



NEPC, LLC

YOU DEMAND MORE. So do we.SM

2017 Investment Manager Webinar

NEPC Research

May 4th, 2017

255 State Street, Boston, MA 02109 | TEL: 617.374.1300 | FAX: 617.374.1313 | www.nepc.com

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

Our Goal

To work constructively with the asset management community to deliver innovative and high quality investment strategies that meet and exceed our clients' objectives.

Today's Speakers



- **Timothy McCusker, FSA, CFA, CAIA, Partner, Chief Investment Officer**



- **Kristi Hanson, CFA, Partner**



- **Hayley Tran, Senior Research Analyst**

Agenda

- **Introduction and NEPC Update**
- **Client Perspectives and Market Outlook**
- **Active Management and NEPC Research**
- **Investment Manager Searches and Activity**
- **Final Thoughts**
- **Your Questions**



NEPC Update

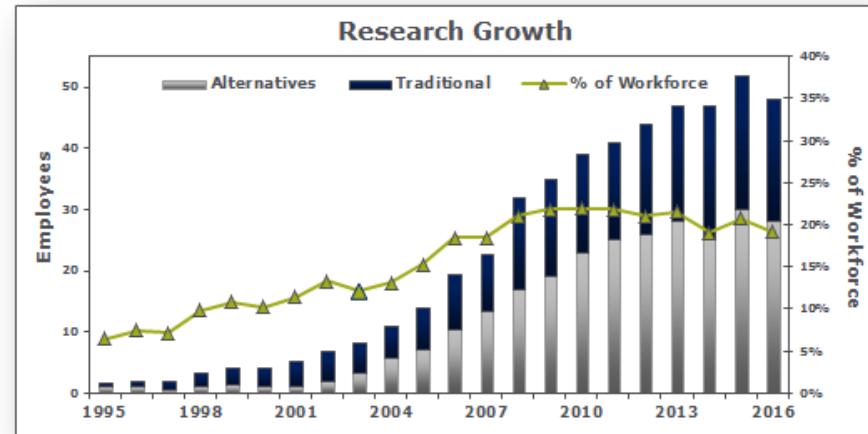


NEPC, LLC

Dedicated Consulting and Research Teams

NEPC employs 49 dedicated research professionals¹

- Traditional manager research is a cornerstone of our efforts
- One of the largest alternative asset research groups in the industry
- Four actuaries on staff, one consultant with formal actuarial training, and one PhD specializing in risk budgeting and asset allocation



Client Commitment

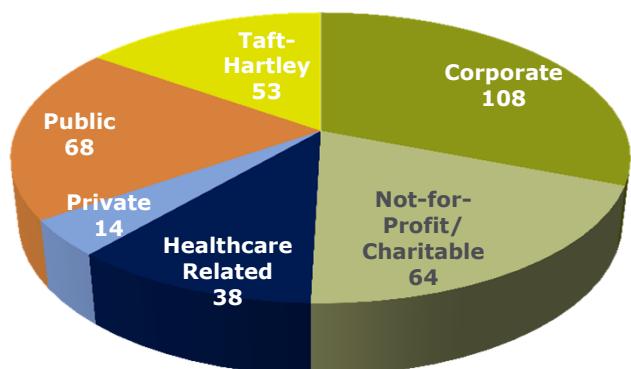


Selective growth

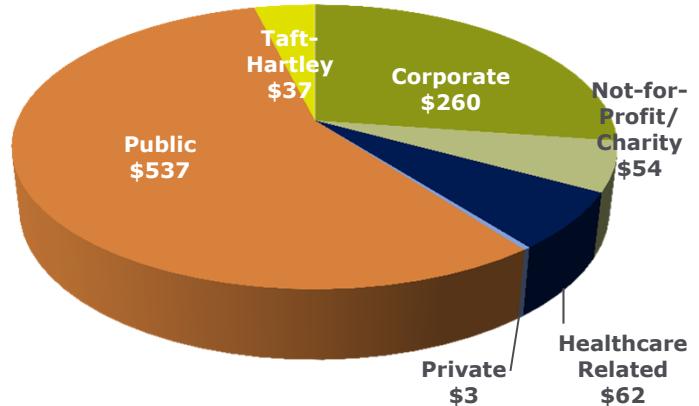
- Balance resources, product and services
- Recognize increased servicing requirements
- Declined 178 RFPs in 2016

NEPC by the Numbers

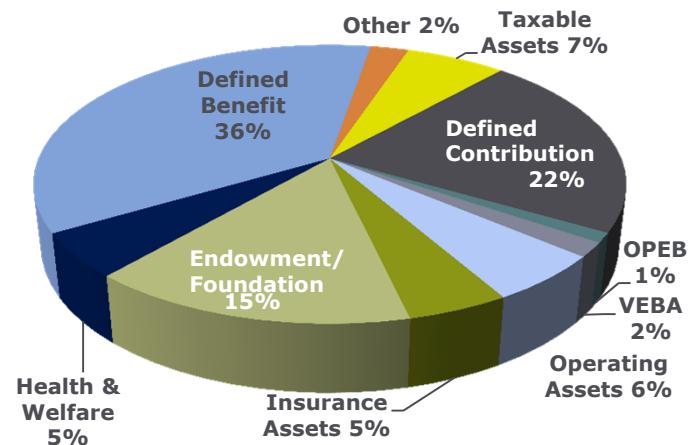
Our Clients (349)



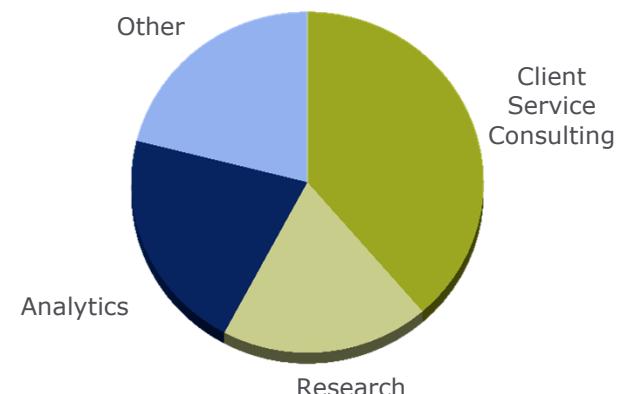
Total Assets (\$954 billion)



