURCH & DWIGHT CO.	0.1%	4.0%
TRIMBLE	0.1%	3.5%
ACUITY BRANDS	0.1%	2.8%

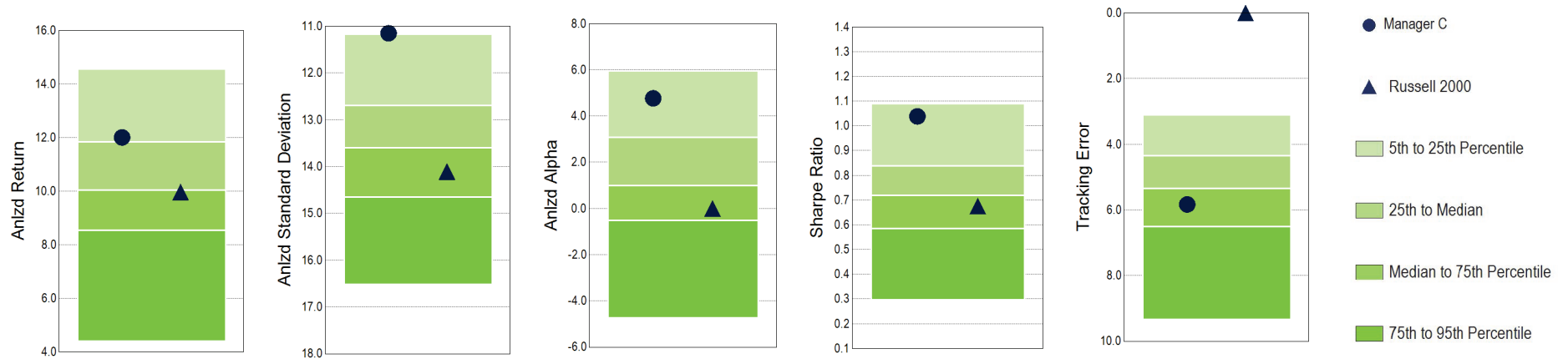
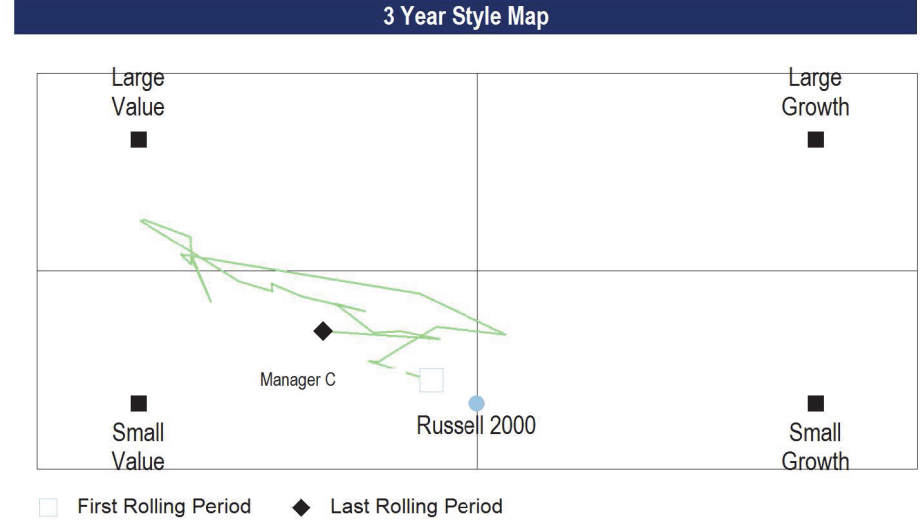
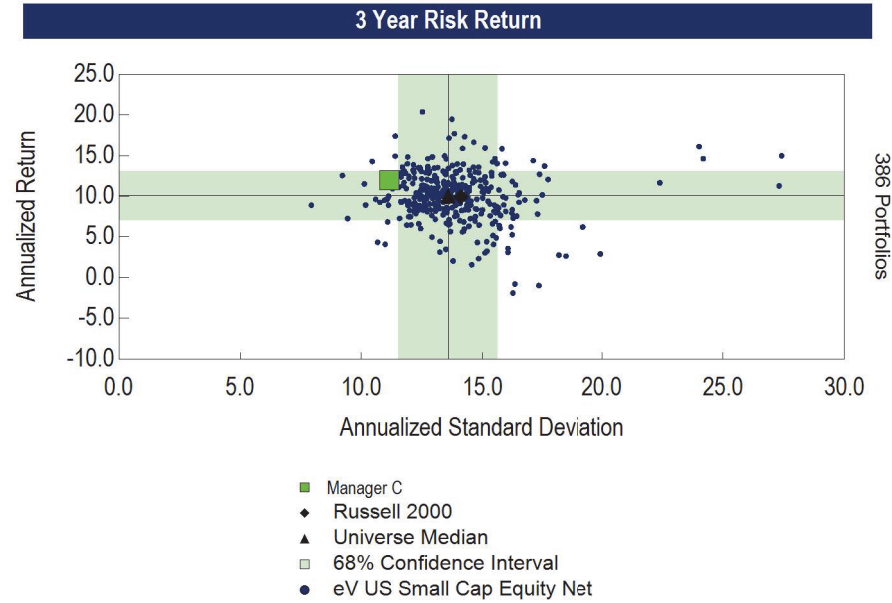
Equity Sector Attribution									
	Attribution Effects				Returns		Sector Weights		
	Total Effects	Selection Effect	Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark	
Energy	-0.1%	--	-0.1%	--	--	7.8%	0.0%	4.3%	
Materials	-0.2%	-0.4%	-0.1%	0.2%	1.2%	7.2%	3.2%	5.9%	
Industrials	0.9%	0.4%	0.2%	0.2%	10.8%	8.1%	24.8%	16.1%	
Consumer Discretionary	-0.2%	-0.2%	-0.1%	0.1%	6.5%	8.0%	8.6%	12.5%	
Consumer Staples	0.0%	-0.1%	0.0%	0.0%	4.0%	6.0%	1.3%	2.9%	
Health Care	0.3%	0.3%	-0.1%	0.0%	4.9%	2.1%	13.3%	11.6%	
Financials	1.1%	1.0%	0.0%	0.2%	10.2%	4.3%	19.4%	16.4%	
Information Technology	2.0%	1.3%	0.0%	0.7%	12.8%	4.7%	25.2%	16.3%	
Telecommunication Services	0.0%	--	0.0%	--	--	-0.7%	0.0%	0.6%	
Utilities	0.1%	--	0.1%	--	--	2.6%	0.0%	3.8%	
Real Estate	0.5%	1.8%	0.3%	-1.5%	20.9%	2.0%	1.5%	9.6%	
Cash	-0.1%	0.0%	-0.1%	0.0%	0.3%	--	2.9%	0.0%	
Portfolio	4.2%	=	4.2%	+	0.1%	+	-0.1%	9.5%	5.2%
								100.0%	100.0%



# Sample ABC Client Manager C



# Sample ABC Client Manager C



# Sample ABC Client Manager C

Characteristics		
	Portfolio	Russell 2000
Number of Holdings	57	1,983
Weighted Avg. Market Cap. (\$B)	3.4	2.4
Median Market Cap. (\$B)	2.8	0.8
Price To Earnings	36.0	18.4
Price To Book	5.4	3.3
Price To Sales	3.4	3.1
Return on Equity (%)	17.8	7.8
Yield (%)	1.0	1.0
Beta	0.7	1.0
R-Squared	0.8	1.0

Top Positive Contributors		
	Relative Contribution %	Return %
WEX	0.8%	25.9%
MANHATTAN ASSOCS.	0.7%	19.2%
CHOICE HOTELS INTL.	0.6%	21.8%
COLUMBIA SPORTSWEAR	0.4%	17.1%
MORNINGSTAR	0.4%	14.4%
POOL	0.3%	20.2%
BEACON ROOFING SUPPLY	0.3%	24.4%
J & J SNACK FOODS	0.2%	16.0%
ARTISAN PTNS.ASTMGMT.	0.2%	23.2%
BLACKBAUD	0.2%	7.7%

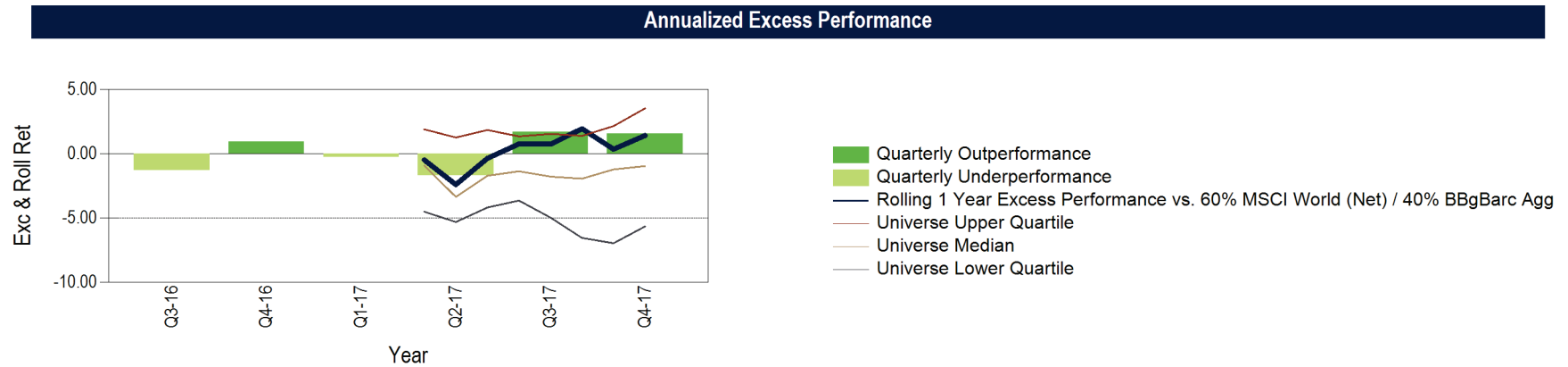
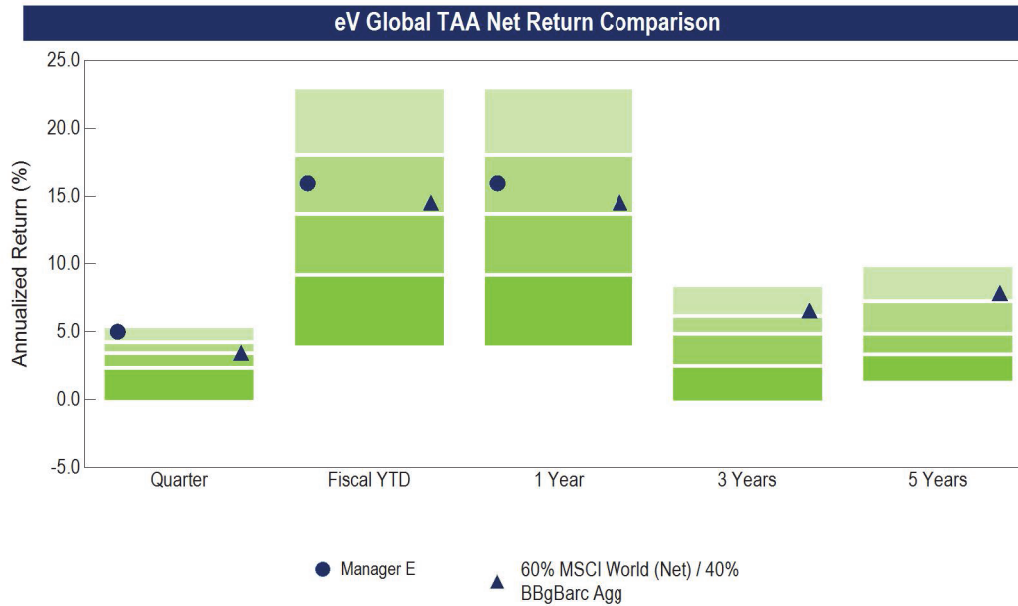
Top Negative Contributors		
	Relative Contribution %	Return %
NAVIGATORS GROUP	-0.3%	-16.4%
DORMAN PRODUCTS	-0.3%	-14.6%
SCANSOURCE	-0.2%	-18.0%
EXPONENT	-0.1%	-3.5%
EPLUS	-0.1%	-18.7%
SALLY BEAUTY HOLDINGS	-0.1%	-4.2%
INTEGRA LFSC.HDG.	-0.1%	-5.2%
IBERIABANK	-0.1%	-5.2%
SENSIENT TECHS.	0.0%	-4.5%
STEPAN	0.0%	-5.4%

Equity Sector Attribution									
	Attribution Effects				Returns		Sector Weights		
	Total Effects	Selection Effect	Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark	
Energy	-0.1%	0.0%	-0.1%	0.0%	8.0%	6.8%	0.8%	3.6%	
Materials	-0.3%	-0.3%	0.0%	-0.1%	-1.4%	4.2%	5.7%	4.5%	
Industrials	-0.1%	-0.2%	0.2%	-0.1%	5.1%	6.4%	19.9%	14.9%	
Consumer Discretionary	0.3%	0.1%	0.1%	0.0%	8.8%	7.9%	14.9%	12.1%	
Consumer Staples	0.2%	0.0%	0.2%	0.0%	7.3%	7.1%	7.6%	2.7%	
Health Care	0.3%	0.4%	0.1%	-0.2%	5.0%	2.4%	6.8%	15.4%	
Financials	0.4%	0.4%	0.0%	-0.1%	4.0%	1.7%	15.6%	18.1%	
Information Technology	1.3%	1.1%	-0.1%	0.3%	7.5%	1.0%	22.0%	17.1%	
Telecommunication Services	0.1%	--	0.1%	--	--	-4.0%	0.0%	0.8%	
Utilities	0.1%	--	0.1%	--	--	1.0%	0.0%	3.7%	
Real Estate	0.2%	0.1%	0.2%	0.0%	0.4%	-0.4%	1.2%	7.1%	
Cash	-0.1%	0.0%	-0.1%	0.0%	0.3%	--	4.2%	0.0%	
Portfolio	2.2%	=	1.7%	+	0.6%	+	-0.1%	5.6%	3.3%
							98.7%	100.0%	



# Sample ABC Client

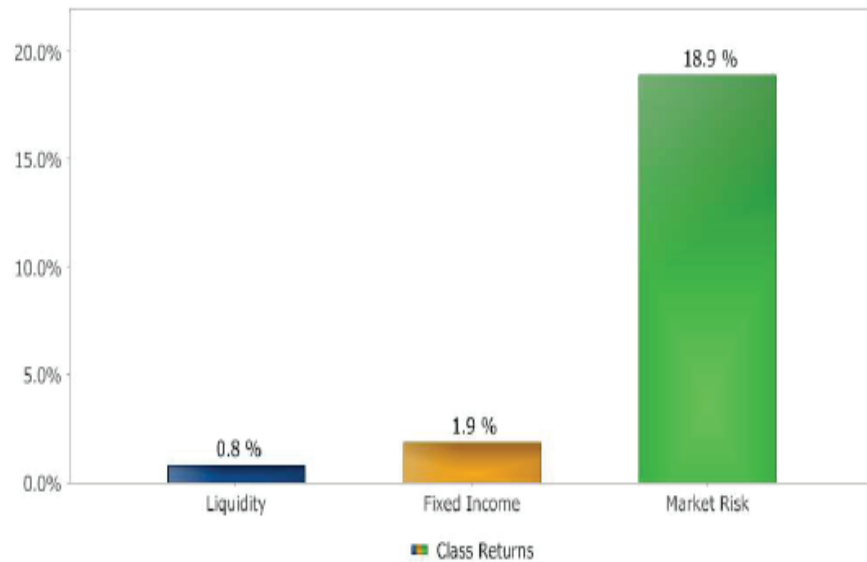
## Manager E



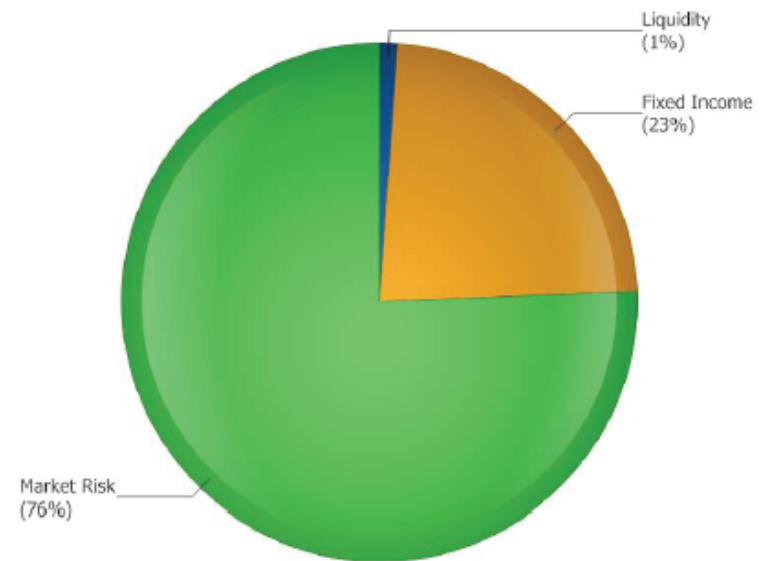


# Sample ABC Client Manager E

## Building Block Returns - Since Inception

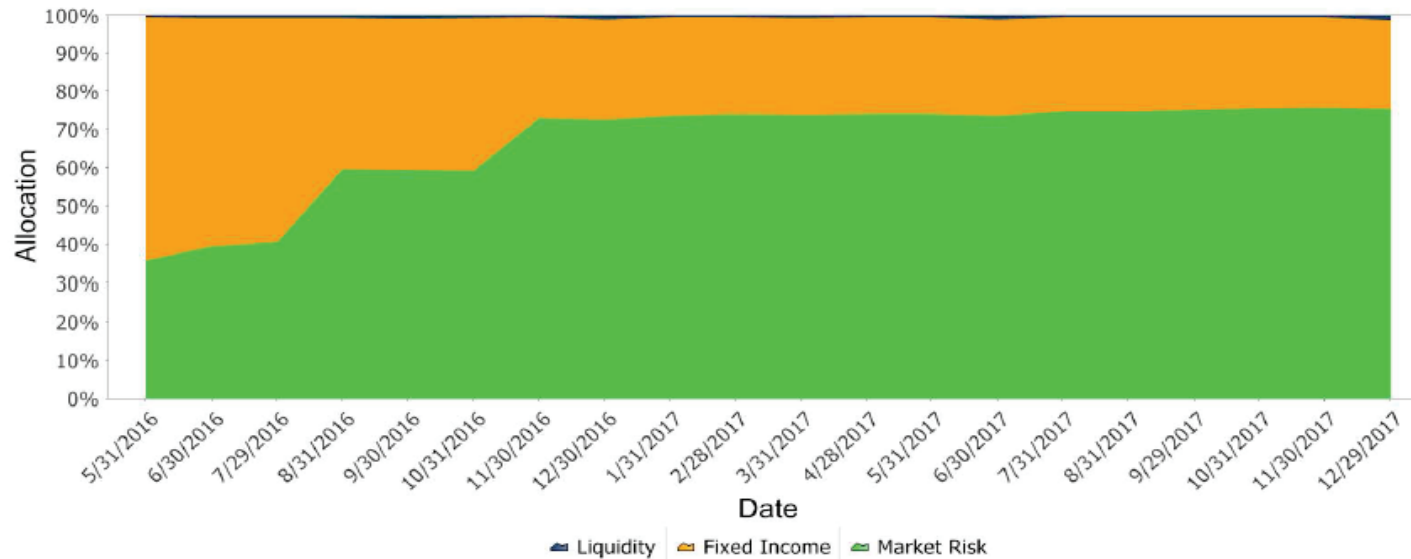


## Portfolio Class Allocation



Sample ABC Client  
Manager E

## Asset Class Allocation Over Time

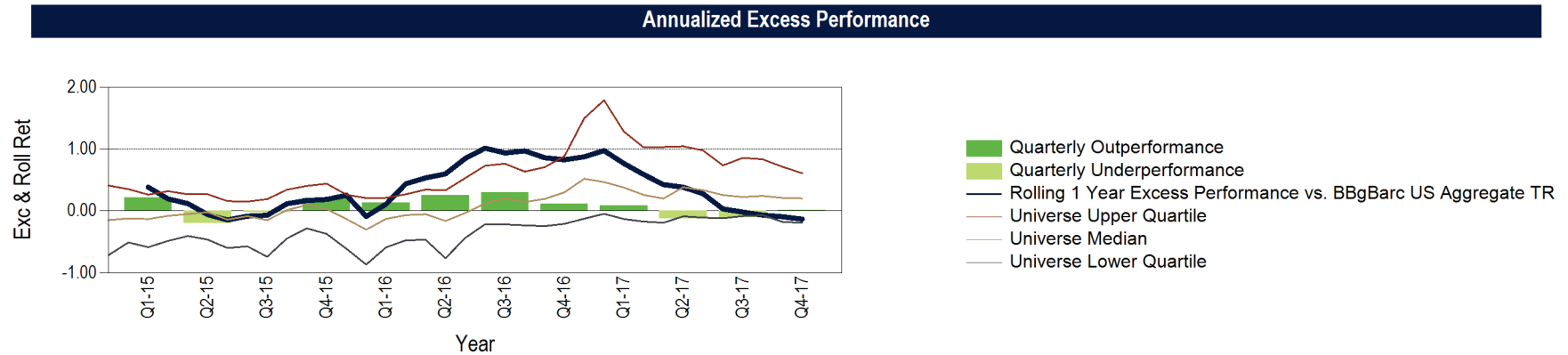
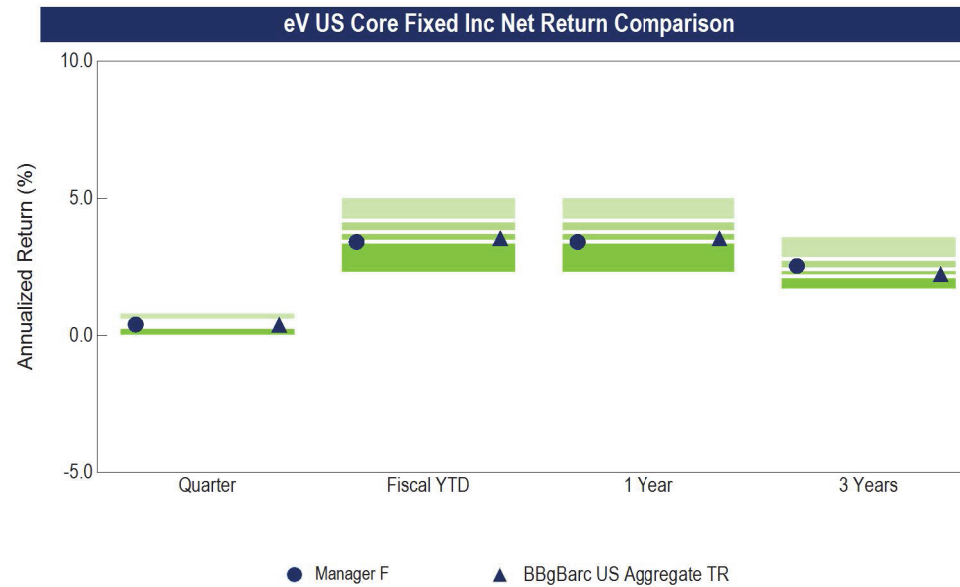


## Policy Overview

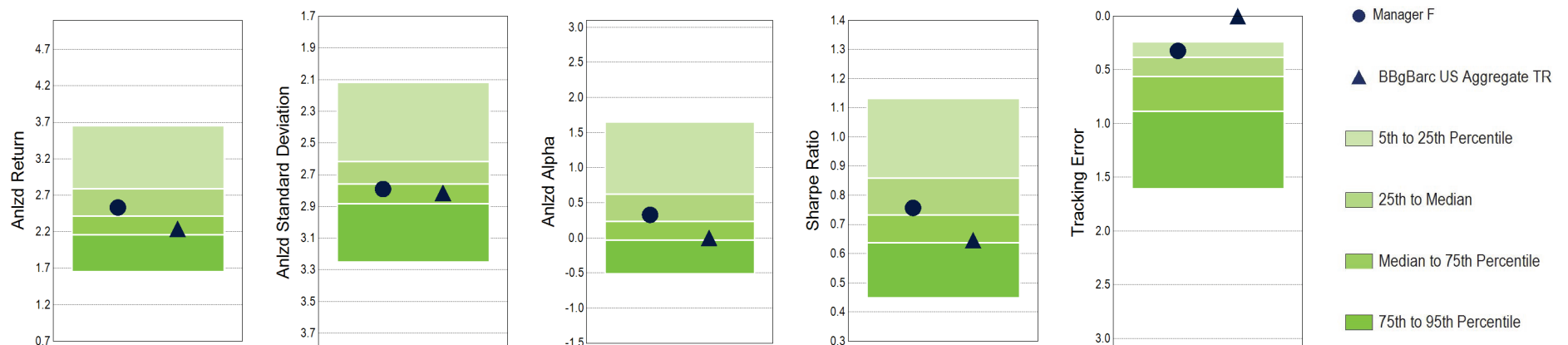
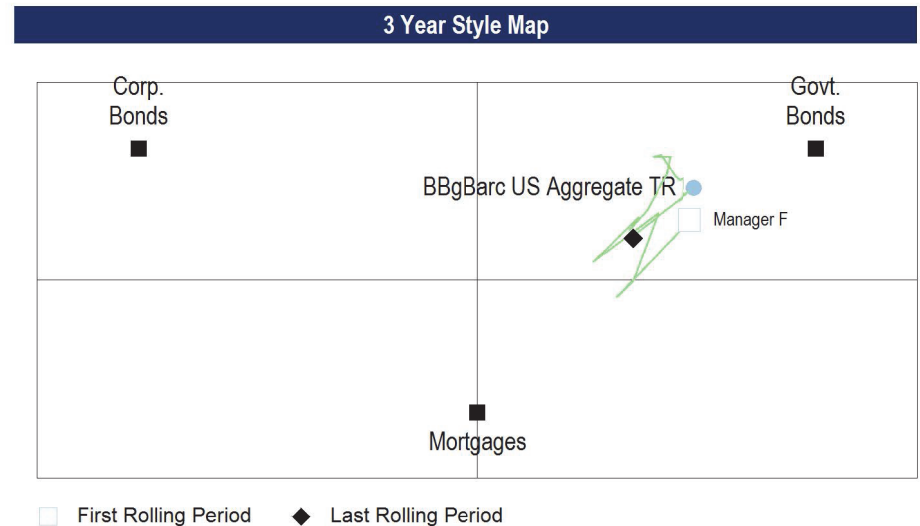
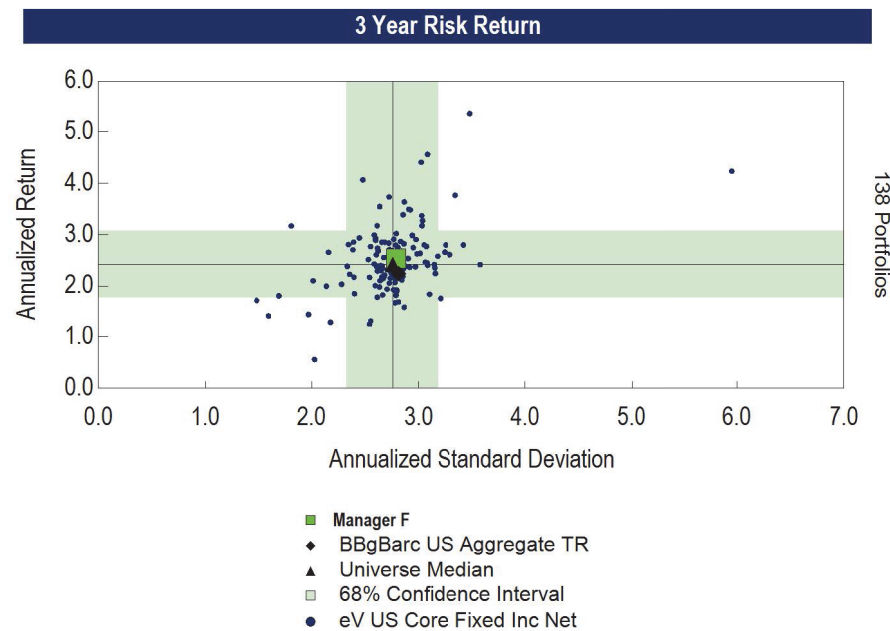
	<u>Allocation</u>	<u>Tolerance Band</u>	<u>Target</u>	<u>Difference</u>	<u>Market Value</u>	<u>Target Value</u>	<u>Difference</u>
<b>Fulton County</b>	<b>100.0 %</b>	<b>--</b>	<b>100.0 %</b>	<b>0.0 %</b>	<b>65,434,284</b>	<b>65,434,284</b>	<b>0</b>
■ Liquidity	1.1 %	0.0 - 40.0 %	0.0 %	1.1 %	736,269	0	736,269
■ Fixed Income	23.3 %	20.0 - 65.0 %	40.0 %	-16.7 %	15,235,354	26,173,713	-10,938,359
■ Market Risk	75.6 %	35.0 - 80.0 %	60.0 %	15.6 %	49,462,661	39,260,570	10,202,090
■ Manager Skill	0.0 %	0.0 - 0.0 %	0.0 %	0.0 %	0	0	0
■ Private Capital	0.0 %	0.0 - 0.0 %	0.0 %	0.0 %	0	0	0

Source: Balentine

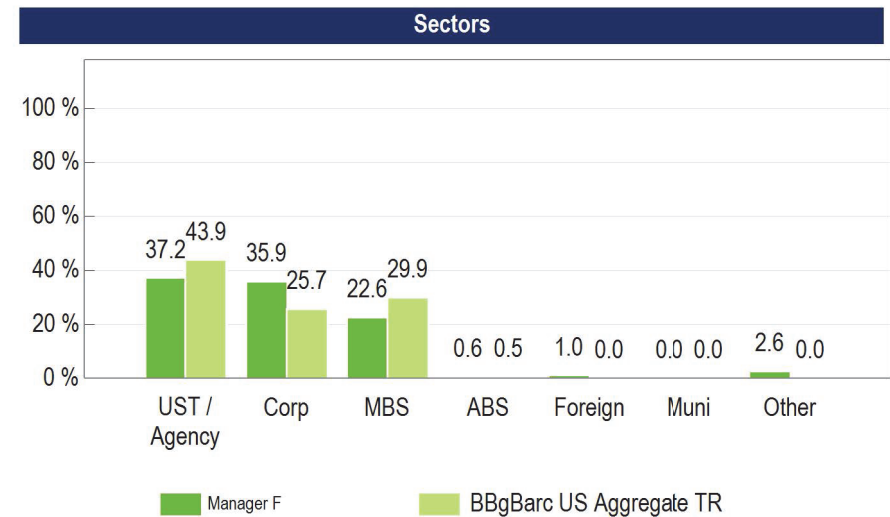
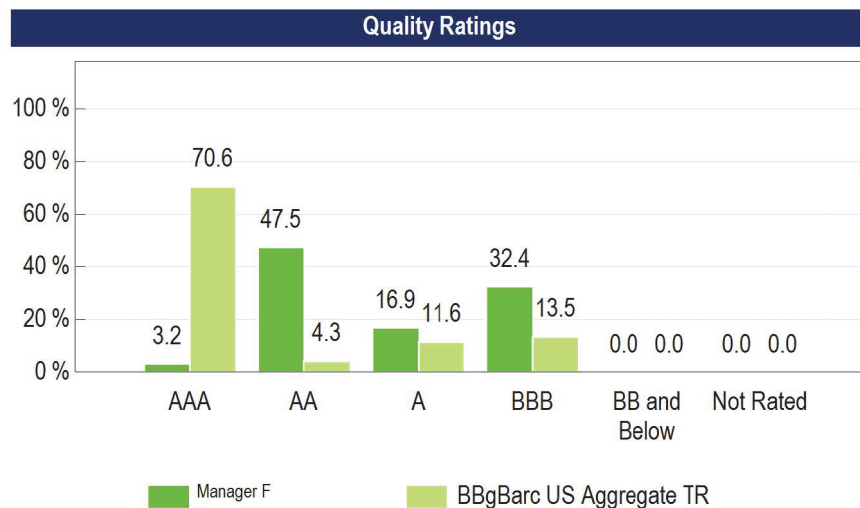
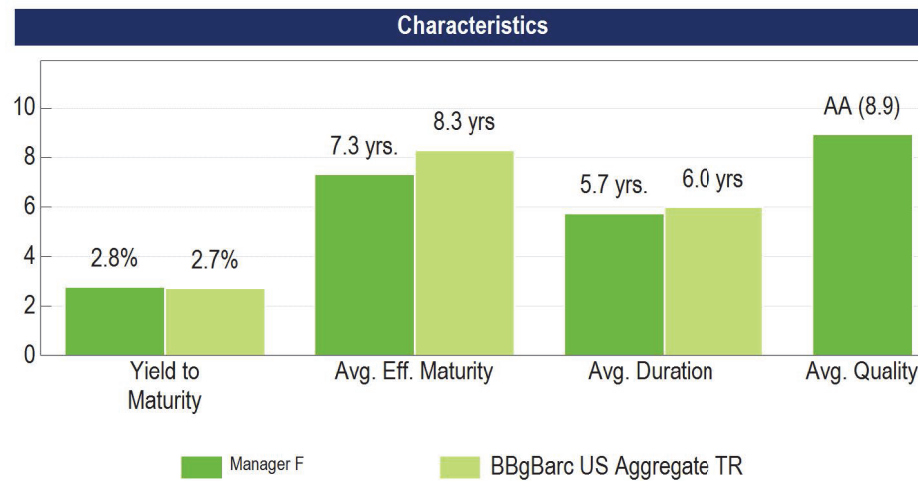
# Sample ABC Client Manager F



# Sample ABC Client Manager F

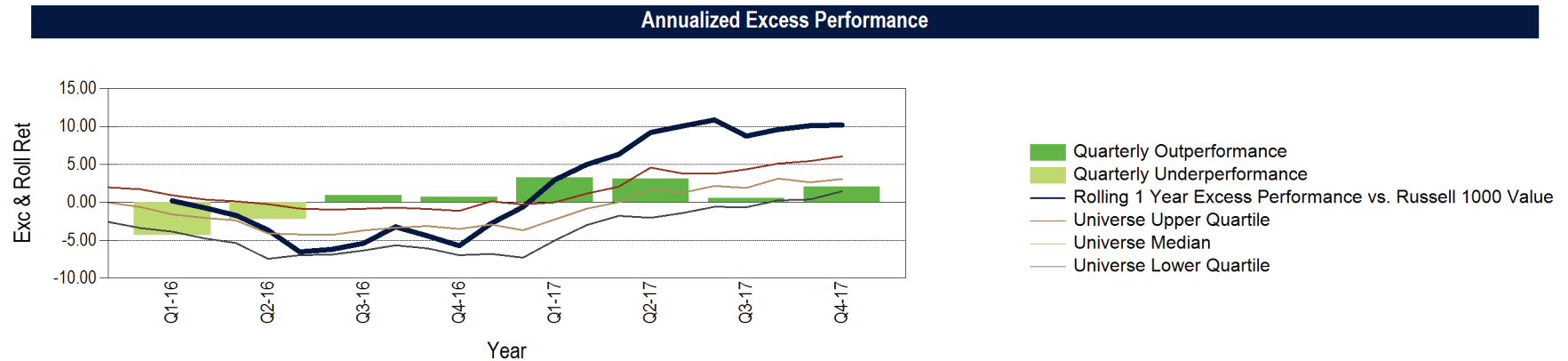
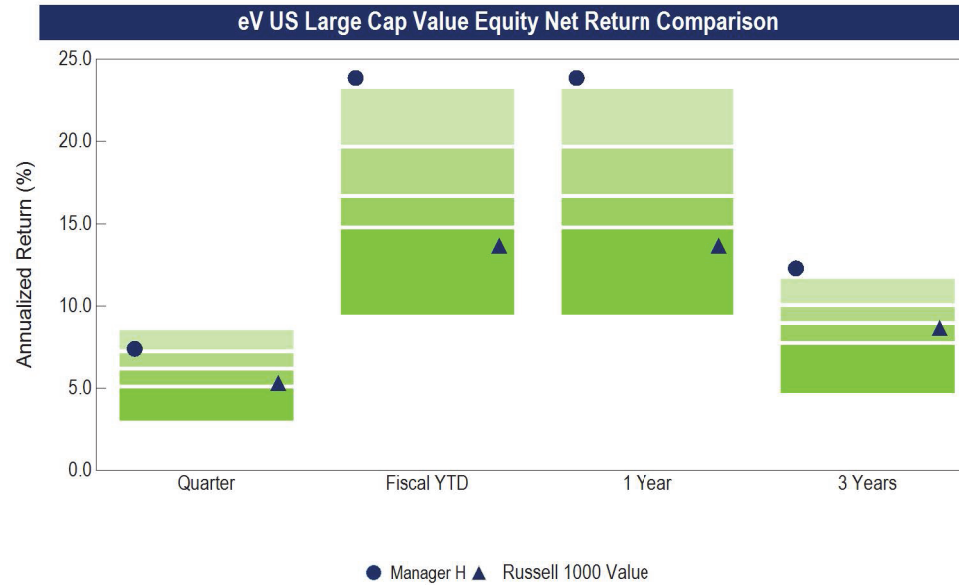


# Sample ABC Client Manager F



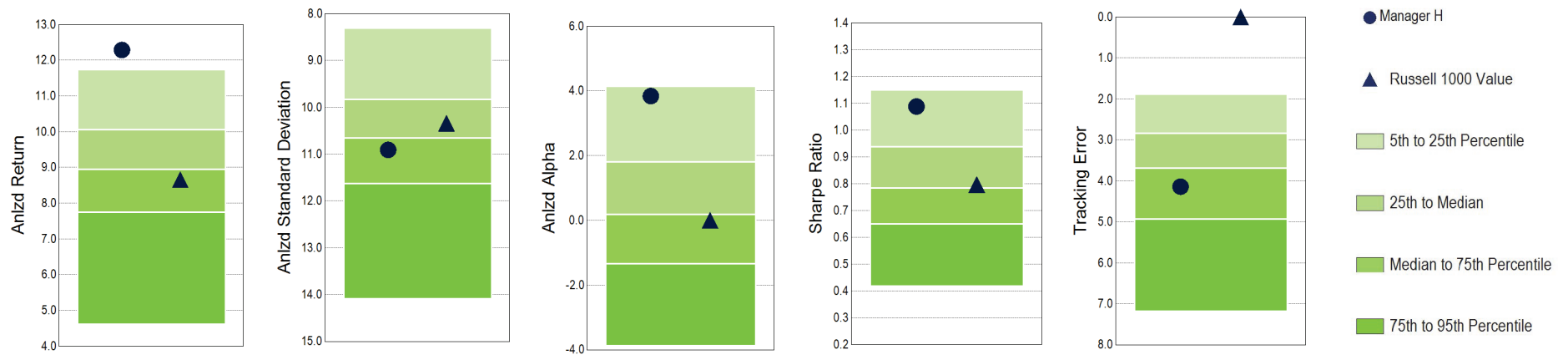
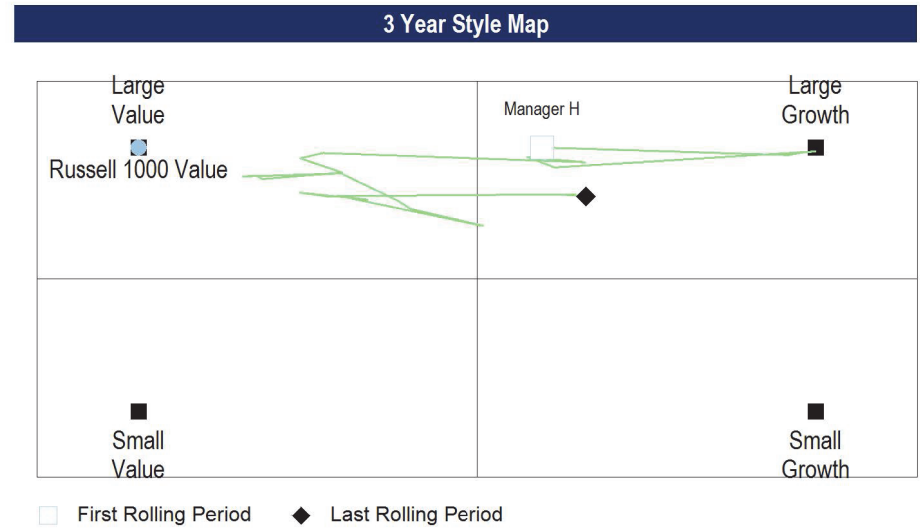
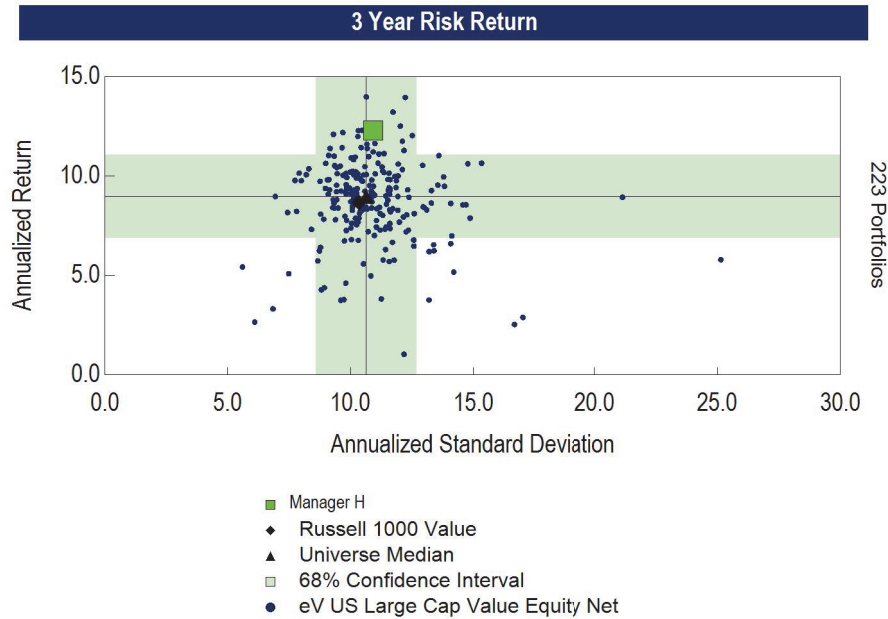
# Sample ABC Client

## Manager H



# Sample ABC Client

## Manager H



# Sample ABC Client Manager H

Characteristics		
	Portfolio	Russell 1000 Value
Number of Holdings	31	713
Weighted Avg. Market Cap. (\$B)	219.8	119.4
Median Market Cap. (\$B)	75.7	9.4
Price To Earnings	25.6	21.0
Price To Book	5.6	2.7
Price To Sales	3.4	2.9
Return on Equity (%)	17.7	11.5
Yield (%)	1.1	2.3
Beta	1.0	1.0
R-Squared	0.9	1.0

Top Positive Contributors		
	Relative Contribution %	Return %
AMAZON.COM	1.1%	21.6%
MARRIOTT INTL.'A'	1.0%	23.4%
MICROSOFT	1.0%	15.4%
TWENTY-FIRST CENTURY FOX CL.B	0.7%	32.3%
UNITEDHEALTH GROUP	0.6%	12.9%
ALPHABET 'C'	0.5%	9.1%
BERKSHIRE HATHAWAY 'B'	0.4%	8.1%
PEPSICO	0.2%	8.4%
ECOLAB	0.2%	4.6%
GOLDMAN SACHS GP.	0.2%	7.7%

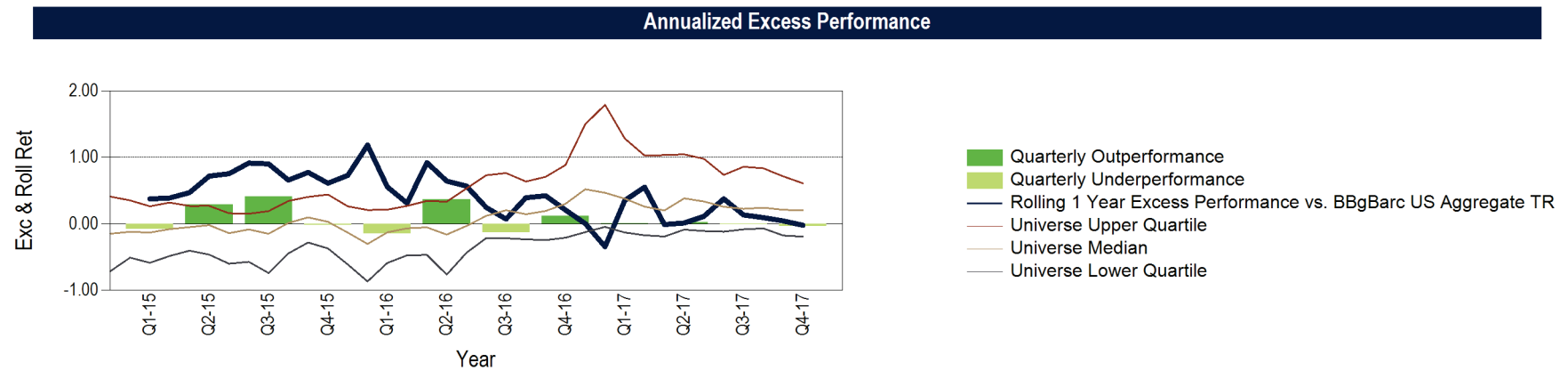
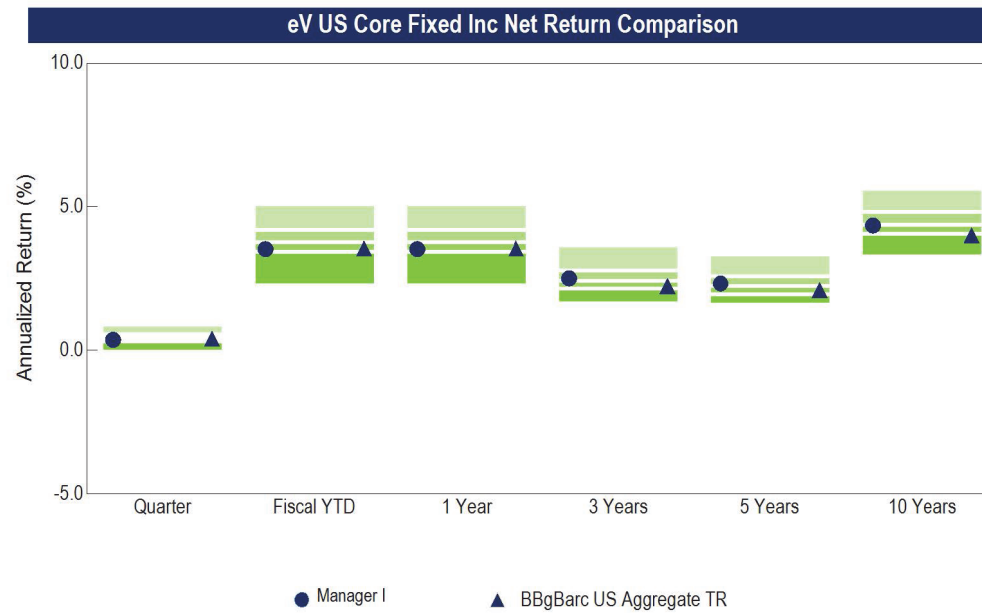
Top Negative Contributors		
	Relative Contribution %	Return %
AON CLASS A	-0.5%	-8.1%
DISH NETWORK 'A'	-0.3%	-11.9%
ORACLE	-0.1%	-1.8%
LIBERTY TRIP ADVI.HDG. SR.A	0.0%	-23.7%
TRIPADVISOR 'A'	0.0%	-15.0%
THERMO FISHER SCIENTIFIC	0.0%	0.4%
FIDELITY NAT.INFO.SVS.	0.0%	1.1%
ILG	0.0%	7.1%
NOBLE ENERGY	0.0%	3.1%
JP MORGAN CHASE & CO.	0.0%	12.6%

Equity Sector Attribution											
	Attribution Effects				Returns		Sector Weights				
	Total Effects	Selection Effect	Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark			
Energy	-0.1%	0.1%	-0.1%	-0.1%	7.0%	6.4%	2.2%	10.9%			
Materials	-0.1%	-0.1%	0.1%	-0.1%	4.6%	8.8%	4.4%	2.8%			
Industrials	0.3%	--	0.3%	--	--	1.4%	0.0%	8.6%			
Consumer Discretionary	1.6%	0.5%	0.0%	1.0%	12.9%	5.7%	21.3%	6.8%			
Consumer Staples	0.2%	0.3%	0.1%	-0.1%	7.4%	4.0%	4.9%	8.7%			
Health Care	0.7%	0.8%	0.2%	-0.4%	8.2%	2.1%	7.4%	13.9%			
Financials	-0.6%	-0.7%	0.3%	-0.3%	5.8%	8.5%	35.6%	26.1%			
Information Technology	0.0%	-0.3%	0.7%	-0.4%	7.2%	10.3%	21.6%	8.2%			
Telecommunication Services	0.1%	--	0.1%	--	--	2.1%	0.0%	3.0%			
Utilities	0.3%	--	0.3%	--	--	0.5%	0.0%	6.2%			
Real Estate	0.2%	--	0.2%	--	--	1.8%	0.0%	4.9%			
Cash	-0.1%	0.0%	-0.1%	0.0%	0.3%	--	2.7%	0.0%			
Portfolio	2.4%	=	0.6%	+	2.0%	+	-0.3%	7.7%	5.3%	100.0%	100.0%

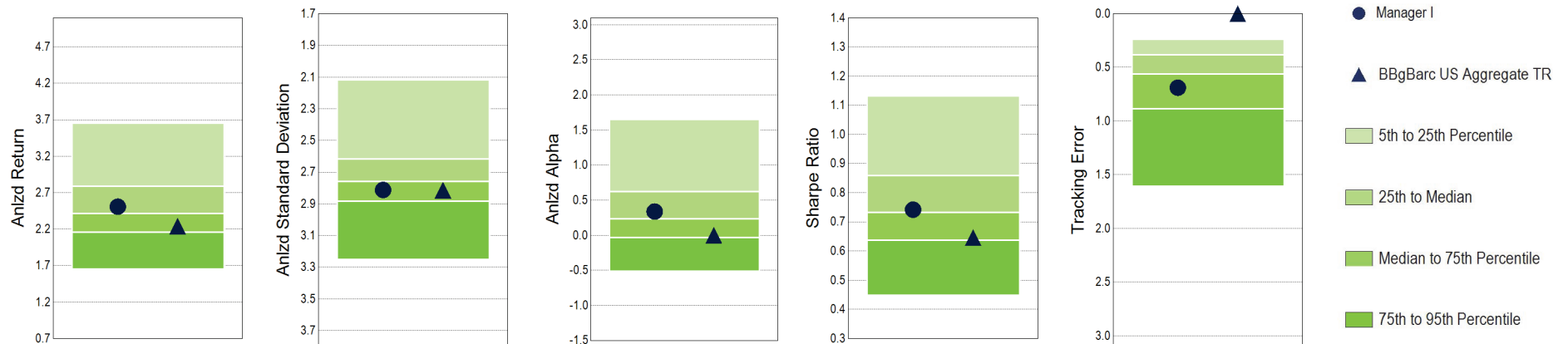
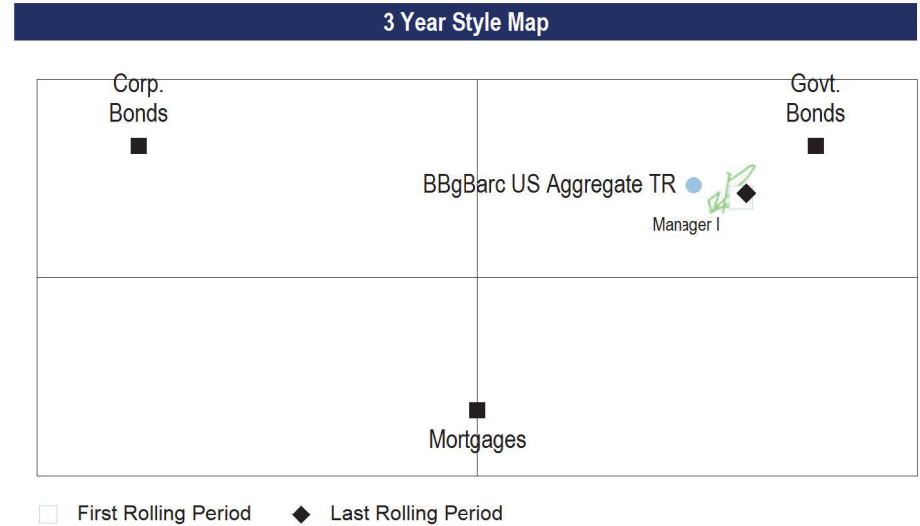
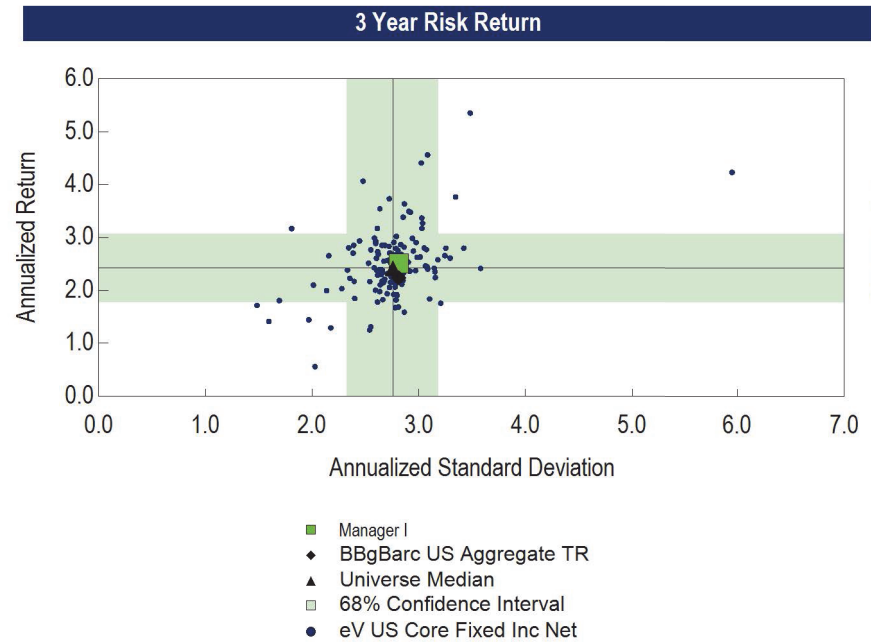




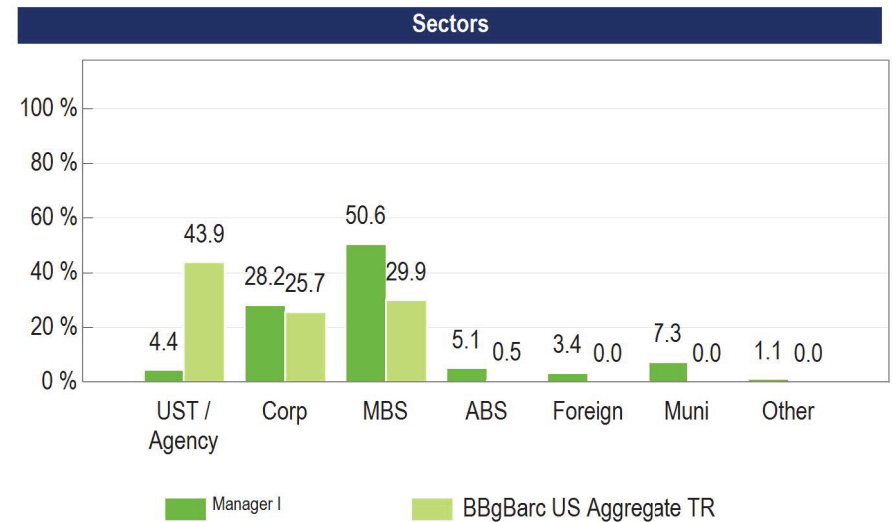
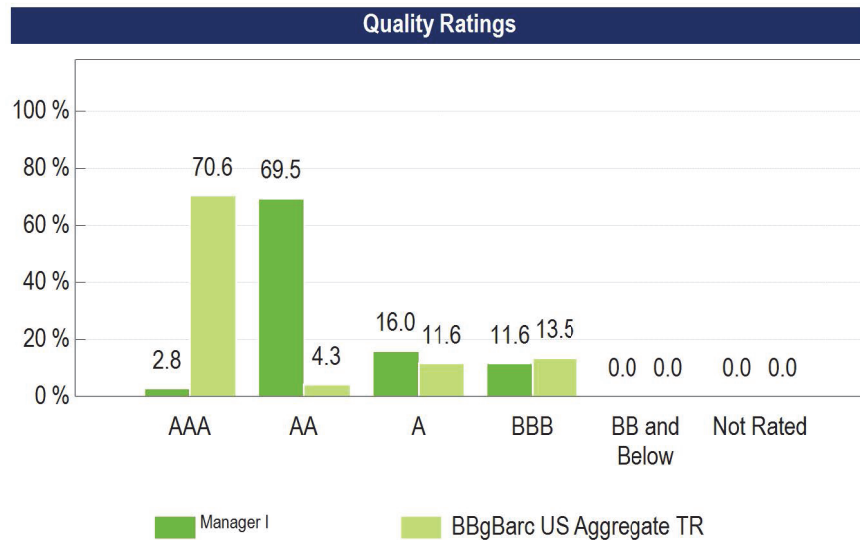
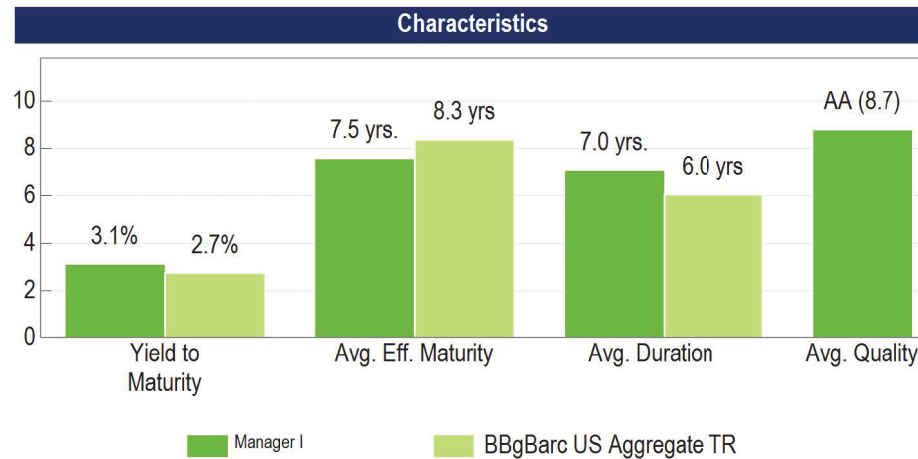
# Manager I



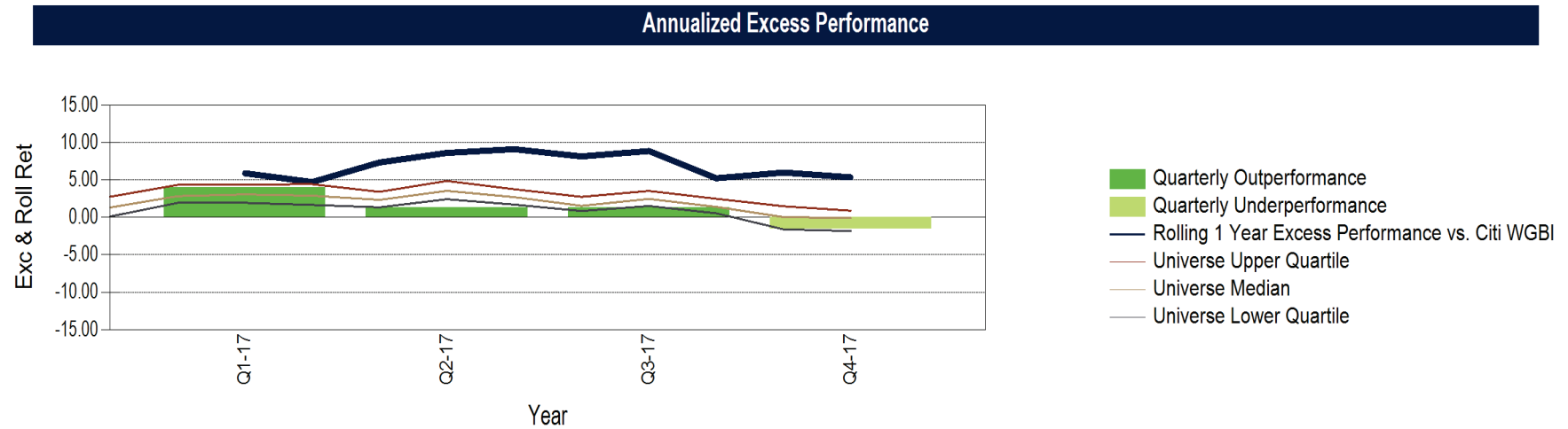
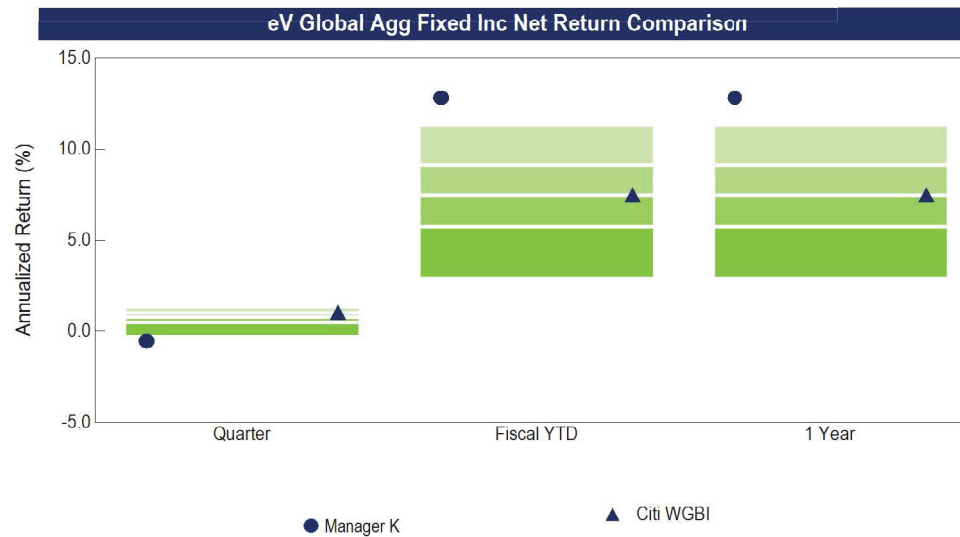
# Manager I



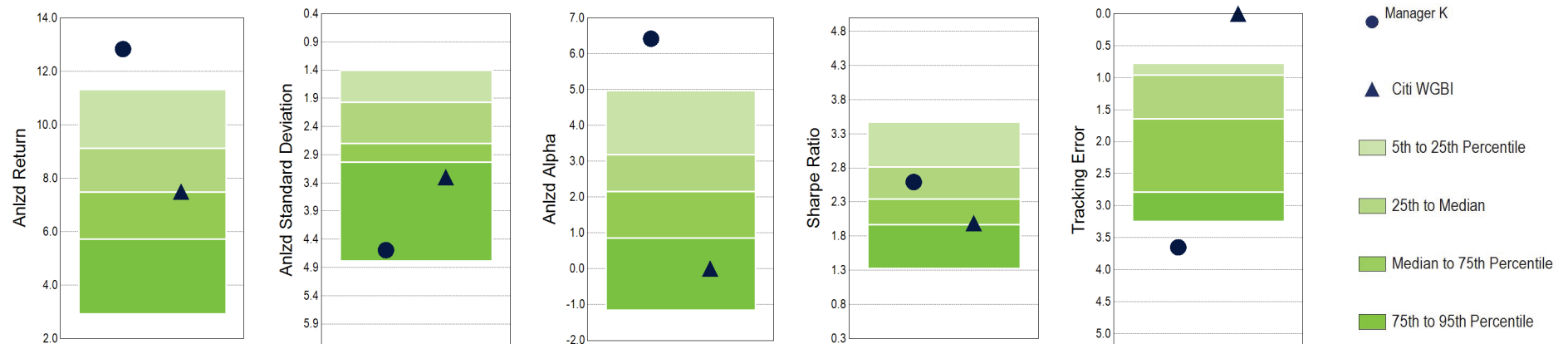
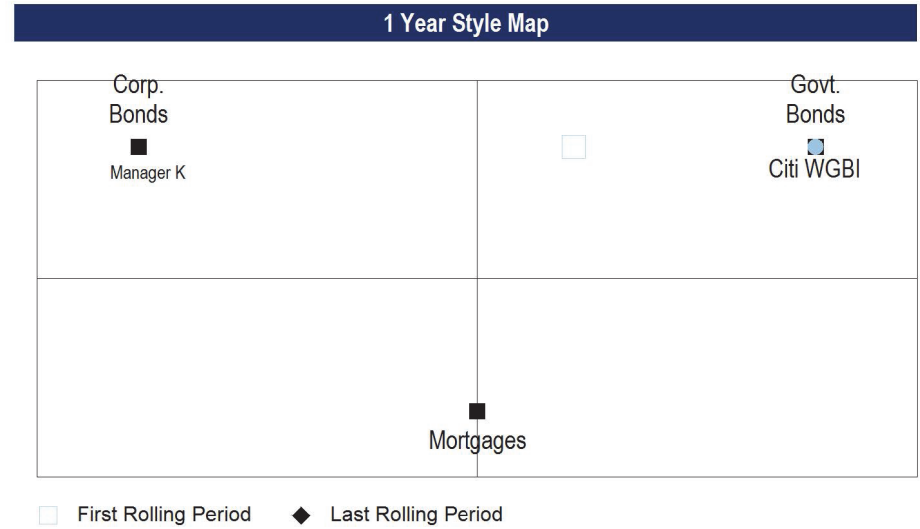
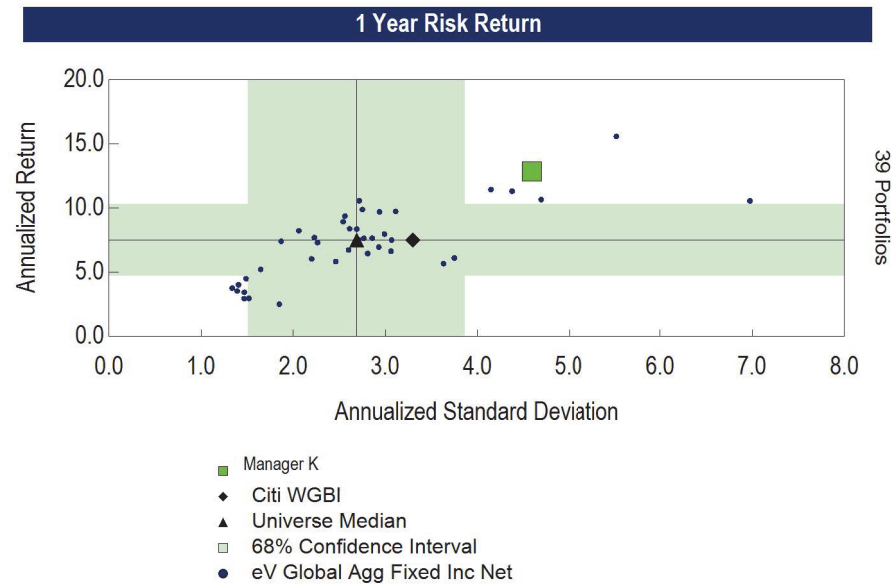
# Sample ABC Client Manager I



# Sample ABC Client Manager K

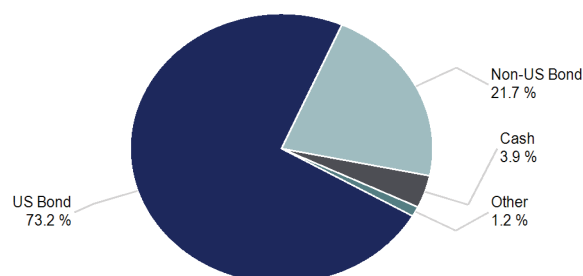


# Sample ABC Client Manager K



# Sample ABC Client Manager K

**Mutual Fund Allocation as of December 31, 2017**



**Top Countries as of December 31, 2017**

United States	77.2%
Australia	6.9%
Mexico	6.5%
Poland	4.3%
France	2.9%
Supranational	1.5%
Spain	0.7%

**Fund Characteristics as of December 31, 2017**

Sharpe Ratio (3 Year)	0.3
Average Duration	4.1
Average Coupon	4.1%
Average Effective Maturity	8.2
R-Squared (3 Year)	0.6
Alpha (3 Year)	0.1%
Beta (3 Year)	1.0

**Top Holdings as of December 31, 2017**

US TREASURY NOTE 1.075%	12.4%
UK TSY 1.25 2018 BONDS REGS 07/18 1.25	6.0%
NOTA DO TESOURO NACIONAL NOTES 01/27 10	4.9%
MEX BONOS DESARR FIX RT SR UNSECURED 11/42 7.75	4.3%
US TREASURY NOTE 0.89%	3.4%
REPUBLIC OF SOUTH AFRICA BONDS 02/48 8.75	3.1%
OBRIGACOES DO TESOURO SR UNSECURED 144A REGS 10/25 2	3.1%
UNITED MEXICAN STATES 8.5%	3.1%
AUSTRALIAN GOVERNMENT SR UNSECURED REGS 10/19 2.75	2.9%
MEX BONOS DESARR FIX RT SR UNSECURED 05/29 8.5	2.9%

**Fixed Income Sectors as of December 31, 2017**

GOVERNMENT	76.0%
MUNICIPAL	0.7%
CORPORATE	18.5%
SECURITIZED	0.9%
CASH & EQUIVALENTS	4.0%
DERIVATIVE	0.0%

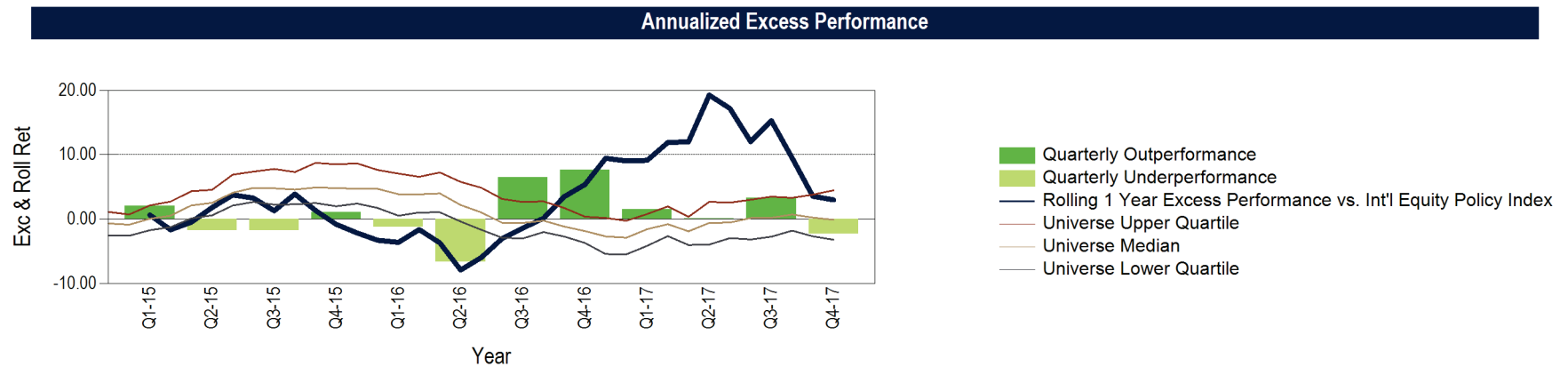
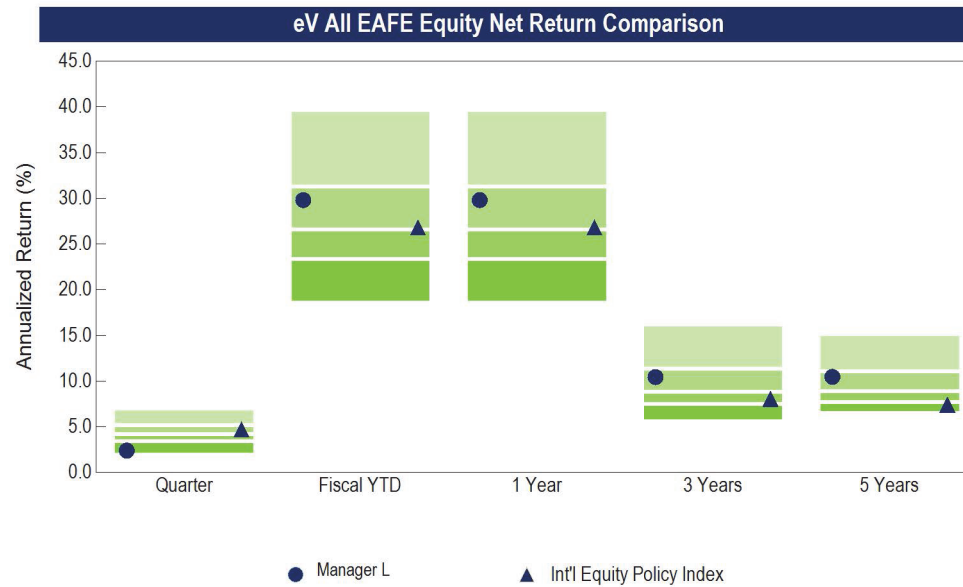
**Credit Quality as of December 31, 2017**

AAA	26.8%
AA	16.5%
A	30.8%
BBB	11.0%
BB	13.6%
B	0.9%
Below B	0.2%
Not Rated	0.1%

**Maturities as of December 31, 2017**

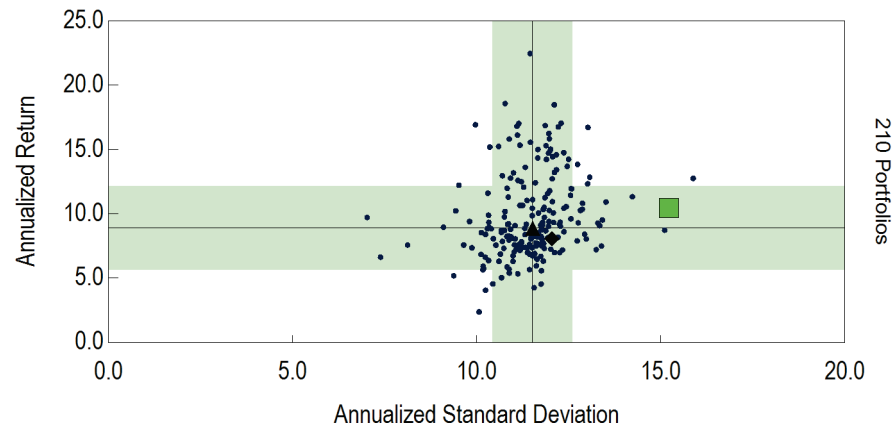
1 to 3 Years	37.6%
3 to 5 Years	5.2%
5 to 7 Years	3.1%
7 to 10 Years	13.0%
10 to 15 Years	5.4%
15 to 20 Years	1.3%
20 to 30 Years	17.4%
Greater than 30 Years	4.1%

# Sample ABC Client Manager L



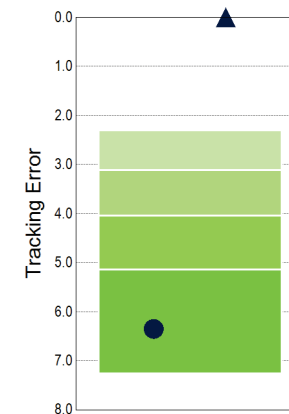
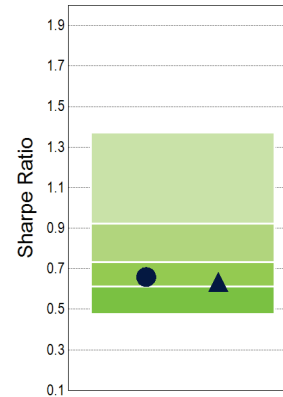
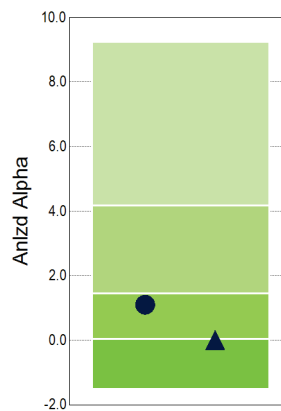
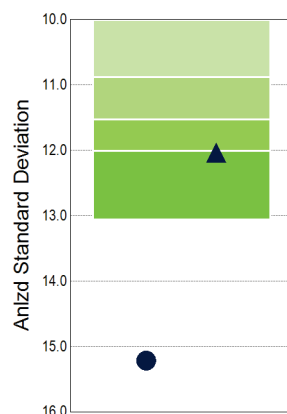
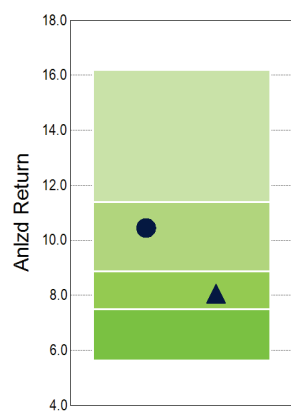
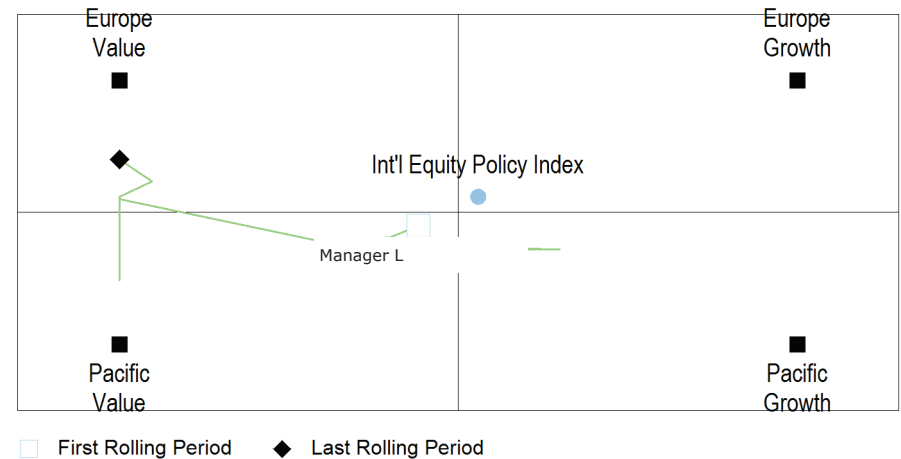
# Sample ABC Client Manager L

3 Year Risk Return



- Manager L
- ◆ Int'l Equity Policy Index
- ▲ Universe Median
- 68% Confidence Interval
- eV All EAFE Equity Net

3 Year Style Map



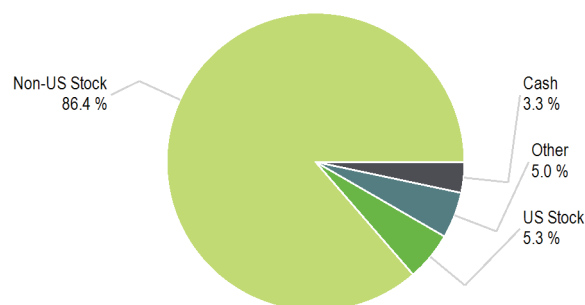
- Manager L
- ▲ Int'l Equity Policy Index
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile





# Sample ABC Client Manager L

## Mutual Fund Allocation as of December 31, 2017



## Top Holdings as of December 31, 2017

LLOYDS BANKING GROUP PLC	5.1%
DAIMLER AG	4.8%
GLENCORE PLC	4.6%
BNP PARIBAS	4.6%
BAYERISCHE MOTOREN WERKE AG	4.2%
CREDIT SUISSE GROUP AG	3.9%
INTESA SANPAOLO	3.7%
HENNES & MAURITZ AB B	3.7%
TOYOTA MOTOR CORP	3.5%
ALLIANZ SE	3.4%

## Portfolio Fund Information as of December 31, 2017

Ticker	OAKIX
Morningstar Category	Foreign Large Blend
Average Market Cap (\$mm)	39,595.5
Net Assets (\$mm)	31,225.7
% Assets in Top 10 Holdings	41.4
Total Number of Holdings	93
Manager Name	David G. Herro
Manager Tenure	25
Expense Ratio	1.0%
Closed to New Investors	No

## Sector Allocation as of December 31, 2017

BASIC MATERIALS	9.5%
COMMUNICATION SERVICES	2.8%
CONSUMER CYCLICAL	31.1%
CONSUMER DEFENSIVE	4.2%
ENERGY	0.0%
FINANCIAL SERVICES	33.3%
HEALTHCARE	1.4%
INDUSTRIALS	15.1%
REAL ESTATE	0.0%
TECHNOLOGY	2.7%
UTILITIES	0.0%

## Fund Characteristics as of December 31, 2017

Sharpe Ratio (3 Year)	0.7
Average Market Cap (\$mm)	39,595.5
Price/Earnings	13.2
Price/Book	1.6
Price/Sales	1.1
Price/Cash Flow	3.8
Dividend Yield	3.3
Number of Equity Holdings	55
R-Squared (3 Year)	0.8
Alpha (3 Year)	0.1%

## Top Countries as of December 31, 2017

United Kingdom	24.0%
Germany	16.1%
France	15.2%
Switzerland	11.0%
Sweden	6.0%
United States	5.8%
Japan	5.1%
Italy	4.1%
Netherlands	3.0%
India	2.8%

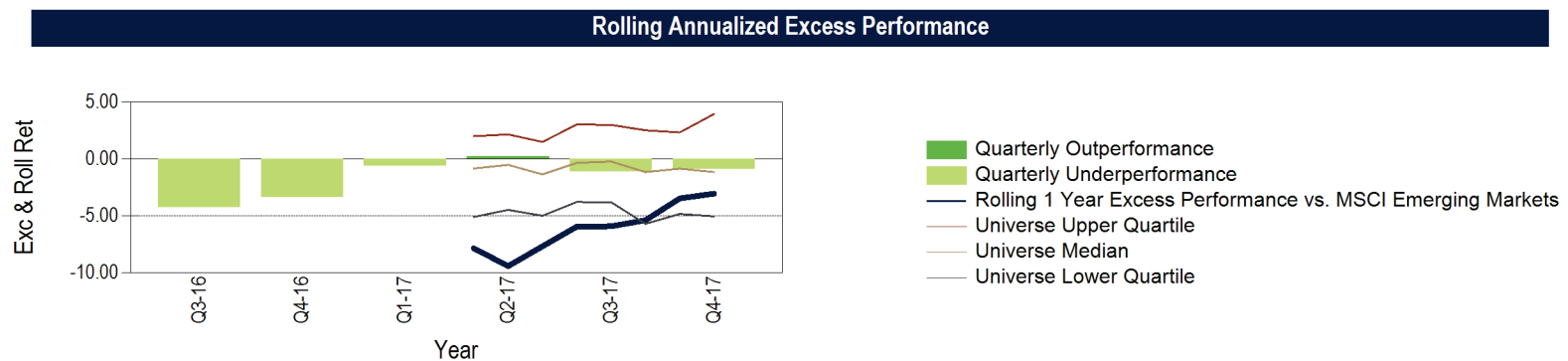
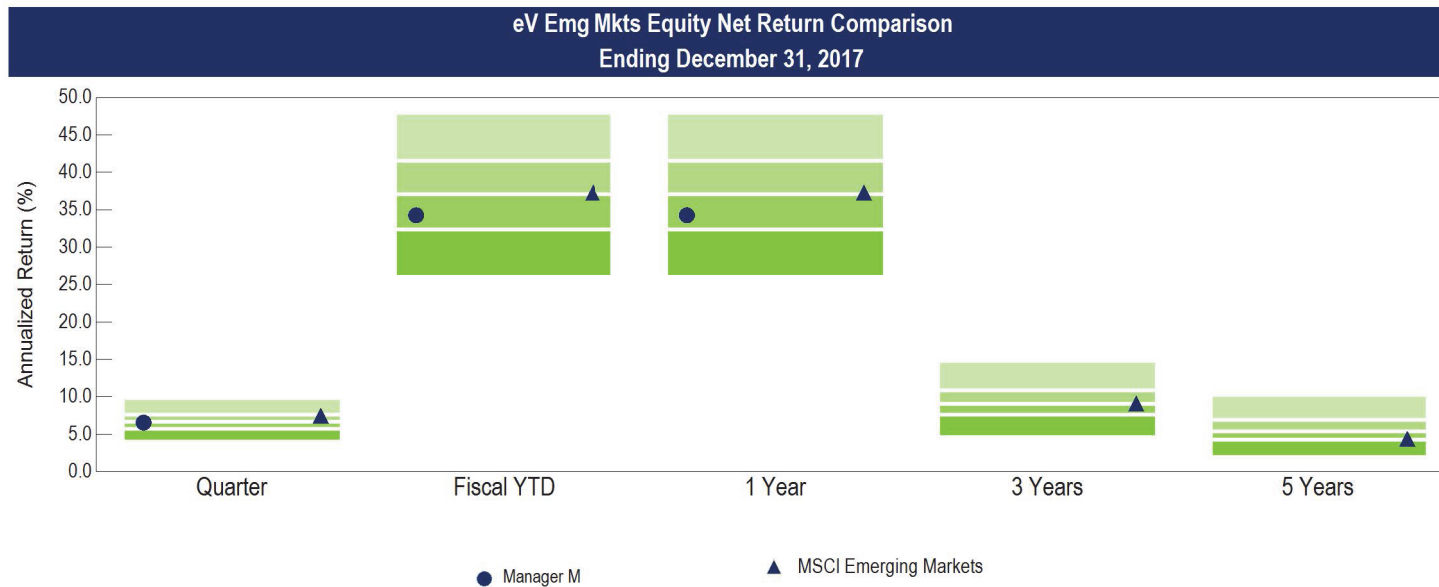
## Top Regions as of December 31, 2017

EUROZONE	39.9%
UNITED KINGDOM	24.0%
EUROPE EXEURO	17.0%
UNITED STATES	5.8%
JAPAN	5.1%



# Sample ABC Client

## Manager M



# Sample ABC Client Manager M

Characteristics		MSCI Emerging Markets
	Portfolio	
Number of Holdings	51	846
Weighted Avg. Market Cap. (\$B)	62.3	89.8
Median Market Cap. (\$B)	11.8	6.0
Price To Earnings	23.7	22.1
Price To Book	4.8	3.3
Price To Sales	3.8	2.7
Return on Equity (%)	21.7	18.1
Yield (%)	1.8	2.1
Beta		1.0
R-Squared		1.0

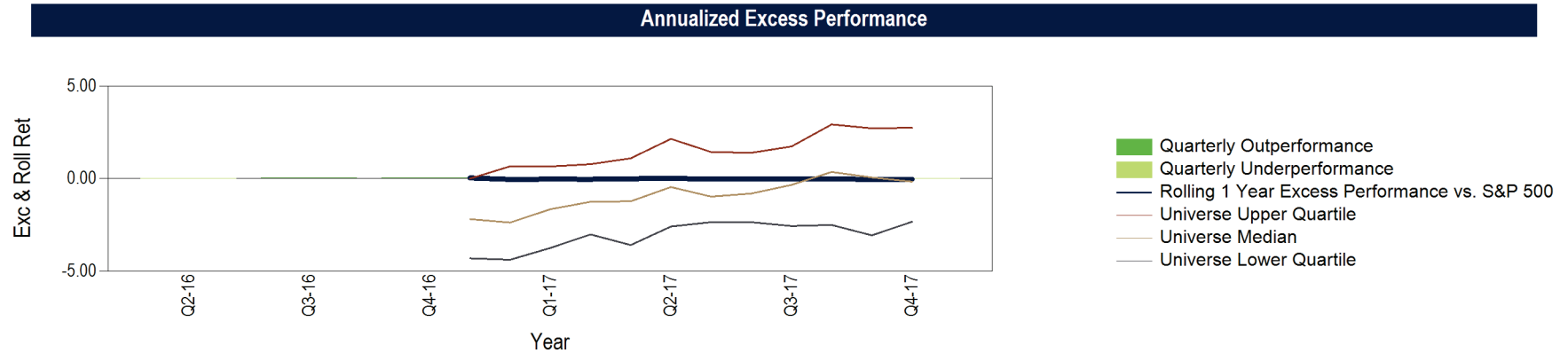
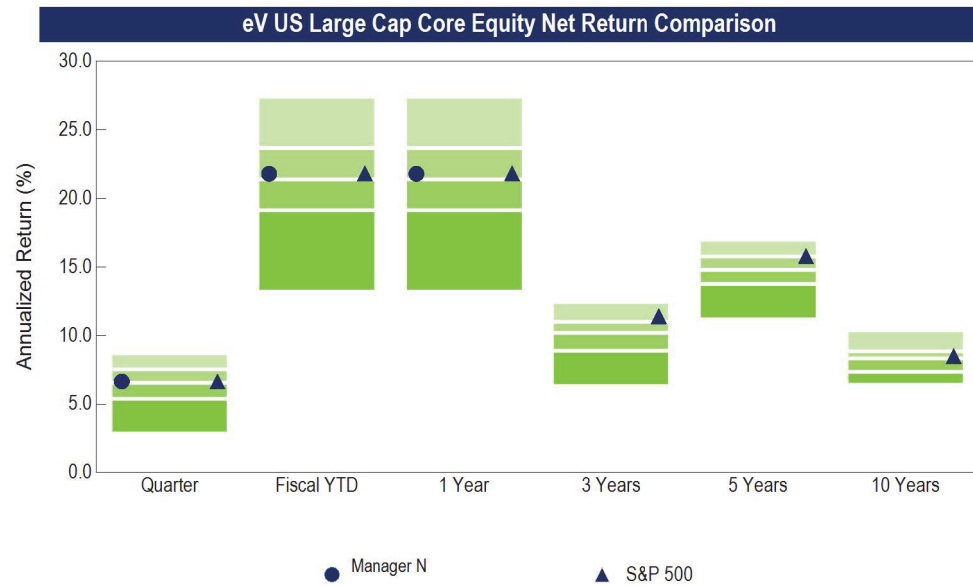
Top Positive Contributors		
	Relative Contribution %	Return %
NASPERS	0.9%	28.9%
FIRSTRAND	0.8%	44.7%
AIA GROUP	0.6%	15.6%
SM INVESTMENTS	0.5%	14.1%
CLICKS GROUP	0.4%	25.0%
BRAC BANK	0.4%	24.5%
TATA CONSULTANCY SVS.	0.3%	13.8%
FUYAO GLASS INDUSTRY GP. CO.'H'	0.3%	16.1%
SAMSUNG ELTN.PREF.	0.3%	8.4%
TAIWAN SEMICON.SPN.ADR 1:5	0.2%	5.6%

Top Negative Contributors		
	Relative Contribution %	Return %
PING AN INSURANCE (GROUP) OF CHIN 'H'	-0.3%	35.6%
PJSC MAGNIT GDR (REG S)	-0.3%	-33.2%
SAMSUNG ELECTRONICS	-0.2%	6.3%
CHINA MERCHANTS PORT HOLDINGS	-0.2%	-15.2%
BNC.BRADESCO PF.SPN.ADR 1:1	-0.2%	-5.0%
KIMBERLY-CLARK DE MEXICO 'A'	-0.1%	-11.2%
TOTVS ON	-0.1%	-8.6%
UNILEVER (UK)	-0.1%	-3.0%
MONDI	-0.1%	-3.7%
WEIFU HIGH TECH.GP.'B'	-0.1%	-7.2%

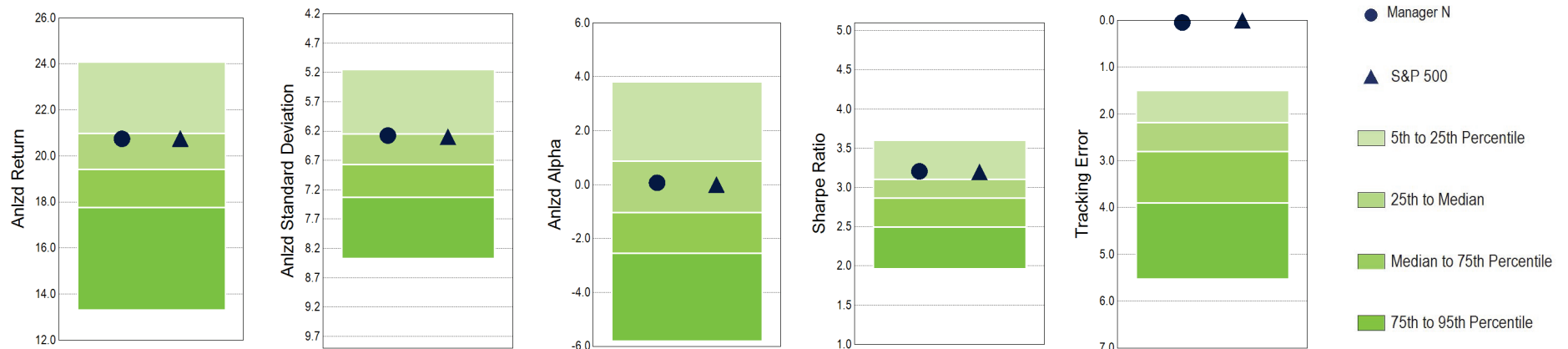
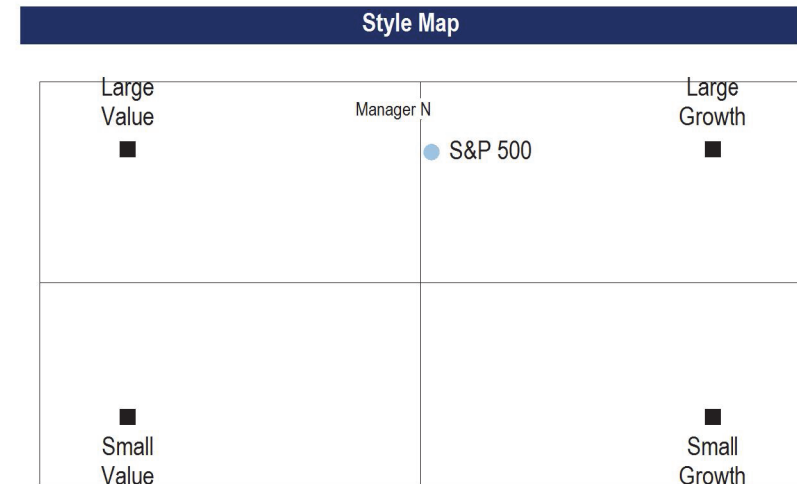
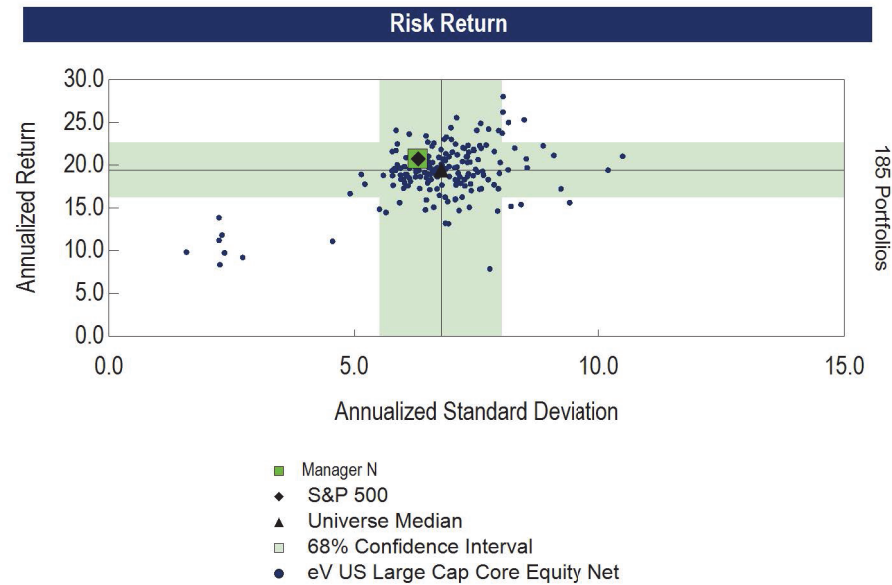
Equity Sector Attribution											
	Attribution Effects						Returns		Sector Weights		
	Total Effects		Selection Effect	Allocation Effect		Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark	
Energy	-0.2%		--		-0.1%		--		--	7.8%	6.8%
Materials	-0.4%		-0.6%		0.0%		0.2%		2.7%	8.5%	7.1%
Industrials	0.2%		0.3%		-0.1%		-0.1%		7.0%	4.6%	5.4%
Consumer Discretionary	1.2%		0.7%		0.0%		0.5%		17.6%	8.8%	10.3%
Consumer Staples	-0.4%		-0.4%		0.1%		-0.2%		3.7%	7.4%	6.5%
Health Care	-0.4%		-0.2%		0.2%		-0.3%		3.4%	17.4%	2.3%
Financials	0.1%		-0.2%		0.0%		0.3%		8.3%	8.1%	23.5%
Information Technology	-0.7%		-0.7%		0.0%		-0.1%		4.2%	7.1%	27.6%
Telecommunication Services	0.0%		-0.1%		0.1%		0.1%		0.0%	3.0%	5.1%
Utilities	0.1%		--		0.1%		--		--	1.1%	2.6%
Real Estate	0.0%		0.0%		0.0%		0.0%		2.8%	2.8%	2.9%
Cash	-0.1%		0.0%		-0.1%		0.0%		0.3%	--	0.0%
Portfolio	-0.5%	=	-1.2%	+	0.3%	+	0.3%		6.8%	7.3%	100.0%



# Sample ABC Client Manager N



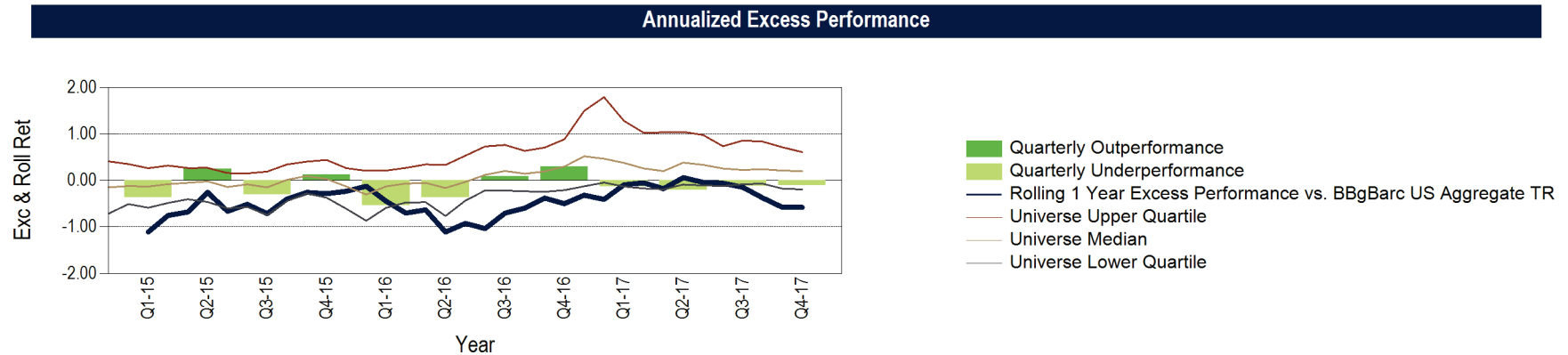
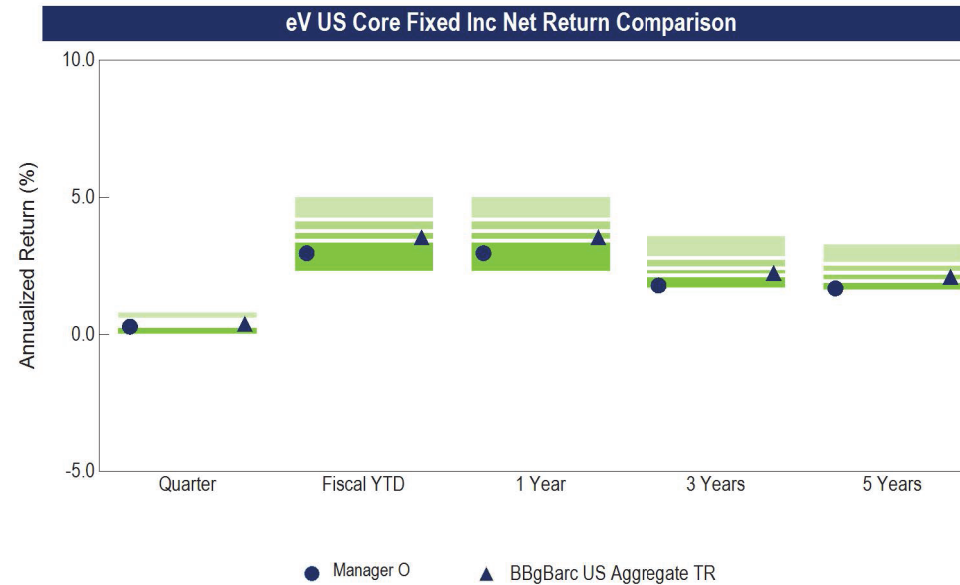
# Sample ABC Client Manager N



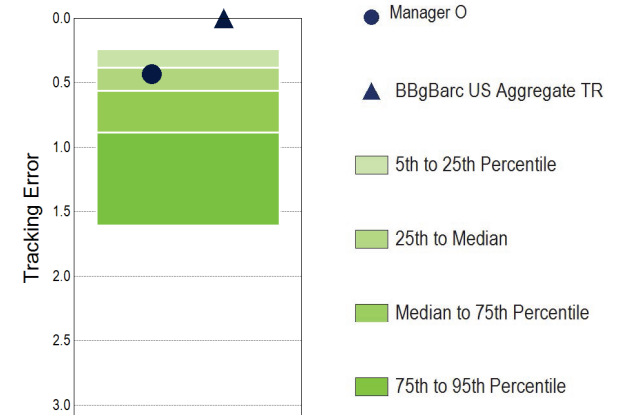
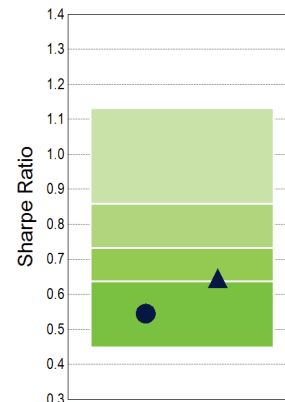
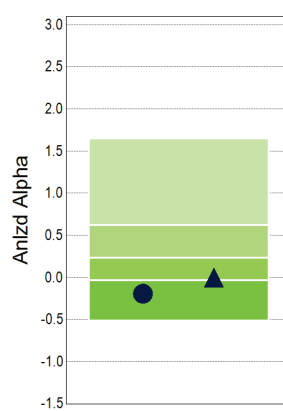
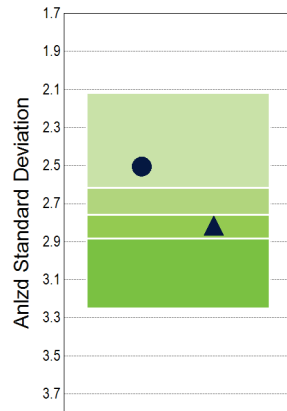
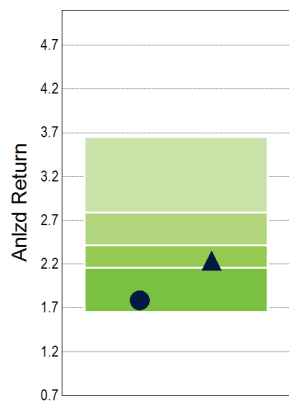
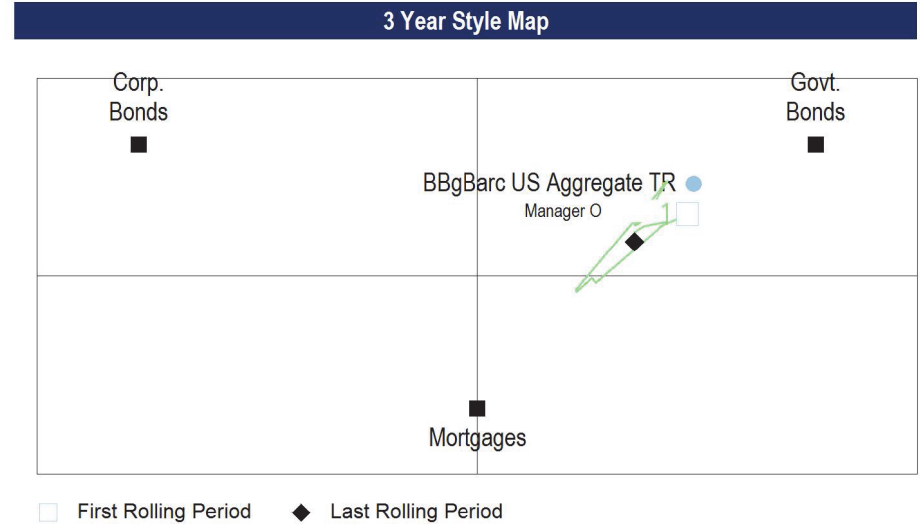
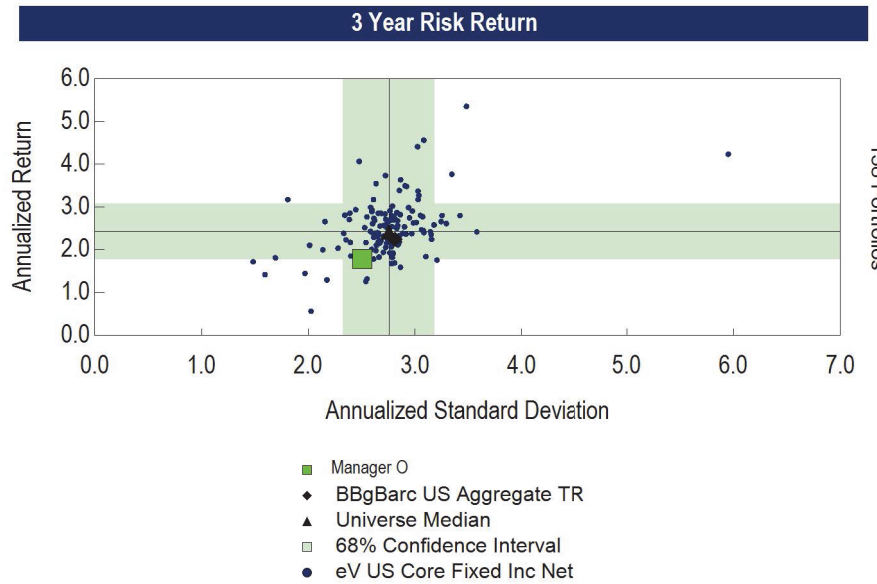
Data starts at the inception date: 2/1/2016.



