

Global Equity Annual Program Review

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Executive Summary¹

- Global Equity had a challenging year both in absolute and relative returns:
 - +1.0% total return
 - -0.3% relative to policy benchmark
- Active risk has remained consistent with the prior year at relatively low levels, (approx. 15-20bps) though the portfolio continues to evolve:
 - More “alternative beta” levers and use
 - Ongoing strategy rationalization
 - Positioning for intentional exposures (with expected return)
- Business model deployment continues:
 - Broader and deeper inputs into capital allocation
 - Greater collaboration across functional structure
 - Greater use of technology
 - Reorganization and staff development

Global Equity Annual Program Review

Review Outline

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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.” (2013 Asset Liability Management (ALM) Workshop)
- 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

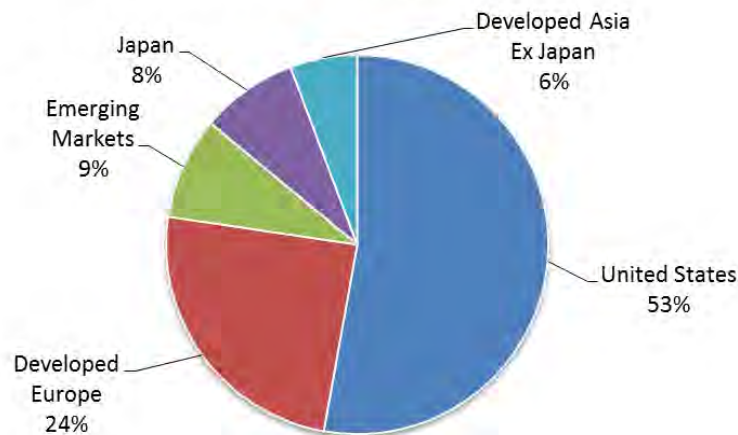
- Global equity markets are unpredictable
 - Priority on the efficient delivery of the ERP through a risk-managed combination of index-oriented, alternative beta, and traditional active management
- Sources and levels of alpha vary over time and across geographies
 - Stock selection strategies in which we have conviction
 - Dynamic and opportunistic timing in taking informed factor exposures
- Resulting Characteristics:
 - 65% of portfolio invested in low-cost, internally managed index-oriented strategies
 - 13% of portfolio invested in alternative beta
 - 22% of portfolio invested in traditional active strategies, both internally and externally managed, to capture factor and stock selection alpha
 - Low and time-varying levels of active risk in the 0-50 basis points (bps) range

Policy Benchmark

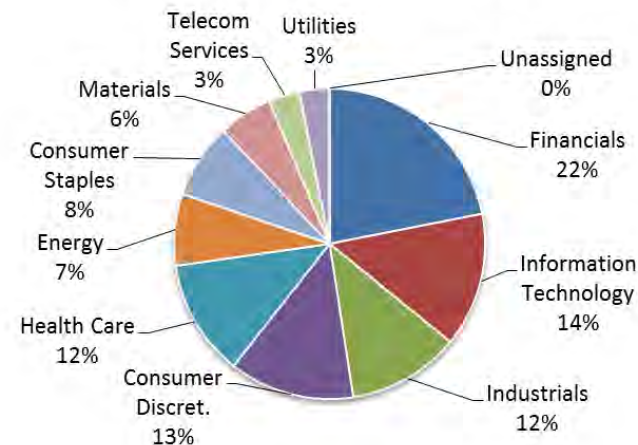
CalPERS Custom FTSE All World, All Capitalization

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

GE BENCHMARK HOLDINGS BY REGION



GE BENCHMARK HOLDINGS BY SECTOR



Program Characteristics

- Total assets: \$162 billion
- Assets mix:
 - Geographic exposure: 52% U.S., 40% international developed, 8% emerging
 - 85% internally managed, 15% externally managed

	Index Oriented	Traditional Active		Activists	Emerging Managers	Total
		Internal	External			
% of Assets Under Management (AUM)	65%	19%	12%	2%	2%	\$162 B
Forecast Active Risk (bps)	5	60	110	460	160	16

DOLLAR ALLOCATIONS

U.S.	\$57 B	\$19 B	\$6 B	\$1 B	\$1.5 B	\$85 B
International Developed	\$45 B	\$8 B	\$9 B	\$1 B	\$1 B	\$64 B
Emerging Markets	\$4 B	\$4 B	\$5 B	\$.4 B	\$.5 B	\$13 B

FEES¹

One-Year Fees Paid	\$9 MM	\$10 MM	\$91 MM	\$29 MM	\$19 MM	\$158 MM
Cost / AUM (bps)	1	3	46	107	65	10