Total Funds (723)



Our Employees (256)



Private Wealth



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NEPC's Strategic Initiative to grow the Private Wealth Practice

- Hiring experienced Private Wealth professionals
- Establishing FPL's appropriate for Private Wealth clientele
- Developing a comprehensive Private Wealth-focused marketing and business development plan

Research Focus of Private Wealth Initiative

- Combine best practices from rigorous research processes to find strategies that capitalize on the flexibility inherent in Private Wealth portfolios
- Capitalize on broad market trends identified by the Investment Strategy group
- Overlay manager research with a tax-appropriate lens
- Current Projects
 - Hedge Fund Tax Analysis
 - Direct investment Framework

- **Tax uncertainty could cause volatility in certain asset classes in the short term**
 - Buying, selling and arbitrage opportunities
- **Determine strategy as tax policy becomes more clear**
- **Potential opportunities may include**
 - Refreshing portfolios to take advantage of lower taxes on gain realizations
 - Changes in the municipal market if Private-Public Partnerships gain momentum
 - Potential for more domestic M&A if companies are incentivized to repatriate offshore cash holdings
- **Detailed work on tax characteristics of hedge funds underway**

- **Framework for identifying direct investment or co-investment partners**
 - Identifying and evaluating entities involved in direct investments
 - Determining alignment of interest and risk tolerances with those of our clients
- **Private direct investments and co-investments provide an interesting opportunity**
 - Long-term investments
 - Higher return potential (as well as higher risk)

Survey: Enhancing Performance with Direct Investments

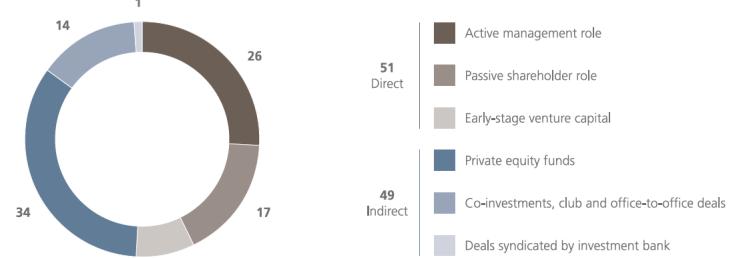
Do you currently engage in direct investing?



Source: Family Office Exchange
FOX Trends and Insights, January 18, 2017

Private Equity Allocations

Fig 2.1. Private equity allocations
% of portfolio share, private equity holdings only



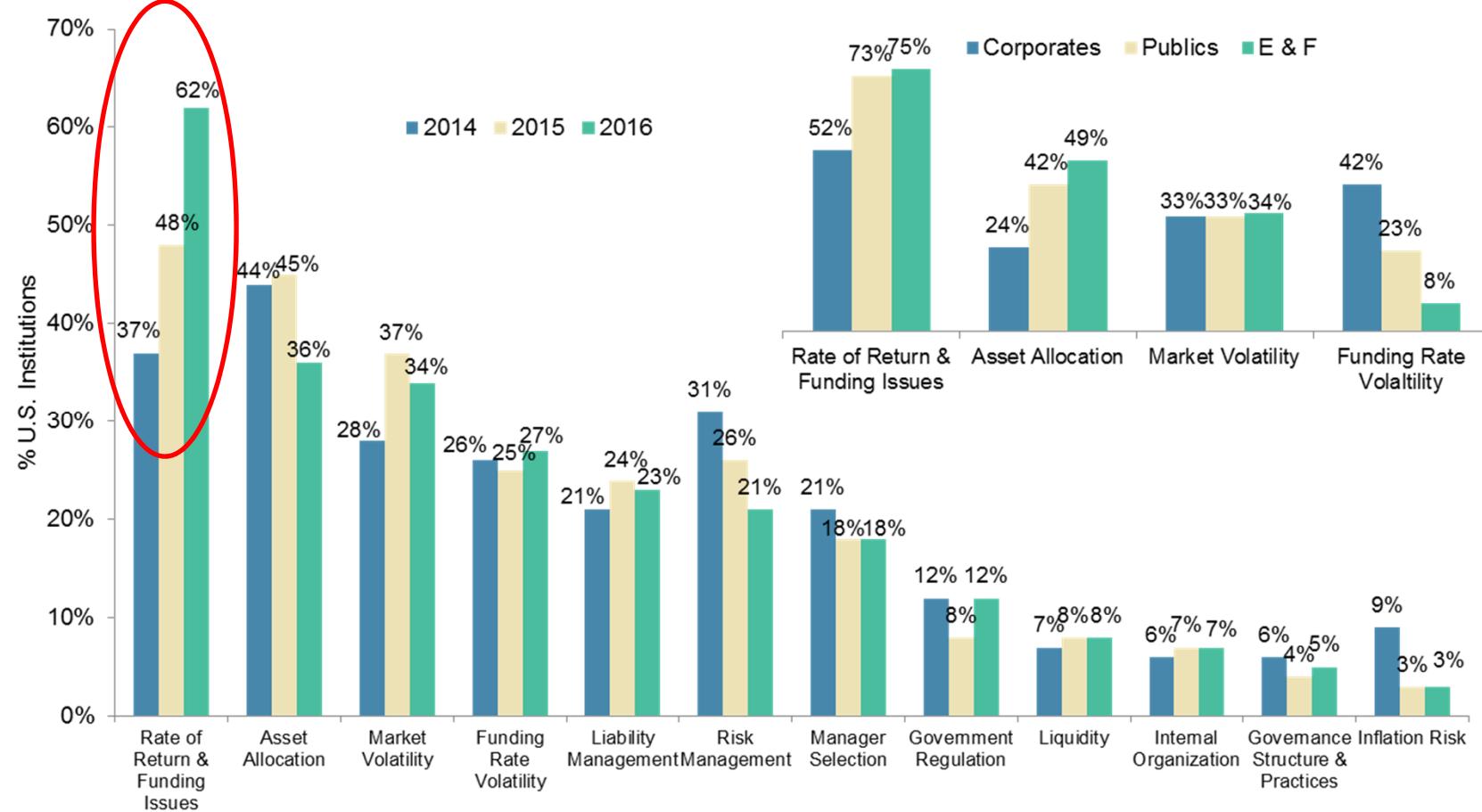
Source: UBS/Campden Research
The Global Family Office Report 2016

