Portfolio Priorities

CalPERS Board of Administration and Executive Offsite

January 20, 2015

CalPERS
Investment Office
Asset Allocation/Risk Management

This Morning's Session| First & Second Portions

- Introduction and Background
- Portfolio Priorities Discussion
- Benchmarks – Roles, Uses and Implications
- Next Steps and Wrap Up

Today's Sessions| Background

Why Discuss Benchmarks

- Identified as a priority in recent Asset Liability Management (ALM) process
- Recently adopted Investment and Pension Beliefs
- Preparations for 2017-18 ALM process

Today's Session Objectives

Objectives for Today

- Discuss concept of portfolio priorities – Our Beliefs and portfolio construction
- Refresh our knowledge base – Benchmarks are critical tools with serious implications for CalPERS
- Prepare for next ALM – Shape work over the next three to five years

From December 2014| Our Starting Point

1. Benchmark selection should be top-down, conditioned by CalPERS' Investment and Pension Beliefs and chosen portfolio priorities

2. Portfolio priorities will transmit Beliefs into portfolio construction

3. Benchmarks should be tailored to the purpose at hand

Benchmark Selection| Reframe

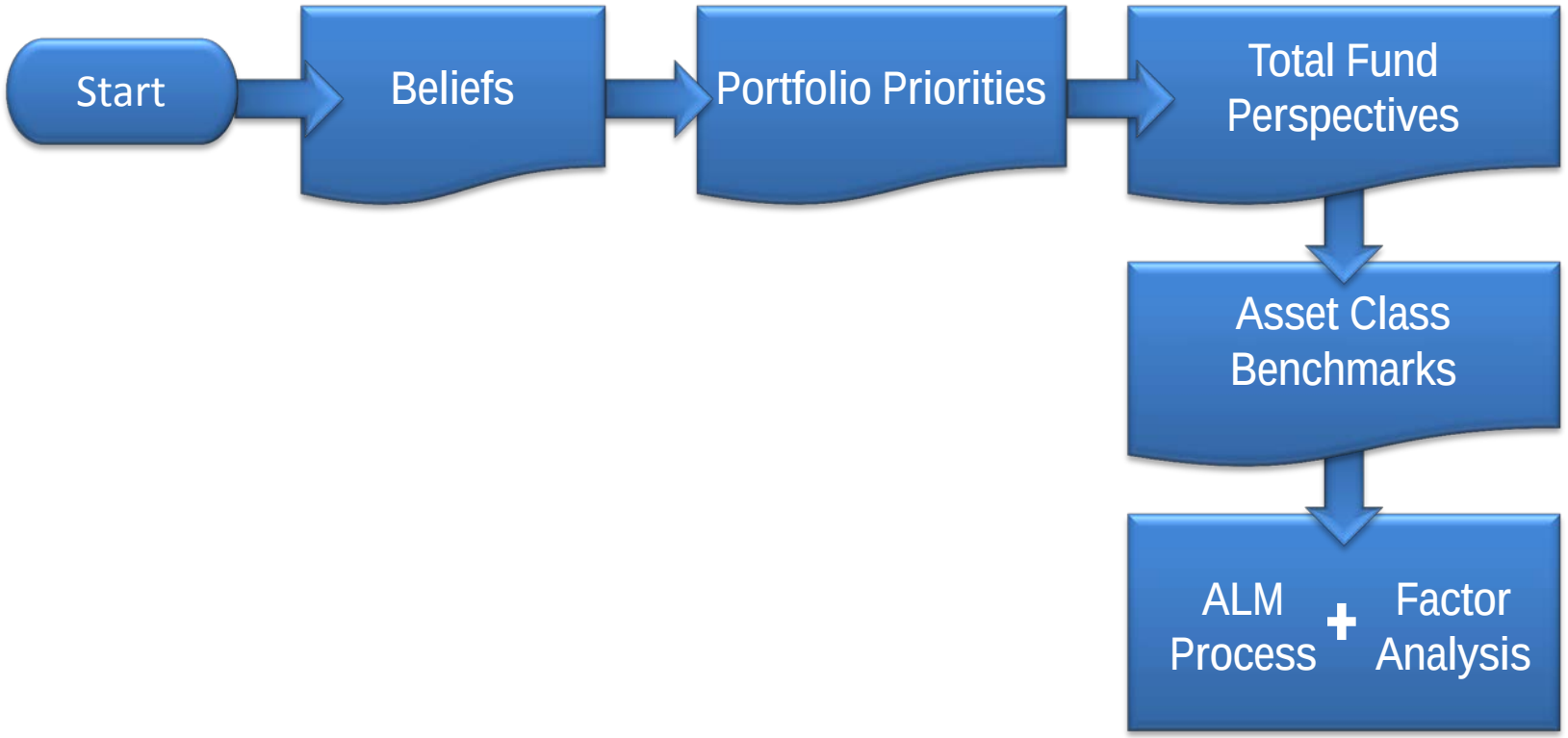
Shouldn't we consider what we want the Total Fund to accomplish first?