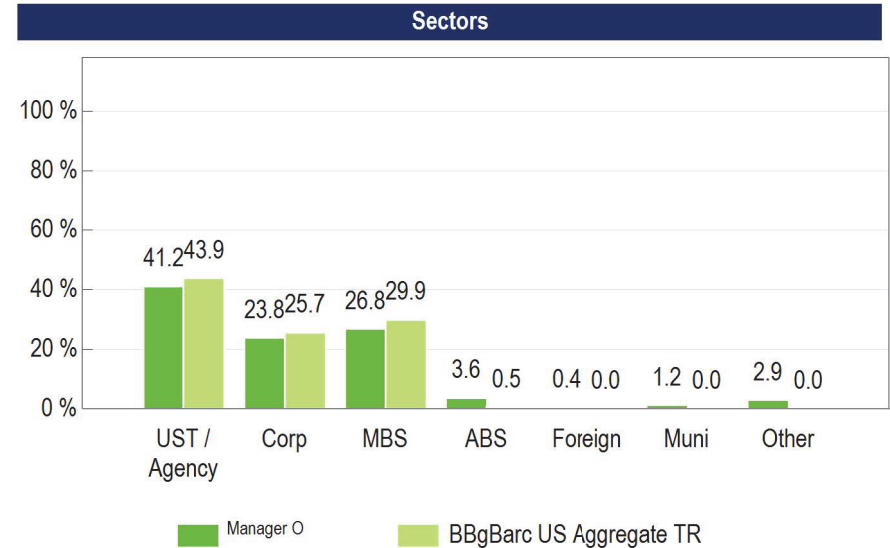
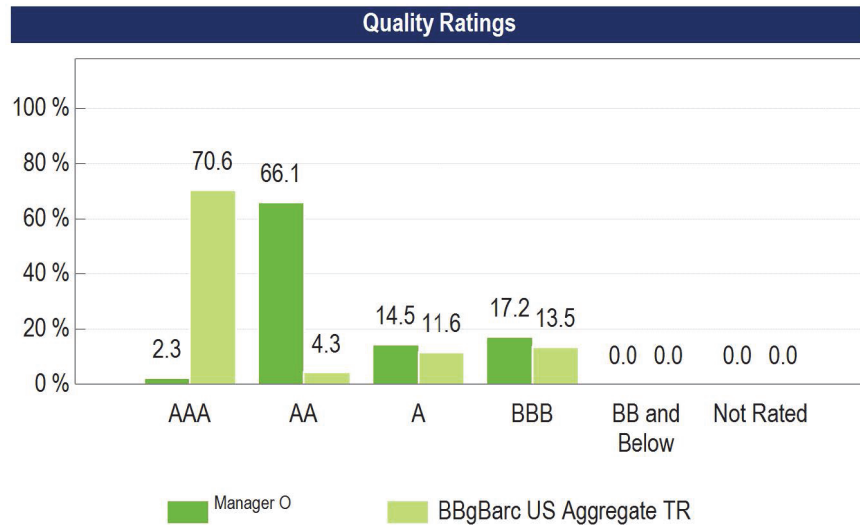
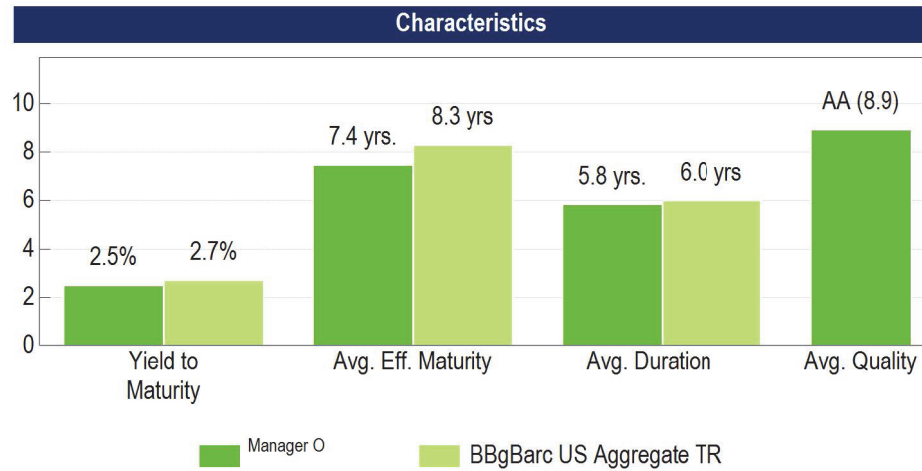
# Manager O



# Manager O

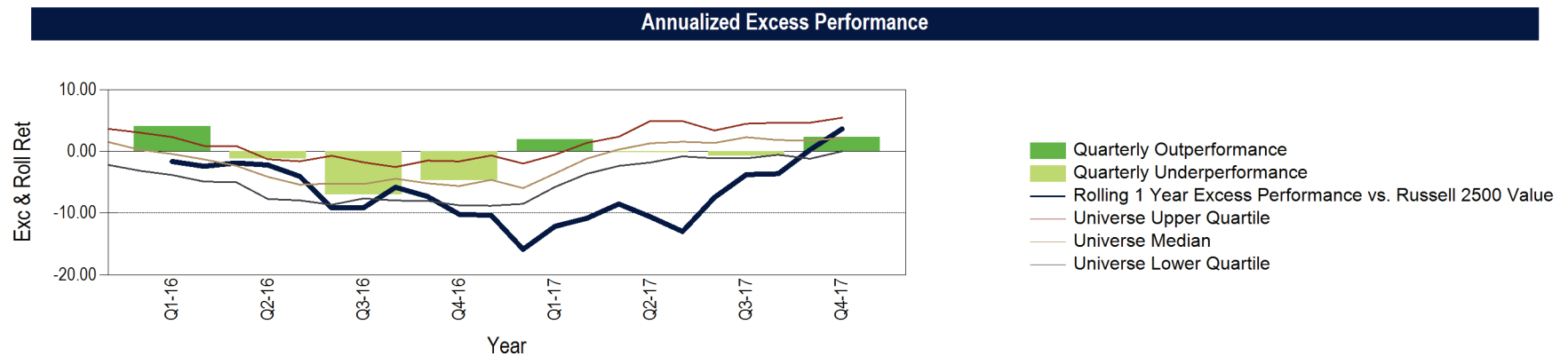
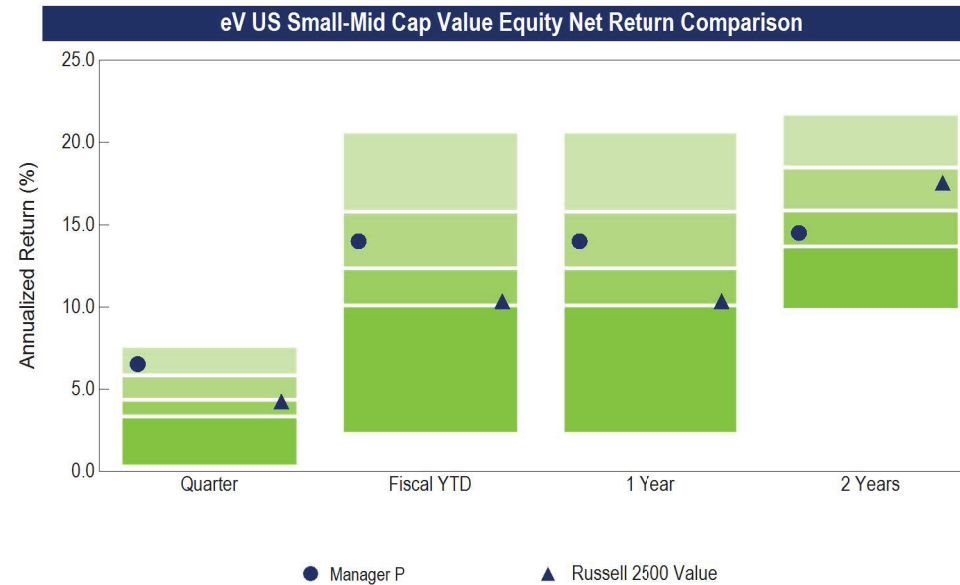


# Manager O

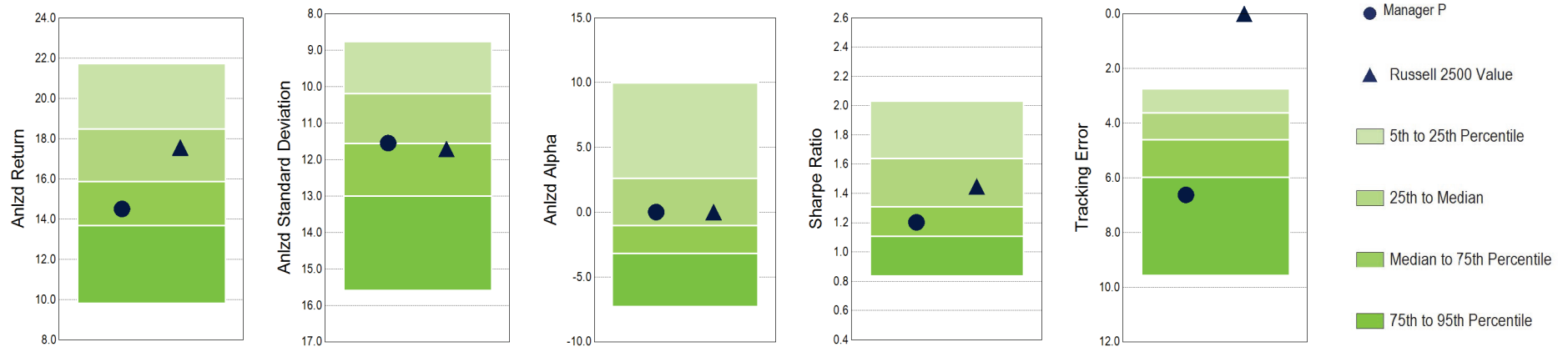
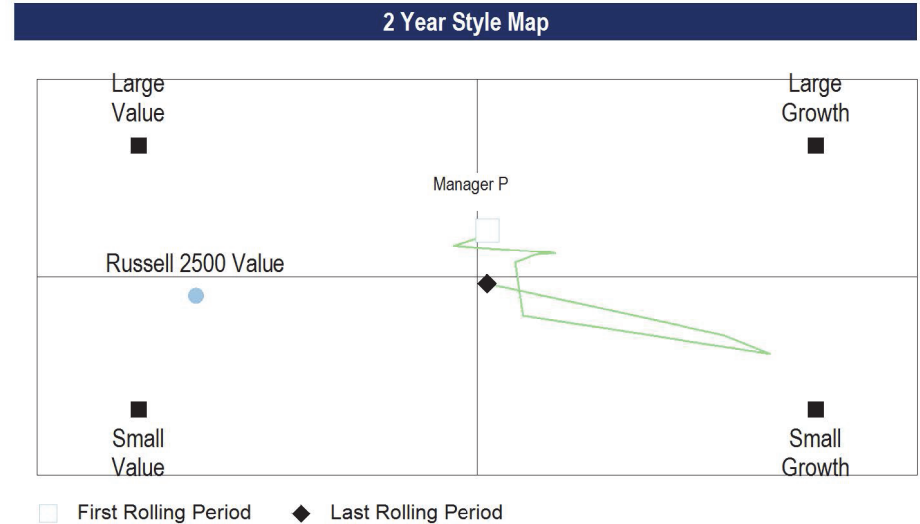
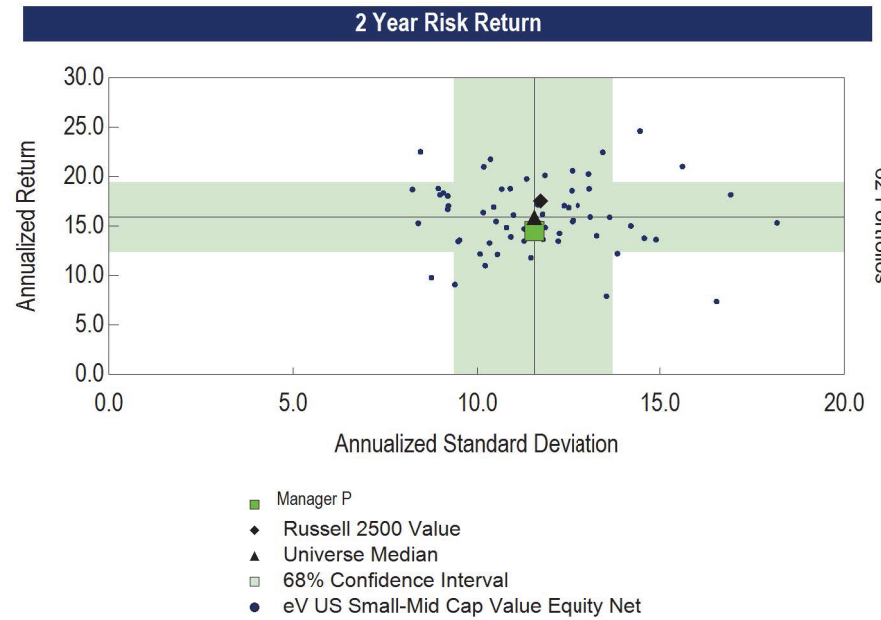




# Manager P



# Manager P



## Manager P

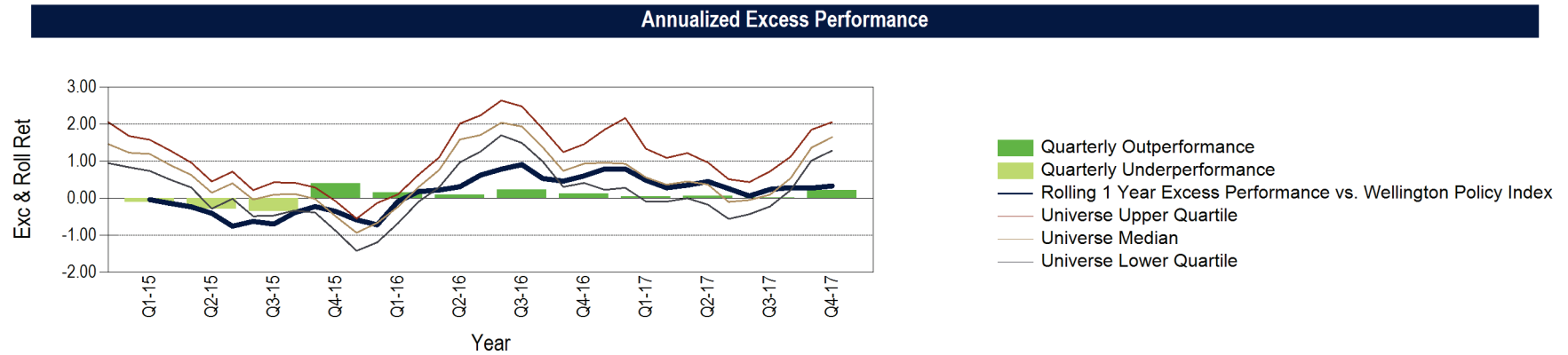
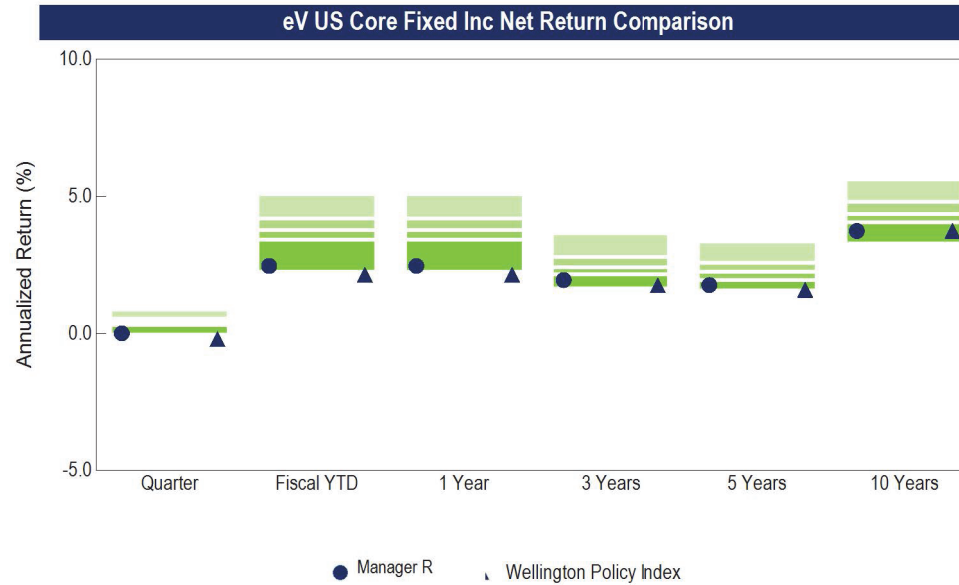
Characteristics		
	Portfolio	Russell 2500 Value
Number of Holdings	27	1,752
Weighted Avg. Market Cap. (\$B)	7.7	4.8
Median Market Cap. (\$B)	5.2	1.0
Price To Earnings	34.6	19.3
Price To Book	5.3	2.2
Price To Sales	2.5	2.9
Return on Equity (%)	19.9	7.5
Yield (%)	0.9	1.8
Beta	0.9	1.0
R-Squared	0.7	1.0

Top Positive Contributors		
	Relative Contribution %	Return %
OLD DOMINION FGT.LINES	1.4%	19.6%
COPART	1.4%	25.7%
DOLLAR TREE	0.9%	23.6%
USG	0.9%	18.1%
MSC INDL.DIRECT 'A'	0.9%	28.7%
LAMB WESTON HOLDINGS	0.7%	20.8%
ARMSTRONG WORLD INDS.	0.6%	18.1%
DECKERS OUTDOOR	0.5%	17.3%
EATON VANCE NV.	0.5%	14.9%
DST SYS.	0.4%	13.4%

Top Negative Contributors		
	Relative Contribution %	Return %
CARMAX	-0.8%	-15.4%
EDGEWELL PERSONAL CARE	-0.7%	-18.4%
MBIA	-0.4%	-15.9%
NEWMARKET	-0.4%	-6.2%
POST HOLDINGS	-0.3%	-10.2%
HASBRO	-0.2%	-6.4%
ORBITAL ATK	-0.1%	-1.0%
TEMPUR SEALY INTL.	0.0%	-2.8%
WHITE MOUNTAINS IN.GP.	0.0%	-0.7%
SENSATA TECHS.HLDG.	0.0%	6.3%

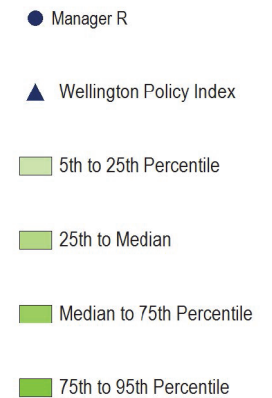
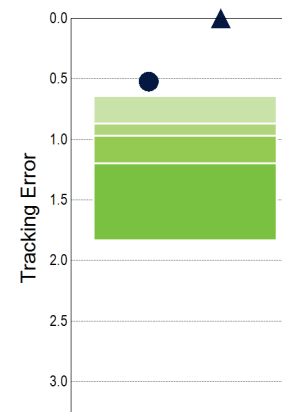
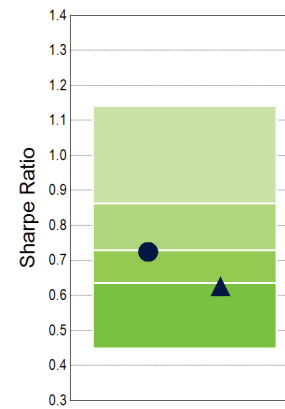
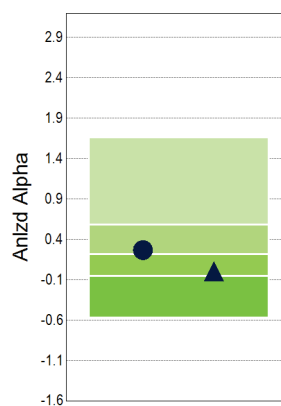
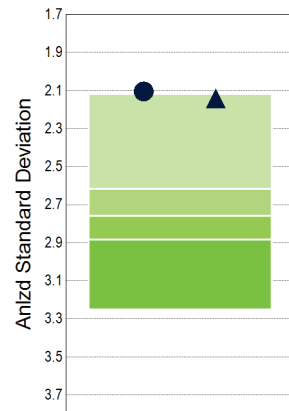
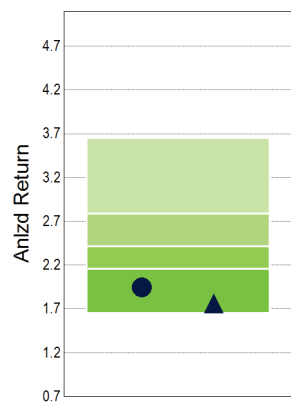
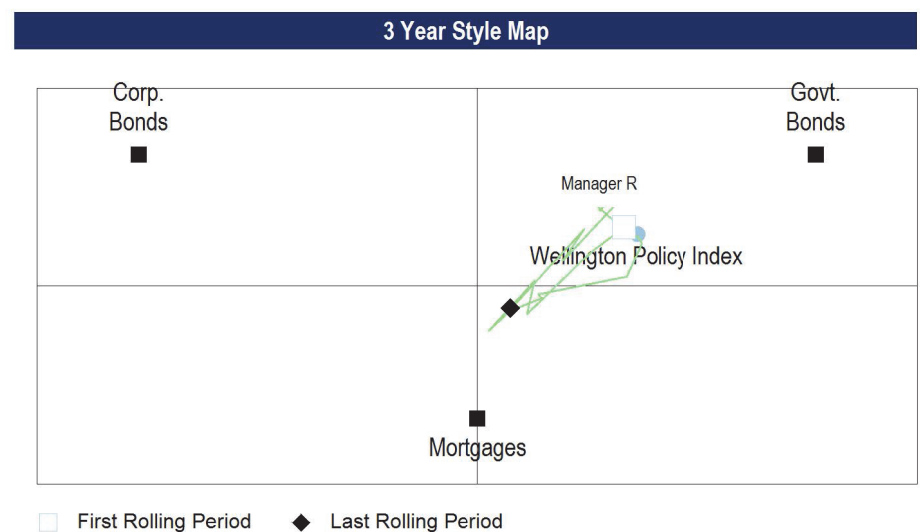
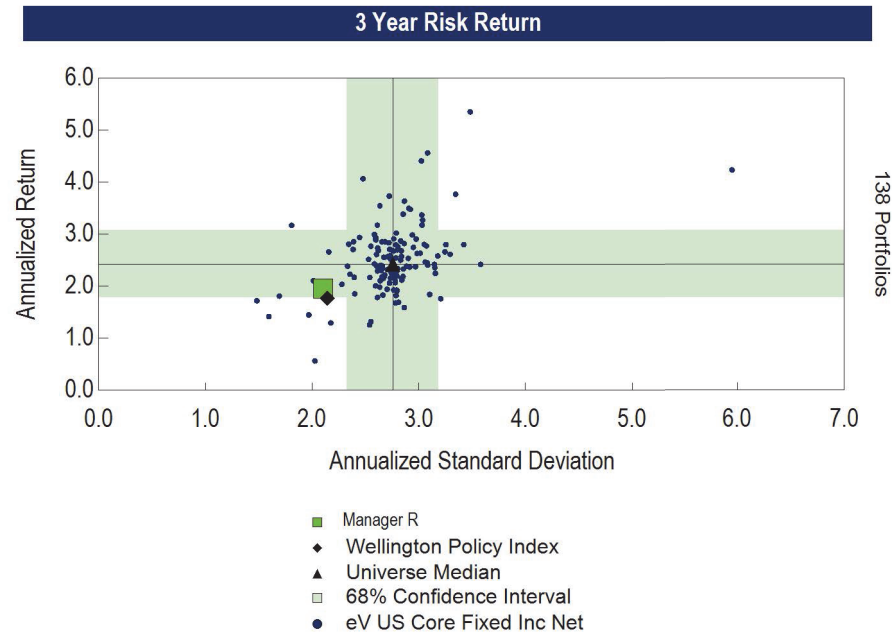
Equity Sector Attribution									
	Attribution Effects				Returns		Sector Weights		
	Total Effects	Selection Effect	Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark	
Energy	-0.2%	--	-0.2%	--	--	7.8%	0.0%	6.7%	
Materials	-0.7%	-0.5%	0.3%	-0.5%	0.3%	9.9%	10.9%	5.3%	
Industrials	3.4%	1.3%	0.6%	1.6%	16.8%	7.5%	30.7%	13.6%	
Consumer Discretionary	-0.5%	-0.4%	0.4%	-0.4%	3.7%	7.5%	21.6%	10.4%	
Consumer Staples	-0.7%	-0.1%	0.1%	-0.6%	0.8%	4.7%	18.5%	3.4%	
Health Care	0.3%	--	0.3%	--	--	-1.6%	0.0%	5.7%	
Financials	0.0%	-0.3%	0.2%	0.1%	1.8%	2.9%	12.4%	24.4%	
Information Technology	0.4%	0.9%	0.1%	-0.5%	13.4%	3.0%	3.3%	8.3%	
Telecommunication Services	0.0%	--	0.0%	--	--	-4.5%	0.0%	0.4%	
Utilities	0.1%	--	0.1%	--	--	2.3%	0.0%	6.9%	
Real Estate	0.4%	0.5%	0.3%	-0.4%	5.3%	1.6%	2.7%	14.9%	
Cash	0.0%	--	--	--	--	--	0.0%	0.0%	
Portfolio	2.7%	=	1.4%	+	2.1%	+	-0.8%	6.9%	4.3%
							100.0%	100.0%	

# Sample ABC Client Manager R

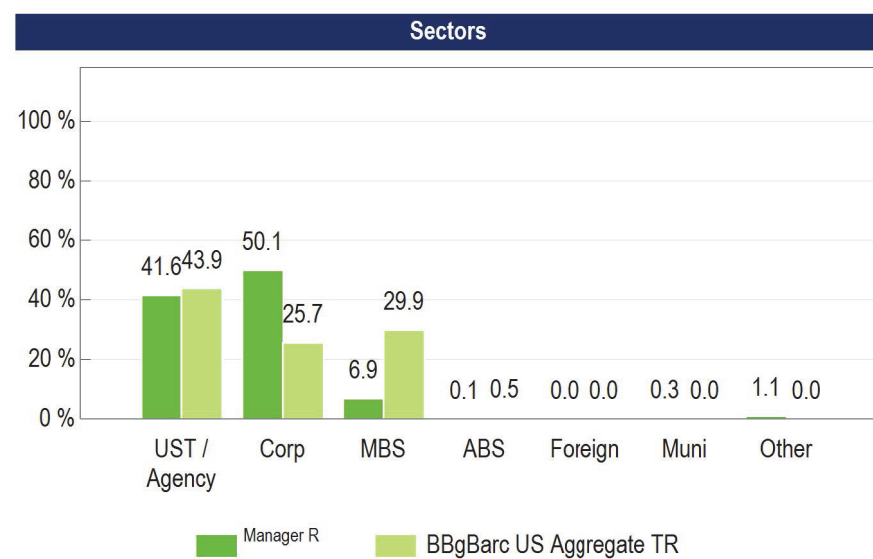
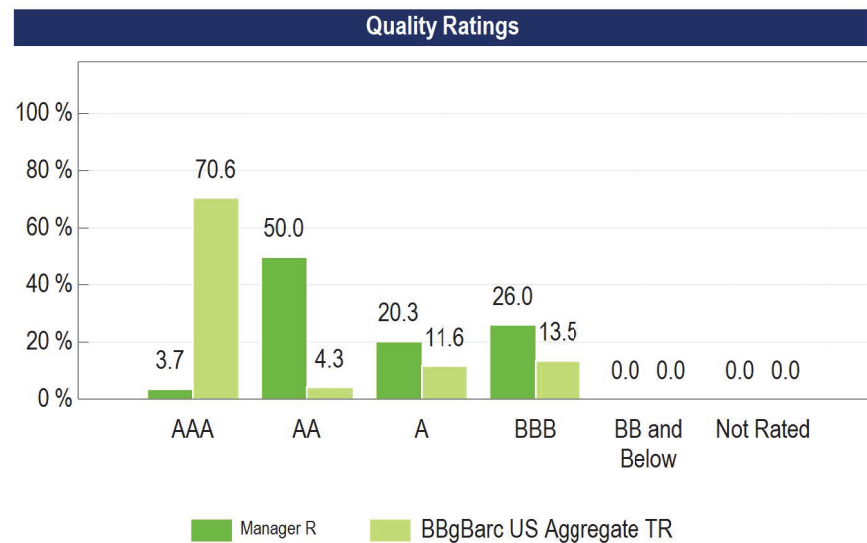
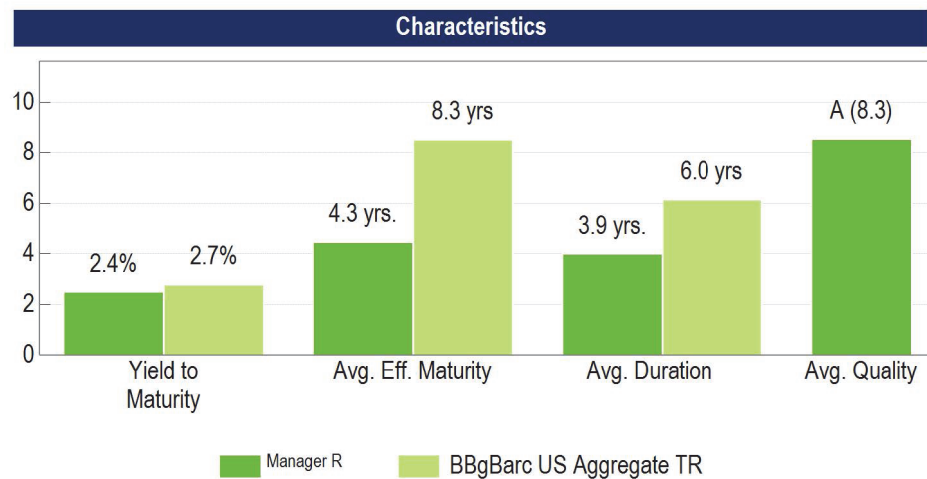


# Sample ABC Client

## Manager R

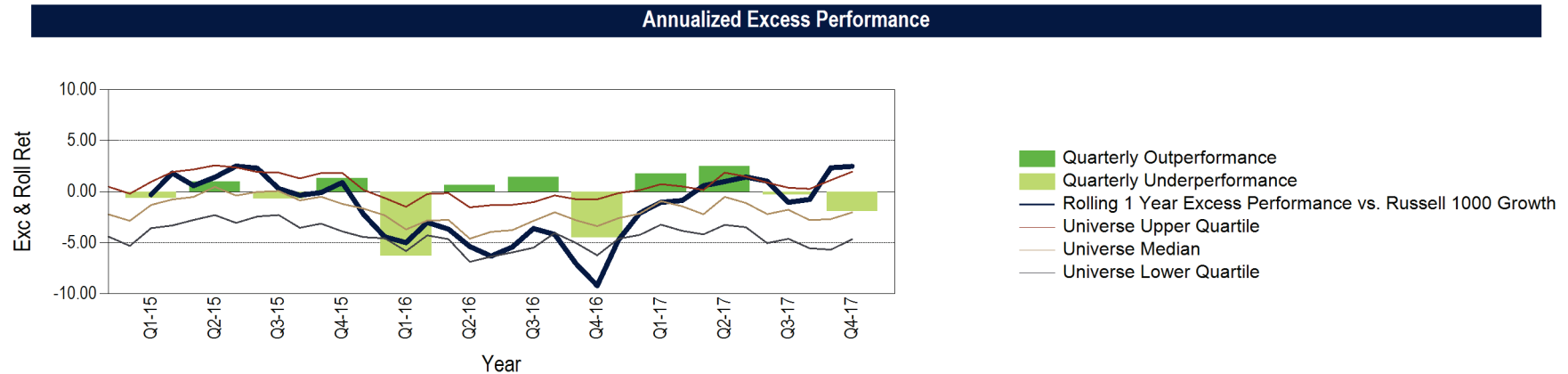
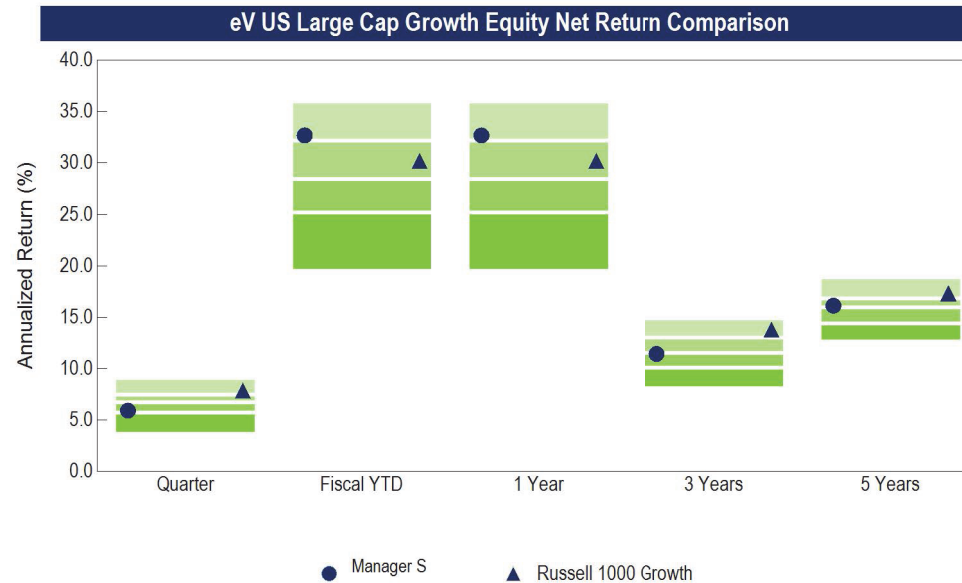


# Sample ABC Client Manager R



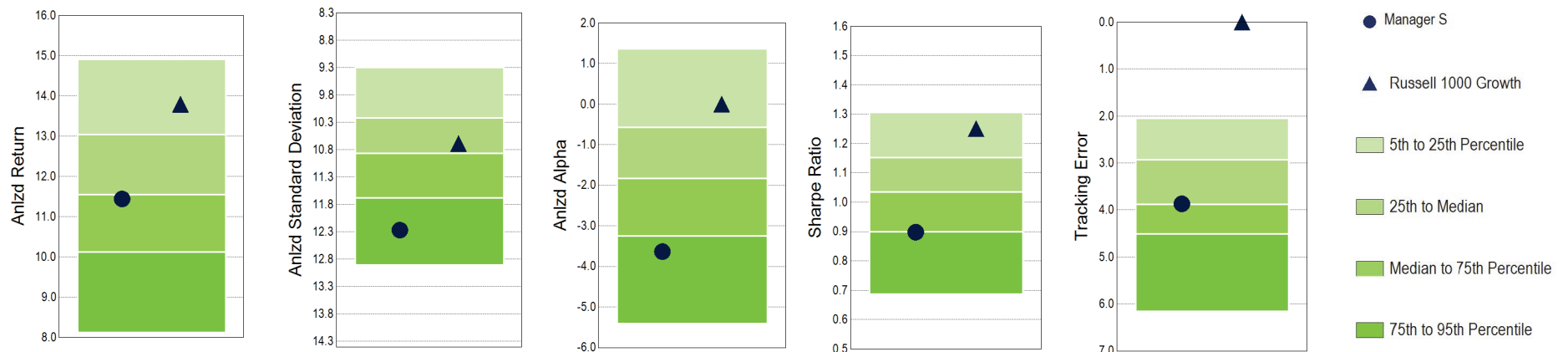
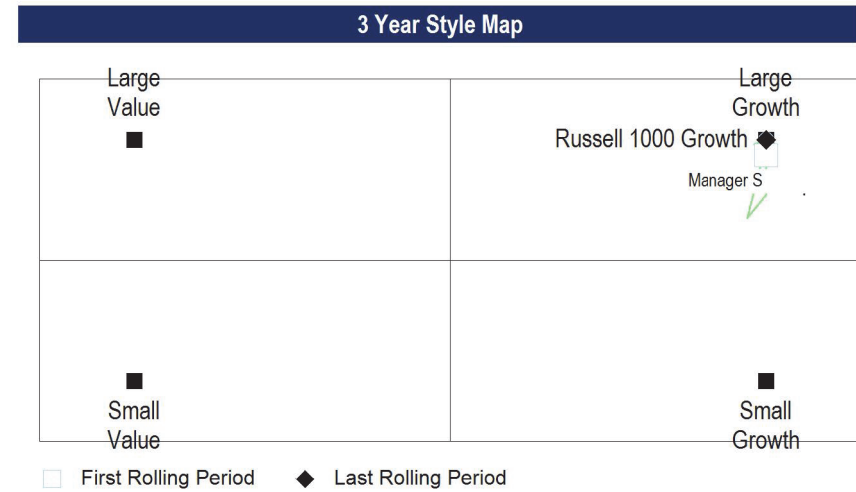
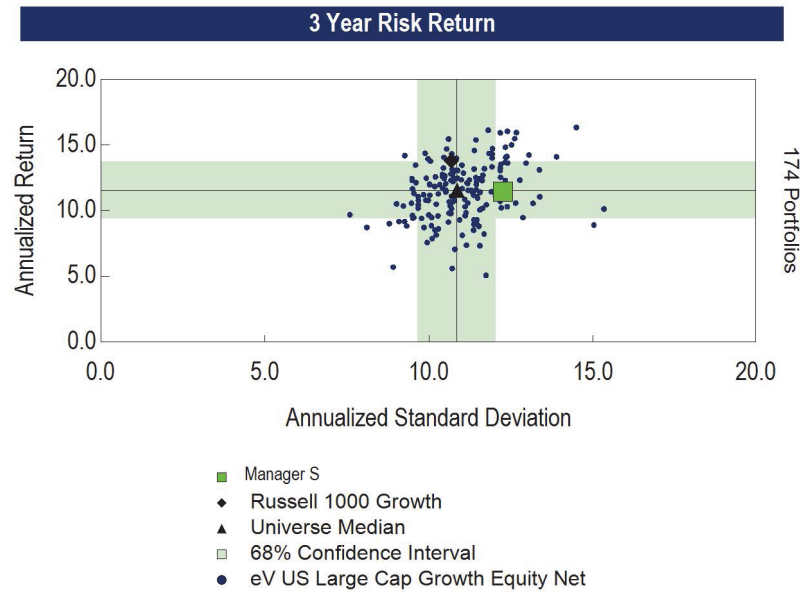
# Sample ABC Client

## Manager S



# Sample ABC Client

## Manager S





# Sample ABC Client Manager S

Characteristics		
	Portfolio	Russell 1000 Growth
Number of Holdings	57	551
Weighted Avg. Market Cap. (\$B)	198.6	204.5
Median Market Cap. (\$B)	67.4	11.7
Price To Earnings	32.6	28.8
Price To Book	9.9	7.7
Price To Sales	5.6	4.7
Return on Equity (%)	28.3	27.7
Yield (%)	0.8	1.3
Beta	1.1	1.0
R-Squared	0.9	1.0

Top Positive Contributors		
	Relative Contribution %	Return %
SPLUNK	0.5%	24.7%
AMAZON.COM	0.3%	21.6%
SALESFORCE.COM	0.3%	9.4%
VISA 'A'	0.2%	8.5%
UNITEDHEALTH GROUP	0.2%	12.9%
ZOETIS	0.2%	13.2%
SHERWIN-WILLIAMS	0.2%	14.8%
HILTON WORLDWIDE HDG.	0.2%	15.2%
UNION PACIFIC	0.2%	16.3%
SERVICENOW	0.1%	10.9%

Top Negative Contributors		
	Relative Contribution %	Return %
CELGENE	-0.5%	-28.4%
APPLE	-0.4%	10.2%
EXPEDIA	-0.3%	-16.6%
BOSTON SCIENTIFIC	-0.2%	-15.0%
BOEING	-0.2%	16.6%
MICROSOFT	-0.2%	15.4%
CTRIIP.COM INTL.ADR 8:1	-0.2%	-16.4%
CHARTER COMMS.CLA	-0.1%	-7.6%
ELECTRONIC ARTS	-0.1%	-11.0%
COMCAST 'A'	-0.1%	4.5%

	Equity Sector Attribution										
	Attribution Effects					Returns		Sector Weights			
	Total Effects	Selection Effect	Allocation Effect		Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark		
Energy	0.0%	--	0.0%		--	--	6.3%	0.0%	0.9%		
Materials	0.1%	0.2%	0.0%		0.0%	9.9%	5.6%	2.7%	3.8%		
Industrials	-0.4%	-0.4%	-0.1%		0.1%	7.1%	10.1%	9.4%	12.5%		
Consumer Discretionary	-0.9%	-0.9%	0.0%		0.0%	5.8%	10.6%	18.3%	17.8%		
Consumer Staples	-0.1%	--	-0.1%		--	--	9.5%	0.0%	6.8%		
Health Care	-0.5%	-0.2%	-0.3%		-0.1%	-0.5%	0.8%	18.0%	13.6%		
Financials	0.0%	0.0%	0.0%		0.0%	7.0%	6.8%	3.5%	3.4%		
Information Technology	-0.2%	-0.2%	0.1%		-0.1%	8.0%	8.7%	46.0%	37.6%		
Telecommunication Services	0.0%	--	0.0%		--	--	7.7%	0.0%	1.0%		
Utilities	0.0%	--	0.0%		--	--	11.4%	0.0%	0.0%		
Real Estate	0.0%	0.0%	0.0%		0.0%	4.9%	5.6%	1.9%	2.6%		
Cash	0.0%	--	--		--	--	--	0.0%	0.0%		
Portfolio	-1.9%	=	-1.5%	+	-0.4%	+	-0.1%	5.9%	7.9%	100.0%	100.0%

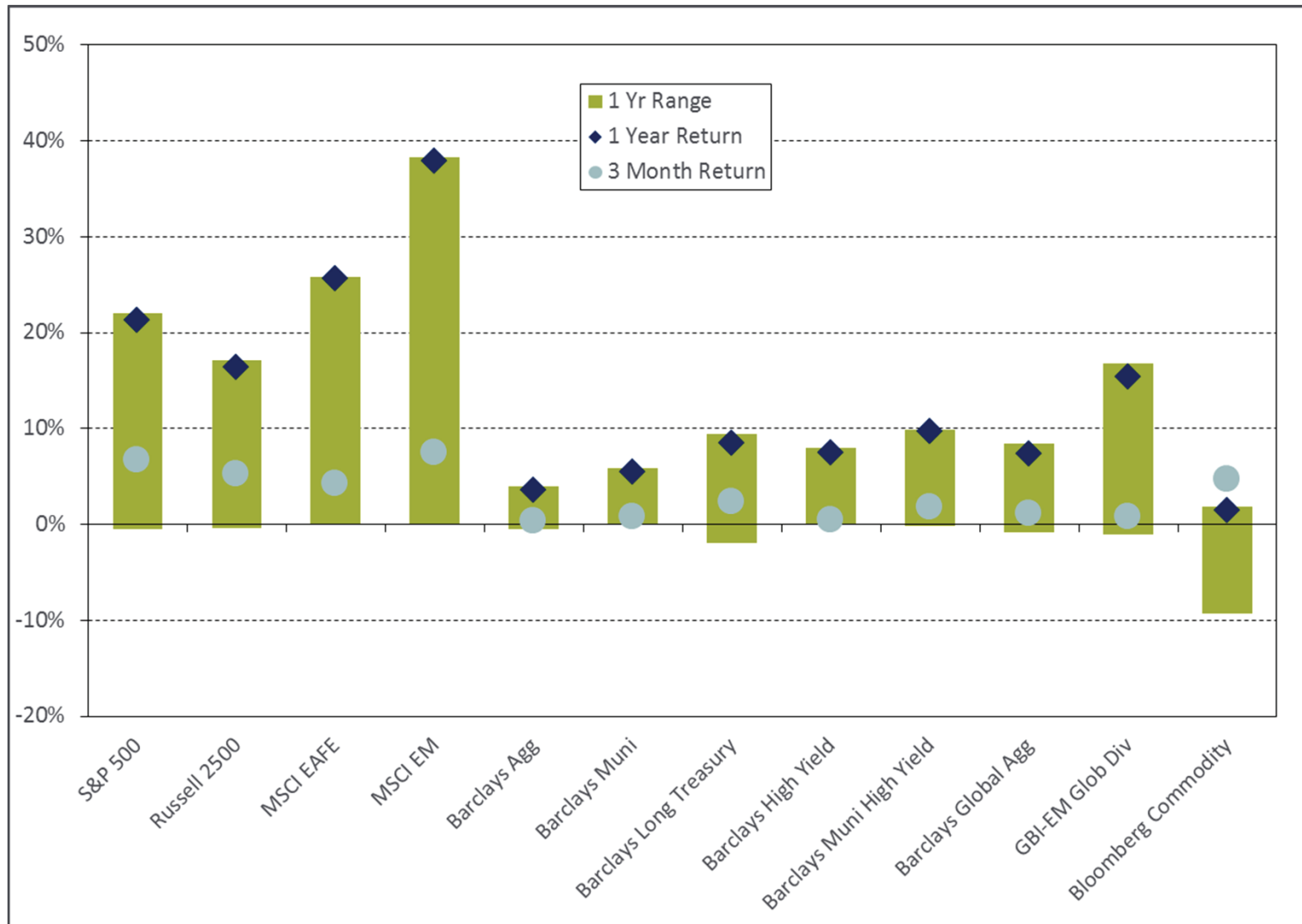


# APPENDIX

NEPC, LLC

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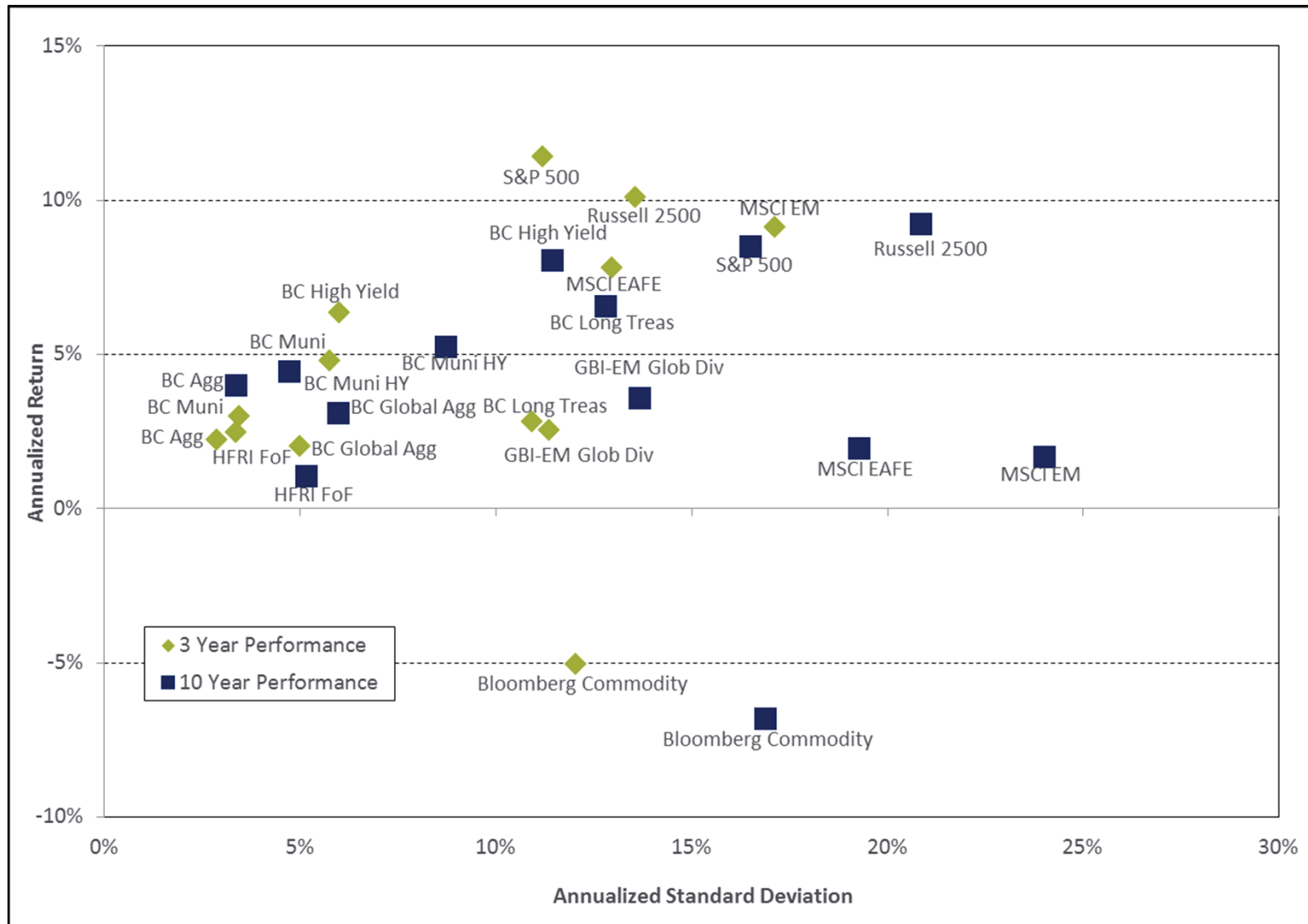
## NEAR TERM BROAD MARKET PERFORMANCE SUMMARY AS OF 12/31/2017



Source: Bloomberg, Standard and Poors, Russell, MSCI, Barclays, JP Morgan  
 \*1 Yr Range: Represents range of cumulative high/low daily index returns for an investment made one year ago



# LONG TERM BROAD MARKET PERFORMANCE SUMMARY AS OF 12/31/2017

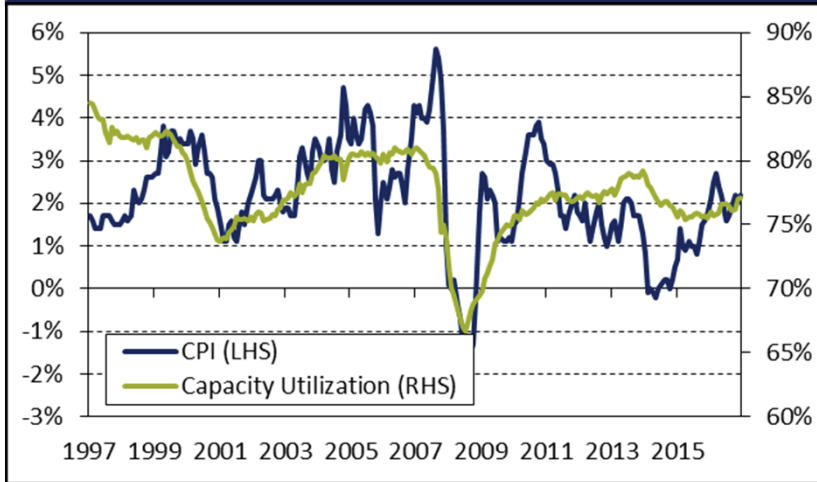


Source: Bloomberg, Standard and Poors, Russell, MSCI, Barclays, JP Morgan



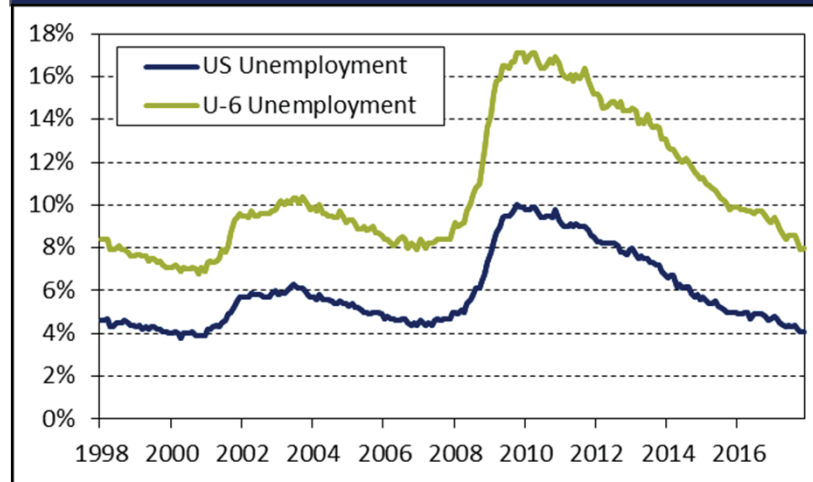
# US ECONOMIC INDICATORS

## Inflation continues to hover around 2%



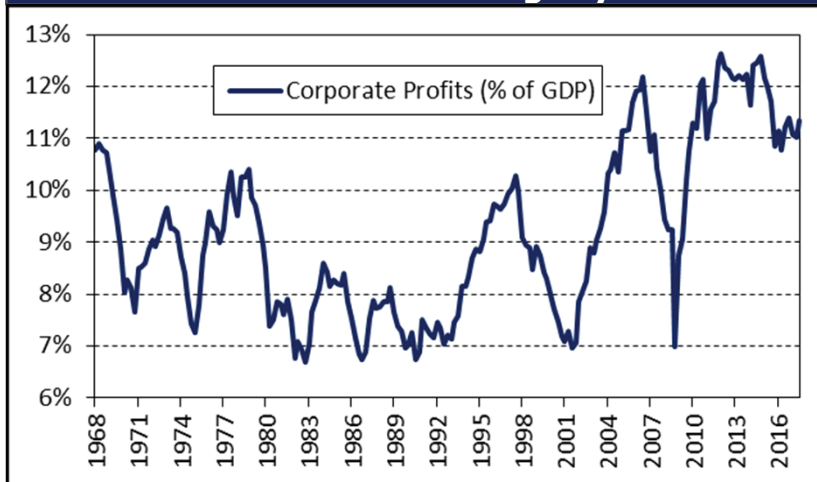
Source: Bloomberg, Federal Reserve, Bureau of Labor Statistics

## Unemployment remains near historic lows



Source: Bloomberg, Bureau of Labor Statistics

## Corporate profits as a % of GDP have increased slightly



Source: Bloomberg, Bureau of Economic Analysis

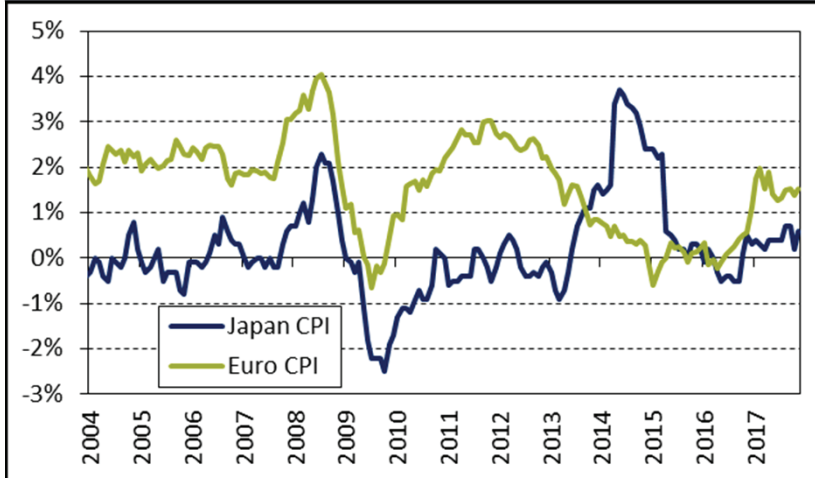
## Manufacturing has retreated slightly, though remains elevated



Source: Bloomberg, Institute for Supply Management

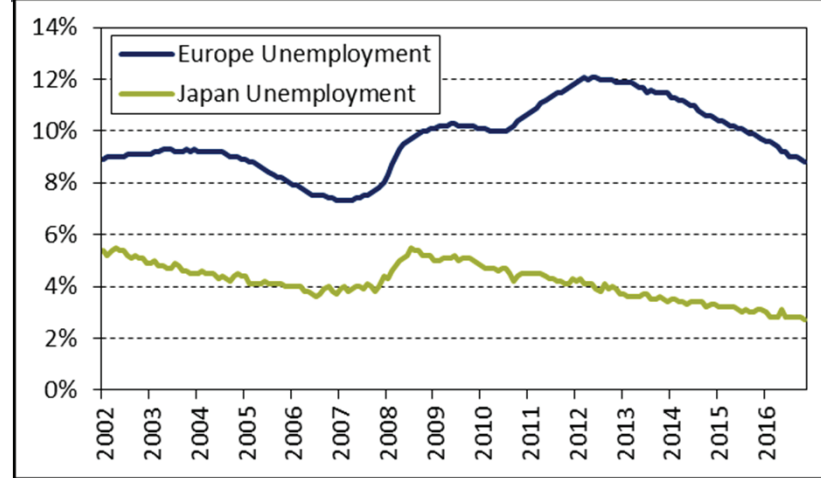
# INTERNATIONAL ECONOMIC INDICATORS

## Euro and Japan inflation have increased slightly



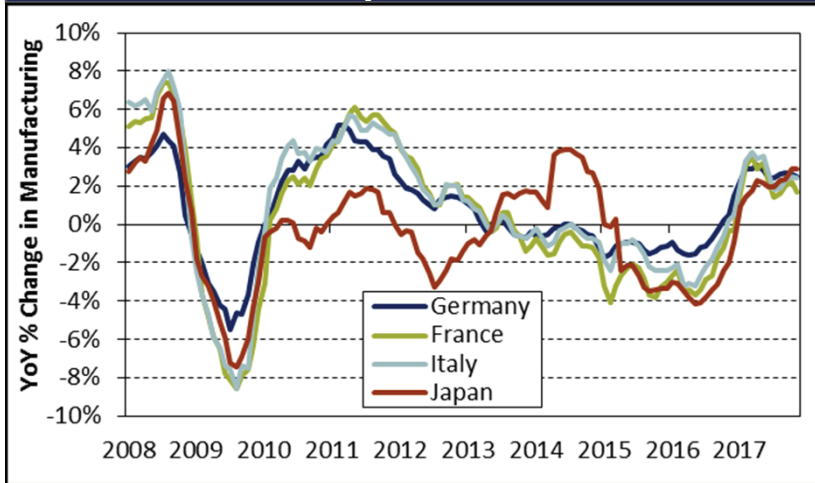
Source: Bloomberg, Japan Ministry of Internal Affairs and Communications, Eurostat

## Unemployment numbers continue to grind lower in Europe and Japan



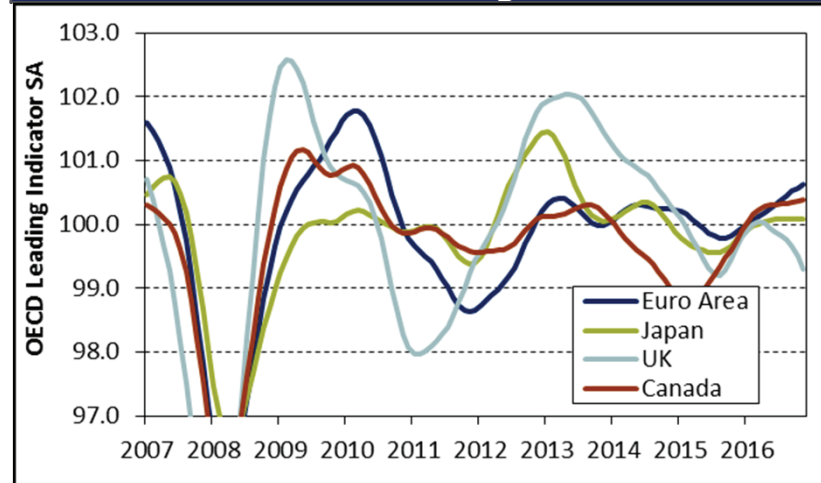
Source: Bloomberg, Japan Ministry of Internal Affairs and Communications, Eurostat

## Manufacturing has slowed slightly in European countries



Source: Bloomberg, OECD, Eurostat

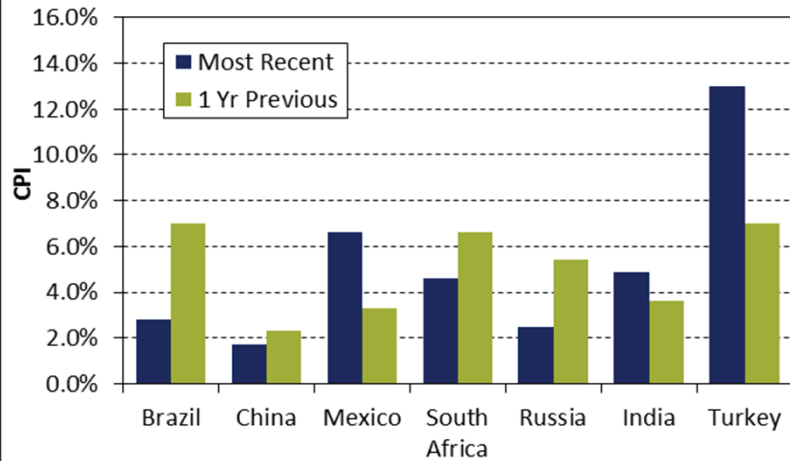
## Ex-UK, Euro-area leading indicators remain strong



Source: Bloomberg, OECD

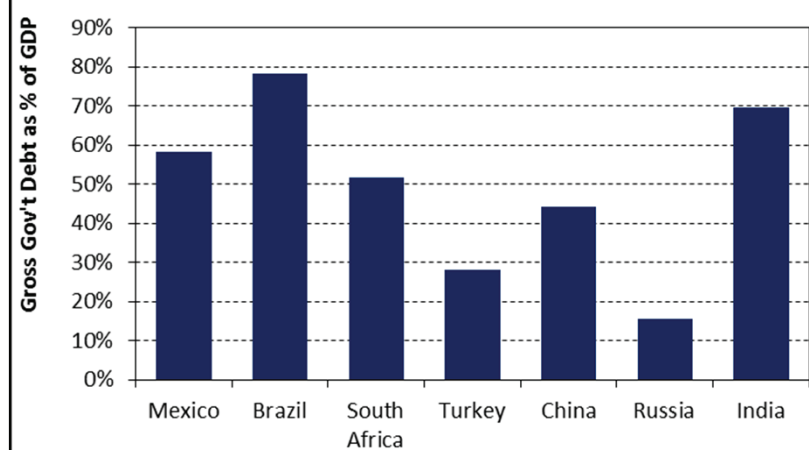
# EMERGING MARKET ECONOMIC INDICATORS

**EM inflation varies by country**



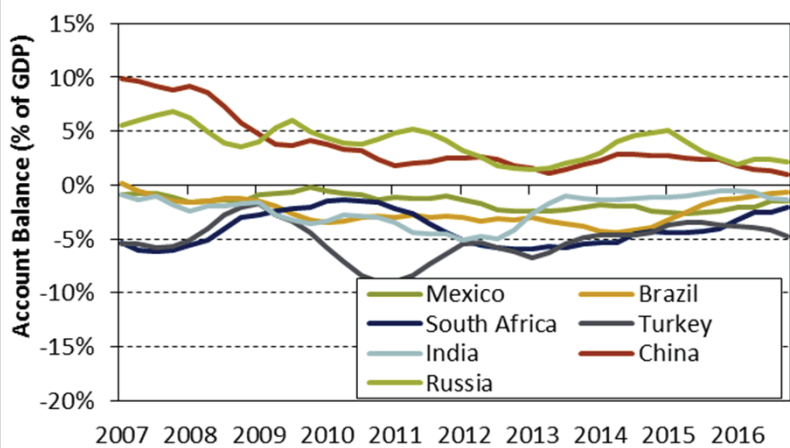
Source: Bloomberg

**Relatively healthy debt/GDP ratios**



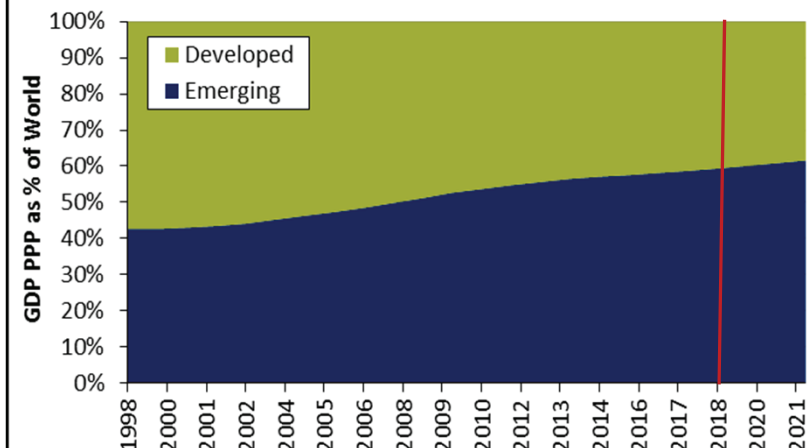
Source: Bloomberg, IMF

**Account balances remain steady**



Source: Bloomberg

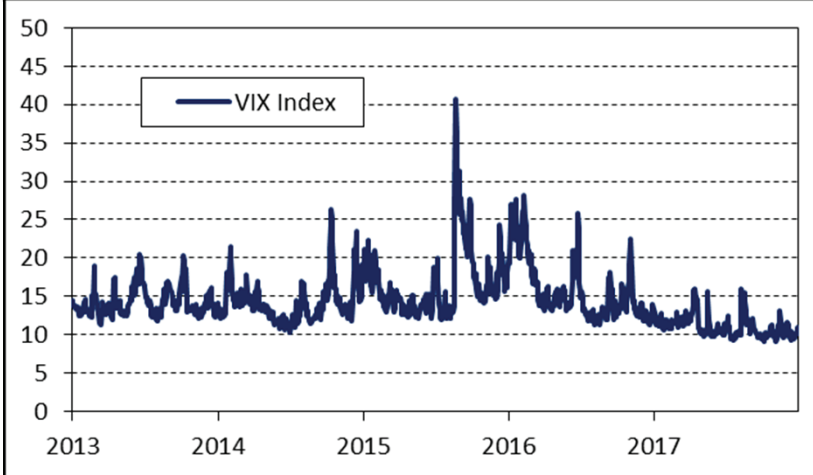
**EM continues trending higher as a percent of global output**



Source: Bloomberg, IMF

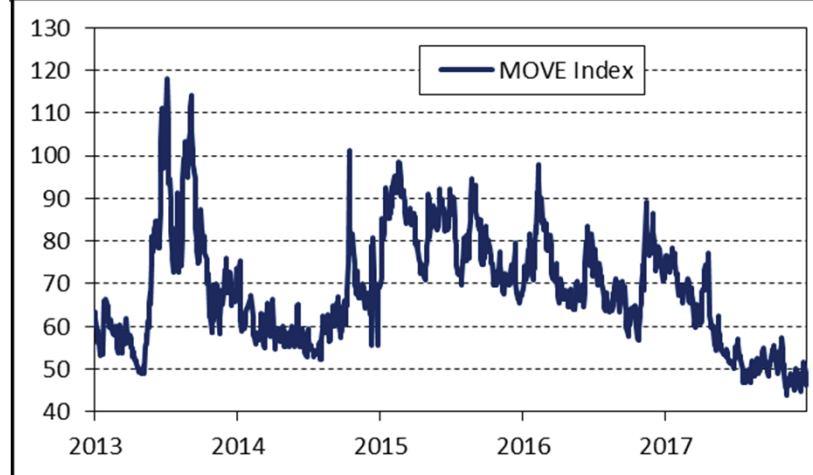
# VOLATILITY

## Equity volatility remains near historic lows



Source: Bloomberg, CBOE

## Treasury volatility continues to decline



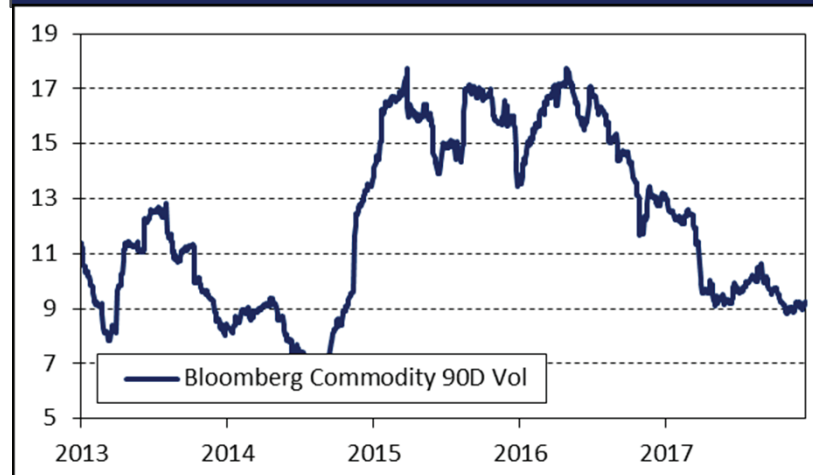
Source: Bloomberg, Merrill Lynch

## Currency volatility remains low



Source: Bloomberg, Deutsche Bank

## Commodity volatility is trending downward

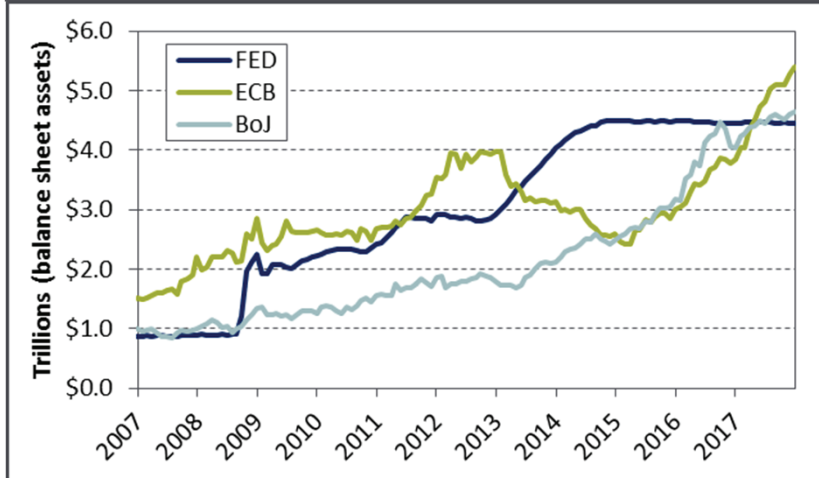


Source: Bloomberg, Merrill Lynch



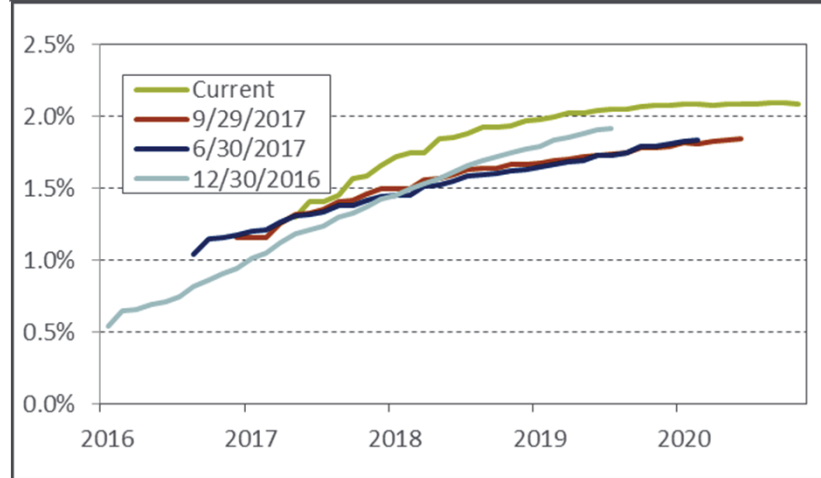
# CENTRAL BANKS

## Euro strength continues to impact total balance sheet assets



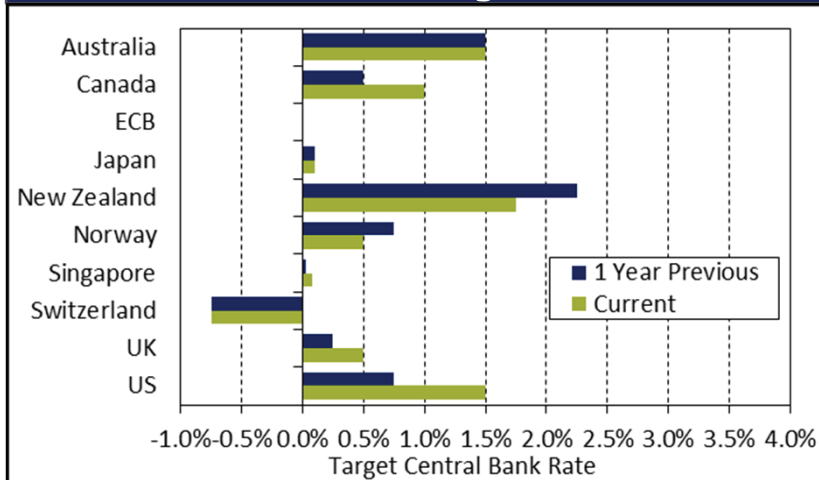
Source: Bloomberg, Federal Reserve, Bank of Japan, ECB, NEPC

## The yield curve has shifted upward with a December Fed hike



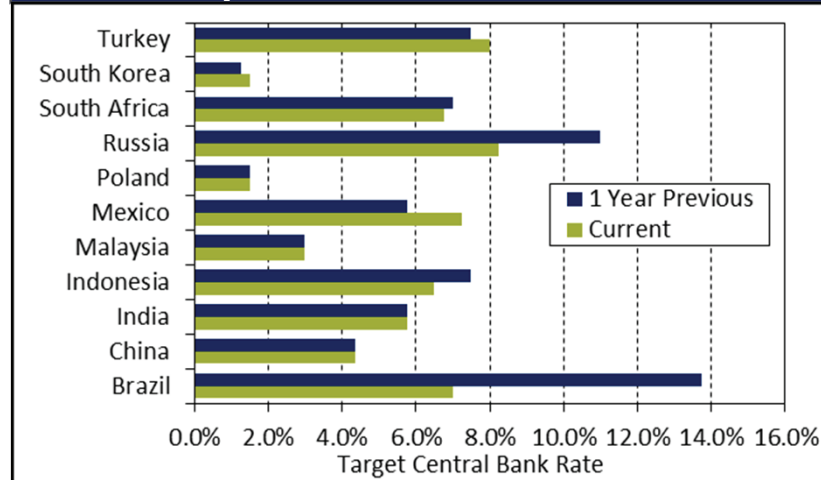
Source: Bloomberg, Federal Reserve

## Developed markets have broadly started increasing rates



Source: Bloomberg

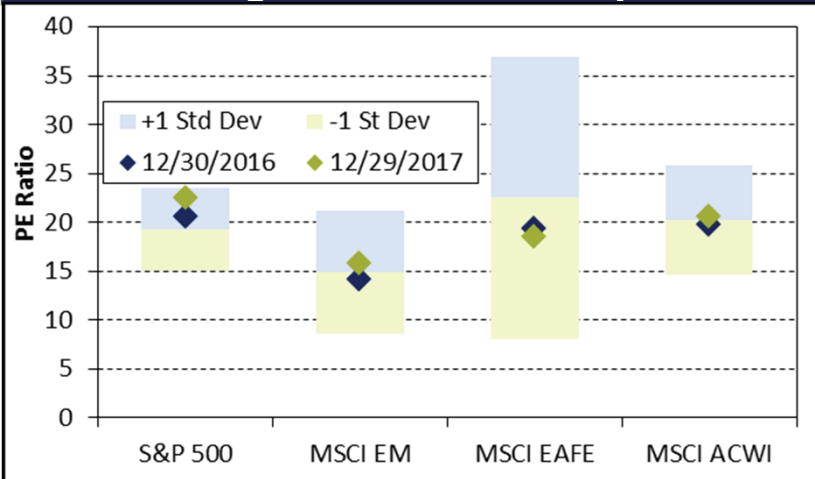
## EM central bank policies vary by country-specific economic conditions



Source: Bloomberg

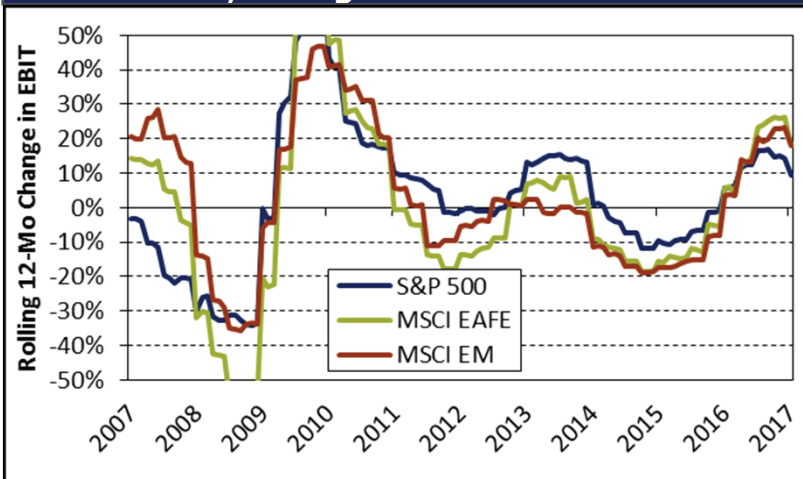
# GLOBAL EQUITY

## Ex-EAFE, global equity valuations are higher relative to last year



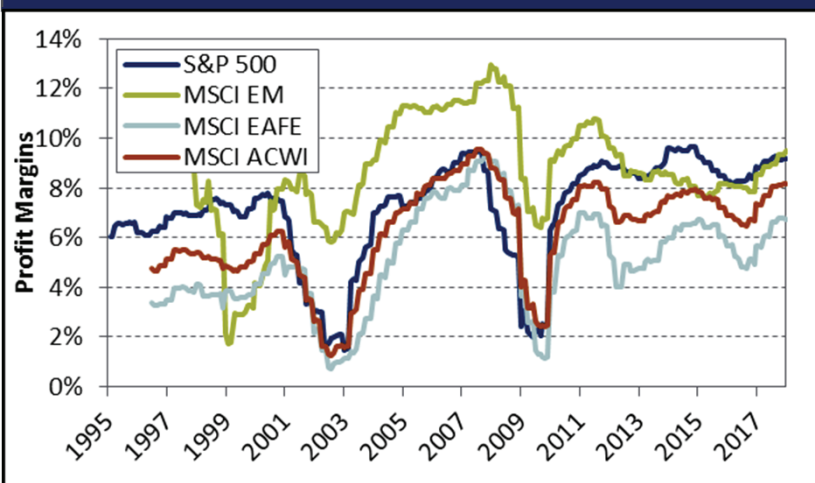
Source: Bloomberg, Standard and Poors, MSCI \*MSCI EAFE is ex UK Telecom  
\*Standard deviation calculations on 20 years of data except S&P 500 (30 years)

## Rolling annual earnings growth is trending lower, though still remains elevated



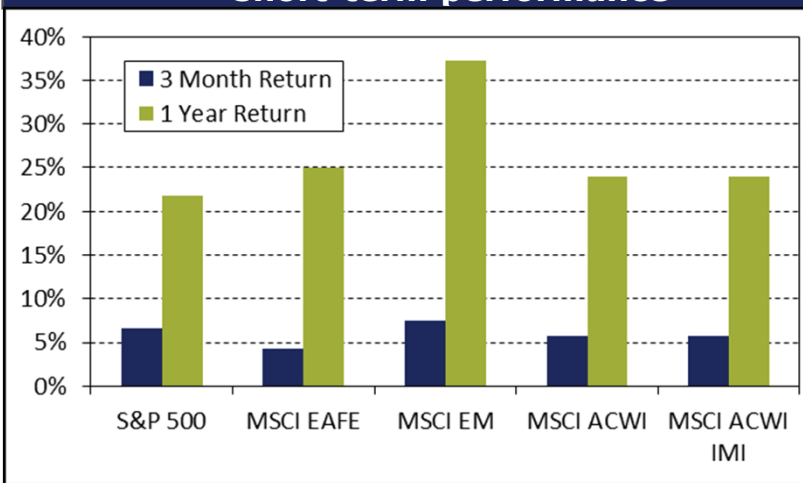
Source: Bloomberg, Standard and Poors, MSCI

## Profit margins continue to increase



Source: Bloomberg, MSCI

## Equities continue to experience strong short-term performance

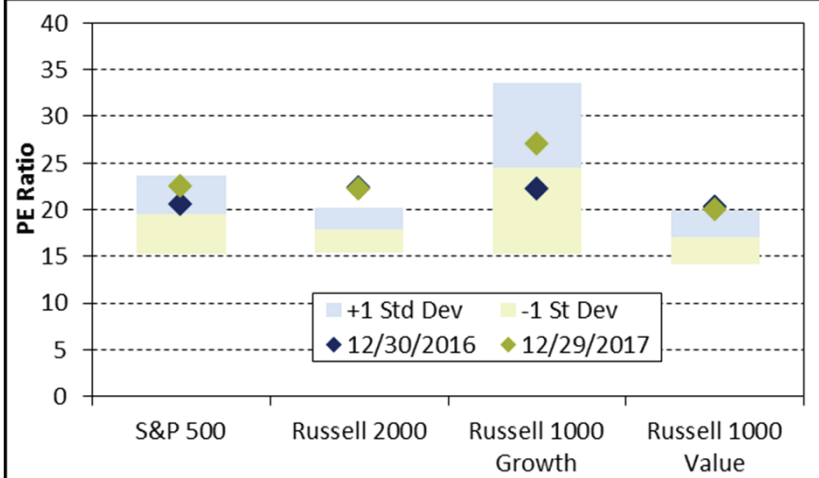


Source: Bloomberg, MSCI



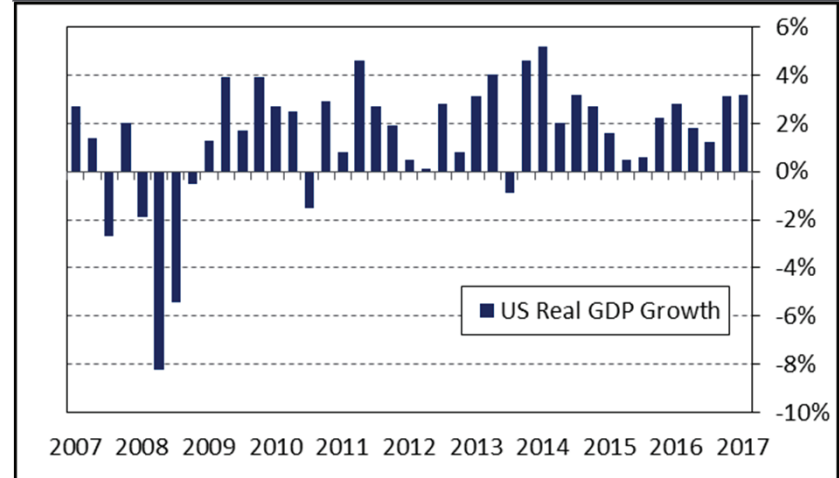
# US EQUITY

## The S&P 500 PE remains elevated relative to history



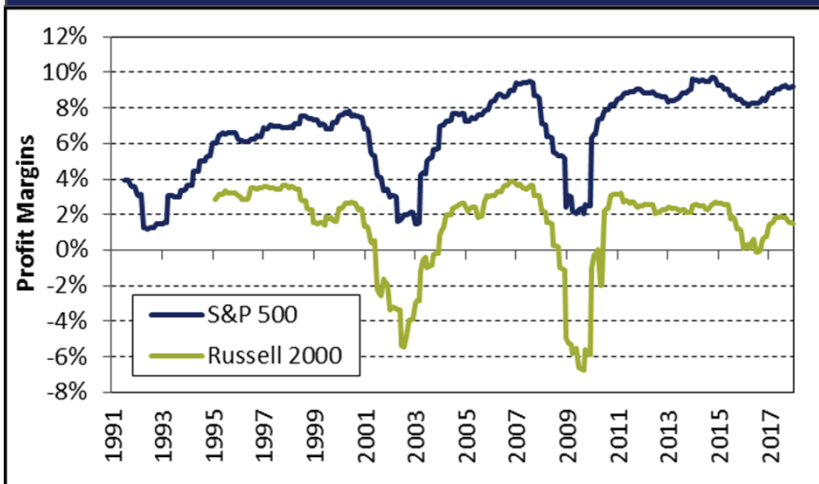
Source: Bloomberg, Standard and Poors, Russell \*Russell 2000 PE is index adjusted positive\*  
Standard deviation calculations based on 20 years of data

## The Q3 real GDP growth revision to 3.3% marked a three-year high



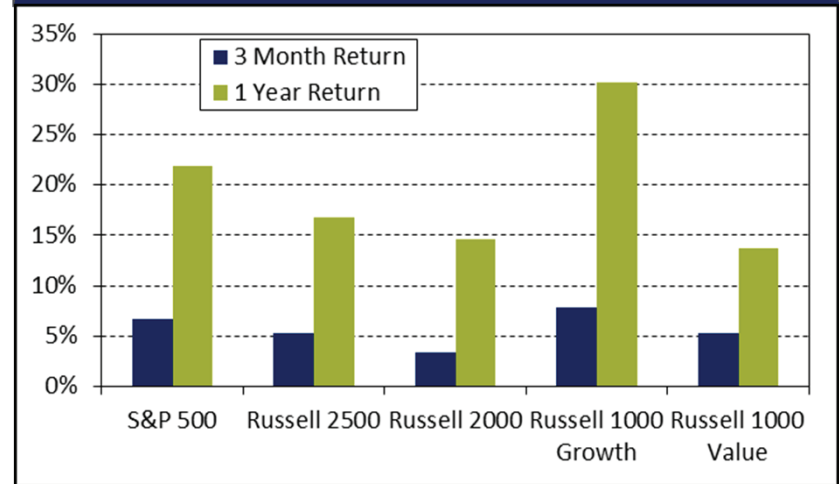
Source: Bloomberg, Bureau of Economic Analysis

## Russell 2000 margins have begun trending lower



Source: Bloomberg, Standard and Poors, Russell

## US equities continue to post positive returns

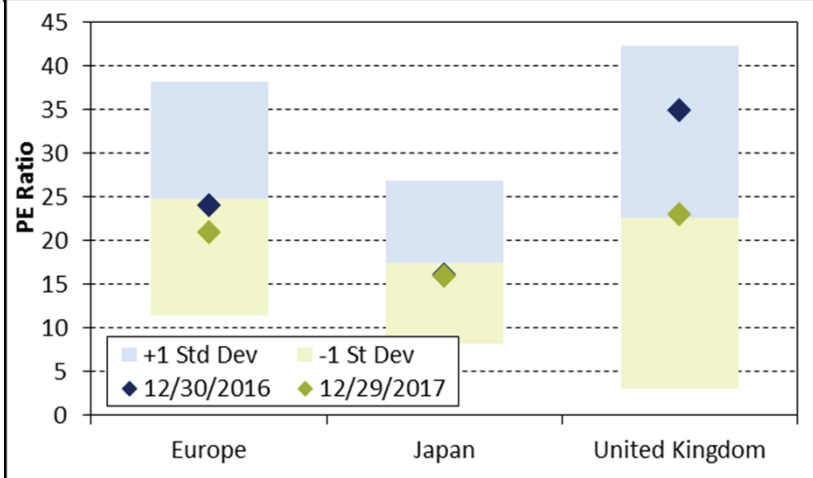


Source: Bloomberg, Standard and Poors, Russell



# INTERNATIONAL EQUITY

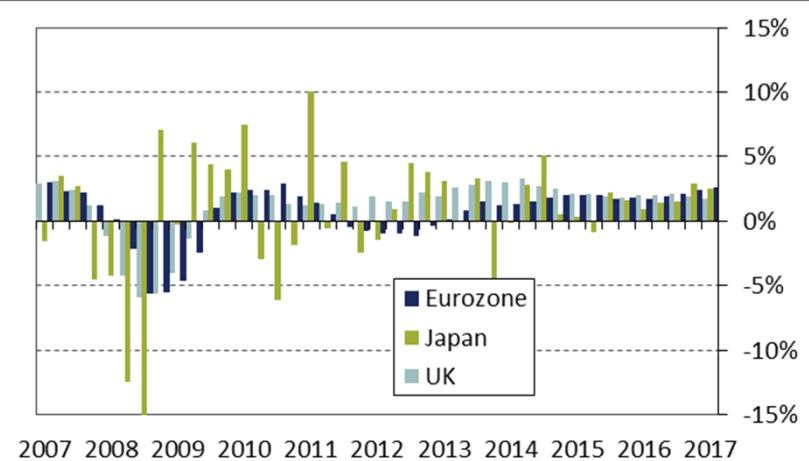
## International equity PEs remain below the previous year



Source: Bloomberg, MSCI, FTSE \*UK represented by FTSE 100 Index

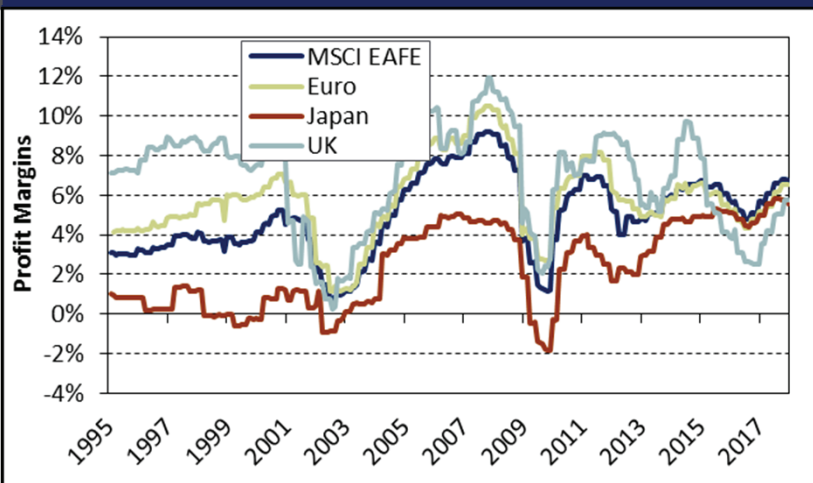
\*Standard deviation calculations based on 20 years of data, with Europe since 12/1998

## UK GDP growth continues to decline



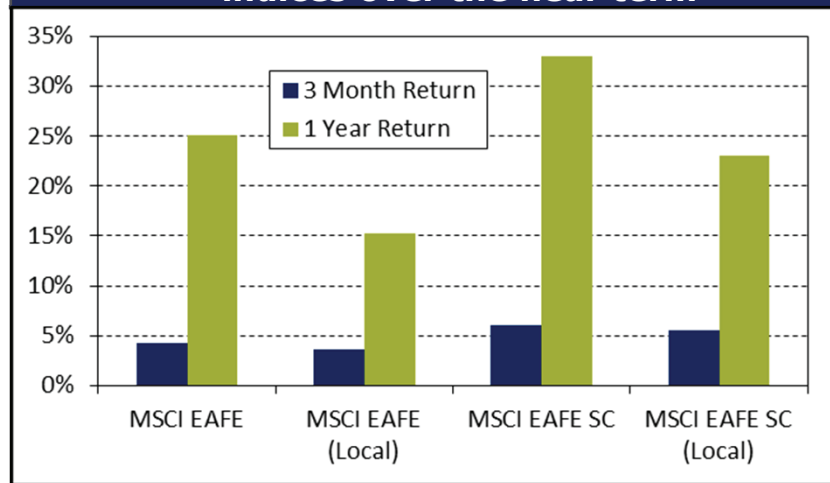
Source: Bloomberg

## Profit margins continue trending higher



Source: Bloomberg, MSCI

## Small cap slightly outperformed broad indices over the near term

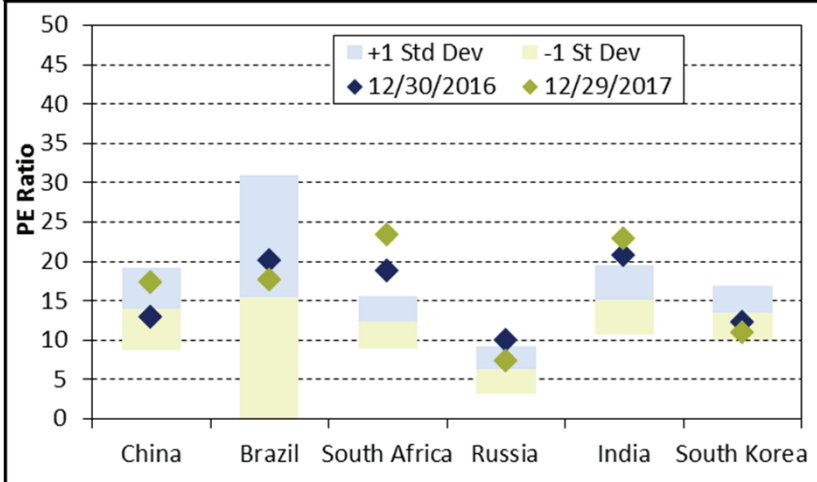


Source: Bloomberg, MSCI



# EMERGING MARKETS EQUITY

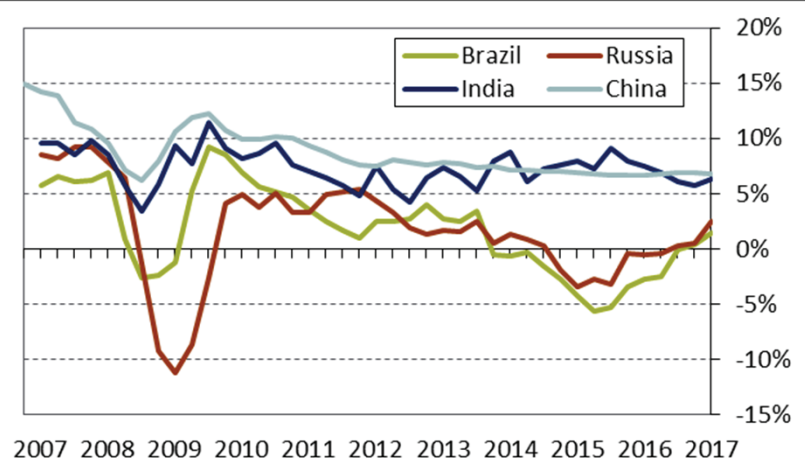
## EM country valuations vary significantly relative to last year



Source: Bloomberg, MSCI

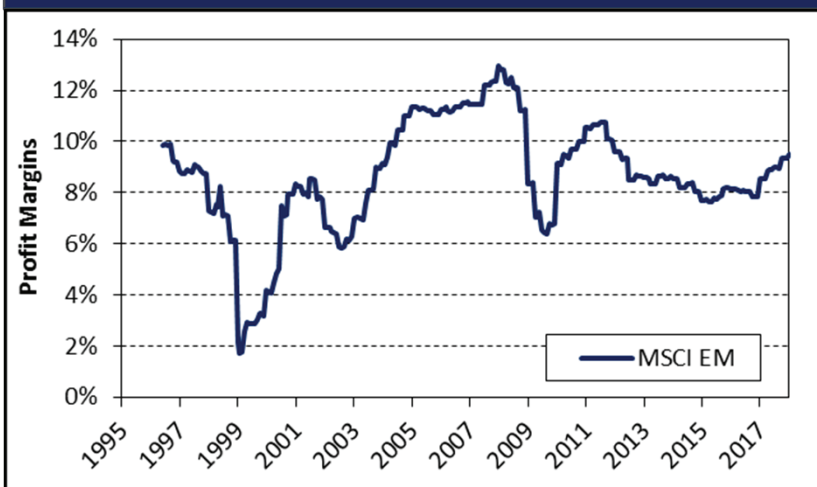
\*Standard deviation calculations based on 20 years of data, with Russia since 01/1998