Client Perspectives & Market Outlook



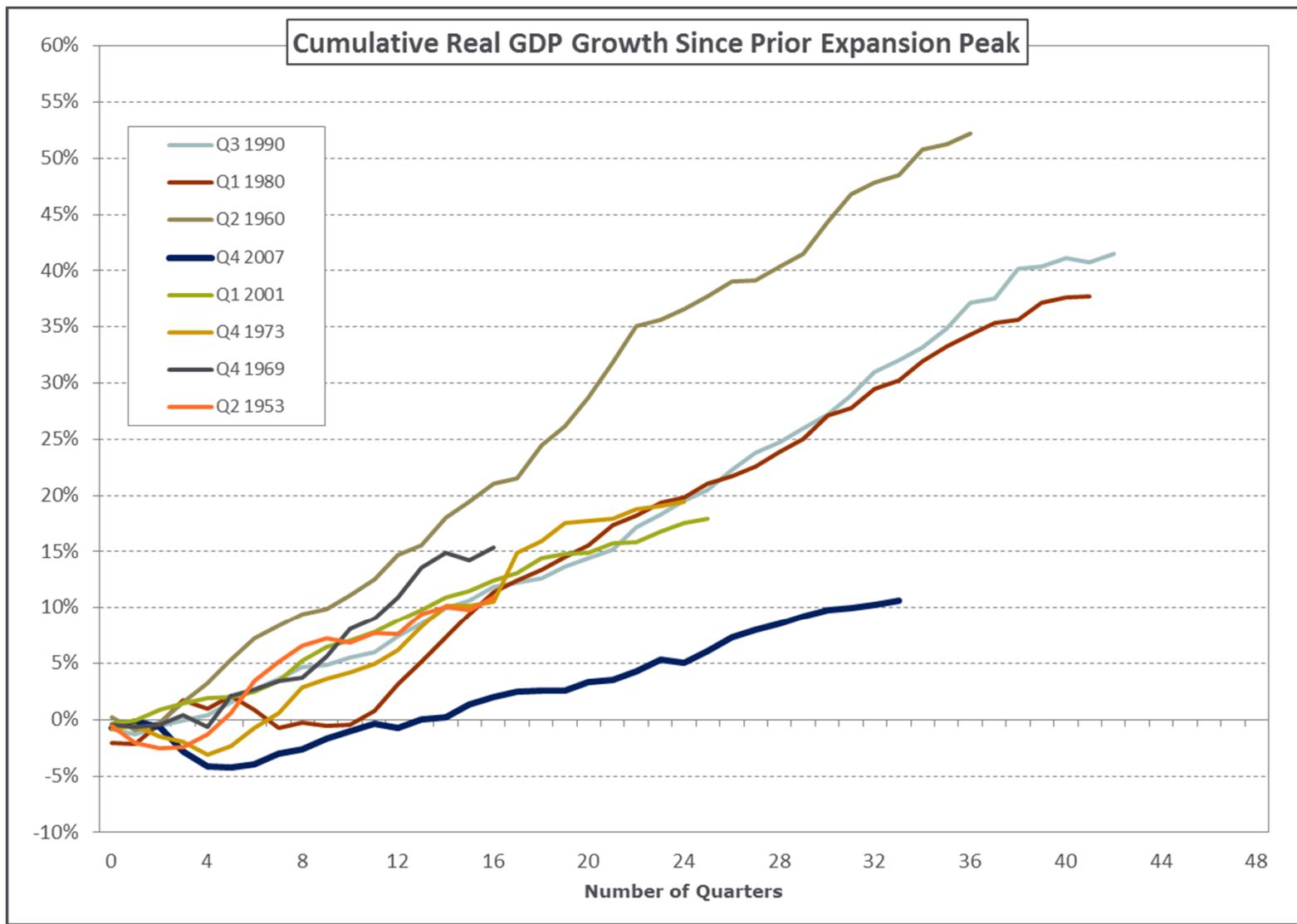
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Greenwich Associates: Key Challenges for Institutional Investors



Source: Greenwich Associates 2016 U.S. Institutional Investors Study

Economic Cycles Don't Die of Old Age – Opportunity for a Prolonged US Economic Expansion



Source: St. Louis Federal Reserve

Themes for 2017 Asset Class Assumptions

| 5-7 Year Return Expectations | | | |
|------------------------------|-------|-------|-----------|
| Asset Class | 2016 | 2017 | 2017-2016 |
| Cash | 1.50% | 1.75% | 0.25% |
| Core Bonds | 2.46% | 2.65% | 0.19% |
| TIPS | 2.50% | 3.00% | 0.50% |
| Long Treasuries | 2.25% | 1.75% | -0.50% |
| Municipal Bonds | 2.25% | 2.25% | - |
| High-Yield Bonds | 5.25% | 4.75% | -0.50% |
| Bank Loans | 5.50% | 5.25% | -0.25% |
| Global Bonds | 1.00% | 1.00% | - |
| EMD Local Currency | 6.50% | 6.75% | 0.25% |
| US Large Cap Equity | 6.00% | 5.75% | -0.25% |
| Non-US Developed Equities | 7.25% | 7.25% | - |
| Emerging Int'l Equities | 9.75% | 9.50% | -0.25% |
| Commodities | 4.50% | 4.75% | 0.25% |

