

Global Equity Annual Program Review

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Global Equity Performance Summary

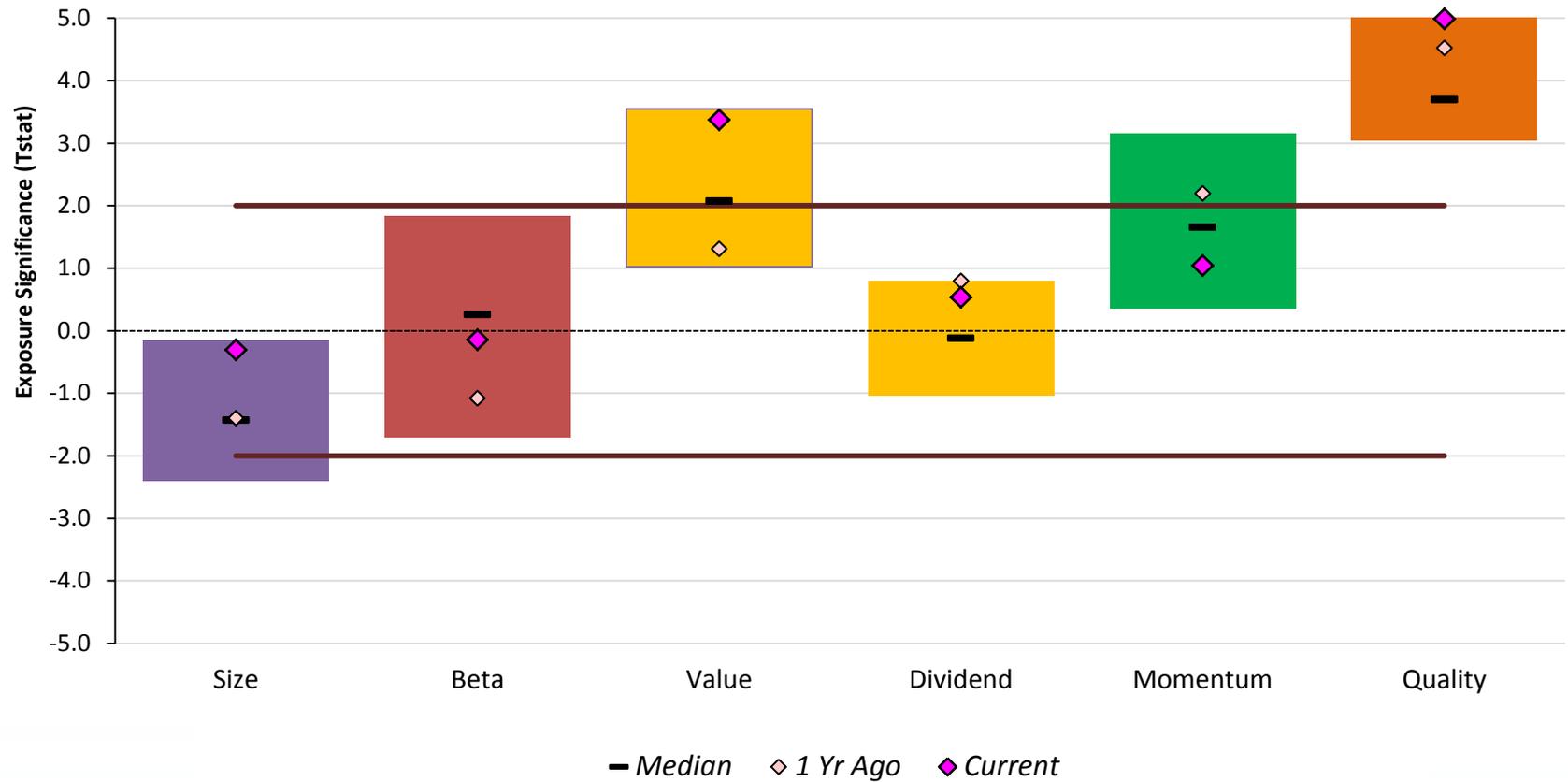
- Strong absolute return of 19.7% in FY 16/17
- .2% underperformance from slight defensive positioning in a strongly rising market

	One-Year Net Return	Three-Year Net Return	Five-Year Net Return	Ten-Year Net Return	Twenty-Year Net Return	Since Inception (July 1989) Net Return
Global Equity (\$156 B)	19.7%	5.3%	11.6%	4.3%	6.4%	9.0%
Policy Benchmark	19.8%	5.3%	11.4%	4.7%	6.3%	8.3%
Excess Return	-0.2%	0.1%	0.3%	-0.4%	0.0%	0.7%

Active Risk (Realized)	0.3%	0.3%	0.3%	0.8%	0.8%	1.9%
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Portfolio Positioning

Active Factor Exposures - Current & Historical (3-year)



Business Update

- Fiscal Year 2016-2017 Major Accomplishments
 - Integrated Corporate Governance Activities and Team
 - 2 Major Technology Deployments
 - Rounded out Alternative Beta and Factor Exposure Suite
- Fiscal Year 2017-2018 Major Initiatives
 - Prepare for Changes Resulting from the ALM Process
 - Continue ESG Strategic Plan Implementation
 - Continue Global Equity Portfolio Rationalization

Appendix

Review Outline

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Global Equity Annual Returns	15	Yellow				Green					
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Trend in Implementation	27								Green		Green
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Progress on Strategic Plan Initiatives	29		Yellow	Yellow	Yellow					Yellow	Green

- 1** Liabilities
- 2** Long-Term Horizon
- 3** Stakeholders
- 4** Three Forms of Capital
- 5** Accountability
- 6** Strategic Allocation
- 7** Risk Reward
- 8** Costs Matter
- 9** Multi-faceted Risk
- 10** Resources/Process