## Ex-China, EM profit margins continue to rebound off earnings contractions



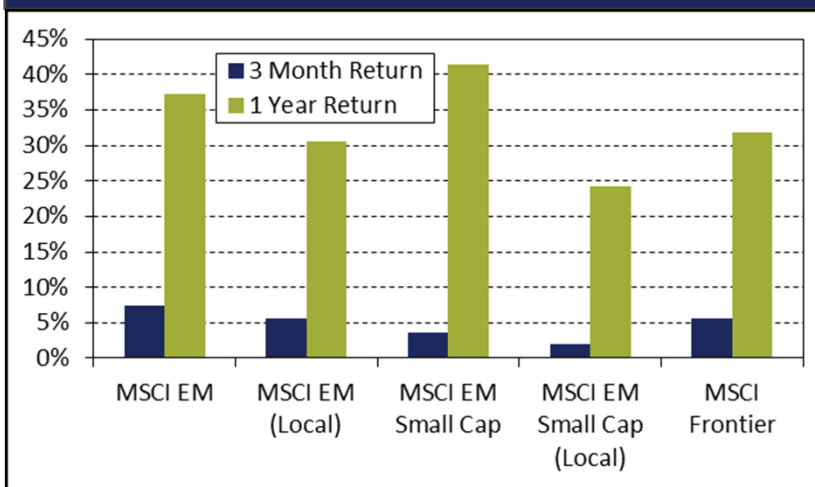
Source: Bloomberg

## Profit margins remain elevated



Source: Bloomberg, MSCI

## EM returns show continued strength

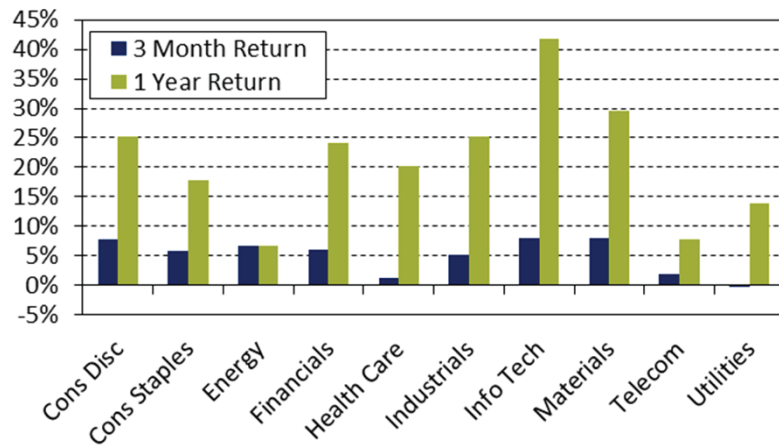


Source: Bloomberg, MSCI



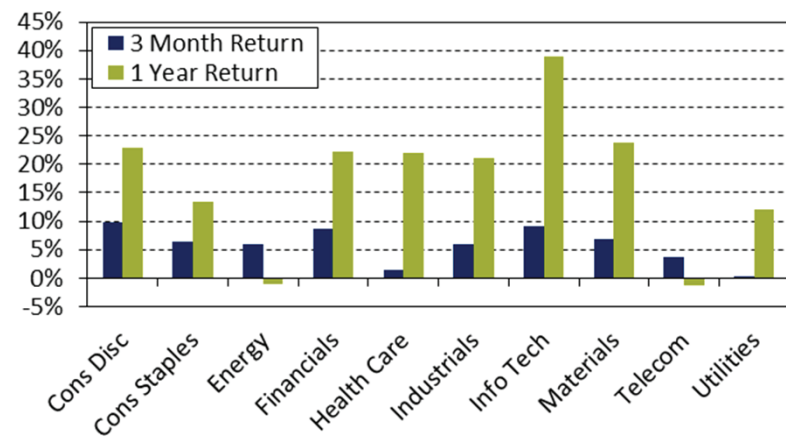
# GLOBAL EQUITY BY SECTOR

## Info Tech and Consumer Discretionary lead MSCI ACWI short-term returns



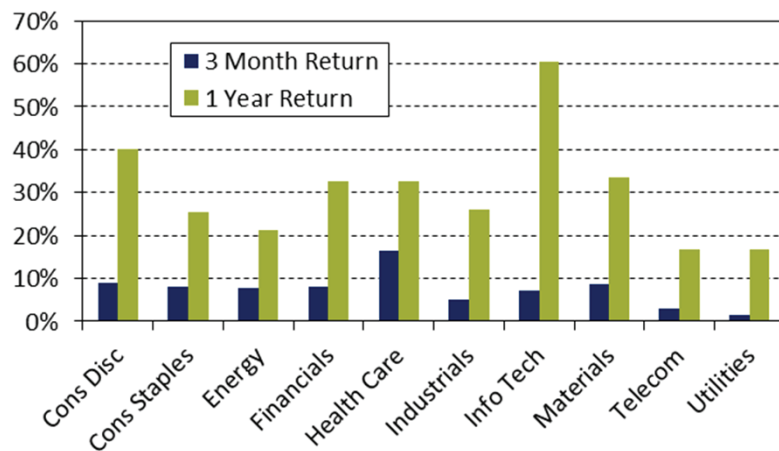
Source: Bloomberg, MSCI

## The S&P 500 experienced positive performance across all sectors



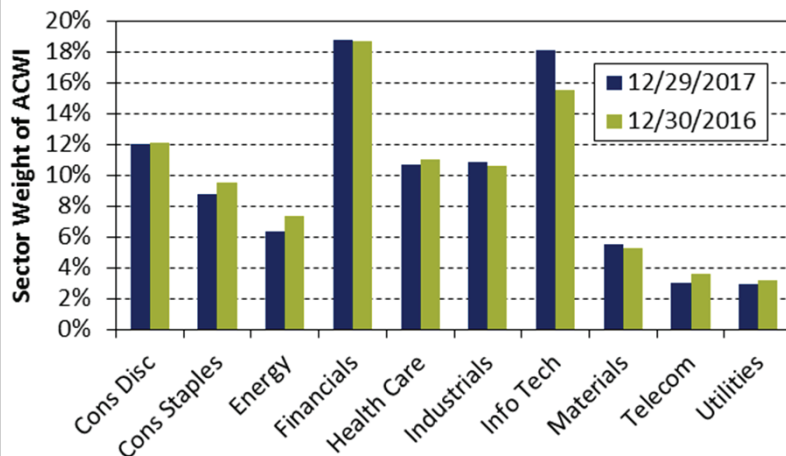
Source: Bloomberg, Standard and Poors

## EM short-term returns continue to be driven by Health Care



Source: Bloomberg, MSCI

## Info Tech sector weight has increased at the expense of Energy and Telecom

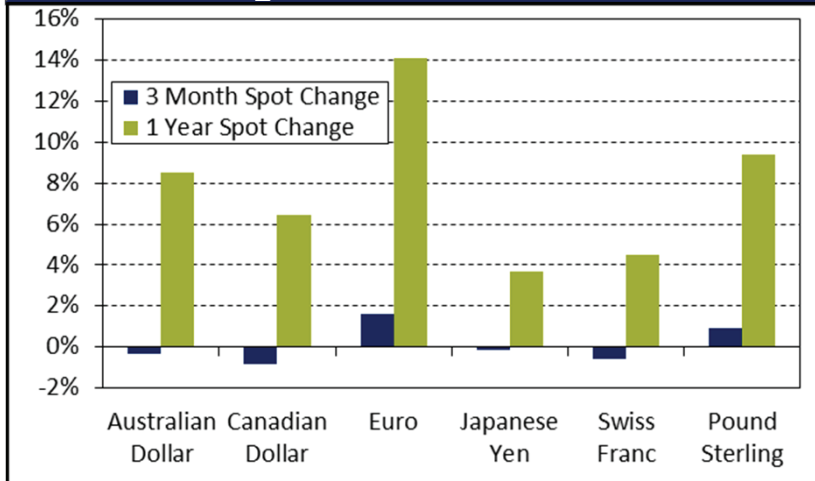


Source: Bloomberg, MSCI



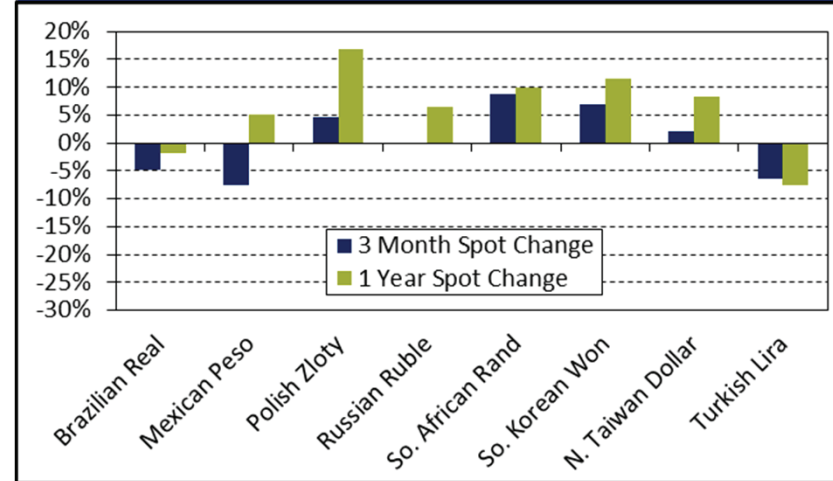
# CURRENCIES

## In the near-term, the Euro and the Pound strengthened relative to the USD



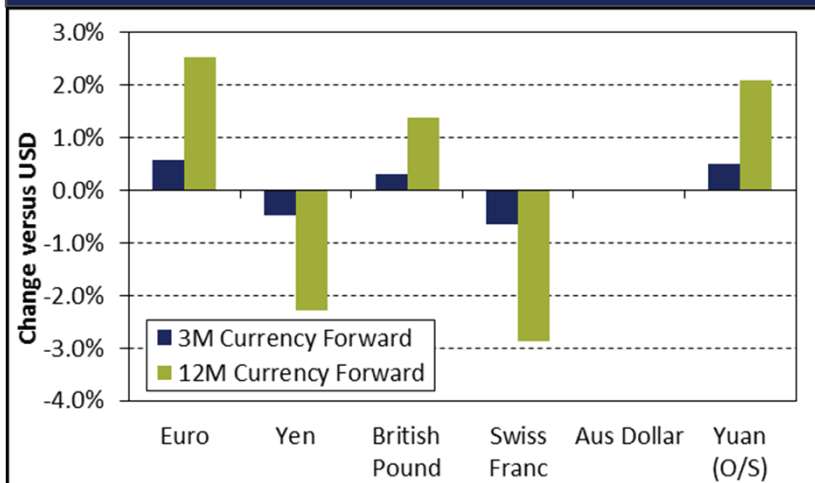
Source: Bloomberg

## EM currencies remain mixed relative to the dollar



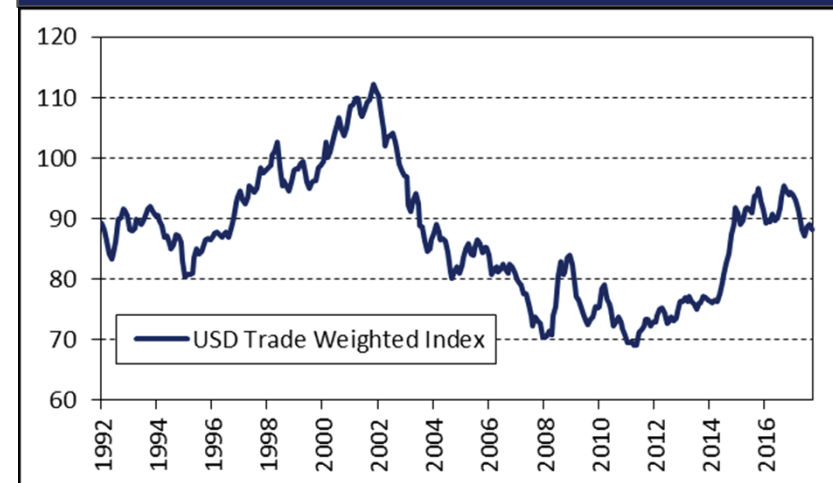
Source: Bloomberg

## USD expectations vary across developed markets



Source: Bloomberg

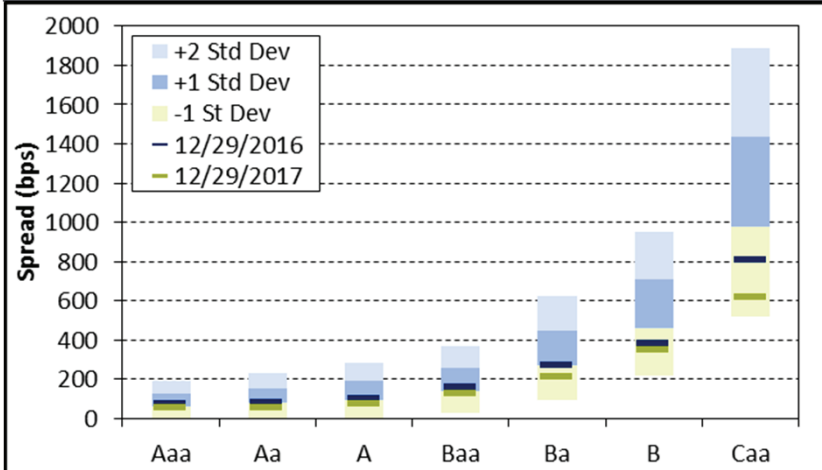
## The dollar continues to decline



Source: Bloomberg, Federal Reserve

# US FIXED INCOME

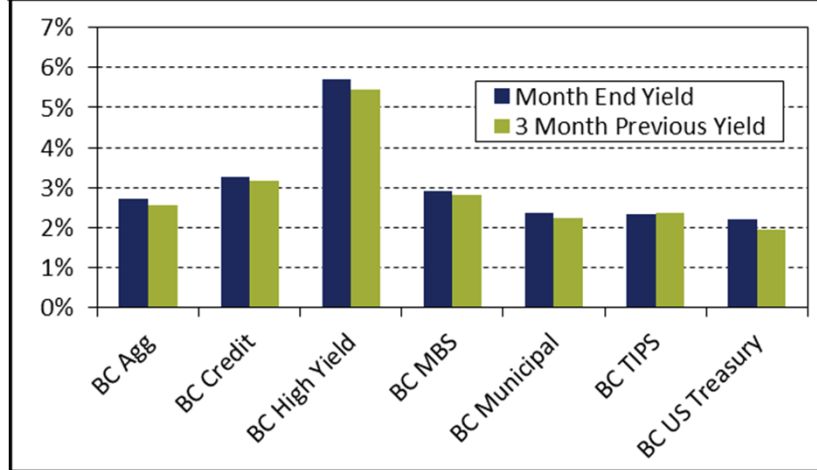
## Spreads remain lower than the previous year



Source: Bloomberg, Barclays

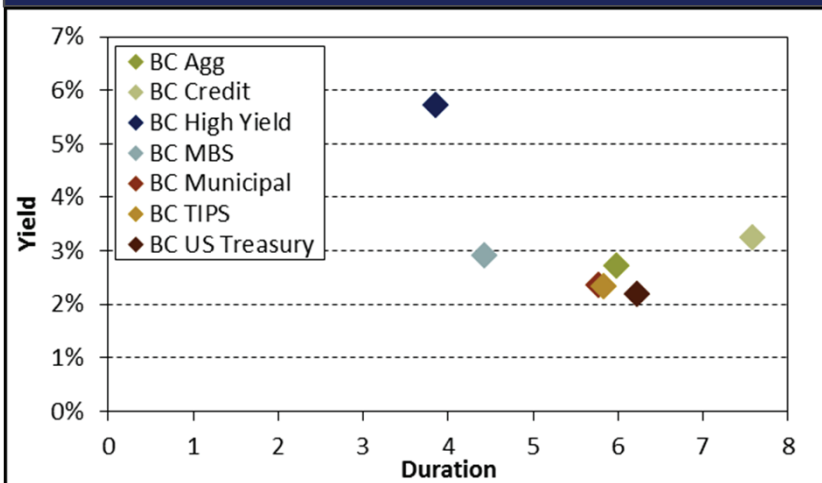
\*Standard deviation calculations based on 20 years of data

## Yields are modestly higher relative to three months ago



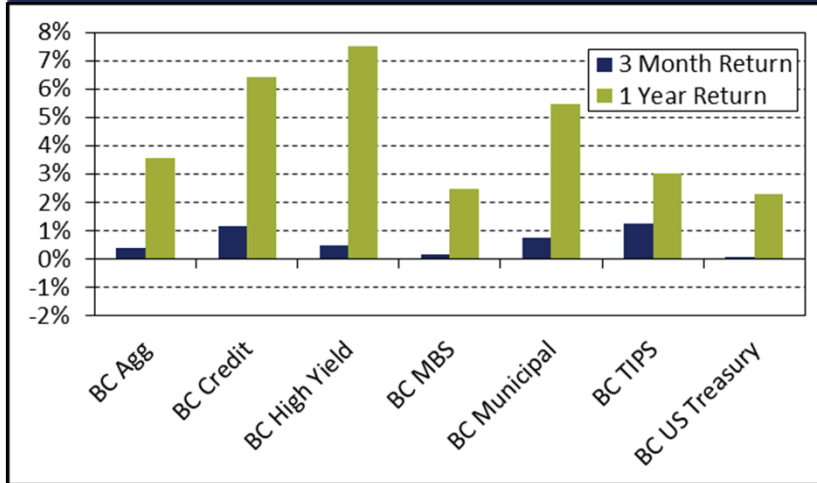
Source: Bloomberg, Barclays

## Similar duration/yield profiles among core indices



Source: Bloomberg, Barclays

## Fixed income indices were slightly positive over the short-term



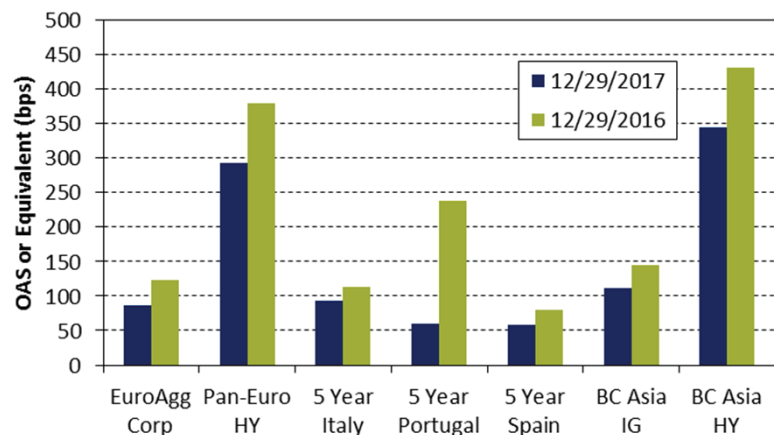
Source: Bloomberg, Barclays





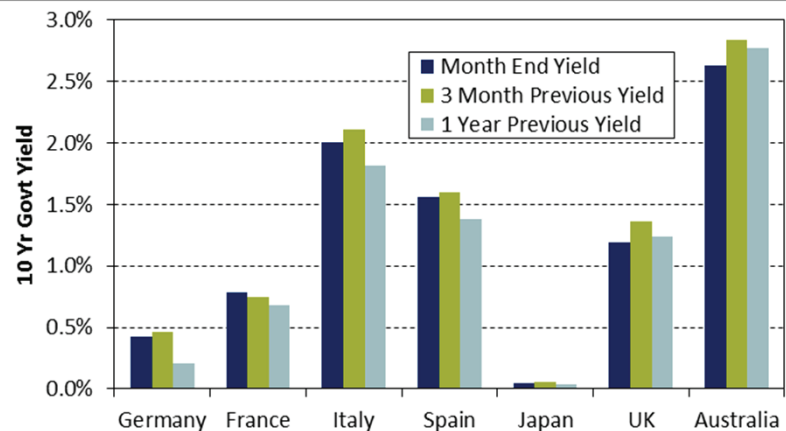
# INTERNATIONAL DEVELOPED FIXED INCOME

## Periphery yields have broadly declined over the year relative to Germany



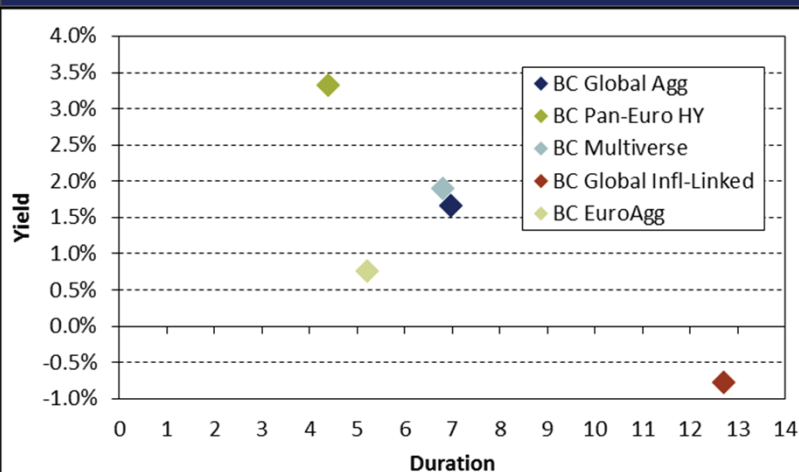
Source: Barclays, Bloomberg, \*European periphery spreads are over equivalent German Bund

## Ex-UK and Australia, yields are higher than the previous year



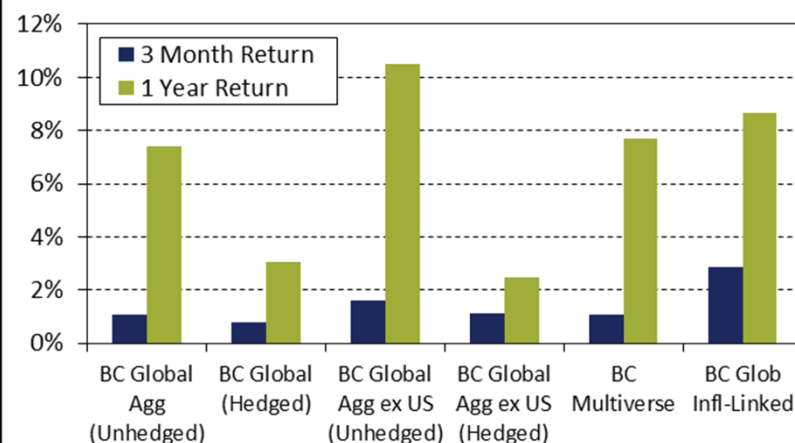
Source: Bloomberg

## Low yields persist in global bond universe



Source: Bloomberg, Citigroup, Barclays

## In the near-term, unhedged global bond indices outperformed hedged

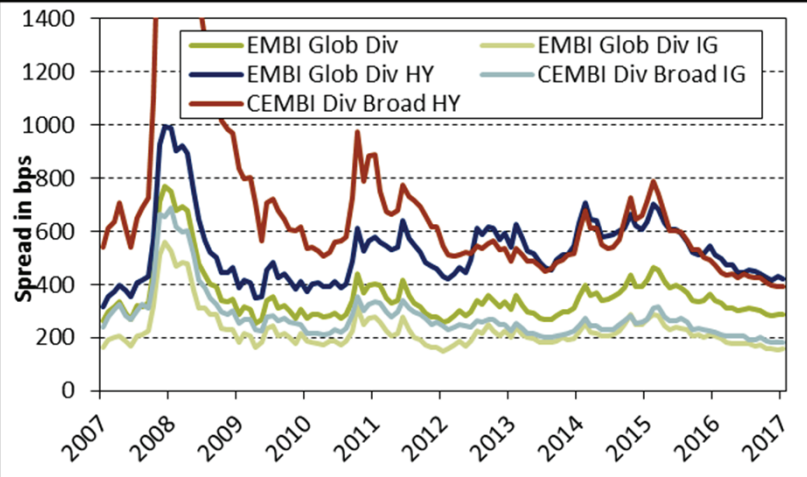


Source: Bloomberg, Citigroup, Barclays



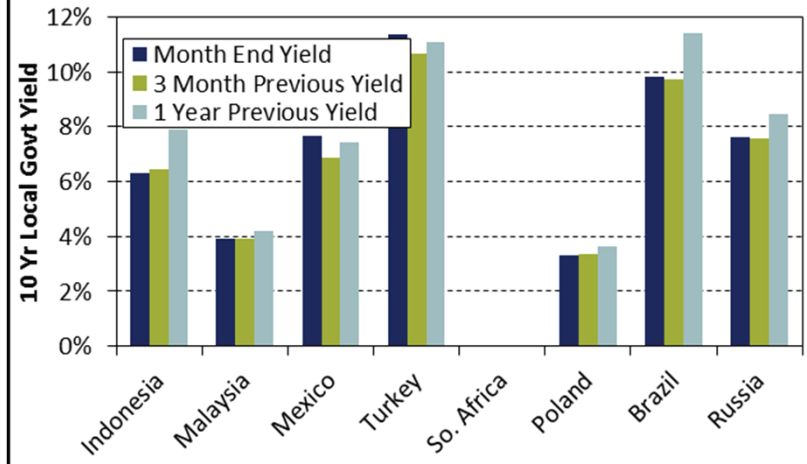
# EMERGING MARKETS FIXED INCOME

## EM spreads continue to compress



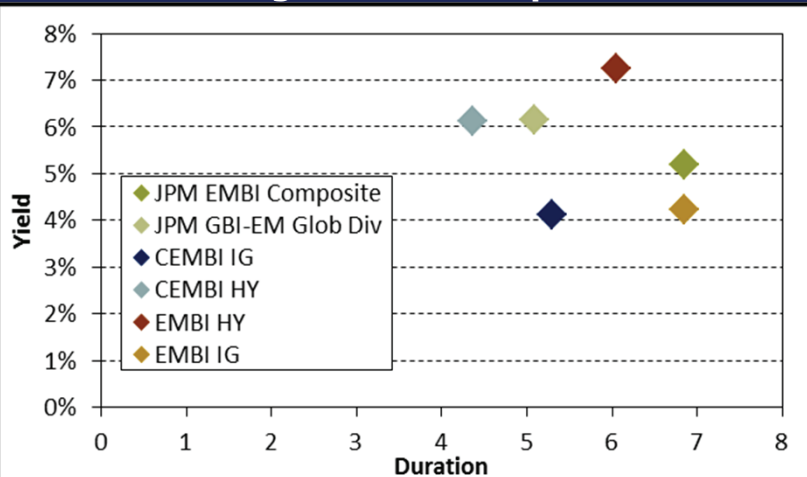
Source: Bloomberg, JP Morgan

## Yields have broadly increased relative to three months prior



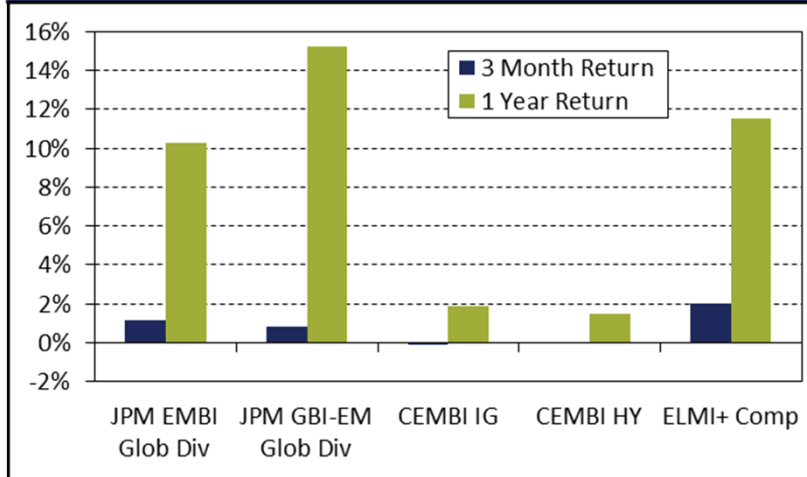
Source: Bloomberg

## EM yields appear attractive relative to global counterparts



Source: Bloomberg, JP Morgan

## EM fixed income returns were slightly positive to flat over the short-term

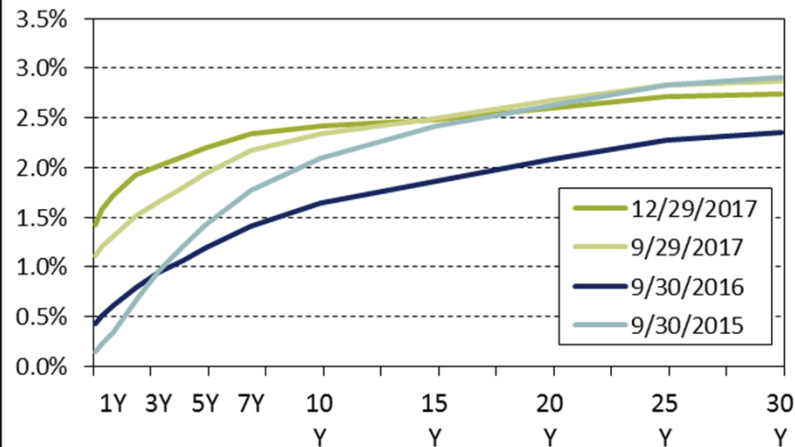


Source: Bloomberg, JP Morgan



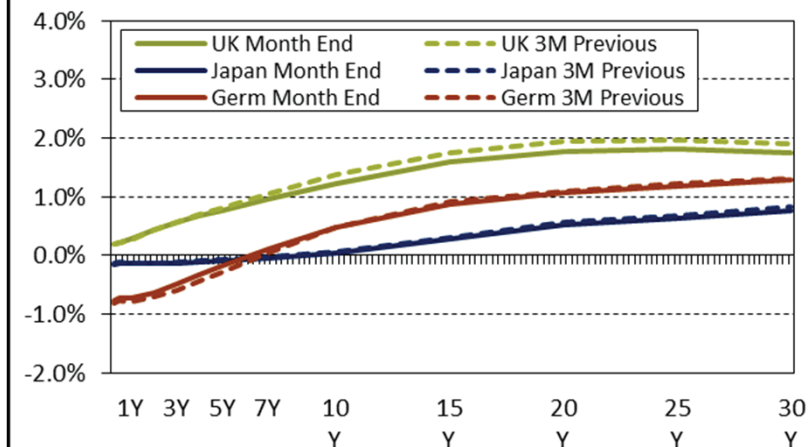
# RATES

**The curve has flattened relative to three months prior**



Source: Bloomberg

**Longer term rate expectations have declined relative to previous months**



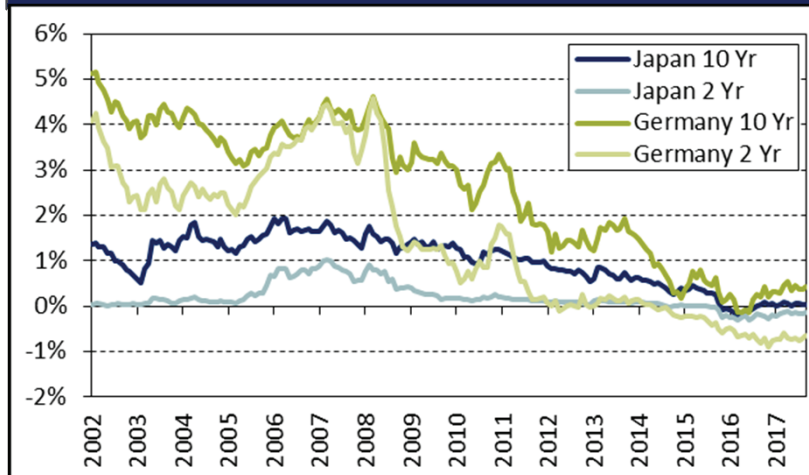
Source: Bloomberg

**10-2 spreads continue to decline**



Source: Bloomberg

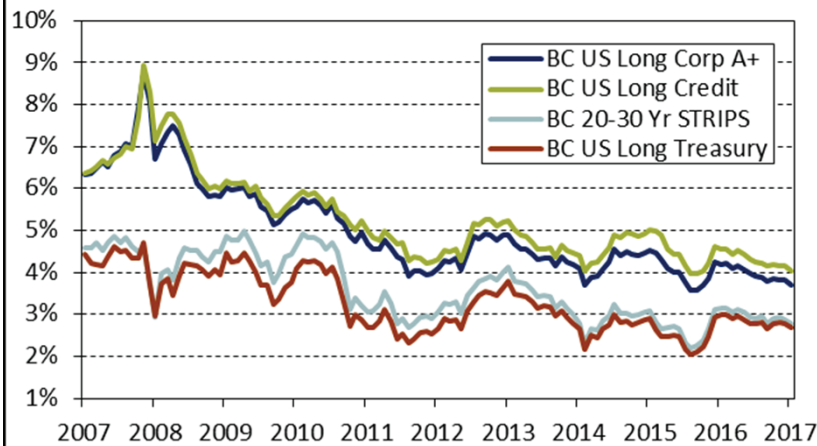
**Sovereign bond yields remain relatively flat**



Source: Bloomberg

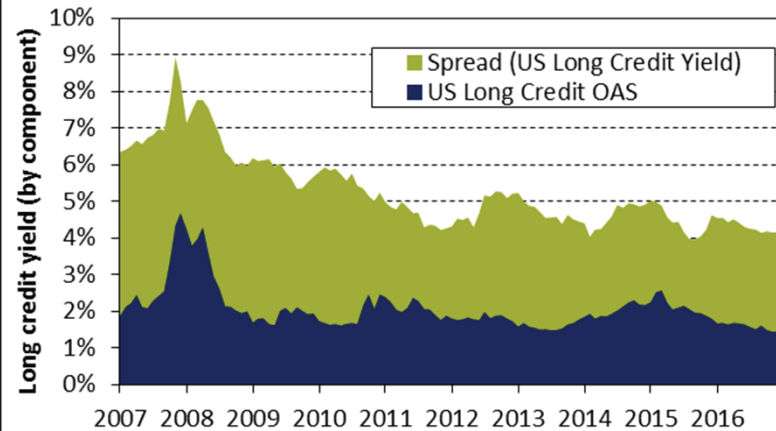
# LONG RATES AND LIABILITY

## Long duration yields continue to grind lower



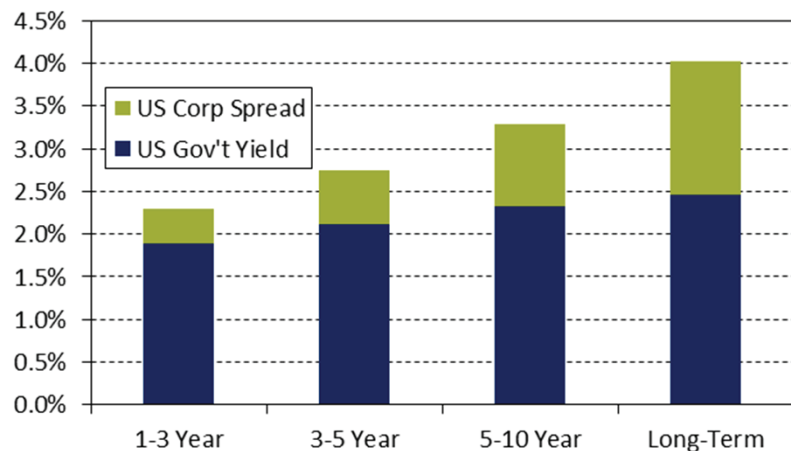
Source: Bloomberg, Citigroup, Barclays

## Long credit yield is in line with the long-term historical average



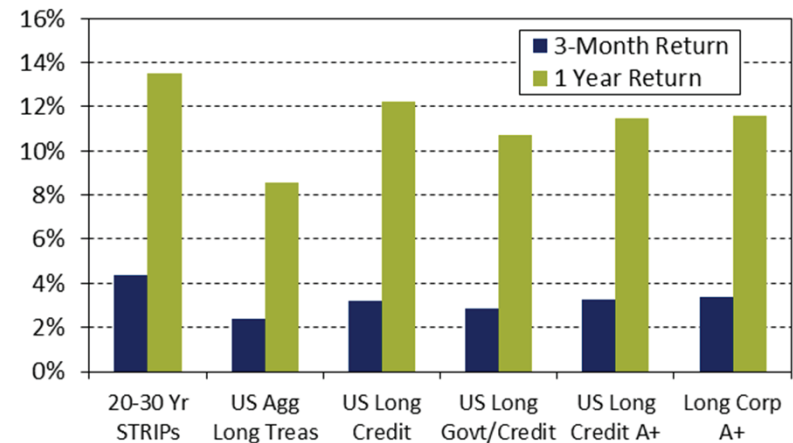
Source: Bloomberg, US Treasury, Barclays, NEPC

## Yield and spread components continue to offer modest returns



Source: Bloomberg, Barclays

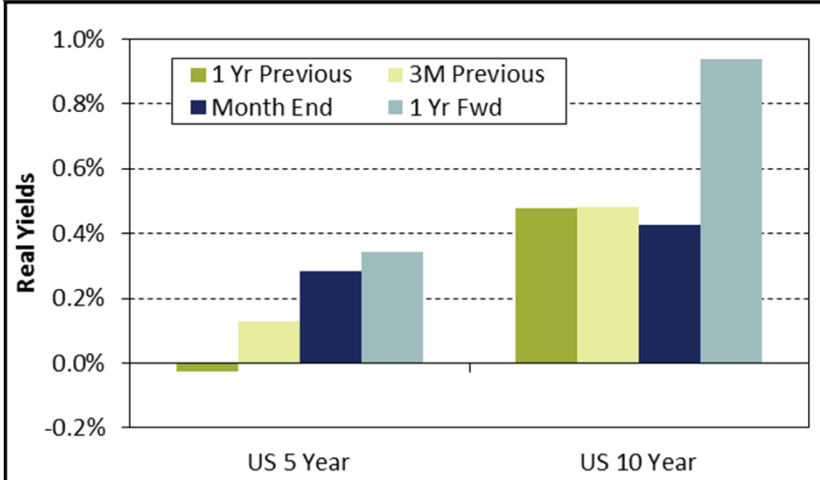
## Long duration fixed income indices continue to experience positive returns



Source: Bloomberg, Barclays

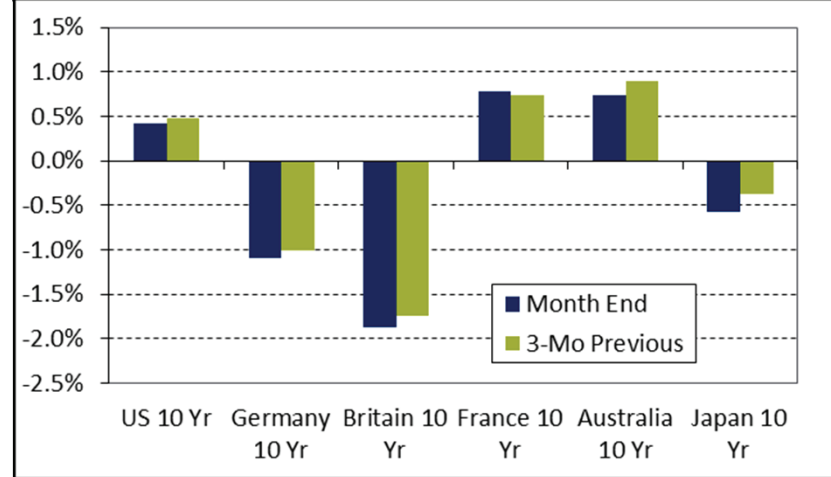
# INFLATION AND REAL RATES

**Changes in 5 and 10 year real yields echo a flatter yield curve**



Source: Bloomberg

**Ex-France, developed market real yields have declined in recent months**



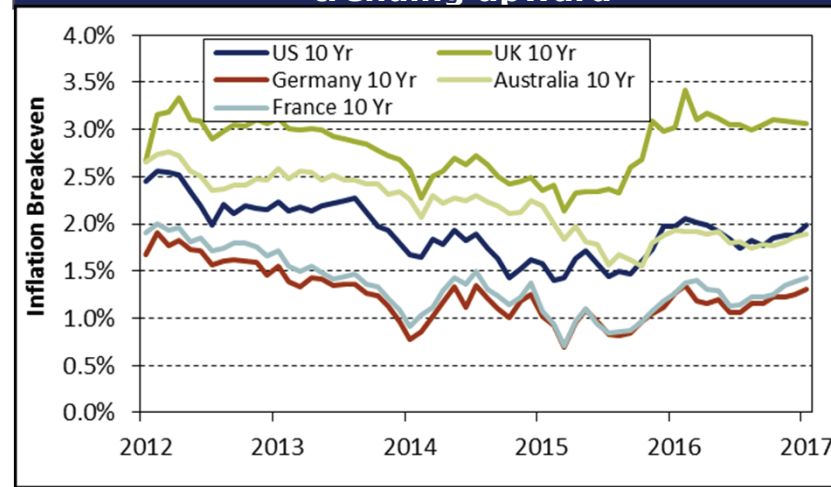
Source: Bloomberg

**US inflation expectations continue to rise**



Source: Bloomberg

**Ex-UK, inflation expectations have begun trending upward**

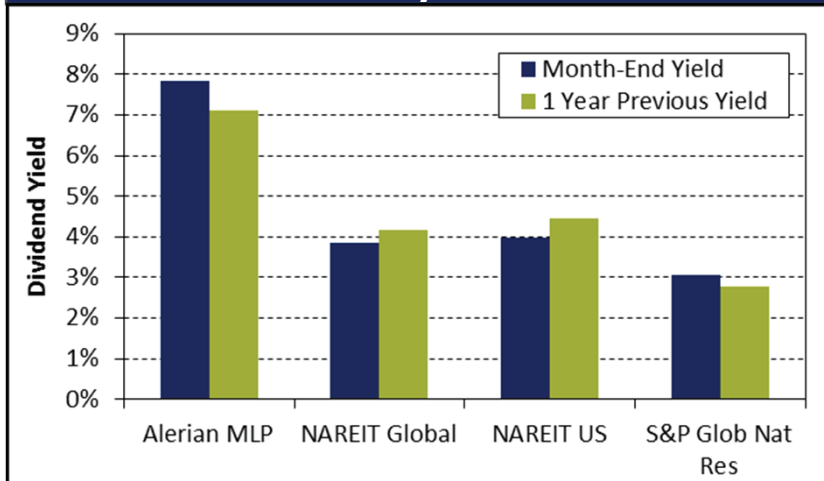


Source: Bloomberg



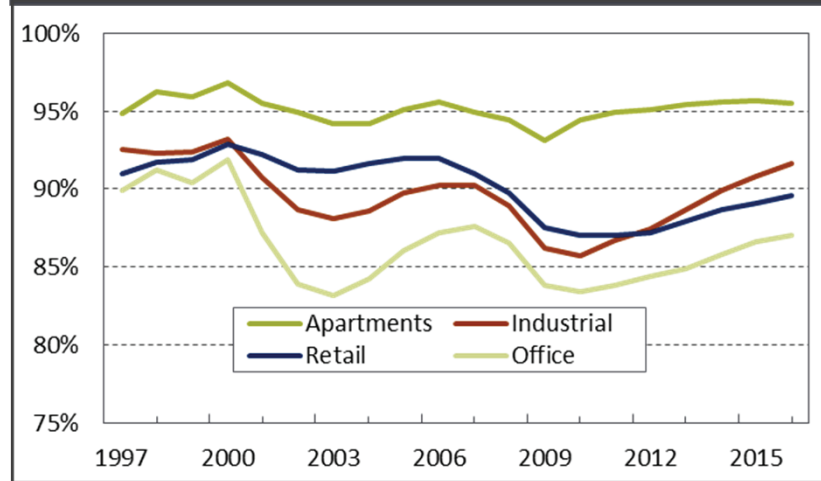
# INFLATION-SENSITIVE GROWTH ASSETS

## MLP yields have increased relative to last year



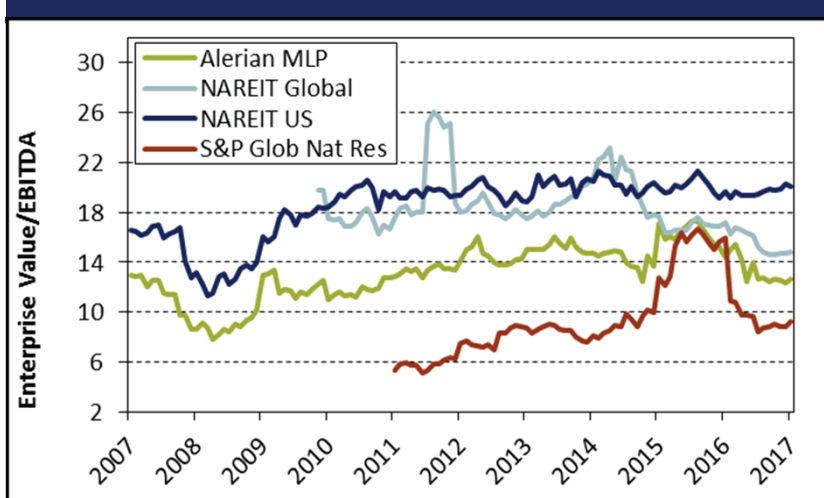
Source: Bloomberg, Alerian, NAREIT, Standard and Poors

## Sustained recovery in commercial real estate occupancy rates



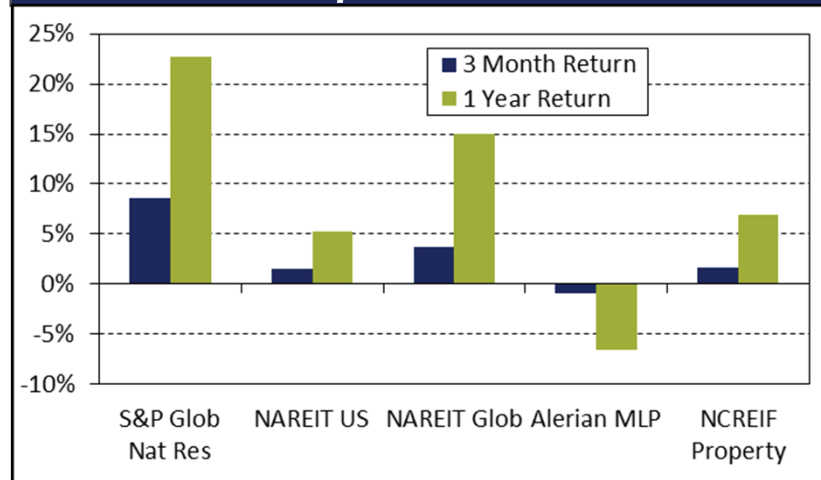
Source: CBRE

## US REIT valuations have steadied



Source: Bloomberg, US Census Bureau

## Ex-MLPs, inflation-sensitive growth assets have been positive in the near term



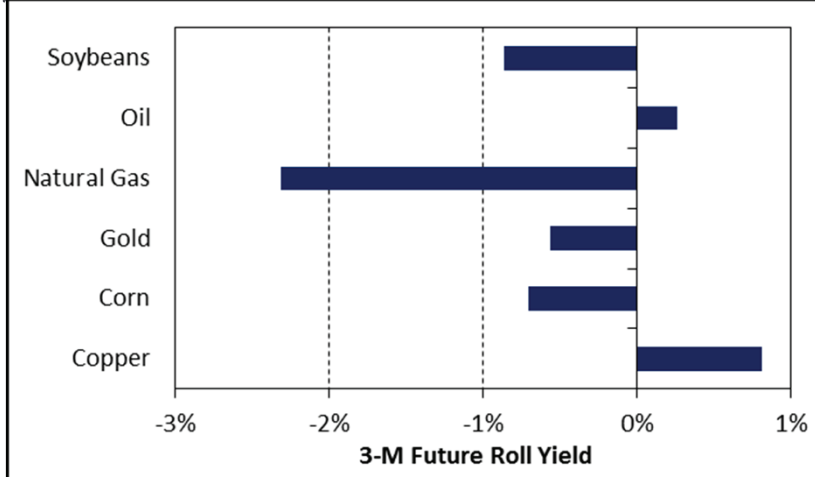
Source: Bloomberg, Alerian, NAREIT, Standard and Poors





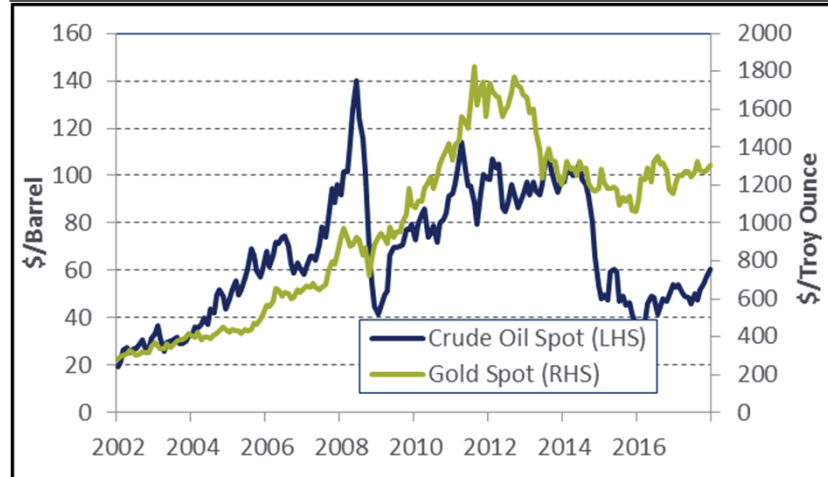
# COMMODITIES

## Ex-oil and copper, 3-month roll yields remain negative



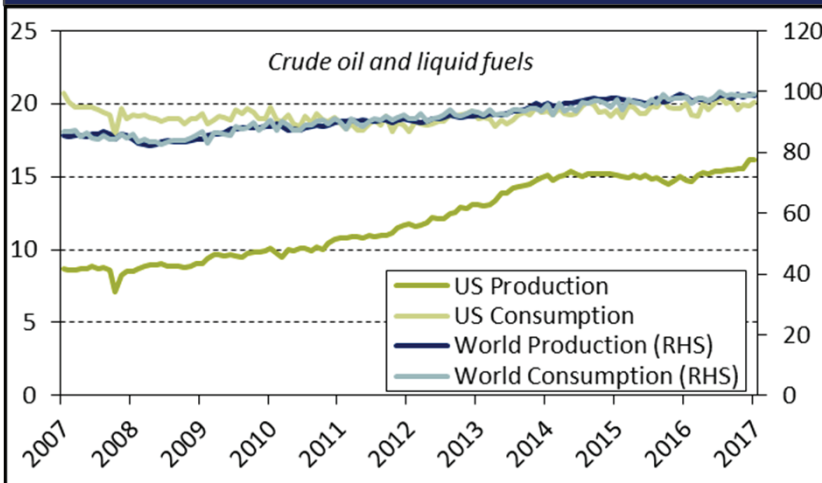
Source: Bloomberg

## Spot oil has continued to increase



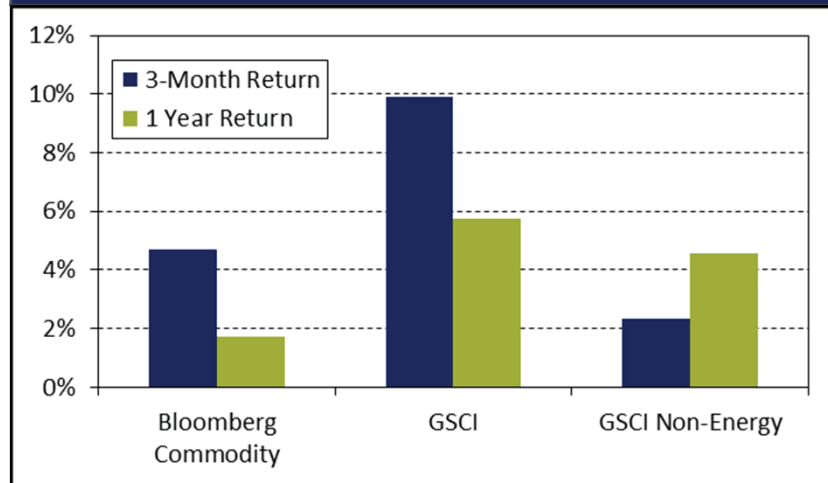
Source: Bloomberg

## US production experienced a slight uptick in volume



Source: Bloomberg, US Department of Energy \*Crude oil and liquid fuels

## GSCI Non-Energy underperformed in the near term



Source: Bloomberg, Standard and Poors



## Glossary of Investment Terminology – Risk Statistics

**Alpha** - Measures the relationship between the fund performance and the performance of another fund or benchmark index and equals the excess return while the other fund or benchmark index is zero.

**Alpha Jensen** - The average return on a portfolio over and above that predicted by the capital asset pricing model (CAPM), given the portfolio's beta and the average market return. Also known as the abnormal return or the risk adjusted excess return.

**Annualized Excess Return over Benchmark** - Annualized fund return minus the annualized benchmark return for the calculated return.

**Annualized Return** - A statistical technique whereby returns covering periods greater than one year are converted to cover a 12 month time span.

**Beta** - Measures the volatility or systematic risk and is equal to the change in the fund's performance in relation to the change in the assigned index's performance.

**Information Ratio** - A measure of the risk adjusted return of a financial security, asset, or portfolio.

*Formula:*  

$$\frac{\text{Annualized Return of Portfolio} - \text{Annualized Return of Benchmark}}{\text{Annualized Standard Deviation}(\text{Period Portfolio Return} - \text{Period Benchmark Return})}$$
 To annualize standard deviation, multiply the deviation by the square root of the number of periods per year where monthly returns per year equals 12 and quarterly returns is four periods per year.

**R-Squared** - Represents the percentage of a fund's movements that can be explained by movements in an index. R-Squared values range from 0 to 100. An R-Squared of 100 denotes that all movements of a fund are completely explained by movements in the index.

**Sharpe Ratio** - A measure of the excess return or risk premium per unit of risk in an investment asset or trading strategy.

**Sortino Ratio** - A method to differentiate between good and bad volatility in the Sharpe Ratio. The differentiation of up and down volatility allows the calculation to provide a risk adjusted measure of a security or fund's performance without upward price change penalties.

*Formula:*  

$$\text{Calculation Average } (X-Y) / \text{Downside Deviation } (X-Y) * 2$$
 Where X = Return Series X Y = Return Series Y which is the risk free return (91 day T-bills)

**Standard Deviation** - The standard deviation is a statistical term that describes the distribution of results. It is a commonly used measure of volatility of returns of a portfolio, asset class, or security. The higher the standard deviation the more volatile the returns are.

*Formula:*  

$$\frac{\text{Annualized Return of Portfolio} - \text{Annualized Return of Risk Free}}{\text{Annualized Standard Deviation (Portfolio Returns)}}$$

**Tracking Error** - Tracking error, also known as residual risk, is a measure of the degree to which a portfolio tracks its benchmark. It is also a measure of consistency of excess returns. Tracking error is computed as the annualized standard deviation of the difference between a portfolio's return and that of its benchmark.

*Formula:*  

$$\text{Tracking Error} = \text{Standard Deviation } (X-Y) * \sqrt{\# \text{ of periods per year}}$$
 Where X = periods portfolio return and Y = the period's benchmark return  
 For monthly returns, the periods per year = 12  
 For quarterly returns, the periods per year = 4

**Treynor Ratio** - A risk-adjusted measure of return based on systematic risk. Similar to the Sharpe ratio with the difference being the Treynor ratio uses beta as the measurement of volatility.

*Formula:*  

$$\frac{\text{Portfolio Average Return} - \text{Average Return of Risk-Free Rate}}{\text{Portfolio Beta}}$$

**Up/Down Capture Ratio** - A measure of what percentage of a market's returns is "captured" by a portfolio. For example, if the market declines 10% over some period, and the manager declines only 9%, then his or her capture ratio is 90%. In down markets, it is advantageous for a manager to have as low a capture ratio as possible. For up markets, the higher the capture ratio the better. Looking at capture ratios can provide insight into how a manager achieves excess returns. A value manager might typically have a lower capture ratio in both up and down markets, achieving excess returns by protecting on the downside, whereas a growth manager might fall more than the overall market in down markets, but achieve above-market returns in a rising market.

$$\text{Upside Capture} = \frac{\text{Total Return (Fund Returns)}}{\text{Total Return (BM Return)}} \text{ when Period Benchmark Return is } > 0$$

$$\text{Downside Capture} = \frac{\text{Total Return (Fund Returns)}}{\text{Total Return (BM Return)}} \text{ when Benchmark } < 0$$

Source: Investor Force



## Glossary of Investment Terminology

**# Of Portfolios/Observations<sup>1</sup>** – The total number of data points that make up a specified universe

**Allocation Index<sup>3</sup>** – The allocation index measures the value added (or subtracted) to each portfolio by active management. It is calculated monthly: The portfolio asset allocation to each category from the prior month-end is multiplied by a specified market index.

**Asset Allocation Effect<sup>2</sup>** – Measures an investment manager's ability to effectively allocate their portfolio's assets to various sectors. The allocation effect determines whether the overweighting or underweighting of sectors relative to a benchmark contributes positively or negatively to the overall portfolio return. Positive allocation occurs when the portfolio is over weighted in a sector that outperforms the benchmark and underweighted in a sector that underperforms the benchmark. Negative allocation occurs when the portfolio is over weighted in a sector that underperforms the benchmark and under weighted in a sector that outperforms the benchmark.

**Agency Bonds (Agencies)<sup>3</sup>** – The full faith and credit of the United States government is normally not pledged to payment of principal and interest on the majority of government agencies issuing these bonds, with maturities of up to ten years. Their yields, therefore, are normally higher than government and their marketability is good, thereby qualifying them as a low risk-high liquidity type of investment. They are eligible as security for advances to the member banks by the Federal Reserve, which attests to their standing.

**Asset Backed Securities (ABS)<sup>3</sup>** – Bonds which are similar to mortgage-backed securities but are collateralized by assets other than mortgages; commonly backed by credit card receivables, auto loans, or other types of consumer financing.

**Attribution<sup>3</sup>** – Attribution is an analytical technique that allows us to evaluate the performance of the portfolio relative to the benchmark. A proper attribution tells us where value was added or subtracted as a result of the manager's decisions.

**Average Effective Maturity<sup>4</sup>** – For a single bond, it is a measure of maturity that takes into account the possibility that a bond might be called back to the issuer.

For a portfolio of bonds, average effective maturity is the weighted average of the maturities of the underlying bonds. The measure is computed by weighing each bond's maturity by its market value with respect to the portfolio and the likelihood of any of the bonds being called. In a pool of mortgages, this would also account for the likelihood of prepayments on the mortgages.

**Batting Average<sup>1</sup>** – A measurement representing an investment manager's ability to meet or beat an index.

*Formula: Divide the number of days (or months, quarters, etc.) in which the manager beats or matches the index by the total number of days (or months, quarters, etc.) in the period of question and multiply that factor by 100.*

**Brinson Fachler (BF) Attribution<sup>1</sup>** – The BF methodology is a highly accepted industry standard for calculating the allocation, selection, and interaction effects within a portfolio that collectively explains a portfolio's underlying performance. The main advantage of the BF methodology is that rather than using the overall return of the benchmark, it goes a level deeper than BHB and measures whether the benchmark sector, country, etc. outperformed/or underperformed the overall benchmark.

**Brinson Hood Beebower (BHB) Attribution<sup>1</sup>** – The BHB methodology shows that excess return must be equal to the sum of all other factors (i.e., allocation effect, selection effect, interaction effect, etc.). The advantage to using the BHB methodology is that it is a highly accepted industry standard for calculating the allocation, selection, and interaction effects within a portfolio that collectively explains a portfolio's underlying performance.

**Corporate Bond (Corp)<sup>4</sup>** – A debt security issued by a corporation and sold to investors. The backing for the bond is usually the payment ability of the company, which is typically money to be earned from future operations. In some cases, the company's physical assets may be used as collateral for bonds.

**Correlation<sup>1</sup>** – A range of statistical relationships between two or more random variables or observed data values. A correlation is a single number that describes the degree of relationship between variables.

Data Source: <sup>1</sup>InvestorForce, <sup>2</sup>Interaction Effect Performance Attribution, <sup>3</sup>NEPC, LLC, <sup>4</sup>Investopedia, <sup>5</sup>Hedgeco.net



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## Glossary of Investment Terminology

**Coupon<sup>4</sup>** – The interest rate stated on a bond when it is issued. The coupon is typically paid semiannually. This is also referred to as the "coupon rate" or "coupon percent rate."

**Currency Effect<sup>1</sup>** – Is the effect that changes in currency exchange rates over time affect excess performance.

**Derivative Instrument<sup>3</sup>** – A financial obligation that derives its precise value from the value of one or more other instruments (or assets) at the same point of time. For example, the relationship between the value of an S&P 500 futures contract (the derivative instrument in this case) is determined by the value of the S&P 500 Index and the value of a U.S. Treasury bill that matures at the expiration of the futures contract.

**Downside Deviation<sup>1</sup>** – Equals the standard deviation of negative return or the measure of downside risk focusing on the standard deviation of negative returns.

*Formula:*

*Annualized Standard Deviation (Fund Return - Average Fund Return) where average fund return is greater than individual fund returns, monthly or quarterly.*

**Duration<sup>3</sup>** – Duration is a measure of interest rate risk. The greater the duration of a bond, or a portfolio of bonds, the greater its price volatility will be in response to a change in interest rates. A bond's duration is inversely related to interest rates and directly related to time to maturity.

**Equity/Debt/Cash Ratio<sup>1</sup>** – The percentage of an investment or portfolio that is in Equity, Debt, and/or Cash (i.e. A 7/89/4 ratio represents an investment that is made up of 7% Equity, 89% Debt, and 4% Cash).

**Foreign Bond<sup>3</sup>** – A bond that is issued in a domestic market by a foreign entity, in the domestic market's currency. A foreign bond is most often issued by a foreign firm to raise capital in a domestic market that would be most interested in purchasing the firm's debt. For foreign firms doing a large amount of business in the domestic market, issuing foreign bonds is a common practice.

**Hard Hurdle<sup>5</sup>** – is a hurdle rate that once beaten allows a fund manager to charge a performance fee on only the funds above the specified hurdle rate.

**High-Water Mark<sup>4</sup>** – The highest peak in value that an investment fund/account has reached. This term is often used in the context of fund manager compensation, which is performance based. Some performance-based fees only get paid when fund performance exceeds the high-water mark. The high-water mark ensures that the manager does not get paid large sums for poor performance.

**Hurdle Rate<sup>4</sup>** – The minimum rate of return on an investment required, in order for a manager to collect incentive fees from the investor, which is usually tied to a benchmark.

**Interaction Effects<sup>2</sup>** – The interaction effect measures the combined impact of an investment manager's selection and allocation decisions within a sector. For example, if an investment manager had superior selection and over weighted that particular sector, the interaction effect is positive. If an investment manager had superior selection, but underweighted that sector, the interaction effect is negative. In this case, the investment manager did not take advantage of the superior selection by allocating more assets to that sector. Since many investment managers consider the interaction effect to be part of the selection or the allocation, it is often combined with the either effect.

**Median<sup>3</sup>** – The value (rate of return, market sensitivity, etc.) that exceeds one-half of the values in the population and that is exceeded by one-half of the values. The median has a percentile rank of 50.

**Modified Duration<sup>3</sup>** – The percentage change in the price of a fixed income security that results from a change in yield.

**Mortgage Backed Securities (MBS)<sup>3</sup>** – Bonds which are a general obligation of the issuing institution but are also collateralized by a pool of mortgages.

**Municipal Bond (Muni)<sup>4</sup>** – A debt security issued by a state, municipality or county to finance its capital expenditures.

**Net Investment Change<sup>1</sup>** – Is the change in an investment after accounting for all Net Cash Flows.

**Performance Fee<sup>4</sup>** – A payment made to a fund manager for generating positive returns. The performance fee is generally calculated as a percentage of investment profits, often both realized and unrealized.

Data Source: <sup>1</sup>InvestorForce, <sup>2</sup>Interaction Effect Performance Attribution, <sup>3</sup>NEPC, LLC, <sup>4</sup>Investopedia, <sup>5</sup>Hedgeco.net



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## Glossary of Investment Terminology

**Policy Index<sup>3</sup>** - A custom benchmark designed to indicate the returns that a passive investor would earn by consistently following the asset allocation targets set forth in this investment policy statement.

**Price to Book (P/B)<sup>4</sup>** - A ratio used to compare a stock's market value to its book value. It is calculated by dividing the current closing price of the stock by the latest quarter's book value per share, also known as the "price-equity ratio".

**Price to Earnings (P/E)<sup>3</sup>** - The weighted equity P/E is based on current price and trailing 12 months earnings per share (EPS).

**Price to Sales (P/S)<sup>4</sup>** - A ratio for valuing a stock relative to its own past performance, other companies, or the market itself. Price to sales is calculated by dividing a stock's current price by its revenue per share for the trailing 12 months.

**Return on Equity (ROE)<sup>4</sup>** - The amount of net income returned as a percentage of shareholders equity. Return on equity measures a corporation's profitability by revealing how much profit a company generates with the money shareholders have invested.

**Selection (or Manager) Effect<sup>2</sup>** - Measures the investment manager's ability to select securities within a given sector relative to a benchmark. The over or underperformance of the portfolio is weighted by the benchmark weight, therefore, selection is not affected by the manager's allocation to the sector. The weight of the sector in the portfolio determines the size of the effect—the larger the sector, the larger the effect is, positive or negative.

**Soft Hurdle rate<sup>5</sup>** - is a hurdle rate that once beaten allows a fund manager to charge a performance fee based on the entire annualized return.

**Tiered Fee<sup>1</sup>** - A fee structure that is paid to fund managers based on the size of the investment (i.e. 1.00% fee on the first \$10M invested, 0.90% on the next \$10M, and 0.80% on the remaining balance).

**Total Effects<sup>2</sup>** - The active management (total) effect is the sum of the selection, allocation, and interaction effects. It is also the difference between the total portfolio return and the total benchmark return. You can use the active management effect to determine the amount the investment manager has added to a portfolio's return.

**Total Return<sup>1</sup>** - The actual rate of return of an investment over a specified time period. Total return includes interest, capital gains, dividends, and distributions realized over a defined time period.

**Universe<sup>3</sup>** - The list of all assets eligible for inclusion in a portfolio.

**Upside Deviation<sup>1</sup>** - Standard Deviation of Positive Returns

**Weighted Avg. Market Cap.<sup>4</sup>** - A stock market index weighted by the market capitalization of each stock in the index. In such a weighting scheme, larger companies account for a greater portion of the index. Most indexes are constructed in this manner, with the best example being the S&P 500.

**Yield (%)<sup>3</sup>** - The current yield of a security is the current indicated annual dividend rate divided by current price.

**Yield to Maturity<sup>3</sup>** - The discount rate that equates the present value of cash flows, both principal and interest, to market price.

Data Source: <sup>1</sup>InvestorForce, <sup>2</sup>Interaction Effect Performance Attribution, <sup>3</sup>NEPC, LLC, <sup>4</sup>Investopedia, <sup>5</sup>Hedgeco.net



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- **Past performance is no guarantee of future results.**
- **NEPC uses, as its data source, the plan's custodian bank or fund service company, and NEPC relies on those sources for security pricing, calculation of accruals, and all transactions, including income payments, splits, and distributions. While NEPC has exercised reasonable professional care in preparing this report, we cannot guarantee the accuracy of all source information contained within.**
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### **Reporting Methodology**

- The client's custodian bank is NEPC's preferred data source unless otherwise directed. NEPC generally reconciles custodian data to manager data. If the custodian cannot provide accurate data, manager data may be used.
- Trailing time period returns are determined by geometrically linking the holding period returns, from the first full month after inception to the report date. Rates of return are annualized when the time period is longer than a year. Performance is presented gross and/or net of manager fees as indicated on each page.
- For managers funded in the middle of a month, the "since inception" return will start with the first full month, although actual inception dates and cash flows are taken into account in all Composite calculations.
- This report may contain forward-looking statements that are based on NEPC's estimates, opinions and beliefs, but NEPC cannot guarantee that any plan will achieve its targeted return or meet other goals.





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YOU DEMAND MORE. So do we.<sup>SM</sup>

## Sample ABC Client

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### Global Equity Manager Search

Data as of December 31, 2016

255 State Street, Boston, MA 02109 | TEL: 617.374.1300 | FAX: 617.374.1313 | [www.nepc.com](http://www.nepc.com)

BOSTON | ATLANTA | CHARLOTTE | CHICAGO | DETROIT | LAS VEGAS | PORTLAND | SAN FRANCISCO

- **The Committee is considering a revised asset allocation for the Endowment which includes a 15% global equity target**
  -
- **Global Equity managers have the ability to invest across the market capitalization spectrum in US, developed international equities and emerging market equities**
  - A Global Equity allocation can complement an existing equity portfolio through diversification and by providing an additional source of alpha
  - The Endowment does not currently have any exposure to global equity managers
- **The table below highlights the six managers profiled and how we think about their asset management style**

Defensive Value	Core	Quality Growth	Aggressive Growth
Manager A	Manager C	<u>Manager E</u>	Manager F
<u>Manager B</u>	Manager D		

- **We recommend selecting two active managers:**
  - **Manager E** is our first recommendation given its focus on quality growth, strong track record, and conviction driven process. This manager is more concentrated and will have the highest active share of the managers profiled
  - **Manager B** is a strong complement to Manager E with its value orientation and top down approach. Manager B also actively hedges currency and provides a macro overlay to the portfolio
  - Alternate pairing: Manager F and Manager C

# Firm and Product Summary





## Firm and Product Summary

Firm/Product	Firm/Team Comments	Investment Style/Strategy	Performance Expectations	Portfolio Positioning	Other Comments
<b>Global Equity</b>					
Manager F - Product F	Manager F is a large multi boutique firm.	The investment team looks globally for "innovation". They believe that companies who are innovative will be the future growth companies.	Product is heavily tied to performance of US stocks. Historically, the portfolio has had allocations in excess of 70% to US stocks.	Product tends to skew heavily towards the US market place as well as growth stocks.	
Manager C- Product C	As part of the sale to Orix, the Manager C management group was able to negotiate an operating agreement with Orix insulating Manager C from the parent and giving the Manager C management full control of the business going forward.	Strategy seeks valuation, business fundamentals, and catalyst. Discussions and decisions consider trade-off between these criteria.	Fundamental strategy. Should perform well in fundamental markets. Quality bias offers downside protection. The strategy should offer more upside participation relative to the other value managers on our FPL.	This portfolio is all cap in nature and should be benchmarked to the MSCI World benchmark. Investments in emerging markets will be limited.	
Manager E - Product E	Manager E is the US based asset management business and a wholly owned subsidiary of Manager E Capital. Manager E Capital is a Canadian based asset management firm and is publicly traded on the Canadian Stock Exchange.	The strategy is a high quality growth strategy that focuses on high free cash flows, low debt, and high levels of ROIC. Valuation is not the primary driver of stocks entering and exiting the portfolio, but it is fair to characterize this portfolio as Quality at a Reasonable Price.	The strategy will tend to protect capital in down markets and outperform the benchmark. In markets where cyclical stocks are rewarded, the strategy will tend to struggle on a relative basis.	The portfolio does not tend to hold cyclical companies and tends to be overweight the staples and industrials space. They have never invested in utilities. The final portfolio is roughly 50 stocks.	

## Firm and Product Summary

Firm/Product	Firm/Team Comments	Investment Style/Strategy	Performance Expectations	Portfolio Positioning	Other Comments
<b>Global Equity</b>					
Manager A - Product A	Manager A is a multi-billion dollar firm. The conservative benchmark agnostic strategy has led to the majority of the firm's growth deriving from the high net worth and retail market place.	The Manager A portfolio is a value based portfolio that will utilize cash, corporate bonds, gold, and equities. The strategy has little to no constraints and will take large bets away from the benchmark.	This strategy will perform better in value markets. The use of cash, bonds, and gold will result in strong downside protection while limiting performance in rapidly rising equity markets.	There are very little constraints on the portfolio resulting in no limits on sector, country, or emerging markets allocations. They will typically hold 5-10% in Gold and will typically have some level of cash in the portfolio. Historically cash has been as high as 25%.	Gold and Cash are core investment positions within this fund
Manager B - Product B	Manager B was founded in 2004 when the entire team left Manager G in Canada. In August of 2012 Manager H acquired a 49% stake in Manager B. The employees of Manager B maintain control of the firm.	Top down value driven approach.	Manager B tends to be early sellers and early buyers of names and markets. As a result they tend to have strong downside protection.	Well diversified portfolio that will use cash as an investment option.	
Manager D - Product D	The firm is headquartered in Dublin and is 100% owned by Employee A.	Bottom up stock selection driven by 5 generalist portfolio managers. Strategy focuses on identifying attractive points in a company's capital cycle.	Performance shown in the book is a linked track record of the global equity fund Employee A and team ran at Manager I from 7/88-12/12, Employee A's execution only account at Manager J from 1/13- 10/13, and the Manager D Global Fund from 11/13-current.	The portfolio has the ability to transition between a growth or value tilt. Over longer periods we anticipate the portfolio to perform more like a value portfolio. The strategy tends to pair well with most other managers and is a strong complement to an existing EAFE or US mandate.	For both segregated mandates and investments into the Manager D Global Fund, the standard fee structure is a management fee of 35bp and a performance fee of 20% charged on outperformance versus the benchmark (MSCI ACWI Net) over rolling 5 year periods.

# NEPC Investment Thesis

Firm/Product	NEPC Investment Thesis
<b>Global Equity</b>	
Manager F - Product F	Manager F Product F Team's value-added is attributable to the experience of the two senior portfolio managers on the team who have applied a disciplined and consistent approach to managing growth assets. The portfolio managers have worked together since 1997, when they joined Manager F to start their Mid-Cap Growth strategy. The process is consistent in seeking three criteria that represent sustainable growth companies: franchise companies, attractive valuations, and accelerating profit cycle.
Manager C - Product C	Manager C's value-added is attributable to their well-established and disciplined process that balances valuation, business fundamentals, and catalyst for change. The strategy is flexible in assessing the presence of the three investment criteria in each idea under review. For instance, they will forego positive momentum if valuation and/or business fundamentals are deemed extremely compelling to compensate for lack of positive momentum. Unlike many of their peers, their approach is stock investing and not buying companies as owners; this allows them to be objective in evaluating opportunities and sell holdings more readily.
Manager E - Product E	Manager E's investment style is Quality Growth at a Reasonable Price. They look to invest in growth companies that are market leaders and have a consistent record of outperforming their peers. Quality is an important element of their investment philosophy. The most important qualities Manager E looks for when buying stocks are: strong consistent cash flow, clean balance sheets, quality of management, high return on invested capital, and a dominant market position.
Manager A - Product A	Manager A are value investors who follow the teachings of Benjamin Graham and Warren Buffett, they believe there is a persistent market failure to recognize a company's intrinsic value. They exploit this failure through a bottom-up and fundamental investment approach. The Product A investment team emphasizes value criteria in order to identify companies realizing substantial profits and trading at discounts to their intrinsic values.
Manager B - Product B	Manager B leverages quantitative models to objectively process large amounts of economic information. These models are used to validate fundamental macro analysis as well as bottom up fundamental research. Top-down analysis is critical to alpha generation. Manager B's expertise in analyzing macroeconomic factors and translating that analysis into the identification of market performance drivers results in 80% of the value add. The critical component to alpha generation and key to the firm's ability to run a successful product going forward is Employee B.
Manager D - Product D	The value-added comes from the team of 5 generalists' expertise in investing in a company at attractive points during the capital cycle . Their investment process focuses on identifying small to mid-cap companies that offer relative value on a price to cash flow, price to book value, and price to earnings operating at attractive points within that companies capital cycle .

# Product Comparison

Firm/Product	PRI Signatory (Y/N)	Strategy is Managed with ESG Considerations (Y/N)
Global Equity		
Manager F - Product F	No	No
Manager C - Product C	Yes	Yes
Manager E - Product E	Yes	Yes
Manager A - Product A	No	No
Manager B - Product B	Yes	Yes
Manager D - Product D	No	No

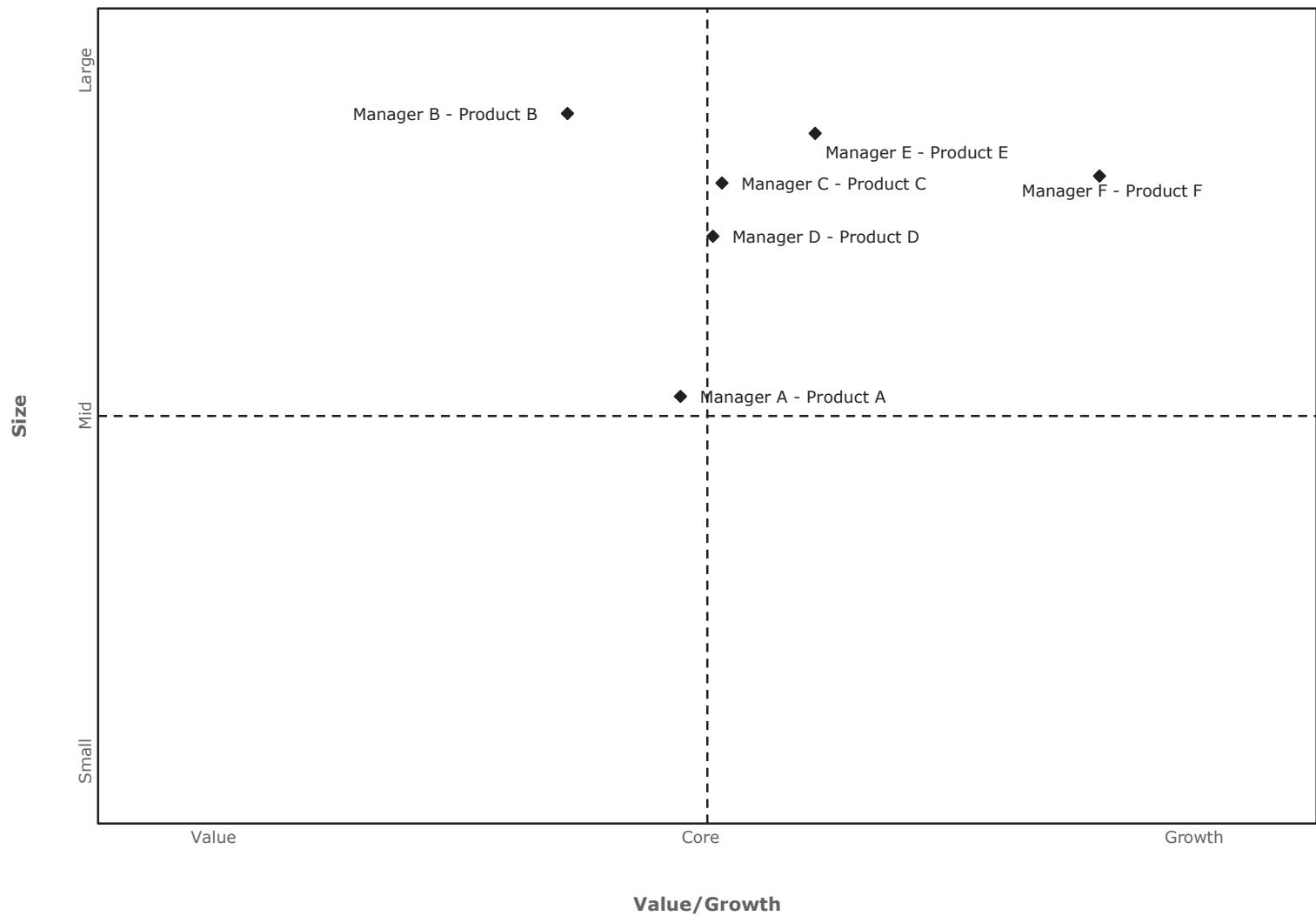
## Equity Product Comparison

Firm/Product	Primary Equity Capitalization	Current Number of Holdings	Typical Holdings	Wgtd. Avg. Mkt. Cap (\$MM)	Median Mkt. Cap (\$MM)	Annual Turnover (%)	Max Cash Position (%)	Typical Cash (%)
<b>Global Equity</b>								
Manager F - Product F	Mid-Large Cap	46	43	85,364	23,628	31	15	6
Manager C - Product C	Mid-Large Cap	125	100	61,406	19,149	76	10	1
Manager E - Product E	Large Cap	39	40	101,892	35,302	15	10	0
Manager A - Product A	All Cap	140	150	57,183	16,776	13	NA*	17
Manager B - Product B	Large Cap	442	325	91,494	18,189	60	10	NA*
Manager D - Product D	Small-Mid Cap	457	400	69,326	8,502	16	20	3

\*Not provided

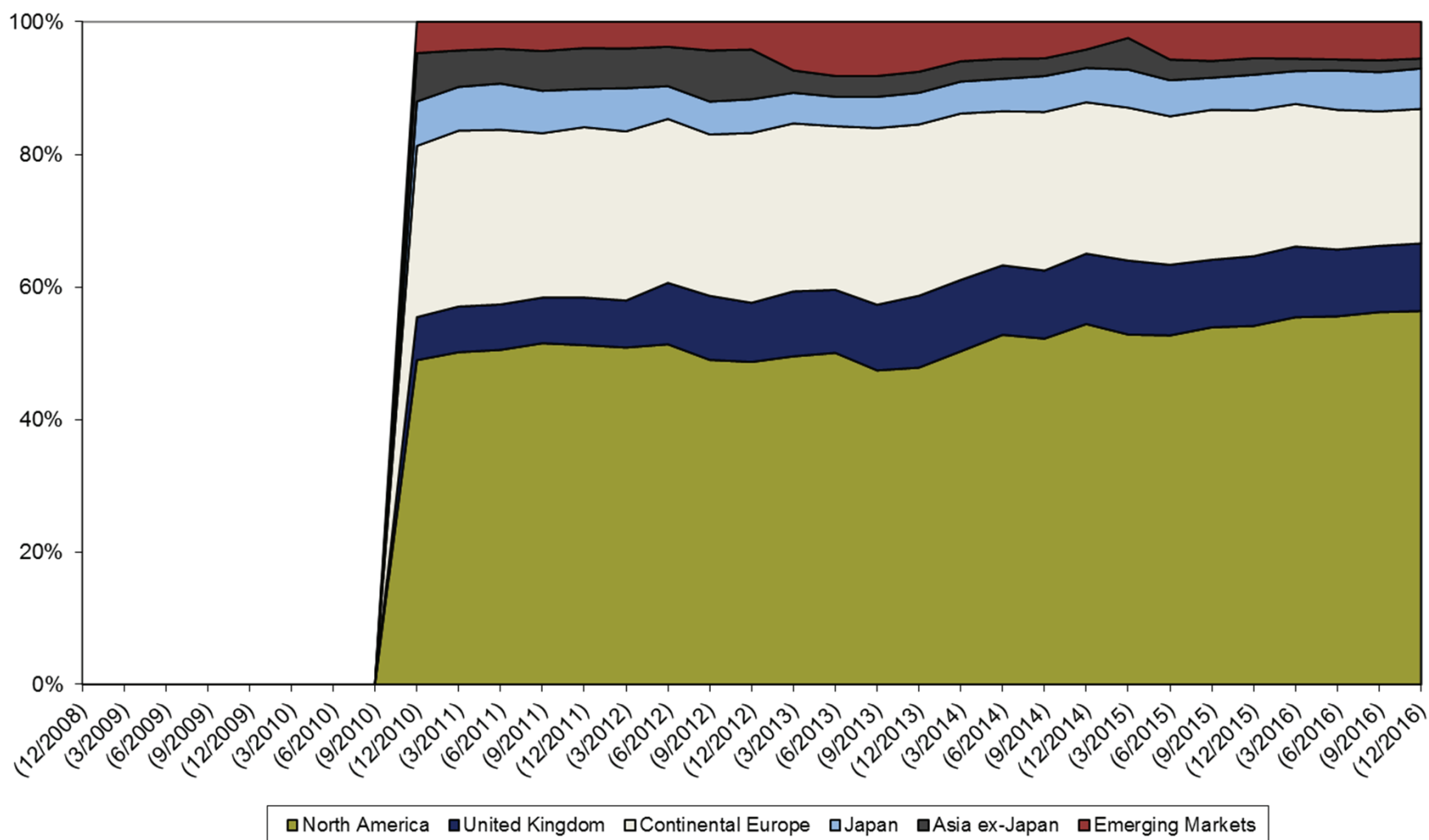
Firm/Product	% Portfolio in Market Cap Range:						
	> \$50 Billion (%)	\$15-50 Billion (%)	\$7.5-15 Billion (%)	\$1.5-7.5 Billion (%)	\$750-1.5 Billion (%)	\$400-750 Million (%)	< \$400 Million (%)
<b>Global Equity</b>							
Manager F- Product F	25	34	12	29	0	0	0
Manager C - Product C	30	29	21	20	0	0	0
Manager E - Product E	45	32	12	11	0	0	0
Manager A - Product A	31	36	21	11	0	0	0
Manager B - Product B	46	32	13	8	1	0	0
Manager D - Product D	31	28	14	14	7	4	2

# Equity Spectrum Analysis



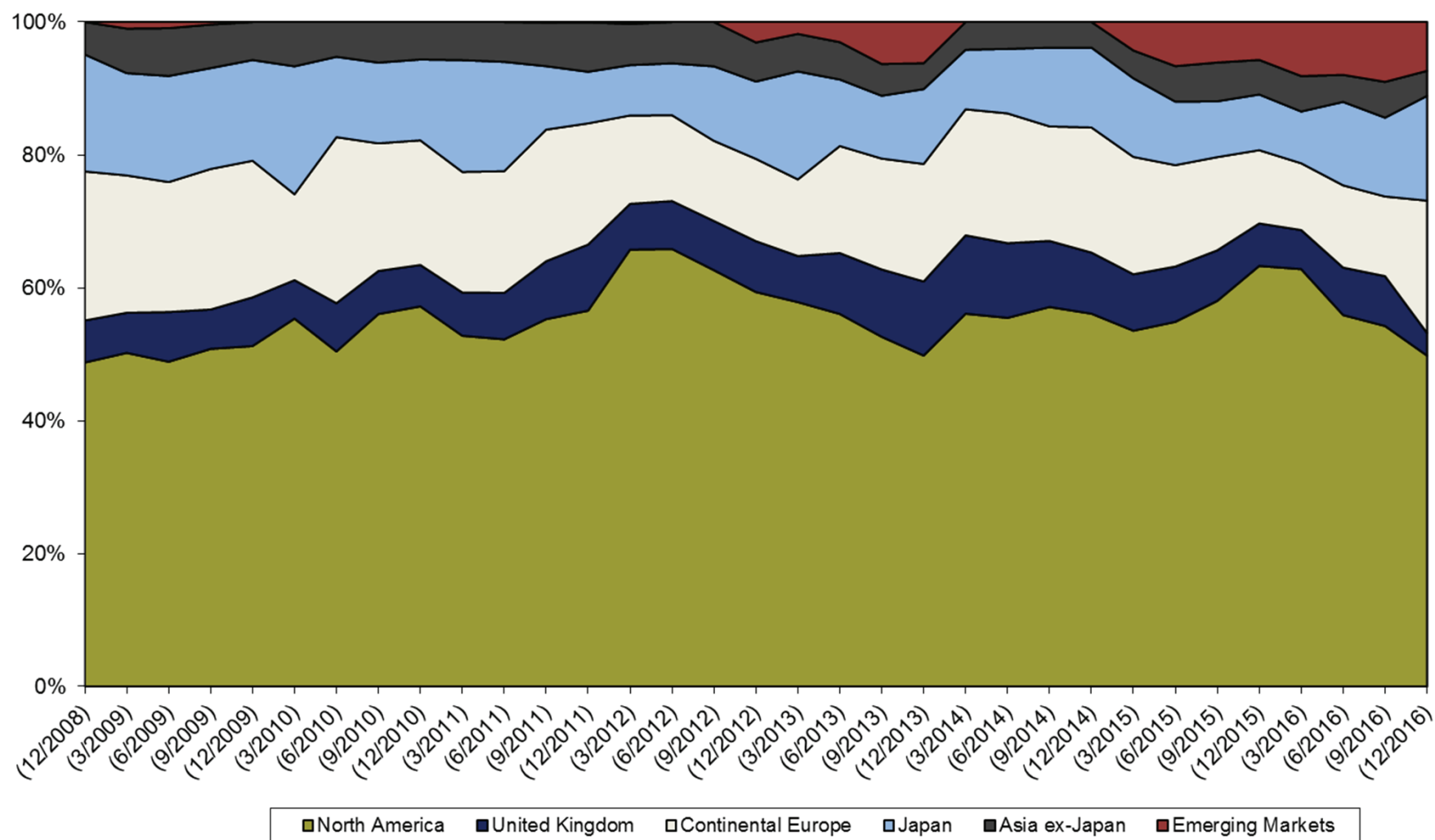
## Country Allocations

### Manager E



## Country Allocations

### Manager B





## Product Comparison

Firm/Product	Inception Date	AUM (\$MM)	# of Portfolio Managers	# of Research Analysts	# of Traders
<b>Global Equity</b>					
Manager F - Product F	2007	10,523	4	7	3
Manager C - Product C	2005	4,807	2	28	7
Manager E - Product E	2009	6,800	2	6	5
Manager A - Product A	1979	66,672	2	15	2
Manager B - Product B	1999	8,634	9	3	2
Manager D - Product D	1988	6,020	5	0	1

Firm/Product	Vehicle Proposed	Liquidity In	Liquidity Out	Reported Fee for \$19.20 mm	Reported Fee in (bps)
<b>Global Equity</b>					
Manager F - Product F	Mutual Fund	Daily	Daily	178,560.00	93
Manager C - Product C	Commingled Fund Mutual Fund	Daily Daily	Daily Daily	134,400.00 182,400.00	70 95
Manager E - Product E	Commingled Fund	Daily	Daily	144,000.00	75
Manager A - Product A	Commingled Fund Mutual Fund	Monthly Daily	Monthly Daily	170,880.00 161,280.00	89 84
Manager B- Product B	Commingled Fund Mutual Fund	Daily Daily	Daily Daily	106,000.00 190,080.00	55 99
Manager D- Product D	Commingled Fund	Monthly	Monthly	57,600.00	30*

\*A 0.30% management fee and a 20% performance fee charge on outperformance over the MSCI ACWI measured in rolling 5 year periods

# Performance



## Trailing Period Returns - (Net of Fees)

	Benchmark	Qtr	YTD	1 Year	3 Year	5 Year	7 Year	10 Year
<b>Global Equity</b>								
<b>Manager F - Product F</b>	1	-5.7%	4.7%	4.7%	5.3%	13.7%	12.6%	NA
<b>Manager C - Product C</b>	1	1.6%	8.7%	8.7%	4.8%	12.4%	10.2%	NA
<b>Manager E - Product E</b>	1	-2.4%	5.0%	5.0%	4.1%	11.5%	11.1%	NA
<b>Manager A - Product A</b>	1	-0.2%	11.0%	11.0%	4.5%	8.4%	8.5%	6.7%
<b>Manager B - Product B</b>	1	1.8%	11.9%	11.9%	5.3%	10.0%	7.8%	5.4%
<b>Manager D - Product D</b>	1	3.8%	6.9%	6.9%	4.3%	13.3%	11.3%	7.0%

### Actual Return

<b>1 MSCI ACWI-ND</b>	1.2%	7.9%	7.9%	3.1%	9.4%	7.3%	3.6%
<b>2 MSCI World-ND</b>	1.9%	7.5%	7.5%	3.8%	10.4%	8.2%	3.8%



## Calendar Year Excess Returns - (Net of Fees)

	Bench mark	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007
<b>Global Equity</b>											
Manager F - Product F	1	-3.2%	10.6%	-1.2%	2.4%	13.8%	1.3%	16.4%	14.1%	-2.3%	NA
Manager C - Product C	1	0.8%	3.5%	0.6%	11.3%	0.3%	4.9%	0.0%	-5.9%	NA	NA
Manager E - Product E	1	-2.8%	3.7%	1.8%	5.2%	3.3%	9.6%	6.0%	NA	NA	NA
Manager A - Product A	1	3.1%	1.8%	-0.8%	-6.8%	-3.2%	7.5%	5.3%	-11.2%	21.4%	-1.3%
Manager B - Product B	1	4.1%	1.9%	0.7%	0.4%	-4.3%	4.3%	-4.2%	-4.0%	14.8%	-5.8%
Manager D - Product D	1	-0.9%	-0.1%	4.8%	8.8%	8.7%	-1.9%	12.0%	9.8%	-0.8%	1.7%

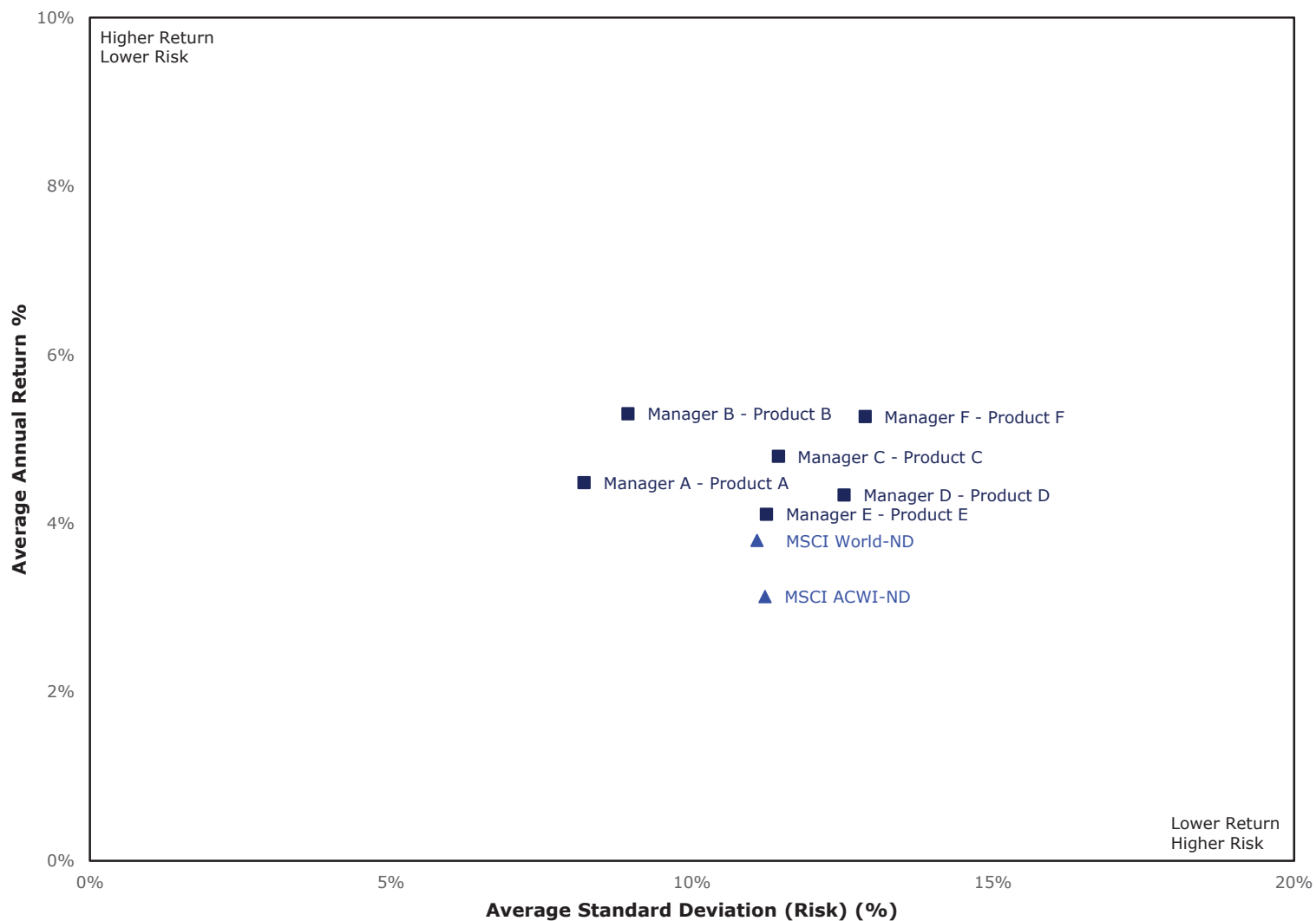
### Actual Index Return

1	MSCI ACWI-ND	7.9%	-2.4%	4.2%	22.8%	16.1%	-7.3%	12.7%	34.6%	-42.2%	11.7%
2	MSCI World-ND	7.5%	-0.9%	4.9%	26.7%	15.8%	-5.5%	11.8%	30.0%	-40.7%	9.0%

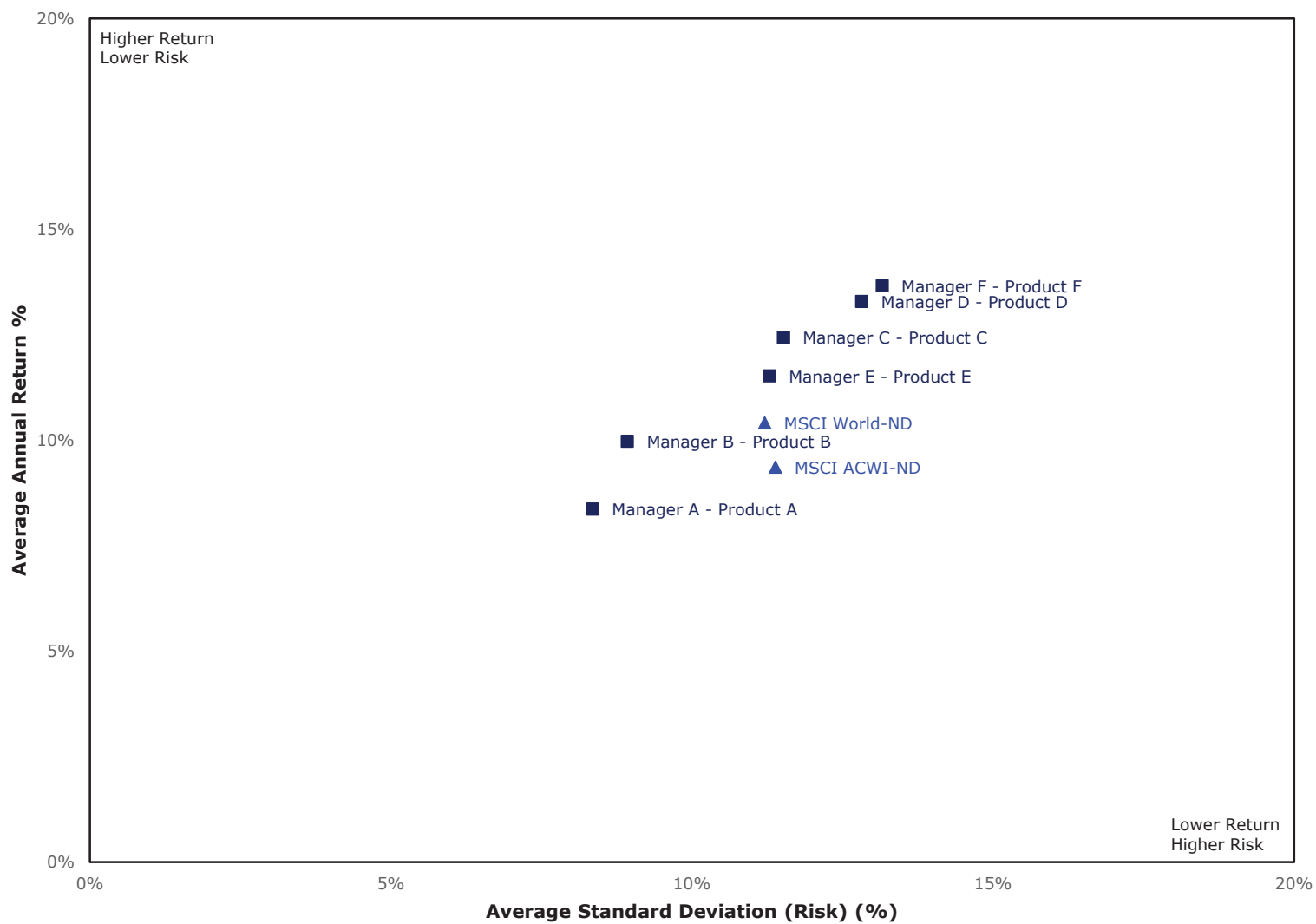
Manager Excess Return: > 3%, between 0% and 3%, between -0% and -3%, < -3%



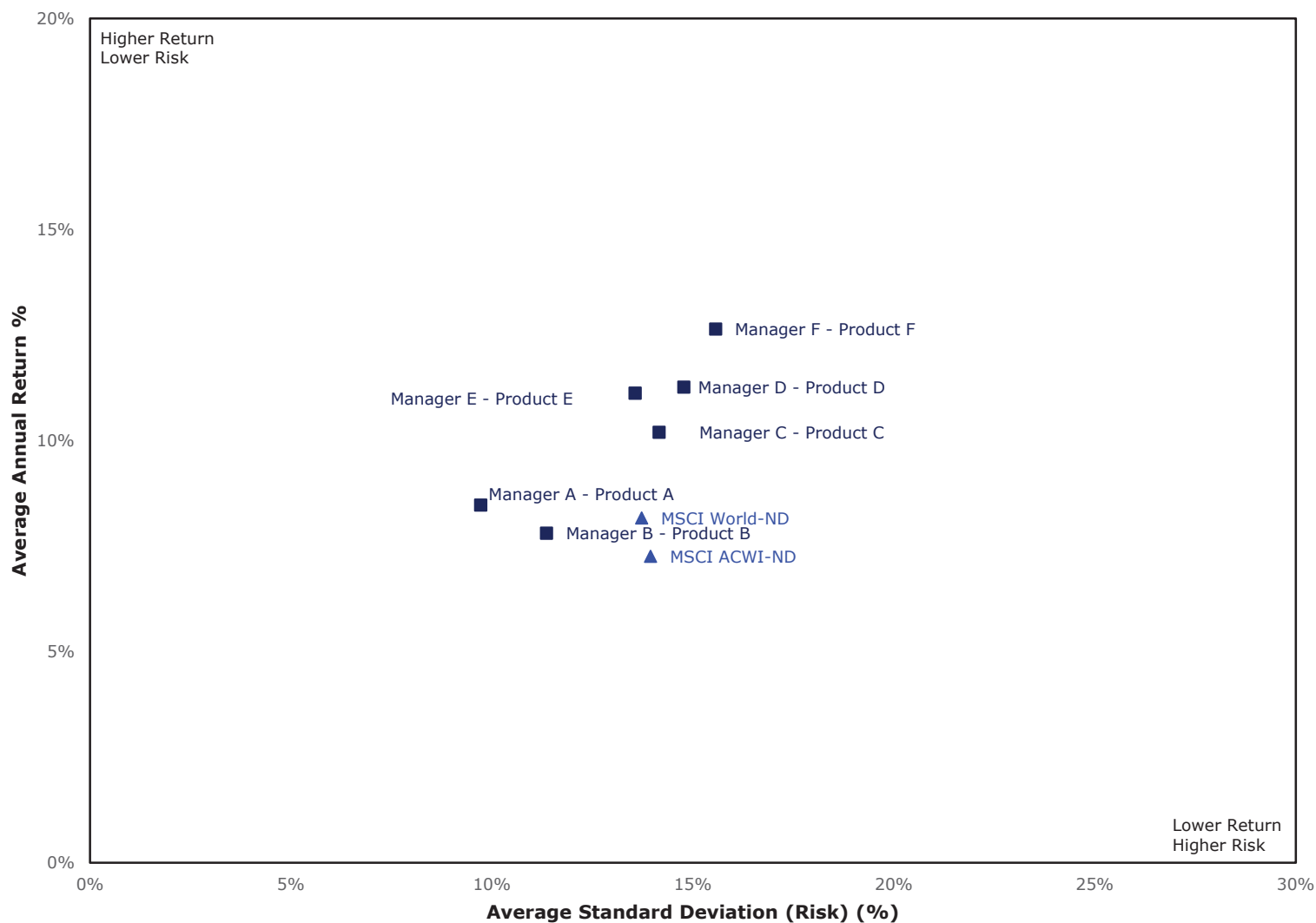
### 3 Year Total Risk/Returns Comparison - (Net of Fees)



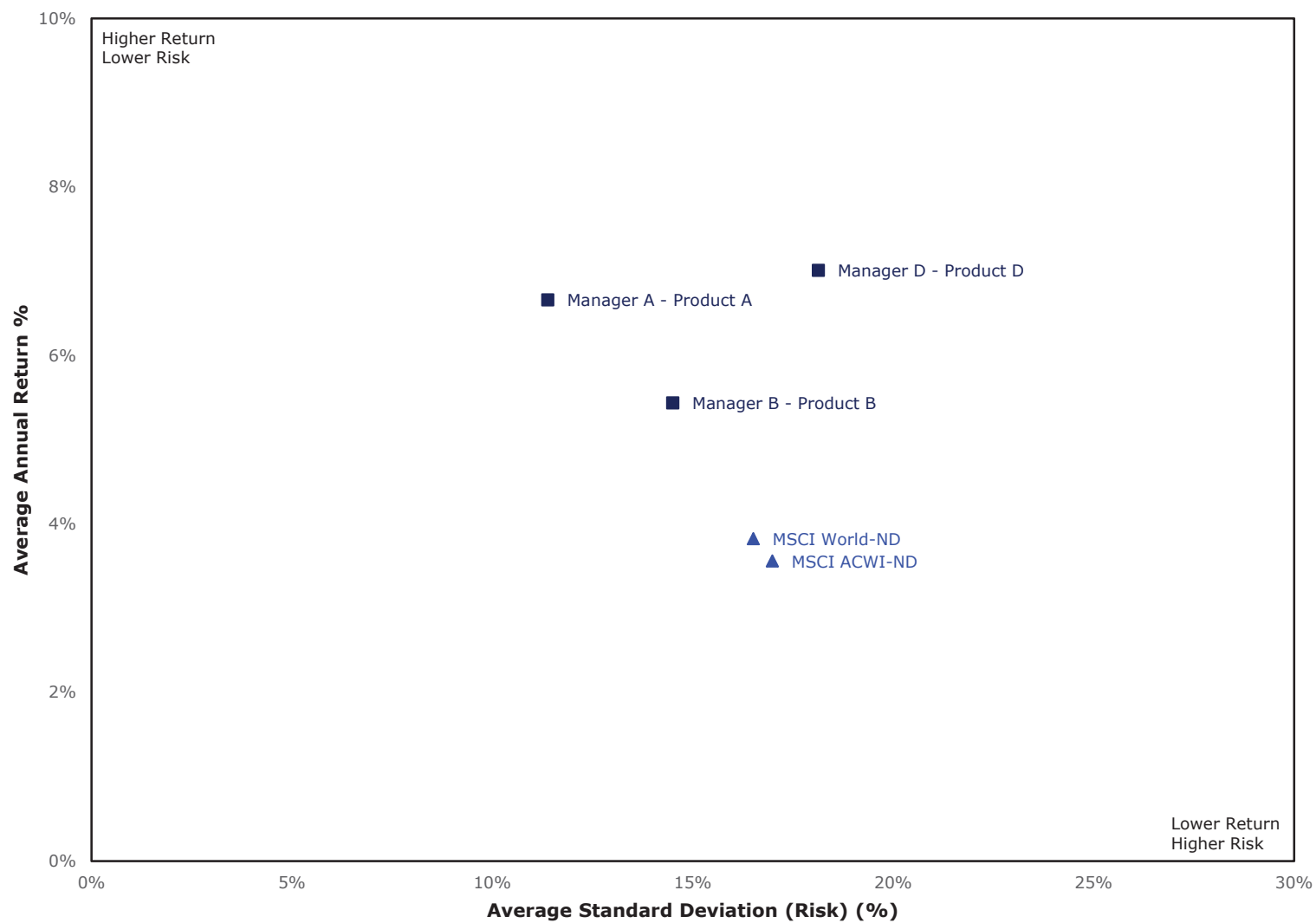
## 5 Year Total Risk/Returns Comparison - (Net of Fees)



## 7 Year Total Risk/Returns Comparison - (Net of Fees)



## 10 Year Total Risk/Returns Comparison - (Net of Fees)





# Appendix



# Profiles



### Manager E

Source: NEPC and eVestment  
August 2016

### Product E

#### Firm Description

Manager E Asset Management, a subset of Manager E Capital Management, was established with the goal of broadening what Manager E Capital is doing in Canada and applying that to the US market place. Firm ownership is split amongst multiple parties with 26% of the firm is publicly traded on the Canadian Stock Exchange, 28% of the firm is owned by employees, 35% is owned by the National Bank of Canada, and 11% is owned by Desjardins Financial.