Return outlook for risk assets is marginally lower relative to last year

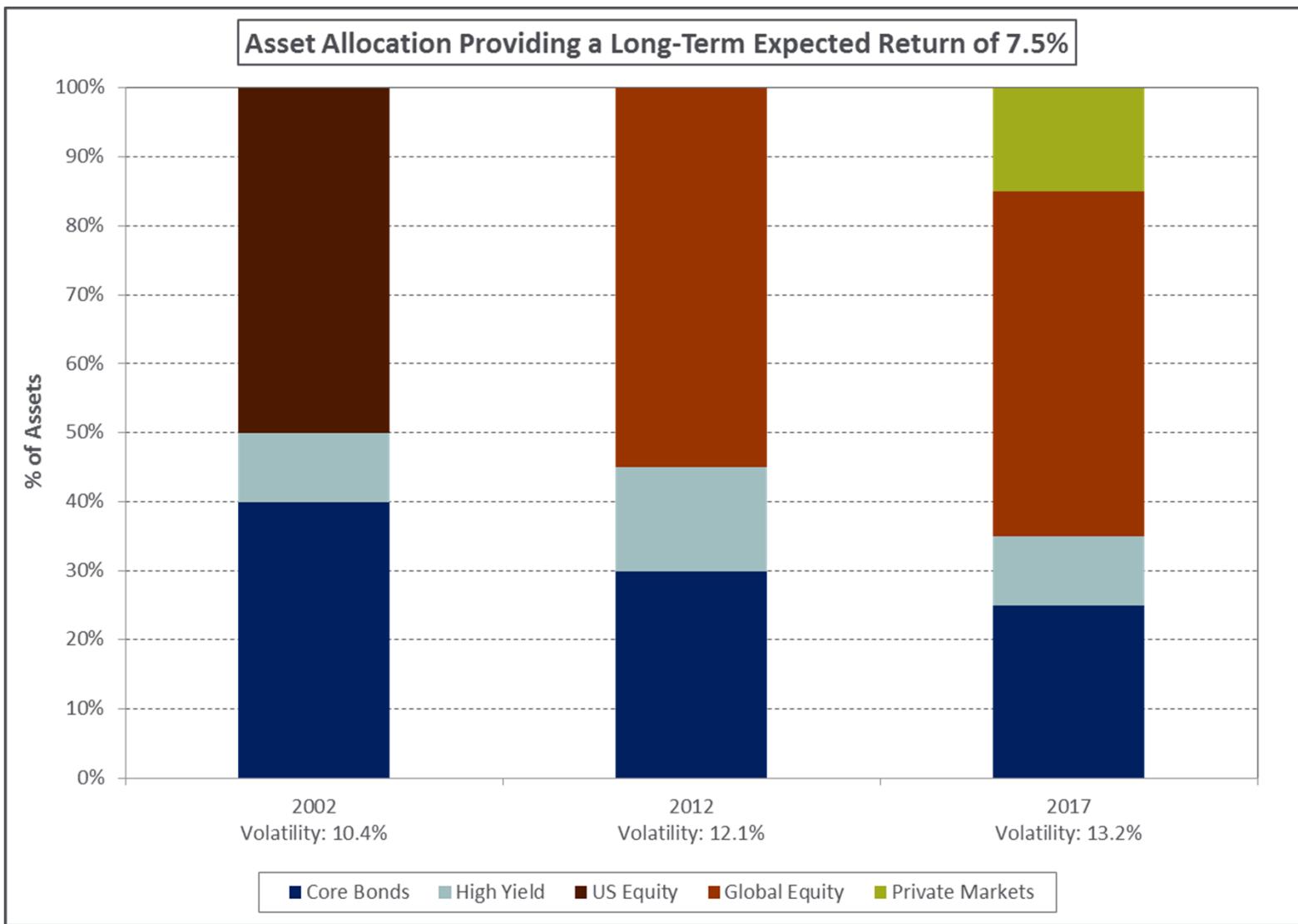
Our inflation outlook for US CPI has increased from 2.25% to 2.5% over 5-7 years

Risk assets outside the US remain the most attractive total return opportunity for public markets

Declines in US equity and high yield reflect valuation shifts over the last 12 months

30 year return assumptions are largely unchanged and reflect subdued capital market assumptions relative to the long-term history

Evaluate the Feasibility of Long-Term Objectives



We anticipate inflation will shift marginally higher in the coming years

The Fed must balance the path of future interest rate increases with the disruptive effects of a strong dollar on global markets

Asset returns offer less support for investors to achieve objectives

A mature private markets portfolio is a key contributor to meeting long-term portfolio objectives

Ensure portfolio structuring supports investment objectives

Core market beta exposures can be sourced in a low cost manner

Active Management & NEPC Research



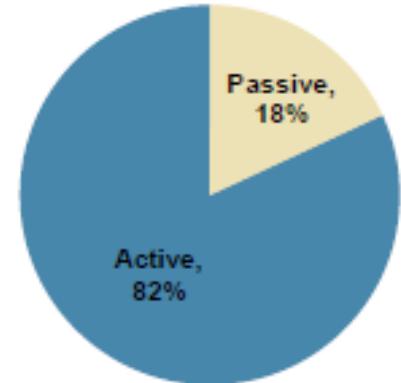
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Headwinds for Active Management

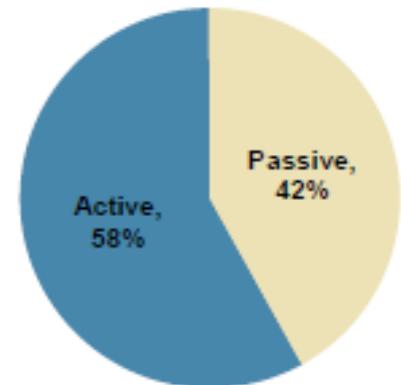
The shift towards passive management is unmistakable

- Active Underperformance**
 - 98% of active U.S. equity funds trailed the benchmark over the past 10 years
- Portfolio Simplification**
 - Resource constraints are pushing investors to reduce the complexity of portfolios
- Fee Scrutiny**
 - Investors and regulators alike are seeking greater transparency and lower costs
- Need for Advice**
 - Investors are placing less value on absolute performance and more value on asset allocation

Overall Portfolio Active Allocation*



U.S. Equities Active Allocation



Source: Greenwich Associates 2016 U.S. Institutional Investors Study. *Includes US equities, international equities, and fixed income products.