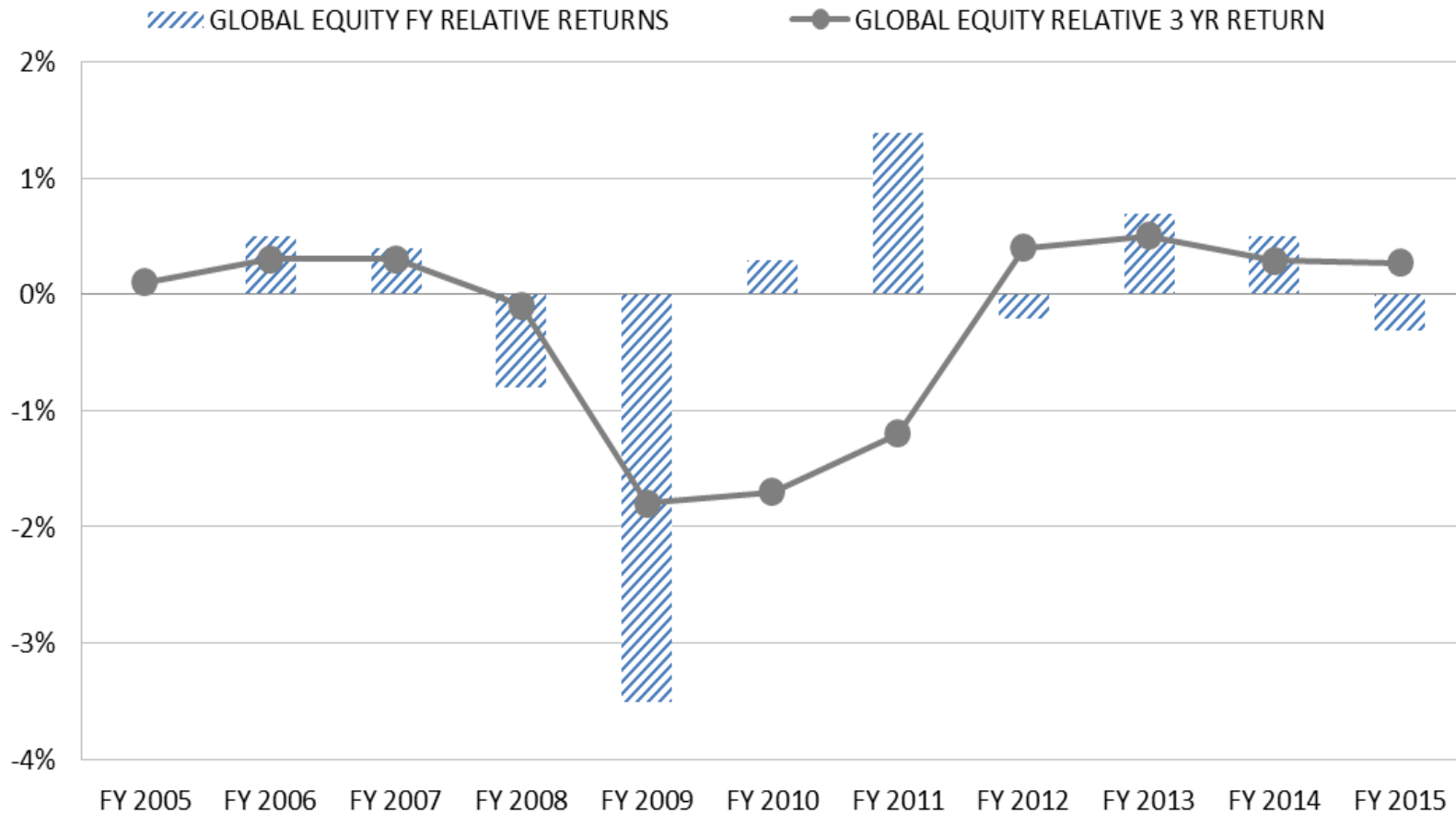
II. Investment Review

Global Equity Performance Summary

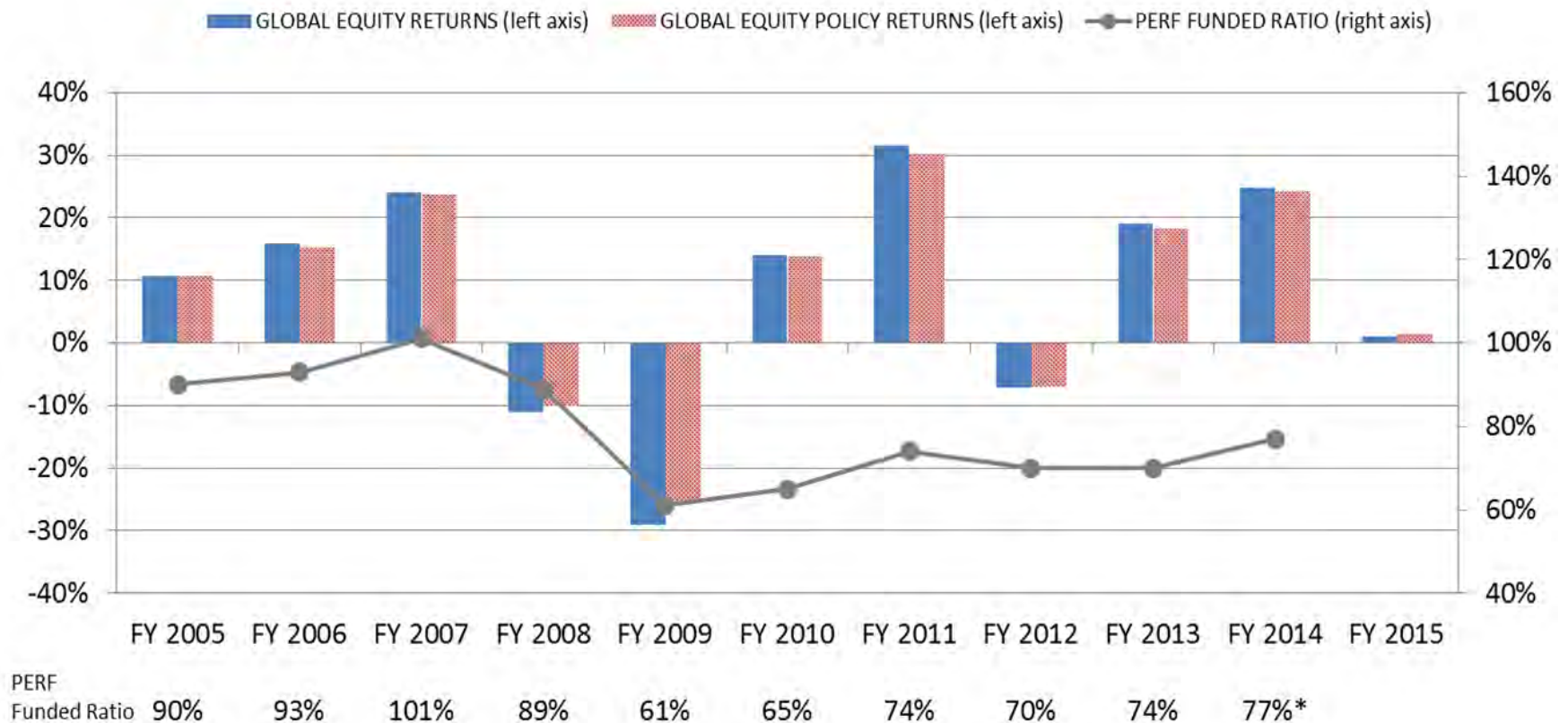
- Challenging year both in absolute and relative returns

	One-Year Net Return	Three-Year Net Return	Five-Year Net Return	Ten-Year Net Return
Global Equity	1.0%	14.5%	12.9%	6.6%
Policy Benchmark	1.3%	14.2%	12.5%	6.9%
Excess Return	(0.3%)	0.3%	0.4%	(0.3%)
Active Risk (Realized)	0.1%	0.3%	0.4%	0.8%