Should we adopt a lower duration benchmark for **fixed income?**

Should we adopt a minimum volatility benchmark for **public equities?**

Should we adopt a public equity benchmark plus 3% for **private equity?**

Benchmarks Selection | Impacts for 2017 ALM



Benchmarks| Asset Allocation Process

From	To
Benchmarks reflect asset class objectives	Benchmarks reflect Total Fund objectives
Secondary considerations used to evaluate potential policy portfolios	Portfolio priorities drive development and evaluation of policy portfolios
Accept general market benchmarks	Benchmarks are focused to CalPERS' requirements

Contents

Portfolio Priorities Discussion

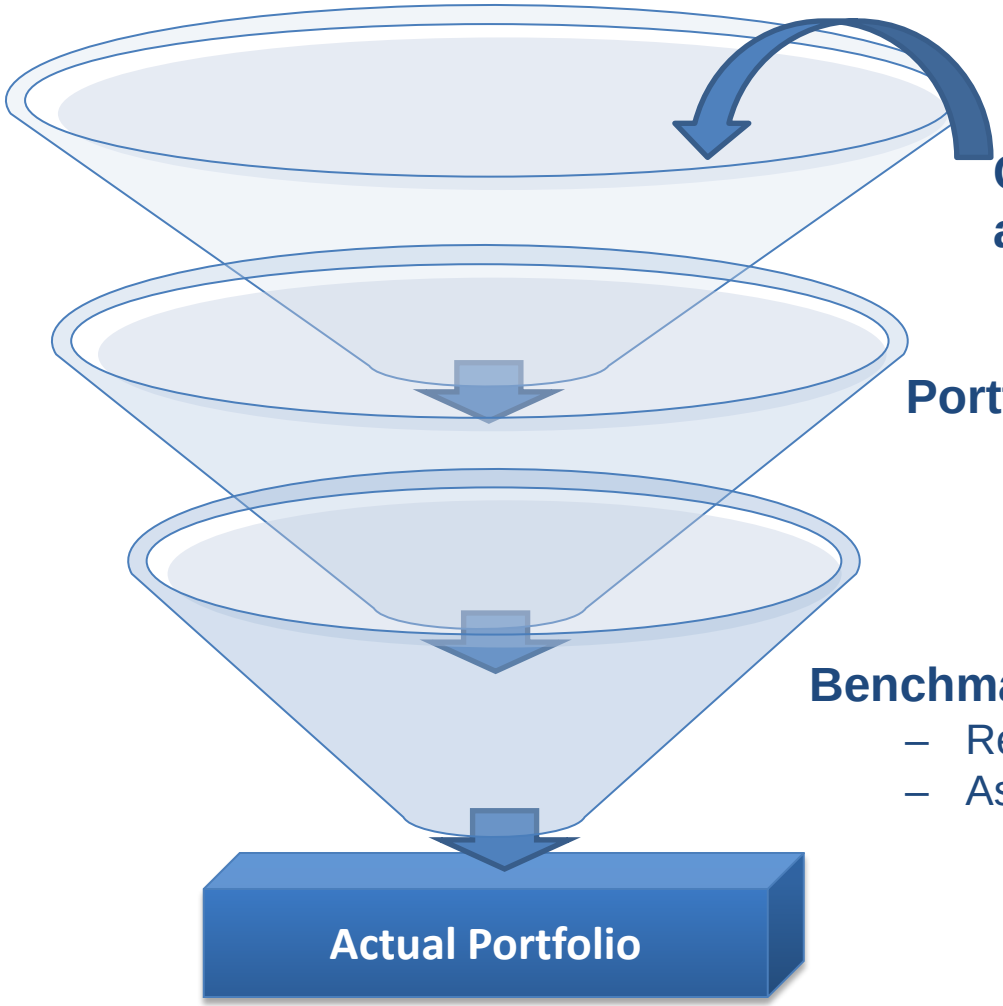
i. Definitions
ii. Trade-offs
iii. Potential Priorities
iv. Key Considerations
v. Implementation

Portfolio Priorities | Defined

The goals and objectives that are:

- Specific to CalPERS, and
- Which are implementable and should influence portfolio construction

Portfolio Construction | Reflects Our Priorities



CalPERS' Investment and Pension Beliefs

Portfolio Priorities

Benchmarks

- Reflect priorities
- Assess success

Why Are Portfolio Priorities Important?

1. Focus attention on the overall mission
   - *Investment Belief 2 – Long Time Horizon*
2. Provide clear basis for portfolio trade-off considerations (e.g., appreciation vs. income)
   - *Investment Belief 9 – Multi-faceted Risk*
3. Align Investment Staff activities
   - *Investment Belief 5 – Accountability*
4. Define asset allocation strategic levers
   - *Investment Belief 6 – Strategic Allocation*

Illustration| Trade-offs

Loss Aversion vs. Return Requirements

Being Different vs. Conventional Wisdom

Long Time Horizons vs. Short Time Horizons

Questions / Comments?