Optimistic Forecast for Active Management

Market dynamics are still favorable to a robust, and growing active business

Growth

- Continued growth of the overall institutional asset pool both in the United States and around the world

Complexity

- Pervasiveness of intricate, opaque and illiquid markets not conducive to passive strategies

Innovation

- Advancements to consistently deliver new products, approaches, and solutions

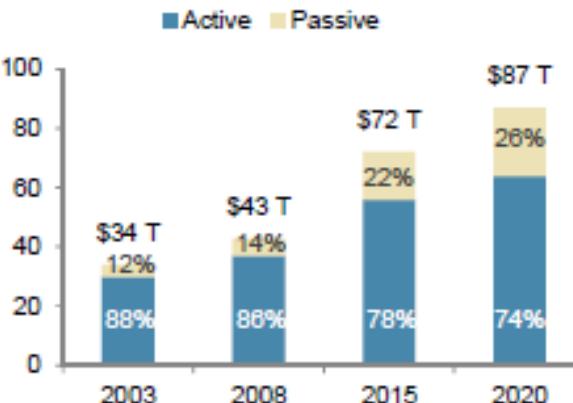
Margins

- Strong profit margins relative to other industries, despite pressures

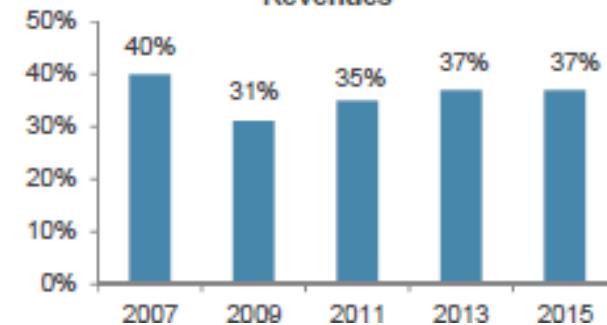
Partnership

- Development of new distribution and engagement models to partner with clients

Global AuM, by Product and Allocation

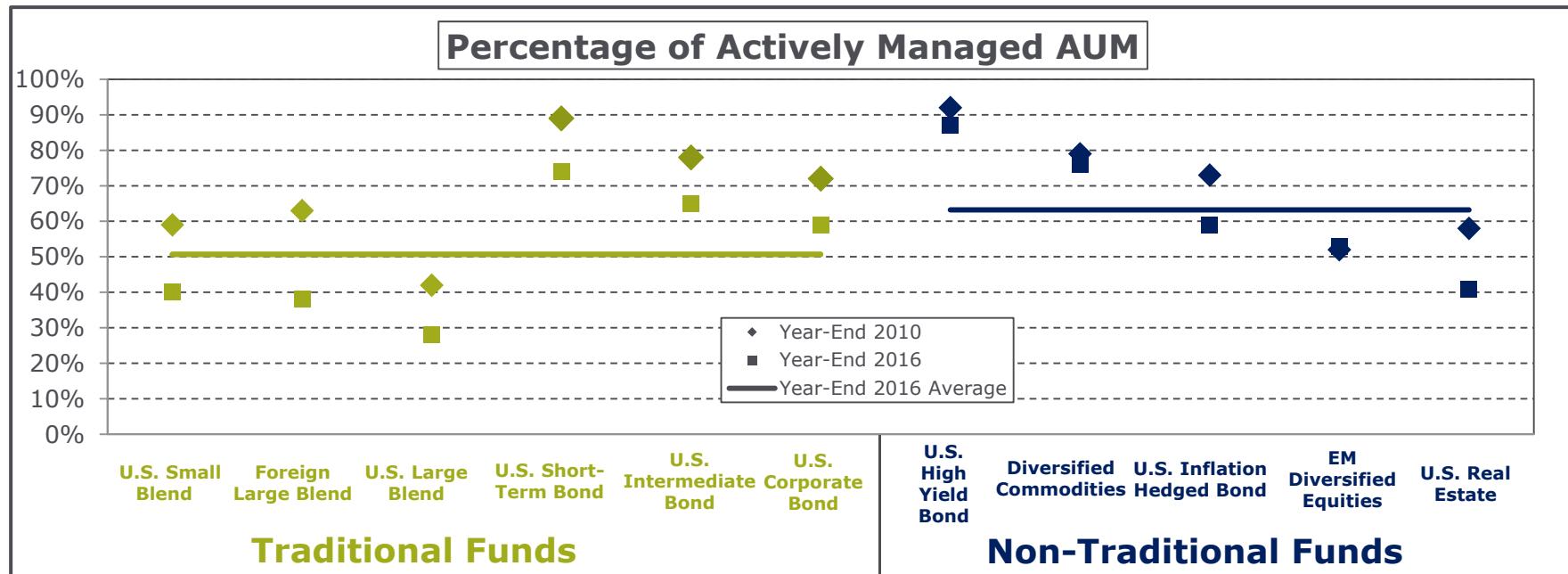


Operating Profits as a Share of Net Revenues



Source: Greenwich Associates 2016 U.S. Institutional Investors Study.

Percentage of Actively Managed AUM



Source: MorningStar Direct, PIMCO Research Affiliates

- **We will give you an organizational chart of the research team**
- **We are going to provide an overview of how we develop investment ideas and select managers**
- **We will give a current example of an area of research focus**

NEPC's Research Team

Tim McCusker, FSA, CFA, CAIA
Chief Investment Officer*

Emma Twitchell
Research Administrative Assistant

| Client Strategy & Asset Allocation Christopher Levell, ASA, CFA, CAIA, Partner* | Traditional Research Timothy Bruce Partner* | Alternatives Research Neil Sheth Partner* | Taxable Research Kristi Hanson, CFA Partner* |
|--|--|--|---|
| Client Strategy Alternative Investments Sean Gill, CFA, CAIA Partner* | Traditional Research Stephen Gargano Sr. Research Consultant Jeff Markarian Sr. Research Consultant Donna Szeto, CFA Sr. Research Consultant Rosann Morello Consultant, Manager Search Hayley Tran Senior Analyst Taylor Furlong, CAIA Analyst Aidan Redmond Analyst Stephanie McMurray Manager Search Coordinator Research Associates Kevin Donnelly Seth Goldman John Lutz | Private Markets Research Sean Gill, CFA, CAIA Partner* <u>Private Equity</u> Jeffrey Roberts Director of Private Equity Eric Harnish Sr. Research Consultant+ Melissa Mendenhall Sr. Research Consultant Alexandra Adam, CAIA, Research Consultant Aarish Patel, CAIA Research Consultant Oliver Fadly, Senior Analyst Joshua Ko, Analyst Brad Rowbotham, CAIA Analyst <u>Real Assets</u> Andrew Brett, CAIA Director of Real Assets Matthew Ritter, CAIA Research Consultant Michael Yang Research Consultant William Elcock, CAIA Senior Analyst Elizabeth Fenn, Analyst | Hedge Fund Research Dulari Pancholi, CFA, CAIA Sr. Research Consultant Seth Bancroft, CFA , CAIA Research Consultant Reino Ecklord, CFA, CAIA Research Consultant Amanda Karlsson, CFA Research Consultant Timothy O'Connell, CFA Research Consultant Alissa Howard, CAIA Senior Analyst Christian Pieri, CAIA Senior Analyst Kevin Bliss Analyst Larissa Davy Analyst |
| Asset Allocation Phillip Nelson, CFA Director of Asset Allocation Mark Cintolo, CAIA Sr. Research Consultant Lynda Dennen, ASA, EA Sr. Research Consultant Ian Spencer Research Consultant Jenn Appel Analyst | | | Operational Due Diligence William Bogle Partner* Operational Due Diligence Erin Faccone, CFA, CAIA Research Consultant Kevin Lau-Hansen Senior Analyst |