Global Equity Rolling 3-Year Excess Return



Global Equity Annual Returns

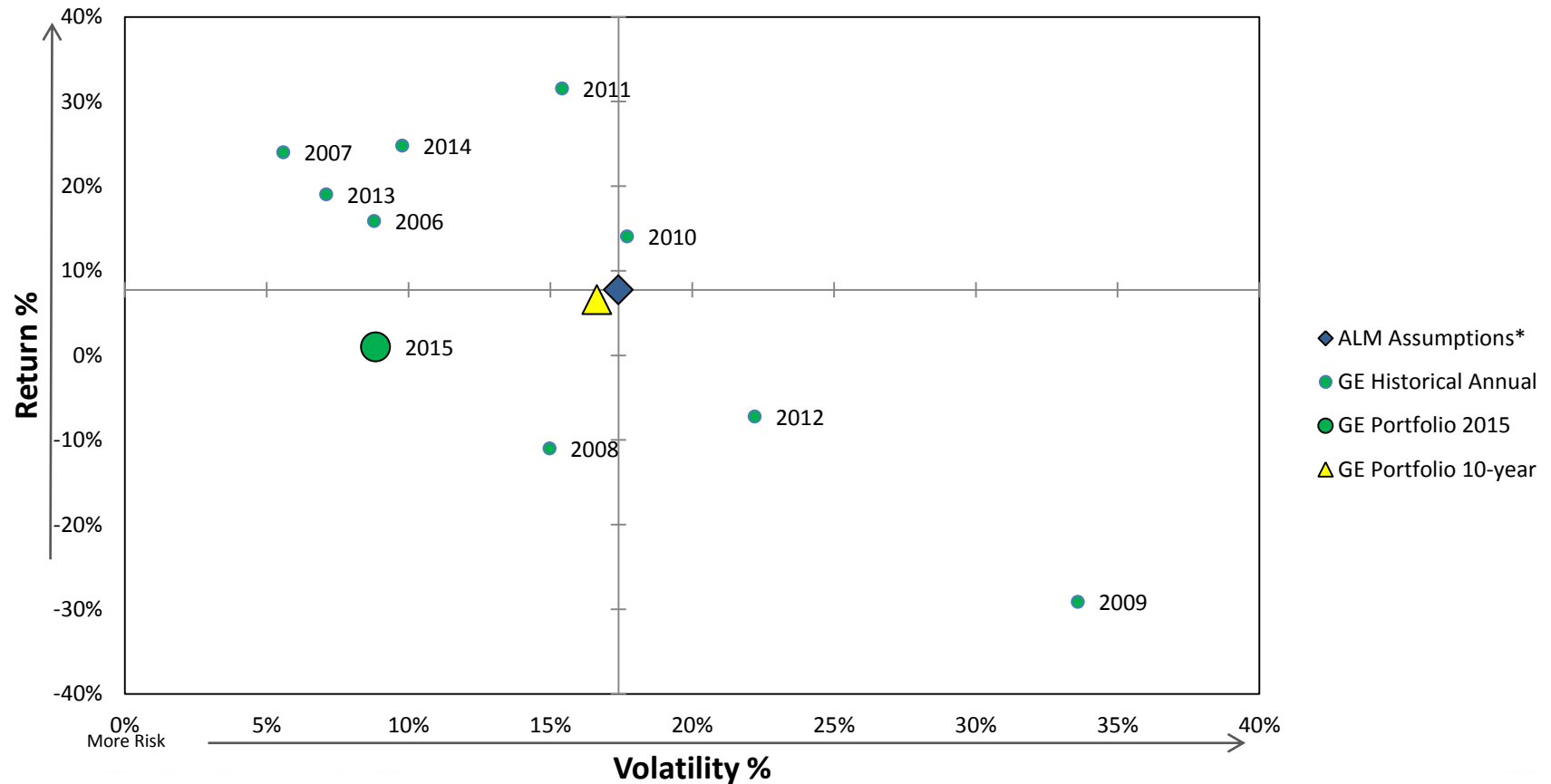


One-Year Excess Return Contributors

Positive Contributors	Negative Contributors
Developed Markets Managers (+10 bps)	Activists Strategies (-28 bps)
Structured Products (+8 bps)	Fundamental Strategies (-18 bps)
Securities Lending (+6 bps)	Int'l Emerging Markets Managers (-16 bps)
Index Oriented (+3 bps)	

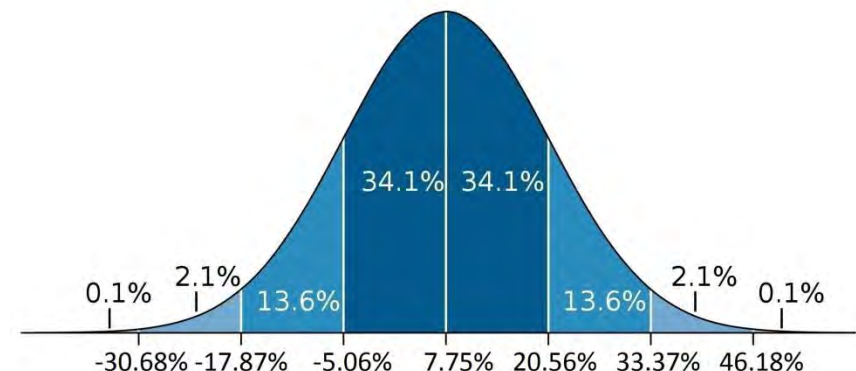
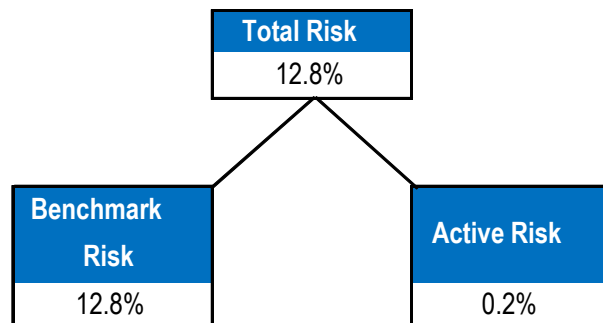
ALM Assumptions Validation