Investment Beliefs Key

	Short Name	Investment Belief
1	Liabilities	Liabilities must influence the asset structure.
2	Long-Term Horizon	A long time investment horizon is a responsibility and an advantage.
3	Stakeholders	CalPERS investment decisions may reflect wider stakeholder views.
4	Three Forms of Capital	Long-term value creation requires effective management of three forms of capital: financial, physical, and human.
5	Accountability	CalPERS must articulate its investment goals and performance measure and ensure clear accountability for their execution.
6	Strategic Allocation	Strategic asset allocation is the dominant determinant of portfolio risk and return.
7	Risk Reward	CalPERS will take risk only where we have a strong belief we will be rewarded.
8	Costs Matter	Costs matter and need to be effectively managed.
9	Multi-faceted Risk	Risk of CalPERS is multi-faceted and not fully captured through measures such as volatility or tracking error.
10	Resources / Process	Strong processes and teamwork and deep resources are needed to achieve CalPERS' goals and objectives.

I. Program Overview

Program Role

- Primary role
 - The role of equities is “total return oriented and to capture the equity risk premium (ERP), defined as the excess return over risk-free government bonds, by means of ownership risk in companies and exposure to corporate earnings growth. The major driver is appreciation, with some cash yield (growth and liquidity)” - 2017 Asset Liability Management (ALM)
- Drivers of total performance
 - Price appreciation
 - Cash yield
- Risks
 - Economic: High sensitivity to global economic growth variability
 - Liquidity: Portfolio expected to remain highly liquid

Program Investment Philosophy

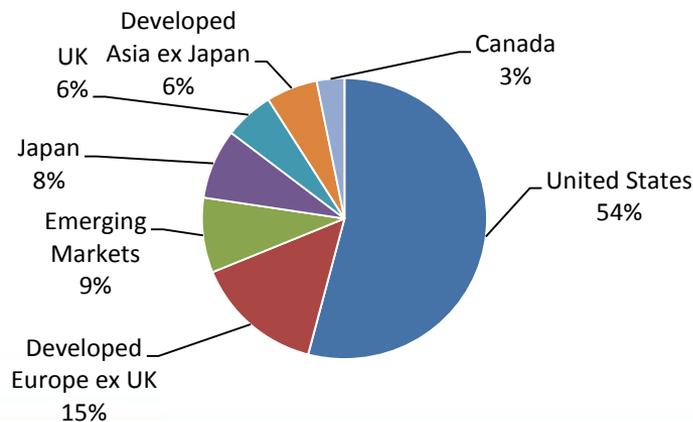
- Global equity markets are unpredictable
 - Priority on the efficient delivery of the ERP through a risk-managed combination of index-oriented, alternative beta, and traditional active management
- Sources and levels of alpha vary over time and across geographies
 - Stock selection strategies in which we have conviction
 - Factor-based exposures, reflecting structural and opportunistic views
- Resulting Characteristics:
 - 58% of portfolio invested in low-cost, internally managed index-oriented strategies
 - 14% of portfolio invested in low cost, internally managed alternative beta
 - 28% of portfolio invested in traditional active strategies, both internally and externally managed
 - Low and time-varying levels of active risk in the 0-50 basis points (bps) range

Policy Benchmark

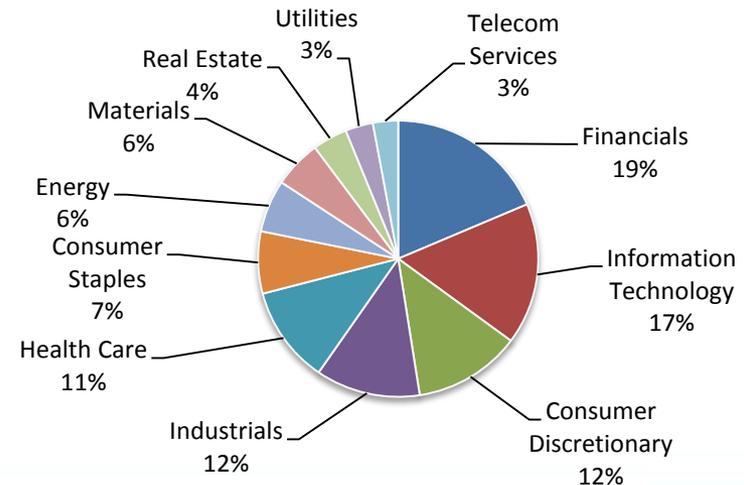
CalPERS Custom FTSE All World, All Capitalization

- Excludes tobacco, firearms, thermal coal, Iran/Sudan
- Complies with emerging market principles
- Covers 47 countries, 37 currencies
- Holds approximately 10,000 securities, weighted by market-capitalization

GE HOLDINGS BY REGION



GE HOLDINGS BY SECTOR



Program Characteristics

- Total assets: \$156 billion
- 79% internally managed, 21% externally managed

	Index Oriented	Alternative Beta	Traditional Active	Emerging Managers	Total
% of Assets Under Management (AUM)	58%	14%	26%	2%	\$156 B
Forecast Active Risk (bps)	7	84	95	114	20