* Ownership interest in NEPC (Partner)

+ Principal designation for leadership within the Firm.

Traditional Research – Organizational Structure

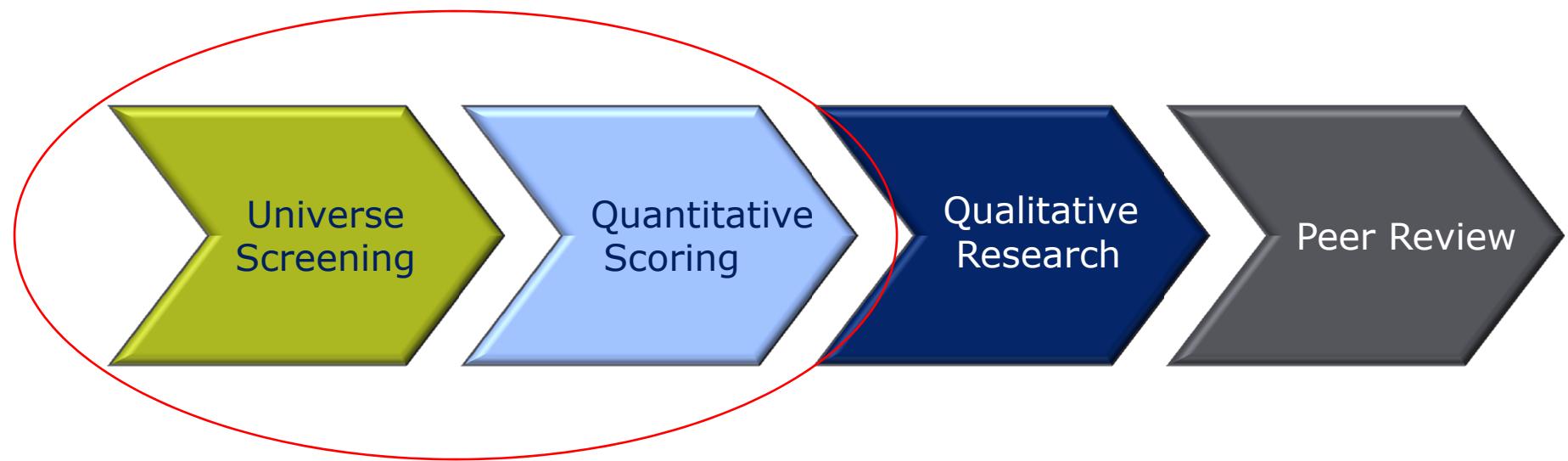
| | | | |
|---|--|--|---|
| US Equity – Mid to Large Donna Szeto Senior Research Consultant <ul style="list-style-type: none">• All Cap• Flex Equity• Smart Beta• US Large Cap Growth, Value, Core• US Mid, Growth, Value, Core | US Equity - Small to Smid Steve Gargano Senior Research Consultant <ul style="list-style-type: none">• Target Date• US Small Cap Growth, Value, Core• US SMID Growth, Value, Core | Global Equity Jeff Markarian Senior Research Consultant <ul style="list-style-type: none">• Frontier Markets• International Equities• Emerging Equities• Global Equity | Asset Allocation Strategies Phillip Nelson (Ian Spencer) Director of Asset Allocation <ul style="list-style-type: none">• GAA• Risk Parity |
| Real Assets Aidan Redmond Analyst <ul style="list-style-type: none">• Alternative Beta• Commodities/Natural Resource• Global I/L• MLP's• REIT's• TIPS | Return Seeking Fixed Income Hayley Tran Senior Analyst <ul style="list-style-type: none">• Absolute Return• Emerging Market Debt• Global Fixed Income• Global Multi-Sector• Multi Asset Credit | Defensive Fixed Income Taylor Furlong Analyst <ul style="list-style-type: none">• Core/Core Plus• HY/Bank Loans• Municipal• Short/Long/Extended duration• Stable Value• Target Date (back up Steve) | Index & Custody Services Rosann Morello Consultant, Manager Search <ul style="list-style-type: none">• Custody• Indices• Overlay• Securities Lending• Transition Management |

| Oversight Roles |
|---|
| These are the point people but shared team coverage |
| <ul style="list-style-type: none">• Defined Contribution – Ross, Steve, Taylor• ESG – Aidan• MWDBE – Donna• Tax Sensitive – Rosann, Jeff, Hayley• Niche/Sector Ideas – Jeff, Hayley |

| Research Associates Coverage |
|---|
| <ul style="list-style-type: none">• Kevin Donnelly – Donna, Hayley• Seth Goldman – Taylor, Steve• John Lutz – Jeff, Aidan• Stephanie McMurray – Rosann, Phil |