Potential Portfolio Priorities|

1. Protect Funded Ratio

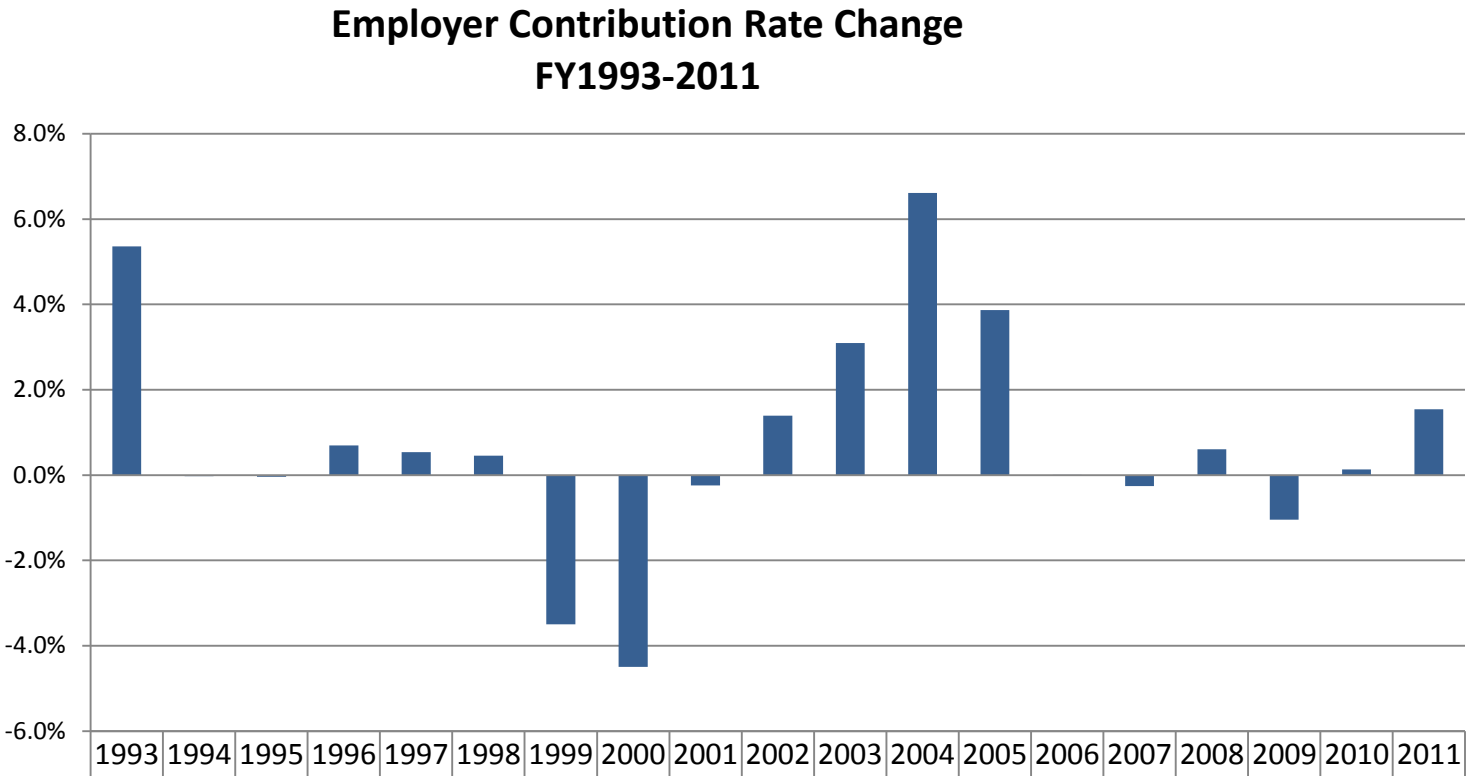
CalPERS' Funded Ratio Over Time[1]

2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014 Est.
105%	87%	80%	86%	90%	93%	101%	89%	61%	65%	74%	70%	70%	77%

[1] Sources: CalPERS Comprehensive Annual Financial Reports, CalPERS "Facts At a Glance" (accessed December 2014), and CalPERS Actuarial Office

Potential Portfolio Priorities|

2. Stabilize Contribution Rates



Source: CalPERS Comprehensive Annual Financial Reports (PERF)

Potential Portfolio Priorities|

3. Ensure Sufficient Cash on Hand to Pay Benefits

	Actuals[1]				Projections[2]					
$Billions	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Fiscal Year Non-Investment Cash Flow [3]	-$3.1	-$3.8	-$4.6	-$5.3	-$6.7	-$7.5	-$8.4	-$9.3	-$10.3	-$11.2

[1] Source: CalPERS Comprehensive Annual Financial Reports and
[2] Source: Investment Office Asset Allocation
[3] Total contributions less beneficiary payments and other expenses

Potential Portfolio Priorities|

4. Achieve Long-term Returns

Potential Portfolio Priorities|

In order to be implementable, there must be a small number of specific priorities that support our fiduciary considerations

1. Protect Funded Ratio
2. Stabilize Contribution Rates
3. Ensure Sufficient Cash on Hand to Pay Benefits
4. Achieve Long-term Returns

Intersections| Investment Beliefs and Potential Portfolio Priorities

	Investment Belief Statements	Potential Portfolio Priorities			
		Protect Funded Ratio	Stabilize Contribution Rates	Ensure Sufficient Cash on Hand for Benefit Payments	Achieve Long-term Returns
1	Liabilities				
2	Long Time 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				