Global Equity Risk vs. Return



Global Equity Risk Profile

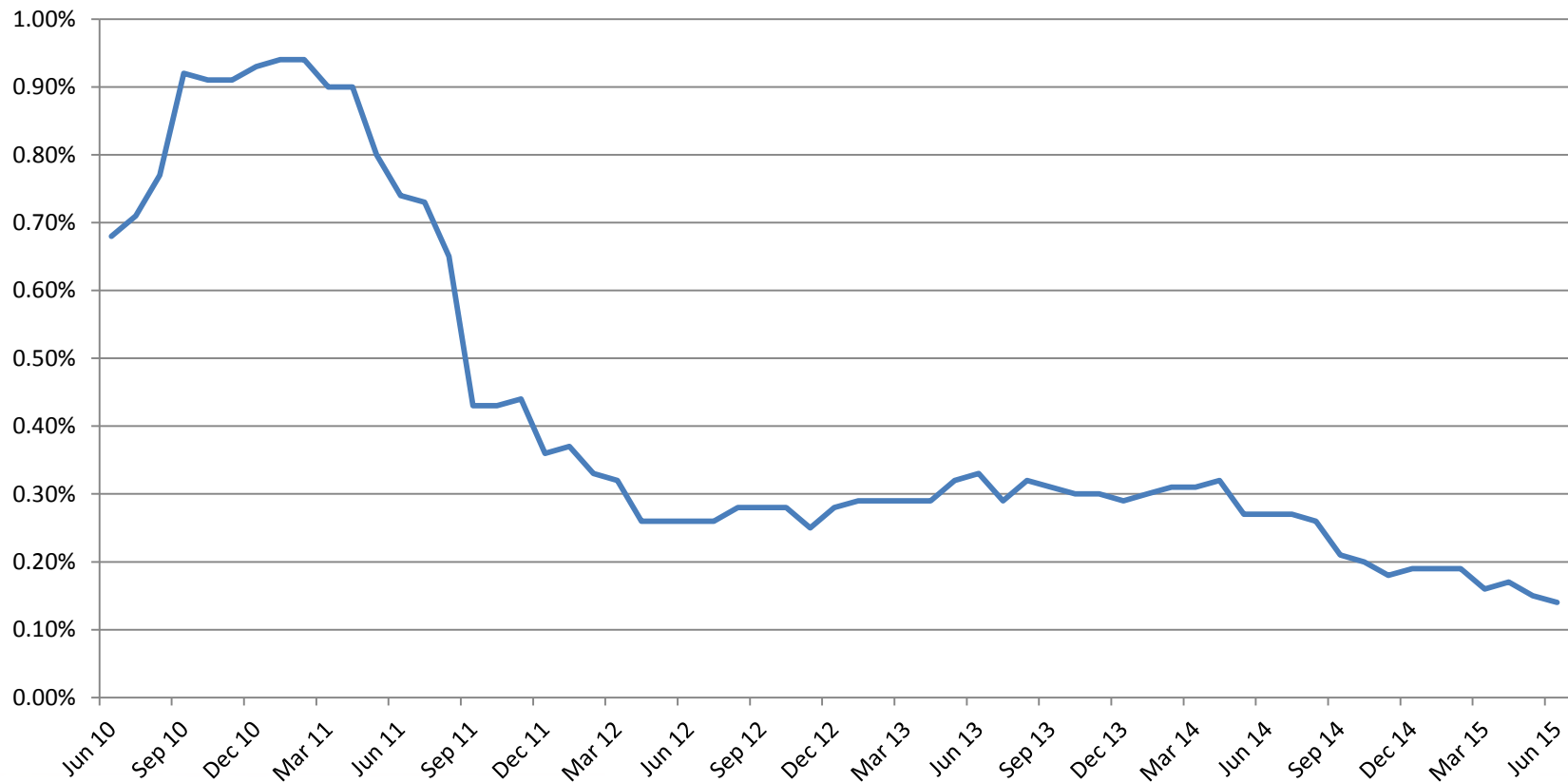
- Global Equity Forecasted Risk is 12.8%
- Forecasted Tracking Error is 0.2% and is within guidelines
- 10-day value-at-risk: \$6.9 billion
- 10-day expected shortfall: \$8.6 billion