NEPC Hedge Fund Research Practice Structure



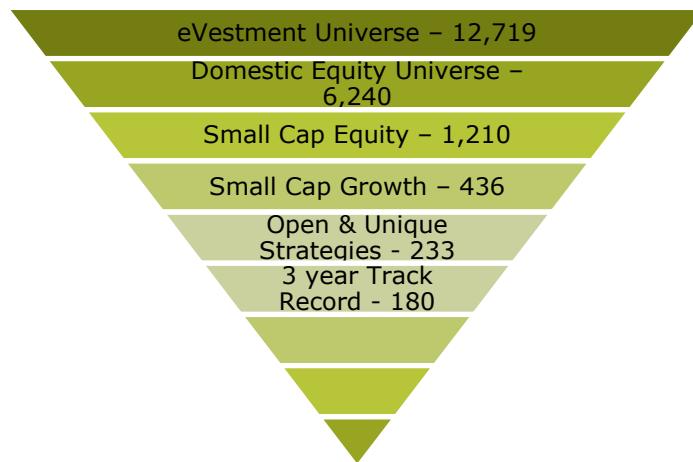


Key Manager Criteria:

- “**Have you done it?**” - **Consistent alpha at appropriate risk levels**
- “**Why can you keep doing it?**” - **Defensible investment thesis**
- “**Who is going to do it?**” – **Solid & stable organization structure**

Universe Screening – Casting a Broad Net

Here is an Example: Small Cap Growth



Same screening criteria on Morningstar Universe to ensure broadest coverage – over 26,000 funds

69 unique funds passing same criteria

249 unique strategies qualifying for further analytics

- **Traditional and Alternatives:**
- **Proprietary PASS tool (Performance Analytics Statistical Software) used to systematize quantitative analysis**
- **This software isolates net-of-fees alpha, removing market/index performance**
 - Attractive strategies will have consistent net-of-fees performance at reasonable levels of active risk (tracking error)
- **Each strategy scored on variety of excess return statistics**
 - Rolling metrics used to minimize end-point sensitivity
 - Statistical significance of alpha
 - Rolling alpha greater than certain hurdles
 - Upside/Downside Capture
 - Information Ratio
 - NEPC Score on quality of investment thesis and firm stability
- **Scoring channels Research focus to strategies demonstrating ability to deliver excess returns over long term**



NEPC Traditional Research - SMALL CAP CORE - NETTING 07/15/10

| EVALUATION CRITERIA - DATA | | | | | | | | | TOTAL SCORE |
|----------------------------|----------------------------|-----------------------------|------------------------------|----------------------------|--------------------|----------------------|-------------------------------|-----|-------------|
| CONTRARIAN INDICATOR | ROLLING 3 YR. RTR. - % > 0 | ROLLING 3 YR. RTR. - % > X% | Avg. 3 yr. INFORMATION RATIO | IR + SQRT LENGTH OF RECORD | UPSIDE MKT CAPTURE | DOWNSIDE MKT CAPTURE | FIRM/TEAM STRUCTURE/STABILITY | | |
| Assigned Weights | 5% | 5% | 10% | 15% | 20% | 5% | 10% | 30% | |
| Managers | | | | | | | | | 1-100 |
| 1 Manager 1 | 0.04 | 86% | 58% | 0.63 | 1.92 | 86% | 72% | 5 | 86 |
| 2 Manager 2 | 0.18 | 82% | 67% | 0.58 | 2.40 | 125% | 100% | 5 | 85 |
| 3 Manager 3 | 0.03 | 92% | 79% | 0.73 | 1.52 | 93% | 79% | 5 | 85 |
| 4 Manager 4 | (0.02) | 77% | 65% | 0.57 | 2.31 | 98% | 81% | 5 | 84 |
| 5 Manager 5 | 0.12 | 88% | 68% | 0.87 | 2.82 | 91% | 72% | 3 | 73 |
| 6 Manager 6 | (0.03) | 81% | 24% | 0.42 | 2.16 | 104% | 96% | 5 | 73 |
| 7 Manager 7 | 0.34 | ### | 100% | 1.14 | 1.89 | 100% | 70% | 2 | 70 |
| 8 Manager 8 | 0.05 | 89% | 61% | 0.87 | 2.27 | 104% | 89% | 3 | 70 |
| 9 Manager 9 | 0.20 | 97% | 89% | 0.71 | 2.51 | 100% | 70% | 2 | 70 |
| 10 Manager 10 | 0.33 | 82% | 75% | 0.95 | 3.16 | 106% | 78% | 2 | 70 |
| | | | | | | | | | |
| 172 Manager 172 | (0.05) | 20% | 8% | (0.60) | (1.25) | 93% | 99% | 3 | 21 |
| 173 Manager 173 | (0.02) | 0% | 0% | (0.69) | (1.23) | 87% | 96% | 3 | 20 |
| 174 Manager 174 | (0.10) | 31% | 2% | (0.53) | (1.81) | 87% | 98% | 3 | 19 |
| 175 Manager 175 | (0.04) | 18% | 0% | (0.91) | (2.00) | 95% | 107% | 3 | 18 |

- **Clients and NEPC are focused on fees**
- **When clients run a manager search they see the fee schedule**
 - When applicable, clients see NEPC negotiated fees
- **Looking to partner with managers on creative commercial structures that:**
 - Align interests of all parties
 - Provide reasonable compensation to investment managers
 - Reward meeting and exceeding expectations
- **Over 70 managers have offered preferential pricing to NEPC clients**