Intersections| Pension Beliefs and Potential Portfolio Priorities

	Pension Belief Statements	Potential Portfolio Priorities			
		Protect Funded Ratio	Stabilize Contribution Rates	Ensure Sufficient Cash for Benefit Payments	Achieve Long-term Returns
1	Employer/ Employee Needs				
2	Plan Design				
3	Retirement Preparation				
4	DB Component/ Professional/ Pooled				
5	Funding Policy Application				
6	Deferred Compensation/ Shared Responsibility				
7	Precedence to Fiduciary Duty				
8	Accountability				
9	Risk Management				
10	Innovative Education				
11	Advocate				

Potential Portfolio Priorities Key Considerations

1. Market capacity
2. Transparency
3. Willingness to be different

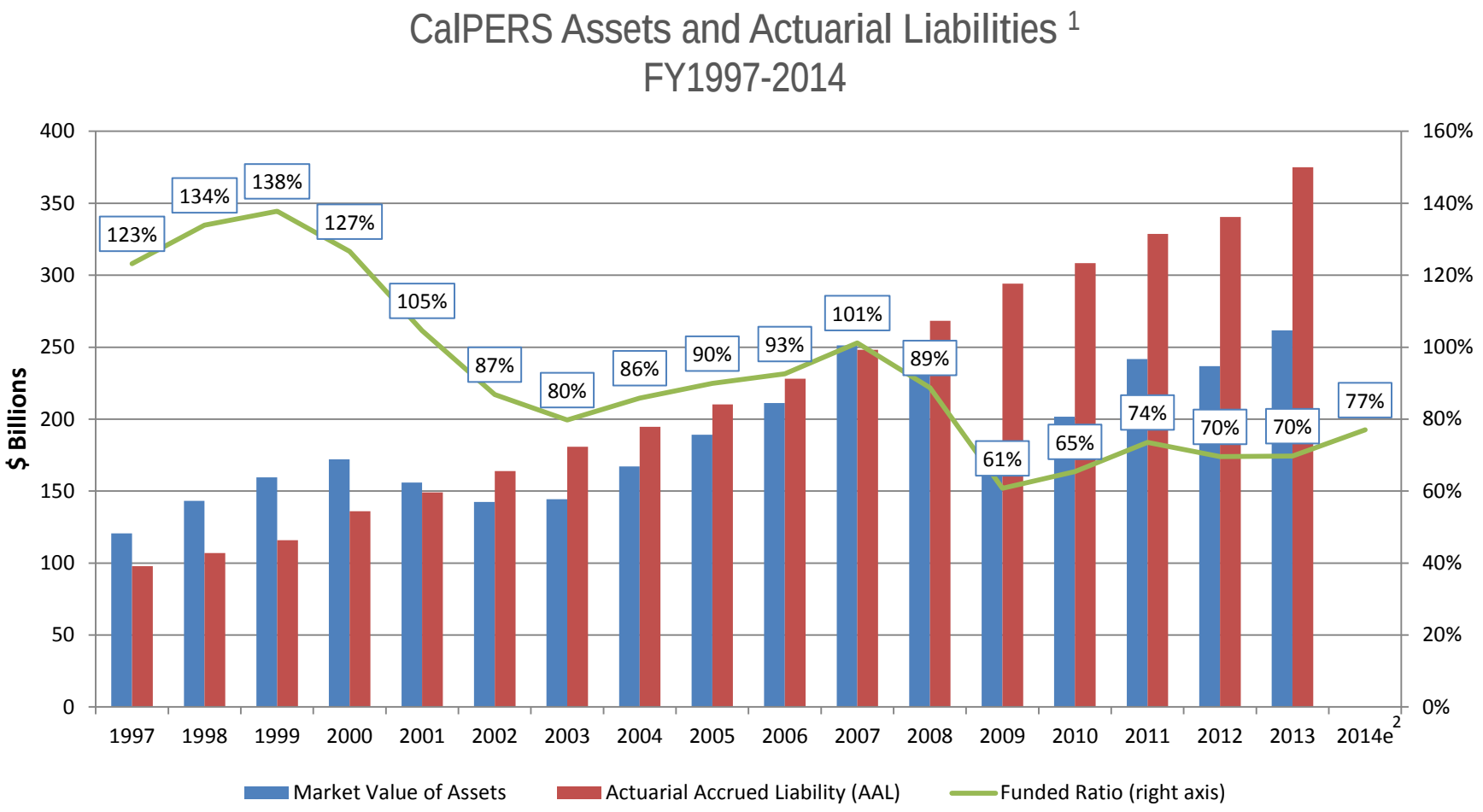
Potential Portfolio Priorities| Implementation

- Focus on 2017 ALM cycle
- Refine asset class roles
- Develop infrastructure to measure and monitor
- Begin with more impactful exposures
- Ongoing communication

Questions / Comments?