#### NEPC Investment Thesis

Manager E's investment style is Quality Growth at a Reasonable Price. They look to invest in growth companies that are market leaders and have a consistent record of outperforming their peers. Quality is an important element of their investment philosophy. The most important qualities Manager E looks for when buying stocks are: strong consistent cash flow, clean balance sheets, quality of management, high return on invested capital, and a dominant market position.

#### People

Employee C is the architect and lead on the strategy. He joined Manager E on March of 2009 and shortly after that built out the team. The analysts are all based in Montreal and are split up by sector. Decisions are made by the team. The team is compensated on the performance of the fund as a whole not based on how each individual analyst picks stocks.

#### Philosophy

The Manager E investment philosophy is based on bottom up fundamental research to identify excellent quality companies that deliver superior growth potential trading at attractive valuations. The ideal company will have a sustainable competitive advantage with high barriers to entry. They strive to identify companies that have a high return on invested capital. The process focuses on stock selection and results in a concentrated portfolio, with low turnover.

## Investment Firm/Product Profile

### Manager E

### Product E

#### Investment Strategy

The investment process begins with the MSCI World Index countries as well as key emerging markets countries; the team narrows the investable universe from 10,000 to 1,000 names by excluding stocks that fail to meet minimum market capitalization, profitability, and liquidity requirements. Next, the top 200 candidates are ranked using a proprietary model that grades companies within their sector and versus the broader universe by evaluating quality, growth, and valuation metrics. Additional idea generation is achieved internally, through idea sharing and discussion, and externally, through visits with company management and by reviewing outside research. After this, the group begins a valuation assessment utilizing discounted cash flow and intrinsic value calculations.

The fundamental analysis of each company is initiated through a competitive analysis focused on portraying a company's competition, identifying barriers to entry within its industry and establishing the industry's key drivers. The team then focuses on the company's positioning relative to its industry, paying specific attention to:

Best-in-class characteristics

Strategic direction

Source of competitive advantage

Quality of management

Company specific risk factors

## Investment Firm/Product Profile

### **Manager E**

### **Product E**

The resulting portfolio consists of 40-60 securities. Security weights are based on conviction and the risk/reward profile. The strategy's benchmark agnostic approach results in sector weightings that are a fallout of stock selection, risk management guidelines ensure appropriate sector diversification.

### **Portfolio**

The portfolio is run benchmark agnostic. Manager E will not be more than +/- 15% at a sector level. The portfolio will hold roughly 50 names. The benchmark for the fund is MSCI World. Position sizes are limited to a max of 8%, but in the history of the portfolio they have never been above 5%. They will never hold positions less than 1% within the portfolio. They do not tend to hold cyclical companies and tend to overweight the staples and industrials space. They have never invested in utilities.

### **Performance Expectations**

The strategy will tend to protect capital in down markets and outperform the benchmark. In markets where cyclical stocks are rewarded, the strategy will tend to struggle on a relative basis.

### Manager E

#### Product E

##### **Employee C, CFA, Vice President and Senior Portfolio Manager**

Employee C is head of Foreign Equities and is the lead manager of the U.S., International and Global equity strategies. Prior to joining Manager E in 2009, Employee C was Head of Global Equities & Manager of the US and Global equity funds at Montrusco Bolton (2004-2009). He was a Senior Global research analyst at Montrusco Bolton for four years before being named Head of Global Equities. Employee C is a Chartered Financial Analyst and received a Bachelor of Business Administration from American University and a Masters of Business Administration from McGill University.

### Manager B Product B

J Source: NEPC and eVestment  
August 2016

#### Firm Description

In April 2004, the six founding partners left Natcan to form Manager B. The firm is 100% owned by eleven employees, including the six founding principals. Vital Proulx, President of Manager B, holds a majority stake of 50.1% while the 10 other employees share the remaining 49.9%. Manager B is located and headquartered in Montreal, Canada.

#### NEPC Investment Thesis

Manager B leverages quantitative models to objectively process large amounts of economic information. These models are used to validate fundamental macro analysis as well as bottom up fundamental research. Top-down analysis is critical to alpha generation. Hexavest's expertise in analyzing macroeconomic factors and translating that analysis into the identification of market performance drivers results in 80% of the value add. The critical component to alpha generation and key to the firm's ability to run a successful product going forward is Vital Proulx.

#### People

The global equity portfolio is managed by a team of 8 individuals. Mr. A makes the final regional and currency allocation decisions. The team members responsible for a given region, in collaboration with Mr. A, make the country & sector allocations within that region. Bottom up stock selection is driven by regional team heads. Mr. B and Mr. C are entirely responsible for Europe. Mr. D covers Asia and both Mr. B and Mr. C oversee Emerging Markets. Lastly, Ms. E covers North-American stocks.

#### Philosophy

Hexavest's investment process actively manages multiple drivers of performance that allows the firm to maximize the probability of success and minimizes the risk of underperforming the global equity benchmark. Key performance drivers include sector, industry, security and currency impacts. All research is conducted with a strong emphasis on preservation of capital which results in a valuation bias over time.

### **Manager B** **Product B**

#### **Investment Strategy**

The first step of the process is for the portfolio managers to determine region, country, currency, sector and industry allocations based on analysis of the macroeconomic environment, financial market valuations, and investor sentiment. The allocation decisions are challenged and supported by proprietary quantitative models which incorporate multi-factor analysis.

The end result of this first step is a macro portfolio consisting of the entire MSCI World Index with adjusted weights that reflects the team's consensus macroeconomic views with regard to regions, countries, currencies, sectors and industries.

The second step of the portfolio construction process consists of building an optimized portfolio that uses a smaller number of holdings that replicate the characteristics of the macro portfolio (generally between 300 and 350 stocks). This is achieved with the help of Barra optimization software.

After the optimization phase, the team leverages their proprietary quantitative model to assess the relative ranking of the stocks proposed by Barra for inclusion in the portfolio. The model ranks the stocks according to approximately 50 variables that are grouped into the following families: value, growth, momentum, consensus quality, size, volatility, financial leverage, and efficiency. Portfolio managers closely analyze stocks ranking in the top two and bottom two deciles, incorporating analysis based on fundamental research and qualitative factors. Portfolio Managers qualitatively assess company growth strategies, barriers to entry, management strengths, and competitiveness in order to complement their quantitative analysis. Since Manager B's stock analysis model analyzes all stocks that are part of the MSCI World Index, any stock that ranks highly in the model but has not been identified for inclusion by Barra will be subject to closer analysis by portfolio managers. Once the stock analysis is completed, portfolio managers underweight or eliminate stocks that show little promise and replace them with stocks that display higher potential. When the model's results coincide with the manager's conclusions, a manager is more inclined to take an overweight/underweight position in the security.



## Investment Firm/Product Profile

### **Manager B Inc. Product B**

#### **Portfolio**

The final portfolio has historically consisted of 300-350 names, but has no set hard limit on the number of names they can hold. Regions are constrained to a minimum of 15%, or 40% of the benchmark weighting, whichever is greater. Maximum regional allocations are limited to 15% over the benchmark weighting. Cash is constrained to a maximum of 10%. Sectors are constrained to plus or minus 10% relative to the benchmark. Final tracking error in the portfolio has ranged between 3-5% over the history of the product.

#### **Performance Expectations**

Over the history of the product Manager B has been roughly market cap neutral relative to the benchmark, with the exception of 2006-2008 where the defensive bias in the portfolio led Manager B to overweight the large cap portion of the market. Manager B has seen minimal benefit relative to other managers through the use of emerging markets over/underweights. Performance in 2008 was driven by overweighting to defensive sectors and underweight the more cyclical portions of the market. Outperformance in 2009 was driven by an overweight to materials sectors in the first half of the year. Underperformance in 2010 was a result of a cash position and an underweight to the Yen.

## Biographies of Key Professionals

### **Manager B Inc. Product B**

#### **Employee B, President**

Employee B is responsible for the overall portfolio strategy. He began his career in 1989. He has 20 years of global investment experience and co-founded Manager B in 2004. His credentials include: CFA, Chartered Financial Analyst (1993); CCSE, Successful examination of the Canadian Commodity Supervisors Examination, Canadian Securities Institute (CSI) (1997); CFE, Successful examination of the Canadian Future Examination, (CSI) (1993); B.B.A. (Finance), Laval University (1988). Employee B's prior work experience includes: Senior Vice President, International Equities at Natcan Investment Management from 1998 to 2004; Chairman of the Board, President, CEO and Director of Cancap Preferred Corporation from 2002 to 2003; President of KOGEVA - International Investments from 1996 to 1998; Financial Analyst and Vice President, International Investments at Les Conseillers Financiers du St-Laurent from 1989 to 1996; and Lecturer at the Actuarial School of the Laval University in 1989 and 1990.

#### **Employee D, CFA, ASA, Senior Vice President, Chair of Investment Committee**

Employee D began his investment career in 1991. He joined the team in 1998 and serves as Senior Vice President for Service and Business Development at Natcan Investment Management. Prior to that, he was a Senior Consultant at SEI Investment Inc. from 1996 to 1998. Prior to that, he was a consultant at MLH +A Actuaries and Consultants from 1987 to 1996. He received a B.Sc. in Mathematics from the Universitede Montreal in 1984, and an ASA in 1990. He has earned the Chartered Financial Analyst designation.

## Equity Sector Allocations

Firm/Product	Consumer Discretionary (%)	Consumer Staples (%)	Energy (%)	Financials (%)	Health Care (%)	Industrials (%)	Info. Tech. (%)	Materials (%)	Real Estate (%)	Tele. Serv. (%)	Utilities (%)	Other (%)
<b>Global Equity</b>												
Manager F - Product F	10.6	9.7	5.4	9.7	15.6	12.7	31.7	4.7	0.0	0.0	0.0	0.0
Manager C - BP Global	10.8	6.0	8.5	21.5	12.5	15.8	16.2	6.4	0.0	1.8	0.5	0.0
Manager E - Product E	14.5	15.2	0.0	16.5	17.3	21.5	12.4	2.7	0.0	0.0	0.0	0.0
Manager A - Product A	10.3	5.7	6.8	17.7	4.9	16.7	13.1	16.5	4.1	2.0	0.5	1.8
Manager B - Product B	13.9	10.1	2.3	24.0	12.4	6.1	9.9	2.7	7.0	8.4	3.2	0.0
Manager D - Product D	20.7	4.2	3.7	29.5	2.5	14.2	11.8	6.1	3.8	3.2	0.3	0.0

Benchmark												
MSCI ACWI-ND	12.1	9.5	6.7	18.7	11.3	10.7	16.1	5.3	3.1	3.5	3.1	0.0

## Firm Comparison Summary

Firm Name	Location	Year Firm Founded	Total Assets Under Mgmt (\$MM)	% Employee Owned	% Parent Owned	Parent Company Name	% Publicly Held	% Other Ownership
<b>Global Equity</b>								
Manager F Partners Limited Partnership	Milwaukee, Wisconsin	1994	96,845	79	0	Manager F Partners Asset Management Inc.	0	21
Manager C Global Investors, Inc.	New York, New York	1970	87,221	0	100	Robeco Group	0	0
Manager E Capital Corporation	Montreal, Quebec	2003	116,924	17	0	NA	53	30
Manager A Investment Management, LLC	New York, New York	1937	97,058	18	59	Manager A Holdings, Inc.	0	24
Manager B Inc.	Montreal, Quebec	2004	14,118	51	49	Eaton Vance	0	0
Manager D	London, England	2013	6,020	100	0	NA	0	0

Firm Name	Registered Investment Advisor	GIPS Compliant	Past or Pending Litigation	Firm uses Placement Agent
<b>Global Equity</b>				
Manager F Partners Limited Partnership	Yes	Yes	Yes	No
Manager C Global Investors, Inc.	Yes	Yes	No	No
Manager E Capital Corporation	Yes	Yes	No	No
Manager A Investment Management, LLC	Yes	Yes	No	No
Manager B Inc.	Yes	Yes	Yes	Yes
Manager D	Yes	No	No	Yes

## Account Minimums and Fee Schedules

Firm/Product	Separate Account Min. (\$MM)	Commingled Fund Min. (\$MM)	Mutual Fund Min. (\$MM)	Separate Account Fee Schedule	Commingled Fund Fee Schedule	Mutual Fund Ticker and Fee
<b>Global Equity</b>						
Manager F - Product F	30	0	1	First \$50 million - 0.80% Next \$50 million - 0.60% Balance - 0.50%	All Assets at 0.85%*	APHRX - 0.93%
Manager C - Product C	25	1	0	First \$25 million - 0.75% Next \$25 million - 0.65% Next \$50 million - 0.55% Balance - 0.50%	All Assets at 0.70%	BPGIX - 0.95%
Manager E - Product E	50	5	NA	First \$50 million - 0.85% Next \$50 million - 0.65% Next \$50 million - 0.55% Balance - 0.55%	First \$25 million - 0.75% Next \$50 million - 0.65% Next \$100 million - 0.55% Balance - 0.50%	Not Available
Manager A - Product A	100	5	1	All Assets at 0.75%	All Assets at 0.89%	SGIIX - 0.84%
Manager B - Product B	50	5	0	First \$20 million - 0.70% Next \$30 million - 0.60% Next \$50 million - 0.50% Next \$100 million - 0.40% Balance - 0.30%	First \$10 million - 0.60% Next \$30 million - 0.50% Balance - 0.40%	EHGIX - 0.99%
Manager D - Product D	200	25	NA	A 0.30% management fee and a 20% performance fee charge on outperformance over the MSCI ACWI measured in rolling 5 year periods	A 0.30% management fee and a 20% performance fee charge on outperformance over the MSCI ACWI measured in rolling 5 year periods	Not Available

\*ERISA only



## Litigation

Firm	Manager's explanation of Prior or Pending Litigation
<b>Global Equity</b>	
Manager F Partners Limited Partnership	In June 2011, a complaint entitled <i>Reso v. Manager F Partners Limited Partnership</i> was filed in the U.S. District Court for the Northern District of California (and subsequently transferred to the U.S. District Court for the Eastern District of Wisconsin), naming Manager F Partners as the defendant in a lawsuit challenging the investment advisory fees it charged to certain series of Manager F Partners Funds, Inc. managed by it. The complaint alleged, among other things, that Manager F Partners breached its fiduciary duty by charging excessive management fees to Manager F International Fund, Manager F International Value Fund and Manager F Mid Cap Value Fund in violation of Section 36(b) of the Investment Company Act of 1940, as amended. Manager F Partners believed the claims were without merit and defended the case vigorously. In August 2012, the case was resolved and dismissed with prejudice without a material adverse effect on Manager F Partners' financial position or results of operations. In September 2003, a purported class action ( <i>T.K. Parthasarathy v. Manager F Partners Limited Partnership and Manager F Funds, Inc.</i> ) was filed in the Circuit Court, Third Judicial Circuit, Madison County, Illinois, against Manager F Partners and Manager F Funds with respect to Manager F International Fund. The basic allegations in the case were that the Manager F Partners defendants did not make appropriate price adjustments to the foreign securities owned by Manager F International Fund prior to calculating the Fund's daily share prices, thereby allegedly enabling market timing traders to trade the Fund's shares in such a way as to disadvantage long-term investors. Following years of procedural litigation in state and federal courts, the case was resolved and dismissed with prejudice in May 2008 without a material adverse effect on the financial position or results of operations of either Manager F Partners or Manager F International Fund. Manager F Partners, Manager F Funds and each director of Manager F Funds were defendants in a purported class action lawsuit brought in January 2005 in federal district court for the Eastern District of Wisconsin. The suit alleged that Manager F Funds, by action or inaction of the defendants, failed to participate in settlements of securities class action litigation relating to portfolio securities. After substantiation to plaintiffs' counsel of the participation in securities class action litigation settlements relating to portfolio securities held by Manager F Funds, plaintiffs' counsel consented to dismissal of the complaint in February 2005.
Manager C Global Investors, Inc.	There is no prior or pending litigation.
Manager E Capital Corporation	There is no prior or pending litigation.
Manager A Investment Management, LLC	There is no prior or pending litigation.
Manager B Inc.	A few months following the creation of Manager B in April 2004, Natcan Investment Management, the founding partners' former employer, filed a lawsuit against Manager B and its principals. In September 2004, an out-of-court settlement was reached, to both parties' satisfaction. As of today, Manager B has a good relationship with Natcan Investment Management and the firm was even awarded an investment mandate in December 2006 from Trust Banque Nationale, a sister company of Natcan.
Manager D	There is no prior or pending litigation.

- **This report contains summary information regarding the investment management approaches described herein but is not a complete description of the investment objectives, policies or portfolio management and research that supports these approaches. This analysis does not constitute a recommendation to implement any of the aforementioned approaches.**
- **Past performance is no guarantee of future results.**
- **Information on market indices was provided by sources external to NEPC, and other data used to prepare this report was obtained directly from the investment manager(s). While NEPC has exercised reasonable professional care in preparing this report, we cannot guarantee the accuracy of all source information contained within.**
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# NEPC 2019 INVESTMENT OUTLOOK

## THEMES AND OPPORTUNITIES AND ASSET CLASS ASSUMPTIONS

January 2019

NEPC Research



BOSTON | ATLANTA | CHARLOTTE | CHICAGO | DETROIT | LAS VEGAS | PORTLAND | SAN FRANCISCO



# THEMES AND OPPORTUNITIES

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# ASSET CLASS ASSUMPTIONS

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# INTRODUCTION

# THEMES AND OPPORTUNITIES

## Key Market Themes

Key Market Themes are factors that define global markets and can be expected to both evolve and remain relevant without a clear timeline of conclusion. At times, themes may be challenged or disrupted and generate market volatility. The conclusion of a theme likely alters both market dynamics and our market outlook. Our intent is for clients to be aware of these themes and understand their implications for asset allocation and portfolio implementation.

## Current Opportunities

Current Opportunities are investment ideas that represent an action with the goal of improving investment outcomes relative to an investor's strategic asset allocation. It is not our intent that the full list of opportunities be implemented. Rather, we encourage a focus on the actions that offer a material benefit to each client's strategic allocation relative to their unique objectives and constraints. These investment ideas are likely to change more frequently as market dynamics and valuations shift over time.

# 2019 SUMMARY OUTLOOK

## **Market dynamics shifted significantly in 2018, with Fed policy and US-China trade tensions disrupting many of our key market themes**

As a result we have removed Federal Reserve Gradualism, Extended US Economic Cycle, and Global Synchronized Growth as key themes

## **We believe we have entered a late-cycle market environment and the dynamics of such an environment will be a focal point for investors**

However, late-cycle does not mean end of cycle and equities can still offer lucrative returns, though are likely to be accompanied by additional volatility

## **We encourage investors to rebalance developed market equity exposure**

We have downgraded our outlook for non-US developed equities and removed the overweight recommendation from our current opportunities list

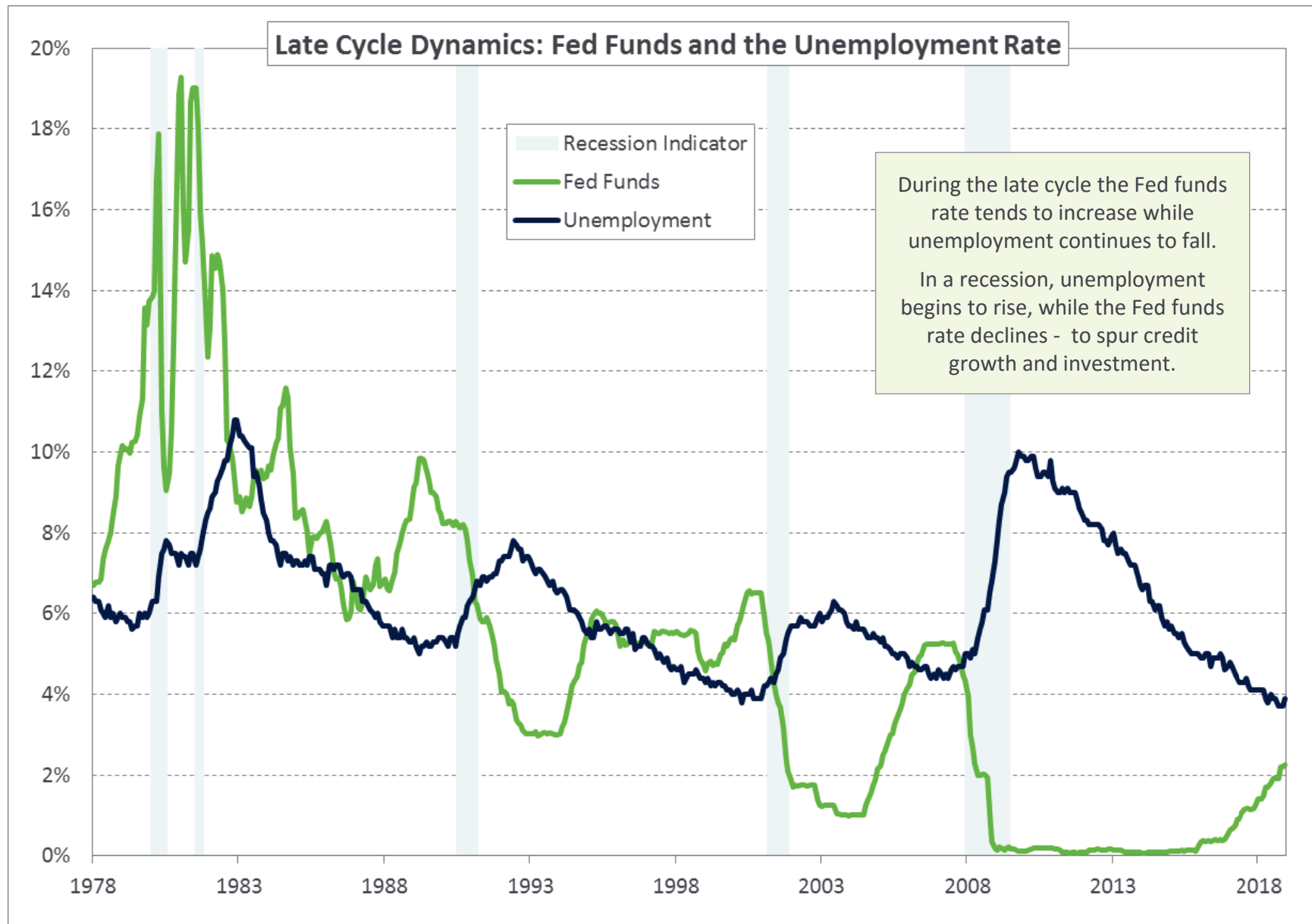
The main driver of the change is negative sentiment surrounding economic and political conditions of Europe, concerns related to the earnings growth outlook, and central banks paring back their support of easy financial conditions

## **The transition to a late-cycle is accompanied with a more risk-averse investment outlook as economic risks become more pronounced**

After years of low volatility and outsized equity returns, the market is likely to transition to a higher volatility regime, which offers more risk but also tactical opportunities

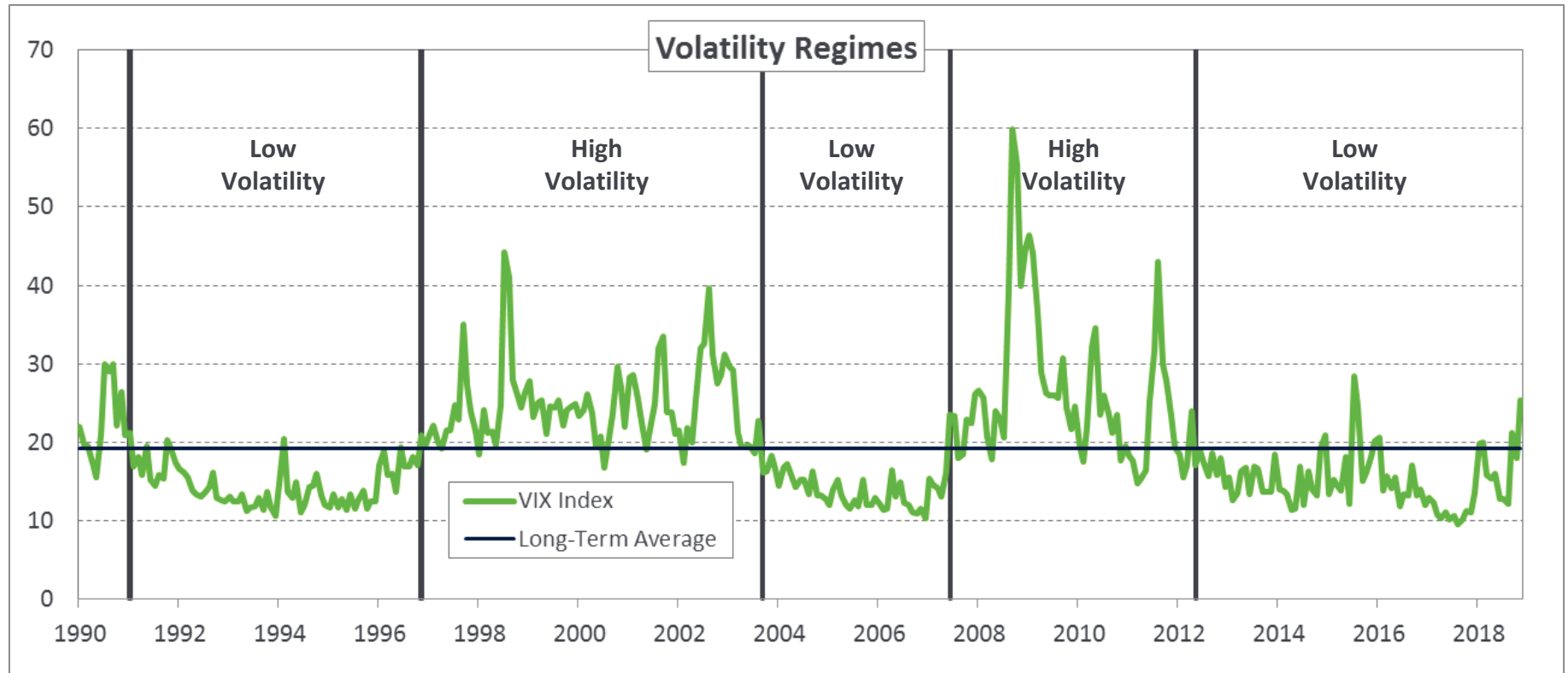
We recommend reducing lower quality credit exposure as higher default rates are a common aspect of late-cycle market dynamics

# THE ECONOMIC CYCLE IS IN TRANSITION



Source: St. Louis Federal Reserve, NBER

# BRACE FOR HIGHER VOLATILITY IN 2019



Source: S&P, CBOE, Bloomberg, NEPC

## Equity volatility regimes tend to persist over prolonged periods and 2018 was witness to a material shift higher in equity volatility

We encourage investors to raise "safe haven" fixed income exposure as trends associated with each of our key market themes suggest higher volatility is on the horizon

## 2019 may prove to be a difficult year for markets but higher volatility can also offer a greater number of opportunities for dynamic investors

Investors should be prepared to act in a higher volatility regime, as dynamic opportunities may arise to deploy safe-haven assets back into US equity and other risk assets

# 2019 THEMES AND OPPORTUNITIES

## Key Market Themes

Late Cycle Dynamics

Tightening Global Liquidity

China Transitions

Globalization Backlash

## Current Opportunities

Rebalance Developed Market Equities

Raise Safe-Haven Fixed Income Exposure

Reduce Lower Quality Credit Exposure

Maintain Overweight to Emerging Market Equities

Add Long Volatility Exposure

Fund Public Midstream Energy Exposure

Fund Emerging Local Debt



# KEY MARKET THEMES

# KEY MARKET THEMES

**Late Cycle Dynamics**

**Tightening Global Liquidity**

**China Transitions**

**Globalization Backlash**

# KEY MARKET THEMES

## Late Cycle Dynamics

### The US economy has transitioned from a mid- to late-cycle environment

Late cycle does not mean end of cycle; equity markets can offer strong returns and abandoning risk assets early may detract from long-term results

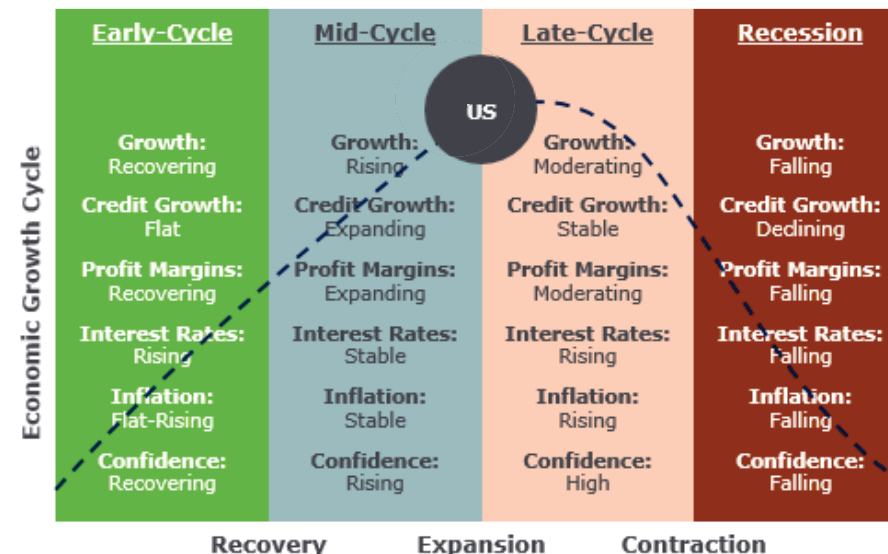
Positive economic data can support continued US economic expansion and further equity gains

However, moving into a late cycle negatively skews the range of outcomes and our investment outlook reflects a more risk-averse posture with a bias toward selling low quality credit and increasing safe-haven fixed income exposure

### Trends among key indicators suggest a transition to late-cycle has occurred

These indicators provide a useful guide to recognize changes in the economic cycle

Despite the recent trend, there is minimal evidence in economic/financial indicators to suggest that a US recession is imminent



US Indicators	Late-Cycle Trend	Current Trend
Equities	Peaking	Uncertain
Interest Rates	Rising	Yes
Yield Curve	Flattening	Yes
Inflation	Rising	Yes
GDP Growth	Moderating	Uncertain
Credit Spreads	Stable/Rising	Yes
Output Gap	Near/Above Potential	Yes
Unemployment	Falling/Bottoming	Uncertain

Source: (Top) NEPC  
Source: (Bottom) NEPC

# KEY MARKET THEMES

## Late Cycle Dynamics

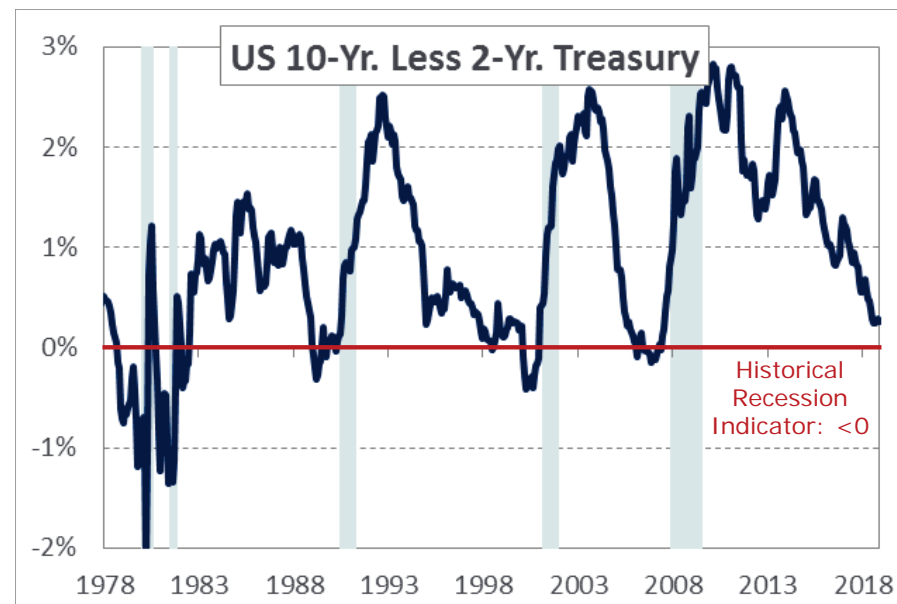
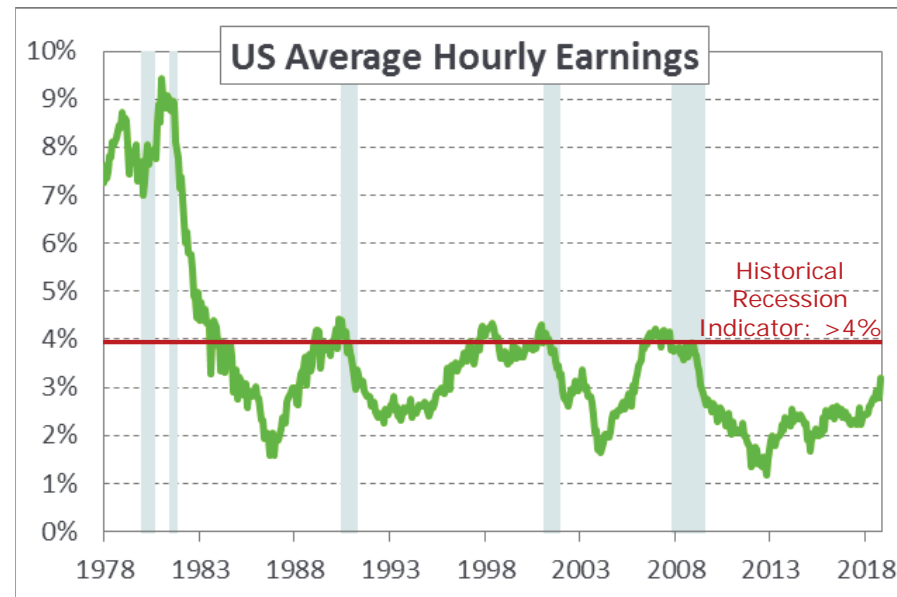
**Key indicators are helpful guides, but all business cycles are different**

Late-Cycle Dynamics	↑	<u>Growth</u> : This expansion has been the longest ever, but cumulative GDP growth remains well below average. Sustainability of current growth from fiscal stimulus remains unclear.
	↑	<u>Interest Rates</u> : The Fed has methodically increased rates off post-crisis lows. They appear to be on a tightening path to push rates above the long-term neutral rate through 2019 and beyond.
	↑	<u>Inflation</u> : Despite record low unemployment rates, inflation pressures have been slow to materialize relative to history. Yet US inflation is up nearly 2% over the last three years, but remains below historic levels.

**We are evaluating market indicators such as the yield curve that would lead us to adopt a defensive outlook**

Should the yield curve invert and economic metrics weaken, our recommendation will be to materially increase safe-haven fixed income and reduce equity exposure

There is a greater need to seek portfolio balance in a late cycle, while the increased volatility may offer tactical opportunities



Source: (Top) Bloomberg, NEPC

Source: (Bottom) Federal Reserve Bank of St. Louis, NEPC;  
Light blue shading indicates recession

# KEY MARKET THEMES

## Tightening Global Liquidity

**The Fed has shifted from a “lower for longer” policy to a more balanced posture of raising rates in line with higher inflation**

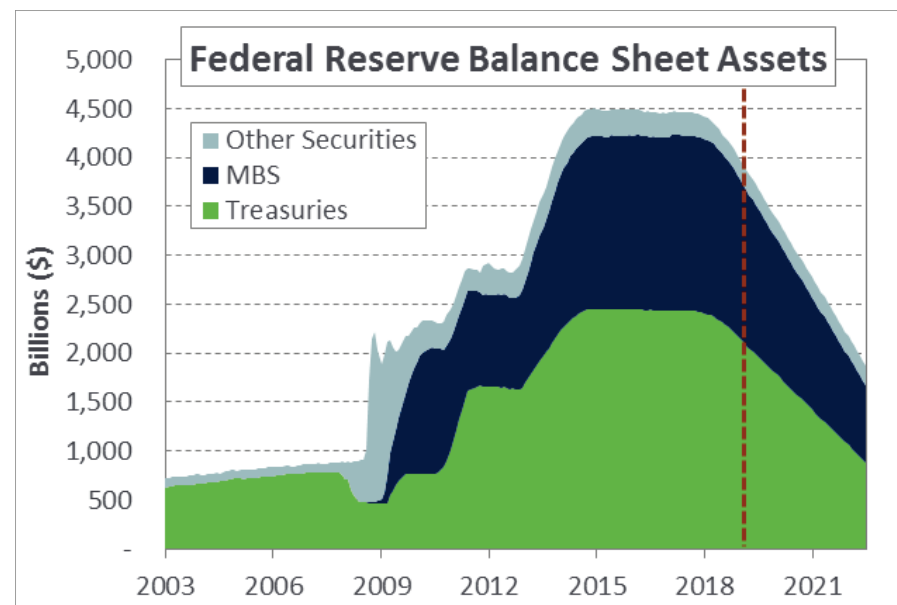
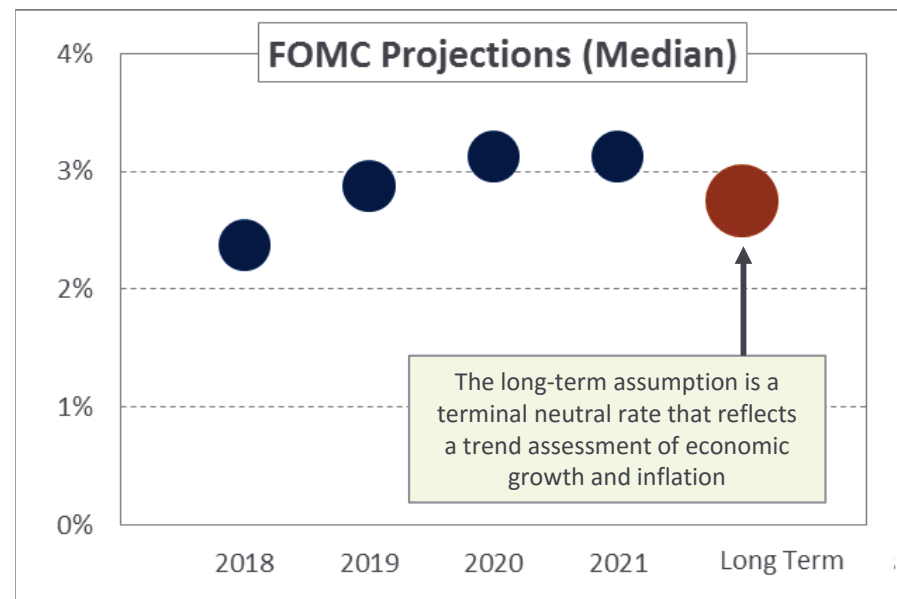
Based on the FOMC projections, the Fed is communicating a tightening path as their forecast for interest rate hikes moves beyond the long-term neutral rate

Markets are discounting a muted pace of hikes relative to Fed projections, creating potential for capital market disruption. However, the Fed’s bias appears to be to raise rates in the absence of market turmoil

**The Fed’s balance sheet has shrunk by \$400B and will continue to decline by a monthly maximum target of \$50B**

Normalization of the balance sheet is a form of monetary policy tightening as liquidity is methodically extracted from the system

The impact of the balance sheet reduction is untested – potentially mirroring how the Fed’s balance sheet expansion (QE) had easing effects



Source: (Top) Bloomberg, NEPC  
Source: (Bottom) Bloomberg, NEPC

# KEY MARKET THEMES

## Tightening Global Liquidity

### Transmission of tighter liquidity is already underway and is felt globally

Slowing money supply growth rates tighten financial conditions and are a headwind for credit and equity markets across the world

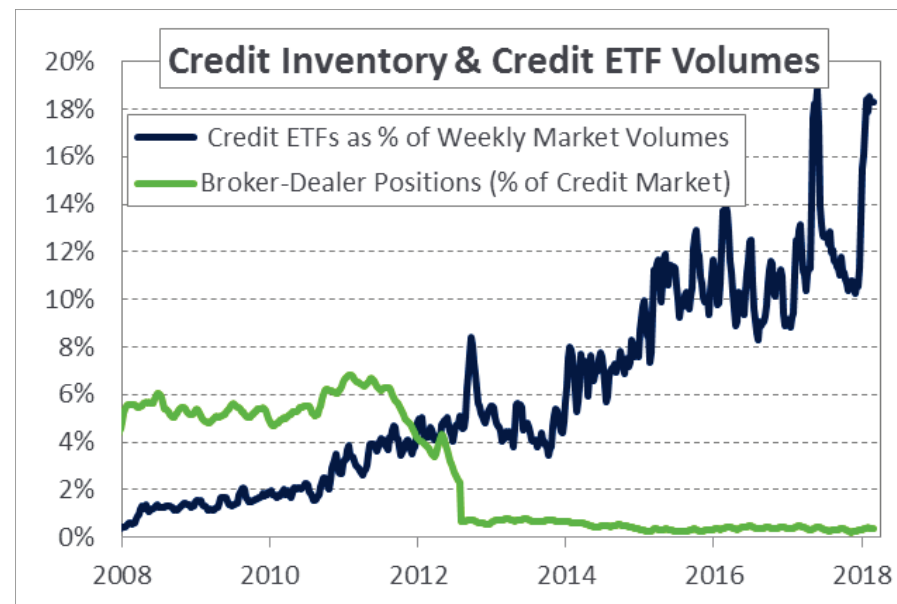
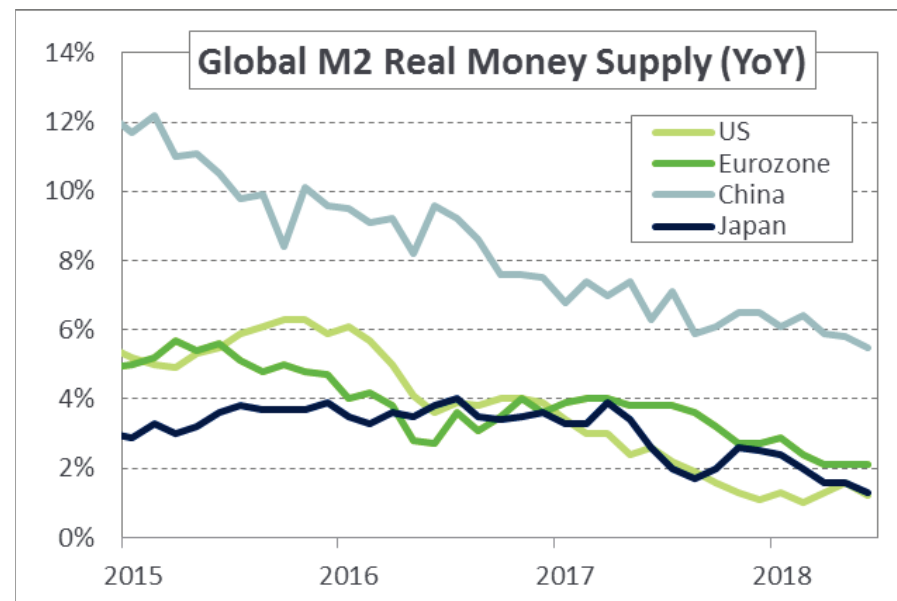
Ability to ease financial conditions is limited outside the US as central banks do not have dry powder with interest rates near historic lows and the ECB restricted in their ability to expand QE purchasing capacity

A pause in Fed tightening or a large stimulus program from China are the limited global levers available to ease tighter conditions

### The diminishing support from central banks warrants caution regarding liquidity in credit markets

Underlying trading conditions for ETF and credit markets remain fragile and are likely to be severely tested to absorb an exodus from crowded credit positions

The "Fed put" or a reversal of balance sheet normalization may be necessary to avoid a liquidity crisis in a severe market disruption



Source: (Top) Bloomberg, NEPC  
Source: (Bottom) Bloomberg, NEPC

# KEY MARKET THEMES

## China Transitions

### China is the global growth engine but faces fundamental transitions

China's economy is transitioning from a focus on production and investment to a service and consumption based economy

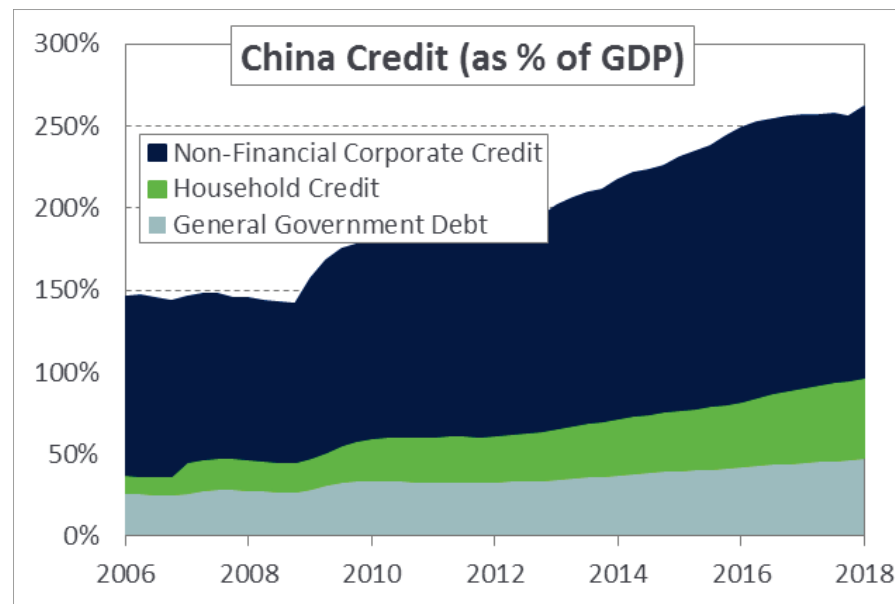
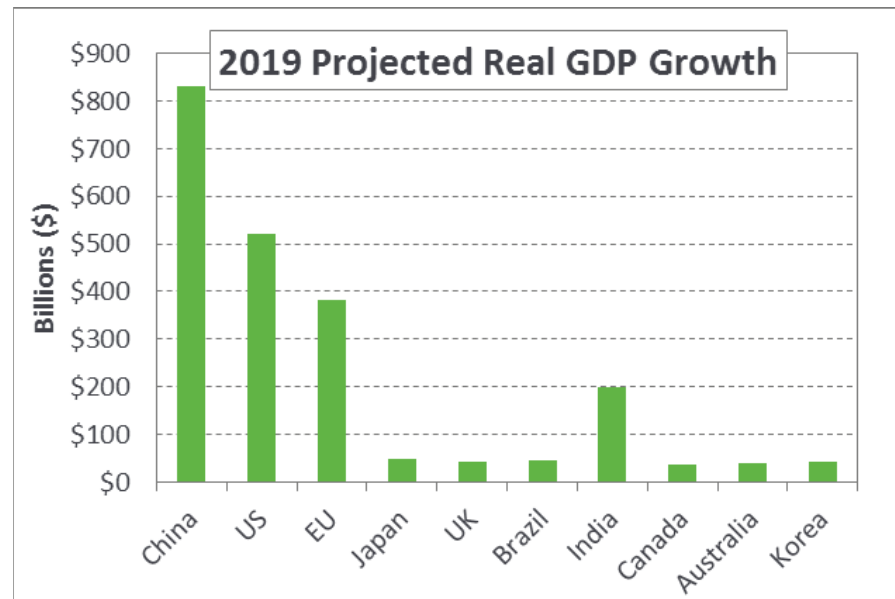
Fixed investment and credit expansion is needed to sustain the "old" production-based economy and support employment as the population shifts to urban centers

Any disruption to these transitions will be transmitted globally due to China's outsized role in the world economy

### Policy makers must continue to balance goals of moderating credit expansion against sustaining healthy economic growth rates

Recent shifts in policy suggest a tilt away from credit moderation to offset the harmful effects of the US-China trade dispute

However, an uncontrolled expansion of credit growth and real estate development pose a future systemic risk to the economy



Source: (Top) Bloomberg, NEPC  
Source: (Bottom) BIS, NEPC

# KEY MARKET THEMES

## China Transitions

### China's economy is expected to equal the size of the US within 25 years

China's increased economic and geopolitical prominence on the world stage can be viewed as a threat to US leadership

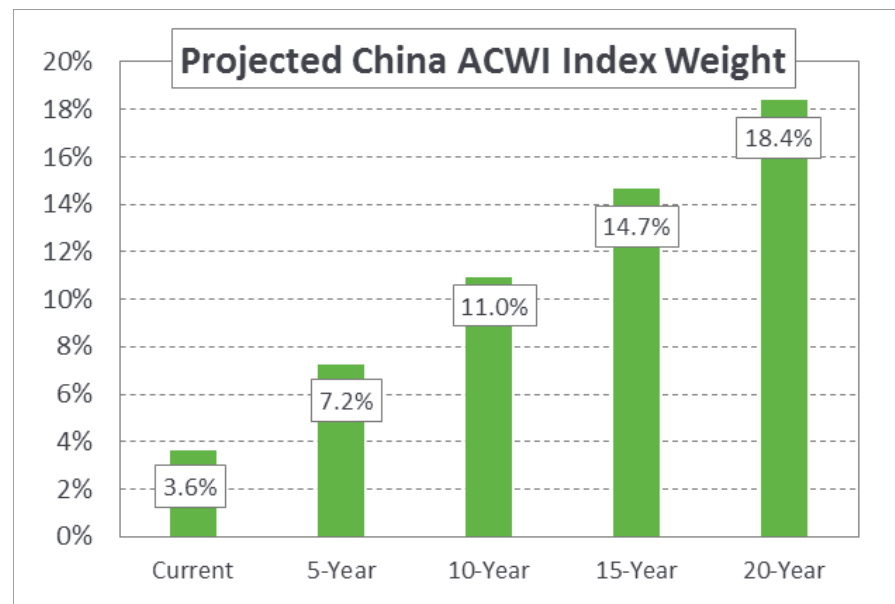
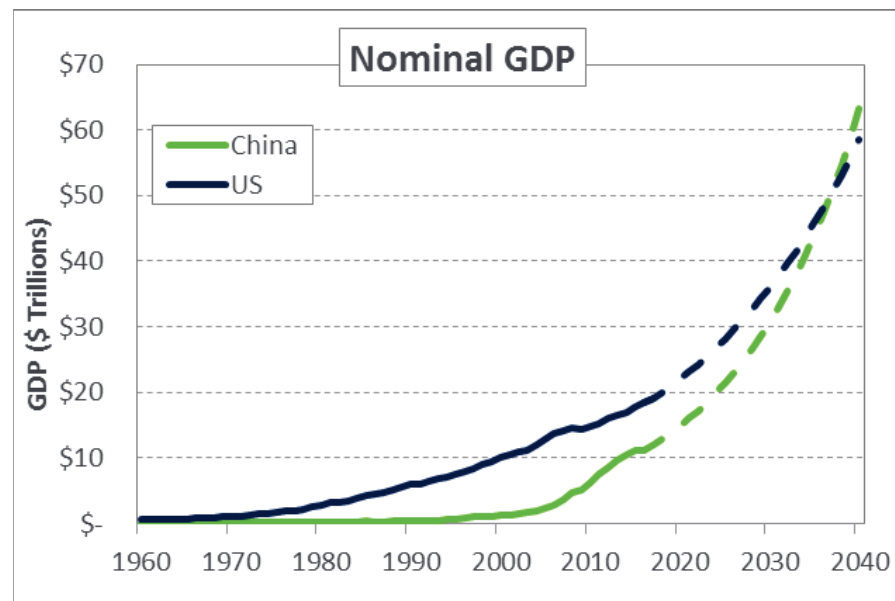
Tariffs and trade conflict are a form of "Thucydides Trap", where a rising power causes fear in an established power

China is in a race against time: *Can they get rich before they get old?* This race may conflict with some US geopolitical interests and risks a zero-sum dynamic of economic competition between the US and China

### Access to local financial markets is accelerating and expected to expand

Expansion of Hong Kong-mainland stock connect program broadens access to A-shares and strengthens the case for increasing size of Chinese equities in indices

With limited access for foreign investors, China is looking to slowly open access to the world's third largest fixed income market



Source: (Top) St. Louis Fed, NEPC; China is projected to grow at 7.5% and the US is projected to grow at 5.0%

Source: (Bottom) MSCI, Bloomberg, NEPC



# KEY MARKET THEMES

## Globalization Backlash

### Uneven economic growth and wage gains have fueled political discontent in the developed and emerging world

Fatigue over globalization has led to a turn inward and greater political interest in nationalism, while multilateral relationships are viewed with suspicion

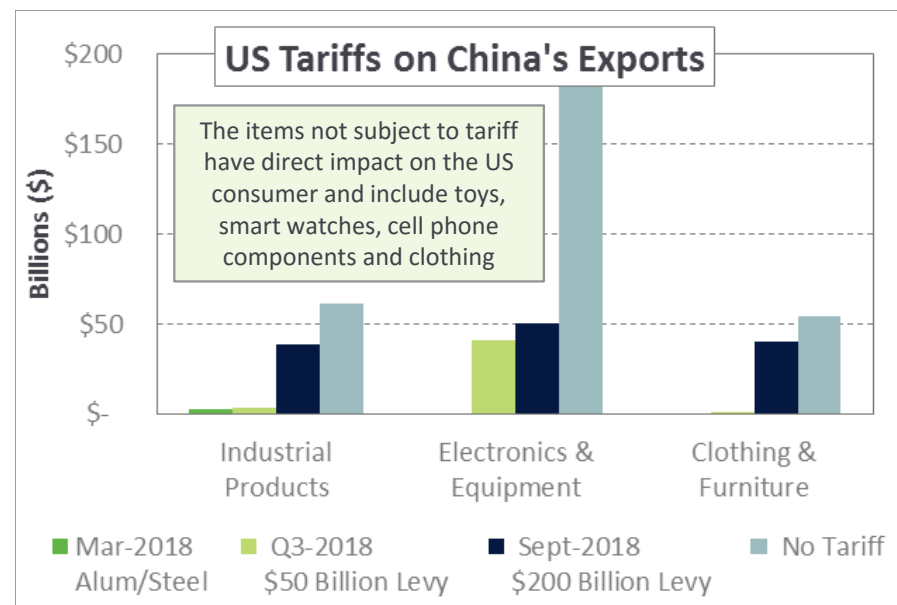
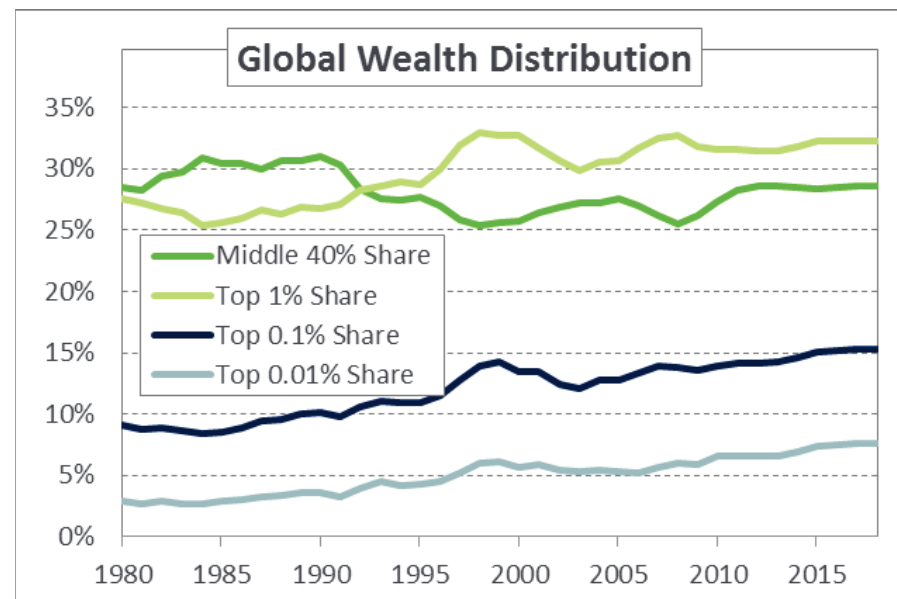
Globalization Backlash is a long-term trend as populist movements lead to shifts away from political/economic orthodoxy, which heightens tail risks

### US-China trade tensions are a full expression of our backlash theme

Levying tariffs is a dangerous game as both the US and China look to negotiate an end to the tensions but must demonstrate strength for their domestic audience

In the past, markets have taken the US administration's rhetoric with a grain of salt but the tit-for-tat tariff escalation with China is a concern for market sentiment

We have likely settled into a prolonged "cold war" in the ongoing US-China trade battle



Source: (Top) WID.World, World Inequality Lab  
Source: (Bottom) USTR, Bloomberg, NEPC

# KEY MARKET THEMES

## Globalization Backlash

### Expanding protectionism from US trade policy is a material risk to global markets and the economy

US adopted a more restrictive trade policy in 2018 and investor sentiment outside the US deteriorated along with US-China relations

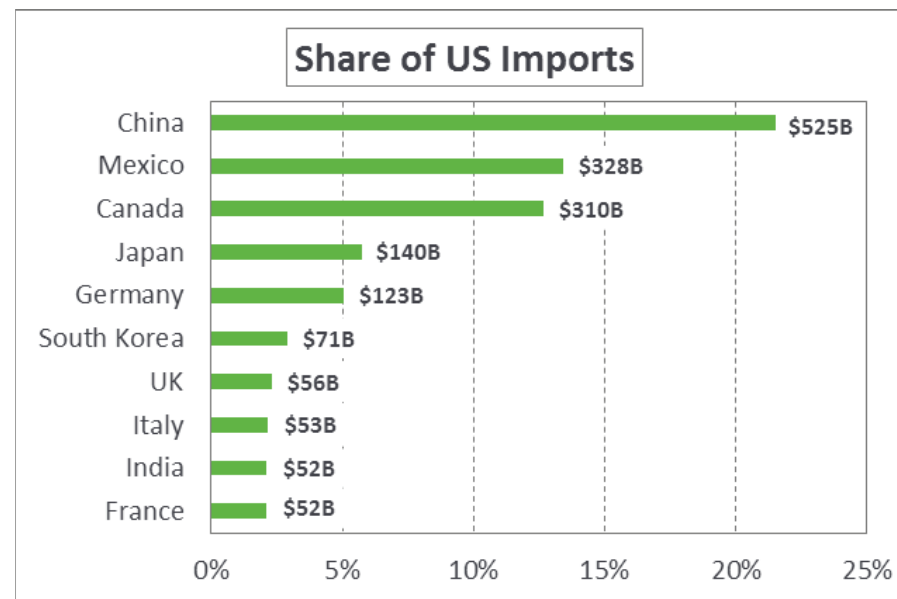
US-China tariffs are the “new normal” and we expect this dynamic to continue for the foreseeable future. We do not anticipate the trade dispute to escalate beyond tariff levies and prohibit the flow of goods and services

### The UK serves as a live case study for the effects of globalization backlash

Economic metrics across the country have turned lower in the time since the UK voted to leave the European Union

Deterioration in business and consumer confidence along with potential disruption to the financial sector are a cautionary tale

The economic unease of voters remain and the political instability likely leads to higher levels of currency volatility over time



	Brexit Vote	Current
Real GDP (YoY%)	1.7%	1.5%
Household Consumption	3.3%	1.8%
Exports (YoY%)	1.1%	-1.3%
Imports (YoY%)	3.2%	0.2%
CPI (YoY%)	0.4%	2.5%
Unemployment (%)	4.9%	4.0%
Central Bank Rate	0.50%	0.75%
GBP/USD Exchange Rate	1.49*	1.28
Economic Sentiment	106.9	105.6

Source: (Top) Bloomberg, NEPC

Source: (Bottom) Bloomberg, NEPC, \*Data as of 6/23/16

# CURRENT OPPORTUNITIES

# CURRENT OPPORTUNITIES

## **Rebalance Developed Market Equities**

Funding Sources: EAFE equity, lower quality credit, multi-asset strategies

## **Raise Safe-Haven Fixed Income Exposure**

Funding Sources: Lower quality credit, equity, multi-asset strategies

## **Reduce Lower Quality Credit Exposure**

Funding Sources: High yield, bank loans, US direct lending

## **Maintain Overweight to Emerging Market Equities**

Funding Sources: US equity and EAFE equity

## **Add Long Volatility Exposure**

Funding Sources: Multi-asset strategies

## **Fund Public Midstream Energy Exposure**

Funding Sources: Commodities, high yield, equity

## **Fund Emerging Local Debt**

Funding Sources: High yield and equity

# CURRENT OPPORTUNITIES

## Rebalance Developed Market Equities

### Adjust US and EAFE regional exposure to developed market index weights

Continue to recommend an overweight to emerging equity and adopt an index weight for US/EAFE relative to MSCI World

We encourage a global equity target weight of 52% to the US, 33% EAFE, and 15% to the EM. Larger overweight to EM can be funded pro rate from developed equity

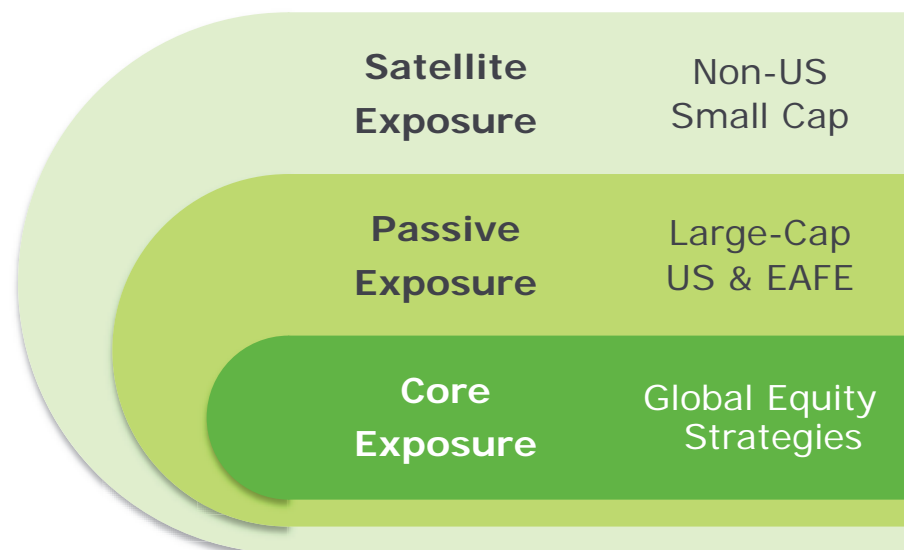
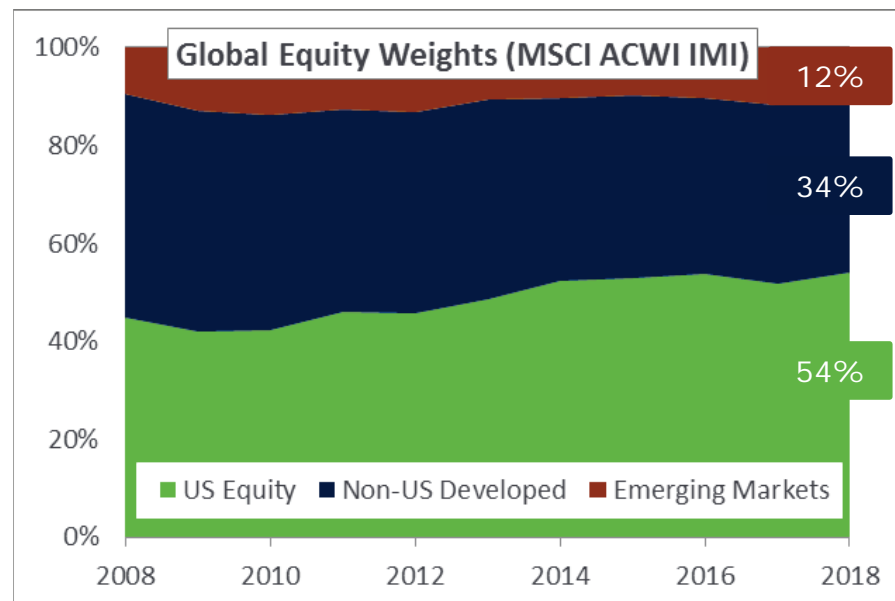
Should US equity declines continue, look to exploit the market volatility and overweight US exposure relative to EAFE index weights

### Global equity strategies can serve as the core implementation approach for developed market equity exposure

We remain supportive of pairing active global equity strategies with passive large-cap US and EAFE equity exposure

Within non-US developed markets, we have a strong bias to active small-cap equities

EAFE and US small-cap are a viable funding source for private market commitments



Source: (Top) MSCI, Bloomberg, NEPC; represents free float market cap weights as of 12/31 each year

Source: (Bottom) NEPC

# CURRENT OPPORTUNITIES

## Raise Safe-Haven Fixed Income Exposure

### The potential for an adverse economic outcome appears to have expanded

Safe-haven exposure is an essential asset class exposure to mitigate portfolio risks

We are evaluating market metrics such as the yield curve that would cause us to shift to a more defensive recommendation

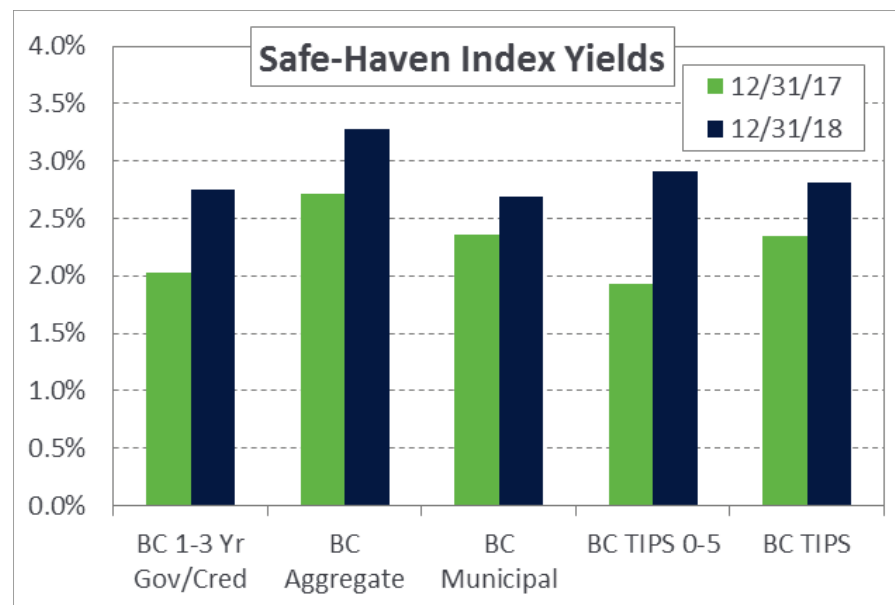
Should the yield curve invert and economic metrics show weakness, we are likely to recommend a material increase to safe-haven fixed income exposure

### Short duration safe-haven exposure is attractive on a relative value basis

We encourage investors to increase safe-haven fixed income and use lower quality credit exposure as a funding source

Market volatility has depressed long rates and inflation expectations making short duration segments an important part of a safe haven allocation

TIPS continue to have a place in safe-haven fixed income as a strategic allocation



Source: (Top) Federal Reserve Bank of St. Louis, NEPC;  
Light blue shading indicates recession

Source: (Bottom) Bloomberg, TIPS yield includes CPI accrual

# CURRENT OPPORTUNITIES

## Reduce Lower Quality Credit Exposure

### Lower-rated credit exposure does not adequately compensate investors for the risk relative to safer alternatives

Late-cycle markets generally exhibit higher than average credit default rates, acutely impacting debt rated BBB and below

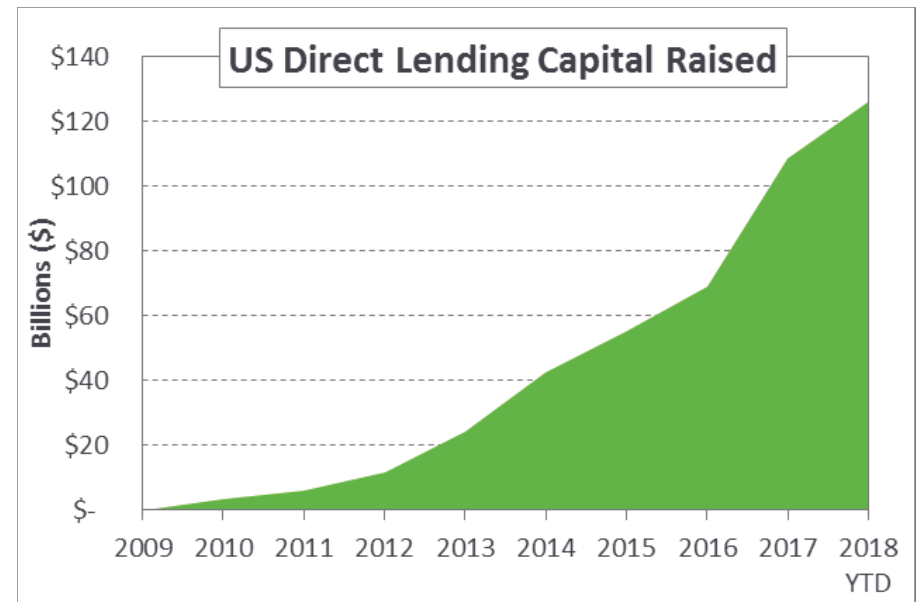
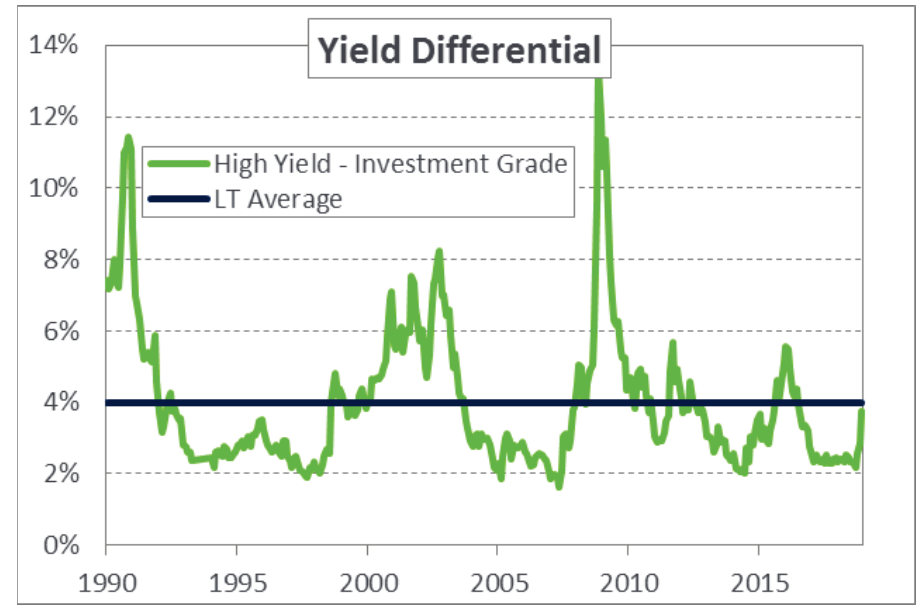
Despite credit spreads trading near median levels, we encourage moving away from lower quality credit and look to alternatives such as safe-haven fixed income, IG CLO's, and higher quality IG corporate bonds

### A misaligned risk-return tradeoff also applies to private credit markets

US direct lending is one example as the space has absorbed a large influx of capital over a multi-year horizon

Distressed and niche segments of private markets offer opportunities but require a hyper-focus on underwriting standards

We encourage reducing exposure to credit segments that have performed well over a prolonged period such as high yield, bank loans, and many private debt approaches



Source: (Top) MSCI, Bloomberg  
Source: (Bottom) Preqin; represents cumulative capital raised

# CURRENT OPPORTUNITIES

## Maintain Overweight to Emerging Market Equities

### Emerging equities offer the highest total return potential for investors

Valuation levels and fundamentals suggest an overweight relative to global equity market cap weights (e.g. 15% to 20%)

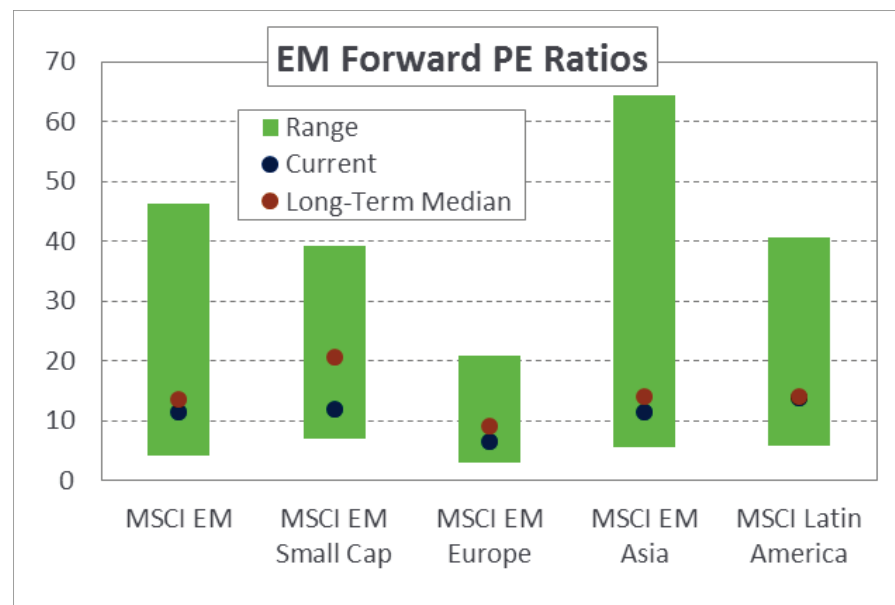
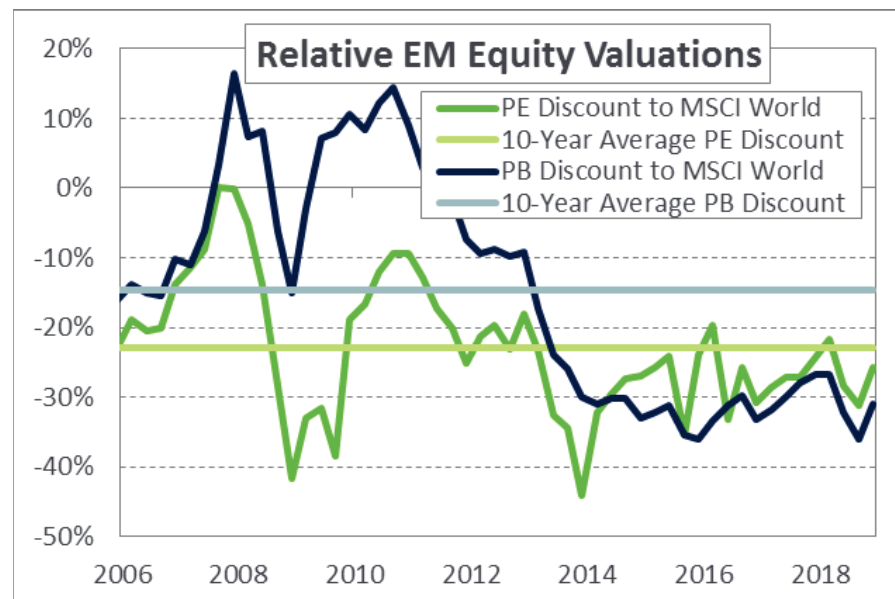
Growth premium relative to the developed world persists as economic conditions in EM remain supportive despite the negative sentiment associated with US trade policies

### High tracking error strategies offer greater flexibility to invest across emerging countries and are preferred to benchmark focused mandates

Opportunity set for active management and excess return appear more abundant in EM versus developed markets

Strategies that invest down the market cap spectrum offer investors more focused exposure to local country growth rates

We encourage the use of multiple emerging market strategies to mitigate the risk of an unintended value-growth style or size bias



Source: (Top) MSCI, Bloomberg  
Source: (Bottom) MSCI, Bloomberg



# CURRENT OPPORTUNITIES

## Add Long Volatility Exposure

### Volatility levels for markets outside equities remain near historic lows

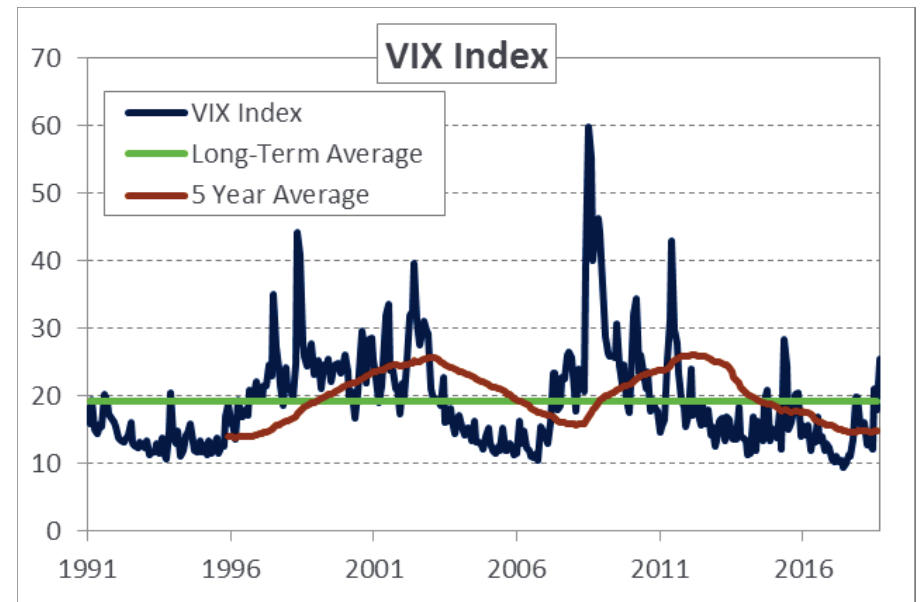
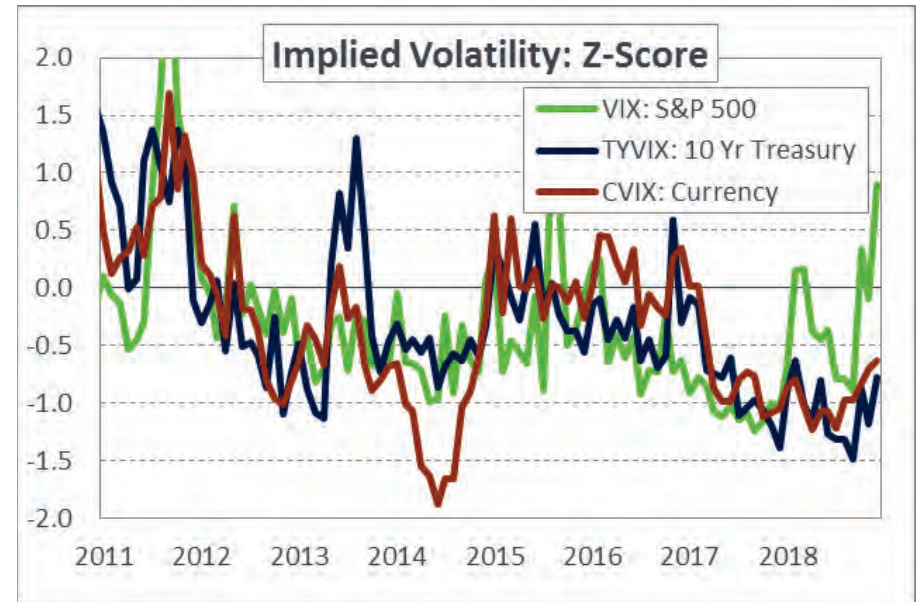
Long volatility exposure positively benefits from rising asset class volatility and an allocation of 1% to 2% can provide a significant return contribution should volatility normalize across global markets

Exposure is not without risk. Losses would be expected if market volatility declines. Discipline of a multi-year time horizon is required should volatility levels move slowly back to normal levels

### Long volatility strategies with positive carry are the only implementation option we recommend

Purchasing S&P VIX is a costly method to implement long volatility exposure due to the negative roll yield of the VIX curve

More suited for opportunistic investors willing to fund from multi-asset or other unconstrained strategies



Source: (Top) Bloomberg  
Source: (Bottom) Bloomberg

# CURRENT OPPORTUNITIES

## Fund Public Midstream Energy Exposure

### Midstream energy offers an attractive long-term growth potential

Balance sheet reform and a sustainable financing profile has been underappreciated by the market

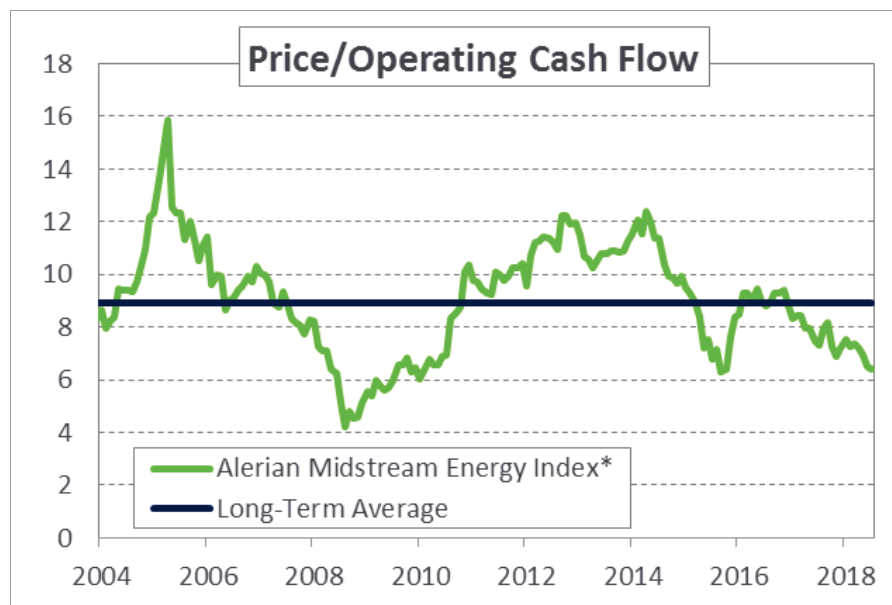
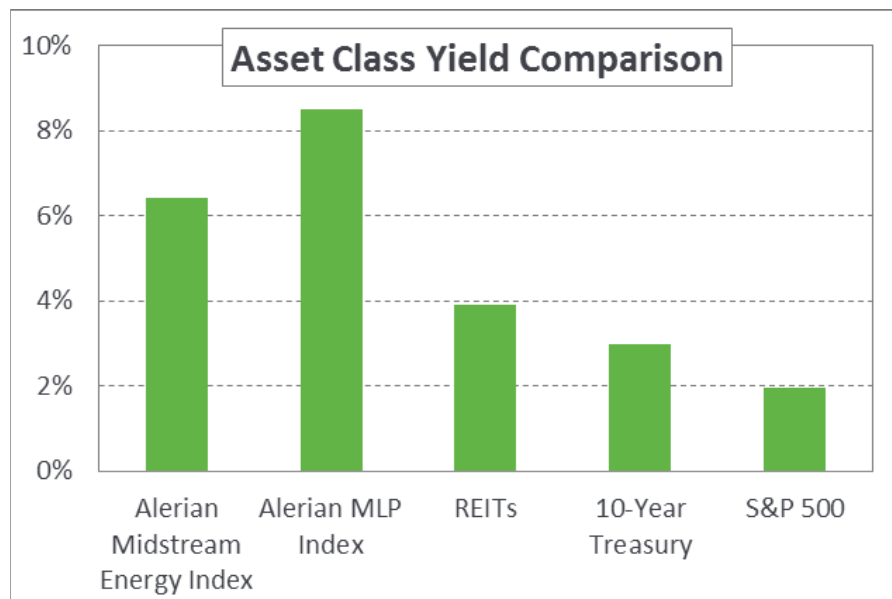
Reform of the MLP operating structure (IDR elimination) offers a more stable business model and improved corporate governance

Negative sentiment weighs on the energy infrastructure market as performance has been poor over the last five years and operational concerns remain for some MLPs

### Recovery of the energy infrastructure sector offers a compelling total return

Risk assets, such as high yield bonds and equities are an appropriate funding source for new midstream energy allocations

Nearly half of the midstream energy market is made up of MLPs. While down materially from recent years, careful thought must be given for tax-exempt investors as MLPs generate UBTI



Source: (Top) Alerian, NAREIT, Barclays, S&P, Bloomberg; As of 11/30/2018

Source: (Bottom) Alerian, Bloomberg. \*01/31/2018 to present a 50%/50% blend of the Alerian MLP and Midstream Energy Index

# CURRENT OPPORTUNITIES

## Fund Emerging Local Debt

### EM local debt offers an attractive total return opportunity

The combination of high real rates, lower inflation levels, and low currency valuations represents an attractive investment profile

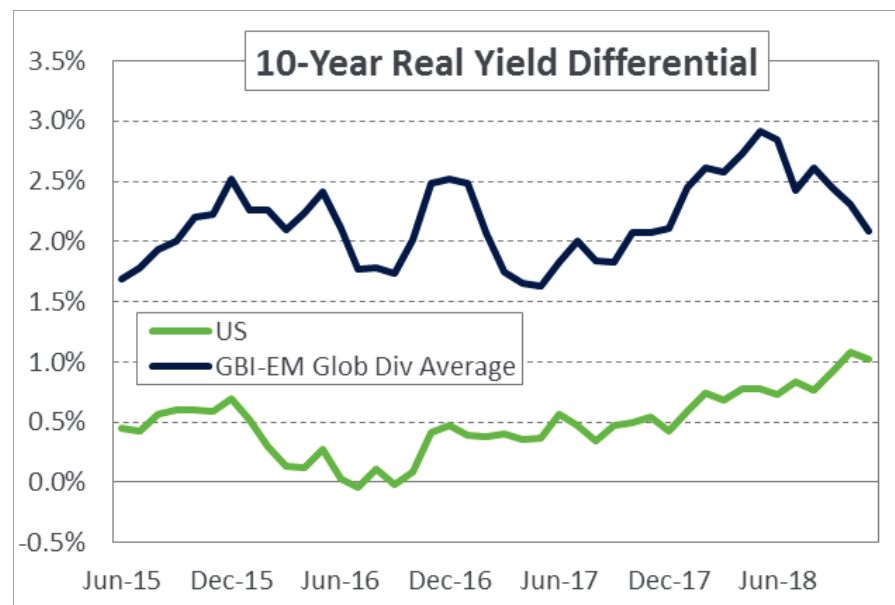
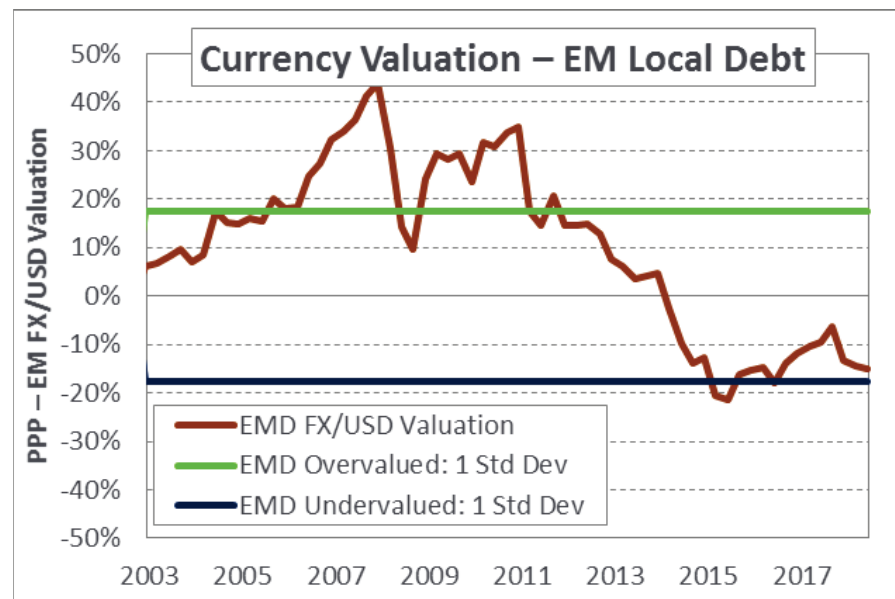
Above average index yields relative to the developed world provide a cushion to offset currency volatility and declines

Additional Fed rate hikes not fully priced into market expectations are a risk and was a key source of the negative sentiment that hit the asset class in 2018

### For tactical oriented investors, look to fund emerging local debt from high yield and equity exposure

A balanced EMD approach of local currency and dollar denominated debt remains our long-term bias as a strategic allocation

Currently, our preferred implementation is with a stand alone local debt strategy but unique macro or credit hedge funds may offer a unique return opportunity



Source: (Top) JPM, Bloomberg, NEPC  
Source: (Bottom) JP Morgan, Bloomberg, NEPC

# ASSET CLASS ASSUMPTIONS

# INTRODUCTION

# 2019 ASSET CLASS OVERVIEW

**NEPC asset class assumptions offer both an intermediate (5-7 years) and long term (30 years) forecast horizon**

November 30<sup>th</sup> replaced by December 31<sup>st</sup> market data for inputs to asset class models

**Return expectations for credit asset classes are broadly higher relative to last year due to interest rate increases and wider credit spreads**

Despite the increase in return expectations, we encourage caution when investing in lower-quality credit exposure as we expect default rates to trend higher in the current late-cycle market environment

**US equity return expectations increased relative to last year following a sizable correction in the fourth quarter of 2018**

**Our outlook for international developed equities is less optimistic than prior years, resulting in a significantly lower 5-7 year return expectation**

**We continue to refine and enhance our process where appropriate**

New asset class assumptions were added this year to provide greater differentiation in credit, including investment and speculative grade corporate ratings (AAA-CCC)

Private equity and private debt sub-strategies were added to offer a distinction among private market implementation options with different volatility and return profiles

Asset class correlation and volatility assumptions were adjusted to integrate private markets and new asset classes, to improve risk modeling and scenario analysis

# ASSUMPTION DEVELOPMENT

## Capital market assumptions are published for over 60 asset classes

Assumptions include 5-7 year and 30 year return forecasts, average annual volatility expectations, and correlations

## The 5-7 year forecast is designed to capture the return outlook for the current investment cycle

30 year return assumptions reflect a long-term outlook and are informed by the historical relationships among asset classes

## Assumptions are published annually in December and use market data as of November 30

Assumptions are developed by the Asset Allocation Committee and approved by the Partners Research Committee (PRC)

## Assumptions are developed with proprietary valuation models and rely on a core building block methodology

Asset Allocation Committee	
September	<b>Asset Allocation Committee Assumptions Kickoff</b>  Finalize List of New Asset Class Assumptions
October	<b>Review Draft of Asset Class Return Assumptions</b>  Discuss Outlook with NEPC Research Beta Groups
November	<b>Finalize Volatility and Correlation Assumptions</b>  Final Update of Asset Class Models (As of 11/30)
December	<b>Review Model Output and Create Return Assumptions</b>  Present Draft to the PRC  Publish Assumptions on December 14 <sup>th</sup>

# MODIFIED ASSUMPTIONS AS OF DECEMBER 31

**Significant market movements during the month of December caused the Asset Allocation Committee to update the capital market return assumptions created as of November 30<sup>th</sup>**

Volatility and correlation assumptions were unchanged from the November 30<sup>th</sup> figures

Asset Class	12/31 5-7 Year Return Assumption	11/30 5-7 Year Return Assumption	Rationale
US Inflation	2.25%	2.50%	5-Year, 5-Year forward inflation expectations fell to 2%
Cash	2.50%	2.75%	The market no longer expects any Fed rate increases in 2019; our US inflation assumption declined 25 basis points
Large Cap US Equities	6.00%	5.00%	The S&P 500 Index fell 9% during December
Treasuries	2.50%	3.00%	The 10-year US Treasury yield fell 30 basis points during December; lower inflation
US High Yield	5.25%	4.75%	Spreads increased 108 bps during December; lower rates



# BUILDING BLOCKS METHODOLOGY

Forward-looking asset class models incorporate current and forecasted market and economic data to inform expected returns

Quantitative inputs combined with qualitative factors and investor sentiment (capital flows, etc.) drive the 5-7 year return outlook

Components are combined to capture core drivers of return across asset classes – forming the foundation of our building blocks framework

Building blocks will vary across equity, credit, and real assets



# CORE RETURN ASSUMPTIONS

	Asset Class	5-7 Year Return	Change 2019-2018	Volatility
	Cash	2.50%	<b>+ .50%</b>	1.00%
	US Inflation	2.25%	<b>-0.25%</b>	-
Equity	Large Cap Equities	6.00%	<b>+0.75%</b>	16.50%
	International Equities (Unhedged)	6.75%	<b>-0.75%</b>	20.50%
	Emerging International Equities	9.25%	<b>+0.25%</b>	28.00%
	<i>Private Equity*</i>	<i>10.01%</i>	<i>+2.01%</i>	<i>24.16%</i>
Rates/Credit	Treasuries	2.50%	<b>+0.25%</b>	5.50%
	<i>Core Bonds*</i>	<i>3.04%</i>	<i>+0.29%</i>	<i>6.10%</i>
	Municipal Bonds (1-10 Year)	3.00%	<b>+0.50%</b>	5.50%
	High Yield Bonds	5.25%	<b>+1.50%</b>	12.50%
	<i>Private Debt*</i>	<i>7.60%</i>	<i>+1.10%</i>	<i>11.97%</i>
Real Assets	Commodities	4.25%	<b>-0.50%</b>	19.00%
	Midstream Energy	8.25%	<b>+1.00%</b>	18.50%
	REITs	6.75%	<b>+0.25%</b>	20.00%
	Core Real Estate	6.00%	<b>+0.25%</b>	13.00%
Multi-Asset	<i>US 60/40*</i>	<i>5.07%</i>	<i>+0.53%</i>	<i>10.45%</i>
	<i>Global 60/40*</i>	<i>5.08%</i>	<i>+0.17%</i>	<i>10.95%</i>
	<i>Hedge Funds*</i>	<i>5.74%</i>	<i>-0.09%</i>	<i>8.15%</i>

*\*Calculated as a blend of other asset classes – see page 38 for additional details*

# MACRO ASSUMPTIONS

# INFLATION OVERVIEW

## **Inflation is an integral component of our asset allocation assumptions**

Represents an essential building block for developing asset class returns

## **Inflation building blocks are model driven and informed by multiple sources for both the US and global asset classes**

Includes forecasts from international organizations (e.g. IMF), local consumer and producer price indices, break-even inflation expectations, and global interest rate curves

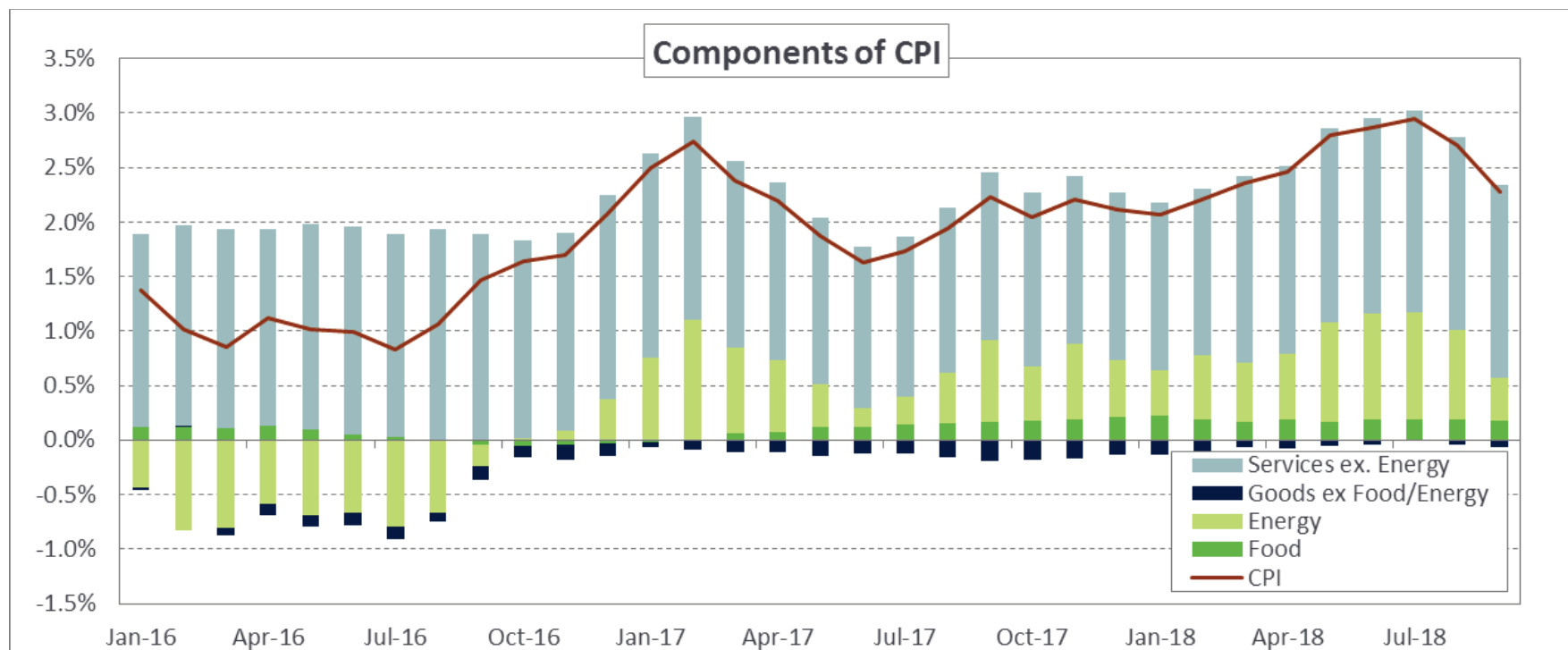
## **US inflation is based upon the TIPS breakeven inflation curve adjusted for expectations of economic activity, employment, and capacity levels**

## **Global inflation expectations are informed by consensus forecasts across countries along with implied inputs from global bond curves**

The 30 year global inflation forecast assumes purchase power parity holds across the globe and country specific inflation levels converge to a terminal value

Region	5-7 Year Inflation Assumption	30-Year Inflation Assumption
United States	2.25%	2.75%
Global	3.00%	3.25%

# US INFLATION



Source: Bloomberg, NEPC

## US inflation has increased, but has yet to materially accelerate despite strong economic growth and a tight labor market

Underlying inflation has risen with a modest increase in wages due to the tightening labor market but market-based inflation expectations have declined considerably this year

## A significant decline in energy prices in the latter half of 2018 has minimized overall price pressures

Energy is historically the most volatile component of CPI and a sustained decline in prices can cause inflation to remain muted

# GLOBAL INFLATION

## In most developed economies, core inflation has failed to reach or exceed central bank targets

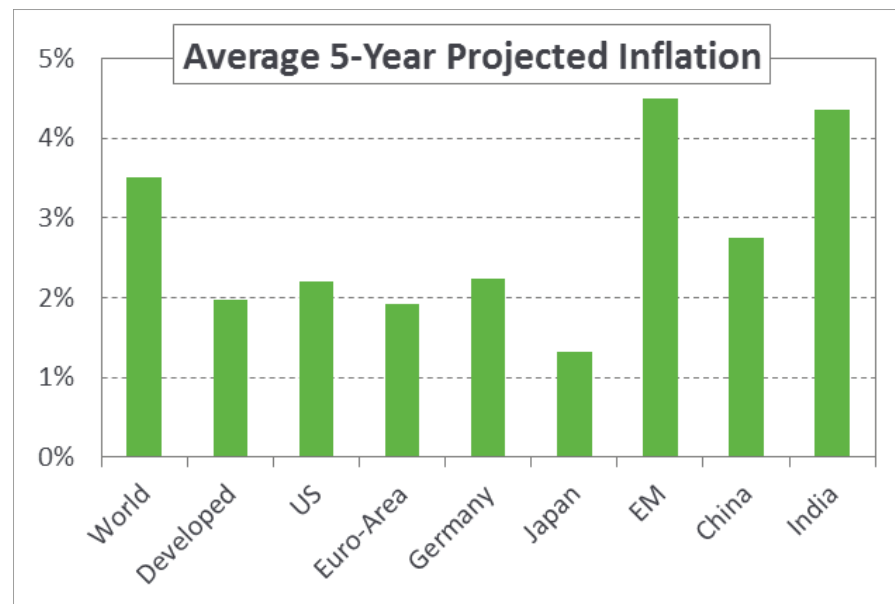
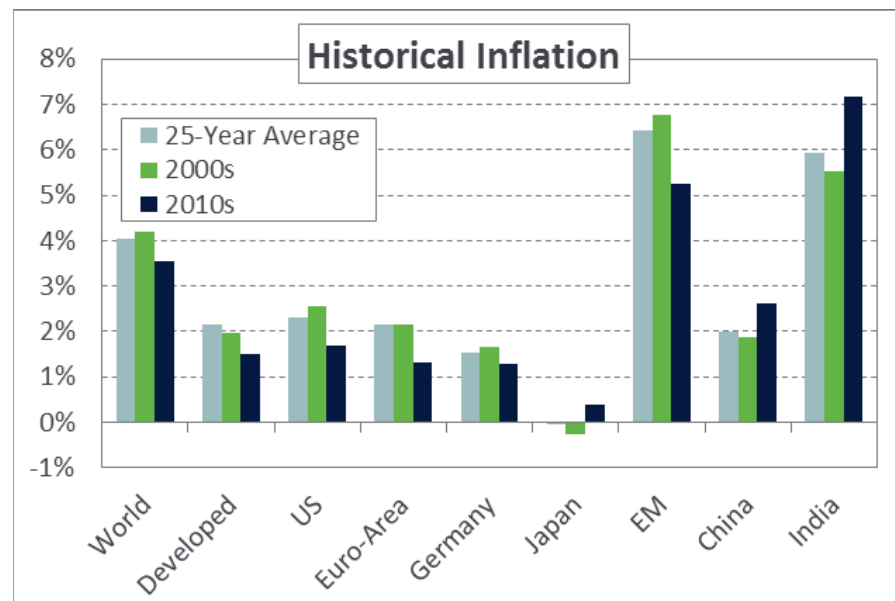
The European Central Bank is expected to end the expansion of its quantitative easing program at the end of the year despite a weakening economic outlook

Japan has been the only developed economy to drive inflation above historical levels, although still less than other countries