Investment Manager Searches And Activity



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Searches Conducted in 2016

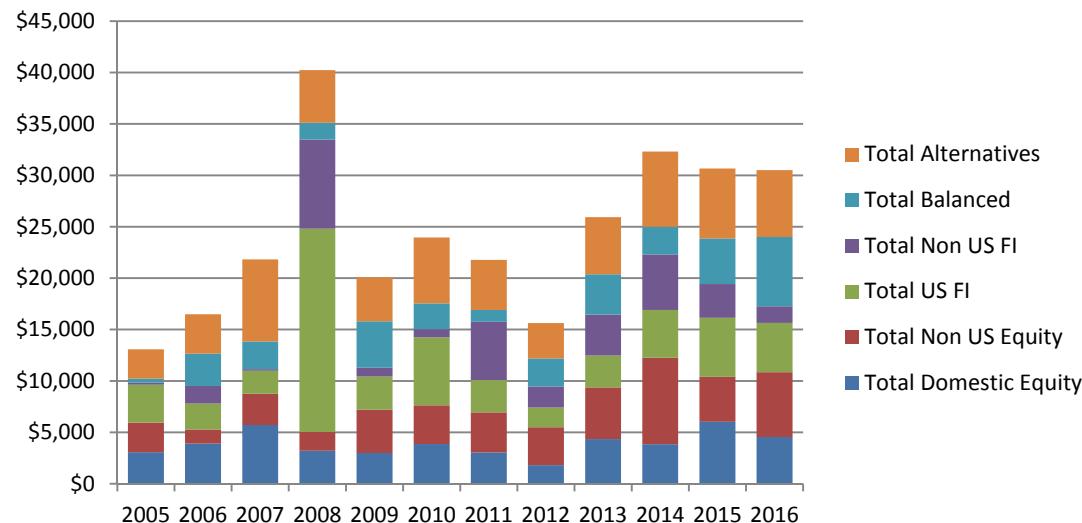
| Total Searches & Reviews | 714 |
|---|----------------|
| Searches by Asset Class | |
| Large Cap Equity | 42 |
| Sm/Mid Cap & Mid Cap Equity | 21 |
| Small Cap Equity | 32 |
| All Cap Equity (includes MLP's) | 10 |
| Int'l Equity/Global Equity/Emerging | 110 |
| Fixed Income | 62 |
| High Yield Bonds | 8 |
| Global Bonds/Emerging Market Debt | 42 |
| LDI | 13 |
| GAA/TAA (includes Risk Parity & LifeCycle) | 55 |
| Hedge Funds | 26 |
| Real Estate ¹ | 80 |
| Real Assets ¹ | 60 |
| Private Equity ¹ (includes Private Debt) | 150 |
| Liquid Alt Beta | 3 |
| Total Search Assets | \$30.5 billion |

52% of all
searches and
reviews were for
non-traditional
managers and
strategies

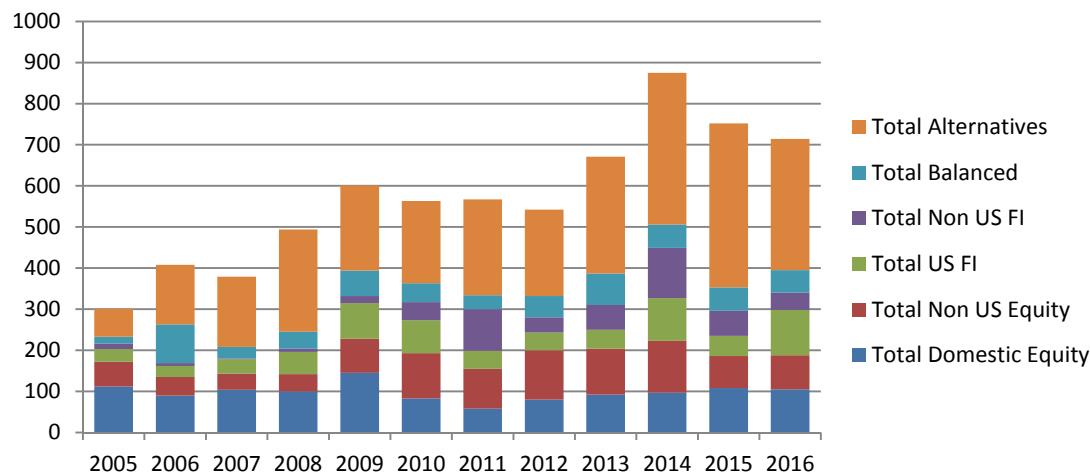
¹ Private markets estimated for 2016 based activity through 6/30/16

Historical Search Activity

**Total Assets Placed in Searches
(in millions)**



Total Number of Searches



Final Thoughts

- **Stay on top of our views**
 - Available at www.nepc.com
- **Bring your best ideas forward**
 - “Best in Class” products
 - Products consistent with identified market opportunities
 - Innovative strategies
- **Focus on Quality not Quantity**
 - A few meetings on the right products and strategies will be much more productive for both sides than meetings for the sake of meetings
- **Be willing to take “No” for an answer**
 - Engage constructively with our Research team-members, be patient with the timing of our Preferred strategy assessment process, and accept our feedback graciously
 - We cannot accept every meeting request we receive and deliver high quality research for our clients

- **Information about client needs and search activity**
- **Our views on the market and our key messages to clients**
- **Our framework for evaluating managers**
- **Responsiveness to meeting requests**
- **Candid feedback**

While we answer your questions, we encourage you to read about our other upcoming events and NEPC Conference Presentations:

NEPC's 22nd Annual Investment Conference: NEPC is hosting this year's conference on May 9th-10th at the InterContinental Hotel in Boston. Our conference agenda, including pre-conference workshops, break-out sessions and evening activities is now available. In addition to our exceptional keynote speakers, this year's conference provides opportunities to learn about asset allocation and investment ideas across the market spectrum. Monday afternoon's workshops will include education on Private Markets and an Investments 101 session. **Registration is now closed.**

Kelly Regan, Senior Consultant, will moderate a panel, titled "Practical Steps Towards ESG Integration," at the **5th Annual Mid-Atlantic Institutional Investor Forum** on May 23 in Washington, DC.

Scott Perry, CAIA, Partner, will moderate the "New Paradigms in Asset Allocation" at the **Chief Investment Officer Summit** on May 24 in New York.

****To see more updates and NEPC publications, please visit the Insights section of our website: <http://www.nepc.com/research/>**

- **Past performance is no guarantee of future results.**
- **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.**
- **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.**
- **All investments carry some level of risk. Diversification and other asset allocation techniques do not ensure profit or protect against losses.**
- **This report does not constitute a recommendation to implement any of the investment management approaches described herein. Not all strategies are suitable for all investors.**
- **This report 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.**

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

1. Performance can be volatile and investors could lose all or a substantial portion of their investment
2. Leverage and other speculative practices may increase the risk of loss
3. Past performance may be revised due to the revaluation of investments
4. These investments can be illiquid, and investors may be subject to lock-ups or lengthy redemption terms
5. A secondary market may not be available for all funds, and any sales that occur may take place at a discount to value
6. These funds are not subject to the same regulatory requirements as registered investment vehicles
7. Managers may not be required to provide periodic pricing or valuation information to investors
8. These funds may have complex tax structures and delays in distributing important tax information
9. These funds often charge high fees
10. 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