Appendix

Funded Ratio

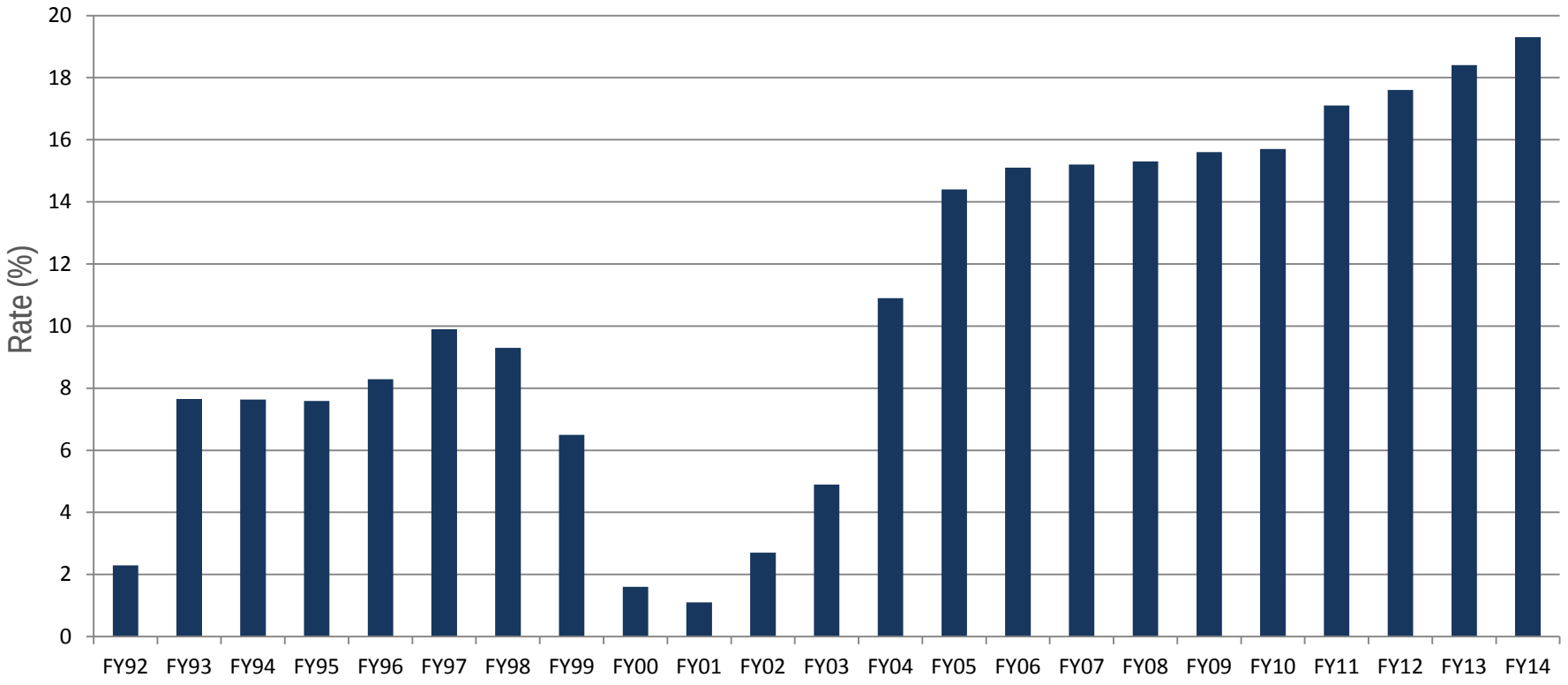


[1] Sources: CalPERS Comprehensive Annual Financial Reports and CalPERS Actuarial Office