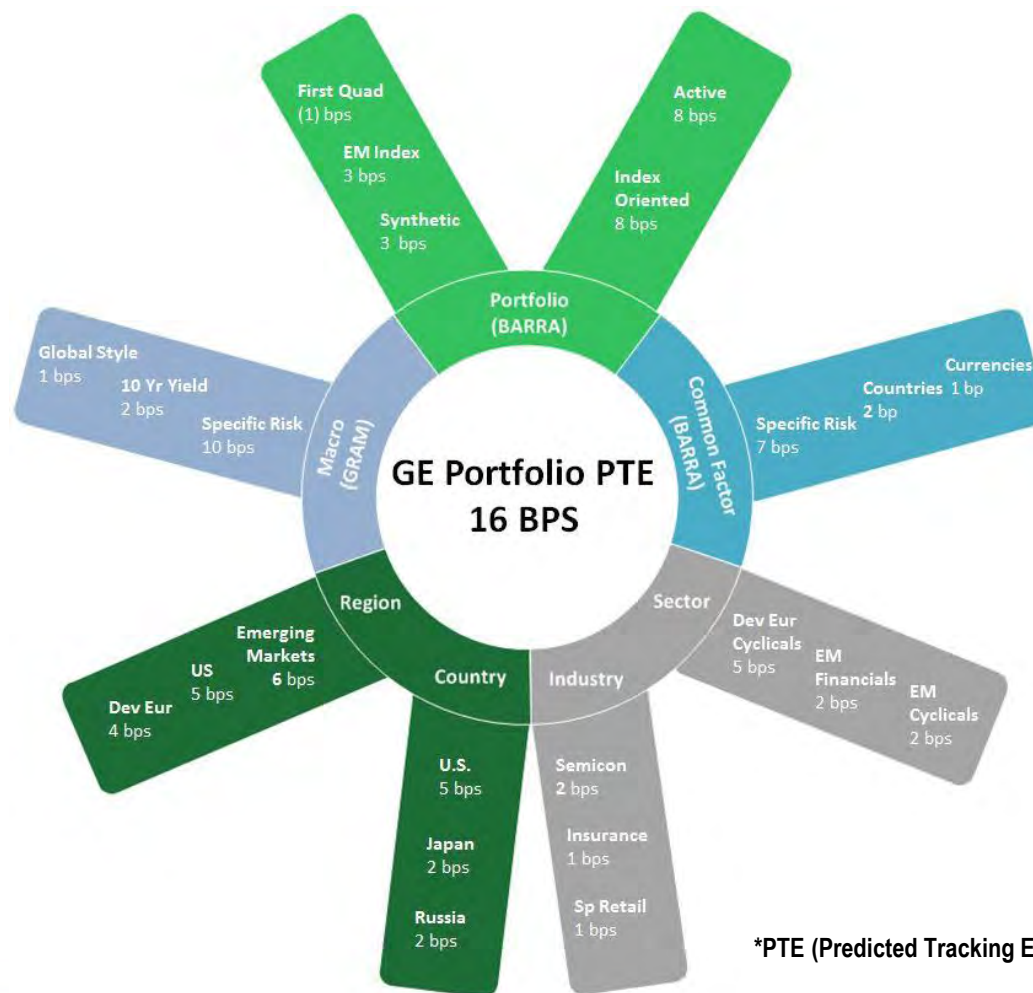
Forecasted Distribution of Returns¹

Portfolio Active Risk

Five-Year Trend in Realized Active Risk



Portfolio Positioning – Active Risk Hub



Context and Positioning

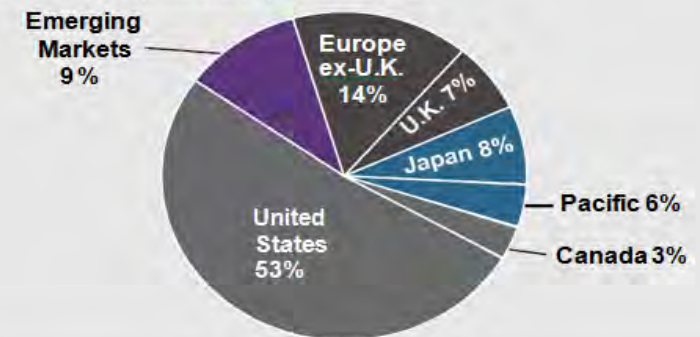
Global Equity Markets

Fiscal Year 14-15		
Region	USD	
All World	-1.1%	
US TMI 3000	4.7%	
Europe (ex UK)	-10.3%	
Asia (ex Japan)	-3.2%	
Emerging Markets	-4.8%	

Fiscal Year 14-15		
Country	Local	USD
Germany	9.5%	-10.9%
China	24.0%	23.9%
Russia	12.5%	-30.8%