Mandate Mix

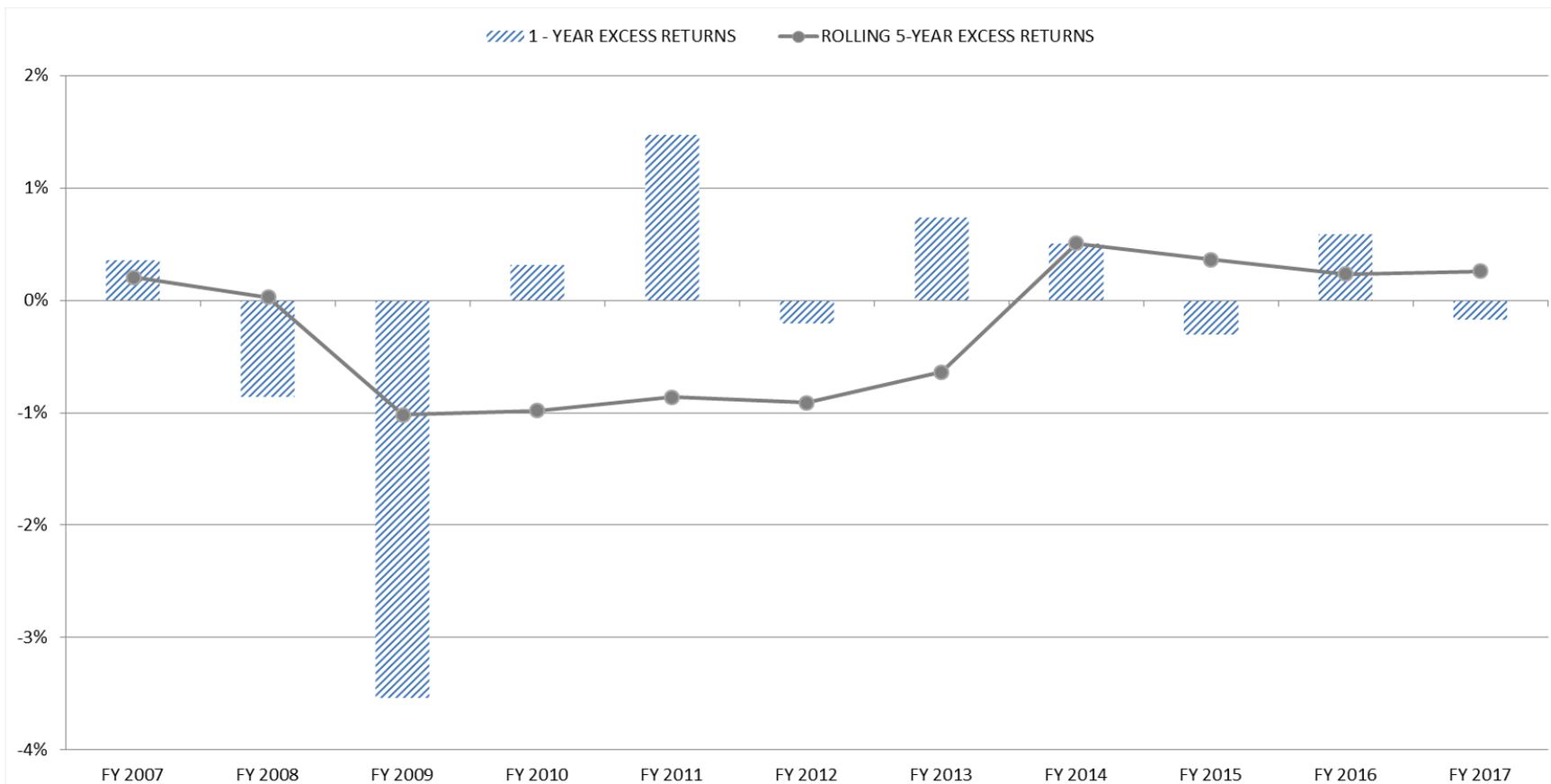
	Index Oriented	Alternative Beta	Traditional Active	Emerging Managers	Total
Global	\$0 B	\$1 B	\$21 B	\$.2 B	\$22 B
US	\$52 B	\$10 B	\$6 B	\$1 B	\$70 B
International Developed	\$33 B	\$9 B	\$9 B	\$1 B	\$52 B
Emerging Markets	\$6 B	\$2 B	\$4 B	\$.3 B	\$12 B

FEES

	Index Oriented	Alternative Beta	Traditional Active	Emerging Managers	Total
One-Year Fees Paid	\$11 MM	\$5 MM	\$82 MM	\$23 MM	\$121 MM
Cost / AUM (bps)	1	2	21	72	9