## Emerging market inflation remains significantly lower than long-term averages in most economies

Turkey and Argentina remain notable outliers as idiosyncratic risks and inconsistent monetary policy have fueled rising prices

Lower inflation is likely to give select countries room to ease monetary policy, as needed, to bolster economic growth



Source: (Top) IMF, NEPC  
Source: (Bottom) IMF, NEPC

# US CASH EXPECTATIONS

## Cash is a foundation for all asset classes

The assumption flows through as a direct building block component or as a relative value adjustment (cash + risk premia)

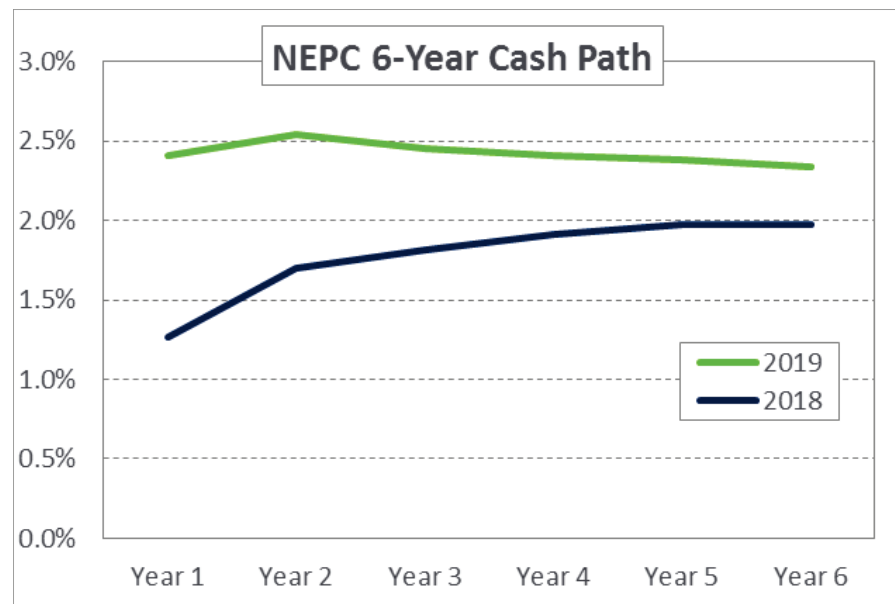
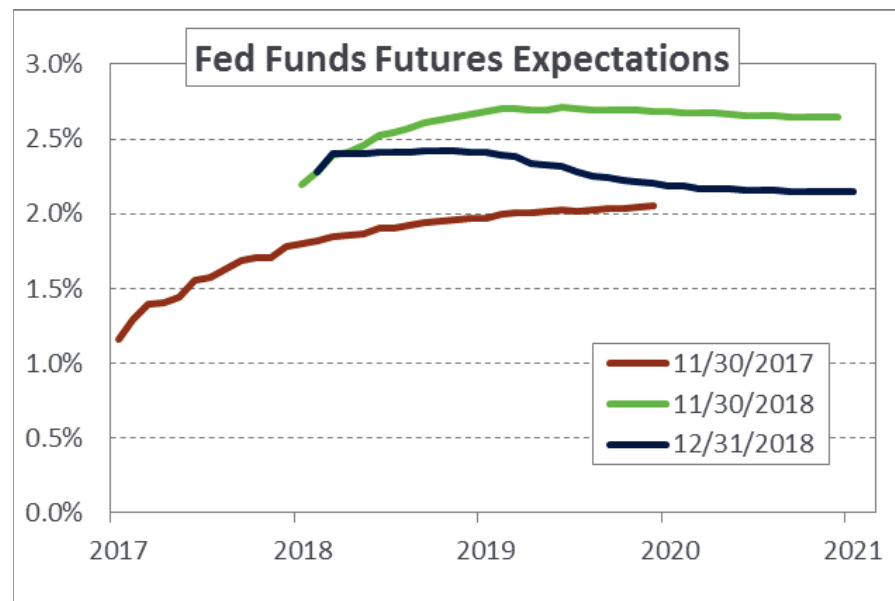
The longer-term cash assumption is a result of the inflation assumption in conjunction with our forecasted real interest rate path

## The Fed has shifted from a “lower for longer” policy to a more balanced posture of raising rates relative to changes in inflation

With Fed action impacting the front-end of the yield curve, a progressively flatter yield curve has formed as longer-term rate expectations remain muted

Markets are discounting a more muted pace of rate hikes relative to Fed projections, especially after December markets

Key risks to our overall investment outlook are an increased pace in Fed rate hikes or a Fed misstep disrupting capital markets



Source: (Top) Bloomberg, NEPC  
Source: (Bottom) Bloomberg, NEPC

# US INTEREST RATE EXPECTATIONS

## Real yields moved materially higher relative to last year with continued Fed rate hikes and subdued inflation

The real yield curve flattened relative to last year, with an inversion at the 2 year point

Late-cycle expectations of growth and continued Fed rate hikes increase market forward-looking expectations

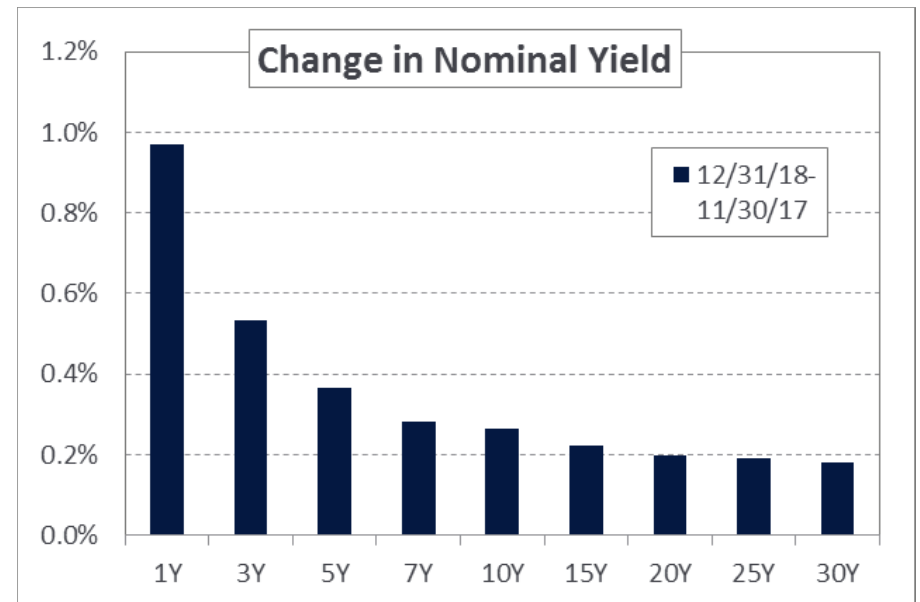
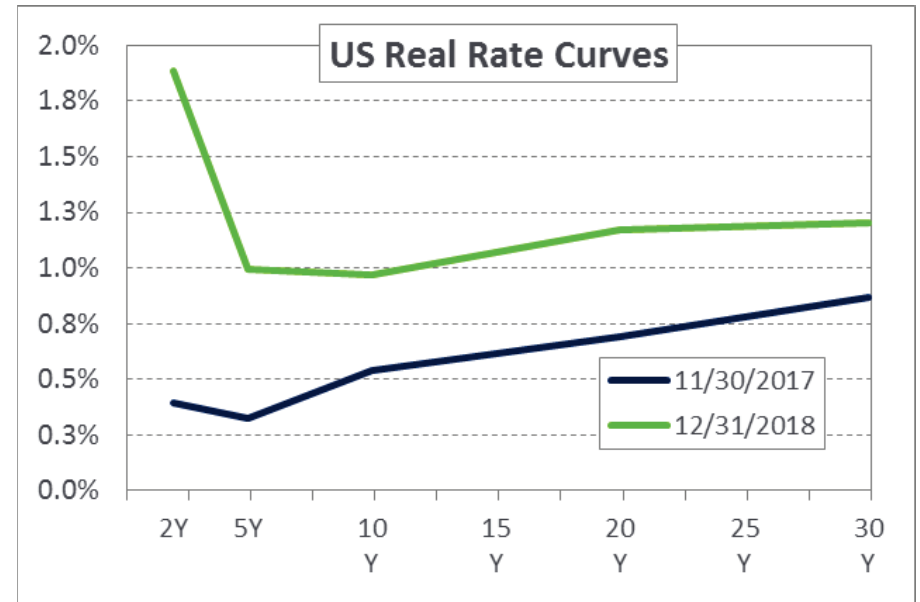
## Long-term yields continue to rise but remain low relative to history in the US

Low real rates depress the return outlook for risk assets over the long-term

The flatter nominal curve is likely to invert during the late cycle

## Uncertainty has surfaced surrounding the path of rates for 2019 and beyond

The Fed has recently expressed a willingness to slow the pace via a wait-and-see approach should material risks to the US economy develop



Source: (Top) Bloomberg, NEPC  
Source: (Bottom) Bloomberg, NEPC



# GLOBAL INTEREST RATE EXPECTATIONS

**Government bond yields remain low across much of the developed world**

**European sovereign yields have increased relative to Germany due to political and economic concerns**

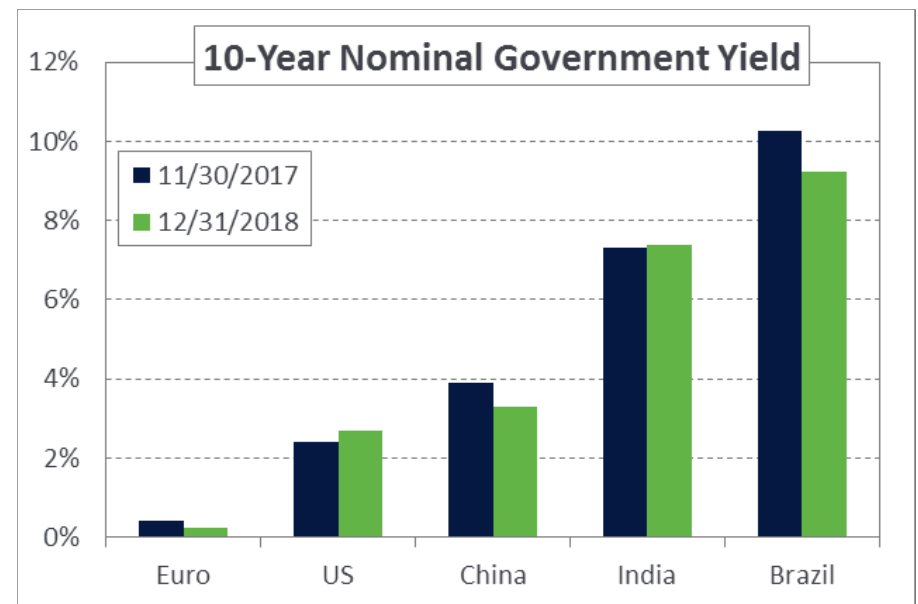
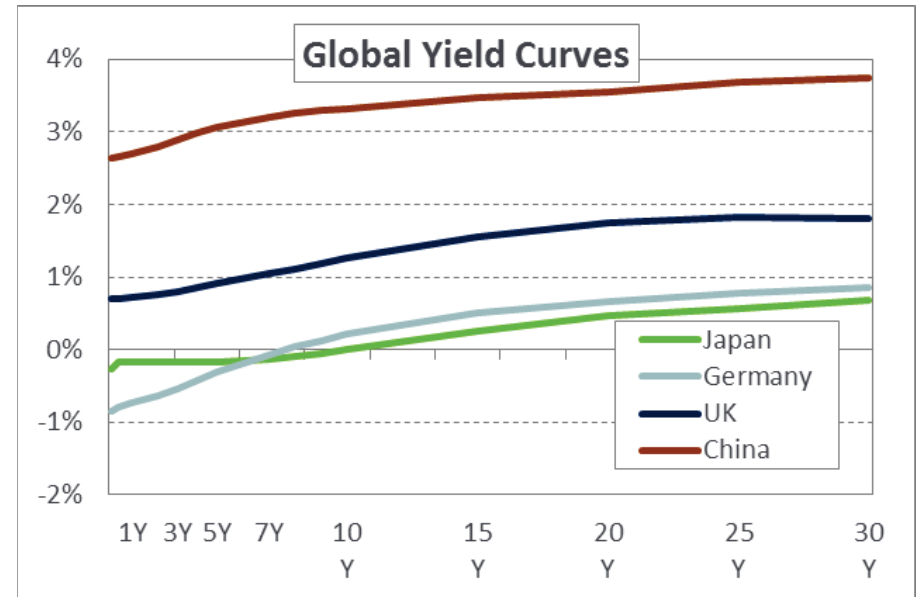
Ongoing political turmoil in the UK and budget concerns in Italy caused periphery yields to increase during the year

German bund yields are lower due to heightened demand for safe-haven assets in Europe

**Emerging market local interest rates are attractively priced as real yields remain elevated**

Emerging market yields continue to retain a healthy premia over developed world rates

Additionally, positive real rates provide a larger cushion for EM central banks to cut interest rates and ease monetary conditions



Source: (Top) Bloomberg, NEPC  
Source: (Bottom) Bloomberg, NEPC

# **EQUITY ASSUMPTIONS**

# EQUITY: ASSUMPTIONS

Equity Building Blocks	
<b>Illiquidity Premium</b>	The additional return expected for investments carrying liquidity risk
<b>Valuation</b>	An input representing P/E multiple contraction or expansion relative to long-term trend
<b>Inflation</b>	Represents market-specific inflation derived from index country revenue contribution and region-specific forecasted inflation
<b>Real Earnings Growth</b>	Reflects market-specific real growth for each equity asset class as a weighted-average derived from index country revenue contribution and forecasted GDP growth
<b>Dividend Yield</b>	Informed by current income distributed to shareholders with adjustments made to reflect market conditions and trends

Asset Class	5-7 Year Return	Change 2019-2018
US Large Cap	6.00%	+0.75%
US Small/Mid-Cap	6.25%	+0.50%
US Micro Cap	7.25%	N/A
International (Unhedged)	6.75%	-0.75%
International Small Cap	7.25%	-0.50%
Emerging International	9.25%	+0.25%
Emerging Intl. Small Cap	9.50%	+0.25%
China Local	9.50%	N/A
Hedge Funds – Long/Short	5.50%	-0.75%
<i>Global Equity</i>	6.99%	+0.11%
<i>Private Equity</i>	10.01%	+2.01%

# EQUITY: REAL EARNINGS GROWTH

## US growth accelerated relative to the rest of the world during 2018

Strong earnings growth fueled by corporate tax cuts helped support US equities

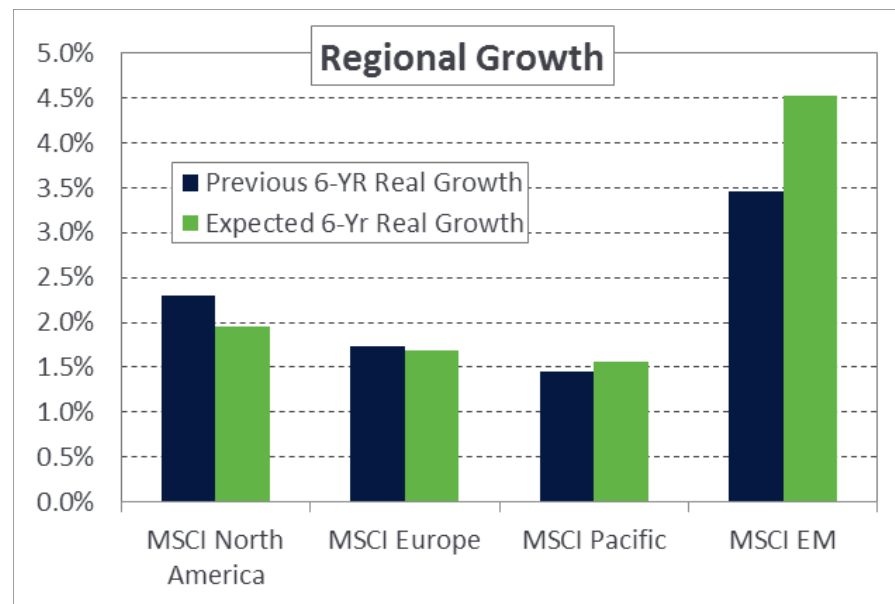
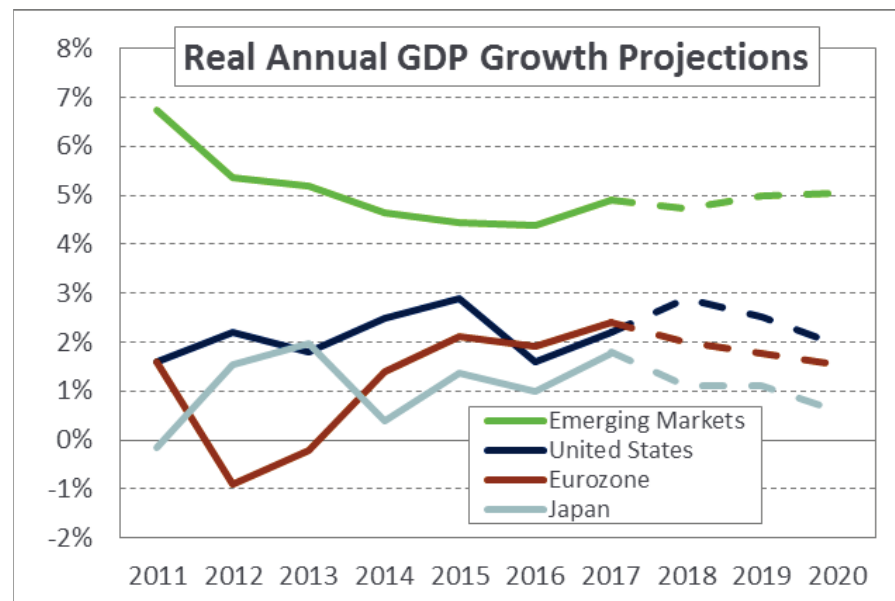
Additionally, fiscal stimulus and pre-purchases from China for tariffed goods fueled above-trend GDP growth

## Global trade tensions and political-economic concerns regarding Europe have led to a weaker growth outlook for international developed economies

## Strong economic growth is expected to continue in the emerging markets

However, China's real growth is expected to slow in future years as the country transitions to a consumption based model

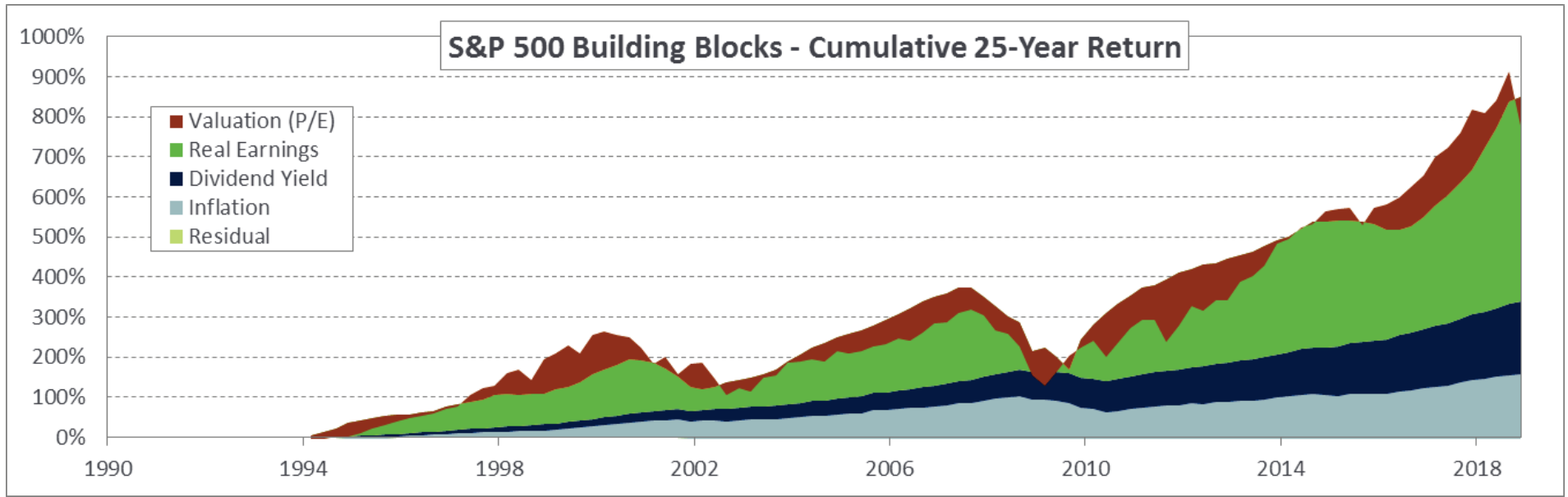
Ongoing reforms in southeast Asia and India are expected to boost investment, productivity, and per-capita growth



Source: (Top) Bloomberg, NEPC

Source: (Bottom) IMF, MSCI, Bloomberg, NEPC

# EQUITY: DIVIDEND YIELD

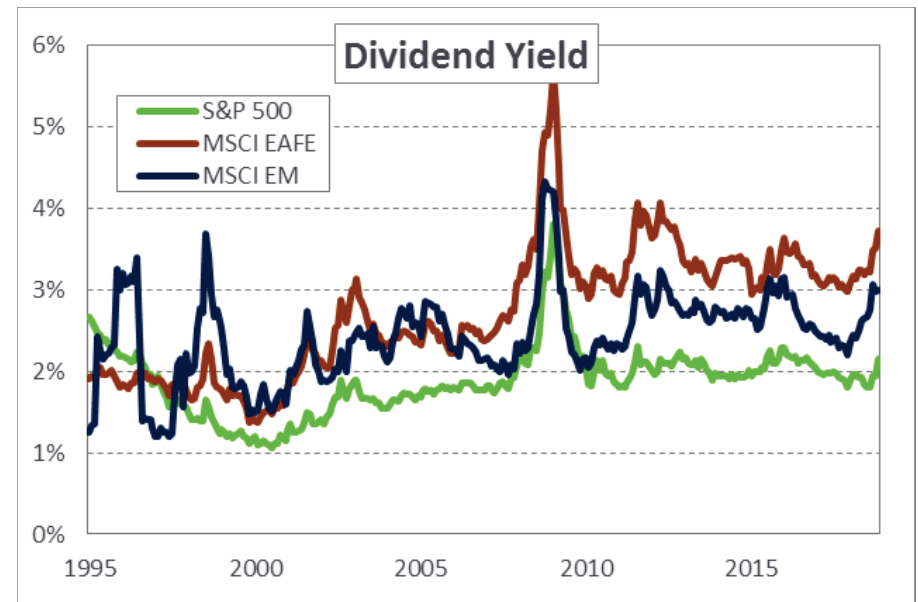


## Global dividend payouts hit record levels this year

Much of the growth came from emerging markets following years of declining dividend yields

Corporate tax cuts in the US helped increase dividend payout rates

**International and emerging markets continue to offer higher dividend yields relative to the US equity market**



Source: (Top) S&P, Bloomberg, NEPC  
Source: (Bottom) S&P, MSCI, Bloomberg, NEPC

# EQUITY: VALUATION

## US equities were an outlier relative to global equities this year

US equities benefited from an extended US economic cycle and added fuel from the fiscal stimulus package

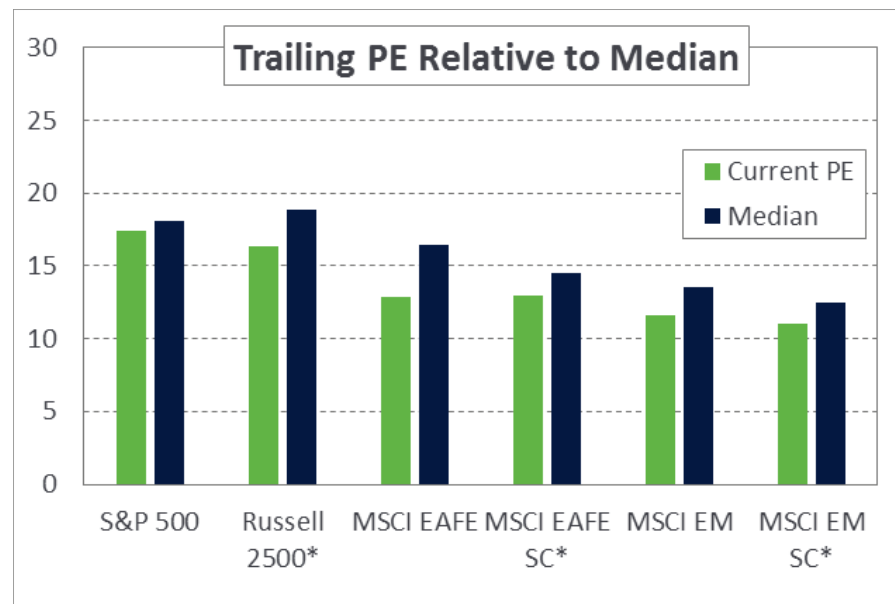
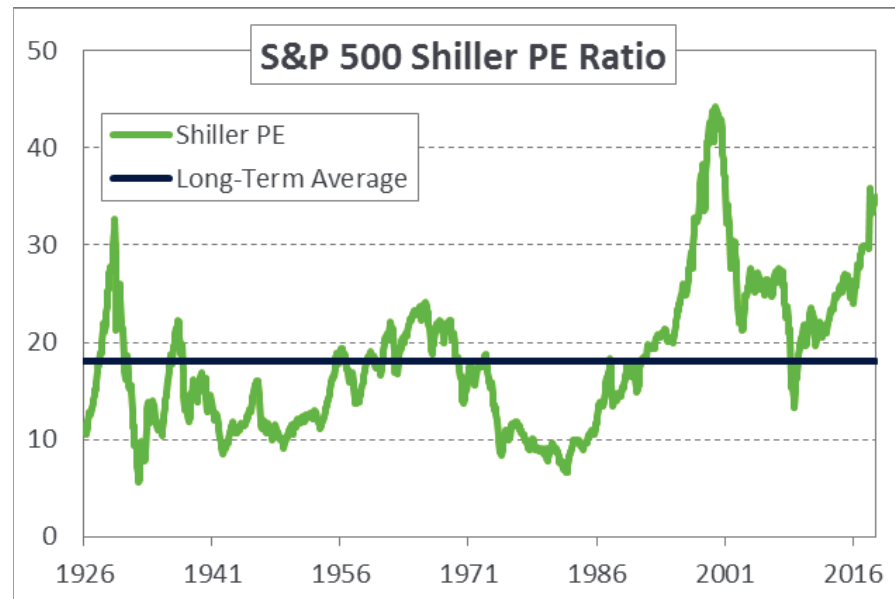
Strong earnings growth fueled by corporate tax cuts pushed valuations lower for large-cap US equities

Increased volatility in December resulting from fears of a global slowdown erased gains made throughout the year

## International and emerging market valuations fell despite strong earnings growth as price declines were fueled by negative sentiment and US-China trade tensions

## We anticipate the negative sentiment and macro concerns weighing on emerging markets to moderate

Attractive equity and currency valuations support an overweight to emerging markets due to the high total-return potential

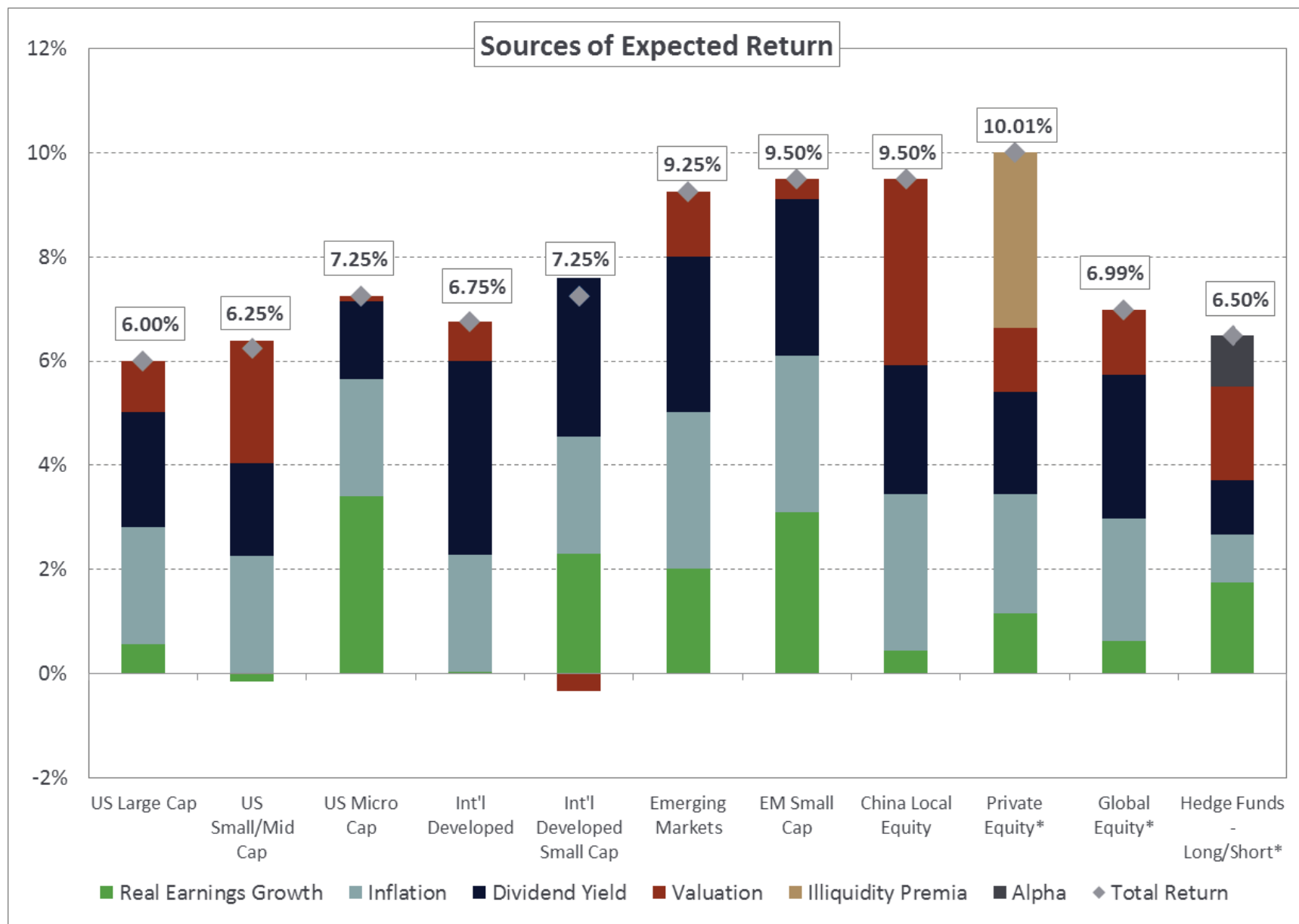


Source: (Top) S&P, Shiller, NEPC; long-term average beginning in 1926

Source: (Bottom) S&P, Russell, MSCI, Bloomberg, NEPC

\*Small cap indices use index positive-adjusted earnings

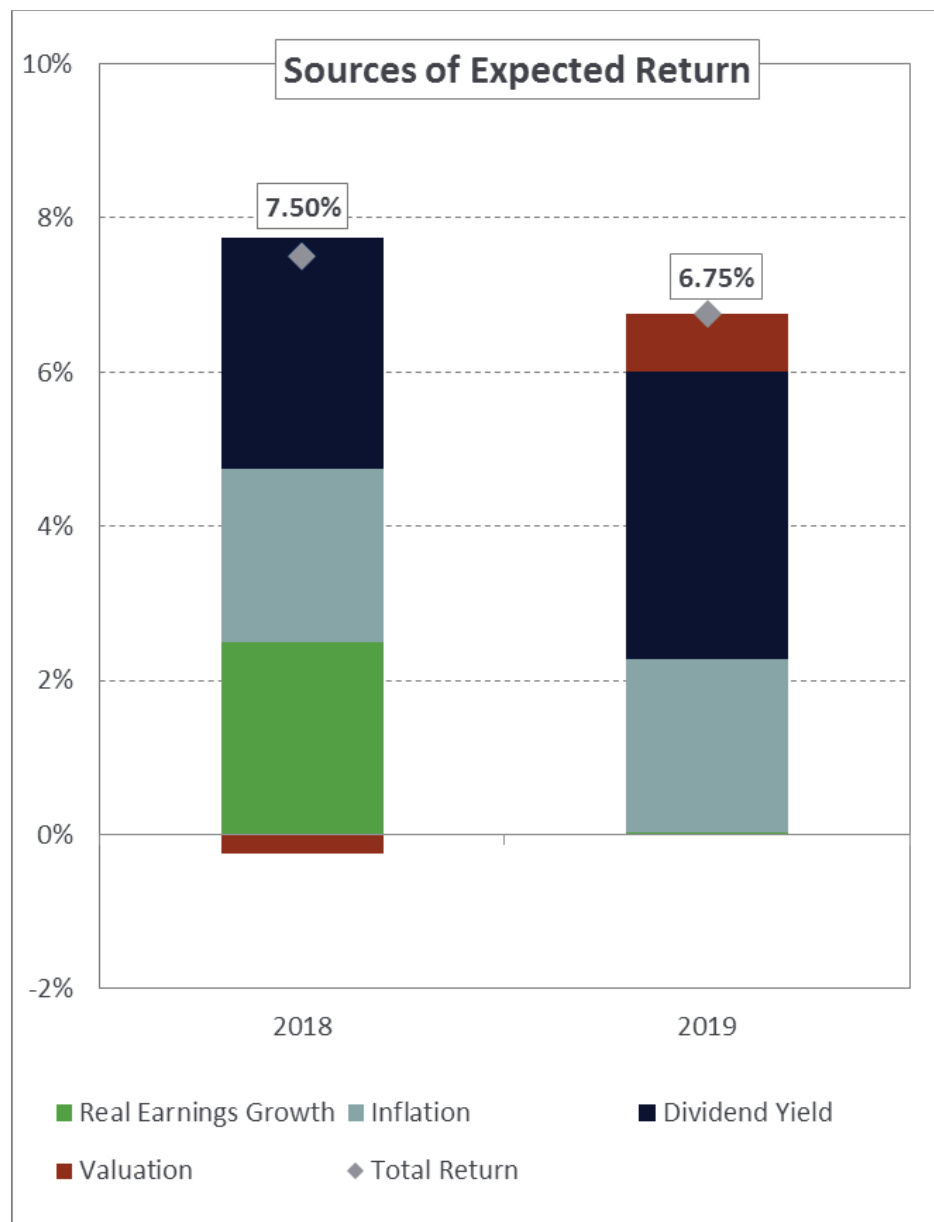
# EQUITY: BUILDING BLOCKS (5-7 YEARS)



Source: NEPC

\*Calculated as a blend of other classes – see page 38 for additional details

# EQUITY FOCUS: INTERNATIONAL EQUITY



Source: NEPC

**2019 building blocks incorporate a weakening growth outlook for Europe and a downward adjustment to profit margins**

**Our thesis of improving fundamentals has come to fruition, but negative sentiment continues to weigh on valuations**

Globalization backlash, slowing growth, trade policy, and a constrained central bank have negatively impacted Europe

This has been reflected in no P/E expansion, even though the equity risk premia warrants a higher multiple

As a result, the bifurcation between Europe and Japan has become more pronounced as Japan remains an attractive opportunity

**On a pure valuation basis, EAFE could still offer attractive returns should these underlying issues resolve, but we now believe that to be less likely**

We encourage investors to reduce any overweight to non-US developed equities



# **RATES & CREDIT ASSUMPTIONS**

# RATES & CREDIT: ASSUMPTIONS

Rate & Credit Building Blocks	
<b>Illiquidity Premium</b>	The additional return expected for investments carrying liquidity risk
<b>Government Rates Price Change</b>	The valuation change resulting from a change in the current yield curve to forecasted rates
<b>Spread Price Change</b>	The valuation change resulting from a change in credit spreads over the duration of the investment and highly sensitive to economic cycles
<b>Credit Deterioration</b>	The average loss for credit securities associated with an expected default cycle and recovery rates
<b>Credit Spread</b>	Additional yield premium provided by securities with credit risk
<b>Government Rates</b>	The yield attributed to sovereign bonds that do not have credit risk associated with their valuation

Asset Class	5-7 Year Return	Change 2019-2018
TIPS	3.00%	-0.25%
Treasuries	2.50%	+0.25%
Investment-Grade Corporate Credit	4.00%	+0.50%
MBS	2.75%	+0.25%
High-Yield Bonds	5.25%	+1.50%
Bank Loans	5.00%	+1.00%
EMD (External)	4.75%	+0.50%
EMD (Local Currency)	6.50%	+0.50%
Non-US Bonds (Unhedged)	0.75%	+0.25%
Municipal Bonds (1-10 Year)	3.00%	+0.50%
High-Yield Municipal Bonds	3.00%	-0.75%
Hedge Funds – Credit	5.50%	+0.50%
<i>Core Bonds</i>	3.04%	+0.29%
<i>Private Debt</i>	7.60%	+1.10%

# RATES & CREDIT: CREDIT SPREAD

## Credit spreads rose across investment and speculative grade debt relative to 2018's below average spread levels

The later stages of an economic cycle often see an increase in credit spreads as the probability of defaults trend upward

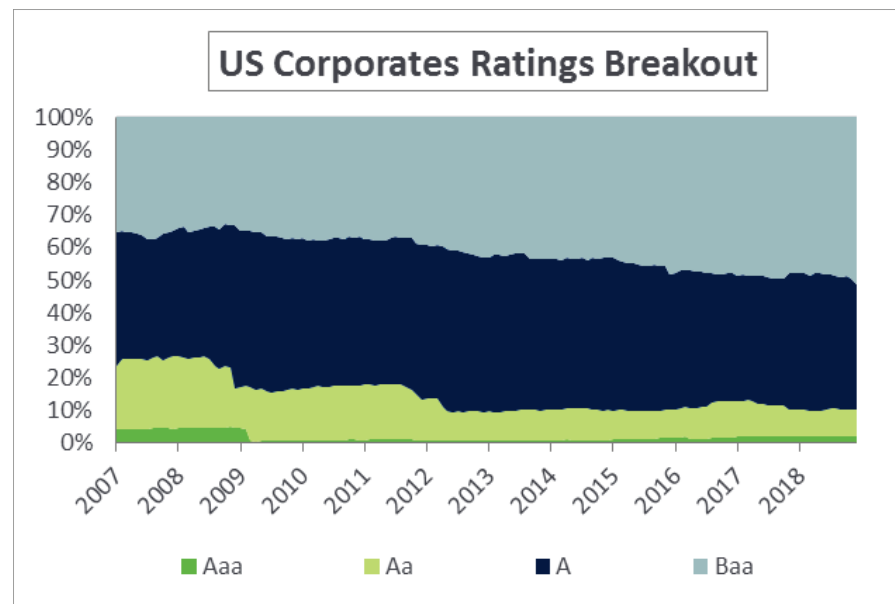
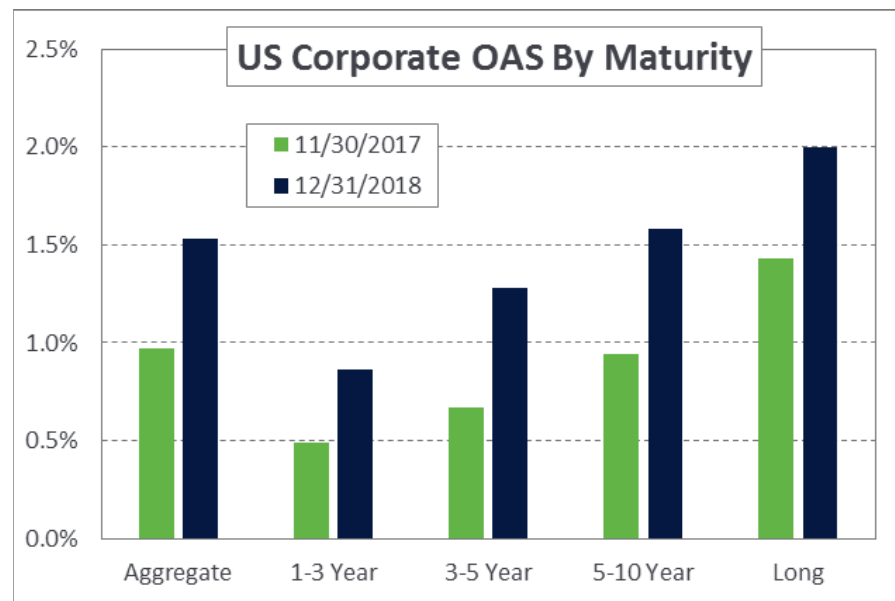
Lower-quality credit spreads increased most significantly during the year, partially due to the fall in the price of oil

## Higher credit spreads partially reflect the risk in investment grade credit

There are a record number of BBB-rated corporates – suggesting a greater risk of fallen angel downgrades

Corporate debt issuance has expanded rapidly in recent years with the majority of new debt rated BBB

As such, we advocate for a reduction in lower-quality credit that does not provide adequate compensation for the associated risk



Source: (Top) Barclays, Bloomberg, NEPC

Source: (Bottom) Barclays, Bloomberg, NEPC

# RATES & CREDIT: RATES PRICE CHANGE

**Government Rates Price Change: The change in the level of interest rates, shape of the curve, and roll down that impact the price of a bond**

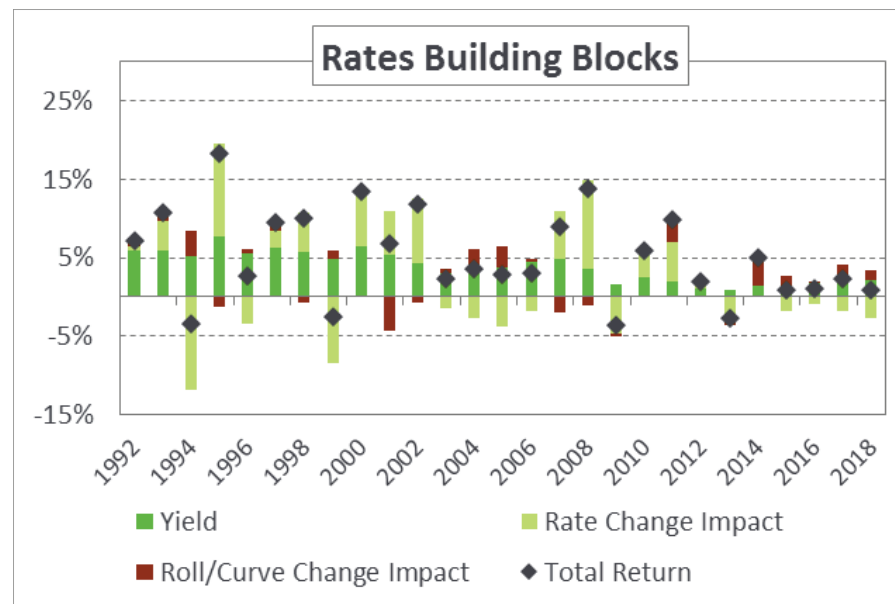
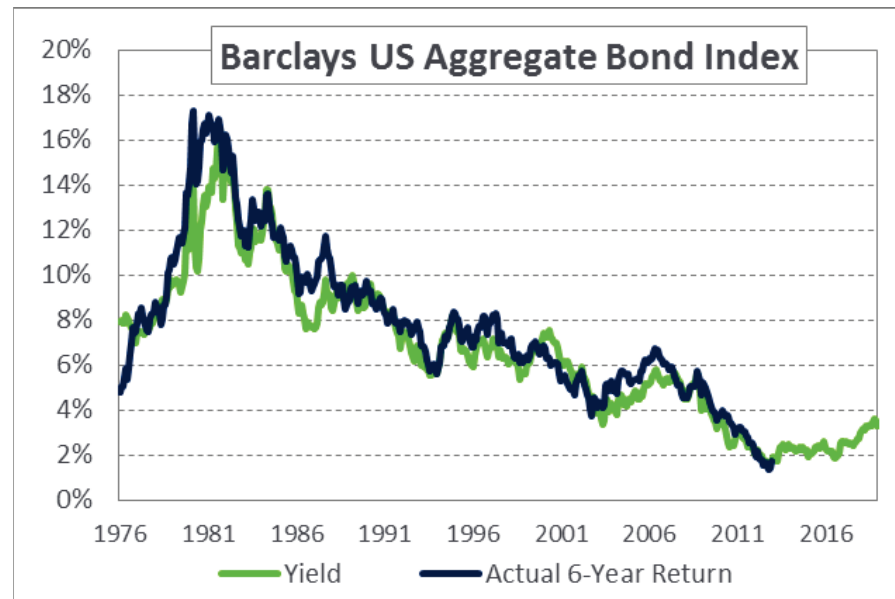
Roll down refers to the price change due to the aging of a bond along the yield curve

**The rate price change is a significant component of total return and expectations of higher rates can drag on future year returns**

The path of interest rates for each market is tied to both central bank actions and inflation expectations

**Roll down offers some relief to rising rates when yield curves are steep**

As the yield curve flattens the benefit of the roll down is muted, often pushing investors to shorter duration bonds



Source: (Top) Barclays, Bloomberg, NEPC

Source: (Bottom) Barclays, Bloomberg, NEPC

# RATES & CREDIT: SPREAD PRICE CHANGE

## Credit spreads broadly remain near historic medians

Above-average credit spreads are generally associated with a late-cycle environment as credit default risks increase

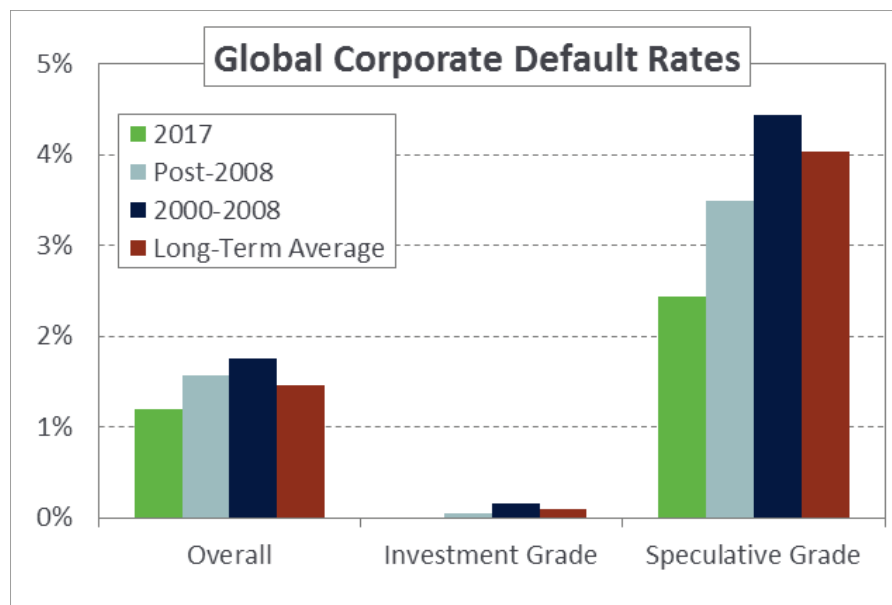
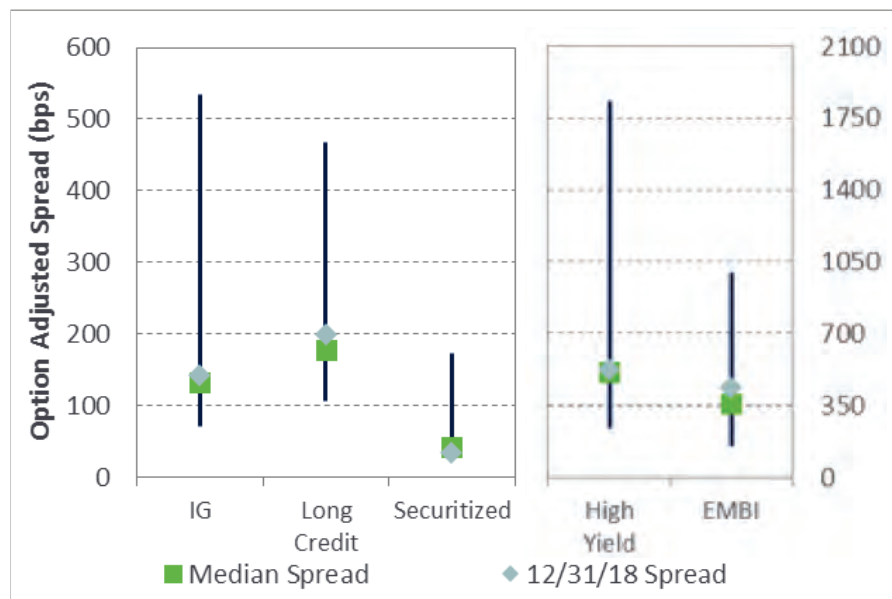
Despite the spread increase relative to 2018, we do not believe lower-quality credit exposure compensates investors for the risk relative to safer alternatives

## The number of defaults decreased last year to a three-year low despite residual stress from the energy sector and an uptick in retail defaults

## Higher expected default rates were incorporated in our building blocks

This can be attributed to the increase in lower-quality (BBB) credit as a percentage of the investment grade universe

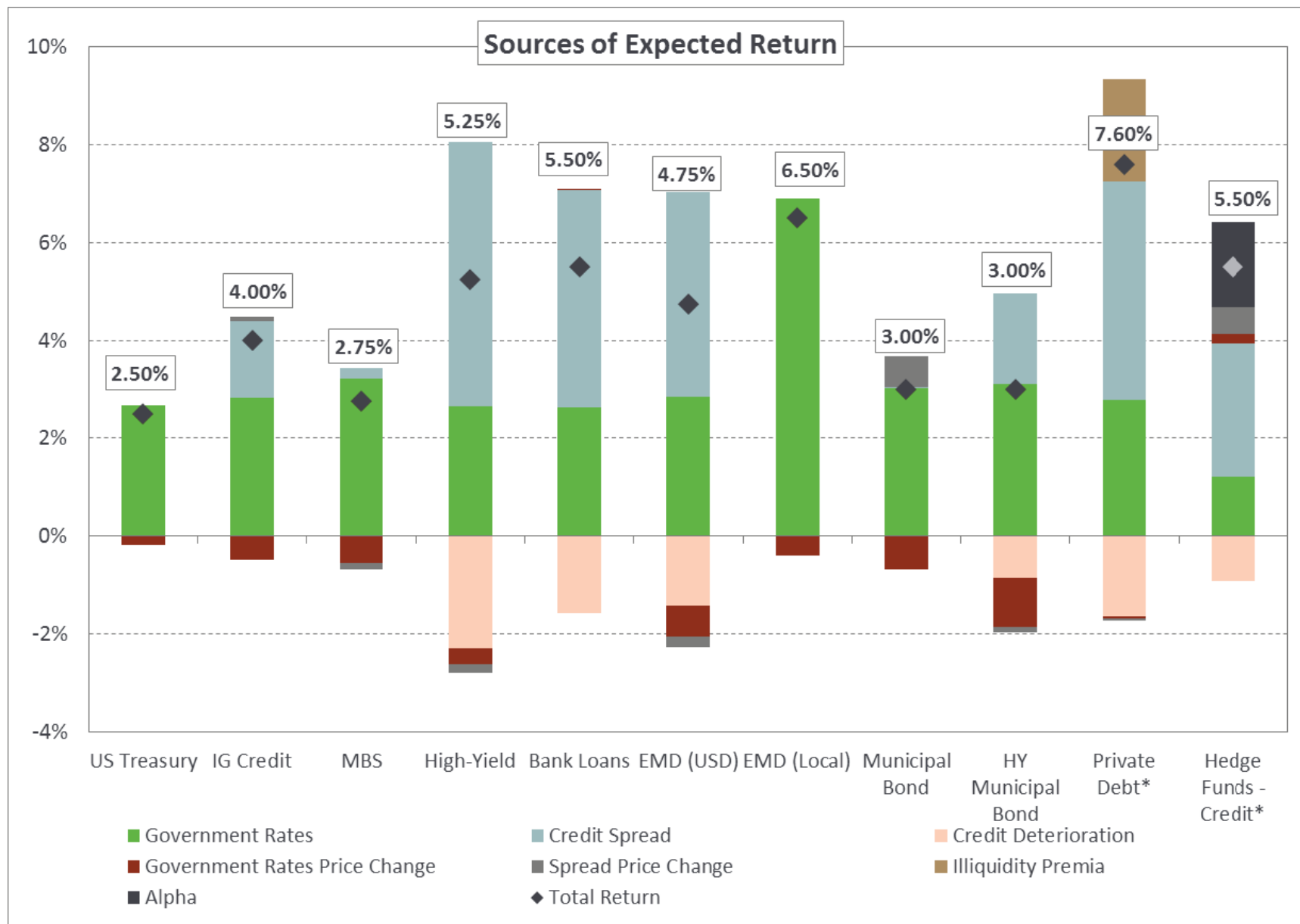
This is also a reflection of the late cycle environment and the stress generally seen within the high yield market during these periods



Source: (Top) JPM, Bloomberg, NEPC. As of 01/31/2000

Source: (Bottom) S&P, NEPC

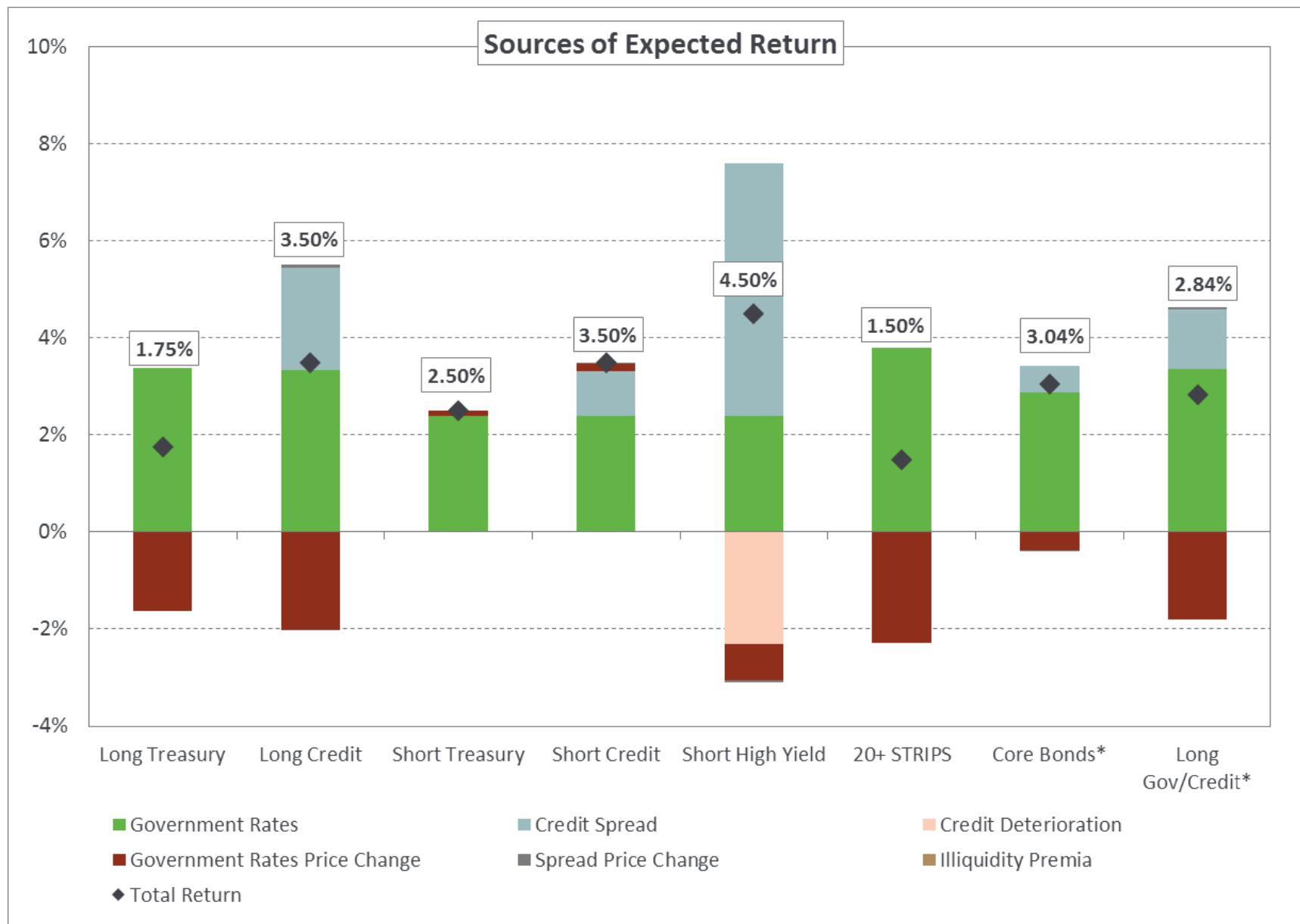
# CREDIT: BUILDING BLOCKS (5-7 YEARS)



Source: NEPC

\*Calculated as a blend of other classes – see page 38 for additional details

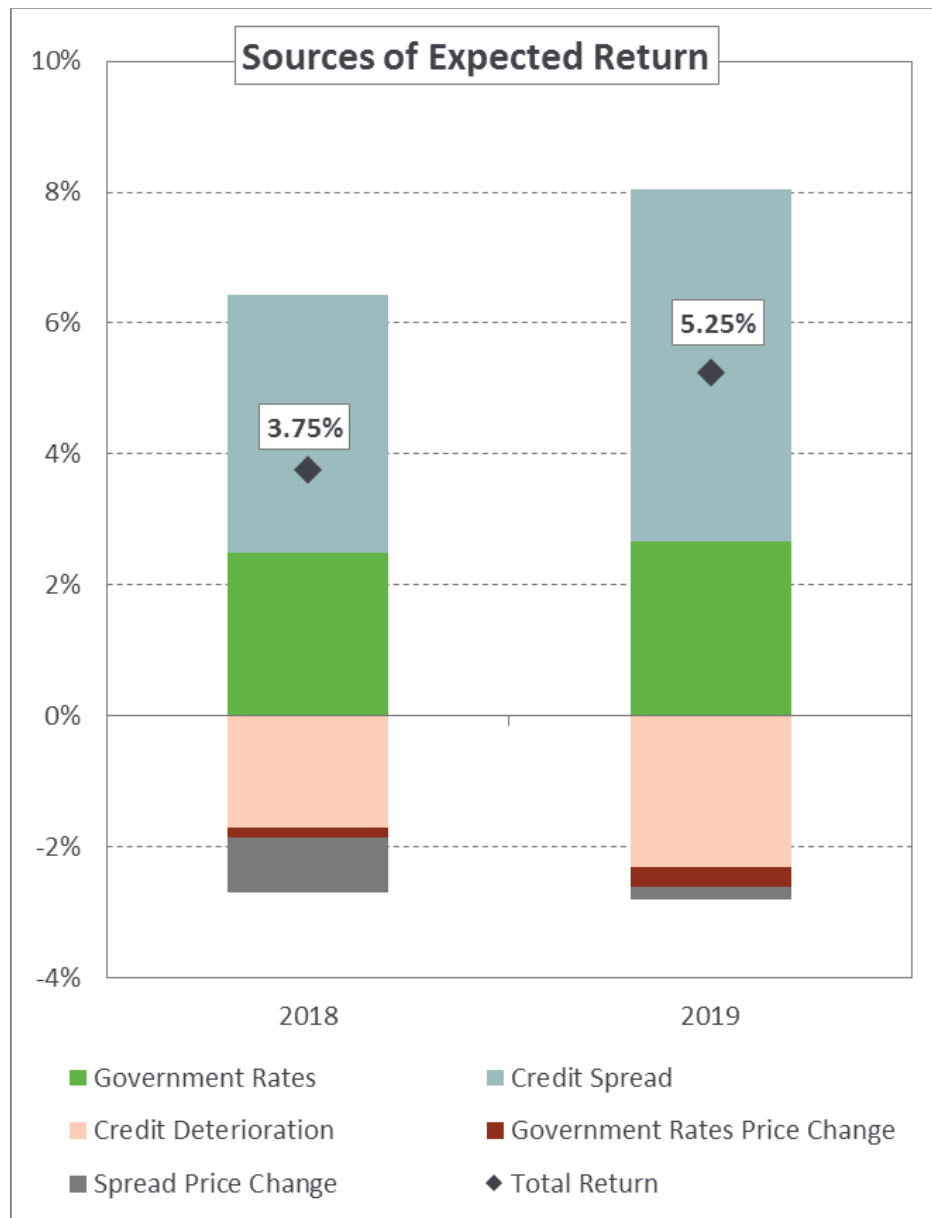
# CREDIT: BUILDING BLOCKS (5-7 YEARS)



Source: NEPC

\*Calculated as a blend of other classes – see page 38 for additional details

# CREDIT FOCUS: US HIGH YIELD



Source: NEPC

**2019 building blocks reflect higher interest rates, credit spreads, and default rates relative to last year**

Higher default rates were incorporated to account for the late cycle

**While the return assumption increased significantly, we are not constructive on lower-quality credit**

Despite higher interest rates, with credit spreads near medians we encourage moving away from lower quality credit to safe-haven options

Lower-rated credit exposure is not adequately compensating for the added risk relative to safer alternative

**We encourage reducing exposure to credit segments that have performed well over a prolonged period, such as high yield and bank loans**



# REAL ASSETS ASSUMPTIONS

# REAL ASSETS: ASSUMPTIONS

Real Assets Building Blocks	
<b>Illiquidity Premium</b>	The additional return expected for investments carrying liquidity risk
<b>Valuation</b>	The expected change in price of the underlying asset reverting to a long-term real average or terminal value assumption
<b>Inflation</b>	Incorporates the inflation paths as defined by TIPS breakeven expectations and NEPC expected inflation assumptions
<b>Real Earnings Growth</b>	Reflects market-specific real growth for each equity asset class as a weighted-average derived from index country revenue contribution and forecasted GDP growth
<b>Real Income</b>	Represents the inflation-adjusted income produced by the underlying tangible or physical asset

Asset Class	5-7 Year Return	Change 2019-2018
Commodities	4.25%	-0.50%
Midstream Energy	8.25%	+1.00%
REITs	6.75%	+0.25%
Core Real Estate	6.00%	+0.25%
Non-Core Real Estate	7.00%	-
Private RE Debt	5.75%	N/A
Private Real Assets: Energy/Metals	9.50%	+1.50%
Private Real Assets: Infrastructure/Land	6.25%	+0.25%

# REAL ASSETS: REAL INCOME

## Equity-like real assets: Real income represents the inflation-adjusted dividend yield

Includes midstream energy, REITS, natural resource and global infrastructure equities

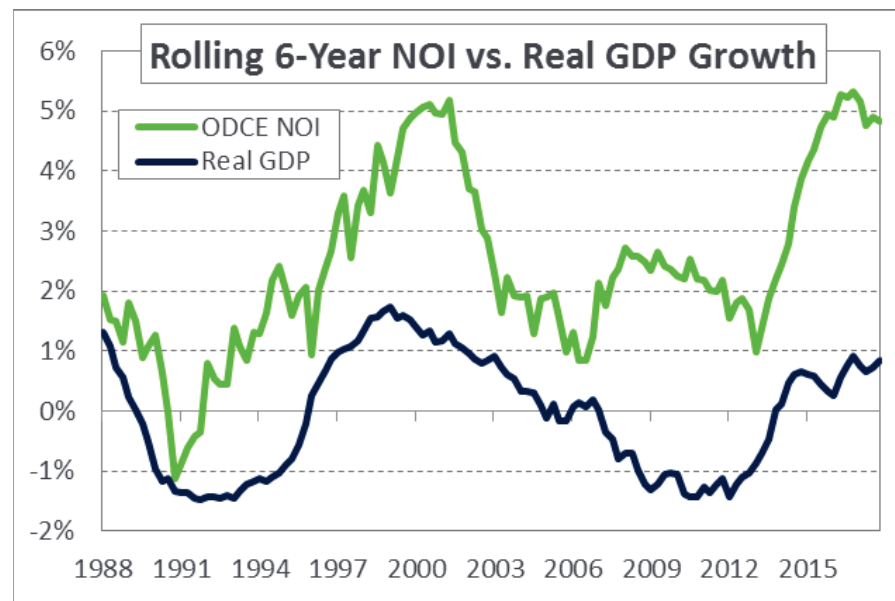
Midstream energy continues to offer an attractive yield relative to most other risk assets despite the downward trend in yields resulting from MLP industry simplification

## Real Estate: Real income is a function of Net Operating Income (NOI)

NOI growth exhibits a cyclical economic pattern and appears to have peaked

## Commodities: Real income is represented by collateral return

A cash proxy is used to represent the collateral and as such, it represents the return on cash over the investment horizon



Real Asset Yields	11/30/17	12/31/18
Midstream Energy	8.1%*	6.8%
Core Real Estate	4.7%	4.6%
US REITs	4.3%	4.8%
Global REITs	3.4%	3.9%
Global Infrastructure Equities	3.9%	4.4%
Natural Resource Equities	3.2%	4.1%
US 10-Yr Breakeven Inflation	1.9%	1.7%
Commodity Index Roll Yield	-1.4%	-6.1%

Source: (Top) Alerian, NAREIT, NCREIF, Bloomberg, NEPC;  
\*Represents Alerian MLP Index Dividend Yield

Source: (Bottom) NCREIF, Alerian, NAREIT, S&P, Bloomberg, NEPC

# REAL ASSETS: VALUATION

## Commodity valuations are measured relative to the long-term real average of spot prices

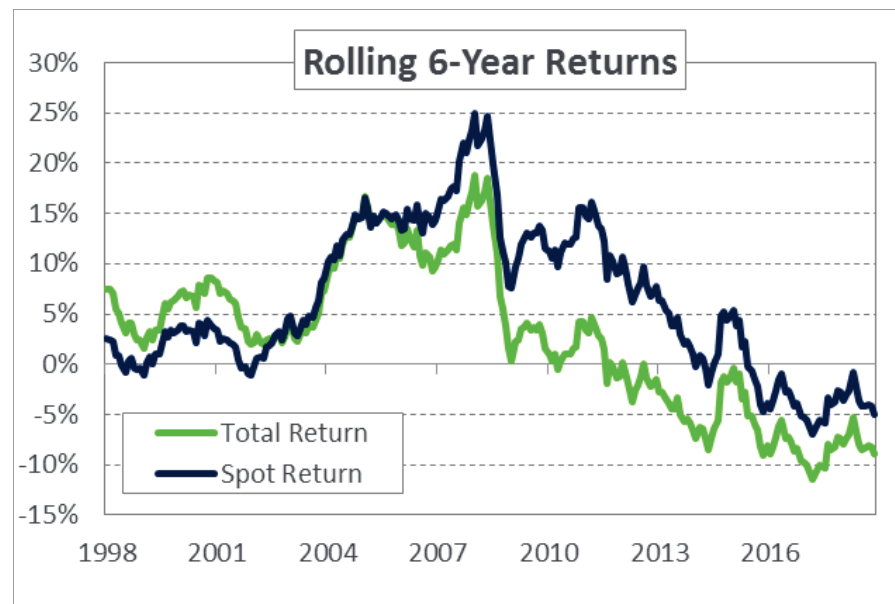
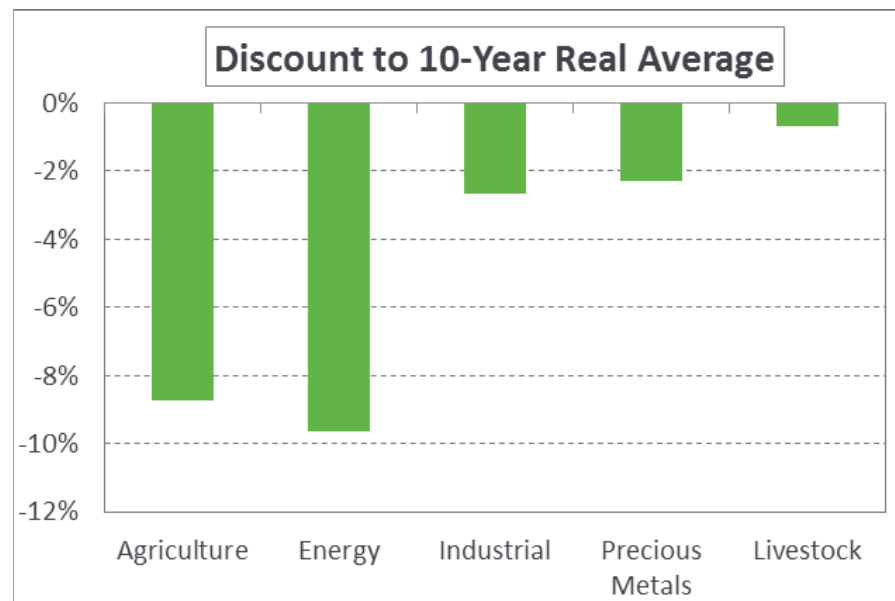
Commodity prices continue to trade below their long-term real averages, particularly in the energy and agriculture sectors

## Roll yield continues to be a hurdle for investing in commodity futures

Post-2008, spot returns have had consistently higher returns than total return indices – demonstrating the impact of negative roll yield on overall investments

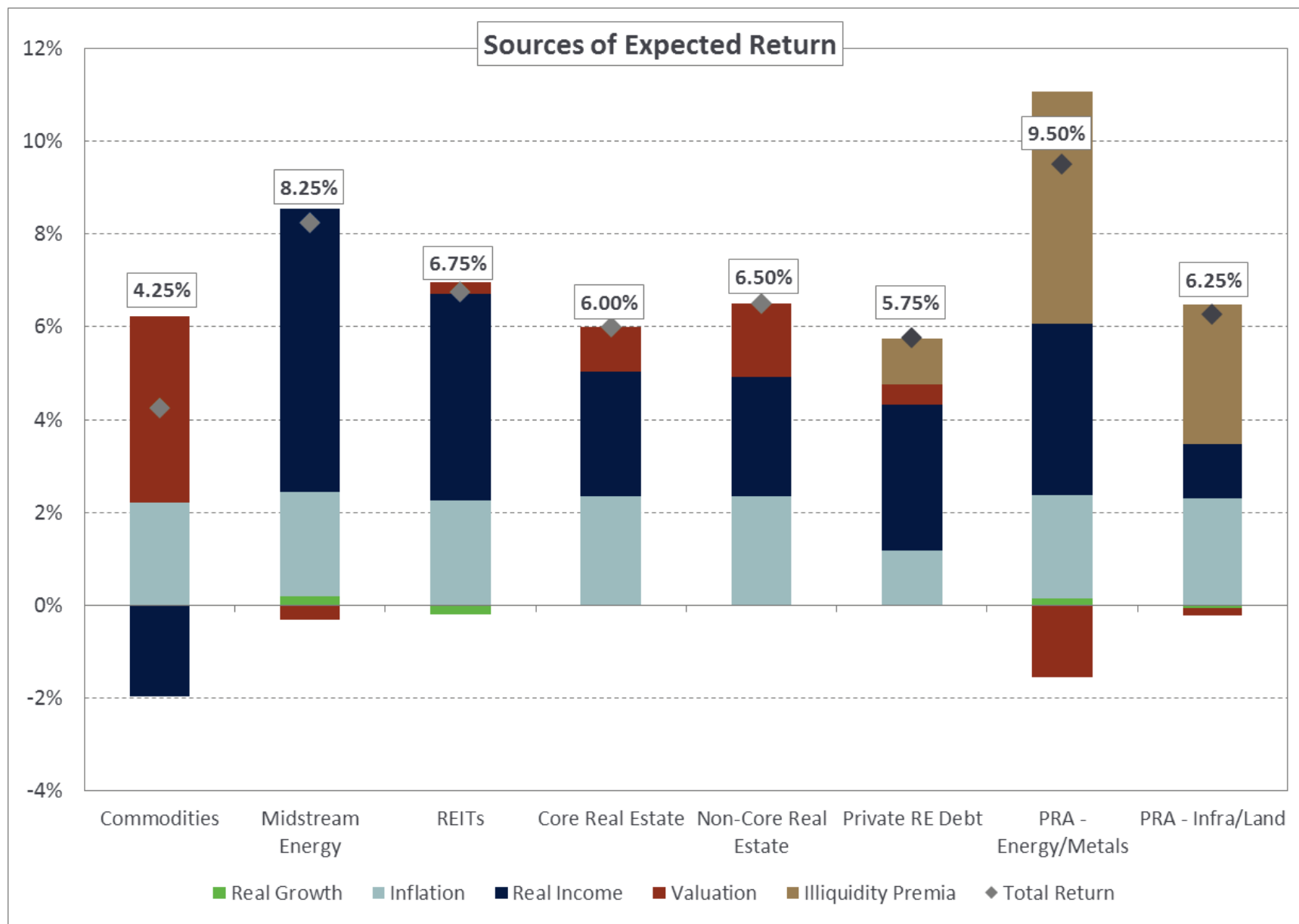
## In the latter half of 2018, crude oil declined significantly from a glut of global supply

Natural gas represents the largest component of the Bloomberg Commodity index – the significant increase in natural gas prices during 2018 distorted the index roll yield relative to last year



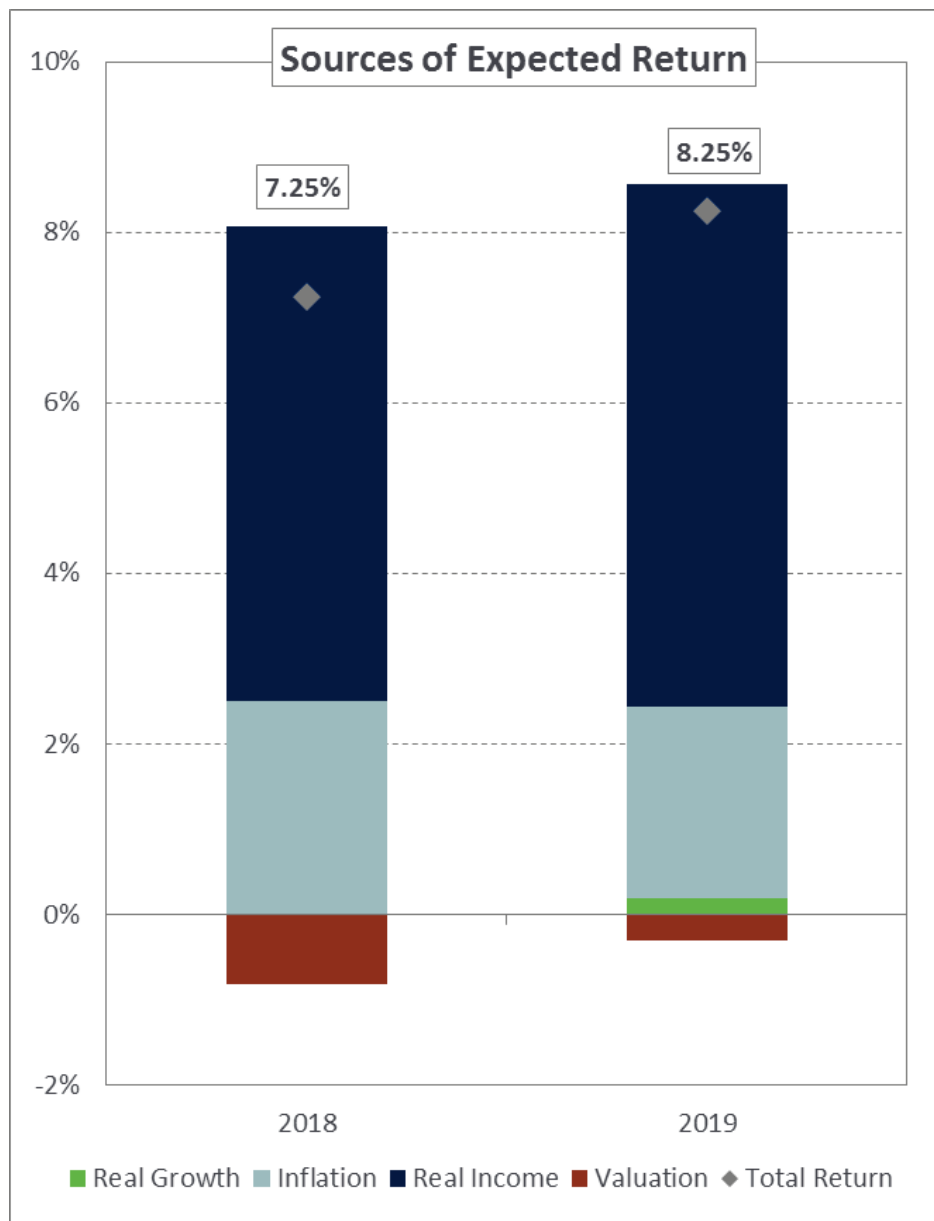
Source: (Top) Bloomberg, NEPC  
Source: (Bottom) Bloomberg, NEPC

# REAL ASSETS: BUILDING BLOCKS (5-7 YEARS)



Source: NEPC

# REAL ASSETS FOCUS: MIDSTREAM ENERGY



Source: NEPC

**The assumption was constructed using the Alerian Midstream Energy Index as a reference, rather than the Alerian MLP Index, which was used in prior years**

Shifting away from an exclusive MLP assumption reflects the full opportunity set for the midstream space as industry consolidation has reduced the number of MLPs relative to C-corporations

The Alerian MLP Index is now reflects a higher percentage of lower quality, higher yielding companies that have yet to simplify their operating structures

**Distribution yields are likely to decline over time as MLPs transition to a corporate structure, but we believe midstream energy continues to offer a compelling total return**

# DERIVED COMPOSITES

# DERIVED COMPOSITES

**Derived composites are the result of the sum of equity, credit, and real asset building blocks**

**Global 60/40:** 60% global equity and 40% global bonds

**US 60/40:** 60% US equity and 40% core bonds

**Risk Parity:** Average of AQR GRP EL 10%, Bridgewater All Weather, Panagora Multi-Asset

**Global Equity:** Market-weighted blend of MSCI ACWI IMI (US, Non-US Developed, Emerging)

**Private Equity:** 34% US Buyout, 34% US Growth, 8.5% US Secondary, 8.5% US Venture, 15% Non-US PE

**Core Bonds:** Market weighted blend of Bloomberg Barclays US Aggregate Bond Index (Treasuries, IG Credit, MBS)

**Private Debt:** 50% Direct Lending, 25% Mezzanine, 25% Distressed

**Real Assets (Liquid):** Weighted blend of TIPS, global equities, REITs, and commodities

**Hedge Funds:** Weighted blend of 40% HF equity, 40% HF credit, and 20% HF macro

Asset Class	5-7 Year Return	Change 2019-2018
Global 60/40	5.08%	+0.17%
US 60/40	5.07%	+0.53%
Risk Parity	4.67%	-0.44%
Global Asset Allocation	5.73%	+0.29%
<i>Global Equity</i>	<i>6.99%</i>	<i>+0.11%</i>
<i>Private Equity</i>	<i>10.01%</i>	<i>+2.01%</i>
<i>Core Bonds</i>	<i>3.04%</i>	<i>+0.29%</i>
<i>Private Debt</i>	<i>7.60%</i>	<i>+1.10%</i>
<i>Real Assets (Liquid)</i>	<i>5.79%</i>	<i>-0.08%</i>
<i>Hedge Funds</i>	<i>5.74%</i>	<i>-0.09%</i>



# PRIVATE MARKETS METHODOLOGY

**In previous years, private equity and private debt assumptions were constructed using betas to public market assumptions with an added illiquidity premia**

**For 2019, sub-strategies were incorporated to offer a distinction among private market implementation options with different risk/return profiles**

The sub-strategies were constructed using the same build-up methodology using public market betas and an illiquidity premia based on historical returns analysis relative to appropriate public market equivalents

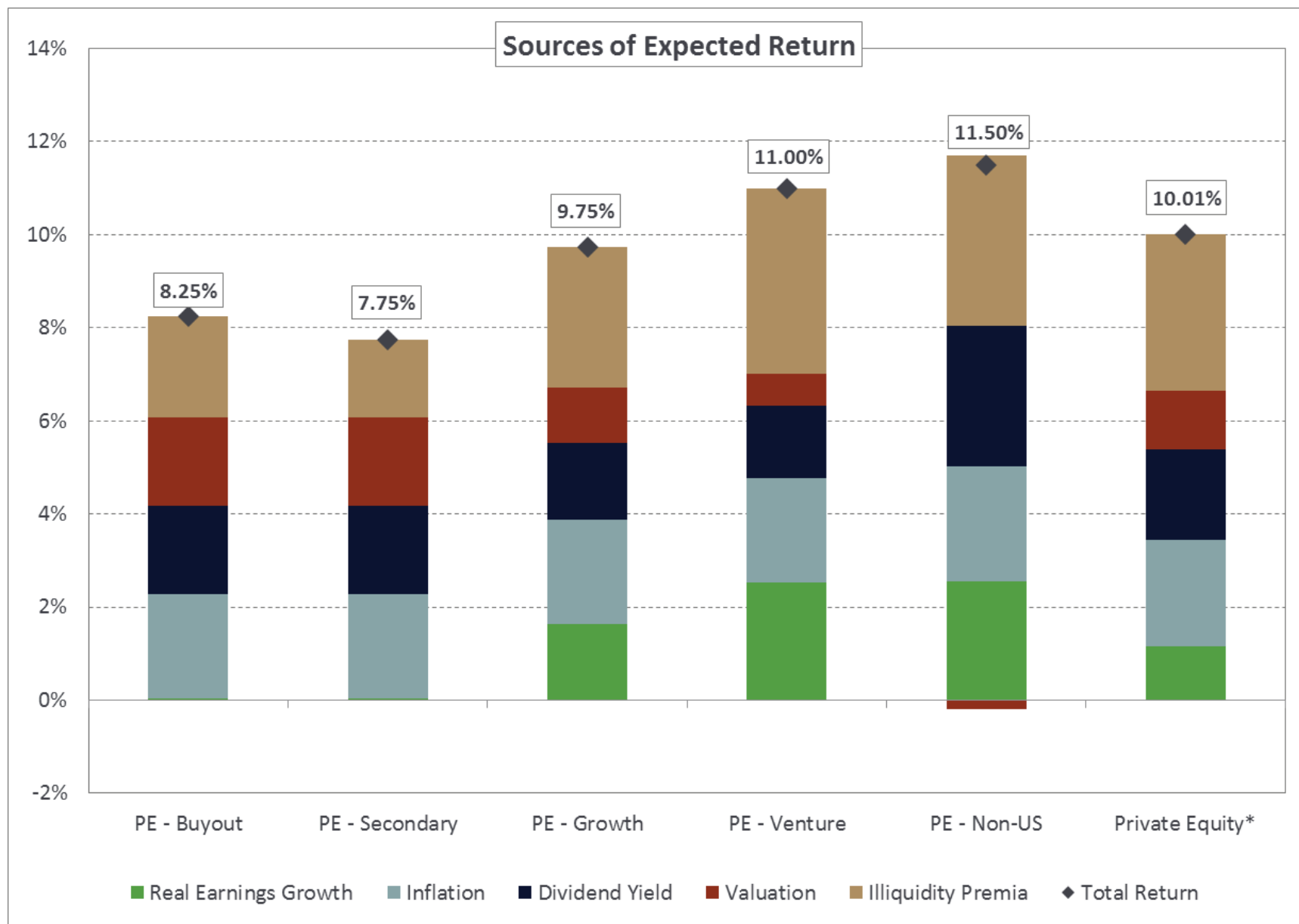
**The composite Private Equity and Private Debt line items are derived from a custom blend of sub-strategies**

Private Equity: 34% Buyout, 34% Growth, 15 % Non-US, 8.5% Secondaries, 8.5% Venture

Private Debt: 50% Direct Lending, 25% Mezzanine, 25% Distressed

**The methodology change generally resulted in a higher return expectations from incorporating the granularity of the sub-strategies and including a non-US component**

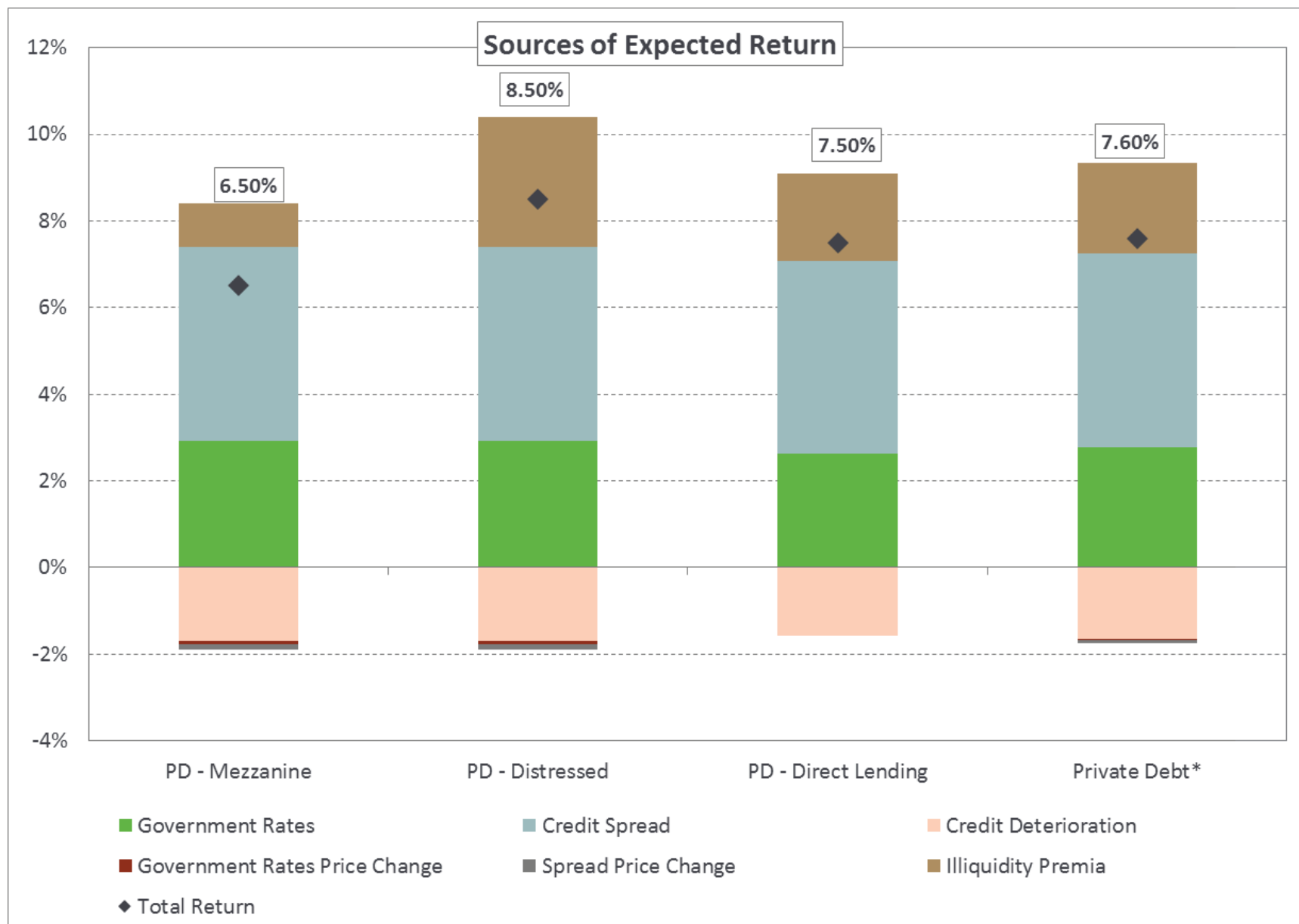
# PRIVATE EQUITY: BUILDING BLOCKS (5-7 YEARS)



Source: NEPC

\*Private Equity is a derived composite of 34% US Buyout, 34% US Growth, 8.5% US Secondary, 8.5% US Venture, 15% Non-US PE

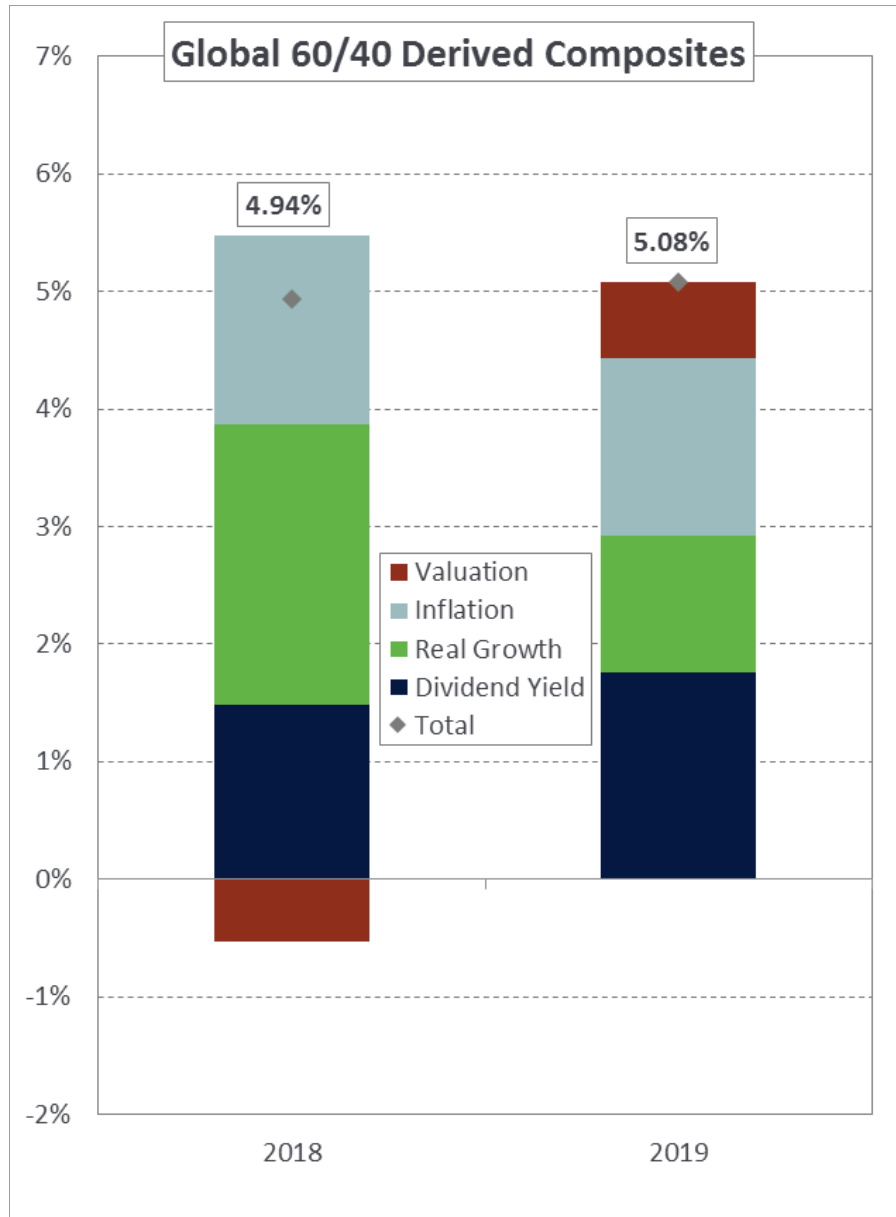
# PRIVATE DEBT: BUILDING BLOCKS (5-7 YEARS)



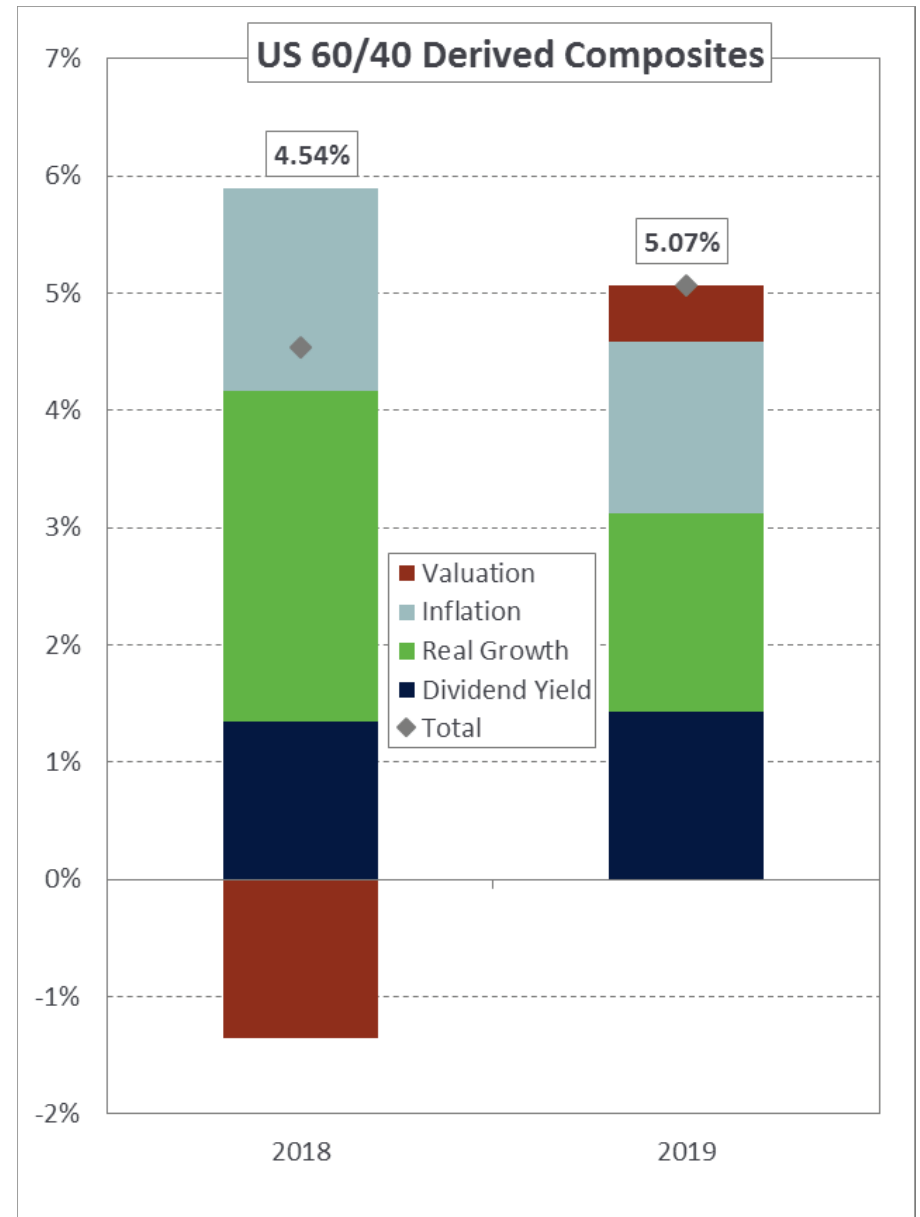
Source: NEPC

\*Private Debt is a derived composite of 25% Mezzanine, 25% Distressed, 50% Direct Lending

# GLOBAL VS. US 60/40 DERIVED COMPOSITES



Source: NEPC



Source: NEPC

# APPENDIX

# 2019 5-7 YEAR RETURN FORECASTS

Geometric Expected Return			
Asset Class	2019	2018	2019-2018
Cash	2.50%	2.00%	+0.50%
Large Cap Equities	6.00%	5.25%	+0.75%
Small/Mid Cap Equities	6.25%	5.75%	+0.50%
Int'l Equities (Unhedged)	6.75%	7.50%	-0.75%
Int'l Sm Cap Equities (Unhedged)	7.25%	7.75%	-0.50%
Emerging Int'l Equities	9.25%	9.00%	+0.25%
Emerging Int'l Sm Cap Equities	9.50%	9.25%	+0.25%
Hedge Funds - Long/Short	5.50%	6.25%	-0.75%
TIPS	3.00%	3.25%	-0.25%
Treasuries	2.50%	2.25%	+0.25%
IG Corp Credit	4.00%	3.50%	+0.50%
MBS	2.75%	2.50%	+0.25%
High-Yield Bonds	5.25%	3.75%	+1.50%
Bank Loans	5.50%	4.50%	+1.00%
EMD (External)	4.75%	4.25%	+0.50%
EMD (Local Currency)	6.50%	6.00%	+0.50%
Municipal Bonds	3.00%	2.50%	+0.50%
High-Yield Municipal Bonds	3.00%	3.75%	-0.75%
Hedge Funds – Credit	5.50%	5.00%	+0.50%

# 2019 5-7 YEAR RETURN FORECASTS

Geometric Expected Return			
Asset Class	2019	2018	2019-2018
Long Treasuries	1.75%	2.00%	-0.25%
Long Credit	3.50%	4.00%	-0.50%
IG CLO	4.00%	N/A	N/A
HY CLO	6.00%	N/A	N/A
Commodities	4.25%	4.75%	-0.50%
Midstream Energy	8.25%	7.25%	+1.00%
REITs	6.75%	6.50%	+0.25%
Core Real Estate	6.00%	5.75%	+0.25%
Non-Core Real Estate	7.00%	7.00%	-
Private RE Debt	5.75%	N/A	N/A
Private Real Assets - Energy/Metals	9.50%	8.00%	+1.50%
Private Real Assets - Infra/Land	6.25%	6.00%	+0.25%
Hedge Funds - Macro	6.00%	6.25%	-0.25%
<i>Global Equity*</i>	<i>6.99%</i>	<i>6.88%</i>	<i>+0.11%</i>
<i>Private Equity*</i>	<i>10.01%</i>	<i>8.00%</i>	<i>+2.01%</i>
<i>Core Bonds*</i>	<i>3.04%</i>	<i>2.75%</i>	<i>+0.29%</i>
<i>Private Debt*</i>	<i>7.60%</i>	<i>6.50%</i>	<i>+1.10%</i>
<i>Long Govt/Credit*</i>	<i>2.84%</i>	<i>3.26%</i>	<i>-0.42%</i>
<i>Hedge Funds*</i>	<i>5.74%</i>	<i>5.83%</i>	<i>-0.09%</i>

\*Multi-asset assumptions derived from the sum of underlying equity, credit, and real asset building blocks - see page 38 for additional detail.

# 2019 VOLATILITY FORECASTS

Volatility			
Asset Class	2019	2018	2019-2018
Cash	1.00%	1.00%	-
Large Cap Equities	16.50%	17.50%	-1.00%
Small/Mid Cap Equities	20.00%	21.00%	-1.00%
Int'l Equities (Unhedged)	20.50%	21.00%	-0.50%
Int'l Sm Cap Equities (Unhedged)	22.00%	22.00%	-
Emerging Int'l Equities	28.00%	28.00%	-
Emerging Int'l Sm Cap Equities	31.00%	31.00%	-
Hedge Funds - Long/Short	11.00%	11.00%	-
TIPS	6.50%	6.50%	-
Treasuries	5.50%	5.50%	-
IG Corp Credit	7.50%	7.50%	-
MBS	7.00%	7.00%	-
High-Yield Bonds	12.50%	13.00%	-0.50%
Bank Loans	9.00%	9.00%	-
EMD (External)	13.00%	13.00%	-
EMD (Local Currency)	13.00%	13.00%	-
Municipal Bonds	7.00%	7.00%	-
High-Yield Municipal Bonds	12.00%	12.00%	-
Hedge Funds - Credit	9.50%	9.50%	-



# 2019 VOLATILITY FORECASTS

Volatility			
Asset Class	2019	2018	2019-2018
Long Treasuries	12.00%	12.00%	-
Long Credit	12.00%	12.00%	-
IG CLO	7.50%	N/A	N/A
HY CLO	11.00%	N/A	N/A
Commodities	19.00%	19.00%	-
Midstream Energy	18.50%	19.00%	-0.50%
REITs	20.00%	21.00%	-1.00%
Core Real Estate	13.00%	13.00%	-
Non-Core Real Estate	17.00%	17.00%	-
Private RE Debt	11.00%	N/A	N/A
Private Real Assets - Energy/Metals	21.00%	21.00%	-
Private Real Assets - Infra/Land	12.00%	12.00%	-
Hedge Funds - Macro	9.50%	9.50%	-
<i>Global Equity*</i>	<i>17.57%</i>	<i>18.22%</i>	<i>-0.65%</i>
<i>Private Equity*</i>	<i>24.16%</i>	<i>23.00%</i>	<i>+1.16%</i>
<i>Core Bonds*</i>	<i>6.10%</i>	<i>5.99%</i>	<i>+0.11%</i>
<i>Private Debt*</i>	<i>11.97%</i>	<i>13.00%</i>	<i>-1.03%</i>
<i>Long Gov/Credit*</i>	<i>11.26%</i>	<i>11.25%</i>	<i>+0.01%</i>
<i>Hedge Funds*</i>	<i>8.15%</i>	<i>9.07%</i>	<i>-0.92%</i>

\*Multi-asset assumptions derived from the sum of underlying equity, credit, and real asset building blocks - see page 38 for additional detail.

# 2019 30 YEAR RETURN FORECASTS

Geometric Expected Return			
Asset Class	2019	2018	2019-2018
Cash	3.00%	2.75%	+0.25%
Large Cap Equities	7.50%	7.50%	-
Small/Mid Cap Equities	7.75%	7.75%	-
Int'l Equities (Unhedged)	7.75%	7.75%	-
Int'l Sm Cap Equities (Unhedged)	8.00%	8.00%	-
Emerging Int'l Equities	9.25%	9.25%	-
Emerging Int'l Sm Cap Equities	9.50%	9.50%	-
Hedge Funds - Long/Short	6.50%	7.25%	-0.75%
TIPS	4.00%	3.75%	+0.25%
Treasuries	3.75%	3.25%	+0.50%
IG Corp Credit	5.75%	4.75%	+1.00%
MBS	3.75%	3.25%	+0.50%
High-Yield Bonds	6.50%	5.50%	+1.00%
Bank Loans	5.50%	5.50%	-
EMD (External)	6.25%	5.00%	+1.25%
EMD (Local Currency)	6.75%	6.50%	+0.25%
Municipal Bonds	3.75%	3.50%	+0.25%
High-Yield Municipal Bonds	5.25%	5.50%	-0.25%
Hedge Funds - Credit	6.75%	5.25%	+1.50%

# 2019 30 YEAR RETURN FORECASTS

Geometric Expected Return			
Asset Class	2019	2018	2019-2018
Long Treasuries	3.75%	3.50%	+0.25%
Long Credit	6.00%	5.25%	+0.75%
IG CLO	4.50%	N/A	N/A
HY CLO	6.25%	N/A	N/A
Commodities	5.50%	5.50%	-
Midstream Energy	7.50%	7.50%	-
REITs	7.00%	6.75%	+0.25%
Core Real Estate	6.25%	6.50%	-0.25%
Non-Core Real Estate	7.25%	7.50%	-0.25%
Private RE Debt	6.25%	N/A	N/A
Private Real Assets - Energy/Metals	9.50%	7.75%	+1.75%
Private Real Assets - Infra/Land	7.00%	6.25%	+0.75%
Hedge Funds - Macro	6.50%	6.25%	+0.25%
<i>Global Equity*</i>	<i>8.18%</i>	<i>8.24%</i>	<i>-0.06%</i>
<i>Private Equity*</i>	<i>11.15%</i>	<i>9.50%</i>	<i>+1.65%</i>
<i>Core Bonds*</i>	<i>4.37%</i>	<i>3.75%</i>	<i>+0.62%</i>
<i>Private Debt*</i>	<i>8.11%</i>	<i>7.50%</i>	<i>+0.61%</i>
<i>Long Gov/Credit*</i>	<i>5.14%</i>	<i>4.62%</i>	<i>+0.52%</i>
<i>Hedge Funds*</i>	<i>6.76%</i>	<i>6.34%</i>	<i>+0.42%</i>

\*Multi-asset assumptions derived from the sum of underlying equity, credit, and real asset building blocks - see page 38 for additional detail.