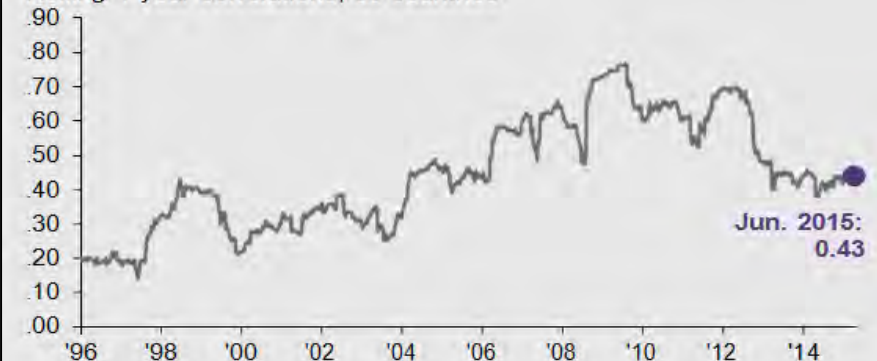
Weights in FTSE All World Index

% global market capitalization, float adjusted

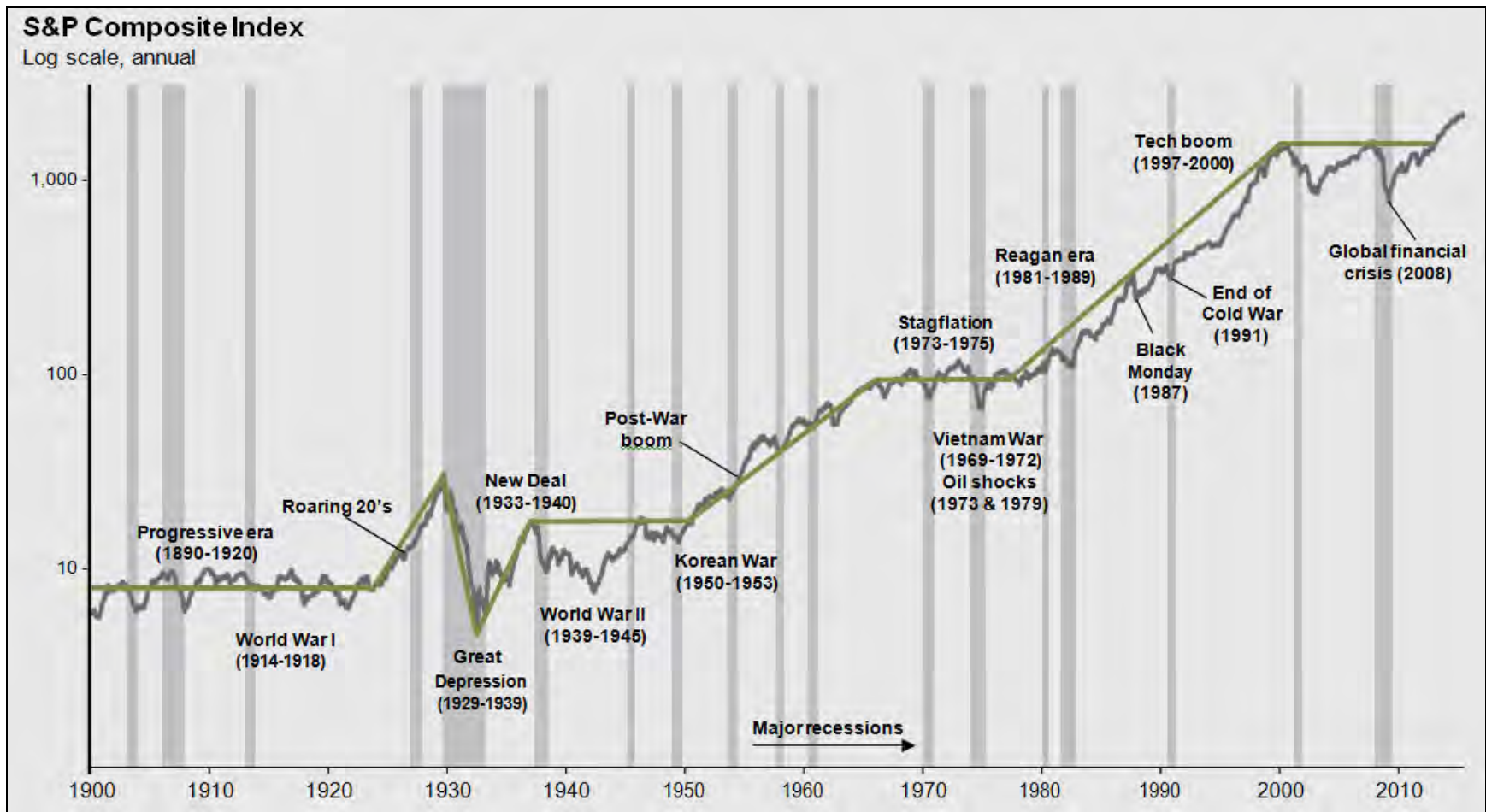


Global equity market correlations

Rolling 1-year correlations, 30 countries

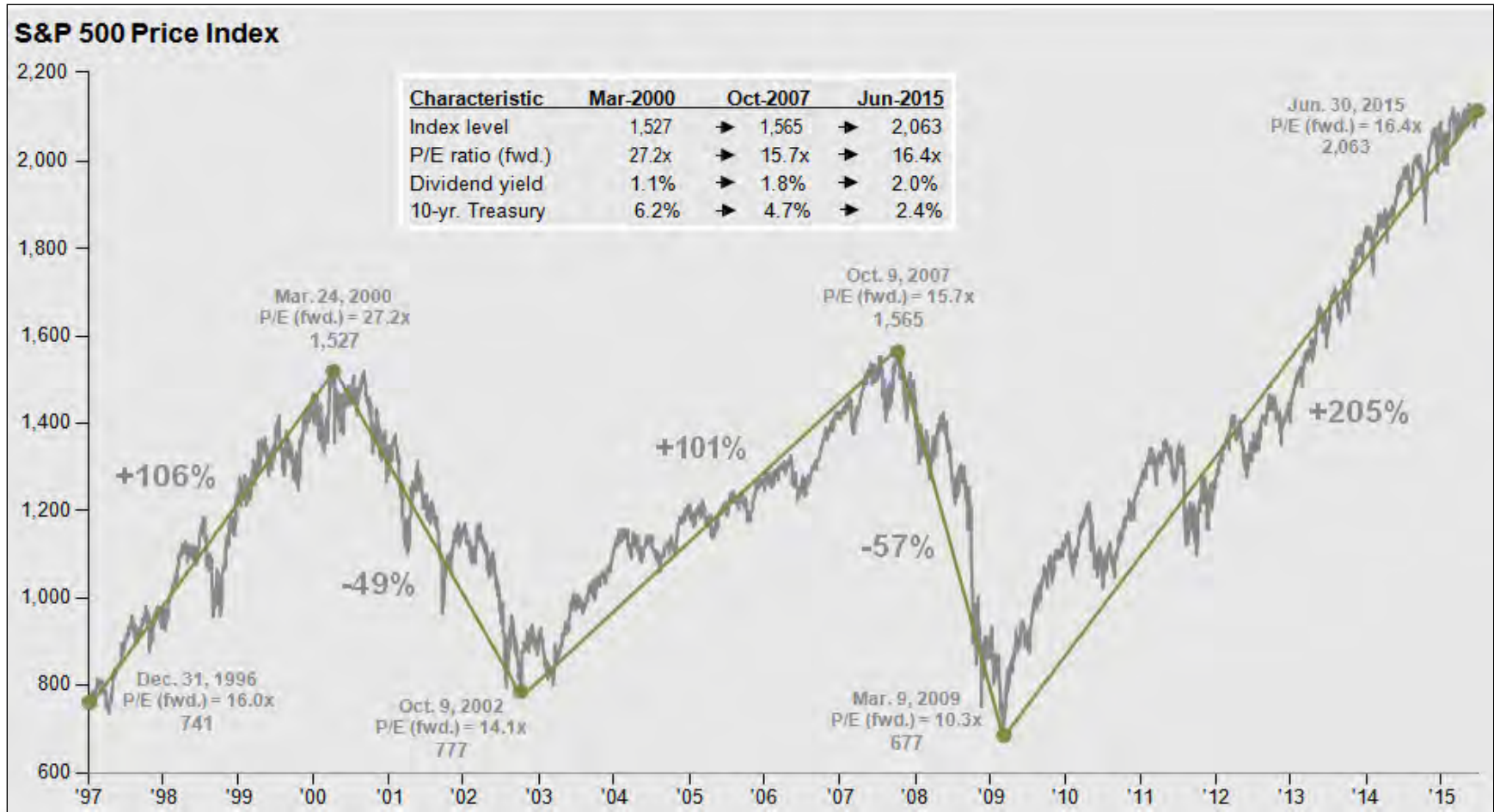


S&P Composite Index since 1900



Context and Positioning

U.S. Equity Markets