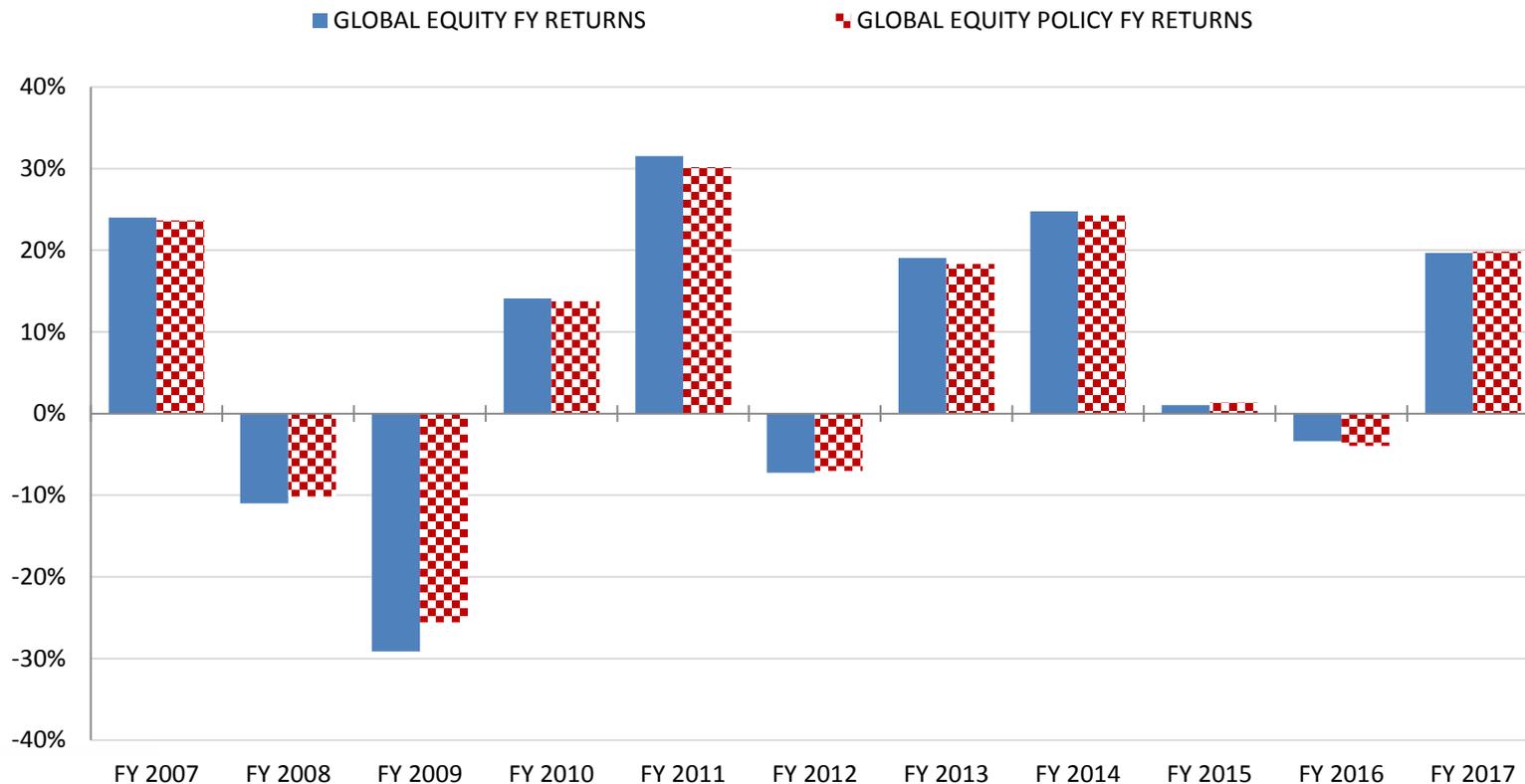
II. Investment Review

Global Equity Rolling 5-Year Active Return



Global Equity Annual Returns

TOTAL GLOBAL EQUITY ANNUAL RETURNS - FISCAL YEAR

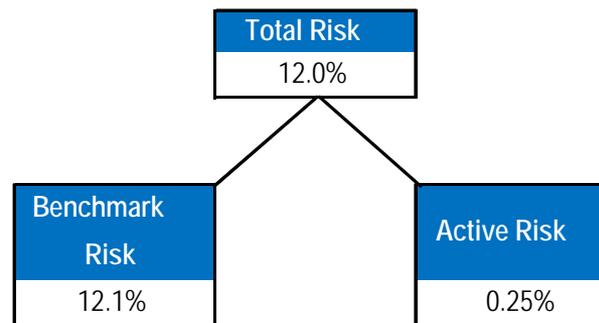


One-Year Excess Return Contributors

Positive Contributors	Negative Contributors
Internal Value (+17 bps)	Global Market Strategies (-26 bps)
Developed Markets Strategies (+14 bps)	Emerging Market Strategies (-13 bps)
Index Oriented (+13 bps)	Internal Momentum (-7 bps)
Structured Products (+11 bps)	U.S. Active Strategies (-4 bps)
Securities Lending (+8 bps)	

Global Equity Risk Profile

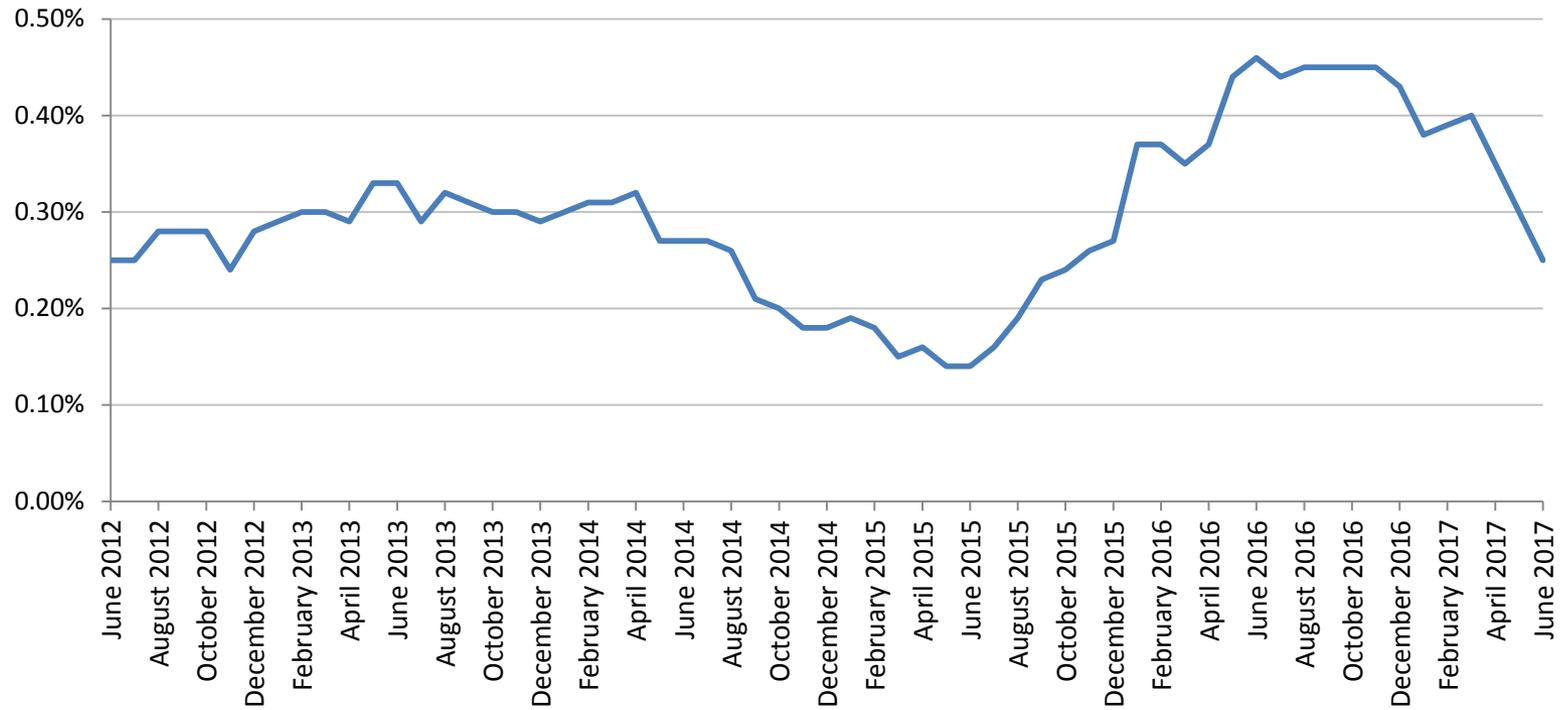
- Global Equity Forecasted Risk is 12.0%
- Forecasted Tracking Error is 0.25% and is within guidelines
- Correlation vs. the entire PERF portfolio is 0.97
- 1-year value-at-risk*: \$18.1 billion
- 1-year expected shortfall*: \$26.0 billion