# INFORMATION DISCLAIMER

Past performance is no guarantee of future results.

The goal of this report is to provide a basis for substantiating asset allocation recommendations. The opinions presented herein represent the good faith views of NEPC as of the date of this report and are subject to change at any time.

Information on market indices was provided by sources external to NEPC. While NEPC has exercised reasonable professional care in preparing this report, we cannot guarantee the accuracy of all source information contained within.

All investments carry some level of risk. Diversification and other asset allocation techniques do not ensure profit or protect against losses.

This report is provided as a management aid for the client's internal use only. This report may contain confidential or proprietary information and may not be copied or redistributed to any party not legally entitled to receive it.

The background of the slide is a blurred image of a financial chart. It features several lines in white, yellow, red, and blue, representing different data series. A dotted white line indicates an upward trend. The chart is set against a dark blue background with a light blue gradient at the top.

# **WINTER IS COMING, BUT WHEN?**

NEPC's 2019 Asset Allocation Letter

January 2019

# WINTER IS COMING, BUT WHEN?

NEPC's Asset Allocation Committee

January 2019

Economies and capital markets, like the seasons, follow a pattern of change. As many know, these changes can be gentle or harsh, gradual or abrupt, like an unexpected blizzard in November followed by a string of 50-degree days in December. Unfortunately for investors, while the change in seasons is bound by the earth's tilt, the changes to economic and market cycles are not, making them much harder to predict and plan for.

As higher interest rates, trade disputes and slowing global growth cast a chill over markets, the US economy is completing a shift from a period of extended growth to the late stage of an economic cycle. While we do not know when exactly winter will arrive for the economy and markets, we are advising investors to brace for harsher climes. At the same time, we also encourage them to take advantage of an unseasonable mild stretch. After all, it is just as important to prepare for that sudden snow storm as it is to make the most of an unexpected balmy day. Much like an occasional stretch of mild days follows a storm, the market sell-off in December presents an attractive opportunity to rebalance equities back towards strategic targets even as we closely assess how this late stage in the cycle evolves.

Our outlook for 2019 reflects a significant shift in our [key market themes](#) as interest rates edge up and the US economy enters

a new phase. The following macro themes underscore the changing investment landscape, while offering an insight into what the year may hold for us:

*The market sell-off in December presents an attractive opportunity to rebalance equities back towards strategic targets.*

## (i) Late Cycle Dynamics

Key economic indicators suggest that the US economy has transitioned into the late stage of an expansionary cycle. To be sure, despite the market slump in December, there is minimal evidence to suggest that a recession is imminent in the United States. Leading indicators have not turned negative nor has the yield curve inverted (every recession since 1980 has been preceded by an inverted yield curve). That said, moving into a late cycle phase negatively skews the range of outcomes. As a result, our investment outlook reflects a more risk-averse posture with a bias towards selling low-quality credit and increasing exposure to safe-haven fixed-income assets.

## **(ii) Tightening Global Liquidity**

In the last decade, liquidity stemming from accommodative monetary policies has been a major driving force of the global economy and capital markets. This is a pivotal year as the liquidity spigot tightens. From higher interest rates in the United States, to the Federal Reserve's shrinking balance sheet, and dwindling bond purchases in Europe, central banks the world over are putting in place more restrictive policies today. This tightening of liquidity is a headwind for global credit and equity markets across the world. We believe the diminishing support from central banks warrants greater caution in credit markets as liquidity conditions remain fragile and will likely be tested by a flight from crowded credit positions.

## **(iii) China Transitions**

China continues its immense and unprecedented transition in its economic, social, monetary and capital-market structures. The world's second-largest economy is exercising caution over its monetary and fiscal policies as it attempts to manage indebtedness without popping its credit bubble. Throw into this complex mix an ongoing trade dispute with the United States, and the stakes have never been higher. Our base case remains a methodical recalibration of China's economy. That said, uncertainties related to its trade squabble with the United States, tighter global liquidity and shifts within the US economy may expose structural weaknesses within China that will need to be carefully managed.

## **(iv) Globalization Backlash**

We believe the uprising against globalization is a long-term trend, as populist movements across the world reject political and economic

orthodoxy, and multilateral relationships are viewed with greater suspicion among nations. Years of building global supply chains, driven by cheap labor in emerging markets, advancement in automation and concentrated ownership of technology, widened the existing chasm of income inequality and fueled the loss of traditional middle-class jobs. These frustrations around globalization and the rise in populism have been in the making for over decades and thus, will take years to be fully reflected. These resentments have manifested themselves in the Brexit vote, many political elections and trade-policy negotiations, including the current trade tensions between the United States and China, the world's two largest economies.

*Diversification and disciplined rebalancing are critical to survive the transition into and through the late stage of an expansionary economic cycle.*

Our key market themes and asset allocation assumptions for 2019 suggest an investment playbook focused on getting more defensive. Also included in that playbook is the discipline of opportunistically rebalancing to targets. Our message to you: prepare your portfolio to withstand higher volatility and weather a waning economic cycle, but rebalance equities back towards long-term targets today so you can capture their recovery on the heels of the sharp drawdown in December. We believe diversification and disciplined rebalancing are critical to survive the transition into and through the late stage of an expansionary economic cycle.



Long-term actions for clients may include:

- Evaluating portfolios to ensure diversification and balance
- Adding defensive positions like safe-haven fixed-income securities in existing portfolios that have a bias towards growth and risky assets
- Focusing on long-term investment horizons and exercising discipline in rebalancing when the opportunity arises
- Staying committed to asset classes with robust return expectations such as emerging market equities
- Moving to market weights within developed market equities to minimize overweights to more fragile economies like Europe
- Recognizing that tightening liquidity could be a headwind for all asset classes, especially credit
- Acknowledging the potential for continued uncertainty around global trade and China's role in the world economy

We anticipate a year of difficult transitions and higher volatility. Preparation is vital because winter is coming, even if we don't know when. We are not only prepared to help you meet both these challenges, but also take advantage of the opportunities arising from the change in seasons. We also know that spring and then summer will eventually follow. We look forward to working with you through all the seasons to meet and exceed your long-term investment objectives.

## DISCLAIMERS AND DISCLOSURES

- Past performance is no guarantee of future results.
- All investments carry some level of risk. Diversification and other asset allocation techniques do not ensure profit or protect against losses.
- The information in this report has been obtained from sources NEPC believes to be reliable. While NEPC has exercised reasonable professional care in preparing this report, we cannot guarantee the accuracy of all source information contained within.
- The opinions presented herein represent the good faith views of NEPC as of the date of this report and are subject to change at any time.





NEPC, LLC

YOU DEMAND MORE. *So do we.*<sup>SM</sup>

## **ABC Public Fund**

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### **Asset-Liability Study**

July 20, 2017

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**BOSTON | ATLANTA | CHARLOTTE | CHICAGO | DETROIT | LAS VEGAS | SAN FRANCISCO**

# Agenda

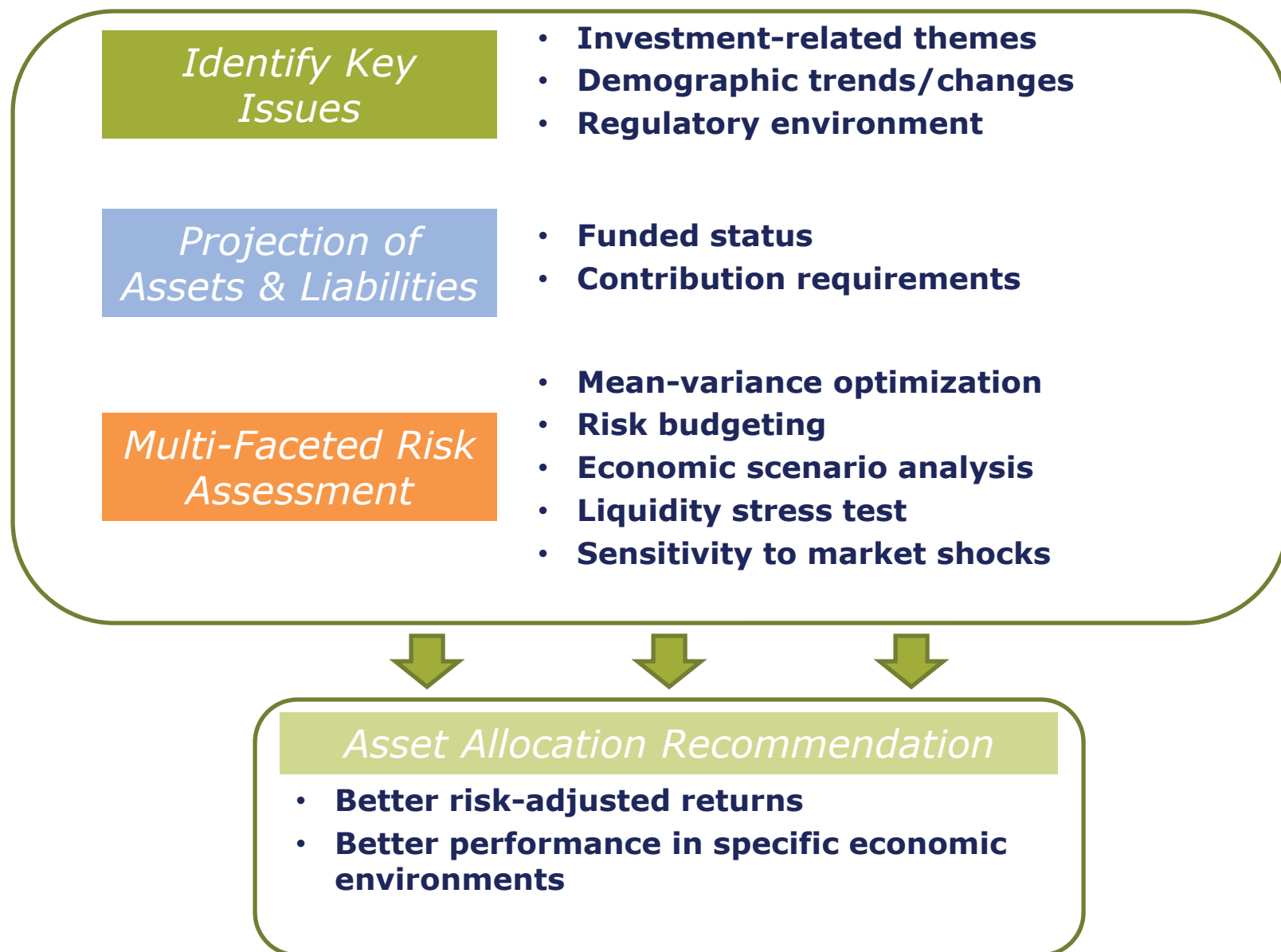
<b>Executive Summary</b>	<b>1</b>
<b>Asset-Liability Study Overview</b>	<b>2</b>
<b>Historical Plan Review</b>	<b>3</b>
<b>Current Target Policy Profile</b>	<b>4</b>
<b>Alternative Allocations</b>	<b>5</b>
<b>Conclusions</b>	<b>6</b>
<b>Appendix</b>	<b>7</b>

- **This report presents the results of the asset-liability study conducted on the ABC Public Pension Fund**
- **The goals of the study are to:**
  - Review the current and projected financial status of the Plan
    - Project pension liabilities and benefit payments
    - Project asset growth and contribution levels
  - Assess the appropriateness of the current asset allocation relative to the expected progress of liabilities and cash flows
    - Analyze the tradeoffs of asset class changes
  - Use multiple models to develop comprehensive understanding of plan dynamics
    - Risk and return of asset allocation
    - Relationship between assets and liabilities

- **The Plan is well funded on an actuarial basis, 79% as of October 1, 2016**
- **Contributions are currently 42% of payroll, and are expected to increase for the foreseeable future**
- **Current policy allocation is expected to produce an average return of 7.1% over the next 30 years**
  - Does not reach the expected return on assets (EROA) of 7.75%
  - Due to current market headwinds, the 5-7 year return is expected to return 5.9% per year on average
- **Capital markets backdrop continues to support a well diversified, globally balanced approach**
  - Current long-term strategic asset allocation policy target is a well diversified portfolio that strives for return without taking undue risk
  - Current policy target allocation expected to achieve an 7.1% return over 30 years using NEPC's 2017 capital markets forecasts, compared to a 7.75% expected return target
- **This allocation and liability analysis investigates important decisions for improving financial outcomes**
  - Increased private market investments
  - Increased public equity exposure
  - Decrease in hedge funds and fixed income
  - Addition of dedicated emerging market equities and bank loans

# Asset-Liability Study Overview







### Be Dynamic

Build a **long-term** strategic allocation that can meet long-term objectives

Look for **medium-term** “opportunistic ideas” to tilt away from the strategic allocation to add value, and


Take advantage of **short-term** market dislocations

### Build a Mosaic

No single asset allocation approach or model has all the answers

Minimize exposure to the shortcomings of any individual approach by using multiple perspectives and approaches

All analytical tools have the potential to provide useful insights but also including shortcomings



- **NEPC uses a variety of proprietary tools developed to assess strategic asset allocation changes and the impact of tactical adjustments**

Approach	Advantages	Shortcomings
<b>Mean-Variance</b>	<ul style="list-style-type: none"> <li>• Calculates most efficient portfolio for given volatility</li> <li>• Produces range of portfolios</li> </ul>	<ul style="list-style-type: none"> <li>• Relies on static assumptions and assumes normal distribution</li> <li>• Chosen constraints can drive results</li> <li>• Limits risk definition to volatility</li> </ul>
<b>Risk Budgeting</b>	<ul style="list-style-type: none"> <li>• Provides risk allocations</li> <li>• Recognizes that less efficient portfolios may have better risk balance</li> </ul>	<ul style="list-style-type: none"> <li>• Relies on Mean-Variance optimization assumptions</li> <li>• Defines risk as standard deviation</li> <li>• Ignores tail risks</li> </ul>
<b>Scenario Analysis</b>	<ul style="list-style-type: none"> <li>• Focuses on low-probability, high magnitude economic environments (tail risks)</li> <li>• Recognizes environmental biases of each asset class</li> </ul>	<ul style="list-style-type: none"> <li>• Offers opportunity to test risk tolerance to various outcomes but should not be used to construct best portfolio for each environment</li> </ul>
<b>Liquidity Analysis</b>	<ul style="list-style-type: none"> <li>• Recognizes a “risk” not captured in traditional tools: illiquidity</li> <li>• Highlights impact of changing cash flows (both investment-driven and exogenous)</li> </ul>	<ul style="list-style-type: none"> <li>• Requires portfolio specific cash flow and partnership details</li> <li>• Long-term planning tool – cannot easily adjust portfolio or compare different portfolios</li> </ul>

Please note that all investments carry some level of risk. No investment strategy or risk management technique can guarantee returns or eliminate risk in any market environment.



## Facing the Challenge of Subdued Capital Market Forecasts

- **All investors face the same fundamental challenge**
  - Contributions + Investment Earnings must equal or exceed total Obligations (Benefits and Expenses)
  - For pension plans, this is the classic equation:

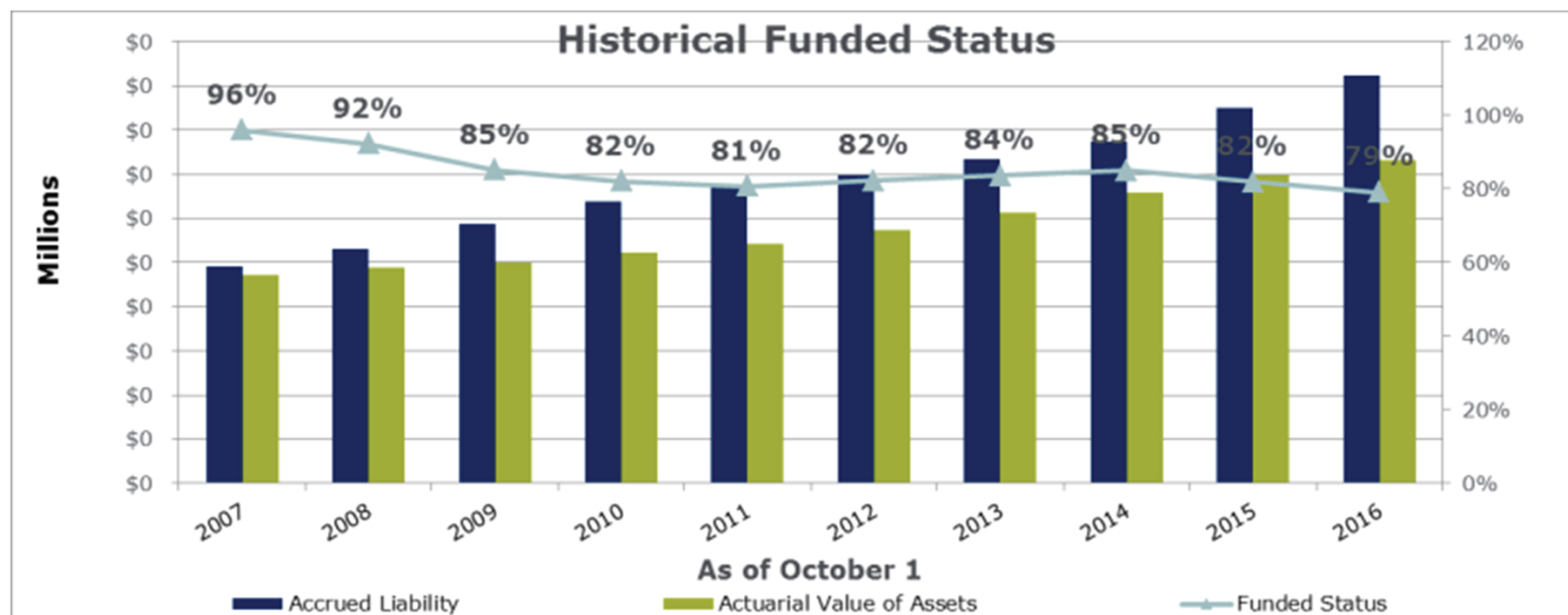
$$C + I = B + E$$

- **If investment return is lower than expected, adjustments are required to balance the equation**
  - Contributions must be higher,
  - Benefits + expenses must be lower, or
  - More risk must be taken to earn a similar return, or risk must be taken more efficiently
- **Adjusting investment return and risk is the most fluid of these factors**
  - Requires an understanding of both assets and liabilities to determine the “right” amount of risk in a portfolio
  - A key input is assessing the efficiency of a portfolio’s implementation of the risk target
  - Requires any potential structural challenges from future cash flow dynamics be addressed and understood
  - The portfolio’s macro economic bias must be evaluated and recognized

# Historical Plan Review



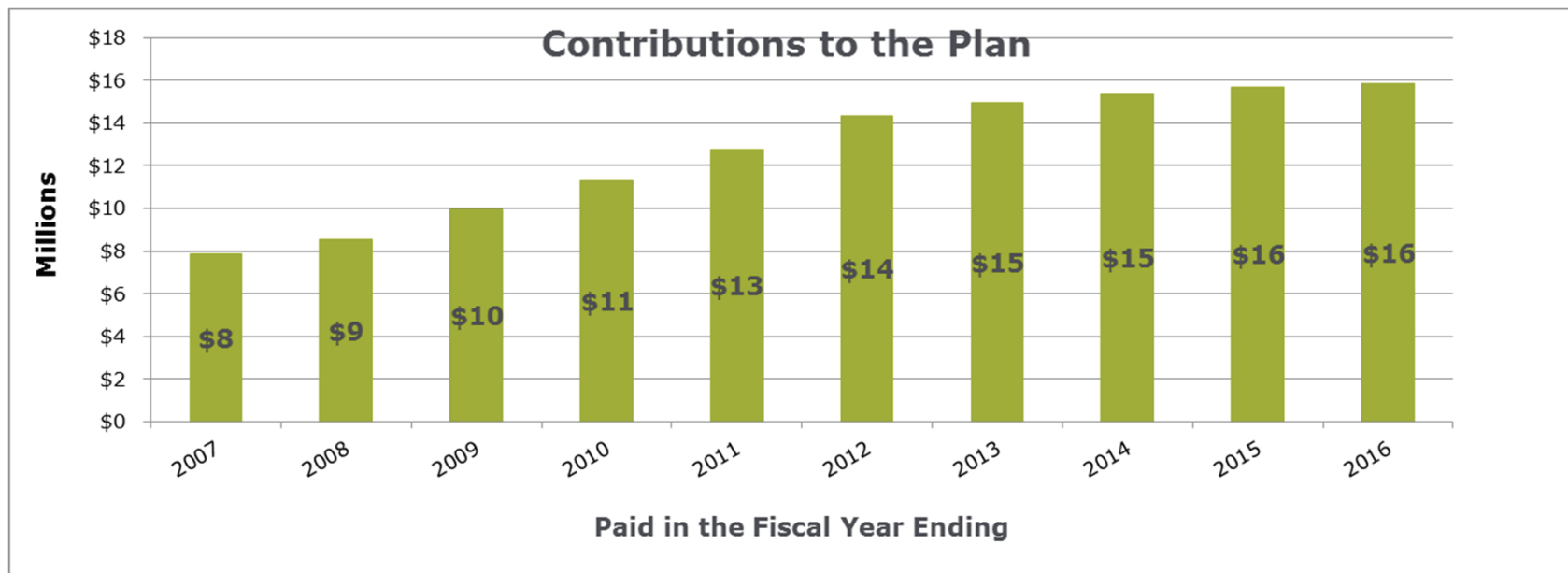
## Historical Review – Funded Status



Source: ABC Actuary

- **The plan's funded status has declined over the last 10 years from 96% to 79%**
  - The plan is open to new employees and accruing benefits, therefore liabilities will continue to increase if the population remains level or grows
- **Liabilities have increased at an average rate of 7.3% per year**
- **Actuarial Value of Assets have averaged 5.0% in growth per year**

## Historical Review – Contributions Made to the Plan



Source: Nyhart

- **Over the past 10 years, employer and non-employer contributions have doubled in terms of dollars paid**

# Current Target Policy Profile



## Asset Allocation - Policy Target and Current Portfolio

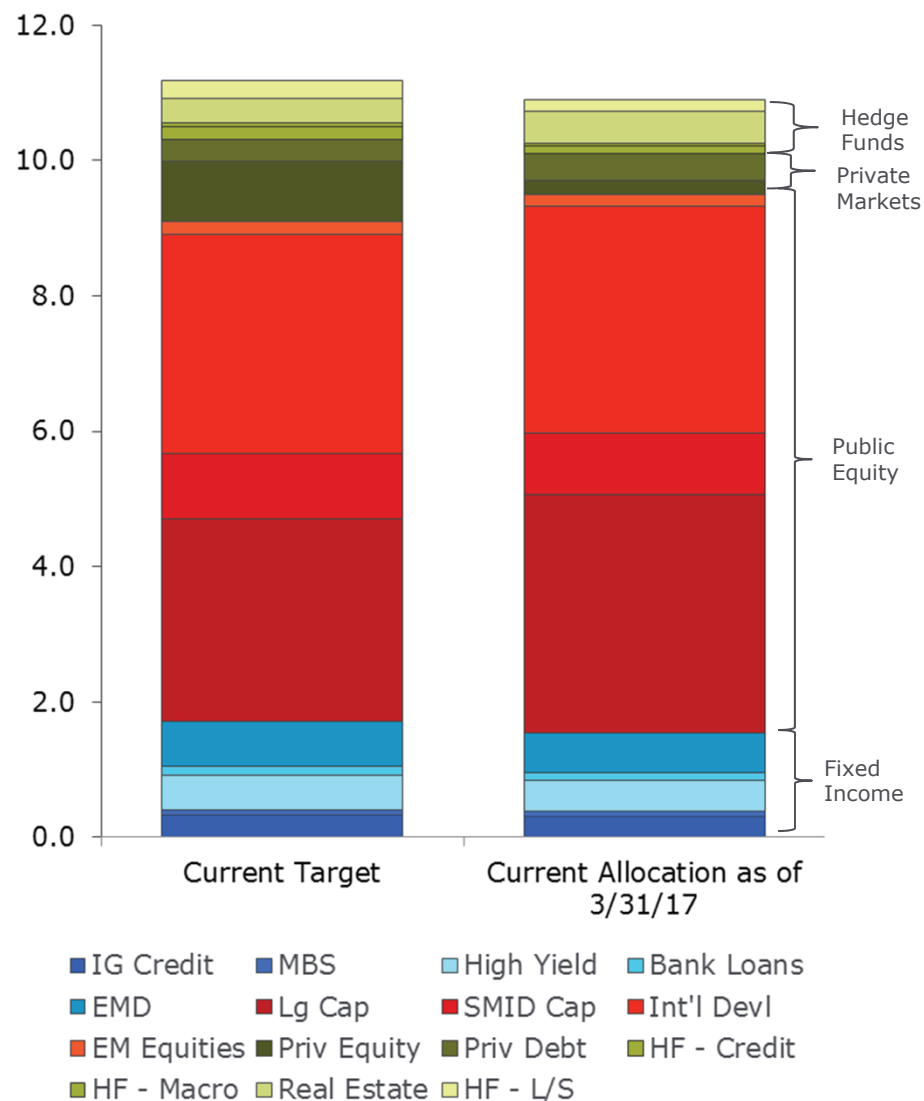
- **Mean variance analysis uses NEPC assumptions for future asset class returns, risk and correlations to forecast portfolio expected returns and risk**
- **7.75% EROA is not expected to be achievable over the longer term under the current policy target**
  - Over a shorter 5-7 year market cycle, expected return is lower for most asset classes
- **Current allocation is overweight to public equities and underweight to private equity and hedge funds**
  - Private debt and real estate also slightly overweight

	<b>Current Target</b>	<b>Current Allocation as of 3/31/17</b>
Large Cap Equities	17%	20%
Small/Mid Cap Equities	5%	5%
Int'l Equities (Unhedged)	15%	16%
Emerging Int'l Equities	0%	0%
<b>Total Equity</b>	<b>37%</b>	<b>41%</b>
Core Bonds	10%	10%
Core Plus Fixed Income	23%	21%
Bank Loans	0%	0%
<b>Total Fixed Income</b>	<b>33%</b>	<b>31%</b>
Private Equity	5%	1%
Private Debt	3%	4%
Real Estate	5%	6%
Hedge Funds	7%	4%
<b>Total Alternatives</b>	<b>20%</b>	<b>16%</b>
Global Asset Allocation	10%	10%
<b>Total Multi Asset</b>	<b>10%</b>	<b>10%</b>
<i>Expected Return 5-7 yrs</i>	<b>5.9%</b>	<b>5.7%</b>
<i>Expected Return 30 yrs</i>	<b>7.1%</b>	<b>6.9%</b>
<i>Standard Deviation</i>	<b>11.2%</b>	<b>10.9%</b>
<i>Sharpe Ratio (5-7 years)</i>	<b>0.37</b>	<b>0.36</b>
<i>Sharpe Ratio (30 years)</i>	<b>0.36</b>	<b>0.36</b>

- **Asset allocation reflects ABC Public Fund's average degree of risk tolerance**
  - Open plan focused on funding liabilities through employer and employee contributions and asset growth
  - No exposure to dedicated emerging market equities
- **Portfolio is well diversified across asset classes**
  - Equity is highest exposure in dollars and in risk, but at a relatively moderate level
- **Hedge fund allocation is modest, paired with an equally modest private equity allocation**
- **Forward-looking low return environment challenges risk/return tradeoff**
- **Opportunities exist to take additional risk**
  - Private markets – equity and debt
  - Public equities – domestic, international, and emerging

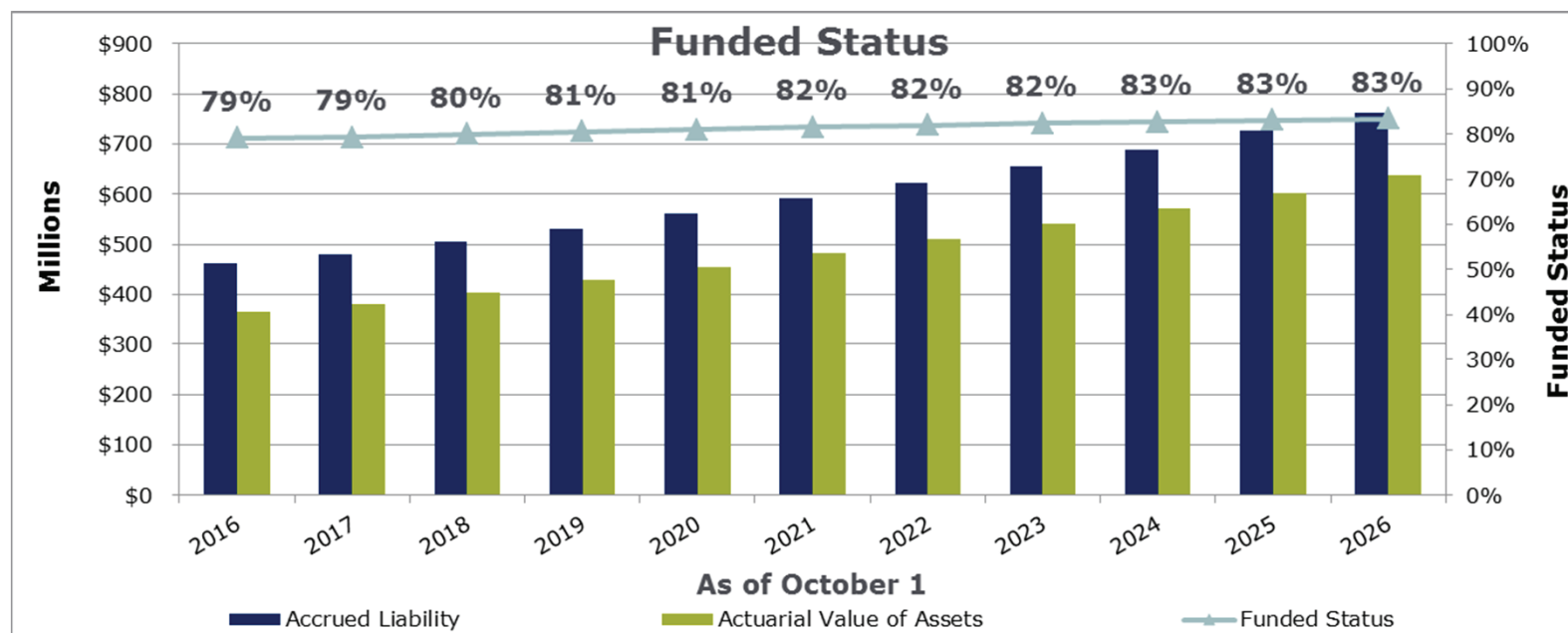
## Current Policy – Asset Risk Budgeting

- **Risk budgeting divides the portfolio standard deviation across all asset classes**
  - Based on NEPC asset class volatility and correlation assumptions
  - Assets take up more relative risk if they are individually more volatile and/or correlated with other assets
- **Allocates portfolio risk rather than portfolio assets**
  - Helps to illustrate the benefits of diversification
  - Highlights outsized risk exposure a single asset class may have in a portfolio
  - Traditional 60/40 example: Equity allocation of 60% represents over 90% of risk in the portfolio
- **Equities drive the primary risk in the portfolio**
- **Alternatives and Fixed Income add a modest contribution to risk due to their diversification benefits**





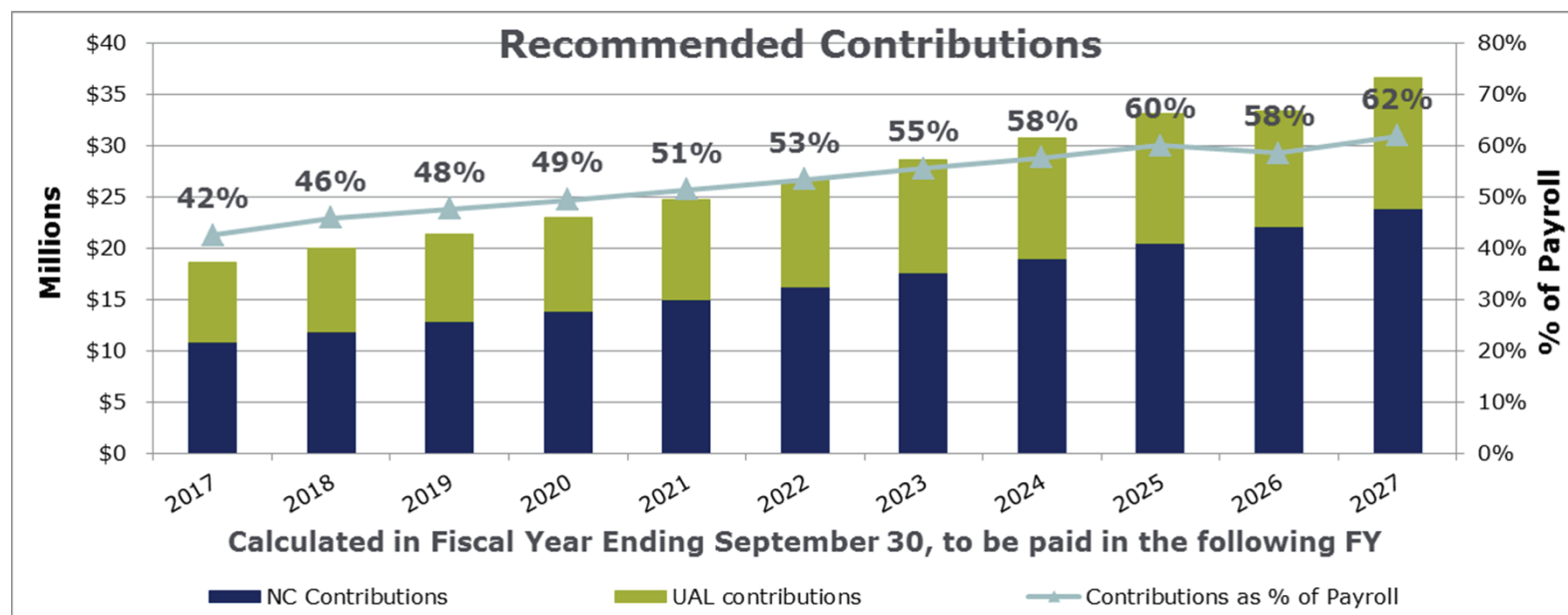
## Current Target Deterministic Projections – Funded Status



- **The funded status of the pension plan is expected to increase gradually over the next 10 years**
- **Liabilities grow at an average pace of 5.1% per year**
  - Discount rate remains level at 7.75%
- **Average increase in assets is 5.7%**
  - Market value of assets assumed to return 5.9%
  - Actuarial Value of assets smooths gains and losses over 5 years

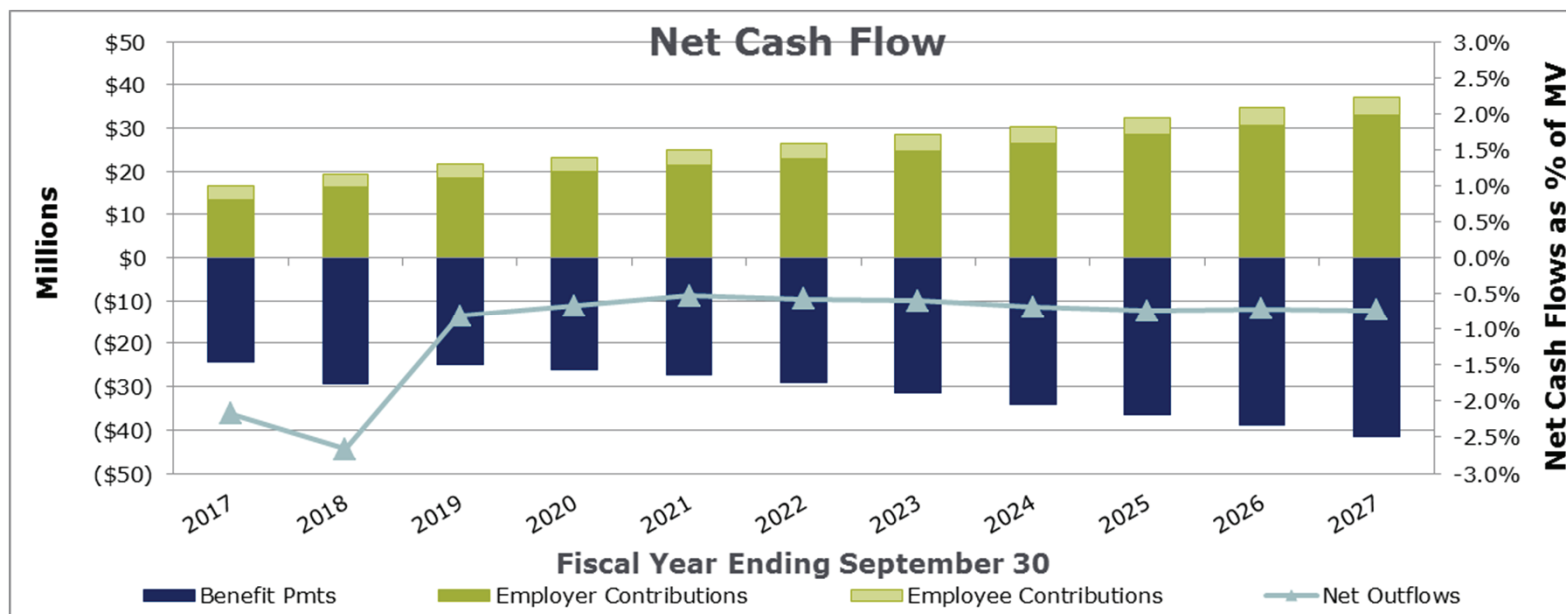
*Funded status = Actuarial Value of Assets/Accrued Liability*

## Current Target Deterministic Projections – Recommended Contributions



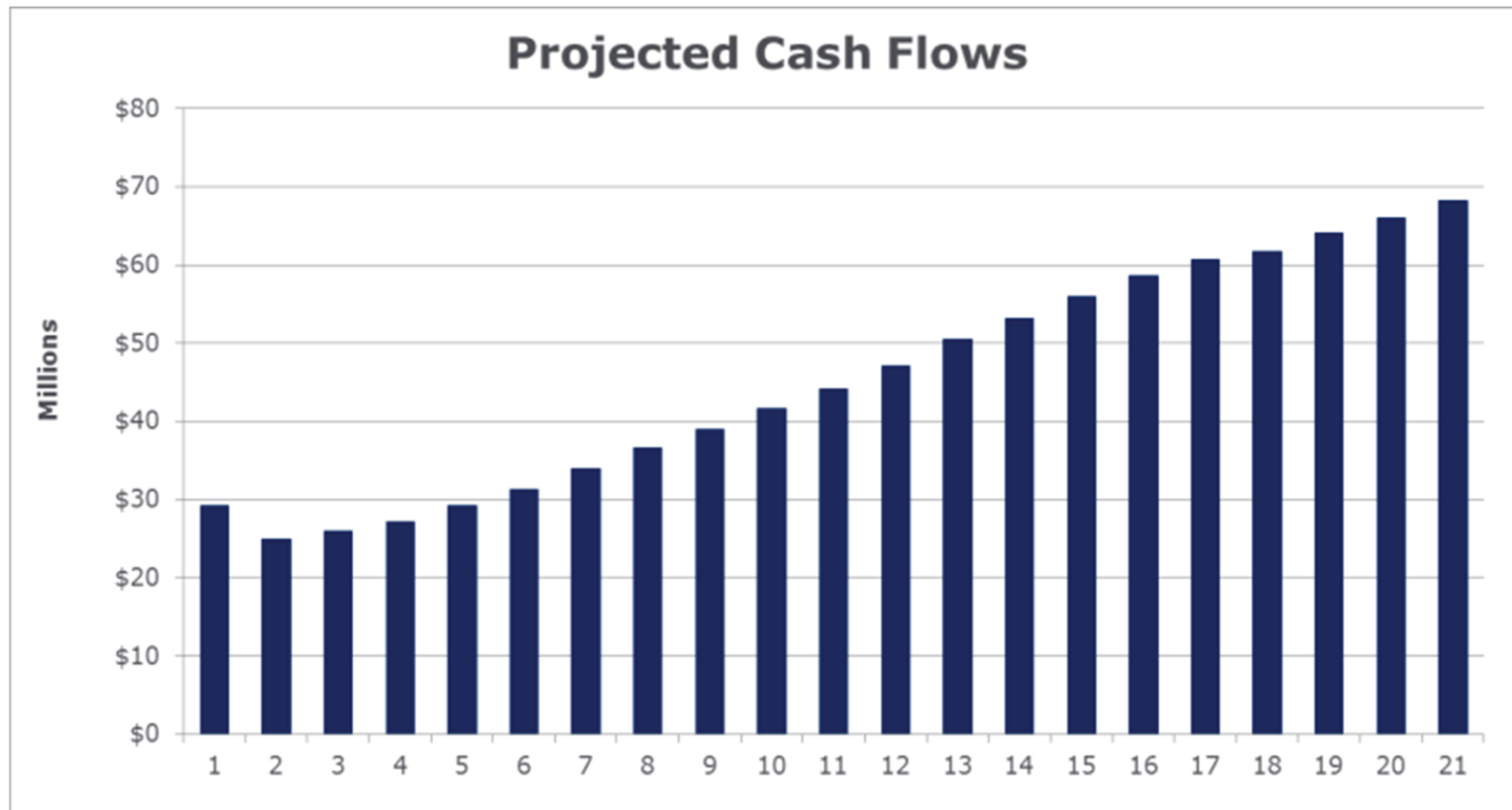
- **Contributions are projected to increase throughout the projection period, reaching 62% of payroll by 2027**

## Current Target Deterministic Projections – Net Cash Flow



- **Benefit payments outweigh total contributions, creating a negative cash flow for the plan**
  - Difference must be made up through investment returns or additional contributions
- **Benefit payments range from 6.3% to 8.1% of Market Value of Assets**
  - A typical range for pension plans, presenting no liquidity issues

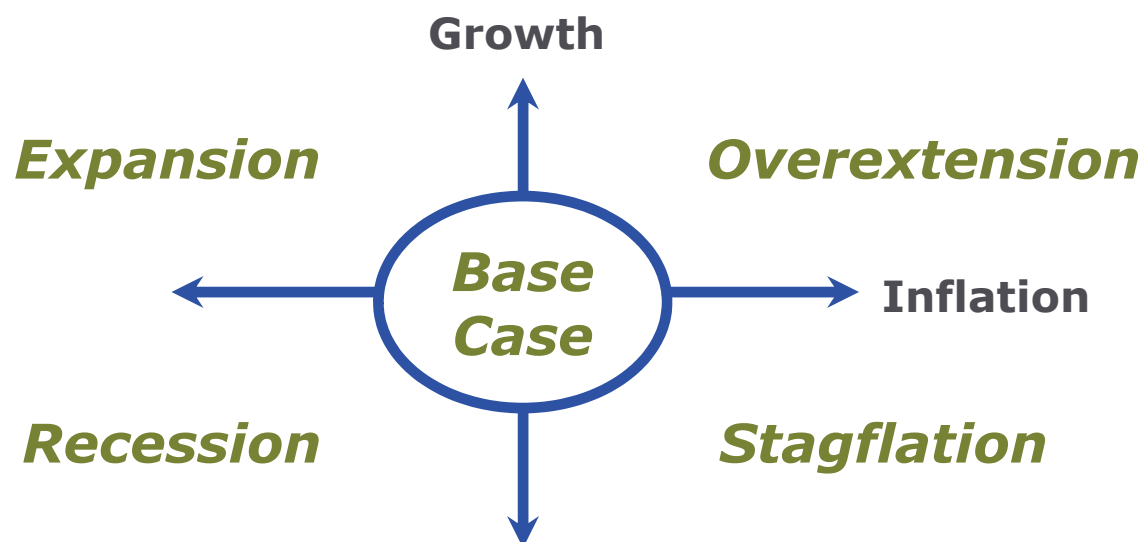
## Deterministic Projections – Projected Cash Flows



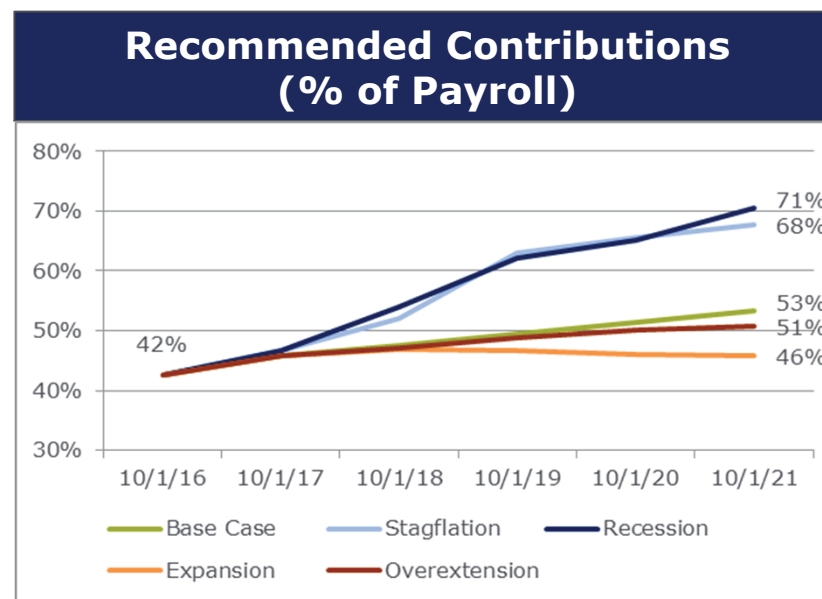
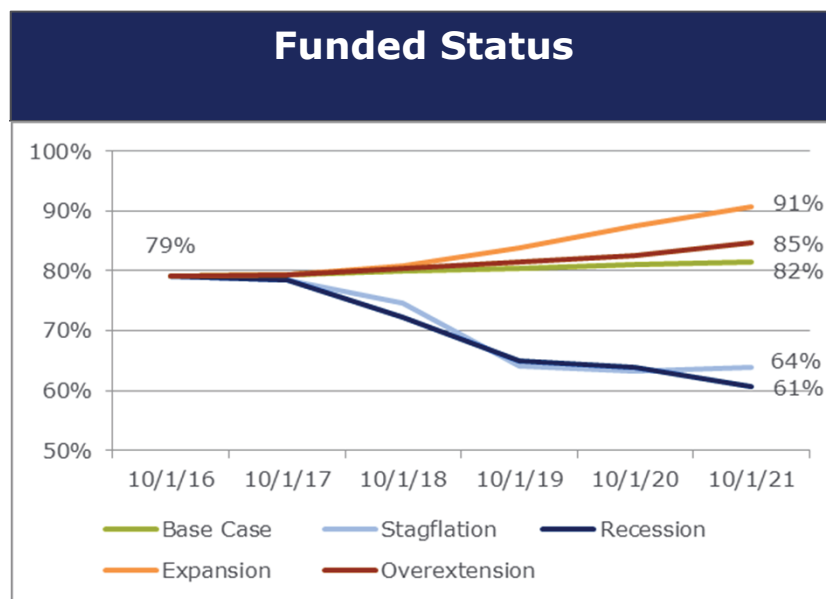
Source: ABC Actuary

- **A 20 year projection of benefit payments of the current plan participants are projected to increase over the next 20 years from \$29 million per year to \$68 million**

- **NEPC Scenario Analysis tests the viability of alternative asset mixes under multiple economic scenarios, including tail risk events**
  - Allows better understanding of risk exposures under contrasting inflation and economic growth regimes
  - Can understand the effect on both assets and liabilities (funded status)
  - Please refer to the Appendix for descriptions and yield curve assumptions for each scenario



## Current Policy Scenario Analysis



- **On an actuarial value basis, the plan's funded status by October 2021 could range from 61% to 91% based on varying economic factors**
- **Recommended contributions are projected to range from 46% to 71% of payroll in five years**
  - Contributions could be as high as \$35 million in 2021 under a Recessionary scenario, or as low as \$28 million if the plan experiences strong asset returns

*Funded status = Actuarial Value of Assets/Accrued Liability*

## Summary of Current Profile

- **Current Policy allocation is not expected to meet plan objectives**
  - Contributions to increase over time
  - Long-term expected return of 7.75% is not met
- **Largest asset risk exposure is public equity**
  - This is typical and each total risk measure is diversified across other factors
- **Lower funded status and potential contributions come from scenarios with large equity market losses**
- **The portfolio is highly liquid, implying that investment in additional private markets is feasible**
- **Given these results, two alternate asset mixes will be explored**
  - Higher equity exposure, and lower hedge funds with an increase in private debt, plus adding bank loans
  - Additional exposure to international and emerging market equities

# Alternative Allocations





- **ABC Public Fund's existing target Policy portfolio is well diversified**
  - However, the existing Policy is not projected to deliver a return consistent with actuarial EROA assumption of 7.75% over a 30-year horizon
  - Need to consider new asset classes if goal is to increase return to match EROA
  - Use of multi-asset class mandates or categories like Hedge Funds & Global Asset Allocation (GAA) result in tactical exposures to core asset classes like global equities & fixed income
    - Impact of shifting exposures from these categories to dedicated components is not significant
- **Based on discussions with the Committee over the last several years, NEPC profiled alternative policy mixes that would examine the following:**
  - Impact of reducing Fixed Income and Hedge Funds, while increasing Equities, Private Debt, and Bank Loans
  - Adding dedicated Emerging Market Equities to reach the expected return on assets (EROA) assumption of 7.75%
- **Key implementation considerations tied to any Policy shift include:**
  - Impact on the number of managers in the portfolio
    - Need to hire new managers
    - Opportunities to consolidate mandates
  - Impact on total asset management fees

## Proposed and Comparative Asset Allocations

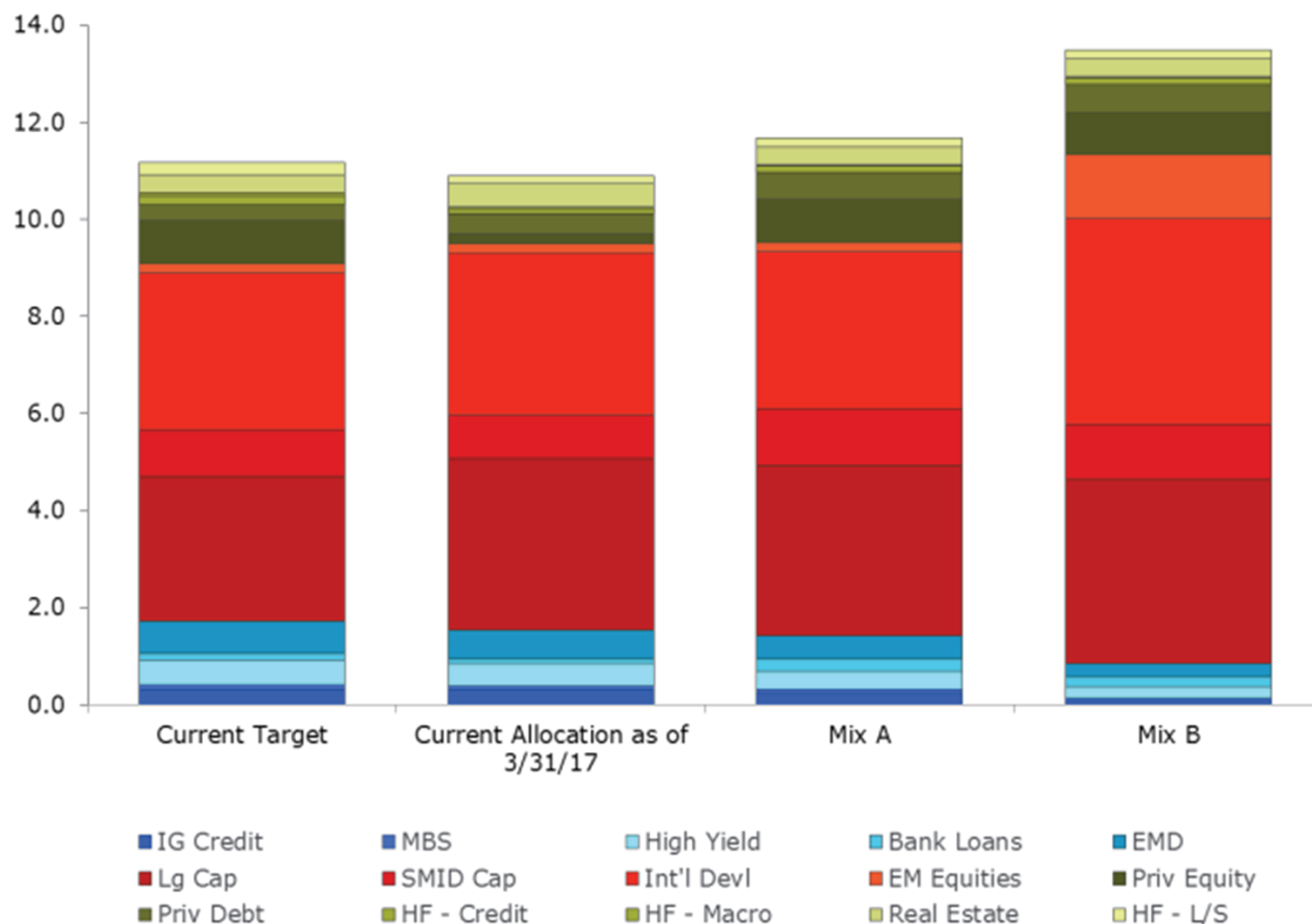
	Current Target	Current Allocation as of 3/31/17	Mix A	Mix B
Large Cap Equities	17%	20%	20%	22%
Small/Mid Cap Equities	5%	5%	6%	6%
Int'l Equities (Unhedged)	15%	16%	15%	20%
Emerging Int'l Equities	0%	0%	0%	5%
<b>Total Equity</b>	<b>37%</b>	<b>41%</b>	<b>41%</b>	<b>53%</b>
Core Bonds	10%	10%	9%	5%
Core Plus Fixed Income	23%	21%	17%	9%
Bank Loans	0%	0%	3%	3%
<b>Total Fixed Income</b>	<b>33%</b>	<b>31%</b>	<b>29%</b>	<b>17%</b>
Private Equity	5%	1%	5%	5%
Private Debt	3%	4%	5%	5%
Real Estate	5%	6%	5%	5%
Hedge Funds	7%	4%	5%	5%
<b>Total Alternatives</b>	<b>20%</b>	<b>16%</b>	<b>20%</b>	<b>20%</b>
Global Asset Allocation	10%	10%	10%	10%
<b>Total Multi Asset</b>	<b>10%</b>	<b>10%</b>	<b>10%</b>	<b>10%</b>
<b>Expected Return 5-7 yrs</b>	<b>5.9%</b>	<b>5.7%</b>	<b>6.1%</b>	<b>6.6%</b>
<b>Expected Return 30 yrs</b>	<b>7.1%</b>	<b>6.9%</b>	<b>7.2%</b>	<b>7.7%</b>
<b>Standard Deviation</b>	<b>11.2%</b>	<b>10.9%</b>	<b>11.7%</b>	<b>13.5%</b>
<b>Sharpe Ratio (5-7 years)</b>	<b>0.37</b>	<b>0.36</b>	<b>0.37</b>	<b>0.36</b>
<b>Sharpe Ratio (30 years)</b>	<b>0.36</b>	<b>0.36</b>	<b>0.36</b>	<b>0.35</b>

- **Current Target is a well-diversified allocation that is expected to generate a return of 7.1% over 30 years**
- **Current Allocation is under-allocated to Private Equity and Hedge Funds**
- **Mix A provides NEPC's initial recommendation for allocation changes**
  - Shift from Fixed Income to Equities, and from Hedge Funds to Private Debt
  - Add Bank Loans
- **Mix B provides a sample allocation which reaches the EROA of 7.75% through increasing domestic and international equity exposure**

Note: Totals may not add to 100% due to rounding

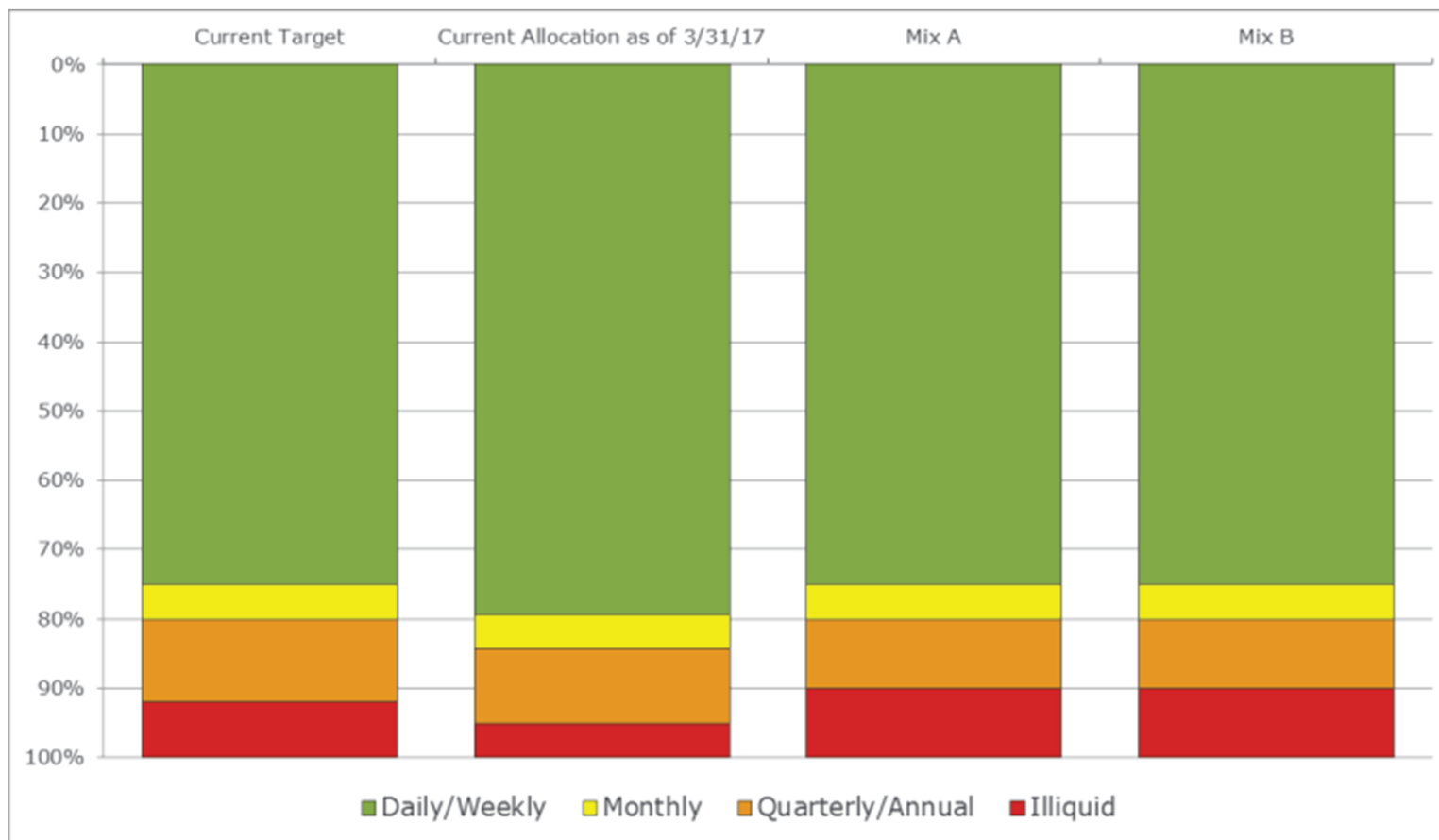


## Risk Analysis - Allocation Comparison



- The proposed allocation Mix A has a broadly similar risk profile as the Current Target with slightly higher equity and private markets risk
- Mix B has a higher overall risk profile than the Current Target given the increases to domestic and international equities

## Liquidity Analysis - Allocation Comparison



- **The proposed allocations have similar liquidity risk profiles than the Current Target, with the Current Allocation considered slightly more liquid due to private equity not being fully funded**

- **General attributes**

- Fixed income has low yield/returns but improves diversification
- Private markets (private equity, debt, and real estate) best use of incremental risk
- Hedge funds and Private Markets at low levels of exposure

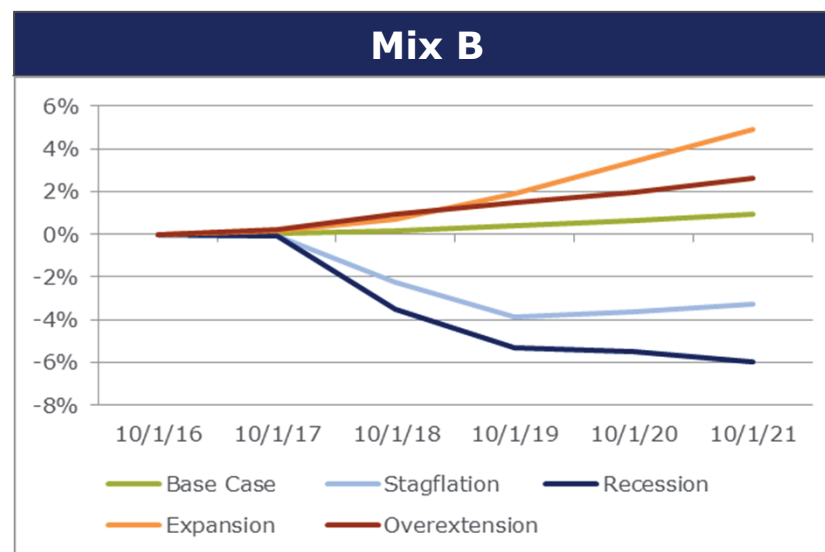
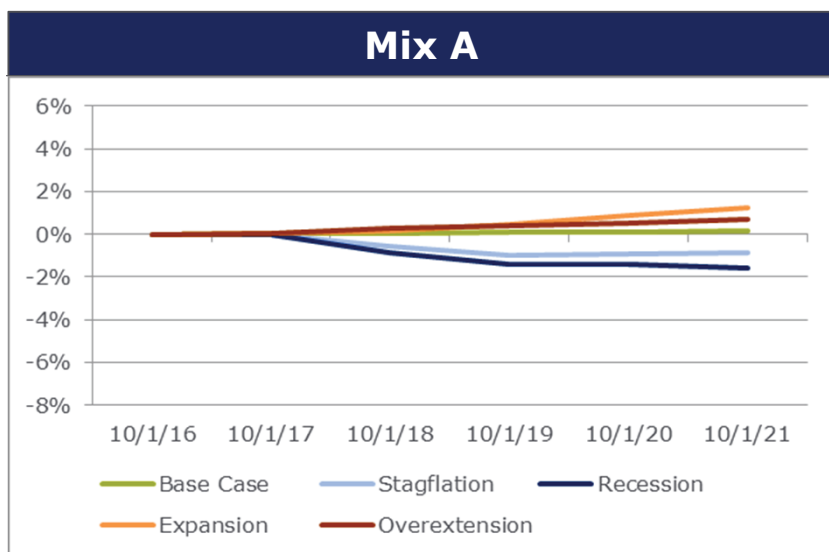
- **Mix A**

- Increases expected return slightly by increasing exposure to equities and private debt, while decreasing exposure to core fixed income
- Adds Bank Loans as a lower risk diversifier

- **Mix B**

- Expected return increased to reach EROA of 7.75% over 30 years
- Places more exposure in public equities
- Adds a new allocation to emerging market equities
- Lowers core bonds significantly

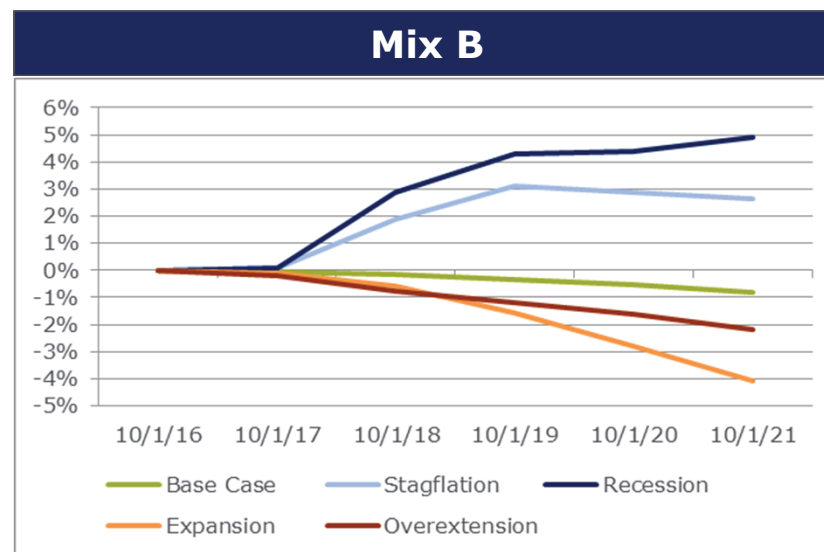
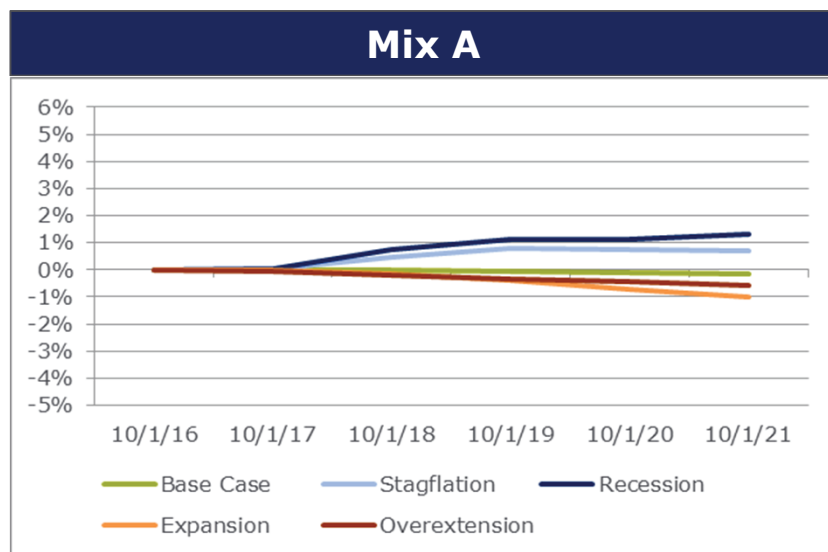
## Scenario Analysis – *Change from Policy Target in Funded Status*



- **Compared to the Current Policy Target, Mix A doesn't move the needle very much, reaching less than 2% changes from any economic scenario**
  - Increase in equities is somewhat offset by the increase in private debt
- **Mix B reflects increased volatility through a wider range of outcomes**
  - Increased equity exposure does well in strong economies, resulting in a funded status increase of almost 5% over the Current Target in five years under an Expansion scenario
  - However, a weak market such as a Recession could lower funded status as much as 6% in five years from where it would be under the Current Target

*Funded status = Actuarial Value of Assets / Accrued Liability*

## Scenario Analysis – *Change from Policy Target in Recommended Contributions (as % of Payroll)*



- **Recommended Contributions follow an opposite path from funded status**
- **Under Mix A, contributions could be lower by ~1% of payroll than under the current target by October 2021 in a very robust economy with low interest rates**
  - On the other hand, contributions could be 1.3% of payroll more in five years under multiple years of negative returns
- **Compared to the current target, Mix B could lower contributions by more than 4% of payroll by 2021 with strong equity returns**
  - In comparison, contributions could be 5% of payroll more than they would be under the Current Target in five years under multiple years of negative returns

- **The Plan's funded status is projected to increase over the next ten years**
- **The Current Target allocation is not expected to meet the long-term expected return of 7.75% on a 30-year basis**
  - NEPC expectations average 5.9% over the next 5-7 years and 7.1% over 30 years
- **Employer contributions increase to as high as 62% of payroll over the next ten years**
  - The plan's current funding policy is to amortize changes in unfunded liability over 20 years
- **Proposed asset allocation changes represent small adjustments**
  - Continue to seek diversification and competitive returns from illiquid markets
  - Shift portion of existing portfolio from multi-asset mandates (Hedge Funds) to dedicated categories
    - Portion shifted to private markets (private debt)
    - Portion shifted to public markets (equities and bank loans)
- **Implementation considerations include the following:**
  - Add Bank loan manager to increase diversification
  - Add emerging market equities manager to increase expected return capabilities



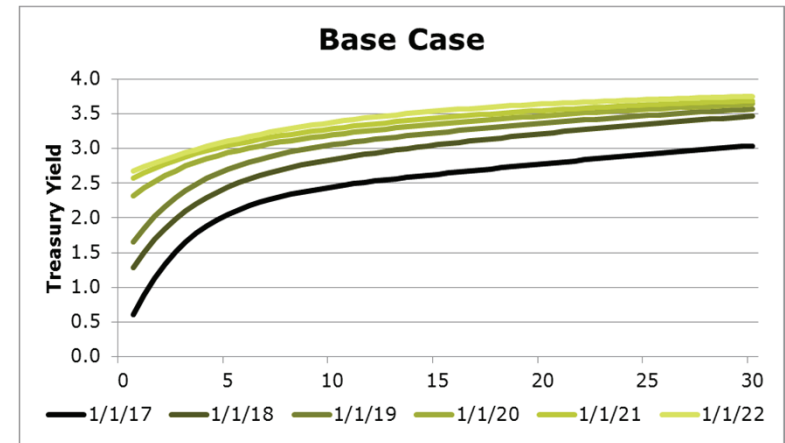
# Appendix

- **Deterministic projections use the Current Target allocation and NEPC's base case scenario assumptions for investment returns**
- **Liability calculations follow a roll-forward methodology based on the October 1, 2016 actuarial valuation by ABC Actuary**
  - Accrued Liability and Normal Cost rolled forward each year and adjusted for changes in benefit payments
  - Discount rate is assumed to remain at 7.75% each year
  - Benefit payments as projected by the plan's actuary
- **Actual asset returns through March 31, 2017 were used, with NEPC 2017 asset class assumptions used for expected returns after that date**
- **Contributions based on calculations as defined in the plan's funding formula**
  - Employer normal cost plus amortization of unfunded liability through various gain and loss bases
  - Future asset gains and losses are amortized over 20 years
  - Salary scale is assumed to remain at the 2016 average rate of 4.0%
- **No future benefit, assumption, or plan changes are assumed**

## Scenario Assumptions

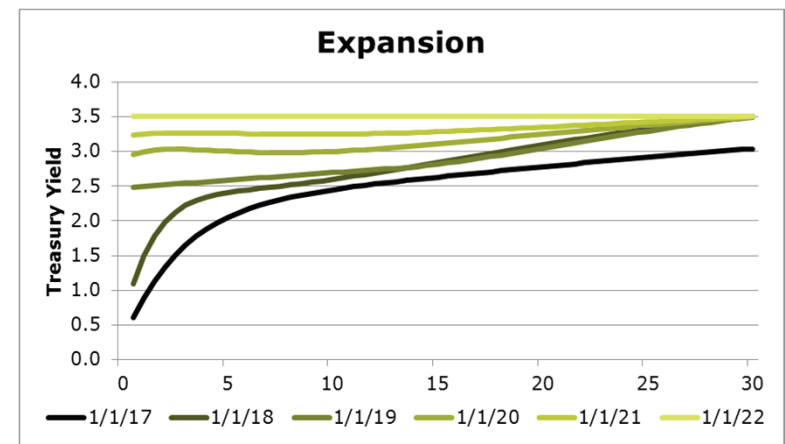
- **Base Case**

- Asset returns over 5-year period in line with NEPC 2017 5-7 Year Assumptions
- No volatility
- **Yield Curve shifts assumed are shown in the charts to the right**



- **Expansion**

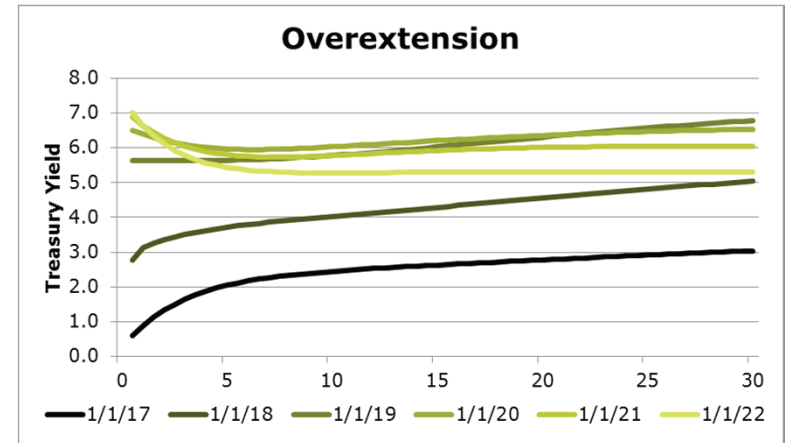
- Economy is growing by a strong, but seemingly sustainable level
- Bond yields are stable, inflation is manageable, equities and other high volatility asset classes perform quite well in this environment
- Historical example: 2004-2006
- *Large cap equities time-series: 10%, 17%, 28%, 12%, 10%*



## Scenario Assumptions

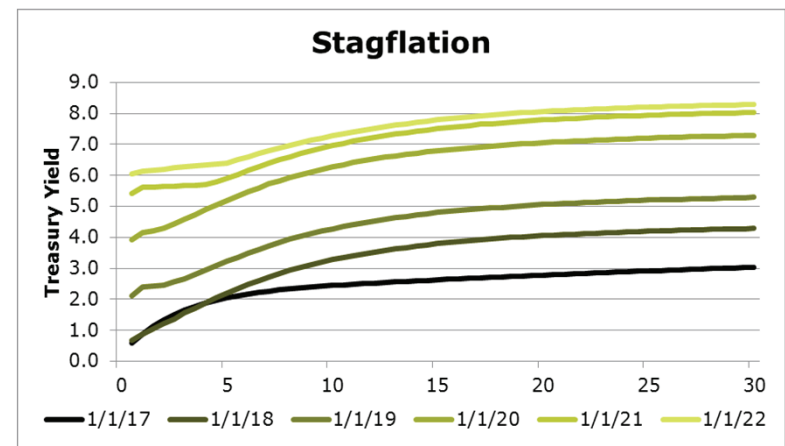
### • Overextension

- Economy is growing at a rapid pace, inflation increases significantly – booming times but at the cost of future growth
- Bond yields move higher as a result of inflation; high yield does well with confidence in the economy
- Equities, real estate, and commodities fuel rapid expansion
- Historical example: Vietnam War era (1967-1971)
- *Large cap equities time-series: 12%, 16%, 0%, 12%, 16%*



### • Stagflation

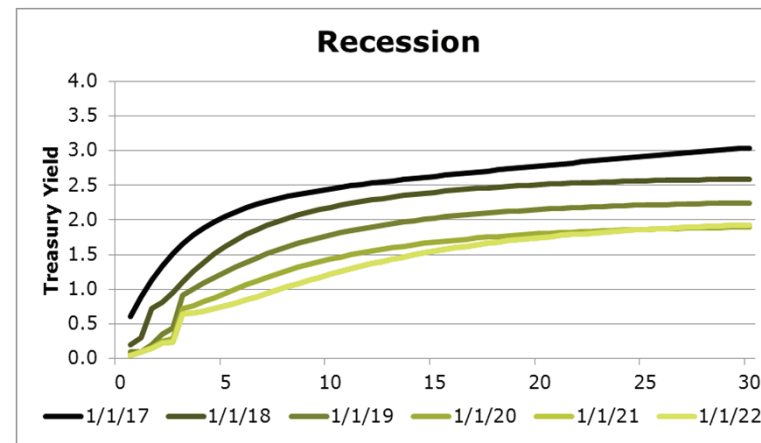
- Two problems – (1) the economy is not growing, (2) inflation has skyrocketed
  - Inflation is sticky – once it gets high, it stays high for several years
  - Fed has limited options to kick-start economy because easing only promotes further inflation
- Equities sag; bonds lose real value; real assets such as TIPS perform well on a relative basis because they are linked to inflation
- Historical example: flat stock market and double digit inflation of the mid-1970s
- *Large cap equities time-series: -8%, -12%, -15%, 9%, 12%*



## Scenario Assumptions

- **Recession**

- Economy stalls – there is a flight to quality as investors lose confidence
  - Equity markets fall
  - Bond yields fall
- Interest-sensitive securities (bonds, especially long duration bonds) will perform well in this environment
- Historical example: early 1990s
- *Large cap equities time-series: -8%, -18%, -8%, 4%, -10%*



# NEPC 2017 Asset Class Assumptions

## 2017 5-to-7 Year Return Forecasts

Geometric Expected Return			
Asset Class	2016	2017	2017-2016
Cash	1.50%	1.75%	0.25%
Treasuries	1.75%	2.00%	0.25%
IG Corp Credit	3.75%	3.75%	-
MBS	2.00%	2.25%	0.25%
Core Bonds*	2.46%	2.65%	0.19%
TIPS	2.50%	3.00%	0.50%
High-Yield Bonds	5.25%	4.75%	-0.50%
Bank Loans	5.50%	5.25%	-0.25%
Long Credit	5.50%	4.25%	-1.25%
EMD External	4.75%	4.75%	-
EMD Local Currency	6.50%	6.75%	0.25%
Large Cap Equities	6.00%	5.75%	-0.25%
Small/Mid Cap Equities	6.25%	6.00%	-0.25%
Int'l Equities (Unhedged)	7.25%	7.25%	-
Int'l Equities (Hedged)	7.57%	7.57%	-
Emerging Int'l Equities	9.75%	9.50%	-0.25%
Private Equity	8.50%	8.25%	-0.25%
Private Debt	7.50%	7.25%	-0.25%
Real Estate	6.50%	6.00%	-0.50%
Commodities	4.50%	4.75%	0.25%
Hedge Funds**	5.75%	5.95%	0.20%

\* Core Bonds assumption based on market weighted blend of components of Aggregate Index (Treasuries, IG Corp Credit, and MBS).

\*\* Hedge Funds is a calculated blend of 40% Equity, 40% Credit, 20% Macro-related strategies.

## 2017 30-Year Return Forecasts

Geometric Expected Return			
Asset Class	2016	2017	2017-2016
Cash	3.00%	3.00%	-
Treasuries	3.25%	3.50%	0.25%
IG Corp Credit	5.00%	5.00%	-
MBS	3.50%	3.50%	-
Core Bonds*	3.89%	4.00%	0.11%
TIPS	4.00%	3.75%	-0.25%
High-Yield Bonds	5.75%	5.75%	-
Bank Loans	6.00%	6.00%	-
Long Credit	5.75%	5.75%	-
EMD External	6.00%	5.75%	-0.25%
EMD Local Currency	6.50%	6.50%	-
Large Cap Equities	7.50%	7.50%	-
Small/Mid Cap Equities	7.75%	7.75%	-
Int'l Equities (Unhedged)	8.00%	7.75%	-0.25%
Int'l Equities (Hedged)	8.39%	8.14%	-0.25%
Emerging Int'l Equities	9.50%	9.50%	-
Private Equity	9.50%	9.50%	-
Private Debt	8.00%	8.00%	-
Real Estate	6.50%	6.50%	-
Commodities	5.50%	5.50%	-
Hedge Funds**	6.50%	6.47%	-0.03%

\* Core Bonds assumption based on market weighted blend of components of Aggregate Index (Treasuries, IG Corp Credit, and MBS).

\*\* Hedge Funds is a calculated blend of 40% Equity, 40% Credit, 20% Macro-related strategies.



## 2017 Volatility Forecasts

Volatility			
Asset Class	2016	2017	2017-2016
Cash	1.00%	1.00%	-
Treasuries	5.50%	5.50%	-
IG Corp Credit	7.50%	7.50%	-
MBS	7.00%	7.00%	-
Core Bonds*	6.03%	6.03%	-
TIPS	6.50%	6.50%	-
High-Yield Bonds	13.00%	13.00%	-
Bank Loans	9.00%	9.00%	-
Long Credit	13.00%	13.00%	-
EMD External	13.00%	13.00%	-
EMD Local Currency	15.00%	15.00%	-
Large Cap Equities	17.50%	17.50%	-
Small/Mid Cap Equities	21.00%	21.00%	-
Int'l Equities (Unhedged)	21.00%	21.00%	-
Int'l Equities (Hedged)	18.00%	18.00%	-
Emerging Int'l Equities	27.00%	28.00%	1.00%
Private Equity	23.00%	23.00%	-
Private Debt	15.00%	14.00%	-1.00%
Real Estate	15.00%	15.00%	-
Commodities	19.00%	19.00%	-
Hedge Funds**	9.00%	8.74%	-0.26%

\* Core Bonds assumption based on market weighted blend of components of Aggregate Index (Treasuries, IG Corp Credit, and MBS).

\*\* Hedge Funds is a calculated blend of 40% Equity, 40% Credit, 20% Macro-related strategies.

## 2017 Correlations

Asset Class	Cash	Treas.	IG Corp Credit	MBS	TIPS	HY Bonds	Global Bonds	EMD (Ext)	EMD (Lcl)	Large Cap	Small/Mid Cap	Int'l Eqty	EM Int'l	Priv Equity	Priv Debt	PRA - Energy	PRA - Infr./Land	Real Estate (Core)	Bank Loans	HF - L/S	HF - Credit	HF - Macro
Cash	1.00																					
Treasuries	0.20	1.00																				
IG Corp Credit	0.10	0.65	1.00																			
MBS	0.25	0.90	0.75	1.00																		
TIPS	0.35	0.65	0.60	0.70	1.00																	
High-Yield Bonds	-0.05	0.20	0.55	0.30	0.20	1.00																
Global Bonds	0.10	0.50	0.50	0.45	0.40	0.10	1.00															
EMD (External)	0.05	0.35	0.65	0.35	0.30	0.60	0.25	1.00														
EMD (Local)	0.05	0.30	0.60	0.25	0.25	0.60	0.30	0.80	1.00													
Large Cap Equities	-0.10	-0.10	0.45	0.10	0.00	0.65	0.00	0.55	0.65	1.00												
Small/Mid Cap Equities	-0.15	-0.15	0.45	0.10	-0.10	0.70	-0.05	0.55	0.60	0.90	1.00											
Int'l Equities	-0.10	0.00	0.30	0.05	-0.05	0.65	0.35	0.60	0.70	0.70	0.60	1.00										
Emerging Int'l Equities	-0.10	-0.10	0.25	-0.10	-0.10	0.70	0.05	0.70	0.80	0.60	0.65	0.70	1.00									
Private Equity	-0.20	-0.15	0.30	0.10	-0.10	0.60	-0.15	0.35	0.40	0.70	0.75	0.60	0.45	1.00								
Private Debt	0.00	-0.35	0.15	-0.15	-0.10	0.65	-0.10	0.50	0.60	0.60	0.65	0.75	0.80	0.65	1.00							
Private Real Assets Energy/Metals	-0.05	-0.20	0.20	-0.05	-0.05	0.50	-0.10	0.40	0.40	0.65	0.70	0.55	0.50	0.85	0.65	1.00						
Private Real Assets Infrastructure/Land	0.15	-0.05	0.10	-0.05	0.05	0.40	0.05	0.35	0.40	0.50	0.50	0.45	0.40	0.60	0.50	0.75	1.00					
Real Estate (Core)	0.10	0.10	0.15	0.05	0.10	0.35	0.15	0.25	0.40	0.40	0.40	0.35	0.30	0.50	0.40	0.45	0.70	1.00				
Bank Loans	0.00	-0.35	0.10	-0.20	-0.05	0.65	-0.10	0.25	0.25	0.50	0.55	0.50	0.50	0.55	0.70	0.55	0.35	0.20	1.00			
Hedge Funds – L/S	0.00	-0.25	0.35	-0.10	0.15	0.60	0.15	0.60	0.70	0.75	0.80	0.80	0.80	0.75	0.80	0.70	0.45	0.20	0.50	1.00		
Hedge Funds – Credit	0.00	-0.10	0.40	0.00	0.25	0.65	0.00	0.55	0.55	0.55	0.55	0.60	0.60	0.70	0.75	0.65	0.40	0.15	0.65	0.70	1.00	
Hedge Funds - Macro	0.00	0.15	0.45	0.25	0.45	0.35	0.30	0.45	0.45	0.25	0.25	0.30	0.40	0.40	0.40	0.40	0.30	0.15	0.25	0.50	0.50	1.00

- **NEPC, LLC is an investment consulting firm. We provide asset-liability studies for certain clients but we do not provide actuarial services. Any projections of funded status or contributions contained in this report should not be used for budgeting purposes. We recommend contacting the plan's actuary to obtain budgeting estimates.**
- **The goal of this report is to provide a basis for substantiating asset allocation recommendations.**
- **The projection of liabilities in this report uses standard actuarial projection methods and does not rely on actual participant data. Asset and liability information was received from the plan's actuary, and other projection assumptions are stated in the report.**
- **Assets are projected using a methodology chosen by the client. Gains and losses are estimated through investment returns generated by applying NEPC's 5-7 year asset class assumptions and scenario assumptions for the current year.**
- **This report is based on forward-looking assumptions, which are subject to change.**
- **This report may contain confidential or proprietary information and may not be copied or redistributed.**

## DRUG-FREE WORKPLACE FORM

The undersigned vendor in accordance with Florida Statute 287.087 hereby certifies that

NEPC, LLC

does:

(Name of Business)

1. Publish a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the workplace and specifying the actions that will be taken against employees for violations of such prohibition.
2. Inform employees about the dangers of drug abuse in the workplace, the business's policy of maintaining a drug-free workplace, any available drug counseling, rehabilitation, and employee assistance programs, and the penalties that may be imposed upon employees for the drug abuse violations.
3. Give each employee engaged in providing the commodities or contractual services that are under bid a copy of the statement specified in subsection (1).
4. In the statement specified in subsection (1), notify the employees that, as a condition of working on the commodities or contractual services that are under bid, the employee will abide by the terms of the statement and will notify the employer of any conviction of, or plea of guilty or nolo contendere to, any violation of Chapter 893 or of any controlled substance law of the United States or any state, for a violation occurring in the workplace no later than five (5) days after such conviction.
5. Impose a sanction on, or require the satisfactory participation in a drug abuse assistance or rehabilitation program if such is available in the employee's community, by any employee who is so convicted.
6. Make a good faith effort to continue to maintain a drug-free workplace through implementation of this section.

As the person authorized to sign the statement, I certify that this firm complies fully with the above requirements.

Bidder's Signature

Date

# PROPOSAL RESPONSE FORM – SIGNATURE PAGE

(submit this form with your proposal)

TO: City of Gainesville, Florida  
200 East University Avenue  
Gainesville, Florida 32601

PROJECT: **Investment Consulting Services for General Employees' Pension Plan**

RFP#: **FPEN-190042-DS**

RFP DUE DATE: **July 8, 2019 @ 3:00 p.m. (local time)**

Proposer's Legal Name: NEPC, LLC

Proposer's Alias/DBA: \_\_\_\_\_

Proposer's Address: 255 State St. Boston, MA 02109  
\_\_\_\_\_  
\_\_\_\_\_

PROPOSER'S REPRESENTATIVE (to be contacted for additional information on this proposal):

Name: Doug Moseley, Partner Telephone Number: (617) 374-1300  
Date: 6/24/2019 Fax Number: (617) 374-1313  
Email Address: dmoseley@nepc.com

## ADDENDA

The Proposer hereby acknowledges receipt of Addenda No.'s 1, \_\_\_\_\_, \_\_\_\_\_, to these Specifications.

## TAXES

The Proposer agrees that any applicable Federal, State and Local sales and use taxes, which are to be paid by City of Gainesville, are included in the stated bid prices. Since often the City of Gainesville is exempt from taxes for equipment, materials and services, it is the responsibility of the Contractor to determine whether sales taxes are applicable. The Contractor is liable for any applicable taxes which are not included in the stated bid prices.

## LOCAL PREFERENCE (check one)

Local Preference requested: ☐ YES ☒ NO

A copy of your Business tax receipt and Zoning Compliance Permit should be submitted with your bid if a local preference is requested.

## QUALIFIED LOCAL SMALL AND/OR DISABLED VETERAN BUSINESS STATUS (check one)

Is your business qualified as a Local Small Business in accordance with the City of Gainesville Small Business Procurement Program? (Refer to Definitions) ☐ YES ☒ NO

Is your business qualified as a Local Service-Disabled Veteran Business in accordance with the City of Gainesville Small and Service-Disabled Veteran Business Procurement Program? (Refer to Definitions) ☐ YES ☒ NO

## SERVICE-DISABLED VETERANS' BUSINESS (check one)

Is your business certified as a service-disabled veterans' business? ☐ YES ☒ NO

## **LIVING WAGE COMPLIANCE**

See Living Wage Decision Tree (Exhibit C hereto)

### **Check One:**

- ☒ Living Wage Ordinance does not apply  
(check all that apply)
- ☒ Not a covered service
  - ☐ Contract does not exceed \$100,000
  - ☐ Not a for-profit individual, business entity, corporation, partnership, limited liability company, joint venture, or similar business, who or which employees 50 or more persons, but not including employees of any subsidiaries, affiliates or parent businesses.
  - ☐ Located within the City of Gainesville enterprise zone.
- ☐ Living Wage Ordinance applies and the completed Certification of Compliance with Living Wage is included with this bid.

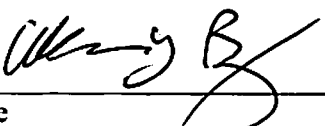
**NOTE:** If Contractor has stated Living Wage Ordinance does not apply and it is later determined Living Wage Ordinance does apply, Contractor will be required to comply with the provision of the City of Gainesville's living wage requirements, as applicable, without any adjustment to the bid price.

### **SIGNATURE ACKNOWLEDGES THAT: (check one)**

- ☒ Proposal is in full compliance with the Specifications.
- ☐ Proposal is in full compliance with specifications except as specifically stated and attached hereto.

Signature also acknowledges that Proposer has read the current City of Gainesville Debarment/Suspension/Termination Procedures and agrees that the provisions thereof shall apply to this RFP.

**ATTEST:**

  
\_\_\_\_\_  
Signature

By: William Y. Bogle, IV

Title: Partner, Chief Compliance Officer

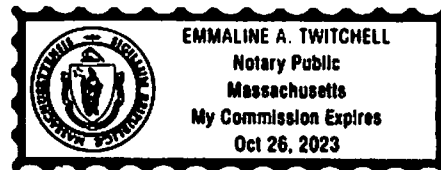
(CORPORATE SEAL)

**PROPOSER:**

  
\_\_\_\_\_  
Signature

By: Emmaline Twitchell

Title: Notary Public



# Gainesville.

## Citizen centered

## People empowered

### ADDENDUM NO. 1

**Date:** June 19, 2019

**Bid Date:** July 8, 2019  
3:00 P.M. (Local Time)

**Bid Name:** Investment Consulting Services for General  
Pension Plan

**Bid No.:** RTSX-190042-DS

**NOTE:** This Addendum has been issued to the holders of record of the specifications.

The original Specifications remain in full force and effect except as revised by the following changes which shall take precedence over anything to the contrary:

1. The question submittal deadline has passed, no additional questions will be answered.

2. Q & A:

**Question 1:** Do you have a preliminary schedule of the Board meetings?

**Answer 1:** **The Remaining 2019 Pension Review Committee meeting dates:**

**June 27th 9:00 a.m. - City Hall Room 16**

**August 29th 9:00 a.m. - City Hall Room 16**

**October 24th 9:00 a.m. - City Hall Room 16**

**December 19th 9:00 a.m. - City Hall Room 16**

**2020 meeting dates will be determined in October or November 2019.**

**Question 2:** What are the annual fees for the existing contract that the Board is paying to its current consultant?

**Answer 2:** **The FY2019 consulting fee is \$170,000.**

**Question 3:** Do you have any specific issues in regards to your current consultant?

**Answer 3:** **No, but because the current consultant was brought on through an assignment agreement arranged by the previous consultant, it's necessary to go through an open RFP selection process.**

**Question 4:** What do you think is the single most important characteristic of an investment consulting firm?

**Answer 4:** **We highly value a consultant's ability to accept and work with a client's distinct investment style and philosophy. We also value a consultant's ability to identify managers who will provide high alpha.**

Question 5: Do you currently use fund of funds or direct funds for your alternative investments?

**Answer 5: We do not currently have typical alternative investments in the Plan. Some of our equity allocations are directly managed accounts, but we also use commingled funds for some equity allocations, our fixed income allocation, as well as our real estate allocation. We are also invested in an MLP fund. See the attached April 30, 2019 Investment Performance Flash Report pages for specific asset allocations and investment managers.**

Question 6: What is the most important investment issue your Plan is currently facing?

**Answer 6: We'd like to achieve higher long term returns.**

Question 7: Are there any open items that the Board is currently considering (e.g. asset allocation, manager search, etc.?)

**Answer 7: There are no specific open items. Staff is currently considering moving away from the Plan's MLP allocation, and other potential tactical asset allocation changes are always under consideration.**

Question 8: Will the current consultant be invited to bid on this work?

**Answer 8: Yes.**

Question 9: What is the current fee paid to the current consultant and does this fee cover the same items outlined in Section V-Technical Specifications Sub-section "Scope" beginning on page 17 of your RFP?

**Answer 9: The current consultant fee is \$170,000/Year, and covers the same items in the RFP's Scope of Services.**

Question 10: Could you share the most recent performance report including a detailed listing of the current investment manager lineup?

**Answer 10: The 9/30/2018 Flash Performance Report has already been shared, and the manager lineup has not changed since.**

Question 11: Could you share the most recent actuarial valuation?

**Answer 11: The 9/30/2018 Actuarial Valuation Report has already been shared.**

Question 12: Could you please provide the cadence for Board meetings (second Thursday following quarter-end)?

**Answer 12: Cadence varies. There are typically eight PRC meetings a year, in the last two months of each quarter, on the 4th Thursday of the given month.**

Question 13: Could you please disclose the annual fees for the incumbent investment consultant? Are there any project-related fees associated with the current fee arrangement that are not part of the base fee?

**Answer 13: The current consultant fee is \$170,000/Year, and covers the items in the RFP's Scope of Services. There are no project related fees.**

Question 14: Please describe the investment initiatives planned for the next 12 to 18 months?

**Answer 14: No specific initiatives. Staff is currently considering moving away from the Plan's MLP allocation, and other potential tactical asset allocation changes are always under consideration.**



Question 15: Are there any particular reasons you are going out to bid or is the issuance of an RFP to meet a requirement to solicit proposals?

**Answer 15: As explained in detail in the RFP, the current consultant was brought on through an assignment agreement arranged by the previous consultant after they were acquired by Mercer. Mercer did not want new public pension fund business. City policy requires an RFP selection process to replace the original consultant.**

Question 16: Is the scope of services outlined in the RFP consistent with the current firm's contract? If not, what items are different?

**Answer 16: The Scope of Services is consistent with the Plan's current consulting services agreement.**

Question 17: What has been the hard dollar compensation for services listed in Section VI under this RFP for each of the past five years (including the previous investment consultant prior to October 2018)?

**Answer 17: The FY2019 consulting services fee is \$170,000. For the past five years, the consulting fees have increased by \$5000/year.**

Question 18: What was the rationale for the 5% long-term target allocation in Master Limited Partnerships? What is the current view or thinking on these MLPs by the Board of Trustees and/or the Pension Review Committee?

**Answer 18: We considered MLPs as a way to provide some portfolio diversification with decent return potential. However, we have been dissatisfied with the irrational volatility that MLPs have experienced, and we are considering exiting the asset class.**

Question 19: Have the Board of Trustees and Pension Review Committee explored adding passive allocations to highly efficient segments of US equities?

**Answer 19: Yes. We currently use an enhanced passive/factor based large cap growth manager.**

Question 20: Please confirm that there is not a prescribed format or form for the price proposal, beyond what is described in B. Qualifications/Statement of Qualifications, 10. Compensation/Fees.

**Answer 20: That is correct – there is not a prescribed format or form for the price proposal, beyond what is described in B. Qualifications/Statement of Qualifications, 10. Compensation/Fees.**

Question 21: Please provide copies of the past two years of meeting minutes from the Board of Trustees.

**Answer 21: That information is not necessary to respond to this RFP.**

3. Find attached:

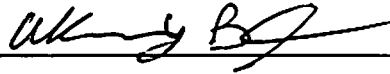
- April 2019 Investment Performance Flash Report file
- FY18 General Employees' Pension Plan Actuarial Valuation Report

ACKNOWLEDGMENT: Each Proposer shall acknowledge receipt of this Addendum No. 1 by his or her signature below, **and shall attach a copy of this Addendum to its proposal.**

CERTIFICATION BY PROPOSER

The undersigned acknowledges receipt of this Addendum No. 1 and the Proposal submitted is in accordance with information, instructions, and stipulations set forth herein.

PROPOSER: NEPC, LLC

BY:  William Y. Bogle, IV, Partner, Chief Compliance Officer

DATE: 6/25/2019

# FORM ADV

## UNIFORM APPLICATION FOR INVESTMENT ADVISER REGISTRATION AND REPORT BY EXEMPT REPORTING ADVISERS

Primary Business Name: NEPC, LLC

CRD Number: 110562

Other-Than-Annual Amendment - All Sections

Rev. 10/2017

4/6/2018 9:41:25 AM

**WARNING:** Complete this form truthfully. False statements or omissions may result in denial of your application, revocation of your registration, or criminal prosecution. You must keep this form updated by filing periodic amendments. See Form ADV General Instruction 4.

### Item 1 Identifying Information

Responses to this Item tell us who you are, where you are doing business, and how we can contact you. If you are filing an *umbrella registration*, the information in Item 1 should be provided for the *filing adviser* only. General Instruction 5 provides information to assist you with filing an *umbrella registration*.

A. Your full legal name (if you are a sole proprietor, your last, first, and middle names):

**NEPC, LLC**

B. (1) Name under which you primarily conduct your advisory business, if different from Item 1.A.

**NEPC, LLC**

List on Section 1.B. of Schedule D any additional names under which you conduct your advisory business.

(2) If you are using this Form ADV to register more than one investment adviser under an *umbrella registration*, check this box ☐

If you check this box, complete a Schedule R for each relying adviser.

C. If this filing is reporting a change in your legal name (Item 1.A.) or primary business name (Item 1.B.(1)), enter the new name and specify whether the name change is of

☐ your legal name or ☐ your primary business name:

D. (1) If you are registered with the SEC as an investment adviser, your SEC file number: **801-37227**

(2) If you report to the SEC as an *exempt reporting adviser*, your SEC file number:

(3) If you have one or more Central Index Key numbers assigned by the SEC ("CIK Numbers"), all of your CIK numbers:

No Information Filed

E. (1) If you have a number ("CRD Number") assigned by the *FINRA's CRD* system or by the IARD system, your *CRD* number: **110562**

If your firm does not have a *CRD* number, skip this Item 1.E. Do not provide the *CRD* number of one of your officers, employees, or affiliates.

(2) If you have additional *CRD* Numbers, your additional *CRD* numbers:

No Information Filed

F. *Principal Office and Place of Business*

(1) Address (do not use a P.O. Box):

Number and Street 1:

255 STATE STREET

City:

BOSTON

State:

Massachusetts

Number and Street 2:

Country:

United States

ZIP+4/Postal Code:

02109

If this address is a private residence, check this box: ☐

List on Section 1.F. of Schedule D any office, other than your principal office and place of business, at which you conduct investment advisory business. If you are applying for registration, or are registered, with one or more state securities authorities, you must list all of your offices in the state or states to which you are applying for registration or with whom you are registered. If you are applying for SEC registration, if you are registered only with the SEC, or if you are reporting to the SEC as an exempt reporting adviser, list the largest twenty-five offices in terms of numbers of employees as of the end of your most recently completed fiscal year.

(2) Days of week that you normally conduct business at your *principal office and place of business*:

☒ Monday - Friday ☐ Other:

Normal business hours at this location:

8:30 AM TO 5:00 PM

(3) Telephone number at this location:

617-374-1300

(4) Facsimile number at this location, if any:

617-374-1313

(5) What is the total number of offices, other than your *principal office and place of business*, at which you conduct investment advisory business as of

the end of your most recently completed fiscal year?  
7

G. Mailing address, if different from your *principal office and place of business* address:

Number and Street 1:		Number and Street 2:	
City:	State:	Country:	ZIP+4/Postal Code:

If this address is a private residence, check this box: ☐

H. If you are a sole proprietor, state your full residence address, if different from your *principal office and place of business* address in Item 1.F.:

Number and Street 1:		Number and Street 2:	
City:	State:	Country:	ZIP+4/Postal Code:

Yes No

I. Do you have one or more websites or accounts on publicly available social media platforms (including, but not limited to, Twitter, Facebook and LinkedIn)? ☒ ☐

*If "yes," list all firm website addresses and the address for each of the firm's accounts on publicly available social media platforms on Section 1.I. of Schedule D. If a website address serves as a portal through which to access other information you have published on the web, you may list the portal without listing addresses for all of the other information. You may need to list more than one portal address. Do not provide the addresses of websites or accounts on publicly available social media platforms where you do not control the content. Do not provide the individual electronic mail (e-mail) addresses of employees or the addresses of employee accounts on publicly available social media platforms.*

J. Chief Compliance Officer

(1) Provide the name and contact information of your Chief Compliance Officer. If you are an *exempt reporting adviser*, you must provide the contact information for your Chief Compliance Officer, if you have one. If not, you must complete Item 1.K. below.

Name:		Other titles, if any:	
Telephone number:		Facsimile number, if any:	
Number and Street 1:		Number and Street 2:	
City:	State:	Country:	ZIP+4/Postal Code:

Electronic mail (e-mail) address, if Chief Compliance Officer has one:

(2) If your Chief Compliance Officer is compensated or employed by any *person* other than you, a *related person* or an investment company registered under the Investment Company Act of 1940 that you advise for providing chief compliance officer services to you, provide the *person's* name and IRS Employer Identification Number (if any):

Name:  
IRS Employer Identification Number:

K. Additional Regulatory Contact Person: If a person other than the Chief Compliance Officer is authorized to receive information and respond to questions about this Form ADV, you may provide that information here.

Name:		Titles:	
Telephone number:		Facsimile number, if any:	
Number and Street 1:		Number and Street 2:	
City:	State:	Country:	ZIP+4/Postal Code:

Electronic mail (e-mail) address, if contact person has one:

Yes No

L. Do you maintain some or all of the books and records you are required to keep under Section 204 of the Advisers Act, or similar state law, somewhere other than your *principal office and place of business*? ☐ ☒

*If "yes," complete Section 1.L. of Schedule D.*

Yes No

M. Are you registered with a *foreign financial regulatory authority*? ☐ ☒

*Answer "no" if you are not registered with a foreign financial regulatory authority, even if you have an affiliate that is registered with a foreign financial regulatory authority. If "yes," complete Section 1.M. of Schedule D.*

Yes No

N. Are you a public reporting company under Sections 12 or 15(d) of the Securities Exchange Act of 1934? ☐ ☒

Yes No

O. Did you have \$1 billion or more in assets on the last day of your most recent fiscal year?  
If yes, what is the approximate amount of your assets:

- ☐ \$1 billion to less than \$10 billion  
☐ \$10 billion to less than \$50 billion

☐ \$50 billion or more

For purposes of Item 1.O. only, "assets" refers to your total assets, rather than the assets you manage on behalf of clients. Determine your total assets using the total assets shown on the balance sheet for your most recent fiscal year end.