[2] Estimated for 2014

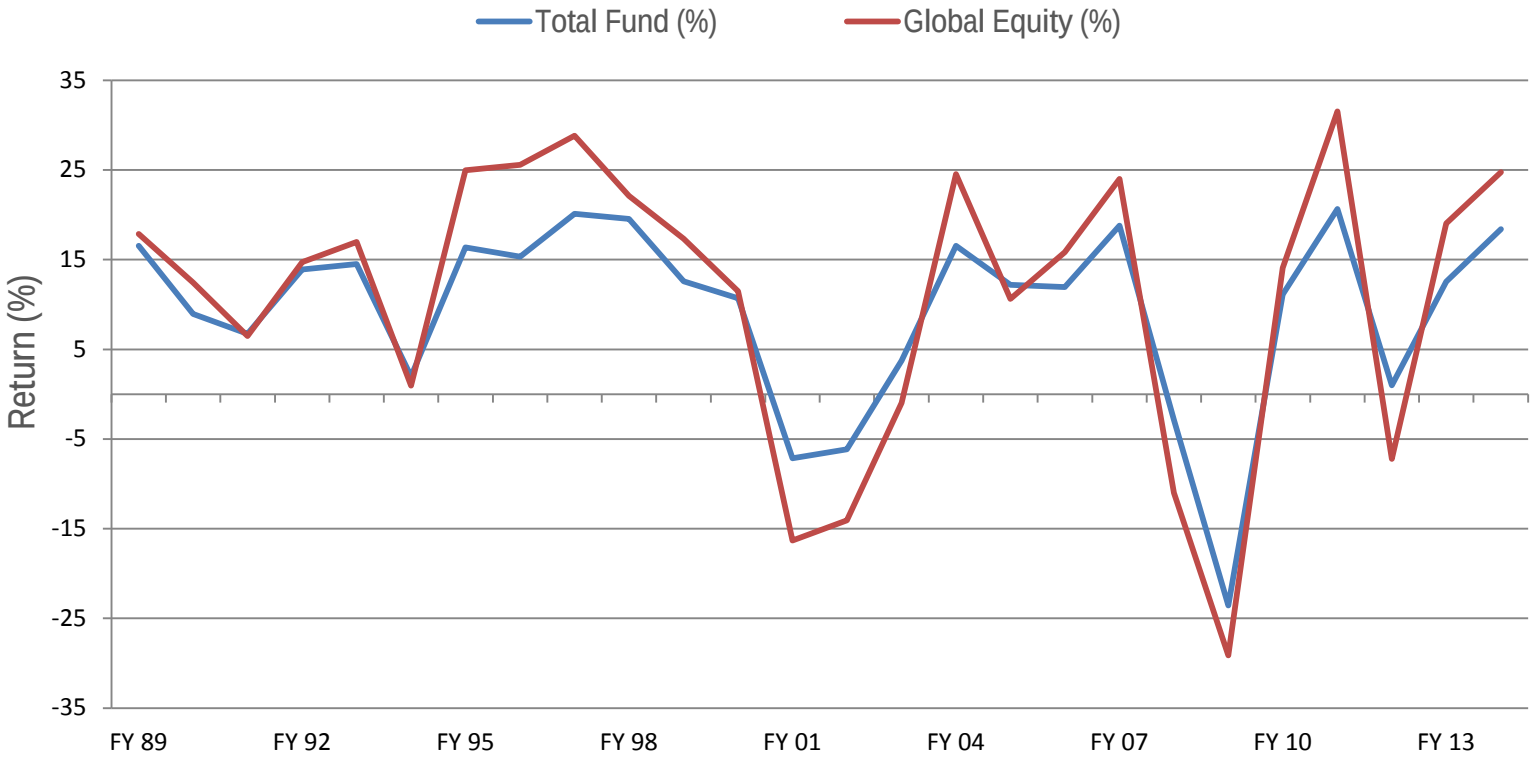
Contribution Rate History| PERF

Employer Contribution Rate[1]
FY1992- 2014



[1]Sources: CalPERS Comprehensive Annual Financial Reports and CalPERS Actuarial Office

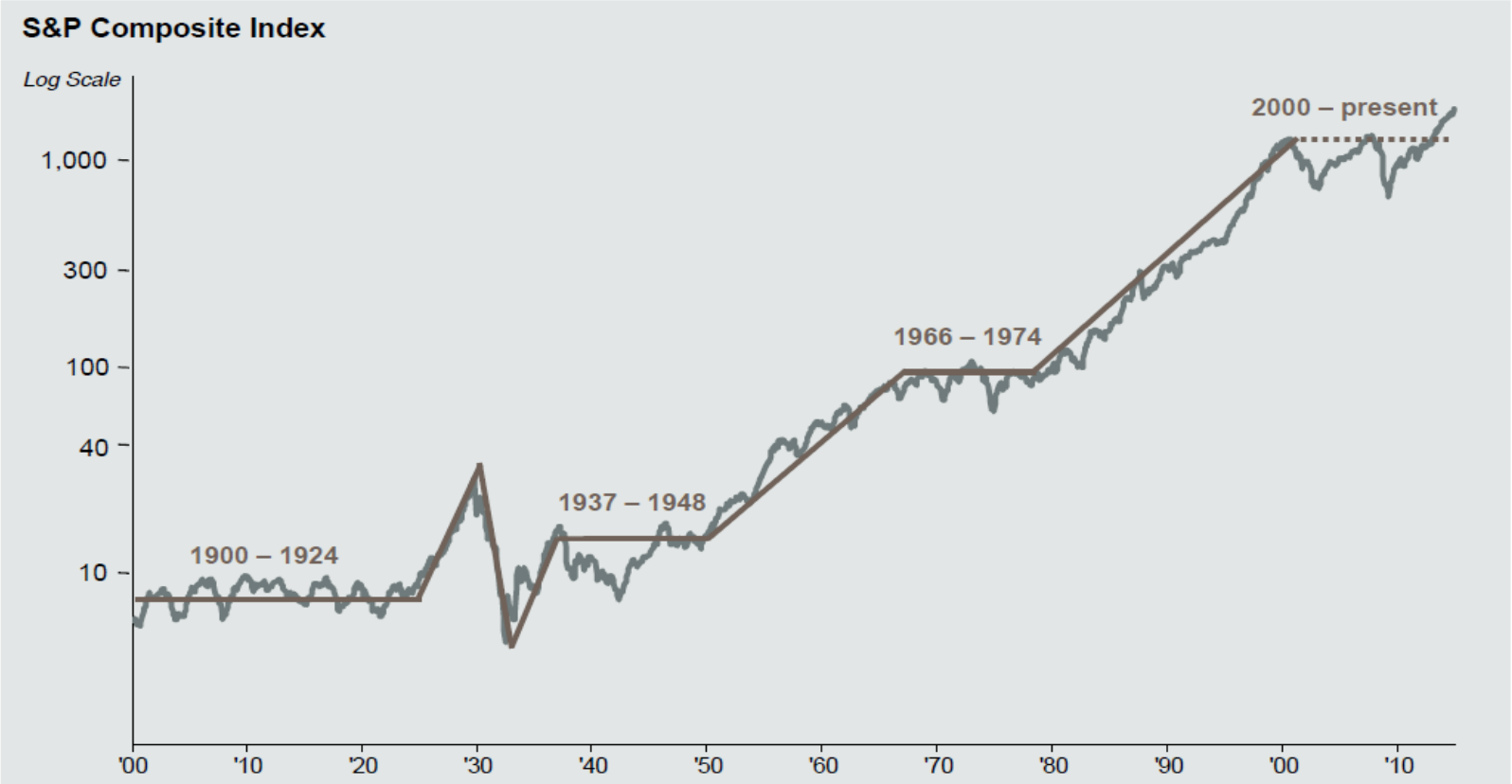
Return History for Total Fund and Global Equity