*Adjusted to account for the expected return

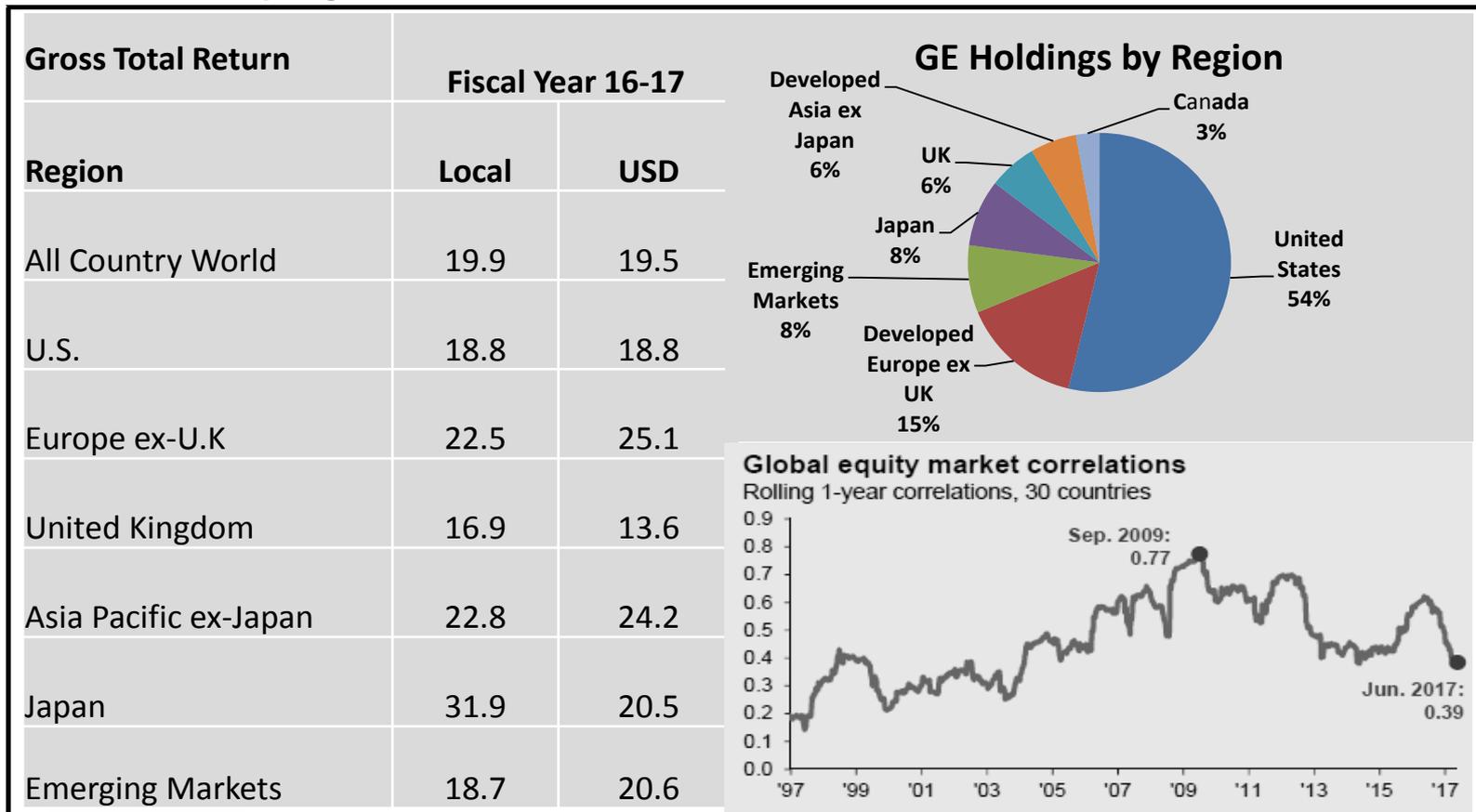
Portfolio Active Risk

Five-Year Trend in Realized Active Risk

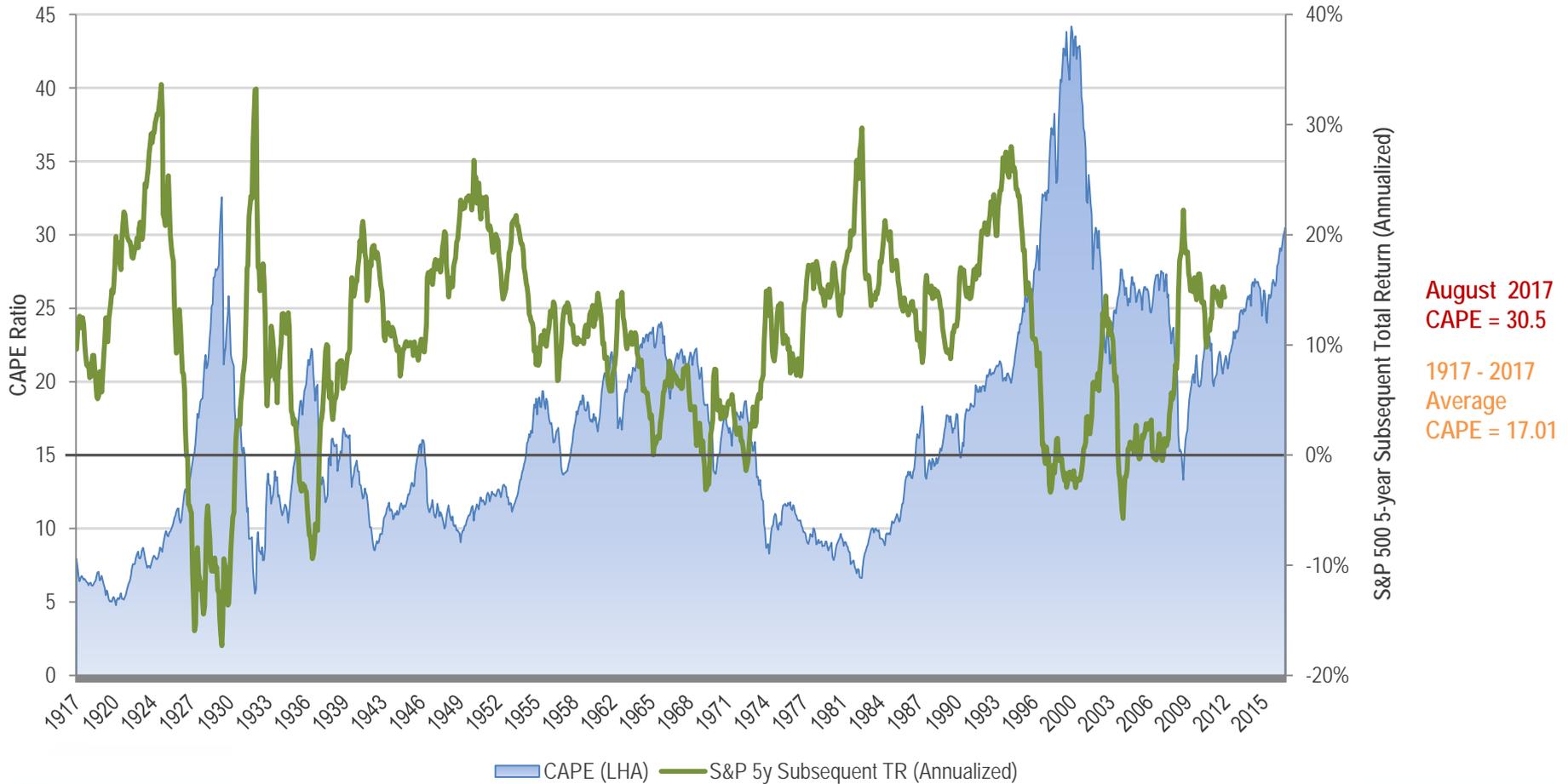


Context and Positioning

Global Equity Markets



CAPE and Subsequent 5 Year Annualized Return