P. Provide your *Legal Entity Identifier* if you have one:

A *legal entity identifier* is a unique number that companies use to identify each other in the financial marketplace. You may not have a *legal entity identifier*.

SECTION 1.B. Other Business Names

No Information Filed

SECTION 1.F. Other Offices

Complete the following information for each office, other than your *principal office and place of business*, at which you conduct investment advisory business. You must complete a separate Schedule D Section 1.F. for each location. If you are applying for SEC registration, if you are registered only with the SEC, or if you are an *exempt reporting adviser*, list only the largest twenty-five offices (in terms of numbers of *employees*).

Number and Street 1: 1155 BREWERY PARK BOULEVARD	Number and Street 2: SUITE 240		
City: DETROIT	State: Michigan	Country: United States	ZIP+4/Postal Code: 48207

If this address is a private residence, check this box: ☐

Telephone Number: (313) 568-1401	Facsimile Number, if any: (313) 568-1408
-------------------------------------	---

If this office location is also required to be registered with FINRA or a *state securities authority* as a branch office location for a broker-dealer or investment adviser on the Uniform Branch Office Registration Form (Form BR), please provide the *CRD* Branch Number here:

How many *employees* perform investment advisory functions from this office location?  
4

Are other business activities conducted at this office location? (check all that apply)

- ☐ (1) Broker-dealer (registered or unregistered)
- ☐ (2) Bank (including a separately identifiable department or division of a bank)
- ☐ (3) Insurance broker or agent
- ☐ (4) Commodity pool operator or commodity trading advisor (whether registered or exempt from registration)
- ☐ (5) Registered municipal advisor
- ☐ (6) Accountant or accounting firm
- ☐ (7) Lawyer or law firm

Describe any other *investment-related* business activities conducted from this office location:

Complete the following information for each office, other than your *principal office and place of business*, at which you conduct investment advisory business. You must complete a separate Schedule D Section 1.F. for each location. If you are applying for SEC registration, if you are registered only with the SEC, or if you are an *exempt reporting adviser*, list only the largest twenty-five offices (in terms of numbers of *employees*).

Number and Street 1: 5113 PIPER STATION DRIVE	Number and Street 2: SUITE 205		
City: CHARLOTTE	State: North Carolina	Country: United States	ZIP+4/Postal Code: 28277

If this address is a private residence, check this box: ☐

Telephone Number:  
704-542-7474

Facsimile Number, if any:  
704-542-7171

If this office location is also required to be registered with FINRA or a *state securities authority* as a branch office location for a broker-dealer or investment adviser on the Uniform Branch Office Registration Form (Form BR), please provide the *CRD* Branch Number here:

How many *employees* perform investment advisory functions from this office location?

2

Are other business activities conducted at this office location? (check all that apply)

- ☐ (1) Broker-dealer (registered or unregistered)
- ☐ (2) Bank (including a separately identifiable department or division of a bank)
- ☐ (3) Insurance broker or agent
- ☐ (4) Commodity pool operator or commodity trading advisor (whether registered or exempt from registration)
- ☐ (5) Registered municipal advisor
- ☐ (6) Accountant or accounting firm
- ☐ (7) Lawyer or law firm

Describe any other *investment-related* business activities conducted from this office location:

Complete the following information for each office, other than your *principal office and place of business*, at which you conduct investment advisory business. You must complete a separate Schedule D Section 1.F. for each location. If you are applying for SEC registration, if you are registered only with the SEC, or if you are an *exempt reporting adviser*, list only the largest twenty-five offices (in terms of numbers of *employees*).

Number and Street 1:  
400 GALLERIA PARKWAY

City:  
ATLANTA

State:  
Georgia

Number and Street 2:  
SUITE 1960

Country:  
United States

ZIP+4/Postal Code:  
30339

If this address is a private residence, check this box: ☐

Telephone Number:  
617-374-1300

Facsimile Number, if any:

If this office location is also required to be registered with FINRA or a *state securities authority* as a branch office location for a broker-dealer or investment adviser on the Uniform Branch Office Registration Form (Form BR), please provide the *CRD* Branch Number here:

How many *employees* perform investment advisory functions from this office location?

6

Are other business activities conducted at this office location? (check all that apply)

- ☐ (1) Broker-dealer (registered or unregistered)
- ☐ (2) Bank (including a separately identifiable department or division of a bank)
- ☐ (3) Insurance broker or agent
- ☐ (4) Commodity pool operator or commodity trading advisor (whether registered or exempt from registration)
- ☐ (5) Registered municipal advisor
- ☐ (6) Accountant or accounting firm
- ☐ (7) Lawyer or law firm

Describe any other *investment-related* business activities conducted from this office location:

Complete the following information for each office, other than your *principal office and place of business*, at which you conduct investment advisory business. You must complete a separate Schedule D Section 1.F. for each location. If you are applying for SEC registration, if you are registered only with the SEC, or if you are an *exempt reporting adviser*, list only the largest twenty-five offices (in terms of numbers of *employees*).

Number and Street 1:  
10 SOUTH WACKER DRIVE

City:  
CHICAGO

State:  
Illinois

Number and Street 2:  
SUITE 1230

Country:  
United States

ZIP+4/Postal Code:  
60606

If this address is a private residence, check this box: ☐

Telephone Number:

312-585-9680

Facsimile Number, if any:

617-374-1313

If this office location is also required to be registered with FINRA or a *state securities authority* as a branch office location for a broker-dealer or investment adviser on the Uniform Branch Office Registration Form (Form BR), please provide the *CRD* Branch Number here:

How many *employees* perform investment advisory functions from this office location?

5

Are other business activities conducted at this office location? (check all that apply)

☐ (1) Broker-dealer (registered or unregistered)

☐ (2) Bank (including a separately identifiable department or division of a bank)

☐ (3) Insurance broker or agent

☐ (4) Commodity pool operator or commodity trading advisor (whether registered or exempt from registration)

☐ (5) Registered municipal advisor

☐ (6) Accountant or accounting firm

☐ (7) Lawyer or law firm

Describe any other *investment-related* business activities conducted from this office location:

Complete the following information for each office, other than your *principal office and place of business*, at which you conduct investment advisory business. You must complete a separate Schedule D Section 1.F. for each location. If you are applying for SEC registration, if you are registered only with the SEC, or if you are an *exempt reporting adviser*, list only the largest twenty-five offices (in terms of numbers of *employees*).

Number and Street 1:

9440 WEST SAHARA AVENUE

City:

LAS VEGAS

State:

Nevada

Number and Street 2:

SUITE 225

Country:

United States

ZIP+4/Postal Code:

89117

If this address is a private residence, check this box: ☐

Telephone Number:

(702) 248-4121

Facsimile Number, if any:

(702) 248-6207

If this office location is also required to be registered with FINRA or a *state securities authority* as a branch office location for a broker-dealer or investment adviser on the Uniform Branch Office Registration Form (Form BR), please provide the *CRD* Branch Number here:

How many *employees* perform investment advisory functions from this office location?

4

Are other business activities conducted at this office location? (check all that apply)

☐ (1) Broker-dealer (registered or unregistered)

☐ (2) Bank (including a separately identifiable department or division of a bank)

☐ (3) Insurance broker or agent

☐ (4) Commodity pool operator or commodity trading advisor (whether registered or exempt from registration)

☐ (5) Registered municipal advisor

☐ (6) Accountant or accounting firm

☐ (7) Lawyer or law firm

Describe any other *investment-related* business activities conducted from this office location:

Complete the following information for each office, other than your *principal office and place of business*, at which you conduct investment advisory business. You must complete a separate Schedule D Section 1.F. for each location. If you are applying for SEC registration, if you are registered only with the SEC, or if you are an *exempt reporting adviser*, list only the largest twenty-five offices (in terms of numbers of *employees*).

Number and Street 1:

900 VETERANS BOULEVARD

City:

State:

Number and Street 2:

SUITE 340

Country:

ZIP+4/Postal Code:

If this address is a private residence, check this box: ☐

Telephone Number:  
(650) 364-7000

Facsimile Number, if any:  
(650) 364-7100

If this office location is also required to be registered with FINRA or a *state securities authority* as a branch office location for a broker-dealer or investment adviser on the Uniform Branch Office Registration Form (Form BR), please provide the *CRD* Branch Number here:

How many *employees* perform investment advisory functions from this office location?  
7

Are other business activities conducted at this office location? (check all that apply)

- ☐ (1) Broker-dealer (registered or unregistered)
- ☐ (2) Bank (including a separately identifiable department or division of a bank)
- ☐ (3) Insurance broker or agent
- ☐ (4) Commodity pool operator or commodity trading advisor (whether registered or exempt from registration)
- ☐ (5) Registered municipal advisor
- ☐ (6) Accountant or accounting firm
- ☐ (7) Lawyer or law firm

Describe any other *investment-related* business activities conducted from this office location:

Complete the following information for each office, other than your *principal office and place of business*, at which you conduct investment advisory business. You must complete a separate Schedule D Section 1.F. for each location. If you are applying for SEC registration, if you are registered only with the SEC, or if you are an *exempt reporting adviser*, list only the largest twenty-five offices (in terms of numbers of *employees*).

Number and Street 1:  
222 SW COLUMBIA STREET  
City:  
PORTLAND

State:  
Oregon

Number and Street 2:  
SUITE 1650  
Country:  
United States

ZIP+4/Postal Code:  
97201

If this address is a private residence, check this box: ☐

Telephone Number:  
971-271-5141

Facsimile Number, if any:  
617-374-1313

If this office location is also required to be registered with FINRA or a *state securities authority* as a branch office location for a broker-dealer or investment adviser on the Uniform Branch Office Registration Form (Form BR), please provide the *CRD* Branch Number here:

How many *employees* perform investment advisory functions from this office location?  
6

Are other business activities conducted at this office location? (check all that apply)

- ☐ (1) Broker-dealer (registered or unregistered)
- ☐ (2) Bank (including a separately identifiable department or division of a bank)
- ☐ (3) Insurance broker or agent
- ☐ (4) Commodity pool operator or commodity trading advisor (whether registered or exempt from registration)
- ☐ (5) Registered municipal advisor
- ☐ (6) Accountant or accounting firm
- ☐ (7) Lawyer or law firm

Describe any other *investment-related* business activities conducted from this office location:

## SECTION 1.I. Website Addresses

List your website addresses, including addresses for accounts on publicly available social media platforms where you control the content (including, but not limited to, Twitter, Facebook and/or LinkedIn). You must complete a separate Schedule D Section 1.I. for each website or account on a publicly available social media platform.



Address of Website/Account on Publicly Available Social Media Platform:    [HTTPS://WWW.LINKEDIN.COM/COMPANY/28060/](https://www.linkedin.com/company/28060/)

Address of Website/Account on Publicly Available Social Media Platform:    [HTTP://WWW.NEPC.COM](http://www.nepc.com)

Address of Website/Account on Publicly Available Social Media Platform:    [HTTPS://WWW.FACEBOOK.COM/NEPCLLC/](https://www.facebook.com/NEPCLLC/)

Address of Website/Account on Publicly Available Social Media Platform:    [HTTPS://TWITTER.COM/NEPC\\_LL\\_C](https://twitter.com/NEPC_LL_C)

Address of Website/Account on Publicly Available Social Media Platform:    [HTTPS://TWITTER.COM/NEPC\\_EANDF](https://twitter.com/NEPC_EANDF)

SECTION 1.L. Location of Books and Records

No Information Filed

SECTION 1.M. Registration with Foreign Financial Regulatory Authorities

No Information Filed

Item 2 SEC Registration/Reporting

Responses to this Item help us (and you) determine whether you are eligible to register with the SEC. Complete this Item 2.A. only if you are applying for SEC registration or submitting an *annual updating amendment* to your SEC registration. If you are filing an *umbrella registration*, the information in Item 2 should be provided for the *filing adviser* only.

- A. To register (or remain registered) with the SEC, you must check **at least one** of the Items 2.A.(1) through 2.A.(12), below. If you are submitting an *annual updating amendment* to your SEC registration and you are no longer eligible to register with the SEC, check Item 2.A.(13). Part 1A Instruction 2 provides information to help you determine whether you may affirmatively respond to each of these items.
- You (the adviser):
- ☒

(1) are a **large advisory firm** that either:

(a) has regulatory assets under management of \$100 million (in U.S. dollars) or more; or

(b) has regulatory assets under management of \$90 million (in U.S. dollars) or more at the time of filing its most recent *annual updating amendment* and is registered with the SEC;

☐

(2) are a **mid-sized advisory firm** that has regulatory assets under management of \$25 million (in U.S. dollars) or more but less than \$100 million (in U.S. dollars) and you are either:

(a) not required to be registered as an adviser with the *state securities authority* of the state where you maintain your *principal office and place of business*; or

(b) not subject to examination by the *state securities authority* of the state where you maintain your *principal office and place of business*;

Click **HERE** for a list of states in which an investment adviser, if registered, would not be subject to examination by the state securities authority.

☐

(3) Reserved

☐

(4) have your *principal office and place of business* **outside the United States**;

☐

(5) are an **investment adviser (or subadviser) to an investment company** registered under the Investment Company Act of 1940;

☐

(6) are an **investment adviser to a company which has elected to be a business development company** pursuant to section 54 of the Investment Company Act of 1940 and has not withdrawn the election, and you have at least \$25 million of regulatory assets under management;

☒

(7) are a **pension consultant** with respect to assets of plans having an aggregate value of at least \$200,000,000 that qualifies for the exemption in rule 203A-2(a);

☐

(8) are a **related adviser** under rule 203A-2(b) that *controls*, is *controlled* by, or is under common *control* with, an investment adviser that is registered with the SEC, and your *principal office and place of business* is the same as the registered adviser;

If you check this box, complete Section 2.A.(8) of Schedule D.

☐

(9) are an **adviser** relying on rule 203A-2(c) because you **expect to be eligible for SEC registration within 120 days**;

If you check this box, complete Section 2.A.(9) of Schedule D.

☐ (10) are a **multi-state adviser** that is required to register in 15 or more states and is relying on rule 203A-2(d);

*If you check this box, complete Section 2.A.(10) of Schedule D.*

☐ (11) are an **Internet adviser** relying on rule 203A-2(e);

☐ (12) have **received an SEC order** exempting you from the prohibition against registration with the SEC;

*If you check this box, complete Section 2.A.(12) of Schedule D.*

☐ (13) are **no longer eligible** to remain registered with the SEC.

#### State Securities Authority Notice Filings and State Reporting by Exempt Reporting Advisers

- C. Under state laws, SEC-registered advisers may be required to provide to *state securities authorities* a copy of the Form ADV and any amendments they file with the SEC. These are called *notice filings*. In addition, *exempt reporting advisers* may be required to provide *state securities authorities* with a copy of reports and any amendments they file with the SEC. If this is an initial application or report, check the box(es) next to the state(s) that you would like to receive notice of this and all subsequent filings or reports you submit to the SEC. If this is an amendment to direct your *notice filings* or reports to additional state(s), check the box(es) next to the state(s) that you would like to receive notice of this and all subsequent filings or reports you submit to the SEC. If this is an amendment to your registration to stop your *notice filings* or reports from going to state(s) that currently receive them, uncheck the box(es) next to those state(s).

Jurisdictions

<input type="checkbox"/> AL	<input checked="" type="checkbox"/> IL	<input type="checkbox"/> NE	<input type="checkbox"/> SC
<input type="checkbox"/> AK	<input type="checkbox"/> IN	<input checked="" type="checkbox"/> NV	<input type="checkbox"/> SD
<input type="checkbox"/> AZ	<input type="checkbox"/> IA	<input checked="" type="checkbox"/> NH	<input type="checkbox"/> TN
<input type="checkbox"/> AR	<input type="checkbox"/> KS	<input checked="" type="checkbox"/> NJ	<input checked="" type="checkbox"/> TX
<input checked="" type="checkbox"/> CA	<input type="checkbox"/> KY	<input type="checkbox"/> NM	<input type="checkbox"/> UT
<input type="checkbox"/> CO	<input checked="" type="checkbox"/> LA	<input checked="" type="checkbox"/> NY	<input type="checkbox"/> VT
<input checked="" type="checkbox"/> CT	<input type="checkbox"/> ME	<input checked="" type="checkbox"/> NC	<input type="checkbox"/> VI
<input type="checkbox"/> DE	<input type="checkbox"/> MD	<input type="checkbox"/> ND	<input type="checkbox"/> VA
<input type="checkbox"/> DC	<input checked="" type="checkbox"/> MA	<input checked="" type="checkbox"/> OH	<input type="checkbox"/> WA
<input checked="" type="checkbox"/> FL	<input checked="" type="checkbox"/> MI	<input type="checkbox"/> OK	<input type="checkbox"/> WV
<input checked="" type="checkbox"/> GA	<input checked="" type="checkbox"/> MN	<input checked="" type="checkbox"/> OR	<input type="checkbox"/> WI
<input type="checkbox"/> GU	<input type="checkbox"/> MS	<input type="checkbox"/> PA	<input type="checkbox"/> WY
<input type="checkbox"/> HI	<input type="checkbox"/> MO	<input type="checkbox"/> PR	
<input type="checkbox"/> ID	<input type="checkbox"/> MT	<input type="checkbox"/> RI	

*If you are amending your registration to stop your notice filings or reports from going to a state that currently receives them and you do not want to pay that state's notice filing or report filing fee for the coming year, your amendment must be filed before the end of the year (December 31).*

#### SECTION 2.A.(8) Related Adviser

If you are relying on the exemption in rule 203A-2(b) from the prohibition on registration because you *control*, are *controlled by*, or are under common *control* with an investment adviser that is registered with the SEC and your *principal office and place of business* is the same as that of the registered adviser, provide the following information:

Name of Registered Investment Adviser

CRD Number of Registered Investment Adviser

SEC Number of Registered Investment Adviser

-

#### SECTION 2.A.(9) Investment Adviser Expecting to be Eligible for Commission Registration within 120 Days

If you are relying on rule 203A-2(c), the exemption from the prohibition on registration available to an adviser that expects to be eligible for SEC registration within 120 days, you are required to make certain representations about your eligibility for SEC registration. By checking the appropriate boxes, you will be deemed to have made the required representations. You must make both of these representations:

- ☐ I am not registered or required to be registered with the SEC or a *state securities authority* and I have a reasonable expectation that I will be eligible to register with the SEC within 120 days after the date my registration with the SEC becomes effective.
- ☐ I undertake to withdraw from SEC registration if, on the 120th day after my registration with the SEC becomes effective, I would be prohibited by Section 203A(a) of the Advisers Act from registering with the SEC.

#### SECTION 2.A.(10) Multi-State Adviser

If you are relying on rule 203A-2(d), the multi-state adviser exemption from the prohibition on registration, you are required to make certain representations

about your eligibility for SEC registration. By checking the appropriate boxes, you will be deemed to have made the required representations.

If you are applying for registration as an investment adviser with the SEC, you must make both of these representations:

- ☐ I have reviewed the applicable state and federal laws and have concluded that I am required by the laws of 15 or more states to register as an investment adviser with the *state securities authorities* in those states.
- ☐ I undertake to withdraw from SEC registration if I file an amendment to this registration indicating that I would be required by the laws of fewer than 15 states to register as an investment adviser with the *state securities authorities* of those states.

If you are submitting your *annual updating amendment*, you must make this representation:

- ☐ Within 90 days prior to the date of filing this amendment, I have reviewed the applicable state and federal laws and have concluded that I am required by the laws of at least 15 states to register as an investment adviser with the *state securities authorities* in those states.

## SECTION 2.A.(12) SEC Exemptive Order

If you are relying upon an SEC *order* exempting you from the prohibition on registration, provide the following information:

Application Number:

803-

Date of *order*:

## Item 3 Form of Organization

If you are filing an *umbrella registration*, the information in Item 3 should be provided for the *filing adviser* only.

A. How are you organized?

- ☐ Corporation
- ☐ Sole Proprietorship
- ☐ Limited Liability Partnership (LLP)
- ☐ Partnership
- ☒ Limited Liability Company (LLC)
- ☐ Limited Partnership (LP)
- ☐ Other (specify):

*If you are changing your response to this Item, see Part 1A Instruction 4.*

B. In what month does your fiscal year end each year?

DECEMBER

C. Under the laws of what state or country are you organized?

State      Country  
Delaware    United States

*If you are a partnership, provide the name of the state or country under whose laws your partnership was formed. If you are a sole proprietor, provide the name of the state or country where you reside.*

*If you are changing your response to this Item, see Part 1A Instruction 4.*

## Item 4 Successions

A. Are you, at the time of this filing, succeeding to the business of a registered investment adviser, including, for example, a change of your structure or legal status (e.g., form of organization or state of incorporation)?

Yes No  
☐ ☒

*If "yes", complete Item 4.B. and Section 4 of Schedule D.*

B. Date of Succession: (MM/DD/YYYY)

*If you have already reported this succession on a previous Form ADV filing, do not report the succession again. Instead, check "No." See Part 1A Instruction 4.*

## SECTION 4 Successions

**Item 5 Information About Your Advisory Business - Employees, Clients, and Compensation**

Responses to this Item help us understand your business, assist us in preparing for on-site examinations, and provide us with data we use when making regulatory policy. Part 1A Instruction 5.a. provides additional guidance to newly formed advisers for completing this Item 5.

**Employees**

*If you are organized as a sole proprietorship, include yourself as an employee in your responses to Item 5.A. and Items 5.B.(1), (2), (3), (4), and (5). If an employee performs more than one function, you should count that employee in each of your responses to Items 5.B.(1), (2), (3), (4), and (5).*

- A. Approximately how many *employees* do you have? Include full- and part-time *employees* but do not include any clerical workers.

275

- B. (1) Approximately how many of the *employees* reported in 5.A. perform investment advisory functions (including research)?

99

- (2) Approximately how many of the *employees* reported in 5.A. are registered representatives of a broker-dealer?

0

- (3) Approximately how many of the *employees* reported in 5.A. are registered with one or more *state securities authorities* as *investment adviser representatives*?

1

- (4) Approximately how many of the *employees* reported in 5.A. are registered with one or more *state securities authorities* as *investment adviser representatives* for an investment adviser other than you?

0

- (5) Approximately how many of the *employees* reported in 5.A. are licensed agents of an insurance company or agency?

0

- (6) Approximately how many firms or other *persons* solicit advisory *clients* on your behalf?

0

*In your response to Item 5.B.(6), do not count any of your employees and count a firm only once – do not count each of the firm's employees that solicit on your behalf.*

**Clients**

*In your responses to Items 5.C. and 5.D. do not include as "clients" the investors in a private fund you advise, unless you have a separate advisory relationship with those investors.*

- C. (1) To approximately how many *clients* for whom you do not have regulatory assets under management did you provide investment advisory services during your most recently completed fiscal year?

320

- (2) Approximately what percentage of your *clients* are non-United States persons?

0%

- D. *For purposes of this Item 5.D., the category "individuals" includes trusts, estates, and 401(k) plans and IRAs of individuals and their family members, but does not include businesses organized as sole proprietorships.*

*The category "business development companies" consists of companies that have made an election pursuant to section 54 of the Investment Company Act of 1940. Unless you provide advisory services pursuant to an investment advisory contract to an investment company registered under the Investment Company Act of 1940, do not answer (d)(1) or (d)(3) below.*

Indicate the approximate number of your *clients* and amount of your total regulatory assets under management (reported in Item 5.F. below) attributable to each of the following type of *client*. If you have fewer than 5 *clients* in a particular category (other than (d), (e), and (f)) you may check Item 5.D.(2) rather than respond to Item 5.D.(1).

The aggregate amount of regulatory assets under management reported in Item 5.D.(3) should equal the total amount of regulatory assets under management reported in Item 5.F.(2)(c) below.

If a *client* fits into more than one category, select one category that most accurately represents the *client* to avoid double counting *clients* and assets. If you advise a registered investment company, business development company, or pooled investment vehicle, report those assets in categories (d), (e), and (f) as applicable.

Type of Client	(1) Number of Client(s)	(2) Fewer than 5 Clients	(3) Amount of Regulatory Assets under Management
(a) Individuals (other than <i>high net worth individuals</i> )		<input type="checkbox"/>	\$
(b) <i>High net worth individuals</i>	30	<input type="checkbox"/>	\$ 609,000,000
(c) Banking or thrift institutions	1	<input type="checkbox"/>	\$

(d) Investment companies			\$
(e) Business development companies			\$
(f) Pooled investment vehicles (other than investment companies and business development companies)			\$
(g) Pension and profit sharing plans (but not the plan participants or government pension plans)	151	<input type="checkbox"/>	\$ 11,587,000,000
(h) Charitable organizations	66	<input type="checkbox"/>	\$ 1,981,000,000
(i) State or municipal <i>government entities</i> (including government pension plans)	67	<input type="checkbox"/>	\$ 156,000,000
(j) Other investment advisers		<input type="checkbox"/>	\$
(k) Insurance companies	8	<input type="checkbox"/>	\$
(l) Sovereign wealth funds and foreign official institutions		<input type="checkbox"/>	\$
(m) Corporations or other businesses not listed above	37	<input type="checkbox"/>	\$ 2,465,000,000
(n) Other:		<input type="checkbox"/>	\$

Compensation Arrangements

E. You are compensated for your investment advisory services by (check all that apply):

- ☒ (1) A percentage of assets under your management
- ☒ (2) Hourly charges
- ☐ (3) Subscription fees (for a newsletter or periodical)
- ☒ (4) Fixed fees (other than subscription fees)
- ☐ (5) Commissions
- ☒ (6) *Performance-based fees*
- ☐ (7) Other (specify):

Item 5 Information About Your Advisory Business - Regulatory Assets Under Management

Regulatory Assets Under Management

Yes No

F. (1) Do you provide continuous and regular supervisory or management services to securities portfolios? ☒ ☐

(2) If yes, what is the amount of your regulatory assets under management and total number of accounts?

	U.S. Dollar Amount	Total Number of Accounts
Discretionary:	(a) \$ 16,798,000,000	(d) 48
Non-Discretionary:	(b) \$ 0	(e) 0
Total:	(c) \$ 16,798,000,000	(f) 48

*Part 1A Instruction 5.b. explains how to calculate your regulatory assets under management. You must follow these instructions carefully when completing this Item.*

(3) What is the approximate amount of your total regulatory assets under management (reported in Item 5.F.(2)(c) above) attributable to *clients* who are non-*United States persons*?

\$

Item 5 Information About Your Advisory Business - Advisory Activities

Advisory Activities

G. What type(s) of advisory services do you provide? Check all that apply.

- ☐ (1) Financial planning services
- ☒ (2) Portfolio management for individuals and/or small businesses
- ☐ (3) Portfolio management for investment companies (as well as "business development companies" that have made an election pursuant to section 54 of the Investment Company Act of 1940)
- ☐ (4) Portfolio management for pooled investment vehicles (other than investment companies)
- ☒ (5) Portfolio management for businesses (other than small businesses) or institutional *clients* (other than registered investment companies and other pooled investment vehicles)
- ☒ (6) Pension consulting services
- ☒ (7) Selection of other advisers (including *private fund* managers)
- ☐ (8) Publication of periodicals or newsletters
- ☐ (9) Security ratings or pricing services
- ☐ (10) Market timing services
- ☐ (11) Educational seminars/workshops
- ☐ (12) Other(specify):

*Do not check Item 5.G.(3) unless you provide advisory services pursuant to an investment advisory contract to an investment company registered under the Investment Company Act of 1940, including as a subadviser. If you check Item 5.G.(3), report the 811 or 814 number of the investment company or investment companies to which you provide advice in Section 5.G.(3) of Schedule D.*

H.

If you provide financial planning services, to how many *clients* did you provide these services during your last fiscal year?

0

1 - 10

11 - 25

26 - 50

51 - 100

101 - 250

251 - 500

More than 500

If more than 500, how many?  
(round to the nearest 500)

</

**SECTION 5.K.(1) Separately Managed Accounts**

After subtracting the amounts reported in Item 5.D.(3)(d)-(f) from your total regulatory assets under management, indicate the approximate percentage of this remaining amount attributable to each of the following categories of assets. If the remaining amount is at least \$10 billion in regulatory assets under management, complete Question (a). If the remaining amount is less than \$10 billion in regulatory assets under management, complete Question (b).

Any regulatory assets under management reported in Item 5.D.(3)(d), (e), and (f) should not be reported below.

If you are a subadviser to a separately managed account, you should only provide information with respect to the portion of the account that you subadvise.

End of year refers to the date used to calculate your regulatory assets under management for purposes of your *annual updating amendment*. Mid-year is the date six months before the end of year date. Each column should add up to 100% and numbers should be rounded to the nearest percent.

Investments in derivatives, registered investment companies, business development companies, and pooled investment vehicles should be reported in those categories. Do not report those investments based on related or underlying portfolio assets. Cash equivalents include bank deposits, certificates of deposit, bankers' acceptances and similar bank instruments.

Some assets could be classified into more than one category or require discretion about which category applies. You may use your own internal methodologies and the conventions of your service providers in determining how to categorize assets, so long as the methodologies or conventions are consistently applied and consistent with information you report internally and to current and prospective clients. However, you should not double count assets, and your responses must be consistent with any instructions or other guidance relating to this Section.

(a)	Asset Type	Mid-year	End of year
(i)	Exchange-Traded Equity Securities	4 %	4 %
(ii)	Non Exchange-Traded Equity Securities	0 %	0 %
(iii)	U.S. Government/Agency Bonds	1 %	1 %
(iv)	U.S. State and Local Bonds	0 %	0 %
(v)	<i>Sovereign Bonds</i>	0 %	0 %
(vi)	Investment Grade Corporate Bonds	3 %	3 %
(vii)	Non-Investment Grade Corporate Bonds	0 %	0 %
(viii)	Derivatives	0 %	0 %
(ix)	Securities Issued by Registered Investment Companies or Business Development Companies	17 %	17 %
(x)	Securities Issued by Pooled Investment Vehicles (other than Registered Investment Companies or Business Development Companies)	75 %	75 %
(xi)	Cash and Cash Equivalents	0 %	0 %
(xii)	Other	0 %	0 %

Generally describe any assets included in "Other"

(b)	Asset Type	End of year
(i)	Exchange-Traded Equity Securities	%
(ii)	Non Exchange-Traded Equity Securities	%
(iii)	U.S. Government/Agency Bonds	%
(iv)	U.S. State and Local Bonds	%
(v)	<i>Sovereign Bonds</i>	%
(vi)	Investment Grade Corporate Bonds	%
(vii)	Non-Investment Grade Corporate Bonds	%
(viii)	Derivatives	%
(ix)	Securities Issued by Registered Investment Companies or Business Development Companies	%
(x)	Securities Issued by Pooled Investment Vehicles (other than Registered Investment Companies or Business Development Companies)	%
(xi)	Cash and Cash Equivalents	%
(xii)	Other	%

Generally describe any assets included in "Other"

**SECTION 5.K.(2) Separately Managed Accounts - Use of Borrowings and Derivatives**

☐ No information is required to be reported in this Section 5.K.(2) per the instructions of this Section 5.K.(2)

If your regulatory assets under management attributable to separately managed accounts are at least \$10 billion, you should complete Question (a). If your regulatory assets under management attributable to separately managed accounts are at least \$500 million but less than \$10 billion, you should complete Question (b).

- (a) In the table below, provide the following information regarding the separately managed accounts you advise. If you are a subadviser to a separately managed account, you should only provide information with respect to the portion of the account that you subadvise. End of year refers to the date used to calculate your regulatory assets under management for purposes of your *annual updating amendment*. Mid-year is the date six months before the end of year date.

In column 1, indicate the regulatory assets under management attributable to separately managed accounts associated with each level of gross notional exposure. For purposes of this table, the gross notional exposure of an account is the percentage obtained by dividing (i) the sum of (a) the dollar amount of any *borrowings* and (b) the *gross notional value* of all derivatives, by (ii) the regulatory assets under management of the account.

In column 2, provide the dollar amount of *borrowings* for the accounts included in column 1.

In column 3, provide aggregate *gross notional value* of derivatives divided by the aggregate regulatory assets under management of the accounts included in column 1 with respect to each category of derivatives specified in 3(a) through (f).

You may, but are not required to, complete the table with respect to any separately managed account with regulatory assets under management of less than \$10,000,000.

Any regulatory assets under management reported in Item 5.D.(3)(d), (e), and (f) should not be reported below.

(i) Mid-Year

Gross Notional Exposure	(1) Regulatory Assets Under Management	(2) Borrowings	(3) Derivative Exposures					
			(a) Interest Rate Derivative	(b) Foreign Exchange Derivative	(c) Credit Derivative	(d) Equity Derivative	(e) Commodity Derivative	(f) Other Derivative
Less than 10%	\$	\$	%	%	%	%	%	%
10-149%	\$	\$	%	%	%	%	%	%
150% or more	\$	\$	%	%	%	%	%	%

Optional: Use the space below to provide a narrative description of the strategies and/or manner in which *borrowings* and derivatives are used in the management of the separately managed accounts that you advise.

(ii) End of Year

Gross Notional Exposure	(1) Regulatory Assets Under Management	(2) Borrowings	(3) Derivative Exposures					
			(a) Interest Rate Derivative	(b) Foreign Exchange Derivative	(c) Credit Derivative	(d) Equity Derivative	(e) Commodity Derivative	(f) Other Derivative
Less than 10%	\$	\$	%	%	%	%	%	%
10-149%	\$	\$	%	%	%	%	%	%
150% or more	\$	\$	%	%	%	%	%	%

Optional: Use the space below to provide a narrative description of the strategies and/or manner in which *borrowings* and derivatives are used in the management of the separately managed accounts that you advise.

- (b) In the table below, provide the following information regarding the separately managed accounts you advise as of the date used to calculate your regulatory assets under management for purposes of your *annual updating amendment*. If you are a subadviser to a separately managed account, you should only provide information with respect to the portion of the account that you subadvise.

In column 1, indicate the regulatory assets under management attributable to separately managed accounts associated with each level of gross notional exposure. For purposes of this table, the gross notional exposure of an account is the percentage obtained by dividing (i) the sum of (a) the dollar amount of any *borrowings* and (b) the *gross notional value* of all derivatives, by (ii) the regulatory assets under management of the account.

In column 2, provide the dollar amount of *borrowings* for the accounts included in column 1.

You may, but are not required to, complete the table with respect to any separately managed accounts with regulatory assets under management of less than \$10,000,000.

Any regulatory assets under management reported in Item 5.D.(3)(d), (e), and (f) should not be reported below.

Gross Notional Exposure	(1) Regulatory Assets Under Management	(2) Borrowings
-------------------------	--	----------------



Less than 10%	\$	\$
10-149%	\$	\$
150% or more	\$	\$

Optional: Use the space below to provide a narrative description of the strategies and/or manner in which *borrowings* and derivatives are used in the management of the separately managed accounts that you advise.

**SECTION 5.K.(3) Custodians for Separately Managed Accounts**

Complete a separate Schedule D Section 5.K.(3) for each custodian that holds ten percent or more of your aggregate separately managed account regulatory assets under management.

(a) Legal name of custodian:  
NORTHERN TRUST CORPORATION

(b) Primary business name of custodian:  
NORTHERN TRUST

(c) The location(s) of the custodian's office(s) responsible for *custody* of the assets :  

City:  
CHICAGO

State:  
Illinois

Country:  
United States

Yes

No

(d) Is the custodian a *related person* of your firm?  

☐ ☒

(e) If the custodian is a broker-dealer, provide its SEC registration number (if any)  
-

(f) If the custodian is not a broker-dealer, or is a broker-dealer but does not have an SEC registration number, provide its *legal entity identifier* (if any)

(g) What amount of your regulatory assets under management attributable to separately managed accounts is held at the custodian?  
\$ 3,843,959,546

(a) Legal name of custodian:  
WELLS FARGO & COMPANY

(b) Primary business name of custodian:  
WELLS FARGO BANK, N.A.

(c) The location(s) of the custodian's office(s) responsible for *custody* of the assets :  

City:  
SIOUX FALLS

State:  
South Dakota

Country:  
United States

Yes

No

(d) Is the custodian a *related person* of your firm?  

☐ ☒

(e) If the custodian is a broker-dealer, provide its SEC registration number (if any)  
-

(f) If the custodian is not a broker-dealer, or is a broker-dealer but does not have an SEC registration number, provide its *legal entity identifier* (if any)

(g) What amount of your regulatory assets under management attributable to separately managed accounts is held at the custodian?  
\$ 2,408,655,924

(a) Legal name of custodian:  
THE BANK OF NEW YORK MELLON

(b) Primary business name of custodian:  
BNY MELLON

(c) The location(s) of the custodian's office(s) responsible for *custody* of the assets :  

City:  
PITTSBURGH

State:  
Pennsylvania

Country:  
United States

Yes

No

(d) Is the custodian a *related person* of your firm?  

☐ ☒

(e) If the custodian is a broker-dealer, provide its SEC registration number (if any)



If you engage in that business under a different name, provide that name:

### SECTION 6.B.(3) Description of Other Products and Services

Describe other products or services you sell to your *client*. You may omit products and services that you listed in Section 6.B.(2) above.

If you engage in that business under a different name, provide that name:

### Item 7 Financial Industry Affiliations

In this Item, we request information about your financial industry affiliations and activities. This information identifies areas in which conflicts of interest may occur between you and your *clients*.

A. This part of Item 7 requires you to provide information about you and your *related persons*, including foreign affiliates. Your *related persons* are all of your *advisory affiliates* and any *person* that is under common control with you.

You have a *related person* that is a (check all that apply):

- ☐ (1) broker-dealer, municipal securities dealer, or government securities broker or dealer (registered or unregistered)
- ☐ (2) other investment adviser (including financial planners)
- ☐ (3) registered municipal advisor
- ☐ (4) registered security-based swap dealer
- ☐ (5) major security-based swap participant
- ☐ (6) commodity pool operator or commodity trading advisor (whether registered or exempt from registration)
- ☐ (7) futures commission merchant
- ☐ (8) banking or thrift institution
- ☐ (9) trust company
- ☐ (10) accountant or accounting firm
- ☐ (11) lawyer or law firm
- ☐ (12) insurance company or agency
- ☐ (13) pension consultant
- ☐ (14) real estate broker or dealer
- ☐ (15) sponsor or syndicator of limited partnerships (or equivalent), excluding pooled investment vehicles
- ☐ (16) sponsor, general partner, managing member (or equivalent) of pooled investment vehicles

*Note that Item 7.A. should not be used to disclose that some of your employees perform investment advisory functions or are registered representatives of a broker-dealer. The number of your firm's employees who perform investment advisory functions should be disclosed under Item 5.B.(1). The number of your firm's employees who are registered representatives of a broker-dealer should be disclosed under Item 5.B.(2).*

*Note that if you are filing an umbrella registration, you should not check Item 7.A.(2) with respect to your relying advisers, and you do not have to complete Section 7.A. in Schedule D for your relying advisers. You should complete a Schedule R for each relying adviser.*

*For each related person, including foreign affiliates that may not be registered or required to be registered in the United States, complete Section 7.A. of Schedule D.*

*You do not need to complete Section 7.A. of Schedule D for any related person if: (1) you have no business dealings with the related person in connection with advisory services you provide to your clients; (2) you do not conduct shared operations with the related person; (3) you do not refer clients or business to the related person, and the related person does not refer prospective clients or business to you; (4) you do not share supervised persons or premises with the related person; and (5) you have no reason to believe that your relationship with the related person otherwise creates a conflict of interest with your clients.*

*You must complete Section 7.A. of Schedule D for each related person acting as qualified custodian in connection with advisory services you provide to your clients (other than any mutual fund transfer agent pursuant to rule 206(4)-2(b)(1)), regardless of whether you have determined the related person to be operationally independent under rule 206(4)-2 of the Advisers Act.*

### SECTION 7.A. Financial Industry Affiliations

No Information Filed

### Item 7 Private Fund Reporting

B. Are you an adviser to any *private fund*?

Yes No



*If "yes," then for each private fund that you advise, you must complete a Section 7.B.(1) of Schedule D, except in certain circumstances described in the next sentence and in Instruction 6 of the Instructions to Part 1A. If you are registered or applying for registration with the SEC or reporting as an SEC exempt reporting adviser, and another SEC-registered adviser or SEC exempt reporting adviser reports this information with respect to any such private fund in Section 7.B.(1) of Schedule D of its Form ADV (e.g., if you are a subadviser), do not complete Section 7.B.(1) of Schedule D with respect to that private fund. You must, instead, complete Section 7.B.(2) of Schedule D.*

*In either case, if you seek to preserve the anonymity of a private fund client by maintaining its identity in your books and records in numerical or alphabetical code, or similar designation, pursuant to rule 204-2(d), you may identify the private fund in Section 7.B.(1) or 7.B.(2) of Schedule D using the same code or*

## SECTION 7.B.(1) Private Fund Reporting

No Information Filed

## SECTION 7.B.(2) Private Fund Reporting

No Information Filed

## Item 8 Participation or Interest in Client Transactions

In this Item, we request information about your participation and interest in your *clients'* transactions. This information identifies additional areas in which conflicts of interest may occur between you and your *clients*. Newly-formed advisers should base responses to these questions on the types of participation and interest that you expect to engage in during the next year.

Like Item 7, Item 8 requires you to provide information about you and your *related persons*, including foreign affiliates.

### Proprietary Interest in Client Transactions

- | A. Do you or any <i>related person</i> :   | Yes                              | No                               |
|--|----------------------------------|----------------------------------|
| (1) buy securities for yourself from advisory <i>clients</i> , or sell securities you own to advisory <i>clients</i> (principal transactions)?   | <input type="radio"/>            | <input checked="" type="radio"/> |
| (2) buy or sell for yourself securities (other than shares of mutual funds) that you also recommend to advisory <i>clients</i> ?   | <input checked="" type="radio"/> | <input type="radio"/>            |
| (3) recommend securities (or other investment products) to advisory <i>clients</i> in which you or any <i>related person</i> has some other proprietary (ownership) interest (other than those mentioned in Items 8.A.(1) or (2))? | <input type="radio"/>            | <input checked="" type="radio"/> |

### Sales Interest in Client Transactions

- | B. Do you or any <i>related person</i> :   | Yes                   | No                               |
|--|-----------------------|----------------------------------|
| (1) as a broker-dealer or registered representative of a broker-dealer, execute securities trades for brokerage customers in which advisory <i>client</i> securities are sold to or bought from the brokerage customer (agency cross transactions)?        | <input type="radio"/> | <input checked="" type="radio"/> |
| (2) recommend to advisory <i>clients</i> , or act as a purchaser representative for advisory <i>clients</i> with respect to, the purchase of securities for which you or any <i>related person</i> serves as underwriter or general or managing partner?   | <input type="radio"/> | <input checked="" type="radio"/> |
| (3) recommend purchase or sale of securities to advisory <i>clients</i> for which you or any <i>related person</i> has any other sales interest (other than the receipt of sales commissions as a broker or registered representative of a broker-dealer)? | <input type="radio"/> | <input checked="" type="radio"/> |

### Investment or Brokerage Discretion

- | C. Do you or any <i>related person</i> have <i>discretionary authority</i> to determine the:  | Yes                              | No                               |
|---|----------------------------------|----------------------------------|
| (1) securities to be bought or sold for a <i>client's</i> account?  | <input checked="" type="radio"/> | <input type="radio"/>            |
| (2) amount of securities to be bought or sold for a <i>client's</i> account?  | <input checked="" type="radio"/> | <input type="radio"/>            |
| (3) broker or dealer to be used for a purchase or sale of securities for a <i>client's</i> account?   | <input type="radio"/>            | <input checked="" type="radio"/> |
| (4) commission rates to be paid to a broker or dealer for a <i>client's</i> securities transactions?  | <input type="radio"/>            | <input checked="" type="radio"/> |
| D. If you answer "yes" to C.(3) above, are any of the brokers or dealers <i>related persons</i> ?   |                                  |                                  |
|   | <input type="radio"/>            | <input type="radio"/>            |
| E. Do you or any <i>related person</i> recommend brokers or dealers to <i>clients</i> ?   | <input type="radio"/>            | <input checked="" type="radio"/> |
| F. If you answer "yes" to E. above, are any of the brokers or dealers <i>related persons</i> ?  |                                  |                                  |
|   | <input type="radio"/>            | <input type="radio"/>            |
| G. (1) Do you or any <i>related person</i> receive research or other products or services other than execution from a broker-dealer or a third party ("soft dollar benefits") in connection with <i>client</i> securities transactions?                               | <input type="radio"/>            | <input checked="" type="radio"/> |
| (2) If "yes" to G.(1) above, are all the "soft dollar benefits" you or any <i>related persons</i> receive eligible "research or brokerage services" under section 28(e) of the Securities Exchange Act of 1934?   | <input type="radio"/>            | <input type="radio"/>            |
| H. (1) Do you or any <i>related person</i> , directly or indirectly, compensate any <i>person</i> that is not an <i>employee</i> for <i>client</i> referrals?   | <input type="radio"/>            | <input checked="" type="radio"/> |
| (2) Do you or any <i>related person</i> , directly or indirectly, provide any <i>employee</i> compensation that is specifically related to obtaining <i>clients</i> for the firm (cash or non-cash compensation in addition to the <i>employee's</i> regular salary)? | <input type="radio"/>            | <input checked="" type="radio"/> |
| I. Do you or any <i>related person</i> , including any <i>employee</i> , directly or indirectly, receive compensation from any <i>person</i> (other than you or any <i>related person</i> ) for <i>client</i> referrals?  | <input type="radio"/>            | <input checked="" type="radio"/> |

In your response to Item 8.I., do not include the regular salary you pay to an employee.

In responding to Items 8.H. and 8.I., consider all cash and non-cash compensation that you or a related person gave to (in answering Item 8.H.) or received from (in answering Item 8.I.) any person in exchange for client referrals, including any bonus that is based, at least in part, on the number or amount of client referrals.

**Item 9 Custody**

In this Item, we ask you whether you or a *related person* has *custody of client* (other than *clients* that are investment companies registered under the Investment Company Act of 1940) assets and about your custodial practices.

- A. (1) Do you have *custody* of any advisory *clients*': **Yes No**
- (a) cash or bank accounts? ☐ ☒
- (b) securities? ☐ ☒

*If you are registering or registered with the SEC, answer "No" to Item 9.A.(1)(a) and (b) if you have custody solely because (i) you deduct your advisory fees directly from your clients' accounts, or (ii) a related person has custody of client assets in connection with advisory services you provide to clients, but you have overcome the presumption that you are not operationally independent (pursuant to Advisers Act rule 206(4)-2(d)(5)) from the related person.*

- (2) If you checked "yes" to Item 9.A.(1)(a) or (b), what is the approximate amount of *client* funds and securities and total number of *clients* for which you have *custody*:
- | U.S. Dollar Amount | Total Number of <i>Clients</i> |
|--------------------|--------------------------------|
| (a) \$             | (b)                            |

*If you are registering or registered with the SEC and you have custody solely because you deduct your advisory fees directly from your clients' accounts, do not include the amount of those assets and the number of those clients in your response to Item 9.A.(2). If your related person has custody of client assets in connection with advisory services you provide to clients, do not include the amount of those assets and number of those clients in your response to 9.A.(2). Instead, include that information in your response to Item 9.B.(2).*

- B. (1) In connection with advisory services you provide to *clients*, do any of your *related persons* have *custody* of any of your advisory *clients*': **Yes No**
- (a) cash or bank accounts? ☐ ☒
- (b) securities? ☐ ☒

*You are required to answer this item regardless of how you answered Item 9.A.(1)(a) or (b).*

- (2) If you checked "yes" to Item 9.B.(1)(a) or (b), what is the approximate amount of *client* funds and securities and total number of *clients* for which your *related persons* have *custody*:
- | U.S. Dollar Amount | Total Number of <i>Clients</i> |
|--------------------|--------------------------------|
| (a) \$             | (b)                            |

- C. If you or your *related persons* have *custody of client* funds or securities in connection with advisory services you provide to *clients*, check all the following that apply:
- (1) A qualified custodian(s) sends account statements at least quarterly to the investors in the pooled investment vehicle(s) you manage. ☐
- (2) An *independent public accountant* audits annually the pooled investment vehicle(s) that you manage and the audited financial statements are distributed to the investors in the pools. ☐
- (3) An *independent public accountant* conducts an annual surprise examination of *client* funds and securities. ☐
- (4) An *independent public accountant* prepares an internal control report with respect to custodial services when you or your *related persons* are qualified custodians for *client* funds and securities. ☐

*If you checked Item 9.C.(2), C.(3) or C.(4), list in Section 9.C. of Schedule D the accountants that are engaged to perform the audit or examination or prepare an internal control report. (If you checked Item 9.C.(2), you do not have to list auditor information in Section 9.C. of Schedule D if you already provided this information with respect to the private funds you advise in Section 7.B.(1) of Schedule D).*

- D. Do you or your *related person(s)* act as qualified custodians for your *clients* in connection with advisory services you provide to *clients*? **Yes No**
- (1) you act as a qualified custodian ☐ ☒
- (2) your *related person(s)* act as qualified custodian(s) ☐ ☒

*If you checked "yes" to Item 9.D.(2), all related persons that act as qualified custodians (other than any mutual fund transfer agent pursuant to rule 206(4)-2(b)(1)) must be identified in Section 7.A. of Schedule D, regardless of whether you have determined the related person to be operationally independent under rule 206(4)-2 of the Advisers Act.*

- E. If you are filing your *annual updating amendment* and you were subject to a surprise examination by an *independent public accountant* during your last fiscal year, provide the date (MM/YYYY) the examination commenced:
- F. If you or your *related persons* have *custody of client* funds or securities, how many *persons*, including, but not limited to, you and your *related persons*, act as qualified custodians for your *clients* in connection with advisory services you provide to *clients*?

No Information Filed

**Item 10 Control Persons**

In this Item, we ask you to identify every *person* that, directly or indirectly, *controls* you. If you are filing an *umbrella registration*, the information in Item 10 should be provided for the *filing adviser* only.

If you are submitting an initial application or report, you must complete Schedule A and Schedule B. Schedule A asks for information about your direct owners and executive officers. Schedule B asks for information about your indirect owners. If this is an amendment and you are updating information you reported on either Schedule A or Schedule B (or both) that you filed with your initial application or report, you must complete Schedule C.

**Yes No**

A. Does any *person* not named in Item 1.A. or Schedules A, B, or C, directly or indirectly, *control* your management or policies?



If yes, complete Section 10.A. of Schedule D.

B. If any *person* named in Schedules A, B, or C or in Section 10.A. of Schedule D is a public reporting company under Sections 12 or 15(d) of the Securities Exchange Act of 1934, please complete Section 10.B. of Schedule D.

**SECTION 10.A. Control Persons**

You must complete a separate Schedule D Section 10.A. for each *control person* not named in Item 1.A. or Schedules A, B, or C that directly or indirectly *controls* your management or policies.

Individual Name (if applicable) (Last, First, Middle)

CHARLTON, RICHARD, MINARD

CRD Number (if any)

1170953

Effective Date

12/31/2007

Termination Date

Business Address:

Number and Street 1

255 STATE STREET

City

BOSTON

State

Massachusetts

Number and Street 2

Country

United States

ZIP+4/Postal Code

02109

If this address is a private residence, check this box: ☐

Briefly describe the nature of the *control*:

CHAIRMAN EMERITUS

You must complete a separate Schedule D Section 10.A. for each *control person* not named in Item 1.A. or Schedules A, B, or C that directly or indirectly *controls* your management or policies.

Individual Name (if applicable) (Last, First, Middle)

GILL, SEAN, W. B.

CRD Number (if any)

5656793

Effective Date

03/31/2009

Termination Date

Business Address:

Number and Street 1

255 STATE STREET

City

BOSTON

State

Massachusetts

Number and Street 2

Country

United States

ZIP+4/Postal Code

02109

If this address is a private residence, check this box: ☐

Briefly describe the nature of the *control*:  
PARTNER AND MEMBER OF THE EXECUTIVE COMMITTEE

You must complete a separate Schedule D Section 10.A. for each *control person* not named in Item 1.A. or Schedules A, B, or C that directly or indirectly *controls* your management or policies.

Individual Name (if applicable) (Last, First, Middle)  
LOUGHLIN, CHRISTINE, ALLISON

CRD Number (if any)  
2635862

Effective Date  
03/31/2013

Termination Date

Business Address:

Number and Street 1		Number and Street 2	
255 STATE STREET			
City	State	Country	ZIP+4/Postal Code
BOSTON	Massachusetts	United States	02109

If this address is a private residence, check this box: ☐

Briefly describe the nature of the *control*:  
PARTNER AND MEMBER OF THE EXECUTIVE COMMITTEE

You must complete a separate Schedule D Section 10.A. for each *control person* not named in Item 1.A. or Schedules A, B, or C that directly or indirectly *controls* your management or policies.

Individual Name (if applicable) (Last, First, Middle)  
MANNING, MICHAEL, PATRICK

CRD Number (if any)  
2138898

Effective Date  
01/01/2008

Termination Date

Business Address:

Number and Street 1		Number and Street 2	
255 STATE STREET			
City	State	Country	ZIP+4/Postal Code
BOSTON	Massachusetts	United States	02109

If this address is a private residence, check this box: ☐

Briefly describe the nature of the *control*:  
MICHAEL IS THE MANAGING PARTNER AND AN ACTIVE MEMBER OF THE EXECUTIVE COMMITTEE.

You must complete a separate Schedule D Section 10.A. for each *control person* not named in Item 1.A. or Schedules A, B, or C that directly or indirectly *controls* your management or policies.

Individual Name (if applicable) (Last, First, Middle)  
Moseley, Douglas, Wheeler

CRD Number (if any)  
6924171

Effective Date  
03/31/2018

Termination Date

Business Address:

Number and Street 1		Number and Street 2	
255 STATE STREET			
City	State	Country	ZIP+4/Postal Code
BOSTON	Massachusetts	United States	02109

If this address is a private residence, check this box: ☐

Briefly describe the nature of the *control*:

PARTNER AND MEMBER OF THE EXECUTIVE COMMITTEE

You must complete a separate Schedule D Section 10.A. for each *control person* not named in Item 1.A. or Schedules A, B, or C that directly or indirectly *controls* your management or policies.

Firm or Organization Name

NEW ENGLAND PENSION CONSULTANTS TRUST

CRD Number (if any)

Effective Date

01/01/2008

Termination Date

Business Address:

Number and Street 1

255 STATE STREET

City

BOSTON

State

Massachusetts

Number and Street 2

Country

United States

ZIP+4/Postal Code

02109

If this address is a private residence, check this box: ☐

Briefly describe the nature of the *control*:

IT IS THE TRUST FOR NEPC, LLC.

You must complete a separate Schedule D Section 10.A. for each *control person* not named in Item 1.A. or Schedules A, B, or C that directly or indirectly *controls* your management or policies.

Individual Name (if applicable) (Last, First, Middle)

SHETH, NEIL, NIRANJAN

CRD Number (if any)

2378922

Effective Date

03/31/2015

Termination Date

Business Address:

Number and Street 1

255 STATE STREET

City

BOSTON

State

Massachusetts

Number and Street 2

Country

United States

ZIP+4/Postal Code

02109

If this address is a private residence, check this box: ☐

Briefly describe the nature of the *control*:

PARTNER AND MEMBER OF THE EXECUTIVE COMMITTEE

## SECTION 10.B. Control Person Public Reporting Companies

No Information Filed

## Item 11 Disclosure Information

In this Item, we ask for information about your disciplinary history and the disciplinary history of all your *advisory affiliates*. We use this information to



determine whether to grant your registration for registration, to decide whether to revoke your registration or to place limitations on your activities as an investment adviser, and to identify potential problem areas to focus on during our on-site examinations. One event may result in "yes" answers to more than one of the questions below. In accordance with General Instruction 5 to Form ADV, "you" and "your" include the *filing adviser* and all *relying advisers* under an *umbrella registration*.

Your *advisory affiliates* are: (1) all of your current *employees* (other than *employees* performing only clerical, administrative, support or similar functions); (2) all of your officers, partners, or directors (or any *person* performing similar functions); and (3) all *persons* directly or indirectly *controlling* you or *controlled* by you. If you are a "separately identifiable department or division" (SID) of a bank, see the Glossary of Terms to determine who your *advisory affiliates* are.

*If you are registered or registering with the SEC or if you are an exempt reporting adviser, you may limit your disclosure of any event listed in Item 11 to ten years following the date of the event. If you are registered or registering with a state, you must respond to the questions as posed; you may, therefore, limit your disclosure to ten years following the date of an event only in responding to Items 11.A.(1), 11.A.(2), 11.B.(1), 11.B.(2), 11.D.(4), and 11.H.(1)(a). For purposes of calculating this ten-year period, the date of an event is the date the final order, judgment, or decree was entered, or the date any rights of appeal from preliminary orders, judgments, or decrees lapsed.*

You must complete the appropriate Disclosure Reporting Page ("DRP") for "yes" answers to the questions in this Item 11.

	Yes	No
Do any of the events below involve you or any of your supervised persons?	<input type="radio"/>	<input type="radio"/>

For "yes" answers to the following questions, complete a Criminal Action DRP:

A. In the past ten years, have you or any advisory affiliate:	Yes	No
(1) been convicted of or pled guilty or nolo contendere ("no contest") in a domestic, foreign, or military court to any felony?	<input type="radio"/>	<input type="radio"/>
(2) been charged with any felony?	<input type="radio"/>	<input type="radio"/>

*If you are registered or registering with the SEC, or if you are reporting as an exempt reporting adviser, you may limit your response to Item 11.A.(2) to charges that are currently pending.*

B. In the past ten years, have you or any advisory affiliate:		
(1) been convicted of or pled guilty or nolo contendere ("no contest") in a domestic, foreign, or military court to a <i>misdemeanor</i> involving: investments or an <i>investment-related</i> business, or any fraud, false statements, or omissions, wrongful taking of property, bribery, perjury, forgery, counterfeiting, extortion, or a conspiracy to commit any of these offenses?	<input type="radio"/>	<input type="radio"/>
(2) been charged with a <i>misdemeanor</i> listed in Item 11.B.(1)?	<input type="radio"/>	<input type="radio"/>

*If you are registered or registering with the SEC, or if you are reporting as an exempt reporting adviser, you may limit your response to Item 11.B.(2) to charges that are currently pending.*

For "yes" answers to the following questions, complete a Regulatory Action DRP:

C. Has the SEC or the Commodity Futures Trading Commission (CFTC) ever:	Yes	No
(1) found you or any advisory affiliate to have made a false statement or omission?	<input type="radio"/>	<input type="radio"/>
(2) found you or any advisory affiliate to have been involved in a violation of SEC or CFTC regulations or statutes?	<input type="radio"/>	<input type="radio"/>
(3) found you or any advisory affiliate to have been a cause of an <i>investment-related</i> business having its authorization to do business denied, suspended, revoked, or restricted?	<input type="radio"/>	<input type="radio"/>
(4) entered an order against you or any advisory affiliate in connection with <i>investment-related</i> activity?	<input type="radio"/>	<input type="radio"/>
(5) imposed a civil money penalty on you or any advisory affiliate, or ordered you or any advisory affiliate to cease and desist from any activity?	<input type="radio"/>	<input type="radio"/>
D. Has any other federal regulatory agency, any state regulatory agency, or any foreign financial regulatory authority:		
(1) ever found you or any advisory affiliate to have made a false statement or omission, or been dishonest, unfair, or unethical?	<input type="radio"/>	<input type="radio"/>
(2) ever found you or any advisory affiliate to have been involved in a violation of <i>investment-related</i> regulations or statutes?	<input type="radio"/>	<input type="radio"/>
(3) ever found you or any advisory affiliate to have been a cause of an <i>investment-related</i> business having its authorization to do business denied, suspended, revoked, or restricted?	<input type="radio"/>	<input type="radio"/>
(4) in the past ten years, entered an order against you or any advisory affiliate in connection with an <i>investment-related</i> activity?	<input type="radio"/>	<input type="radio"/>
(5) ever denied, suspended, or revoked your or any advisory affiliate's registration or license, or otherwise prevented you or any advisory affiliate, by order, from associating with an <i>investment-related</i> business or restricted your or any advisory affiliate's activity?	<input type="radio"/>	<input type="radio"/>
E. Has any self-regulatory organization or commodities exchange ever:		
(1) found you or any advisory affiliate to have made a false statement or omission?	<input type="radio"/>	<input type="radio"/>
(2) found you or any advisory affiliate to have been involved in a violation of its rules (other than a violation designated as a "minor rule violation" under a plan approved by the SEC)?	<input type="radio"/>	<input type="radio"/>
(3) found you or any advisory affiliate to have been the cause of an <i>investment-related</i> business having its authorization to do business denied, suspended, revoked, or restricted?	<input type="radio"/>	<input type="radio"/>
(4) disciplined you or any advisory affiliate by expelling or suspending you or the advisory affiliate from membership, barring or suspending you or the advisory affiliate from association with other members, or otherwise restricting your or the advisory affiliate's activities?	<input type="radio"/>	<input type="radio"/>
F. Has an authorization to act as an attorney, accountant, or federal contractor granted to you or any advisory affiliate ever been revoked or suspended?	<input type="radio"/>	<input type="radio"/>

G.

Are you or any *advisory affiliate* now the subject of any regulatory *proceeding* that could result in a "yes" answer to any part of Item 11.C., 11.D., or 11.E.?

For "yes" answers to the following questions, complete a Civil Judicial Action DRP:

H.

(1) Has any domestic or foreign court:

(a) in the past ten years, *enjoined* you or any *advisory affiliate* in connection with any *investment-related* activity?

(b) ever *found* that you or any *advisory affiliate* were *involved* in a violation of *investment-related* statutes or regulations?

(c) ever dismissed, pursuant to a settlement agreement, an *investment-related* civil action brought against you or any *advisory affiliate* by a state or foreign financial regulatory authority?

(2) Are you or any *advisory affiliate* now the subject of any civil *proceeding* that could result in a "yes" answer to any part of Item 11.H.(1)?

Item 12 Small Businesses

The SEC is required by the Regulatory Flexibility Act to consider the effect of its regulations on small entities. In order to do this, we need to determine whether you meet the definition of "small business" or "small organization" under rule 0-7.

Answer this Item 12 only if you are registered or registering with the SEC **and** you indicated in response to Item 5.F.(2)(c) that you have regulatory assets under management of less than \$25 million. You are not required to answer this Item 12 if you are filing for initial registration as a state adviser, amending a current state registration, or switching from SEC to state registration.

For purposes of this Item 12 only:

• Total Assets refers to the total assets of a firm, rather than the assets managed on behalf of *clients*. In determining your or another *person's* total assets, you may use the total assets shown on a current balance sheet (but use total assets reported on a consolidated balance sheet with subsidiaries included, if that amount is larger).

• *Control* means the power to direct or cause the direction of the management or policies of a *person*, whether through ownership of securities, by contract, or otherwise. Any *person* that directly or indirectly has the right to vote 25 percent or more of the voting securities, or is entitled to 25 percent or more of the profits, of another *person* is presumed to *control* the other *person*.

Yes No

A. Did you have total assets of \$5 million or more on the last day of your most recent fiscal year?

If "yes," you do not need to answer Items 12.B. and 12.C.

B. Do you:

(1) *control* another investment adviser that had regulatory assets under management (calculated in response to Item 5.F.(2)(c) of Form ADV) of \$25 million or more on the last day of its most recent fiscal year?

(2) *control* another *person* (other than a natural person) that had total assets of \$5 million or more on the last day of its most recent fiscal year?

C. Are you:

(1) *controlled* by or under common *control* with another investment adviser that had regulatory assets under management (calculated in response to Item 5.F.(2)(c) of Form ADV) of \$25 million or more on the last day of its most recent fiscal year?

(2) *controlled* by or under common *control* with another *person* (other than a natural person) that had total assets of \$5 million or more on the last day of its most recent fiscal year?

Schedule A

Direct Owners and Executive Officers

1. Complete Schedule A only if you are submitting an initial application or report. Schedule A asks for information about your direct owners and executive officers. Use Schedule C to amend this information.

2. Direct Owners and Executive Officers. List below the names of:

(a) each Chief Executive Officer, Chief Financial Officer, Chief Operations Officer, Chief Legal Officer, Chief Compliance Officer(Chief Compliance Officer is required if you are registered or applying for registration and cannot be more than one individual), director, and any other individuals with similar status or functions;

(b) if you are organized as a corporation, each shareholder that is a direct owner of 5% or more of a class of your voting securities, unless you are a public reporting company (a company subject to Section 12 or 15(d) of the Exchange Act);  
Direct owners include any *person* that owns, beneficially owns, has the right to vote, or has the power to sell or direct the sale of, 5% or more of a class of your voting securities. For purposes of this Schedule, a *person* beneficially owns any securities: (i) owned by his/her child, stepchild, grandchild, parent, stepparent, grandparent, spouse, sibling, mother-in-law, father-in-law, son-in-law, daughter-in-law, brother-in-law, or sister-in-law, sharing the same residence; or (ii) that he/she has the right to acquire, within 60 days, through the exercise of any option, warrant, or right to purchase the security.

(c) if you are organized as a partnership, all general partners and those limited and special partners that have the right to receive upon dissolution, or have contributed, 5% or more of your capital;

(d) in the case of a trust that directly owns 5% or more of a class of your voting securities, or that has the right to receive upon dissolution, or has contributed, 5% or more of your capital, the trust and each trustee; and

(e) if you are organized as a limited liability company ("LLC"), (i) those members that have the right to receive upon dissolution, or have contributed, 5% or more of your capital, and (ii) if managed by elected managers, all elected managers.

3. Do you have any indirect owners to be reported on Schedule B? 

Yes

No

4. In the DE/FE/I column below, enter "DE" if the owner is a domestic entity, "FE" if the owner is an entity incorporated or domiciled in a foreign country, or "I" if the owner or executive officer is an individual.
5. Complete the Title or Status column by entering board/management titles; status as partner, trustee, sole proprietor, elected manager, shareholder, or member; and for shareholders or members, the class of securities owned (if more than one is issued).
6. Ownership codes are:    NA - less than 5%                      B - 10% but less than 25%                      D - 50% but less than 75%  
    A - 5% but less than 10%                      C - 25% but less than 50%                      E - 75% or more
7. (a) In the *Control Person* column, enter "Yes" if the *person* has *control* as defined in the Glossary of Terms to Form ADV, and enter "No" if the *person* does not have *control*. Note that under this definition, most executive officers and all 25% owners, general partners, elected managers, and trustees are *control persons*.
- (b) In the PR column, enter "PR" if the owner is a public reporting company under Sections 12 or 15(d) of the Exchange Act.
- (c) Complete each column.

FULL LEGAL NAME (Individuals: Last Name, First Name, Middle Name)	DE/FE/I	Title or Status	Date Title or Status Acquired MM/YYYY	Ownership Code	Control Person	PR	CRD No. If None: S.S. No. and Date of Birth, IRS Tax No. or Employer ID No.
CHARLTON, RICHARD, MINARD	I	CHAIRMAN EMERITUS, TRUSTEE OF NEW ENGLAND PENSION CONSULTANTS TRUST	01/2016	B	Y	N	1170953
MANNING, MICHAEL, PATRICK	I	MANAGING PARTNER	12/2007	A	Y	N	2138898
BOGLE, WILLIAM, YATES	I	CHIEF COMPLIANCE OFFICER	12/2007	NA	N	N	2542058
NEW ENGLAND PENSION CONSULTANTS TRUST	DE	MEMBER	12/2007	A	Y	N	04-3503479
GILL, SEAN, W. B.	I	PARTNER AND MEMBER OF THE EXECUTIVE COMMITTEE	03/2009	NA	Y	N	5656793
LOUGHLIN, CHRISTINE, ALLISON	I	PARTNER AND MEMBER OF THE EXECUTIVE COMMITTEE	03/2013	NA	Y	N	2635862
SHETH, NEIL, NIRANJAN	I	PARTNER AND MEMBER OF THE EXECUTIVE COMMITTEE	03/2015	NA	Y	N	2378922
LOMBARDI, MATTHEW, JON	I	CHIEF FINANCIAL OFFICER	01/2016	NA	N	N	2009725
Moseley, Douglas, Wheeler	I	PARTNER AND MEMBER OF THE EXECUTIVE COMMITTEE	03/2018	NA	Y	N	6924171

Schedule B

Indirect Owners

1. Complete Schedule B only if you are submitting an initial application or report. Schedule B asks for information about your indirect owners; you must first complete Schedule A, which asks for information about your direct owners. Use Schedule C to amend this information.
2. Indirect Owners. With respect to each owner listed on Schedule A (except individual owners), list below:
- (a) in the case of an owner that is a corporation, each of its shareholders that beneficially owns, has the right to vote, or has the power to sell or direct the sale of, 25% or more of a class of a voting security of that corporation;
- For purposes of this Schedule, a *person* beneficially owns any securities: (i) owned by his/her child, stepchild, grandchild, parent, stepparent, grandparent, spouse, sibling, mother-in-law, father-in-law, son-in-law, daughter-in-law, brother-in-law, or sister-in-law, sharing the same residence; or (ii) that he/she has the right to acquire, within 60 days, through the exercise of any option, warrant, or right to purchase the security.
- (b) in the case of an owner that is a partnership, all general partners and those limited and special partners that have the right to receive upon dissolution, or have contributed, 25% or more of the partnership's capital;
- (c) in the case of an owner that is a trust, the trust and each trustee; and
- (d) in the case of an owner that is a limited liability company ("LLC"), (i) those members that have the right to receive upon dissolution, or have contributed, 25% or more of the LLC's capital, and (ii) if managed by elected managers, all elected managers.
3. Continue up the chain of ownership listing all 25% owners at each level. Once a public reporting company (a company subject to Sections 12 or 15(d) of the Exchange Act) is reached, no further ownership information need be given.
4. In the DE/FE/I column below, enter "DE" if the owner is a domestic entity, "FE" if the owner is an entity incorporated or domiciled in a foreign country, or "I" if the owner is an individual.
5. Complete the Status column by entering the owner's status as partner, trustee, elected manager, shareholder, or member; and for shareholders or members, the class of securities owned (if more than one is issued).
6. Ownership codes are:    C - 25% but less than 50%                      E - 75% or more  
    D - 50% but less than 75%                      F - Other (general partner, trustee, or elected manager)
7. (a) In the *Control Person* column, enter "Yes" if the *person* has *control* as defined in the Glossary of Terms to Form ADV, and enter "No" if the *person* does not have *control*. Note that under this definition, most executive officers and all 25% owners, general partners, elected managers, and trustees are *control persons*.
- (b) In the PR column, enter "PR" if the owner is a public reporting company under Sections 12 or 15(d) of the Exchange Act.
- (c) Complete each column.

FULL LEGAL NAME (Individuals: Last Name, First Name, Middle Name)	DE/FE/I	Entity in Which Interest is Owned	Status	Date Status Acquired MM/YYYY	Ownership Code	Control Person	PR	CRD No. If None: S.S. No. and Date of Birth, IRS Tax No. or Employer ID No.
CHARLTON, RICHARD, MINARD	I	NEW ENGLAND PENSION CONSULTANTS TRUST	TRUSTEE	12/2007	C	Y	N	1170953

**Schedule D - Miscellaneous**

You may use the space below to explain a response to an Item or to provide any other information.

**Schedule R**

No Information Filed

**DRP Pages****CRIMINAL DISCLOSURE REPORTING PAGE (ADV)**

No Information Filed

**REGULATORY ACTION DISCLOSURE REPORTING PAGE (ADV)**

No Information Filed

**CIVIL JUDICIAL ACTION DISCLOSURE REPORTING PAGE (ADV)**

No Information Filed

**Part 2****Exemption from brochure delivery requirements for SEC-registered advisers**

SEC rules exempt SEC-registered advisers from delivering a firm brochure to some kinds of clients. If these exemptions excuse you from delivering a brochure to *all* of your advisory clients, you do not have to prepare a brochure.

Are you exempt from delivering a brochure to all of your clients under these rules?

Yes No

☐ ☒

If no, complete the ADV Part 2 filing below.

Amend, retire or file new brochures:

**Execution Pages****DOMESTIC INVESTMENT ADVISER EXECUTION PAGE**

You must complete the following Execution Page to Form ADV. This execution page must be signed and attached to your initial submission of Form ADV to the SEC and all amendments.

**Appointment of Agent for Service of Process**

By signing this Form ADV Execution Page, you, the undersigned adviser, irrevocably appoint the Secretary of State or other legally designated officer, of the state in which you maintain your *principal office and place of business* and any other state in which you are submitting a *notice filing*, as your agents to receive service, and agree that such *persons* may accept service on your behalf, of any notice, subpoena, summons, *order instituting proceedings*, demand for arbitration, or other process or papers, and you further agree that such service may be made by registered or certified mail, in any federal or state action, administrative *proceeding* or arbitration brought against you in any place subject to the jurisdiction of the United States, if the action, *proceeding*, or arbitration (a) arises out of any activity in connection with your investment advisory business that is subject to the jurisdiction of the United States, and (b) is *founded*, directly or indirectly, upon the provisions of: (i) the Securities Act of 1933, the Securities Exchange Act of 1934, the Trust Indenture Act of 1939, the Investment Company Act of 1940, or the Investment Advisers Act of 1940, or any rule or regulation under any of these acts, or (ii) the laws of the state in which you maintain your *principal office and place of business* or of any state in which you are submitting a *notice filing*.

**Signature**

I, the undersigned, sign this Form ADV on behalf of, and with the authority of, the investment adviser. The investment adviser and I both certify, under penalty of perjury under the laws of the United States of America, that the information and statements made in this ADV, including exhibits and any other information submitted, are true and correct, and that I am signing this Form ADV Execution Page as a free and voluntary act.

I certify that the adviser's books and records will be preserved and available for inspection as required by law. Finally, I authorize any *person* having *custody* or possession of these books and records to make them available to federal and state regulatory representatives.

Signature:	Date: MM/DD/YYYY
WILLIAM Y. BOGLE	04/06/2018
Printed Name:	Title:
WILLIAM Y. BOGLE	CHIEF COMPLIANCE OFFICER
Adviser <i>CRD</i> Number:	
110562	

#### **NON-RESIDENT INVESTMENT ADVISER EXECUTION PAGE**

You must complete the following Execution Page to Form ADV. This execution page must be signed and attached to your initial submission of Form ADV to the SEC and all amendments.

#### **1. Appointment of Agent for Service of Process**

By signing this Form ADV Execution Page, you, the undersigned adviser, irrevocably appoint each of the Secretary of the SEC, and the Secretary of State or other legally designated officer, of any other state in which you are submitting a *notice filing*, as your agents to receive service, and agree that such persons may accept service on your behalf, of any notice, subpoena, summons, *order* instituting *proceedings*, demand for arbitration, or other process or papers, and you further agree that such service may be made by registered or certified mail, in any federal or state action, administrative *proceeding* or arbitration brought against you in any place subject to the jurisdiction of the United States, if the action, *proceeding* or arbitration (a) arises out of any activity in connection with your investment advisory business that is subject to the jurisdiction of the United States, and (b) is *founded*, directly or indirectly, upon the provisions of: (i) the Securities Act of 1933, the Securities Exchange Act of 1934, the Trust Indenture Act of 1939, the Investment Company Act of 1940, or the Investment Advisers Act of 1940, or any rule or regulation under any of these acts, or (ii) the laws of any state in which you are submitting a *notice filing*.

#### **2. Appointment and Consent: Effect on Partnerships**

If you are organized as a partnership, this irrevocable power of attorney and consent to service of process will continue in effect if any partner withdraws from or is admitted to the partnership, provided that the admission or withdrawal does not create a new partnership. If the partnership dissolves, this irrevocable power of attorney and consent shall be in effect for any action brought against you or any of your former partners.

#### **3. *Non-Resident* Investment Adviser Undertaking Regarding Books and Records**

By signing this Form ADV, you also agree to provide, at your own expense, to the U.S. Securities and Exchange Commission at its principal office in Washington D.C., at any Regional or District Office of the Commission, or at any one of its offices in the United States, as specified by the Commission, correct, current, and complete copies of any or all records that you are required to maintain under Rule 204-2 under the Investment Advisers Act of 1940. This undertaking shall be binding upon you, your heirs, successors and assigns, and any *person* subject to your written irrevocable consents or powers of attorney or any of your general partners and *managing agents*.

#### **Signature**

I, the undersigned, sign this Form ADV on behalf of, and with the authority of, the *non-resident* investment adviser. The investment adviser and I both certify, under penalty of perjury under the laws of the United States of America, that the information and statements made in this ADV, including exhibits and any other information submitted, are true and correct, and that I am signing this Form ADV Execution Page as a free and voluntary act.

I certify that the adviser's books and records will be preserved and available for inspection as required by law. Finally, I authorize any *person* having *custody* or possession of these books and records to make them available to federal and state regulatory representatives.

Signature:	Date: MM/DD/YYYY
Printed Name:	Title:
Adviser <i>CRD</i> Number:	
110562	

**Item 1 – Cover Page**



255 State Street  
Boston, MA 02109

617-374-1300

[www.NEPC.com](http://www.NEPC.com)

Date of this Brochure: 3/31/2018

**Contacts:**

William Y. Bogle - Chief Compliance Officer  
Steven F. Charlton, CFA - Director of Consulting Services

This Brochure provides information about the qualifications and business practices of NEPC, LLC ("NEPC"). If you have any questions about the contents of this Brochure, please contact us at 617-374-1300.

The information in this Brochure has not been approved or verified by the United States Securities and Exchange Commission (the "SEC") or by any state securities authority.

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

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

## **Item 2 – Material Changes**

There are no material changes to our most recent brochure that was dated March 31, 2017. We updated Item 4 - *Advisory Business*, to reflect our current assets under advisement and number of personnel. We also made several other minor edits. We do not consider any of these updates to be a material change.

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## Item 4 – Advisory Business

NEPC is an independent, full service investment consulting firm. NEPC has been providing financial consulting services as its sole line of business since 1986, based on three main principles: maintain independence, provide proactive counsel to help our clients meet or exceed their goals and objectives, and service our clients with seasoned professionals.

NEPC is owned and controlled by its active partners. NEPC's founder and Chairman Emeritus, Mr. Richard M. Charlton, retired from active involvement on January 1, 2016.

NEPC provides advice on both traditional and alternative assets, including:

- the development and/or refinement of investment policies, objectives and guidelines and their periodic review, thereafter;
- asset-based asset allocation studies;
- liability-based asset allocation studies every three to five years, the length of a typical planning cycle;
- manager and custodian searches;
- quarterly investment performance reports and accompanying executive summaries;
- monthly flash reports;
- advice on proxy voting services;
- educational seminars; and
- our annual investment conference.

In addition to traditional consulting services, NEPC provides some clients with discretionary consulting services, which typically include the services listed above along with additional discretionary services described in Item 16 below.

In general, NEPC does not provide investment management services in the context of managing a portfolio of stocks, bonds or other instruments; rather, NEPC provides customized investment advice, which often includes recommendations of specific third party investment managers.

NEPC provides its consulting services to 360 retainer clients with total assets of approximately \$1.0 trillion (as of 1/1/2018) which consist of approximately \$983 billion in advisory assets and \$17 billion in discretionary assets. Of our 99 consultants, 83 have advanced degrees and/or are professionally certified. Our 77 senior consultants average 22 years of investment experience. (Personnel statistics as of 1/1/2018)

## Item 5 – Fees and Compensation

NEPC offers fixed, hourly and asset-based fees. In addition, we offer performance-based fees to certain clients. When calculating either an asset-based fee or a performance-based fee, we rely on a valuation provided by an independent third party (typically the client's custodian bank) since NEPC does not value assets.

Fees are generally quoted on a full retainer basis, encompassing all of the services provided by NEPC. On occasion, fees are quoted on a project basis for a defined time period or scope of work. Some clients choose to reimburse us for reasonable travel expenses, while others prefer that our fee includes travel. Certain clients may be subject to a minimum fee. In all cases, the fee is agreed upon prior to NEPC's retention and is specified in a written agreement with each client.

NEPC will generally bill its fees on a quarterly basis, to be paid in arrears. Accounts initiated or terminated during a calendar quarter will be charged a prorated fee. Upon termination of any account, any prepaid, unearned fees will be promptly refunded, and any earned, unpaid fees will be due and payable. All of our fees are quoted, paid and received in hard dollars.

NEPC does not have a standard fee schedule, and all fees are subject to negotiation, however the table below provides some general guidelines and typical fee ranges.

Service	Description	Fee Ranges
Performance Measurement	Periodic reports on investment performance.	The fee varies depending on the number of investment managers and size of the investment program.
Advisory Services	Advice on asset allocation and manager selection, and ongoing monitoring of the portfolio.	Generally 5 to 20 basis points on the total asset value*. Fees may be higher or lower depending on amount of assets, the type of investments utilized and the level of service desired.
Discretionary Services	All the services listed above, plus implementation of our team's advice. Delegated Services is a variation of this level of service.	Generally 10 to 50 basis points on the total asset value*. Fees may be higher or lower depending on amount of assets, the type of investments utilized and the level of service desired.
Other Services	Customized services as mutually agreed upon	Negotiable

\* May include amounts committed to private investments.

## **Item 6 – Performance-Based Fees and Side-By-Side Management**

As noted in Item 5, in addition to fixed, hourly and asset-based fees, we offer performance-based fees. These fees connect our compensation to the success of the plan or, in the case of Liability Driven Investment (“LDI”) -related performance fees, to our success in closing the gap in a client’s funded status. The fee is agreed upon prior to NEPC’s retention by each client and is specified in a written agreement with each client.

Performance-based fee arrangements may create an incentive for NEPC to recommend investments which may be riskier or more speculative than those which would be recommended under a different fee arrangement. NEPC has procedures designed and implemented to ensure that all clients are treated fairly, and to prevent this conflict from influencing the allocation of investment opportunities among clients.

NEPC also from time to time recommends that certain clients select one or more third party investment managers that charge a performance-based fee.

## **Item 7 – Types of Clients**

NEPC provides investment advice to a variety of clients, including corporations, charitable organizations, healthcare organizations, public funds, Taft-Hartley Funds and high net worth individuals and families. These clients include several plan types including defined benefit, defined contribution, endowment, foundation, health and welfare, insurance, operating and taxable assets.

NEPC does not have a minimum account size for its clients.

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

Our client portfolios are generally designed to achieve specified target rates of return at predetermined risk levels. Accordingly, these portfolios generally contain domestic equities, fixed income and cash equivalents, international equities and global fixed income, real estate, alternative assets and various hedging strategies.

In our role as a consultant, NEPC seldom becomes involved at the security level with a client. Rather, we focus on the asset class, the interaction among asset classes and the traditional and alternative asset investment managers who have demonstrated proficiency managing the various asset classes.

For funds-of-funds, analysis is conducted at the fund-of-funds level and will not generally include a direct review of underlying funds.

NEPC seeks to identify top-tier investment managers through the work of our experienced research staff. It is a thorough, vetted and continuous process, with the following steps:

- NEPC's search process typically begins with our research team screening both our proprietary internal databases and external databases for candidate managers that meet the minimum criteria.
- Next, we conduct a performance review by utilizing both internally-developed and third party systems. This enables the examination of each candidate manager's excess return stream, or "alpha", over time.
- Once we have identified a set of managers for further analysis, asset class specialists meet with each manager to assess the investment team, understand the firm's business focus, review investment philosophy, determine consistency of investment style, verify return attribution and liquidity, and dissect the investment process (see discussion of the "Five P's" below). If the manager meets all the established criteria, we document the manager's investment thesis.
- The specialist then brings the manager to NEPC's centralized Due Diligence Committee for vetting. The Due Diligence Committee is made up of senior members of the firm, including Partners and Senior Consultants. Any outstanding issues or questions from the vetting session are pursued by the analyst and readdressed to the Committee. Successfully vetted investment managers are considered research-qualified and are added to a Focused Placement List ("FPL") at the research analyst's discretion.

The criteria we use to evaluate managers are based on what we refer to as the Five P's. They are:

- **People:** We want to be very comfortable not only with the key individuals responsible for an investment product, but also the organization that holds them together. Our belief is that organizations that lend themselves to stability and high levels of career satisfaction have a higher likelihood of outperformance. Ownership,

incentives and overall professional stability, among other factors, are examined in considerable detail.

- **Philosophy:** We believe it is important to understand the basic thesis that drives a manager's investment process. For example, we want to know if the manager fundamentally believes in growth, value, bottom-up or top-down investing, and whether or not that philosophy is consistent with their actual implementation.
- **Process:** This is the most in-depth part of our research. We conduct considerable qualitative and quantitative analysis on the process(es) of each investment product of each firm we recommend to our clients. We are thoroughly familiar with the research, buy decision, portfolio construction and sell decision, and we compare managers on a consistent basis.
- **Performance:** The performance phase of our analysis takes place after the firm's people, philosophy and process pass muster. Strong performance is irrelevant without a stable organization, an investment philosophy that makes sense, and a well-documented, repeatable investment process. When analyzing performance, we look at up-market and down-market results, as well as correlations between each candidate's performance and the risk and return characteristics of the other managers in the client's investment program. This final step ensures that all serious candidates will "fit" well in the program.
- **Price:** Finally, we carefully analyze manager fee structures. We track all components of the fees our clients can be expected to pay, including management fees, entry/exit fees, performance fees, minimum fees, and custody fees. We also determine whether or not most favored nations fees are offered, and the degree to which managers are willing to negotiate.

The culmination of our evaluation process is the investment thesis that we develop. We believe that, similar to stocks or bonds evaluated by active investment managers, we should have levels of conviction about managers and their ability to outperform. The evaluation process outlined above coupled with the interviews and due diligence we conduct with/on investment managers allows us to form opinions about the managers with whom our clients work.

Managers that prove favorable based on the Five P's may subsequently be recommended for a client portfolio, but only if they are a good "fit" within the investment program based on return expectations, risk tolerance, liquidity needs, legal and/or regulatory constraints and other factors.

Investing in securities involves a risk of loss that clients should be prepared to bear. Clients should also understand that alternative assets (including hedge funds, real estate and private equity) are often illiquid or subject to lock-ups, and are not subject to the same regulatory requirements as registered investment vehicles. We work with clients to mitigate the risk of loss through diversification, asset allocation decisions and the use of hedging strategies.

### **Item 9 – Disciplinary Information**

Registered investment advisers are required to disclose all material facts regarding any legal or disciplinary events that would be material to your evaluation of NEPC or the integrity of NEPC's management. NEPC has no information applicable to this Item.

## **Item 10 – Other Financial Industry Activities and Affiliations**

NEPC is an independent firm and has no information applicable to this Item.

From time to time, NEPC may work with a client, or a client who has an affiliate, that could be considered a money manager. NEPC generally provides the same services to these clients that we do to most clients; that is, we advise the employee retirement plans of these companies, or provide advice on the selection of third party investment managers. We do not consider these relationships to present a material conflict of interest; however all such relationships are disclosed to any client that is considering an investment with a firm that falls into this category.



## Item 11 – Code of Ethics

NEPC maintains a Code of Ethics that provides all employees with guidance on proper conduct in fulfilling its obligation as a fiduciary to its clients and in complying with SEC rules. The Code of Ethics stresses the importance of avoiding activities, interests and relationships that might interfere with, or give the appearance of interfering with, making decisions in the best interests of NEPC clients. Employees are reminded that they must at all times (1) place the interests of clients first, (2) conduct all personal securities transactions in full compliance with the Code of Ethics, and (3) avoid taking inappropriate advantage of their position. Among other things, the Code of Ethics requires employees to:

- disclose material facts and actual or potential conflicts that may affect the services provided to clients;
- act in the best interests of clients and place the interests of clients above the interests of NEPC personnel whenever a conflict may be present;
- not engage in any activity that conflicts with the interests of clients;
- avoid taking inappropriate advantage of their position (e.g., by using knowledge of a client's portfolio transactions to profit by the market effect of those transactions); and
- conduct all personal trading in full compliance with the Code of Ethics, including all pre-trade clearance and reporting requirements.

The Code of Ethics also requires employees to make certain disclosures regarding their trading and personal portfolios, restricts investments in private placements and new issues, and restricts the acceptance of gifts.

NEPC's Code of Ethics is administered and enforced by its Chief Compliance Officer. All employees must acknowledge the terms of the Code of Ethics annually, or as amended. A copy of the Code of Ethics will be provided to any client or potential client upon request.

NEPC's officers and employees may purchase, sell or hold investment accounts or interests in privately offered investment funds that are managed by third party investment advisory firms recommended from time to time by NEPC to its clients. This could present a potential conflict of interest to NEPC. Accordingly, NEPC has implemented policies pursuant to which such accounts and investments are reviewed prior to opening and periodically thereafter. In addition, securities trading by employees (including any investments in privately offered funds) is subject to the requirements of NEPC's Code of Ethics.

## **Item 12 – Brokerage Practices**

NEPC has no information applicable to this Item. We do not engage in direct trading of securities, or select brokers to execute trades.

### **Item 13 – Review of Accounts**

NEPC reviews client accounts on a periodic basis and provides an in-depth performance measurement report to most of our clients on a quarterly basis. Personal presentations are scheduled at the request of each client, and normally occur at least quarterly. All client relationships are covered on a team basis, ensuring both continuity and consistency.

Account reviews evaluate traditional and alternative manager performance, the impact of policy and fund structure on overall plan performance, and the overall market environment. The performance appraisal process focuses initially on plan structure and diversification, and subsequently on the performance of managers within each asset class and their interactivity with one-another. In conducting these reviews, market and peer group comparisons are used extensively, to understand both return and risk measures.

In servicing our clients, we generally use our Investment Performance Analysis (“IPA”) report, designed to our specifications but programmed and maintained by InvestorForce. These reports feature extensive risk diagnostics, including various measures of volatility, market sub effects, risk-adjusted returns, a wide variety of portfolio characteristics and their respective influences on performance.

As stated above, reviews normally occur on a periodic basis. In addition to regular meetings with clients, NEPC will schedule supplementary meetings upon the occurrence of extraordinary events within the client’s portfolio, such as the loss of key personnel by an investment manager.

**Item 14 – Client Referrals and Other Compensation**

NEPC has no information applicable to this Item. NEPC does not use a third party to solicit business and does not accept or pay referral fees or commissions.

### **Item 15 – Custody**

NEPC has no information applicable to this Item. Neither NEPC nor any related person holds any funds or securities for clients. For our discretionary clients (see Item 16), we often have authority to transfer monies between investment manager accounts, but we are not permitted to withdraw money from the client's portfolio and we are not deemed to have custody of client assets.

## **Item 16 – Investment Discretion**

In general, NEPC acts on an advisory basis and does not manage client assets. For certain clients, however, NEPC acts as a discretionary advisor. These “discretionary services” could include responsibility for such functions as asset allocation, rebalancing, and manager selection or termination. For this type of client, NEPC acts as a fiduciary under ERISA Section 3(38). In all such instances we rely on an investment policy statement approved by the client, and follow NEPC’s standard procedures to formulate advice. Before our advice is implemented, it is reviewed by a centralized internal decision-making group to maintain appropriate checks and balances.

A plan sponsor or other type of investor may elect to give NEPC discretion for a number of reasons. This type of arrangement can make sense for clients who don’t have expertise in-house, want to outsource day-to-day plan transactions, or simply are short-staffed. NEPC’s level of discretion varies by client, and ranges from full discretion over all asset classes and managers to discretion over just one particular asset class, such as private equity. The client retains responsibility for approving an investment policy document, and NEPC generally assumes responsibility for all other investment decisions. Our services generally do not include legal advice or functions carried out by a third party administrator such as anti-money laundering checks, or KYC and OFAC compliance. The client will execute a Certificate of Authority to grant NEPC the level of authority desired by the client.

As part of NEPC’s discretionary advice service offering, NEPC may act as a sub-advisor, providing advice on the selection of investment managers. In this type of client relationship, the General Partner or Investment Manager of an investment fund may hire NEPC to evaluate and select managers that the Investment Manager would subsequently hire to manage some, or all, of the investment fund.

In the event that an advisory client of NEPC invests in a fund sub-advised by NEPC, the advisory client will receive a fee rebate to ensure that NEPC does not profit twice from the same investment.

### **Item 17 – Voting Client Securities**

As a matter of firm policy and practice, NEPC does not have any authority to and does not vote proxies on behalf of advisory clients. Plan sponsor clients retain the responsibility for receiving and voting proxies for any and all securities maintained in client portfolios. NEPC may from time to time provide advice to clients regarding proxy voting services or the clients' voting of proxies.

NEPC votes mutual fund proxies for certain discretionary clients. In these cases, NEPC will vote in the best interest of shareholders, as determined by NEPC in accordance with its written proxy voting policy. NEPC authorizes the clients' investment managers to vote proxies for individual securities.

### **Item 18 – Financial Information**

As a registered investment adviser NEPC is required in this Item to provide you with certain financial information or disclosures about its financial condition. NEPC has no financial condition that impairs its ability to meet contractual and fiduciary commitments to clients, and has not been the subject of a bankruptcy proceeding.



This brochure supplement provides information about:

**Samuel M. Austin, III**

Partner

NEPC, LLC  
255 State Street  
Boston, MA 02109  
617-374-1300  
[www.NEPC.com](http://www.NEPC.com)

Date of this Supplement: 8/7/2017

**Item 1 – Cover Page**

This brochure supplement provides information about Samuel Austin that supplements the NEPC, LLC (“NEPC”) brochure. You should have received a copy of that brochure. Please contact our Chief Compliance Officer, William Y. Bogle, at 617-374-1300 or [WBogle@NEPC.com](mailto:WBogle@NEPC.com) if you did not receive NEPC’s brochure or if you have any questions about the contents of this supplement.

## **Item 2 – Educational Background and Business Experience**

Year of Birth: 1961

Education: BA, Boston University  
MBA, Boston University

Business background for the preceding five years: Mr. Austin joined NEPC in 2017. He is a consultant involved with all types of client projects including asset allocation, policy formation and review, and investment manager selection. Prior to joining NEPC he was a Senior Vice President and member of the Investment Committee with FIS Group. Prior to FIS Mr. Austin was with Virtus Investment Partners, Barclays Global Investors and Bankers Trust Company.

## **Item 3 - Disciplinary Information**

None.

## **Item 4 – Other Business Activities**

None.

## **Item 5 – Additional Compensation**

None.

## **Item 6 – Supervision**

NEPC's consultants are members of practice groups and consulting teams, who jointly formulate and monitor the advice provided to clients. The teams are supervised by NEPC's Managing Partner, Michael P. Manning. Mr. Manning can be contacted at 617.374.1300 or [MManning@NEPC.com](mailto:MManning@NEPC.com).

## **Item 7 – Requirements for State-Registered Advisers**

This item is not applicable as NEPC is not registered with individual states.

This brochure supplement provides information about:

**J. David Barnes, CFA**  
Senior Consultant

NEPC, LLC  
255 State Street  
Boston, MA 02109  
617-374-1300  
[www.NEPC.com](http://www.NEPC.com)

Date of this Supplement: 10/3/2011

**Item 1 – Cover Page**

This brochure supplement provides information about J. David Barnes that supplements the NEPC, LLC (“NEPC”) brochure. You should have received a copy of that brochure. Please contact our Chief Compliance Officer, William Y. Bogle, at 617-374-1300 or [WBogle@NEPC.com](mailto:WBogle@NEPC.com) if you did not receive NEPC’s brochure or if you have any questions about the contents of this supplement.

## **Item 2 – Educational Background and Business Experience**

Year of Birth: 1976

Education: BBA, Georgia Southern University

Business background for the preceding five years: Mr. Barnes joined NEPC in 2011. He is a consultant involved with all types of client projects including asset allocation, policy formation and review, and investment manager selection. Prior to joining NEPC, David was an investment consultant with Hewitt EnnisKnupp where he advised clients on solutions for all types of investment programs and led the firm's U.S.-based global, non-U.S., and emerging markets equity research team. Before that he was an investment consultant with Towers Watson Investment Consulting and Hewitt Investment Group.

## **Item 3 - Disciplinary Information**

None.

## **Item 4 – Other Business Activities**

None.

## **Item 5 – Additional Compensation**

None.

## **Item 6 – Supervision**

NEPC's consultants are members of practice groups and consulting teams, who jointly formulate and monitor the advice provided to clients. The teams are supervised by NEPC's Managing Partner, Michael P. Manning. Mr. Manning can be contacted at 617.374.1300 or [MManning@NEPC.com](mailto:MManning@NEPC.com).

## **Item 7 – Requirements for State-Registered Advisers**

This item is not applicable as NEPC is not registered with individual states.

This brochure supplement provides information about:

**Margaret Belmondo, CIMA®**  
Senior Consultant

NEPC, LLC  
255 State Street  
Boston, MA 02109  
617-374-1300  
[www.NEPC.com](http://www.NEPC.com)

Date of this Supplement: 10/13/2017

**Item 1 – Cover Page**

This brochure supplement provides information about Margaret Belmondo that supplements the NEPC, LLC (“NEPC”) brochure. You should have received a copy of that brochure. Please contact our Chief Compliance Officer, William Y. Bogle, at 617-374-1300 or [WBogle@NEPC.com](mailto:WBogle@NEPC.com) if you did not receive NEPC’s brochure or if you have any questions about the contents of this supplement.

## **Item 2 – Educational Background and Business Experience**

Year of Birth: 1979

Education: BA, Villanova University

Business background for the preceding five years: Ms. Belmondo joined NEPC in 2016. She is a consultant involved with all types of client projects including asset allocation, policy formation and review, and investment manager selection. Prior to joining NEPC, Margaret was a Director with The PFM Group. She also spent over ten years at SEI Investments.

## **Item 3 - Disciplinary Information**

None.

## **Item 4 – Other Business Activities**

None.

## **Item 5 – Additional Compensation**

None.

## **Item 6 – Supervision**

NEPC's consultants are members of practice groups and consulting teams, who jointly formulate and monitor the advice provided to clients. The teams are supervised by NEPC's Managing Partner, Michael P. Manning. Mr. Manning can be contacted at 617.374.1300 or [MManning@NEPC.com](mailto:MManning@NEPC.com).

## **Item 7 – Requirements for State-Registered Advisers**

This item is not applicable as NEPC is not registered with individual states.

This brochure supplement provides information about:

**Ross A. Bremen, CFA**  
Partner

NEPC, LLC  
255 State Street  
Boston, MA 02109  
617-374-1300  
[www.NEPC.com](http://www.NEPC.com)

Date of this Supplement: 3/31/2015

**Item 1 – Cover Page**

This brochure supplement provides information about Ross A. Bremen that supplements the NEPC, LLC (“NEPC”) brochure. You should have received a copy of that brochure. Please contact our Chief Compliance Officer, William Y. Bogle, at 617-374-1300 or [WBogle@NEPC.com](mailto:WBogle@NEPC.com) if you did not receive NEPC’s brochure or if you have any questions about the contents of this supplement.

## **Item 2 – Educational Background and Business Experience**

Year of Birth: 1970

Education: BA, Northwestern University  
MBA, Northwestern University

Business background for the preceding five years: Mr. Bremen joined NEPC in 2005. He is a senior member of NEPC's research team. He is also a consultant specializing in defined contribution plans, involved with client projects ranging from plan design, governance, and investment manager selection to asset allocation studies and policy formation. Prior to joining NEPC he was a Senior Investment Consultant at Hewitt Associates.

## **Item 3 - Disciplinary Information**

None.

## **Item 4 – Other Business Activities**

None.

## **Item 5 – Additional Compensation**

None.

## **Item 6 – Supervision**

NEPC's consultants are members of practice groups and consulting teams, who jointly formulate and monitor the advice provided to clients. The teams are supervised by NEPC's Managing Partner, Michael P. Manning. Mr. Manning can be contacted at 617.374.1300 or [MManning@NEPC.com](mailto:MManning@NEPC.com).

## **Item 7 – Requirements for State-Registered Advisers**

This item is not applicable as NEPC is not registered with individual states.



This brochure supplement provides information about:

**Timothy R. Bruce**

Partner

NEPC, LLC  
255 State Street  
Boston, MA 02109  
617-374-1300  
[www.NEPC.com](http://www.NEPC.com)

Date of this Supplement: 3/31/2018

**Item 1 – Cover Page**

This brochure supplement provides information about Timothy R. Bruce that supplements the NEPC, LLC (“NEPC”) brochure. You should have received a copy of that brochure. Please contact our Chief Compliance Officer, William Y. Bogle, at 617-374-1300 or [WBogle@NEPC.com](mailto:WBogle@NEPC.com) if you did not receive NEPC’s brochure or if you have any questions about the contents of this supplement.

**Item 2 – Educational Background and Business Experience**

Year of Birth: 1975

Education: BA, Brown University

Business background for the preceding five years: Tim joined NEPC in 2008. He is a senior consultant involved in research and due diligence activities, in addition to providing consulting advice to a variety of clients. Prior to joining NEPC Tim was an Investment Analyst for Partners Healthcare.

**Item 3 - Disciplinary Information**

None.

**Item 4 – Other Business Activities**

None.

**Item 5 – Additional Compensation**

None.

**Item 6 – Supervision**

NEPC's consultants are members of practice groups and consulting teams, who jointly formulate and monitor the advice provided to clients. The teams are supervised by NEPC's Managing Partner, Michael P. Manning. Mr. Manning can be contacted at 617.374.1300 or [MManning@NEPC.com](mailto:MManning@NEPC.com).

**Item 7 – Requirements for State-Registered Advisers**

This item is not applicable as NEPC is not registered with individual states.

This brochure supplement provides information about:

**Michael D. Cairns, CEBS**  
Partner

NEPC, LLC  
255 State Street  
Boston, MA 02109  
617-374-1300  
[www.NEPC.com](http://www.NEPC.com)

Date of this Supplement: 7/31/2011

**Item 1 – Cover Page**

This brochure supplement provides information about Michael D. Cairns that supplements the NEPC, LLC (“NEPC”) brochure. You should have received a copy of that brochure. Please contact our Chief Compliance Officer, William Y. Bogle, at 617-374-1300 or [WBogle@NEPC.com](mailto:WBogle@NEPC.com) if you did not receive NEPC’s brochure or if you have any questions about the contents of this supplement.

## **Item 2 – Educational Background and Business Experience**

Year of Birth: 1966

Education: BS, Illinois College

Business background for the preceding five years: Mike joined NEPC in 2007. He is a consultant involved with all types of client projects including asset allocation, policy formation and review, and investment manager selection. Prior to joining NEPC, Mike was an Investment Consultant at The Marco Consulting Group, where he was the lead investment consultant on over twenty client relationships.

## **Item 3 - Disciplinary Information**

None.

## **Item 4 – Other Business Activities**

None.

## **Item 5 – Additional Compensation**

None.

## **Item 6 – Supervision**

NEPC's consultants are members of practice groups and consulting teams, who jointly formulate and monitor the advice provided to clients. The teams are supervised by NEPC's Managing Partner, Michael P. Manning. Mr. Manning can be contacted at 617.374.1300 or [MManning@NEPC.com](mailto:MManning@NEPC.com).