Data Source: State Street (6/30/1989 - 6/30/2014)

Stock Market Since 1900

Equities



Source: Robert Shiller, FactSet, J.P. Morgan Asset Management.
Data shown in log scale to best illustrate long-term index patterns.
Past performance is not indicative of future returns. Chart is for illustrative purposes only.

Guide to the Markets – U.S.

Data are as of 12/31/14.

J.P.Morgan
Asset Management

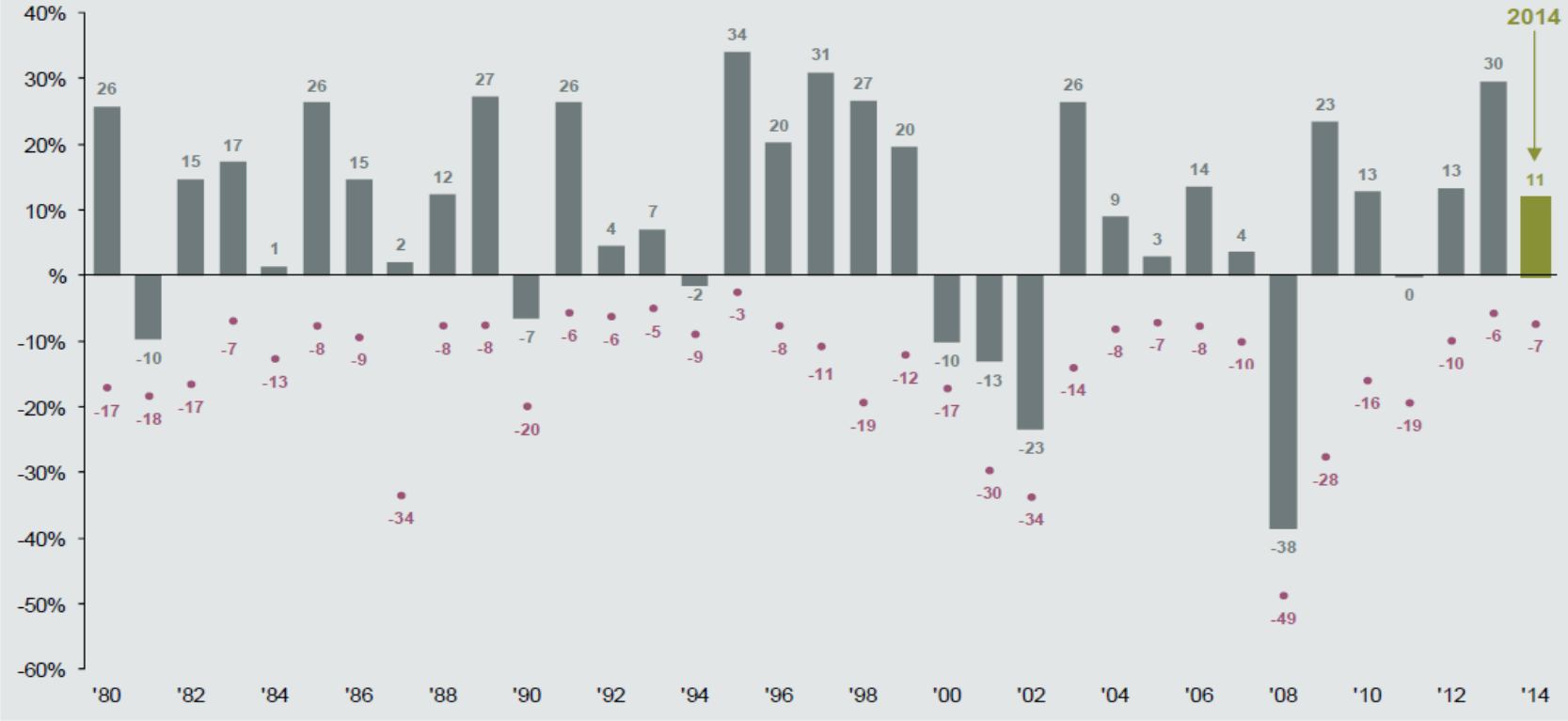
Source: JP Morgan Asset Management – Guide to the Markets 1Q 2015

Annual Returns and Intra-year Declines

Equities

S&P 500 Intra-year Declines vs. Calendar Year Returns

*Despite average intra-year drops of 14.2%, annual returns positive in 27 of 35 years**



Source: Standard & Poor's, FactSet, J.P. Morgan Asset Management.