Context and Positioning

Developed Equity Markets



Context and Positioning

Emerging Equity Markets

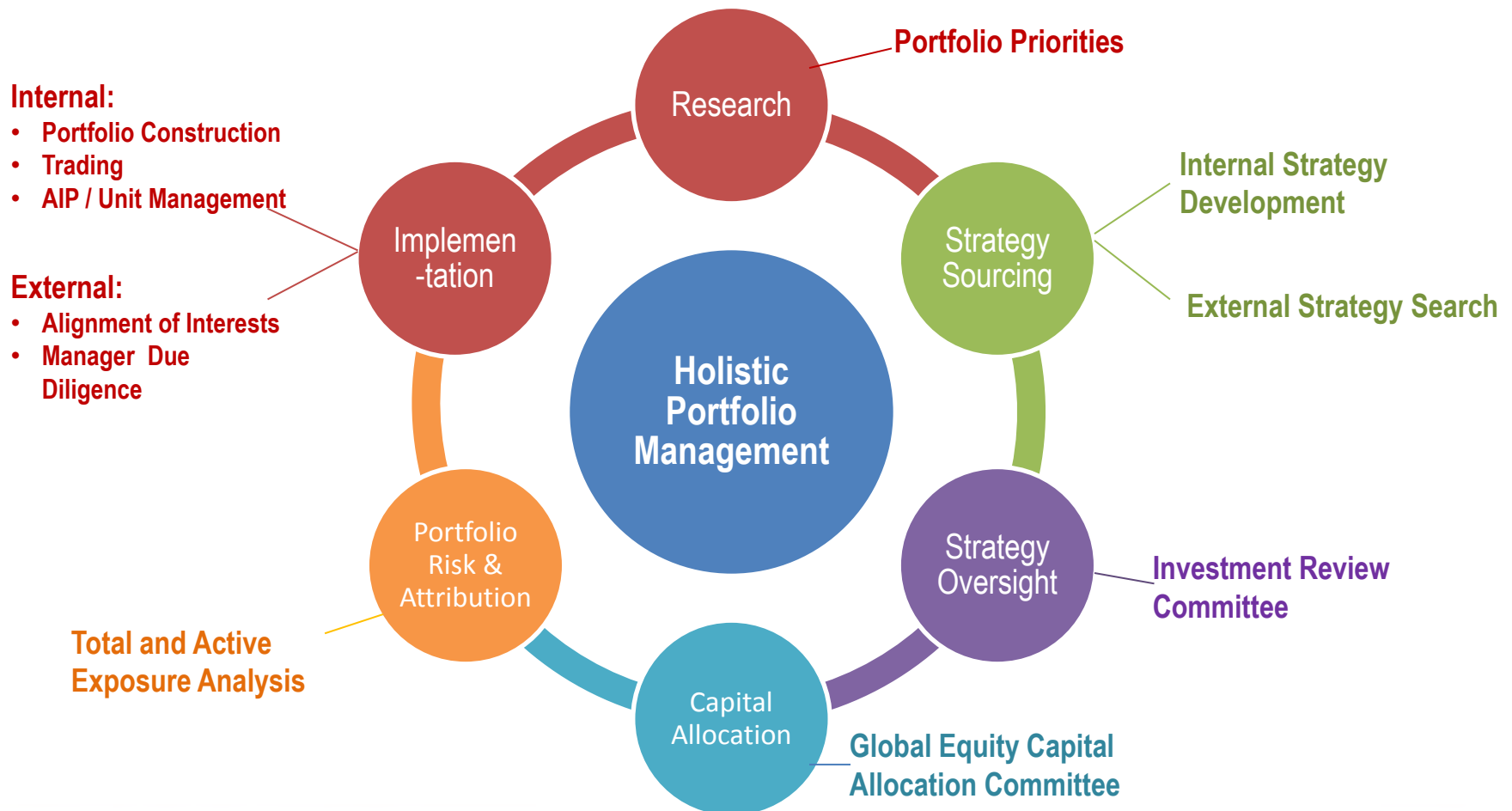


III. Business Review

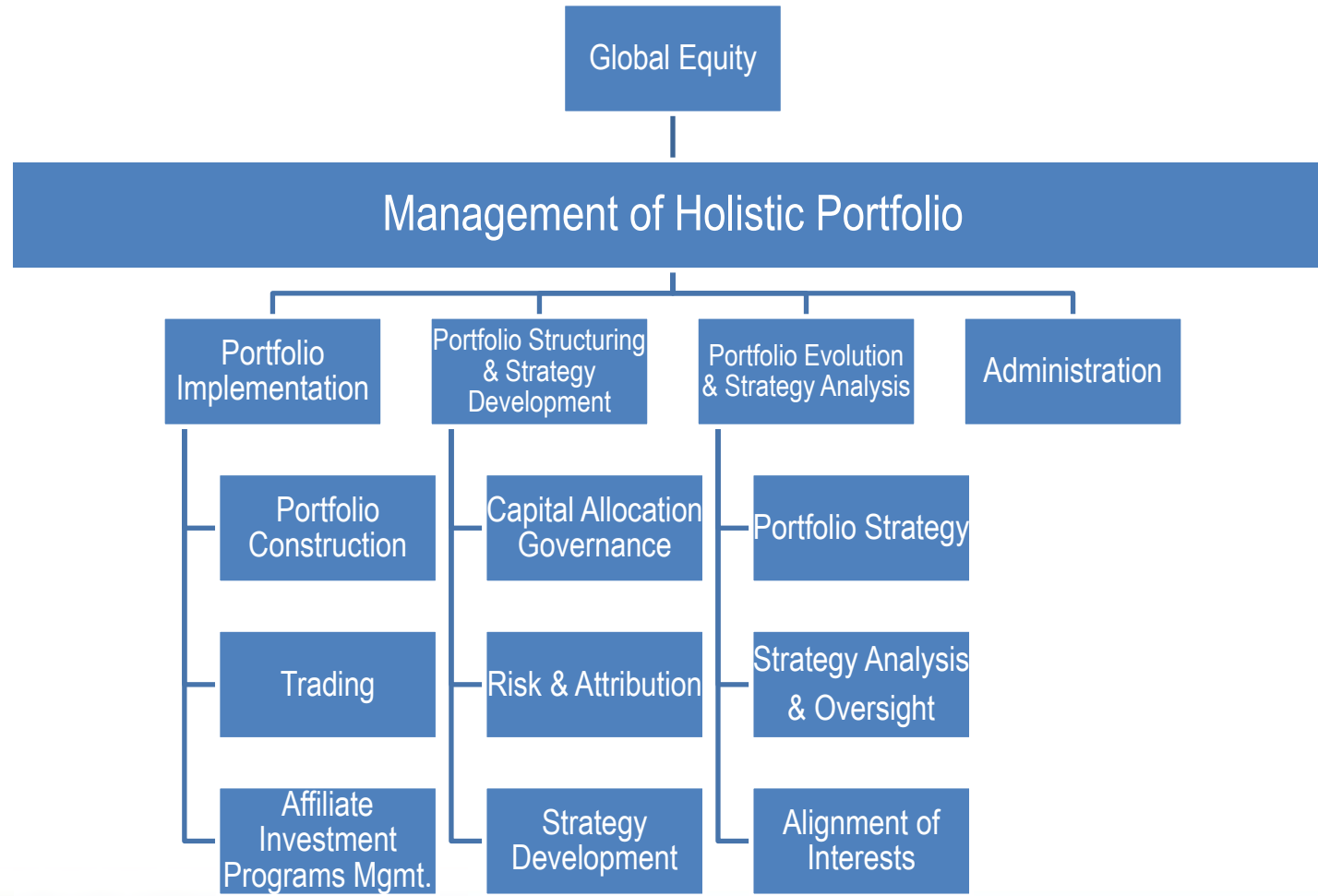
Business Philosophy

- Management of the holistic portfolio
 - Disciplined 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 Overview¹