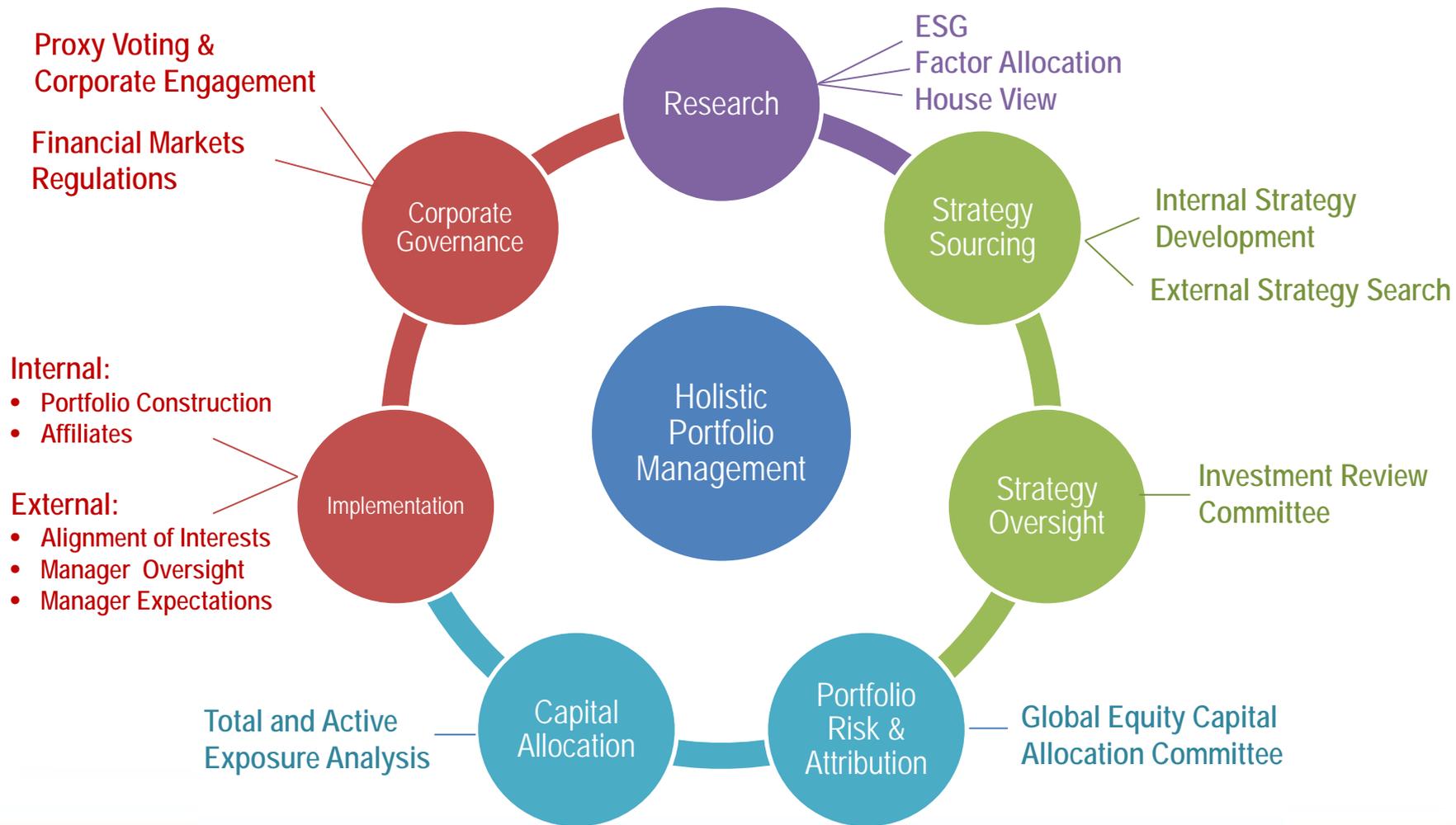


III. Business Review

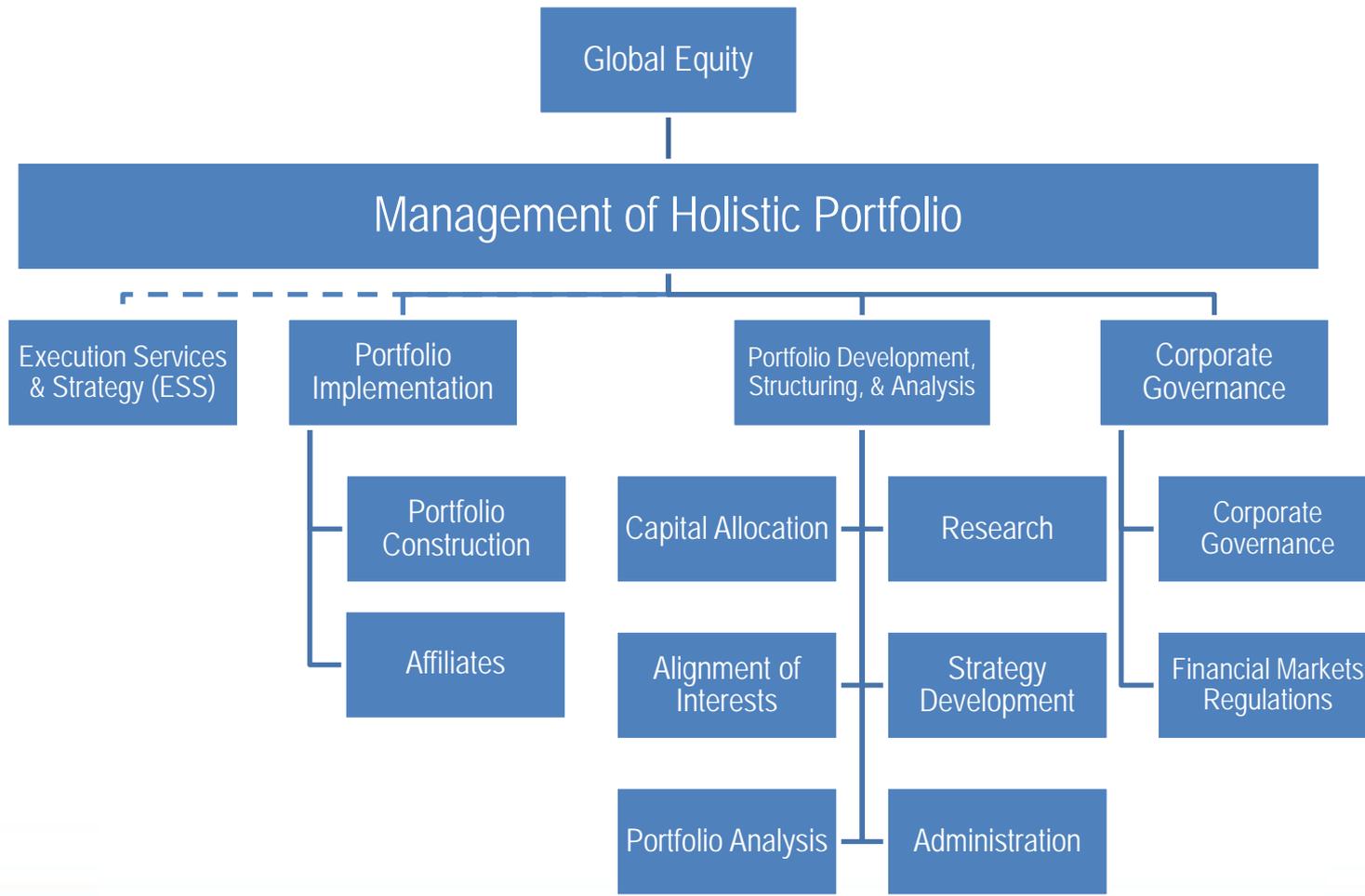
Business Philosophy

- Management of the holistic portfolio
 - Disciplined and inclusive capital allocation process
 - Multi-dimensional risk management
- Capitalize on strengths
 - Long horizon investor
 - Utilize natural “long” positioning
 - Systematic harvesting of market anomalies
- Efficient deployment of the business model
 - “One Team, One Mission” culture
 - Heavy use of technology and automation
 - Continuous improvement