## **Item 7 – Requirements for State-Registered Advisers**

This item is not applicable as NEPC is not registered with individual states.

This brochure supplement provides information about:

**Richard M. Charlton**  
Chairman Emeritus

NEPC, LLC  
255 State Street  
Boston, MA 02109  
617-374-1300  
[www.NEPC.com](http://www.NEPC.com)

Date of this Supplement: 3/30/2016

**Item 1 – Cover Page**

This brochure supplement provides information about Richard M. Charlton that supplements the NEPC, LLC (“NEPC”) brochure. You should have received a copy of that brochure. Please contact our Chief Compliance Officer, William Y. Bogle, at 617-374-1300 or [WBogle@NEPC.com](mailto:WBogle@NEPC.com) if you did not receive NEPC’s brochure or if you have any questions about the contents of this supplement.

## **Item 2 – Educational Background and Business Experience**

Year of Birth: 1942

Education: BS, University of Detroit  
MBA, Wayne State University

Business background for the preceding five years: Mr. Charlton founded NEPC in 1986. Through March 31, 2011 he was NEPC's Chief Executive Officer, and through December 31, 2015 he served as Chairman of the Board. As of January 1, 2016, Mr. Charlton is NEPC's Chairman Emeritus.

## **Item 3 - Disciplinary Information**

None.

## **Item 4 – Other Business Activities**

None.

## **Item 5 – Additional Compensation**

None.

## **Item 6 – Supervision**

NEPC's consultants are members of practice groups and consulting teams, who jointly formulate and monitor the advice provided to clients. The teams are supervised by NEPC's Managing Partner, Michael P. Manning. Mr. Manning can be contacted at 617.374.1300 or [MManning@NEPC.com](mailto:MManning@NEPC.com).

## **Item 7 – Requirements for State-Registered Advisers**

This item is not applicable as NEPC is not registered with individual states.

This brochure supplement provides information about:

**Steven F. Charlton, CFA**

Partner / Director of Consulting Services

NEPC, LLC  
255 State Street  
Boston, MA 02109  
617-374-1300  
[www.NEPC.com](http://www.NEPC.com)

Date of this Supplement: 7/31/2011

**Item 1 – Cover Page**

This brochure supplement provides information about Steven F. Charlton that supplements the NEPC, LLC (“NEPC”) brochure. You should have received a copy of that brochure. Please contact our Chief Compliance Officer, William Y. Bogle, at 617-374-1300 or [WBogle@NEPC.com](mailto:WBogle@NEPC.com) if you did not receive NEPC’s brochure or if you have any questions about the contents of this supplement.

## **Item 2 – Educational Background and Business Experience**

Year of Birth: 1968

Education: BA, St. Lawrence University

Business background for the preceding five years: Mr. Charlton joined NEPC in 1996. He oversees NEPC's consulting services group. Steve also works directly with several clients as a consultant involved with all types of projects including asset allocation, policy formation and review, and investment manager selection.

## **Item 3 - Disciplinary Information**

None.

## **Item 4 – Other Business Activities**

None.

## **Item 5 – Additional Compensation**

None.

## **Item 6 – Supervision**

NEPC's consultants are members of practice groups and consulting teams, who jointly formulate and monitor the advice provided to clients. The teams are supervised by NEPC's Managing Partner, Michael P. Manning. Mr. Manning can be contacted at 617.374.1300 or [MManning@NEPC.com](mailto:MManning@NEPC.com).

## **Item 7 – Requirements for State-Registered Advisers**

This item is not applicable as NEPC is not registered with individual states.



This brochure supplement provides information about:

**Richard K. Ciccione**  
Senior Consultant

NEPC, LLC  
255 State Street  
Boston, MA 02109  
617-374-1300  
[www.NEPC.com](http://www.NEPC.com)

Date of this Supplement: 8/7/2017

**Item 1 – Cover Page**

This brochure supplement provides information about Richard K. Ciccione that supplements the NEPC, LLC (“NEPC”) brochure. You should have received a copy of that brochure. Please contact our Chief Compliance Officer, William Y. Bogle, at 617-374-1300 or [WBogle@NEPC.com](mailto:WBogle@NEPC.com) if you did not receive NEPC’s brochure or if you have any questions about the contents of this supplement.

## **Item 2 – Educational Background and Business Experience**

Year of Birth: 1977

Education: BA, Bucknell University  
MBA, Kellogg School of Management, Northwestern University

Business background for the preceding five years: Mr. Ciccione joined NEPC in 2017. He is a consultant involved with all types of client projects including asset allocation, policy formation and review, and investment manager selection. Prior to joining NEPC, Rick was an Investment Consultant at LCG Associates, Inc. He also worked at Arbor Research & Trading, Lehman Brothers and Alliance Bernstein.

## **Item 3 - Disciplinary Information**

None.

## **Item 4 – Other Business Activities**

None.

## **Item 5 – Additional Compensation**

None.

## **Item 6 – Supervision**

NEPC's consultants are members of practice groups and consulting teams, who jointly formulate and monitor the advice provided to clients. The teams are supervised by NEPC's Managing Partner, Michael P. Manning. Mr. Manning can be contacted at 617.374.1300 or [MManning@NEPC.com](mailto:MManning@NEPC.com).

## **Item 7 – Requirements for State-Registered Advisers**

This item is not applicable as NEPC is not registered with individual states.

This brochure supplement provides information about:

**Kristen E. Colvin, CAIA**  
Partner

NEPC, LLC  
255 State Street  
Boston, MA 02109  
617-374-1300  
[www.NEPC.com](http://www.NEPC.com)

Date of this Supplement: 1/1/2019

**Item 1 – Cover Page**

This brochure supplement provides information about Kristen E. Colvin that supplements the NEPC, LLC (“NEPC”) brochure. You should have received a copy of that brochure. Please contact our Chief Compliance Officer, William Y. Bogle, at 617-374-1300 or [WBogle@NEPC.com](mailto:WBogle@NEPC.com) if you did not receive NEPC’s brochure or if you have any questions about the contents of this supplement.

## **Item 2 – Educational Background and Business Experience**

Year of Birth: 1983

Education: BA, College of the Holy Cross  
MS, Boston University

Business background for the preceding five years: Ms. Colvin re-joined NEPC in 2018 from MFS Investment Management where she was a director within the Investment Solutions Group. At NEPC she works with defined contribution and defined benefit plans in various aspects of plan analysis, including asset allocation studies, investment manager selection, performance measurement and other projects. Kristen originally joined NEPC in 2005 as an Analyst on the DC team, leaving in 2011 as a Consultant.

## **Item 3 - Disciplinary Information**

None.

## **Item 4 – Other Business Activities**

None.

## **Item 5 – Additional Compensation**

None.

## **Item 6 – Supervision**

NEPC's consultants are members of practice groups and consulting teams, who jointly formulate and monitor the advice provided to clients. The teams are supervised by NEPC's Managing Partner, Michael P. Manning. Mr. Manning can be contacted at 617.374.1300 or [MManning@NEPC.com](mailto:MManning@NEPC.com).

## **Item 7 – Requirements for State-Registered Advisers**

This item is not applicable as NEPC is not registered with individual states.

This brochure supplement provides information about:

**KC Connors, CFA, CAIA**  
Partner

NEPC, LLC  
255 State Street  
Boston, MA 02109  
617-374-1300  
[www.NEPC.com](http://www.NEPC.com)

Date of this Supplement: 7/31/2011

**Item 1 – Cover Page**

This brochure supplement provides information about KC Connors that supplements the NEPC, LLC (“NEPC”) brochure. You should have received a copy of that brochure. Please contact our Chief Compliance Officer, William Y. Bogle, at 617-374-1300 or [WBogle@NEPC.com](mailto:WBogle@NEPC.com) if you did not receive NEPC’s brochure or if you have any questions about the contents of this supplement.

## **Item 2 – Educational Background and Business Experience**

Year of Birth: 1967

Education: BS, Indiana University  
MBA, University of Chicago

Business background for the preceding five years: Ms. Connors joined NEPC in 2010. She is a senior member of NEPC's Consulting Services Team and oversees the Endowment/Foundation and Healthcare practice groups. She also works directly with several clients as a consultant involved with asset allocation, policy formation and review, and investment manager selection. KC's background includes expertise in plan consolidations and mergers, risk budgeting, liability-driven investing and alternative investments. Prior to joining NEPC, KC was a Principal at Jeffrey Slocum & Associates and worked with pension plans, endowments/foundations, health care systems, family offices and offshore captives. She was a member of Slocum's senior management team overseeing planning, hedge funds, legal, risk management and human resources.

## **Item 3 - Disciplinary Information**

None.

## **Item 4 – Other Business Activities**

None.

## **Item 5 – Additional Compensation**

None.

## **Item 6 – Supervision**

NEPC's consultants are members of practice groups and consulting teams, who jointly formulate and monitor the advice provided to clients. The teams are supervised by NEPC's Managing Partner, Michael P. Manning. Mr. Manning can be contacted at 617.374.1300 or [MManning@NEPC.com](mailto:MManning@NEPC.com).

## **Item 7 – Requirements for State-Registered Advisers**

This item is not applicable as NEPC is not registered with individual states.

This brochure supplement provides information about:

**Andrew Coupe**  
Senior Consultant

NEPC, LLC  
255 State Street  
Boston, MA 02109  
617-374-1300  
[www.NEPC.com](http://www.NEPC.com)

Date of this Supplement: 10/13/2017

**Item 1 – Cover Page**

This brochure supplement provides information about Andrew Coupe that supplements the NEPC, LLC (“NEPC”) brochure. You should have received a copy of that brochure. Please contact our Chief Compliance Officer, William Y. Bogle, at 617-374-1300 or [WBogle@NEPC.com](mailto:WBogle@NEPC.com) if you did not receive NEPC’s brochure or if you have any questions about the contents of this supplement.

## **Item 2 – Educational Background and Business Experience**

Year of Birth: 1980

Education: BS, University of Leeds  
Certificate in Education, St. Martin's College  
MBA, St. Aquinas College

Business background for the preceding five years: Mr. Coupe joined NEPC in 2017. He is a consultant involved with all types of client projects including asset allocation, policy formation and review, and investment manager selection. Prior to joining NEPC, Andrew was a Senior Consultant for the Insurance Investment Advisory Group at Towers Watson. He also spent several years at Wells Canning and worked at The Institute for International Research.

## **Item 3 - Disciplinary Information**

None.

## **Item 4 – Other Business Activities**

None.

## **Item 5 – Additional Compensation**

None.

## **Item 6 – Supervision**

NEPC's consultants are members of practice groups and consulting teams, who jointly formulate and monitor the advice provided to clients. The teams are supervised by NEPC's Managing Partner, Michael P. Manning. Mr. Manning can be contacted at 617.374.1300 or [MManning@NEPC.com](mailto:MManning@NEPC.com).

## **Item 7 – Requirements for State-Registered Advisers**

This item is not applicable as NEPC is not registered with individual states.



This brochure supplement provides information about:

**Wyatt L. Crumpler**  
Senior Consultant

NEPC, LLC  
255 State Street  
Boston, MA 02109  
617-374-1300  
[www.NEPC.com](http://www.NEPC.com)

Date of this Supplement: 3/30/2016

**Item 1 – Cover Page**

This brochure supplement provides information about Wyatt L. Crumpler that supplements the NEPC, LLC (“NEPC”) brochure. You should have received a copy of that brochure. Please contact our Chief Compliance Officer, William Y. Bogle, at 617-374-1300 or [WBogle@NEPC.com](mailto:WBogle@NEPC.com) if you did not receive NEPC’s brochure or if you have any questions about the contents of this supplement.

## **Item 2 – Educational Background and Business Experience**

Year of Birth: 1966

Education: BS, University of Tennessee, Knoxville  
MBA, Duke University Fuqua School of Business.

Business background for the preceding five years: Mr. Crumpler joined NEPC in 2015. He is a consultant involved with all types of client projects including asset allocation, policy formation and review, and investment manager selection. Prior to NEPC, Wyatt held the position of Senior Vice President and Chief Investment Officer at American Beacon Advisors, Inc. where he served in the capacity of an outsourced CIO and managed the defined contribution investment options. Prior to American Beacon, Wyatt spent 13 years with American Airlines in increasing roles of responsibilities, ultimately serving as a Managing Director in the Finance and Accounting area.

## **Item 3 - Disciplinary Information**

None.

## **Item 4 – Other Business Activities**

None.

## **Item 5 – Additional Compensation**

None.

## **Item 6 – Supervision**

NEPC's consultants are members of practice groups and consulting teams, who jointly formulate and monitor the advice provided to clients. The teams are supervised by NEPC's Managing Partner, Michael P. Manning. Mr. Manning can be contacted at 617.374.1300 or [MManning@NEPC.com](mailto:MManning@NEPC.com).

## **Item 7 – Requirements for State-Registered Advisers**

This item is not applicable as NEPC is not registered with individual states.

This brochure supplement provides information about:

**Lynda K. Dennen, ASA**  
Senior Research Consultant

NEPC, LLC  
255 State Street  
Boston, MA 02109  
617-374-1300  
[www.NEPC.com](http://www.NEPC.com)

Date of this Supplement: 1/31/2012

**Item 1 – Cover Page**

This brochure supplement provides information about Lynda K. Dennen that supplements the NEPC, LLC (“NEPC”) brochure. You should have received a copy of that brochure. Please contact our Chief Compliance Officer, William Y. Bogle, at 617-374-1300 or [WBogle@NEPC.com](mailto:WBogle@NEPC.com) if you did not receive NEPC’s brochure or if you have any questions about the contents of this supplement.

## **Item 2 – Educational Background and Business Experience**

Year of Birth: 1968

Education: BA, Colgate University

Business background for the preceding five years: Ms. Dennen joined NEPC in 2006. She is a senior research consultant on the Asset Allocation team. Lynda is responsible for Liability-Driven Investing manager research, and works with consultants on asset-liability studies and risk budgeting projects for clients. Ms. Dennen previously covered fixed income managers and was a member of the Due Diligence committee. Prior to becoming a consultant, Lynda worked as an analyst for NEPC, assisting consultants with asset allocation, asset liability studies, and investment manager selection. Prior to joining NEPC, Ms. Dennen was employed by Mercer Human Resource Consulting, Inc. as a Consulting Actuary.

## **Item 3 - Disciplinary Information**

None.

## **Item 4 – Other Business Activities**

None.

## **Item 5 – Additional Compensation**

None.

## **Item 6 – Supervision**

NEPC's consultants are members of practice groups and consulting teams, who jointly formulate and monitor the advice provided to clients. The teams are supervised by NEPC's Managing Partner, Michael P. Manning. Mr. Manning can be contacted at 617.374.1300 or [MManning@NEPC.com](mailto:MManning@NEPC.com).

## **Item 7 – Requirements for State-Registered Advisers**

This item is not applicable as NEPC is not registered with individual states.

This brochure supplement provides information about:

**Brian S. Donoghue**  
Partner

NEPC, LLC  
255 State Street  
Boston, MA 02109  
617-374-1300  
[www.NEPC.com](http://www.NEPC.com)

Date of this Supplement: 1/1/2013

**Item 1 – Cover Page**

This brochure supplement provides information about Brian S. Donoghue that supplements the NEPC, LLC (“NEPC”) brochure. You should have received a copy of that brochure. Please contact our Chief Compliance Officer, William Y. Bogle, at 617-374-1300 or [WBogle@NEPC.com](mailto:WBogle@NEPC.com) if you did not receive NEPC’s brochure or if you have any questions about the contents of this supplement.

## **Item 2 – Educational Background and Business Experience**

Year of Birth: 1975

Education: BA, University of Massachusetts, Amherst  
MBA, Clark University

Business background for the preceding five years: Mr. Donoghue joined NEPC in 2006. He is a consultant specializing in Defined Contribution plans and is involved with client projects ranging from plan design, governance, and investment manager selection to asset allocation studies and policy formation. Prior to joining NEPC, Brian was a Client Service Manager at Fidelity Investments where he served as a key contact and record-keeping plan expert on multiple DC plans. He also consulted on plan design with all levels of plan sponsors.

## **Item 3 - Disciplinary Information**

None.

## **Item 4 – Other Business Activities**

None.

## **Item 5 – Additional Compensation**

None.

## **Item 6 – Supervision**

NEPC's consultants are members of practice groups and consulting teams, who jointly formulate and monitor the advice provided to clients. The teams are supervised by NEPC's Managing Partner, Michael P. Manning. Mr. Manning can be contacted at 617.374.1300 or [MManning@NEPC.com](mailto:MManning@NEPC.com).

## **Item 7 – Requirements for State-Registered Advisers**

This item is not applicable as NEPC is not registered with individual states.

This brochure supplement provides information about:

**Scott Driscoll**  
Consultant

NEPC, LLC  
255 State Street  
Boston, MA 02109  
617-374-1300  
[www.NEPC.com](http://www.NEPC.com)

Date of this Supplement: 7/31/2011

**Item 1 – Cover Page**

This brochure supplement provides information about Scott Driscoll that supplements the NEPC, LLC (“NEPC”) brochure. You should have received a copy of that brochure. Please contact our Chief Compliance Officer, William Y. Bogle, at 617-374-1300 or [WBogle@NEPC.com](mailto:WBogle@NEPC.com) if you did not receive NEPC’s brochure or if you have any questions about the contents of this supplement.

## **Item 2 – Educational Background and Business Experience**

Year of Birth: 1978

Education: BS, Bentley College

Business background for the preceding five years: Mr. Driscoll joined NEPC in 2003. He is a consultant involved with all types of client projects including asset allocation, policy formation and review, and investment manager selection. Prior to becoming a consultant, Scott worked as an analyst for NEPC, assisting consultants with client reporting, performance measurement, and technical projects.

## **Item 3 - Disciplinary Information**

None.

## **Item 4 – Other Business Activities**

None.

## **Item 5 – Additional Compensation**

None.

## **Item 6 – Supervision**

NEPC's consultants are members of practice groups and consulting teams, who jointly formulate and monitor the advice provided to clients. The teams are supervised by NEPC's Managing Partner, Michael P. Manning. Mr. Manning can be contacted at 617.374.1300 or [MManning@NEPC.com](mailto:MManning@NEPC.com).

## **Item 7 – Requirements for State-Registered Advisers**

This item is not applicable as NEPC is not registered with individual states.



This brochure supplement provides information about:

**John M. Elliot**  
Partner

NEPC, LLC  
255 State Street  
Boston, MA 02109  
617-374-1300  
[www.NEPC.com](http://www.NEPC.com)

Date of this Supplement: 7/31/2011

**Item 1 – Cover Page**

This brochure supplement provides information about John M. Elliot that supplements the NEPC, LLC (“NEPC”) brochure. You should have received a copy of that brochure. Please contact our Chief Compliance Officer, William Y. Bogle, at 617-374-1300 or [WBogle@NEPC.com](mailto:WBogle@NEPC.com) if you did not receive NEPC’s brochure or if you have any questions about the contents of this supplement.

## **Item 2 – Educational Background and Business Experience**

Year of Birth: 1969

Education: AB, University of California, Berkeley

Business background for the preceding five years: Mr. Elliot joined NEPC in 2003. He oversees the Taft-Hartley practice group and also works directly with several clients as a consultant involved with all types of projects including asset allocation, policy formation and review, and investment manager selection.

## **Item 3 - Disciplinary Information**

None.

## **Item 4 – Other Business Activities**

None.

## **Item 5 – Additional Compensation**

None.

## **Item 6 – Supervision**

NEPC's consultants are members of practice groups and consulting teams, who jointly formulate and monitor the advice provided to clients. The teams are supervised by NEPC's Managing Partner, Michael P. Manning. Mr. Manning can be contacted at 617.374.1300 or [MManning@NEPC.com](mailto:MManning@NEPC.com).

## **Item 7 – Requirements for State-Registered Advisers**

This item is not applicable as NEPC is not registered with individual states.

This brochure supplement provides information about:

**Kristin R. Finney-Cooke**  
Senior Consultant

NEPC, LLC  
255 State Street  
Boston, MA 02109  
617-374-1300  
[www.NEPC.com](http://www.NEPC.com)

Date of this Supplement: 7/31/2011

**Item 1 – Cover Page**

This brochure supplement provides information about Kristin R. Finney-Cooke that supplements the NEPC, LLC ("NEPC") brochure. You should have received a copy of that brochure. Please contact our Chief Compliance Officer, William Y. Bogle, at 617-374-1300 or [WBogle@NEPC.com](mailto:WBogle@NEPC.com) if you did not receive NEPC's brochure or if you have any questions about the contents of this supplement.

## **Item 2 – Educational Background and Business Experience**

Year of Birth: 1970

Education: BS, Howard University  
MBA, University of Chicago

Business background for the preceding five years: Ms. Finney-Cooke joined NEPC in 2010. She is a consultant involved with all types of client projects including asset allocation, policy formation and review, and investment manager selection. Prior to joining NEPC, Kristin was a Principal at Mercer Investment Consulting with broad responsibility in all facets of client management, providing public and corporate clients with advice on asset allocation, investment policy development, manager selection, performance measurement and risk management.

## **Item 3 - Disciplinary Information**

None.

## **Item 4 – Other Business Activities**

None.

## **Item 5 – Additional Compensation**

None.

## **Item 6 – Supervision**

NEPC's consultants are members of practice groups and consulting teams, who jointly formulate and monitor the advice provided to clients. The teams are supervised by NEPC's Managing Partner, Michael P. Manning. Mr. Manning can be contacted at 617.374.1300 or [MManning@NEPC.com](mailto:MManning@NEPC.com).

## **Item 7 – Requirements for State-Registered Advisers**

This item is not applicable as NEPC is not registered with individual states.

This brochure supplement provides information about:

**Robert J. Fishman, CFA**

Partner

NEPC, LLC  
255 State Street  
Boston, MA 02109  
617-374-1300  
[www.NEPC.com](http://www.NEPC.com)

Date of this Supplement: 7/31/2011

**Item 1 – Cover Page**

This brochure supplement provides information about Robert J. Fishman that supplements the NEPC, LLC (“NEPC”) brochure. You should have received a copy of that brochure. Please contact our Chief Compliance Officer, William Y. Bogle, at 617-374-1300 or [WBogle@NEPC.com](mailto:WBogle@NEPC.com) if you did not receive NEPC’s brochure or if you have any questions about the contents of this supplement.

## **Item 2 – Educational Background and Business Experience**

Year of Birth: 1972

Education: BS, Ithaca College  
MBA, Bentley College

Business background for the preceding five years: Mr. Fishman joined NEPC in 1999. He is a consultant involved with all types of client projects including asset allocation, policy formation and review, and investment manager selection. Prior to becoming a consultant, Rob worked as an analyst for NEPC.

## **Item 3 - Disciplinary Information**

None.

## **Item 4 – Other Business Activities**

None.

## **Item 5 – Additional Compensation**

None.

## **Item 6 – Supervision**

NEPC's consultants are members of practice groups and consulting teams, who jointly formulate and monitor the advice provided to clients. The teams are supervised by NEPC's Managing Partner, Michael P. Manning. Mr. Manning can be contacted at 617.374.1300 or [MManning@NEPC.com](mailto:MManning@NEPC.com).

## **Item 7 – Requirements for State-Registered Advisers**

This item is not applicable as NEPC is not registered with individual states.

This brochure supplement provides information about:

**Timothy P. Fitzgerald**  
Senior Consultant

NEPC, LLC  
255 State Street  
Boston, MA 02109  
617-374-1300  
[www.NEPC.com](http://www.NEPC.com)

Date of this Supplement: 3/31/2017

**Item 1 – Cover Page**

This brochure supplement provides information about Timothy P. Fitzgerald that supplements the NEPC, LLC ("NEPC") brochure. You should have received a copy of that brochure. Please contact our Chief Compliance Officer, William Y. Bogle, at 617-374-1300 or [WBogle@NEPC.com](mailto:WBogle@NEPC.com) if you did not receive NEPC's brochure or if you have any questions about the contents of this supplement.

## **Item 2 – Educational Background and Business Experience**

Year of Birth: 1972

Education: BA, University of Massachusetts at Amherst

Business background for the preceding five years: Tim joined NEPC in 2008. He works with defined contribution and defined benefit plans in all aspects of plan analysis, including asset allocation studies, investment manager selection, performance measurement and other projects. Prior to joining NEPC, Tim was employed by TF Title and Recording as a Principal. He also worked at State Street Bank and Trust Company as a Senior Custody/Accounting Specialist.

## **Item 3 - Disciplinary Information**

None.

## **Item 4 – Other Business Activities**

None.

## **Item 5 – Additional Compensation**

None.

## **Item 6 – Supervision**

NEPC's consultants are members of practice groups and consulting teams, who jointly formulate and monitor the advice provided to clients. The teams are supervised by NEPC's Managing Partner, Michael P. Manning. Mr. Manning can be contacted at 617.374.1300 or [MManning@NEPC.com](mailto:MManning@NEPC.com).

## **Item 7 – Requirements for State-Registered Advisers**

This item is not applicable as NEPC is not registered with individual states.



This brochure supplement provides information about:

**Stacey K. Flier, CFA**  
Senior Consultant

NEPC, LLC  
255 State Street  
Boston, MA 02109  
617-374-1300  
[www.NEPC.com](http://www.NEPC.com)

Date of this Supplement: 3/31/2017

**Item 1 – Cover Page**

This brochure supplement provides information about Stacey Flier that supplements the NEPC, LLC (“NEPC”) brochure. You should have received a copy of that brochure. Please contact our Chief Compliance Officer, William Y. Bogle, at 617-374-1300 or [WBogle@NEPC.com](mailto:WBogle@NEPC.com) if you did not receive NEPC’s brochure or if you have any questions about the contents of this supplement.

## **Item 2 – Educational Background and Business Experience**

Year of Birth: 1970

Education: BA, University of Puget Sound  
MBA, Portland State University

Business background for the preceding five years: Ms. Flier joined NEPC in 2017. She is a consultant involved with all types of client projects including asset allocation, policy formation and review, and investment manager selection. Prior to joining NEPC she was with CTC | MyCFO and its predecessor, CTC Consulting, where she worked with private clients.

## **Item 3 - Disciplinary Information**

None.

## **Item 4 – Other Business Activities**

None.

## **Item 5 – Additional Compensation**

None.

## **Item 6 – Supervision**

NEPC's consultants are members of practice groups and consulting teams, who jointly formulate and monitor the advice provided to clients. The teams are supervised by NEPC's Managing Partner, Michael P. Manning. Mr. Manning can be contacted at 617.374.1300 or [MManning@NEPC.com](mailto:MManning@NEPC.com).

## **Item 7 – Requirements for State-Registered Advisers**

This item is not applicable as NEPC is not registered with individual states.

This brochure supplement provides information about:

**Sean W. B. Gill, CFA, CAIA**

Partner

NEPC, LLC  
255 State Street  
Boston, MA 02109  
617-374-1300  
[www.NEPC.com](http://www.NEPC.com)

Date of this Supplement: 3/31/2015

**Item 1 – Cover Page**

This brochure supplement provides information about Sean W. B. Gill that supplements the NEPC, LLC (“NEPC”) brochure. You should have received a copy of that brochure. Please contact our Chief Compliance Officer, William Y. Bogle, at 617-374-1300 or [WBogle@NEPC.com](mailto:WBogle@NEPC.com) if you did not receive NEPC’s brochure or if you have any questions about the contents of this supplement.

## **Item 2 – Educational Background and Business Experience**

Year of Birth: 1971

Education: BSFS, Georgetown University  
MBA, University of Notre Dame  
JD, Loyola University

Business background for the preceding five years: Mr. Gill joined NEPC in 2000. He is a senior member of NEPC's research team. He also works directly with clients on designing alternative asset investment policy guidelines, portfolio structuring, plan implementation, manager selection, and performance measurement and monitoring.

## **Item 3 - Disciplinary Information**

None.

## **Item 4 – Other Business Activities**

None.

## **Item 5 – Additional Compensation**

None.

## **Item 6 – Supervision**

NEPC's consultants are members of practice groups and consulting teams, who jointly formulate and monitor the advice provided to clients. The teams are supervised by NEPC's Managing Partner, Michael P. Manning. Mr. Manning can be contacted at 617.374.1300 or [MManning@NEPC.com](mailto:MManning@NEPC.com).

## **Item 7 – Requirements for State-Registered Advisers**

This item is not applicable as NEPC is not registered with individual states.

This brochure supplement provides information about:

**Daniel S. Gimbel**  
Senior Consultant

NEPC, LLC  
255 State Street  
Boston, MA 02109  
617-374-1300  
[www.NEPC.com](http://www.NEPC.com)

Date of this Supplement: 6/20/2017

### **Item 1 – Cover Page**

This brochure supplement provides information about Daniel S. Gimbel that supplements the NEPC, LLC (“NEPC”) brochure. You should have received a copy of that brochure. Please contact our Chief Compliance Officer, William Y. Bogle, at 617-374-1300 or [WBogle@NEPC.com](mailto:WBogle@NEPC.com) if you did not receive NEPC’s brochure or if you have any questions about the contents of this supplement.

## **Item 2 – Educational Background and Business Experience**

Year of Birth: 1960

Education: BS, University of Southern California

Business background for the preceding five years: Mr. Gimbel joined NEPC in 2017. He is a consultant involved with various types of client projects including asset allocation, policy formation and review, portfolio construction and investment manager selection. Prior to joining NEPC he was with CTC | MyCFO and its predecessor, CTC Consulting, where he worked with private clients.

## **Item 3 - Disciplinary Information**

None.

## **Item 4 – Other Business Activities**

None.

## **Item 5 – Additional Compensation**

None.

## **Item 6 – Supervision**

NEPC's consultants are members of practice groups and consulting teams, who jointly formulate and monitor the advice provided to clients. The teams are supervised by NEPC's Managing Partner, Michael P. Manning. Mr. Manning can be contacted at 617.374.1300 or [MManning@NEPC.com](mailto:MManning@NEPC.com).

## **Item 7 – Requirements for State-Registered Advisers**

This item is not applicable as NEPC is not registered with individual states.

This brochure supplement provides information about:

**Sebastian Grzejka**  
Senior Consultant

NEPC, LLC  
255 State Street  
Boston, MA 02109  
617-374-1300  
[www.NEPC.com](http://www.NEPC.com)

Date of this Supplement: 3/30/2016

**Item 1 – Cover Page**

This brochure supplement provides information about Sebastian Grzejka that supplements the NEPC, LLC (“NEPC”) brochure. You should have received a copy of that brochure. Please contact our Chief Compliance Officer, William Y. Bogle, at 617-374-1300 or [WBogle@NEPC.com](mailto:WBogle@NEPC.com) if you did not receive NEPC’s brochure or if you have any questions about the contents of this supplement.

## **Item 2 – Educational Background and Business Experience**

Year of Birth: 1982

Education: BS, University of Massachusetts

Business background for the preceding five years: Mr. Grzejka joined NEPC in 2005. He is a consultant involved with all types of client projects including asset allocation, policy formation and review, and investment manager selection. Prior to becoming a consultant, Sebastian worked as an analyst for NEPC, assisting consultants with client reporting, performance measurement, and technical projects.

## **Item 3 - Disciplinary Information**

None.

## **Item 4 – Other Business Activities**

None.

## **Item 5 – Additional Compensation**

None.

## **Item 6 – Supervision**

NEPC's consultants are members of practice groups and consulting teams, who jointly formulate and monitor the advice provided to clients. The teams are supervised by NEPC's Managing Partner, Michael P. Manning. Mr. Manning can be contacted at 617.374.1300 or [MManning@NEPC.com](mailto:MManning@NEPC.com).

## **Item 7 – Requirements for State-Registered Advisers**

This item is not applicable as NEPC is not registered with individual states.



This brochure supplement provides information about:

**Kristi J. Hanson, CFA**  
Partner

NEPC, LLC  
255 State Street  
Boston, MA 02109  
617-374-1300  
[www.NEPC.com](http://www.NEPC.com)

Date of this Supplement: 3/31/2017

### **Item 1 – Cover Page**

This brochure supplement provides information about Kristi Hanson that supplements the NEPC, LLC (“NEPC”) brochure. You should have received a copy of that brochure. Please contact our Chief Compliance Officer, William Y. Bogle, at 617-374-1300 or [WBogle@NEPC.com](mailto:WBogle@NEPC.com) if you did not receive NEPC’s brochure or if you have any questions about the contents of this supplement.

## **Item 2 – Educational Background and Business Experience**

Year of Birth: 1964

Education: BS, University of Idaho

Business background for the preceding five years: Ms. Hanson joined NEPC in 2017 as a Partner and Director of Taxable Research. She is a consultant involved with all types of client projects including asset allocation, policy formation and review, and investment manager selection. Prior to joining NEPC she was with CTC | MyCFO and its predecessor, CTC Consulting, where she worked with private clients.

## **Item 3 - Disciplinary Information**

None.

## **Item 4 – Other Business Activities**

None.

## **Item 5 – Additional Compensation**

None.

## **Item 6 – Supervision**

NEPC's consultants are members of practice groups and consulting teams, who jointly formulate and monitor the advice provided to clients. The teams are supervised by NEPC's Managing Partner, Michael P. Manning. Mr. Manning can be contacted at 617.374.1300 or [MManning@NEPC.com](mailto:MManning@NEPC.com).

## **Item 7 – Requirements for State-Registered Advisers**

This item is not applicable as NEPC is not registered with individual states.

This brochure supplement provides information about:

**Karen M. Harding, CFA**  
Partner

NEPC, LLC  
255 State Street  
Boston, MA 02109  
617-374-1300  
[www.NEPC.com](http://www.NEPC.com)

Date of this Supplement: 3/31/2017

**Item 1 – Cover Page**

This brochure supplement provides information about Karen Harding that supplements the NEPC, LLC (“NEPC”) brochure. You should have received a copy of that brochure. Please contact our Chief Compliance Officer, William Y. Bogle, at 617-374-1300 or [WBogle@NEPC.com](mailto:WBogle@NEPC.com) if you did not receive NEPC’s brochure or if you have any questions about the contents of this supplement.

## **Item 2 – Educational Background and Business Experience**

Year of Birth: 1969

Education: BA, Oregon State University  
MBA, Portland State University

Business background for the preceding five years: Ms. Harding joined NEPC in 2017. She is a consultant involved with all types of client projects including asset allocation, policy formation and review, and investment manager selection. Prior to joining NEPC she was with CTC | MyCFO and its predecessor, CTC Consulting, where she worked with private clients.

## **Item 3 - Disciplinary Information**

None.

## **Item 4 – Other Business Activities**

None.

## **Item 5 – Additional Compensation**

None.

## **Item 6 – Supervision**

NEPC's consultants are members of practice groups and consulting teams, who jointly formulate and monitor the advice provided to clients. The teams are supervised by NEPC's Managing Partner, Michael P. Manning. Mr. Manning can be contacted at 617.374.1300 or [MManning@NEPC.com](mailto:MManning@NEPC.com).

## **Item 7 – Requirements for State-Registered Advisers**

This item is not applicable as NEPC is not registered with individual states.

This brochure supplement provides information about:

**Eric R. Harnish, CPA**  
Senior Research Consultant

NEPC, LLC  
255 State Street  
Boston, MA 02109  
617-374-1300  
[www.NEPC.com](http://www.NEPC.com)

Date of this Supplement: 7/31/2011

**Item 1 – Cover Page**

This brochure supplement provides information about Eric R. Harnish that supplements the NEPC, LLC (“NEPC”) brochure. You should have received a copy of that brochure. Please contact our Chief Compliance Officer, William Y. Bogle, at 617-374-1300 or [WBogle@NEPC.com](mailto:WBogle@NEPC.com) if you did not receive NEPC’s brochure or if you have any questions about the contents of this supplement.

## **Item 2 – Educational Background and Business Experience**

Year of Birth: 1969

Education: BA, Duke University  
MBA, Dartmouth College

Business background for the preceding five years: Mr. Harnish joined NEPC in 2009. He is a Consultant involved in NEPC's private markets research and due diligence. Prior to joining NEPC, Eric spent seven years in the Private Edge Group at State Street where he focused on performance reporting, consulting services, investment monitoring and due diligence.

## **Item 3 - Disciplinary Information**

None.

## **Item 4 – Other Business Activities**

None.

## **Item 5 – Additional Compensation**

None.

## **Item 6 – Supervision**

NEPC's consultants are members of practice groups and consulting teams, who jointly formulate and monitor the advice provided to clients. The teams are supervised by NEPC's Managing Partner, Michael P. Manning. Mr. Manning can be contacted at 617.374.1300 or [MManning@NEPC.com](mailto:MManning@NEPC.com).

## **Item 7 – Requirements for State-Registered Advisers**

This item is not applicable as NEPC is not registered with individual states.

This brochure supplement provides information about:

**Richard J. Harper, CFA, CAIA**  
Senior Consultant

NEPC, LLC  
255 State Street  
Boston, MA 02109  
617-374-1300  
[www.NEPC.com](http://www.NEPC.com)

Date of this Supplement: 7/31/2011

### **Item 1 – Cover Page**

This brochure supplement provides information about Richard J. Harper that supplements the NEPC, LLC (“NEPC”) brochure. You should have received a copy of that brochure. Please contact our Chief Compliance Officer, William Y. Bogle, at 617-374-1300 or [WBogle@NEPC.com](mailto:WBogle@NEPC.com) if you did not receive NEPC’s brochure or if you have any questions about the contents of this supplement.

## **Item 2 – Educational Background and Business Experience**

Year of Birth: 1969

Education: BSBA, American University  
MBA, Babson College

Business background for the preceding five years: Mr. Harper joined NEPC in 2001. He is a consultant involved with all types of client projects including asset allocation, policy formation and review, and investment manager selection. Prior to becoming a consultant, Rich worked as an analyst for NEPC, assisting consultants with client reporting, manager searches, and technical projects.

## **Item 3 - Disciplinary Information**

None.

## **Item 4 – Other Business Activities**

None.

## **Item 5 – Additional Compensation**

None.

## **Item 6 – Supervision**

NEPC's consultants are members of practice groups and consulting teams, who jointly formulate and monitor the advice provided to clients. The teams are supervised by NEPC's Managing Partner, Michael P. Manning. Mr. Manning can be contacted at 617.374.1300 or [MManning@NEPC.com](mailto:MManning@NEPC.com).

## **Item 7 – Requirements for State-Registered Advisers**

This item is not applicable as NEPC is not registered with individual states.



This brochure supplement provides information about:

**Daniel Hennessy, CFA, CAIA**  
Senior Consultant

NEPC, LLC  
255 State Street  
Boston, MA 02109  
617-374-1300  
[www.NEPC.com](http://www.NEPC.com)

Date of this Supplement: 3/31/2015

### **Item 1 – Cover Page**

This brochure supplement provides information about Daniel Hennessy that supplements the NEPC, LLC (“NEPC”) brochure. You should have received a copy of that brochure. Please contact our Chief Compliance Officer, William Y. Bogle, at 617-374-1300 or [WBogle@NEPC.com](mailto:WBogle@NEPC.com) if you did not receive NEPC’s brochure or if you have any questions about the contents of this supplement.

## **Item 2 – Educational Background and Business Experience**

Year of Birth: 1974

Education: BA, Pomona College  
MBA, The Wharton School, University of Pennsylvania

Business background for the preceding five years: Mr. Hennessy joined NEPC in 2014. He is a senior consultant involved with all types of client projects including asset allocation, policy formation and review, and investment manager selection. Prior to joining NEPC, Daniel was a Senior Consultant with Alan Biller and Associates where he serviced a variety of institutional clients. Prior to joining Allan Biller, Daniel was Founder and Principal of Accretive Research & Management LLC, and prior to that he was a Vice President at Franklin Templeton Investments.

## **Item 3 - Disciplinary Information**

None.

## **Item 4 – Other Business Activities**

None.

## **Item 5 – Additional Compensation**

None.

## **Item 6 – Supervision**

NEPC's consultants are members of practice groups and consulting teams, who jointly formulate and monitor the advice provided to clients. The teams are supervised by NEPC's Managing Partner, Michael P. Manning. Mr. Manning can be contacted at 617.374.1300 or [MManning@NEPC.com](mailto:MManning@NEPC.com).

## **Item 7 – Requirements for State-Registered Advisers**

This item is not applicable as NEPC is not registered with individual states.

This brochure supplement provides information about:

**Everett L. Humphreys, III, CFA**  
Partner

NEPC, LLC  
255 State Street  
Boston, MA 02109  
617-374-1300  
[www.NEPC.com](http://www.NEPC.com)

Date of this Supplement: 7/31/2011

**Item 1 – Cover Page**

This brochure supplement provides information about Everett L. Humphreys, III that supplements the NEPC, LLC ("NEPC") brochure. You should have received a copy of that brochure. Please contact our Chief Compliance Officer, William Y. Bogle, at 617-374-1300 or [WBogle@NEPC.com](mailto:WBogle@NEPC.com) if you did not receive NEPC's brochure or if you have any questions about the contents of this supplement.

## **Item 2 – Educational Background and Business Experience**

Year of Birth: 1968

Education: BA, Louisiana State University  
MPA, Louisiana State University  
MSF, Louisiana State University

Business background for the preceding five years: Mr. Humphreys joined NEPC in 1997. He oversees the Public Fund practice group and also works directly with several clients as a consultant involved with all types of projects including asset allocation, policy formation and review, and manager selection.

## **Item 3 - Disciplinary Information**

None.

## **Item 4 – Other Business Activities**

None.

## **Item 5 – Additional Compensation**

None.

## **Item 6 – Supervision**

NEPC's consultants are members of practice groups and consulting teams, who jointly formulate and monitor the advice provided to clients. The teams are supervised by NEPC's Managing Partner, Michael P. Manning. Mr. Manning can be contacted at 617.374.1300 or [MManning@NEPC.com](mailto:MManning@NEPC.com).

## **Item 7 – Requirements for State-Registered Advisers**

This item is not applicable as NEPC is not registered with individual states.

This brochure supplement provides information about:

**Paul R. Kenney, Jr., CFA**  
Partner

NEPC, LLC  
255 State Street  
Boston, MA 02109  
617-374-1300  
[www.NEPC.com](http://www.NEPC.com)

Date of this Supplement: 3/31/2015

### **Item 1 – Cover Page**

This brochure supplement provides information about Paul R. Kenney, Jr. that supplements the NEPC, LLC (“NEPC”) brochure. You should have received a copy of that brochure. Please contact our Chief Compliance Officer, William Y. Bogle, at 617-374-1300 or [WBogle@NEPC.com](mailto:WBogle@NEPC.com) if you did not receive NEPC’s brochure or if you have any questions about the contents of this supplement.

## **Item 2 – Educational Background and Business Experience**

Year of Birth: 1961

Education: BA, Saint Michael's College  
MSF, Bentley College

Business background for the preceding five years: Mr. Kenney joined NEPC in 2002. He is a member of the Healthcare practice group and also works directly with several clients as a consultant involved with all types of projects including asset allocation, policy formation and review, and investment manager selection.

## **Item 3 - Disciplinary Information**

None.

## **Item 4 – Other Business Activities**

None.

## **Item 5 – Additional Compensation**

None.

## **Item 6 – Supervision**

NEPC's consultants are members of practice groups and consulting teams, who jointly formulate and monitor the advice provided to clients. The teams are supervised by NEPC's Managing Partner, Michael P. Manning. Mr. Manning can be contacted at 617.374.1300 or [MManning@NEPC.com](mailto:MManning@NEPC.com).

## **Item 7 – Requirements for State-Registered Advisers**

This item is not applicable as NEPC is not registered with individual states.

This brochure supplement provides information about:

**Paul J. Kerry, ASA, EA**  
Senior Consultant

NEPC, LLC  
255 State Street  
Boston, MA 02109  
617-374-1300  
[www.NEPC.com](http://www.NEPC.com)

Date of this Supplement: 10/3/2011

**Item 1 – Cover Page**

This brochure supplement provides information about Paul J. Kerry that supplements the NEPC, LLC (“NEPC”) brochure. You should have received a copy of that brochure. Please contact our Chief Compliance Officer, William Y. Bogle, at 617-374-1300 or [WBogle@NEPC.com](mailto:WBogle@NEPC.com) if you did not receive NEPC’s brochure or if you have any questions about the contents of this supplement.

## **Item 2 – Educational Background and Business Experience**

Year of Birth: 1955

Education: BS, University of Lowell

Business background for the preceding five years: Mr. Kerry joined NEPC in 2009. He is a consultant involved with client projects ranging from plan design studies, M&A analyses, development of compliance strategies, and a variety of other technical projects. Prior to joining NEPC, Paul was a Vice President at Fidelity Investments. Paul provided strategic consulting services to some of Fidelity's largest mid-corporate clients including Starbucks, QVC, Scholastic Inc., L.L. Bean, and the National Basketball Association. Prior to that he was with Charles Schwab and Watson Wyatt.

## **Item 3 - Disciplinary Information**

None.

## **Item 4 – Other Business Activities**

None.

## **Item 5 – Additional Compensation**

None.

## **Item 6 – Supervision**

NEPC's consultants are members of practice groups and consulting teams, who jointly formulate and monitor the advice provided to clients. The teams are supervised by NEPC's Managing Partner, Michael P. Manning. Mr. Manning can be contacted at 617.374.1300 or [MManning@NEPC.com](mailto:MManning@NEPC.com).

## **Item 7 – Requirements for State-Registered Advisers**

This item is not applicable as NEPC is not registered with individual states.



This brochure supplement provides information about:

**Christopher J. Klapinsky, CFA**  
Partner

NEPC, LLC  
255 State Street  
Boston, MA 02109  
617-374-1300  
[www.NEPC.com](http://www.NEPC.com)

Date of this Supplement: 7/31/2011

### **Item 1 – Cover Page**

This brochure supplement provides information about Christopher J. Klapinsky that supplements the NEPC, LLC ("NEPC") brochure. You should have received a copy of that brochure. Please contact our Chief Compliance Officer, William Y. Bogle, at 617-374-1300 or [WBogle@NEPC.com](mailto:WBogle@NEPC.com) if you did not receive NEPC's brochure or if you have any questions about the contents of this supplement.

## **Item 2 – Educational Background and Business Experience**

Year of Birth: 1973

Education: BA, Denison University

Business background for the preceding five years: Mr. Klapinsky joined NEPC in 2001. He is a consultant involved with all types of client projects including asset allocation, policy formation and review, and investment manager selection. Prior to becoming a consultant, Chris worked as an analyst for NEPC, assisting consultants with client reporting, manager searches, and technical projects.

## **Item 3 - Disciplinary Information**

None.

## **Item 4 – Other Business Activities**

None.

## **Item 5 – Additional Compensation**

None.

## **Item 6 – Supervision**

NEPC's consultants are members of practice groups and consulting teams, who jointly formulate and monitor the advice provided to clients. The teams are supervised by NEPC's Managing Partner, Michael P. Manning. Mr. Manning can be contacted at 617.374.1300 or [MManning@NEPC.com](mailto:MManning@NEPC.com).

## **Item 7 – Requirements for State-Registered Advisers**

This item is not applicable as NEPC is not registered with individual states.

This brochure supplement provides information about:

**Catherine M. Konicki, CFA, CAIA**  
Partner

NEPC, LLC  
255 State Street  
Boston, MA 02109  
617-374-1300  
[www.NEPC.com](http://www.NEPC.com)

Date of this Supplement: 7/31/2011

### **Item 1 – Cover Page**

This brochure supplement provides information about Catherine M. Konicki that supplements the NEPC, LLC ("NEPC") brochure. You should have received a copy of that brochure. Please contact our Chief Compliance Officer, William Y. Bogle, at 617-374-1300 or [WBogle@NEPC.com](mailto:WBogle@NEPC.com) if you did not receive NEPC's brochure or if you have any questions about the contents of this supplement.

## **Item 2 – Educational Background and Business Experience**

Year of Birth: 1957

Education: BS, Boston College  
MBA, Boston College

Business background for the preceding five years: Ms. Konicki joined NEPC in 1991. She oversees the Endowment/Foundation practice group and also works directly with several clients as a consultant involved with all types of projects including asset allocation, policy formation and review, and investment manager selection.

## **Item 3 - Disciplinary Information**

None.

## **Item 4 – Other Business Activities**

None.

## **Item 5 – Additional Compensation**

None.

## **Item 6 – Supervision**

NEPC's consultants are members of practice groups and consulting teams, who jointly formulate and monitor the advice provided to clients. The teams are supervised by NEPC's Managing Partner, Michael P. Manning. Mr. Manning can be contacted at 617.374.1300 or [MManning@NEPC.com](mailto:MManning@NEPC.com).

## **Item 7 – Requirements for State-Registered Advisers**

This item is not applicable as NEPC is not registered with individual states.

This brochure supplement provides information about:

**John R. Krimmel, CPA, CFA**  
Partner

NEPC, LLC  
255 State Street  
Boston, MA 02109  
617-374-1300  
[www.NEPC.com](http://www.NEPC.com)

Date of this Supplement: 3/30/2016

**Item 1 – Cover Page**

This brochure supplement provides information about John R. Krimmel that supplements the NEPC, LLC (“NEPC”) brochure. You should have received a copy of that brochure. Please contact our Chief Compliance Officer, William Y. Bogle, at 617-374-1300 or [WBogle@NEPC.com](mailto:WBogle@NEPC.com) if you did not receive NEPC’s brochure or if you have any questions about the contents of this supplement.

## **Item 2 – Educational Background and Business Experience**

Year of Birth: 1962

Education: BS, Millikin University  
MS in Accounting Science, University of Illinois

Business background for the preceding five years: Mr. Krimmel joined NEPC in 2010. He is a consultant involved with all types of client projects including asset allocation, policy formation and review, and manager searches. Prior to NEPC, John was a Senior Consultant and Senior Vice President at Callan Associates with broad responsibility in all facets of client management with public, corporate and endowment/foundation clientele. John was a member of Callan's Manager Research Committee and Alternatives Review Committee. Prior to Callan, John was the Chief Investment Officer at the Kentucky Retirement System and at the State Universities Retirement System of Illinois.

## **Item 3 - Disciplinary Information**

None.

## **Item 4 – Other Business Activities**

None.

## **Item 5 – Additional Compensation**

None.

## **Item 6 – Supervision**

NEPC's consultants are members of practice groups and consulting teams, who jointly formulate and monitor the advice provided to clients. The teams are supervised by NEPC's Managing Partner, Michael P. Manning. Mr. Manning can be contacted at 617.374.1300 or [MManning@NEPC.com](mailto:MManning@NEPC.com).

## **Item 7 – Requirements for State-Registered Advisers**

This item is not applicable as NEPC is not registered with individual states.

This brochure supplement provides information about:

**Kevin M. Leonard**  
Partner

NEPC, LLC  
255 State Street  
Boston, MA 02109  
617-374-1300  
[www.NEPC.com](http://www.NEPC.com)

Date of this Supplement: 7/31/2011

**Item 1 – Cover Page**

This brochure supplement provides information about Kevin M. Leonard that supplements the NEPC, LLC (“NEPC”) brochure. You should have received a copy of that brochure. Please contact our Chief Compliance Officer, William Y. Bogle, at 617-374-1300 or [WBogle@NEPC.com](mailto:WBogle@NEPC.com) if you did not receive NEPC’s brochure or if you have any questions about the contents of this supplement.

## **Item 2 – Educational Background and Business Experience**

Year of Birth: 1968

Education: BA, Assumption College

Business background for the preceding five years: Mr. Leonard joined NEPC in 2007. He is a consultant involved with all types of client projects including asset allocation, policy formation and review, and investment manager selection. Prior to joining NEPC, Kevin worked at Segal Advisors as a lead consultant in the public, Taft-Hartley, hospital and endowment marketplace.

## **Item 3 - Disciplinary Information**

None.

## **Item 4 – Other Business Activities**

None.

## **Item 5 – Additional Compensation**

None.

## **Item 6 – Supervision**

NEPC's consultants are members of practice groups and consulting teams, who jointly formulate and monitor the advice provided to clients. The teams are supervised by NEPC's Managing Partner, Michael P. Manning. Mr. Manning can be contacted at 617.374.1300 or [MManning@NEPC.com](mailto:MManning@NEPC.com).

## **Item 7 – Requirements for State-Registered Advisers**

This item is not applicable as NEPC is not registered with individual states.



This brochure supplement provides information about:

**Christopher A. Levell, ASA, CFA**  
Partner

NEPC, LLC  
255 State Street  
Boston, MA 02109  
617-374-1300  
[www.NEPC.com](http://www.NEPC.com)

Date of this Supplement: 3/31/2015

**Item 1 – Cover Page**

This brochure supplement provides information about Christopher A. Levell that supplements the NEPC, LLC ("NEPC") brochure. You should have received a copy of that brochure. Please contact our Chief Compliance Officer, William Y. Bogle, at 617-374-1300 or [WBogle@NEPC.com](mailto:WBogle@NEPC.com) if you did not receive NEPC's brochure or if you have any questions about the contents of this supplement.

## **Item 2 – Educational Background and Business Experience**

Year of Birth: 1964

Education: BS, University of Illinois

Business background for the preceding five years: Mr. Levell joined NEPC in 2005. He is a senior member of NEPC's research team. He also works directly with several clients as a consultant involved with asset allocation, policy formation and review, and investment manager selection. Prior to joining NEPC Chris worked at Mercer Investment Consulting as a lead consultant and an asset-liability project consultant, and he developed Mercer's U.S. asset-liability modeling capability.

## **Item 3 - Disciplinary Information**

None.

## **Item 4 – Other Business Activities**

None.

## **Item 5 – Additional Compensation**

None.

## **Item 6 – Supervision**

NEPC's consultants are members of practice groups and consulting teams, who jointly formulate and monitor the advice provided to clients. The teams are supervised by NEPC's Managing Partner, Michael P. Manning. Mr. Manning can be contacted at 617.374.1300 or [MManning@NEPC.com](mailto:MManning@NEPC.com).

## **Item 7 – Requirements for State-Registered Advisers**

This item is not applicable as NEPC is not registered with individual states.

This brochure supplement provides information about:

**Christine A. Loughlin, CFA, CAIA**  
Partner

NEPC, LLC  
255 State Street  
Boston, MA 02109  
617-374-1300  
[www.NEPC.com](http://www.NEPC.com)

Date of this Supplement: 7/31/2011

**Item 1 – Cover Page**

This brochure supplement provides information about Christine A. Loughlin that supplements the NEPC, LLC ("NEPC") brochure. You should have received a copy of that brochure. Please contact our Chief Compliance Officer, William Y. Bogle, at 617-374-1300 or [WBogle@NEPC.com](mailto:WBogle@NEPC.com) if you did not receive NEPC's brochure or if you have any questions about the contents of this supplement.

## **Item 2 – Educational Background and Business Experience**

Year of Birth: 1970

Education: BA, University of Massachusetts, Amherst  
MSF, London Business School

Business background for the preceding five years: Ms. Loughlin joined NEPC in 2003. She oversees the Defined Contribution practice group and also works directly with several clients as a consultant involved with all types of projects including plan design, governance, asset allocation, policy formation and review, and investment manager selection.

## **Item 3 - Disciplinary Information**

None.

## **Item 4 – Other Business Activities**

None.

## **Item 5 – Additional Compensation**

None.

## **Item 6 – Supervision**

NEPC's consultants are members of practice groups and consulting teams, who jointly formulate and monitor the advice provided to clients. The teams are supervised by NEPC's Managing Partner, Michael P. Manning. Mr. Manning can be contacted at 617.374.1300 or [MManning@NEPC.com](mailto:MManning@NEPC.com).

## **Item 7 – Requirements for State-Registered Advisers**

This item is not applicable as NEPC is not registered with individual states.

This brochure supplement provides information about:

**Michael P. Manning, CFA, CAIA**  
Managing Partner

NEPC, LLC  
255 State Street  
Boston, MA 02109  
617-374-1300  
[www.NEPC.com](http://www.NEPC.com)

Date of this Supplement: 3/30/2016

### **Item 1 – Cover Page**

This brochure supplement provides information about Michael P. Manning that supplements the NEPC, LLC (“NEPC”) brochure. You should have received a copy of that brochure. Please contact our Chief Compliance Officer, William Y. Bogle, at 617-374-1300 or [WBogle@NEPC.com](mailto:WBogle@NEPC.com) if you did not receive NEPC’s brochure or if you have any questions about the contents of this supplement.

## **Item 2 – Educational Background and Business Experience**

Year of Birth: 1968

Education: BA, Notre Dame  
MBA, University of Chicago

Business background for the preceding five years: Mr. Manning joined NEPC in 1997. He was named President in 2004 and Managing Partner in 2011. He is a member of NEPC's Executive Committee and Management Group. In addition to his responsibilities overseeing NEPC's business, Mike also works directly with several clients.

## **Item 3 - Disciplinary Information**

None.

## **Item 4 – Other Business Activities**

None.

## **Item 5 – Additional Compensation**

None.

## **Item 6 – Supervision**

NEPC's Executive Committee is responsible for supervising Mr. Manning. Members of the committee can be contacted at 617.374.1300.

## **Item 7 – Requirements for State-Registered Advisers**

This item is not applicable as NEPC is not registered with individual states.

This brochure supplement provides information about:

**Allan C. Martin**  
Partner

NEPC, LLC  
255 State Street  
Boston, MA 02109  
617-374-1300  
[www.NEPC.com](http://www.NEPC.com)

Date of this Supplement: 3/31/2015

**Item 1 – Cover Page**

This brochure supplement provides information about Allan C. Martin that supplements the NEPC, LLC (“NEPC”) brochure. You should have received a copy of that brochure. Please contact our Chief Compliance Officer, William Y. Bogle, at 617-374-1300 or [WBogle@NEPC.com](mailto:WBogle@NEPC.com) if you did not receive NEPC’s brochure or if you have any questions about the contents of this supplement.

## **Item 2 – Educational Background and Business Experience**

Year of Birth: 1945

Education: BA, Stanford University  
MBA, Stanford University

Business background for the preceding five years: Mr. Martin joined NEPC in 2000. He is a senior member of NEPC's Consulting Services Team and a member of the Public Fund practice group. He works directly with several clients as a consultant involved with asset allocation, policy formation and review, and investment manager selection. Allan manages our West Coast consulting services and is responsible for our Western Region client service and marketing.

## **Item 3 - Disciplinary Information**

None.

## **Item 4 – Other Business Activities**

None.

## **Item 5 – Additional Compensation**

None.

## **Item 6 – Supervision**

NEPC's consultants are members of practice groups and consulting teams, who jointly formulate and monitor the advice provided to clients. The teams are supervised by NEPC's Managing Partner, Michael P. Manning. Mr. Manning can be contacted at 617.374.1300 or [MManning@NEPC.com](mailto:MManning@NEPC.com).

## **Item 7 – Requirements for State-Registered Advisers**

This item is not applicable as NEPC is not registered with individual states.



This brochure supplement provides information about:

**Timothy F. McCusker, CFA, CAIA, FSA**  
Partner, Chief Investment Officer

NEPC, LLC  
255 State Street  
Boston, MA 02109  
617-374-1300  
[www.NEPC.com](http://www.NEPC.com)

Date of this Supplement: 3/31/2015

### **Item 1 – Cover Page**

This brochure supplement provides information about Timothy F. McCusker that supplements the NEPC, LLC ("NEPC") brochure. You should have received a copy of that brochure. Please contact our Chief Compliance Officer, William Y. Bogle, at 617-374-1300 or [WBogle@NEPC.com](mailto:WBogle@NEPC.com) if you did not receive NEPC's brochure or if you have any questions about the contents of this supplement.

## **Item 2 – Educational Background and Business Experience**

Year of Birth: 1979

Education: BA, Colgate University

Business background for the preceding five years: Mr. McCusker joined NEPC in 2006. He is NEPC's Chief Investment Officer, the key investment strategist for the firm, and oversees all research at NEPC. Additionally, Tim is a member of the firm's Management Group. He also works directly with several clients, and is a member of the Asset Allocation committee. Prior to joining NEPC, Tim was an associate at Towers Perrin.

## **Item 3 - Disciplinary Information**

None.

## **Item 4 – Other Business Activities**

None.

## **Item 5 – Additional Compensation**

None.

## **Item 6 – Supervision**

NEPC's consultants are members of practice groups and consulting teams, who jointly formulate and monitor the advice provided to clients. The teams are supervised by NEPC's Managing Partner, Michael P. Manning. Mr. Manning can be contacted at 617.374.1300 or [MManning@NEPC.com](mailto:MManning@NEPC.com).

## **Item 7 – Requirements for State-Registered Advisers**

This item is not applicable as NEPC is not registered with individual states.

This brochure supplement provides information about:

**David W. Moore, CEBS**  
Partner

NEPC, LLC  
255 State Street  
Boston, MA 02109  
617-374-1300  
[www.NEPC.com](http://www.NEPC.com)

Date of this Supplement: 3/31/2013

**Item 1 – Cover Page**

This brochure supplement provides information about David W. Moore that supplements the NEPC, LLC (“NEPC”) brochure. You should have received a copy of that brochure. Please contact our Chief Compliance Officer, William Y. Bogle, at 617-374-1300 or [WBogle@NEPC.com](mailto:WBogle@NEPC.com) if you did not receive NEPC’s brochure or if you have any questions about the contents of this supplement.

## **Item 2 – Educational Background and Business Experience**

Year of Birth: 1970

Education: BBA, Temple University  
MBA, University of Detroit, Mercy

Business background for the preceding five years: Mr. Moore joined NEPC in 2006. He is a consultant involved with all types of client projects including asset allocation, policy formation and review, and investment manager selection. Prior to joining NEPC, Dave worked at Ford Motor Company as a Manager of Fixed Income in their Portfolio Management Dept. where his responsibilities included investing global cash and pricing commercial paper, developing fixed income strategies, performance reporting and oversight of external asset managers.

## **Item 3 - Disciplinary Information**

None.

## **Item 4 – Other Business Activities**

None.

## **Item 5 – Additional Compensation**

None.

## **Item 6 – Supervision**

NEPC's consultants are members of practice groups and consulting teams, who jointly formulate and monitor the advice provided to clients. The teams are supervised by NEPC's Managing Partner, Michael P. Manning. Mr. Manning can be contacted at 617.374.1300 or [MManning@NEPC.com](mailto:MManning@NEPC.com).

## **Item 7 – Requirements for State-Registered Advisers**

This item is not applicable as NEPC is not registered with individual states.

This brochure supplement provides information about:

**Douglas W. Moseley**  
Partner

NEPC, LLC  
255 State Street  
Boston, MA 02109  
617-374-1300  
[www.NEPC.com](http://www.NEPC.com)

Date of this Supplement: 7/31/2011

**Item 1 – Cover Page**

This brochure supplement provides information about Douglas W. Moseley that supplements the NEPC, LLC (“NEPC”) brochure. You should have received a copy of that brochure. Please contact our Chief Compliance Officer, William Y. Bogle, at 617-374-1300 or [WBogle@NEPC.com](mailto:WBogle@NEPC.com) if you did not receive NEPC’s brochure or if you have any questions about the contents of this supplement.

## **Item 2 – Educational Background and Business Experience**

Year of Birth: 1970

Education: BS, University of Massachusetts, Amherst  
MBA, Bentley College

Business background for the preceding five years: Mr. Moseley joined NEPC in 1998. He is a consultant involved with all types of client projects including asset allocation, policy formation and review, and investment manager selection.

## **Item 3 - Disciplinary Information**

None.

## **Item 4 – Other Business Activities**

None.

## **Item 5 – Additional Compensation**

None.

## **Item 6 – Supervision**

NEPC's consultants are members of practice groups and consulting teams, who jointly formulate and monitor the advice provided to clients. The teams are supervised by NEPC's Managing Partner, Michael P. Manning. Mr. Manning can be contacted at 617.374.1300 or [MManning@NEPC.com](mailto:MManning@NEPC.com).

## **Item 7 – Requirements for State-Registered Advisers**

This item is not applicable as NEPC is not registered with individual states.

This brochure supplement provides information about:

**Phillip Nelson**

Partner

NEPC, LLC  
255 State Street  
Boston, MA 02109  
617-374-1300  
[www.NEPC.com](http://www.NEPC.com)

Date of this Supplement: 1/1/2018

**Item 1 – Cover Page**

This brochure supplement provides information about Phillip Nelson that supplements the NEPC, LLC (“NEPC”) brochure. You should have received a copy of that brochure. Please contact our Chief Compliance Officer, William Y. Bogle, at 617-374-1300 or [WBogle@NEPC.com](mailto:WBogle@NEPC.com) if you did not receive NEPC’s brochure or if you have any questions about the contents of this supplement.

**Item 2 – Educational Background and Business Experience**

Year of Birth: 1979

Education: BA, University of California Irvine

Business background for the preceding five years: Mr. Nelson joined NEPC in 2011. He is a senior consultant involved in research and due diligence activities. Prior to joining NEPC, Phill worked at Pinnacle West Capital Corporation, Yoshikami Capital Management and Merrill Lynch.

**Item 3 - Disciplinary Information**

None.

**Item 4 – Other Business Activities**

None.

**Item 5 – Additional Compensation**

None.

**Item 6 – Supervision**

NEPC's consultants are members of practice groups and consulting teams, who jointly formulate and monitor the advice provided to clients. The teams are supervised by NEPC's Managing Partner, Michael P. Manning. Mr. Manning can be contacted at 617.374.1300 or [MManning@NEPC.com](mailto:MManning@NEPC.com).

**Item 7 – Requirements for State-Registered Advisers**

This item is not applicable as NEPC is not registered with individual states.



This brochure supplement provides information about:

**Kristine Pelletier**  
Partner

NEPC, LLC  
255 State Street  
Boston, MA 02109  
617-374-1300  
[www.NEPC.com](http://www.NEPC.com)

Date of this Supplement: 1/1/2019

**Item 1 – Cover Page**

This brochure supplement provides information about Kristine Pelletier that supplements the NEPC, LLC (“NEPC”) brochure. You should have received a copy of that brochure. Please contact our Chief Compliance Officer, William Y. Bogle, at 617-374-1300 or [WBogle@NEPC.com](mailto:WBogle@NEPC.com) if you did not receive NEPC’s brochure or if you have any questions about the contents of this supplement.

## **Item 2 – Educational Background and Business Experience**

Year of Birth: 1980

Education: BA, Simmons College  
MBA, University of Virginia

Business background for the preceding five years: Ms. Pelletier joined NEPC in 2008. She is a consultant involved with all types of client projects including asset allocation, policy formation and review, and investment manager selection. Prior to joining NEPC, Krissy was a research analyst with Wellington Management.

## **Item 3 - Disciplinary Information**

None.

## **Item 4 – Other Business Activities**

None.

## **Item 5 – Additional Compensation**

None.

## **Item 6 – Supervision**

NEPC's consultants are members of practice groups and consulting teams, who jointly formulate and monitor the advice provided to clients. The teams are supervised by NEPC's Managing Partner, Michael P. Manning. Mr. Manning can be contacted at 617.374.1300 or [MManning@NEPC.com](mailto:MManning@NEPC.com).

## **Item 7 – Requirements for State-Registered Advisers**

This item is not applicable as NEPC is not registered with individual states.

This brochure supplement provides information about:

**Scott F. Perry, CAIA**  
Partner

NEPC, LLC  
255 State Street  
Boston, MA 02109  
617-374-1300  
[www.NEPC.com](http://www.NEPC.com)

Date of this Supplement: 1/31/2012

**Item 1 – Cover Page**

This brochure supplement provides information about Scott F. Perry that supplements the NEPC, LLC (“NEPC”) brochure. You should have received a copy of that brochure. Please contact our Chief Compliance Officer, William Y. Bogle, at 617-374-1300 or [WBogle@NEPC.com](mailto:WBogle@NEPC.com) if you did not receive NEPC’s brochure or if you have any questions about the contents of this supplement.

## **Item 2 – Educational Background and Business Experience**

Year of Birth: 1978

Education: BSBA, Bucknell University  
MBA, Babson College

Business background for the preceding five years: Mr. Perry joined NEPC in 2006. He is a consultant involved with all types of client projects including asset allocation, policy formation and review, and investment manager selection. Prior to becoming a consultant, Scott worked as an analyst for NEPC, assisting consultants with client reporting, manager searches, and technical projects. Prior to joining NEPC, Scott worked as an analyst at Ashton Partners, an investor relations advisory firm, where he monitored and analyzed daily industry news and stock performance for clients.

## **Item 3 - Disciplinary Information**

None.

## **Item 4 – Other Business Activities**

None.

## **Item 5 – Additional Compensation**

None.

## **Item 6 – Supervision**

NEPC's consultants are members of practice groups and consulting teams, who jointly formulate and monitor the advice provided to clients. The teams are supervised by NEPC's Managing Partner, Michael P. Manning. Mr. Manning can be contacted at 617.374.1300 or [MManning@NEPC.com](mailto:MManning@NEPC.com).

## **Item 7 – Requirements for State-Registered Advisers**

This item is not applicable as NEPC is not registered with individual states.

This brochure supplement provides information about:

**Samuel J. Pollack**  
Senior Consultant

NEPC, LLC  
255 State Street  
Boston, MA 02109  
617-374-1300  
[www.NEPC.com](http://www.NEPC.com)

Date of this Supplement: 3/30/2016

**Item 1 – Cover Page**

This brochure supplement provides information about Samuel J. Pollack that supplements the NEPC, LLC (“NEPC”) brochure. You should have received a copy of that brochure. Please contact our Chief Compliance Officer, William Y. Bogle, at 617-374-1300 or [WBogle@NEPC.com](mailto:WBogle@NEPC.com) if you did not receive NEPC’s brochure or if you have any questions about the contents of this supplement.

## **Item 2 – Educational Background and Business Experience**

Year of Birth: 1975

Education: BA, Haverford College  
MBA, Northwestern University – Kellogg School of Management

Business background for the preceding five years: Mr. Pollack joined NEPC in 2015. He is a consultant involved with all types of client projects including asset allocation, policy formation and review, and investment manager selection. Prior to joining NEPC, Sam was a Senior Consultant at DiMeo Schneider & Associates, and a Vice President at Duff & Phelps.

## **Item 3 - Disciplinary Information**

None.

## **Item 4 – Other Business Activities**

None.

## **Item 5 – Additional Compensation**

None.

## **Item 6 – Supervision**

NEPC's consultants are members of practice groups and consulting teams, who jointly formulate and monitor the advice provided to clients. The teams are supervised by NEPC's Managing Partner, Michael P. Manning. Mr. Manning can be contacted at 617.374.1300 or [MManning@NEPC.com](mailto:MManning@NEPC.com).

## **Item 7 – Requirements for State-Registered Advisers**

This item is not applicable as NEPC is not registered with individual states.

This brochure supplement provides information about:

**Kelly A. Regan**  
Senior Consultant

NEPC, LLC  
255 State Street  
Boston, MA 02109  
617-374-1300  
[www.NEPC.com](http://www.NEPC.com)

Date of this Supplement: 3/31/2017

### **Item 1 – Cover Page**

This brochure supplement provides information about Kelly A. Regan that supplements the NEPC, LLC (“NEPC”) brochure. You should have received a copy of that brochure. Please contact our Chief Compliance Officer, William Y. Bogle, at 617-374-1300 or [WBogle@NEPC.com](mailto:WBogle@NEPC.com) if you did not receive NEPC’s brochure or if you have any questions about the contents of this supplement.

## **Item 2 – Educational Background and Business Experience**

Year of Birth: 1981

Education: BA, Boston University  
MSF, Brandeis University

Business background for the preceding five years: Ms. Regan joined NEPC in 2007. She is a consultant involved with all types of client projects including asset allocation, policy formation and review, and investment manager selection. Prior to becoming a consultant, Kelly worked as an analyst for NEPC, assisting consultants with client reporting, manager searches, and technical projects. Before NEPC, Kelly was affiliated with Investors Bank & Trust, Cambium Learning, LLC, and Highland Net Lease Capital, LLC.

## **Item 3 - Disciplinary Information**

None.

## **Item 4 – Other Business Activities**

None.

## **Item 5 – Additional Compensation**

None.

## **Item 6 – Supervision**

NEPC's consultants are members of practice groups and consulting teams, who jointly formulate and monitor the advice provided to clients. The teams are supervised by NEPC's Managing Partner, Michael P. Manning. Mr. Manning can be contacted at 617.374.1300 or [MManning@NEPC.com](mailto:MManning@NEPC.com).

## **Item 7 – Requirements for State-Registered Advisers**

This item is not applicable as NEPC is not registered with individual states.



This brochure supplement provides information about:

**James E. Reichert**  
Partner

NEPC, LLC  
255 State Street  
Boston, MA 02109  
617-374-1300  
[www.NEPC.com](http://www.NEPC.com)

Date of this Supplement: 3/31/2014

**Item 1 – Cover Page**

This brochure supplement provides information about James E. Reichert that supplements the NEPC, LLC (“NEPC”) brochure. You should have received a copy of that brochure. Please contact our Chief Compliance Officer, William Y. Bogle, at 617-374-1300 or [WBogle@NEPC.com](mailto:WBogle@NEPC.com) if you did not receive NEPC’s brochure or if you have any questions about the contents of this supplement.

## **Item 2 – Educational Background and Business Experience**

Year of Birth: 1978

Education: BA, Boston College

Business background for the preceding five years: Mr. Reichert joined NEPC in 2007. He is a consultant involved with all types of client projects including asset allocation, policy formation and review, and investment manager selection. Prior to becoming a consultant, James worked as an analyst for NEPC, assisting consultants with client reporting, manager searches, and technical projects. Prior to joining NEPC, he was a Senior Fixed Income Operations Manager at State Street Global Advisors where he was responsible for all aspects of operations for over 200 fixed income accounts and Mutual Funds.

## **Item 3 - Disciplinary Information**

None.

## **Item 4 – Other Business Activities**

None.

## **Item 5 – Additional Compensation**

None.

## **Item 6 – Supervision**

NEPC's consultants are members of practice groups and consulting teams, who jointly formulate and monitor the advice provided to clients. The teams are supervised by NEPC's Managing Partner, Michael P. Manning. Mr. Manning can be contacted at 617.374.1300 or [MManning@NEPC.com](mailto:MManning@NEPC.com).

## **Item 7 – Requirements for State-Registered Advisers**

This item is not applicable as NEPC is not registered with individual states.

This brochure supplement provides information about:

**Kristin M. Reynolds, CFA, CAIA**  
Partner

NEPC, LLC  
255 State Street  
Boston, MA 02109  
617-374-1300  
[www.NEPC.com](http://www.NEPC.com)

Date of this Supplement: 1/31/2012

**Item 1 – Cover Page**

This brochure supplement provides information about Kristin M. Reynolds that supplements the NEPC, LLC (“NEPC”) brochure. You should have received a copy of that brochure. Please contact our Chief Compliance Officer, William Y. Bogle, at 617-374-1300 or [WBogle@NEPC.com](mailto:WBogle@NEPC.com) if you did not receive NEPC’s brochure or if you have any questions about the contents of this supplement.

## **Item 2 – Educational Background and Business Experience**

Year of Birth: 1977

Education: BA, Simmons College  
MBA, Simmons Graduate School of Management

Business background for the preceding five years: Ms. Reynolds joined NEPC in 2003. She is a consultant involved with all types of client projects including asset allocation, policy formation and review, and investment manager selection. Prior to becoming a consultant, Kristin worked as an analyst for NEPC, assisting consultants with client reporting, manager searches, and technical projects.

## **Item 3 - Disciplinary Information**

None.

## **Item 4 – Other Business Activities**

None.

## **Item 5 – Additional Compensation**

None.

## **Item 6 – Supervision**

NEPC's consultants are members of practice groups and consulting teams, who jointly formulate and monitor the advice provided to clients. The teams are supervised by NEPC's Managing Partner, Michael P. Manning. Mr. Manning can be contacted at 617.374.1300 or [MManning@NEPC.com](mailto:MManning@NEPC.com).

## **Item 7 – Requirements for State-Registered Advisers**

This item is not applicable as NEPC is not registered with individual states.

This brochure supplement provides information about:

**Brian A. L. Roberts**  
Partner

NEPC, LLC  
255 State Street  
Boston, MA 02109  
617-374-1300  
[www.NEPC.com](http://www.NEPC.com)

Date of this Supplement: 1/1/2018

**Item 1 – Cover Page**

This brochure supplement provides information about Brian A. L. Roberts that supplements the NEPC, LLC (“NEPC”) brochure. You should have received a copy of that brochure. Please contact our Chief Compliance Officer, William Y. Bogle, at 617-374-1300 or [WBogle@NEPC.com](mailto:WBogle@NEPC.com) if you did not receive NEPC’s brochure or if you have any questions about the contents of this supplement.

## **Item 2 – Educational Background and Business Experience**

Year of Birth: 1975

Education: BA, Colorado College  
MBA, University of Denver

Business background for the preceding five years: Brian joined NEPC in 2009. He is a consultant involved with all types of client projects including asset allocation, policy formation and review, and investment manager selection. Brian is also a member of the Discretionary Team, helping with the implementation and execution of NEPC's Discretionary Services. Prior to becoming a consultant, Brian worked as an analyst for NEPC. Before NEPC, Brian was employed at AllianceBernstein, providing support to a team of Financial Advisors for high net-worth clients.

## **Item 3 - Disciplinary Information**

None.

## **Item 4 – Other Business Activities**

None.

## **Item 5 – Additional Compensation**

None.

## **Item 6 – Supervision**

NEPC's consultants are members of practice groups and consulting teams, who jointly formulate and monitor the advice provided to clients. The teams are supervised by NEPC's Managing Partner, Michael P. Manning. Mr. Manning can be contacted at 617.374.1300 or [MManning@NEPC.com](mailto:MManning@NEPC.com).

## **Item 7 – Requirements for State-Registered Advisers**

This item is not applicable as NEPC is not registered with individual states.

This brochure supplement provides information about:

**Jay E. Roney**  
Partner

NEPC, LLC  
255 State Street  
Boston, MA 02109  
617-374-1300  
[www.NEPC.com](http://www.NEPC.com)

Date of this Supplement: 7/31/2011

**Item 1 – Cover Page**

This brochure supplement provides information about Jay E. Roney that supplements the NEPC, LLC (“NEPC”) brochure. You should have received a copy of that brochure. Please contact our Chief Compliance Officer, William Y. Bogle, at 617-374-1300 or [WBogle@NEPC.com](mailto:WBogle@NEPC.com) if you did not receive NEPC’s brochure or if you have any questions about the contents of this supplement.

## **Item 2 – Educational Background and Business Experience**

Year of Birth: 1964

Education: BS, University of Maine at Orono  
MBA, Northeastern University

Business background for the preceding five years: Mr. Roney joined NEPC in 2001. He oversees the Corporate practice group and also works directly with several clients as a consultant involved with all types of projects including asset allocation, policy formation and review, and manager selection.

## **Item 3 - Disciplinary Information**

None.

## **Item 4 – Other Business Activities**

None.

## **Item 5 – Additional Compensation**

None.

## **Item 6 – Supervision**

NEPC's consultants are members of practice groups and consulting teams, who jointly formulate and monitor the advice provided to clients. The teams are supervised by NEPC's Managing Partner, Michael P. Manning. Mr. Manning can be contacted at 617.374.1300 or [MManning@NEPC.com](mailto:MManning@NEPC.com).

## **Item 7 – Requirements for State-Registered Advisers**

This item is not applicable as NEPC is not registered with individual states.



This brochure supplement provides information about:

**Matthew Rowell**  
Senior Consultant

NEPC, LLC  
255 State Street  
Boston, MA 02109  
617-374-1300  
[www.NEPC.com](http://www.NEPC.com)

Date of this Supplement: 3/31/2018

**Item 1 – Cover Page**

This brochure supplement provides information about Matthew Rowell that supplements the NEPC, LLC (“NEPC”) brochure. You should have received a copy of that brochure. Please contact our Chief Compliance Officer, William Y. Bogle, at 617-374-1300 or [WBogle@NEPC.com](mailto:WBogle@NEPC.com) if you did not receive NEPC’s brochure or if you have any questions about the contents of this supplement.

## **Item 2 – Educational Background and Business Experience**

Year of Birth: 1982

Education: BS from The Citadel, The Military College of South Carolina

Business background for the preceding five years: Mr. Rowell joined NEPC in 2011. He is a consultant involved with all types of client projects including asset allocation, policy formation and review, and investment manager selection. Prior to joining NEPC, Matt was with Wells Fargo & Company and Evergreen Investments.

## **Item 3 - Disciplinary Information**

None.

## **Item 4 – Other Business Activities**

None.

## **Item 5 – Additional Compensation**

None.

## **Item 6 – Supervision**

NEPC's consultants are members of practice groups and consulting teams, who jointly formulate and monitor the advice provided to clients. The teams are supervised by NEPC's Managing Partner, Michael P. Manning. Mr. Manning can be contacted at 617.374.1300 or [MManning@NEPC.com](mailto:MManning@NEPC.com).

## **Item 7 – Requirements for State-Registered Advisers**

This item is not applicable as NEPC is not registered with individual states.

This brochure supplement provides information about:

**John S. Shanklin, CFA, CAIA**  
Senior Consultant

NEPC, LLC  
255 State Street  
Boston, MA 02109  
617-374-1300  
[www.NEPC.com](http://www.NEPC.com)

Date of this Supplement: 7/31/2011

### **Item 1 – Cover Page**

This brochure supplement provides information about John S. Shanklin that supplements the NEPC, LLC (“NEPC”) brochure. You should have received a copy of that brochure. Please contact our Chief Compliance Officer, William Y. Bogle, at 617-374-1300 or [WBogle@NEPC.com](mailto:WBogle@NEPC.com) if you did not receive NEPC’s brochure or if you have any questions about the contents of this supplement.

## **Item 2 – Educational Background and Business Experience**

Year of Birth: 1951

Education: BS, University of Illinois  
MBA, Northwestern University

Business background for the preceding five years: Mr. Shanklin joined NEPC in 2006. He is a consultant involved with all types of client projects including asset allocation, policy formation and review, and investment manager selection. Prior to joining NEPC, John was a Senior Consultant at Alan D. Biller & Associates and Segal Advisors.

## **Item 3 - Disciplinary Information**

None.

## **Item 4 – Other Business Activities**

None.

## **Item 5 – Additional Compensation**

None.

## **Item 6 – Supervision**

NEPC's consultants are members of practice groups and consulting teams, who jointly formulate and monitor the advice provided to clients. The teams are supervised by NEPC's Managing Partner, Michael P. Manning. Mr. Manning can be contacted at 617.374.1300 or [MManning@NEPC.com](mailto:MManning@NEPC.com).

## **Item 7 – Requirements for State-Registered Advisers**

This item is not applicable as NEPC is not registered with individual states.

This brochure supplement provides information about:

**Neil N. Sheth**

Partner

NEPC, LLC  
255 State Street  
Boston, MA 02109  
617-374-1300  
[www.NEPC.com](http://www.NEPC.com)

Date of this Supplement: 1/31/2012

**Item 1 – Cover Page**

This brochure supplement provides information about Neil N. Sheth that supplements the NEPC, LLC (“NEPC”) brochure. You should have received a copy of that brochure. Please contact our Chief Compliance Officer, William Y. Bogle, at 617-374-1300 or [WBogle@NEPC.com](mailto:WBogle@NEPC.com) if you did not receive NEPC’s brochure or if you have any questions about the contents of this supplement.

## **Item 2 – Educational Background and Business Experience**

Year of Birth: 1971

Education: BS, University of Pennsylvania

Business background for the preceding five years: Mr. Sheth joined NEPC in 2009. He is a consultant involved in NEPC's hedge fund research and due diligence. Prior to joining NEPC, Neil worked at Berkshire Partners in Boston where he started a fundamentals-based, concentrated, long/short global value hedge fund. Prior to Berkshire Partners, Neil worked with two different private equity firms that focused on communications/media services and technologies (M/C Venture Partners and General Atlantic, LLC).

## **Item 3 - Disciplinary Information**

None.

## **Item 4 – Other Business Activities**

None.

## **Item 5 – Additional Compensation**

None.

## **Item 6 – Supervision**

NEPC's consultants are members of practice groups and consulting teams, who jointly formulate and monitor the advice provided to clients. The teams are supervised by NEPC's Managing Partner, Michael P. Manning. Mr. Manning can be contacted at 617.374.1300 or [MManning@NEPC.com](mailto:MManning@NEPC.com).

## **Item 7 – Requirements for State-Registered Advisers**

This item is not applicable as NEPC is not registered with individual states.

This brochure supplement provides information about:

**Bradley S. Smith, CFA**  
Partner

NEPC, LLC  
255 State Street  
Boston, MA 02109  
617-374-1300  
[www.NEPC.com](http://www.NEPC.com)

Date of this Supplement: 10/10/2011

**Item 1 – Cover Page**

This brochure supplement provides information about Bradley S. Smith that supplements the NEPC, LLC (“NEPC”) brochure. You should have received a copy of that brochure. Please contact our Chief Compliance Officer, William Y. Bogle, at 617-374-1300 or [WBogle@NEPC.com](mailto:WBogle@NEPC.com) if you did not receive NEPC’s brochure or if you have any questions about the contents of this supplement.

## **Item 2 – Educational Background and Business Experience**

Year of Birth: 1963

Education: BA, Hampden-Sydney College

Business background for the preceding five years: Mr. Smith joined NEPC in 2011. He is a consultant involved with all types of client projects including asset allocation, policy formation and review, and investment manager selection. Prior to joining NEPC, Brad was with Hewitt EnnisKnupp where he was the Eastern Region leader of the core consulting practice. He had responsibility for managing the traditional consulting team and he has extensive experience in discretionary consulting. Prior to the Hewitt/EnnisKnupp merger, Brad held the position of CEO for Hewitt's U.S. Consulting practice.

## **Item 3 - Disciplinary Information**

None.

## **Item 4 – Other Business Activities**

None.

## **Item 5 – Additional Compensation**

None.

## **Item 6 – Supervision**

NEPC's consultants are members of practice groups and consulting teams, who jointly formulate and monitor the advice provided to clients. The teams are supervised by NEPC's Managing Partner, Michael P. Manning. Mr. Manning can be contacted at 617.374.1300 or [MManning@NEPC.com](mailto:MManning@NEPC.com).

## **Item 7 – Requirements for State-Registered Advisers**

This item is not applicable as NEPC is not registered with individual states.



This brochure supplement provides information about:

**Carolyn Smith**  
Partner

NEPC, LLC  
255 State Street  
Boston, MA 02109  
617-374-1300  
[www.NEPC.com](http://www.NEPC.com)

Date of this Supplement: 7/31/2011

**Item 1 – Cover Page**

This brochure supplement provides information about Carolyn Smith that supplements the NEPC, LLC (“NEPC”) brochure. You should have received a copy of that brochure. Please contact our Chief Compliance Officer, William Y. Bogle, at 617-374-1300 or [WBogle@NEPC.com](mailto:WBogle@NEPC.com) if you did not receive NEPC’s brochure or if you have any questions about the contents of this supplement.

## **Item 2 – Educational Background and Business Experience**

Year of Birth: 1963

Education: BS, University of Utah

Business background for the preceding five years: Ms. Smith joined NEPC in 2006. She is a consultant involved with all types of client projects including asset allocation, policy formation and review, and investment manager selection. Prior to joining NEPC, Carolyn worked as a Senior Consultant at Watson Wyatt. She was responsible for developing and managing client relationships, designing investment programs for defined benefit and defined contribution plans, asset liability modeling, risk budgeting, investment policy development, manager searches, 401(k)/403(b) vendor selection and performance monitoring.

## **Item 3 - Disciplinary Information**

None.

## **Item 4 – Other Business Activities**

None.

## **Item 5 – Additional Compensation**

None.

## **Item 6 – Supervision**

NEPC's consultants are members of practice groups and consulting teams, who jointly formulate and monitor the advice provided to clients. The teams are supervised by NEPC's Managing Partner, Michael P. Manning. Mr. Manning can be contacted at 617.374.1300 or [MManning@NEPC.com](mailto:MManning@NEPC.com).

## **Item 7 – Requirements for State-Registered Advisers**

This item is not applicable as NEPC is not registered with individual states.

This brochure supplement provides information about:

**Don C. Stracke, CFA**  
Senior Consultant

NEPC, LLC  
255 State Street  
Boston, MA 02109  
617-374-1300  
[www.NEPC.com](http://www.NEPC.com)

Date of this Supplement: 7/31/2011

**Item 1 – Cover Page**

This brochure supplement provides information about Don C. Stracke that supplements the NEPC, LLC (“NEPC”) brochure. You should have received a copy of that brochure. Please contact our Chief Compliance Officer, William Y. Bogle, at 617-374-1300 or [WBogle@NEPC.com](mailto:WBogle@NEPC.com) if you did not receive NEPC’s brochure or if you have any questions about the contents of this supplement.

## **Item 2 – Educational Background and Business Experience**

Year of Birth: 1958

Education: BS, Farleigh Dickinson University  
MBA, Rutgers University

Business background for the preceding five years: Mr. Stracke joined NEPC in 2009. He is a consultant involved with all types of client projects including asset allocation, policy formation and review, and investment manager selection. Prior to joining NEPC, Don was the Director of Marketing/Client Service at Shenkman Capital Management and Attalus Capital. At both firms he was responsible for the overall management and execution of sales, marketing, and client service. Prior to Attalus, Don spent seven years as the Director of Corporate Client Services for Dresdner RCM Global Investors.

## **Item 3 - Disciplinary Information**

None.

## **Item 4 – Other Business Activities**

None.

## **Item 5 – Additional Compensation**

None.

## **Item 6 – Supervision**

NEPC's consultants are members of practice groups and consulting teams, who jointly formulate and monitor the advice provided to clients. The teams are supervised by NEPC's Managing Partner, Michael P. Manning. Mr. Manning can be contacted at 617.374.1300 or [MManning@NEPC.com](mailto:MManning@NEPC.com).

## **Item 7 – Requirements for State-Registered Advisers**

This item is not applicable as NEPC is not registered with individual states.

This brochure supplement provides information about:

**Keith Stronkowsky**  
Senior Consultant

NEPC, LLC  
255 State Street  
Boston, MA 02109  
617-374-1300  
[www.NEPC.com](http://www.NEPC.com)

Date of this Supplement: 3/31/2013

**Item 1 – Cover Page**

This brochure supplement provides information about Keith Stronkowsky that supplements the NEPC, LLC (“NEPC”) brochure. You should have received a copy of that brochure. Please contact our Chief Compliance Officer, William Y. Bogle, at 617-374-1300 or [WBogle@NEPC.com](mailto:WBogle@NEPC.com) if you did not receive NEPC’s brochure or if you have any questions about the contents of this supplement.

## **Item 2 – Educational Background and Business Experience**

Year of Birth: 1973

Education: BS, Springfield College  
MBA, Case Western Reserve University

Business background for the preceding five years: Mr. Stronkowsky joined NEPC in 2008. He is a consultant involved with all types of client projects including asset allocation, policy formation and review, and investment manager selection. Prior to becoming a consultant, Mr. Stronkowsky worked as an analyst for NEPC, assisting consultants with client reporting, manager searches, and technical projects. Prior to joining NEPC, Keith was with State Street Corporation and PanAgora Asset Management.

## **Item 3 - Disciplinary Information**

None.

## **Item 4 – Other Business Activities**

None.

## **Item 5 – Additional Compensation**

None.

## **Item 6 – Supervision**

NEPC's consultants are members of practice groups and consulting teams, who jointly formulate and monitor the advice provided to clients. The teams are supervised by NEPC's Managing Partner, Michael P. Manning. Mr. Manning can be contacted at 617.374.1300 or [MManning@NEPC.com](mailto:MManning@NEPC.com).

## **Item 7 – Requirements for State-Registered Advisers**

This item is not applicable as NEPC is not registered with individual states.

This brochure supplement provides information about:

**Michael P. Sullivan**

Partner

NEPC, LLC  
255 State Street  
Boston, MA 02109  
617-374-1300  
[www.NEPC.com](http://www.NEPC.com)

Date of this Supplement: 3/31/2017

**Item 1 – Cover Page**

This brochure supplement provides information about Michael P. Sullivan that supplements the NEPC, LLC (“NEPC”) brochure. You should have received a copy of that brochure. Please contact our Chief Compliance Officer, William Y. Bogle, at 617-374-1300 or [WBogle@NEPC.com](mailto:WBogle@NEPC.com) if you did not receive NEPC’s brochure or if you have any questions about the contents of this supplement.

## **Item 2 – Educational Background and Business Experience**

Year of Birth: 1979

Education: BA, Saint Anselm College  
MS, Boston College

Business background for the preceding five years: Mr. Sullivan joined NEPC in 2006. He is a consultant involved with all types of client projects including asset allocation, policy formation and review, and investment manager selection. Prior to becoming a consultant, Mr. Sullivan worked as an analyst for NEPC, assisting consultants with client reporting, manager searches, and technical projects. Prior to joining NEPC, Mike was a Senior Analyst Account Manager at International Data Corporation where he supported research requests for financial clients.

## **Item 3 - Disciplinary Information**

None.

## **Item 4 – Other Business Activities**

None.

## **Item 5 – Additional Compensation**

None.

## **Item 6 – Supervision**

NEPC's consultants are members of practice groups and consulting teams, who jointly formulate and monitor the advice provided to clients. The teams are supervised by NEPC's Managing Partner, Michael P. Manning. Mr. Manning can be contacted at 617.374.1300 or [MManning@NEPC.com](mailto:MManning@NEPC.com).

## **Item 7 – Requirements for State-Registered Advisers**

This item is not applicable as NEPC is not registered with individual states.



This brochure supplement provides information about:

**Craig A. Svendsen, CFA**  
Partner

NEPC, LLC  
255 State Street  
Boston, MA 02109  
617-374-1300  
[www.NEPC.com](http://www.NEPC.com)

Date of this Supplement: 7/31/2011

**Item 1 – Cover Page**

This brochure supplement provides information about Craig A. Svendsen that supplements the NEPC, LLC (“NEPC”) brochure. You should have received a copy of that brochure. Please contact our Chief Compliance Officer, William Y. Bogle, at 617-374-1300 or [WBogle@NEPC.com](mailto:WBogle@NEPC.com) if you did not receive NEPC’s brochure or if you have any questions about the contents of this supplement.

## **Item 2 – Educational Background and Business Experience**

Year of Birth: 1972

Education: BA, Bucknell University  
MSF, Northeastern University

Business background for the preceding five years: Mr. Svendsen joined NEPC in 2004. He is a consultant involved with all types of client projects including asset allocation, policy formation and review, and investment manager selection.

## **Item 3 - Disciplinary Information**

None.

## **Item 4 – Other Business Activities**

None.

## **Item 5 – Additional Compensation**

None.

## **Item 6 – Supervision**

NEPC's consultants are members of practice groups and consulting teams, who jointly formulate and monitor the advice provided to clients. The teams are supervised by NEPC's Managing Partner, Michael P. Manning. Mr. Manning can be contacted at 617.374.1300 or [MManning@NEPC.com](mailto:MManning@NEPC.com).

## **Item 7 – Requirements for State-Registered Advisers**

This item is not applicable as NEPC is not registered with individual states.

This brochure supplement provides information about:

**Michael J. Valchine**  
Senior Consultant

NEPC, LLC  
255 State Street  
Boston, MA 02109  
617-374-1300  
[www.NEPC.com](http://www.NEPC.com)

Date of this Supplement: 3/1/2014

**Item 1 – Cover Page**

This brochure supplement provides information about Michael J. Valchine that supplements the NEPC, LLC ("NEPC") brochure. You should have received a copy of that brochure. Please contact our Chief Compliance Officer, William Y. Bogle, at 617-374-1300 or [WBogle@NEPC.com](mailto:WBogle@NEPC.com) if you did not receive NEPC's brochure or if you have any questions about the contents of this supplement.

## **Item 2 – Educational Background and Business Experience**

Year of Birth: 1977

Education: BS, Oakland University  
MSF, Walsh College

Business background for the preceding five years: Mr. Valchine joined NEPC in 2007. He is a consultant involved with all types of client projects including asset allocation, policy formation and review, and investment manager selection. Prior to becoming a consultant, Mr. Valchine worked as an analyst for NEPC, assisting consultants with client reporting, manager searches, and technical projects. Prior to joining NEPC, Mike was a Registered Client Associate within the Merrill Lynch Institutional Consulting Group.

## **Item 3 - Disciplinary Information**

None.

## **Item 4 – Other Business Activities**

None.

## **Item 5 – Additional Compensation**

None.

## **Item 6 – Supervision**

NEPC's consultants are members of practice groups and consulting teams, who jointly formulate and monitor the advice provided to clients. The teams are supervised by NEPC's Managing Partner, Michael P. Manning. Mr. Manning can be contacted at 617.374.1300 or [MManning@NEPC.com](mailto:MManning@NEPC.com).

## **Item 7 – Requirements for State-Registered Advisers**

This item is not applicable as NEPC is not registered with individual states.

This brochure supplement provides information about:

**Eric C. Vallo**  
Senior Consultant

NEPC, LLC  
255 State Street  
Boston, MA 02109  
617-374-1300  
[www.NEPC.com](http://www.NEPC.com)

Date of this Supplement: 3/1/2014

### **Item 1 – Cover Page**

This brochure supplement provides information about Eric C. Vallo that supplements the NEPC, LLC (“NEPC”) brochure. You should have received a copy of that brochure. Please contact our Chief Compliance Officer, William Y. Bogle, at 617-374-1300 or [WBogle@NEPC.com](mailto:WBogle@NEPC.com) if you did not receive NEPC’s brochure or if you have any questions about the contents of this supplement.

## **Item 2 – Educational Background and Business Experience**

Year of Birth: 1972

Education: BS, Miami University  
MBA, University of Colorado

Business background for the preceding five years: Mr. Vallo joined NEPC in 2009. He is a consultant involved with all types of client projects including asset allocation, policy formation and review, and investment manager selection. Prior to becoming a consultant, Mr. Vallo worked as an analyst for NEPC, assisting consultants with client reporting, manager searches, and technical projects. Prior to joining NEPC, Eric was with Chrysler LLC / DaimlerChrysler Corporation, PacWest Racing Group, and Deloitte & Touche LLP.

## **Item 3 - Disciplinary Information**

None.

## **Item 4 – Other Business Activities**

None.

## **Item 5 – Additional Compensation**

None.

## **Item 6 – Supervision**

NEPC's consultants are members of practice groups and consulting teams, who jointly formulate and monitor the advice provided to clients. The teams are supervised by NEPC's Managing Partner, Michael P. Manning. Mr. Manning can be contacted at 617.374.1300 or [MManning@NEPC.com](mailto:MManning@NEPC.com).

## **Item 7 – Requirements for State-Registered Advisers**

This item is not applicable as NEPC is not registered with individual states.

This brochure supplement provides information about:

**Chenae L. White, CPA**  
Senior Consultant

NEPC, LLC  
255 State Street  
Boston, MA 02109  
617-374-1300  
[www.NEPC.com](http://www.NEPC.com)

Date of this Supplement: 3/31/2018

**Item 1 – Cover Page**

This brochure supplement provides information about Chenae L. White that supplements the NEPC, LLC (“NEPC”) brochure. You should have received a copy of that brochure. Please contact our Chief Compliance Officer, William Y. Bogle, at 617-374-1300 or [WBogle@NEPC.com](mailto:WBogle@NEPC.com) if you did not receive NEPC’s brochure or if you have any questions about the contents of this supplement.

## **Item 2 – Educational Background and Business Experience**

Year of Birth: 1984

Education: BS, North Carolina A&T State University  
MBA, Tuck School of Business at Dartmouth

Business background for the preceding five years: Ms. White joined NEPC in 2013. She is a consultant involved with all types of client projects including asset allocation, policy formation and review, and investment manager selection. Prior to joining NEPC, Chenae was with Goldman Sachs, Sovereign's Capital and PricewaterhouseCoopers.

## **Item 3 - Disciplinary Information**

None.

## **Item 4 – Other Business Activities**

None.

## **Item 5 – Additional Compensation**

None.

## **Item 6 – Supervision**

NEPC's consultants are members of practice groups and consulting teams, who jointly formulate and monitor the advice provided to clients. The teams are supervised by NEPC's Managing Partner, Michael P. Manning. Mr. Manning can be contacted at 617.374.1300 or [MManning@NEPC.com](mailto:MManning@NEPC.com).

## **Item 7 – Requirements for State-Registered Advisers**

This item is not applicable as NEPC is not registered with individual states.



This brochure supplement provides information about:

**Gary A. Wyniemko**  
Senior Consultant

NEPC, LLC  
255 State Street  
Boston, MA 02109  
617-374-1300  
[www.NEPC.com](http://www.NEPC.com)

Date of this Supplement: 3/30/2016

**Item 1 – Cover Page**

This brochure supplement provides information about Gary A. Wyniemko that supplements the NEPC, LLC (“NEPC”) brochure. You should have received a copy of that brochure. Please contact our Chief Compliance Officer, William Y. Bogle, at 617-374-1300 or [WBogle@NEPC.com](mailto:WBogle@NEPC.com) if you did not receive NEPC’s brochure or if you have any questions about the contents of this supplement.

## **Item 2 – Educational Background and Business Experience**

Year of Birth: 1977

Education: BBA, University of Michigan-Dearborn  
MBA, University of Michigan-Dearborn

Business background for the preceding five years: Mr. Wyniemko joined NEPC in 2011. He is a consultant involved with all types of client projects including asset allocation, policy formation and review, and investment manager selection. Prior to joining NEPC, Gary was with Henry Ford Health System, Dura Automotive Systems, Merrill Lynch and H&R Block Financial Advisors.

## **Item 3 - Disciplinary Information**

None.

## **Item 4 – Other Business Activities**

None.

## **Item 5 – Additional Compensation**

None.

## **Item 6 – Supervision**

NEPC's consultants are members of practice groups and consulting teams, who jointly formulate and monitor the advice provided to clients. The teams are supervised by NEPC's Managing Partner, Michael P. Manning. Mr. Manning can be contacted at 617.374.1300 or [MManning@NEPC.com](mailto:MManning@NEPC.com).

## **Item 7 – Requirements for State-Registered Advisers**

This item is not applicable as NEPC is not registered with individual states.

## Compensation/Fees

**Please state the annual hard dollar fee, payable quarterly to cover the required services listed in Section VI. The fee proposal must include all expenses such as travel, lodging, meals, and other out-of-pocket expenses. Please list any additional costs that may not be.**

Virtually all of our 373 clients employ our services on a full retainer basis. Our full retainer service commitment is open-ended, and includes:

- Development and/or refinement of your Investment Policy Statement, objectives and guidelines and periodic review, thereafter;
- Liability-based asset allocation studies every three to five years, the length of a typical planning cycle;
- Asset-based asset allocation studies, as requested;
- Manager and custodian searches;
- Quarterly investment performance analysis reports and accompanying executive summaries;
- Monthly investment performance flash reports;
- Advice on proxy voting services;
- Educational seminars;
- Our annual investment conference (not funded or subsidized in any way by investment managers);
- Fund of funds alternative assets consulting;
- Attendance at your meetings; and
- Special projects and reports, as requested.

Our fee proposal for these services is \$195,000.00, inflation adjusted on an annual basis. Travel, postage and related expenses will be billed back at cost.

Fees are guaranteed for three years unless there is a mutual recognition that the original retainer agreement is significantly different than the actual services required.

Authorized Signer

Steven F. Charlton, CFA, Director of Consulting Services