TOTAL PROGRAM

- 46 positions within Global Equity; the same number of positions in FY 2013-14

STAFFING UPDATES

- Appointed 2 Investment Directors
- Appointed 2 Investment Managers
- Appointed 6 Investment Officers
- Transferred 2 Investment Manager Positions to other INVO programs
- Transferred 2 Investment Officer Positions to other INVO programs

CURRENT VACANCIES

- 1 Investment Director
- 1 Investment Manager
- 2 Investment Officers

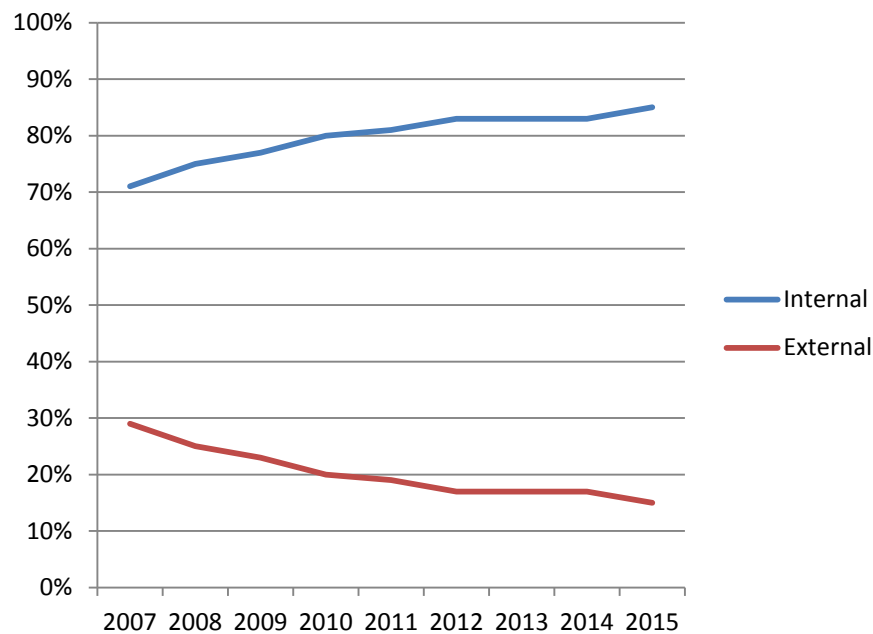
Program Expenses

	FY 2014-15			FY 2013-14		
	AUM (\$billions)	Fees Paid (\$millions)	Fees Paid ² (BPS)	AUM (\$billions)	Fees Paid (\$millions)	Fees Paid ² (BPS)
Index Oriented	\$ 106	\$ 9	1	\$ 107	\$ 7	1
Internal Active	\$ 31	\$ 10	3	\$ 25	\$ 2	1
External Management	\$ 20	\$ 91	46	\$ 20	\$ 55	27
Activist Managers	\$ 2	\$ 29	107	\$ 4	\$ 77	205
Emerging Managers	\$ 3	\$ 19	65	\$ 3	\$ 19	59
Consultants Expense	N/A	\$ 3	N/A	N/A	\$ 2	N/A
Technology & Operating Expense	N/A	\$ 13	N/A	N/A	\$ 15	N/A
Total Program	\$ 162	\$ 174	11	\$ 159	\$ 177	11

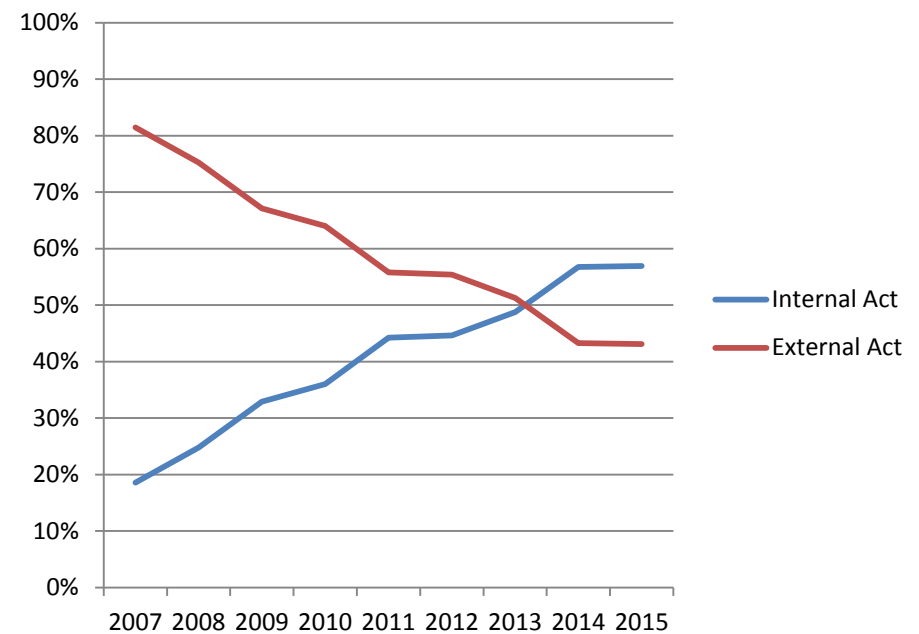
Trend in Implementation

- The percentage of assets managed in-house (85% today) has increased over time
- 57% of Global Equity's active strategies are now managed in-house.

Internal | External



Internal Active | External Active



Strategic Initiatives

INITIATIVES	GOALS
Portfolio Performance	<ul style="list-style-type: none">• Development of structural alpha opportunities• Continued strategy evolution and restructuring• Portfolio dashboard and lever development
Business Process	<ul style="list-style-type: none">• ARTEMIS Phase 2 / Rebalancing Automation• Public Markets Portfolio Management 2.0 (PM²)• Capital Allocation Development
Plan-Level Priorities	<ul style="list-style-type: none">• Vision 2020 initiatives• Global governance collaboration• Continued development of portfolio priorities

Conclusion

- Challenging absolute and benchmark-relative performance from Global Equity for Fiscal Year 2014-15 (+1.0% portfolio, +1.3% benchmark)
- Key business successes in Fiscal Year 2014-15
 - Evolution of both the team and business model
 - Enhanced portfolio positioning and capabilities thereof
 - Further cost savings
 - Deployment of PM2 and ARTEMIS technologies
- In Fiscal Year 2015-16, focus will be on:
 - Further development of portfolio exposures and capabilities
 - Continued business model improvements (focus on culture, technology, and people)
 - Plan-level initiatives in support of Vision 2020