Investment Model Elements



Functional Organizational Chart



Staffing Overview

TOTAL PROGRAM

- 60 positions within Global Equity

STAFFING UPDATES

- Appointed 2 Investment Directors
- Appointed 2 Investment Managers
- Appointed 3 Associate Investment Managers
- Appointed 5 Investment Officers
- Appointed 8 Admin Staff
- Transferred 1 Investment Manager to GE
- Transferred 6 Investment Officer to GE
- Transferred 5 Admin Staff to GE

CURRENT VACANCIES

- 3 Investment Managers
- 4 Associate Investment Managers
- 3 Investment Officers
- 3 Admin Staff

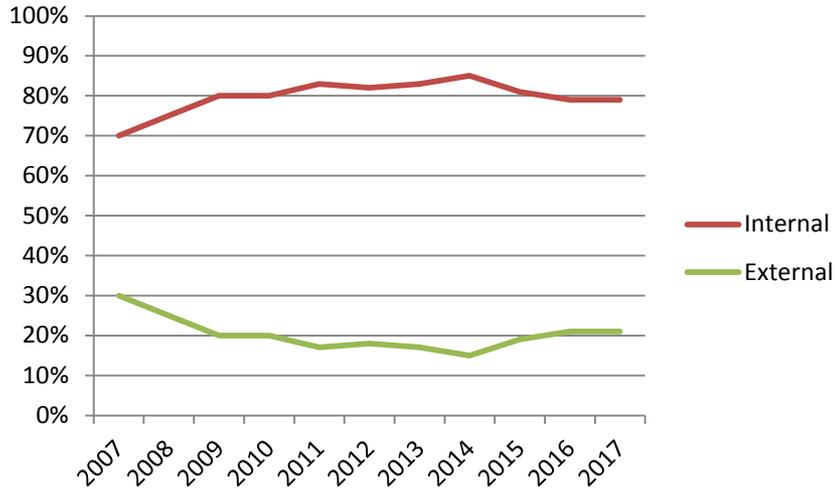
Program Expenses

	FY 2016-17			FY 2015-16		
	AUM (\$billions)	Fees Paid (\$millions)	Fees Paid (BPS)	AUM (\$billions)	Fees Paid (\$millions)	Fees Paid (BPS)
Index Oriented	\$91	\$11	1	\$90	\$ 9	1
Alt Beta	\$22	\$5	2	\$22	\$8	4
Traditional Active	\$40	\$82	21	\$38	\$125	33
Emerging Managers	\$3	\$23	72	\$3	\$20	74
Consultants Expense	N/A	\$2	<1	N/A	\$ 3	< 1
Technology & Operating Expense	N/A	\$15	1	N/A	\$ 13	1
Total Program	\$ 156	\$ 138¹	9	\$ 153	\$ 178	12

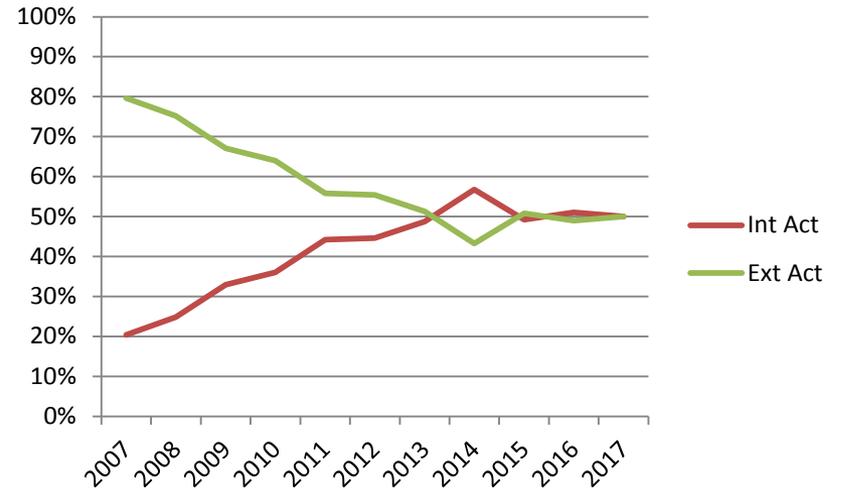
Trend in Implementation

- The percentage of assets managed in-house (79% today) has increased over time
- 50% of Global Equity’s active strategies are now managed in-house.

Internal | External



Internal Active | External Active



IV. Governance & Sustainability Integration

Progress on Strategic Plan Initiatives

- Issued an RFI for Global Equity ESG Strategies
 - Systematic broad-based strategies which integrate ESG in portfolio construction
- Moved from Pilot to Integration on Manager Expectations
 - Requires managers to articulate how ESG is integrated into investment decision process
 - Applies to both internal and external strategies
- Integrated Corporate Governance Function into Global Equity
 - Integrated Proxy Voting, Corporate Engagement, and Financial Markets Advocacy
 - Stronger relationships with asset managers
 - New Corporate Governance business model review