Returns are based on price index only and do not include dividends. Intra-year drops refers to the largest market drops from a peak to a trough during the year. For illustrative purposes only. *Returns shown are calendar year returns from 1980 to 2014.

Guide to the Markets – U.S.

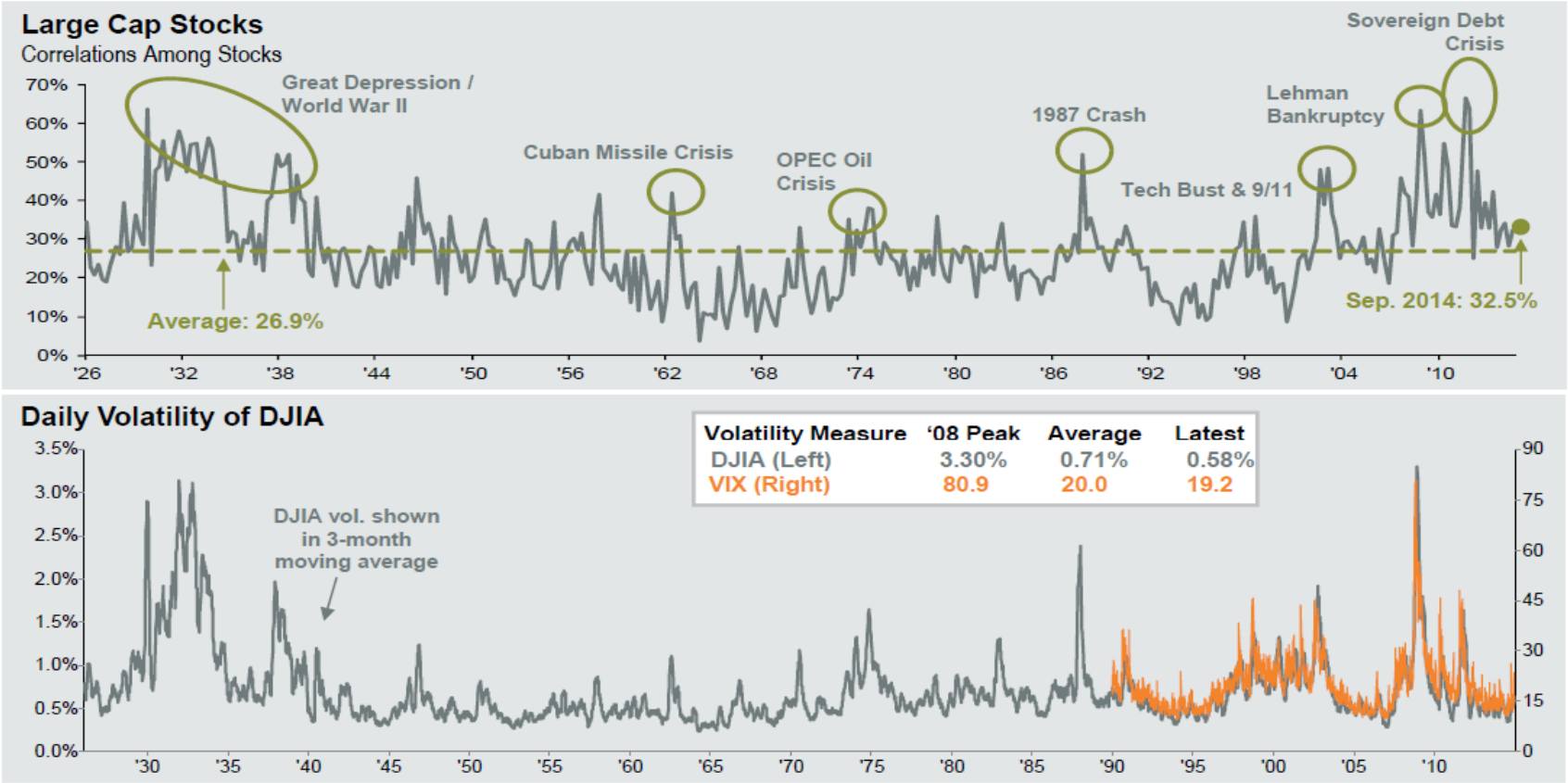
Data are as of 12/31/14.

J.P.Morgan Asset Management

Source: JP Morgan Asset Management – Guide to the Markets 1Q 2015

Equity Correlations and Volatility

Equities



Source: (Top) Empirical Research Partners LLC, Standard & Poor's, J.P. Morgan Asset Management. Capitalization weighted correlation of top 750 stocks by market capitalization, daily returns, 1926 – Sep. 1, 2014. (Bottom) CBOE, Dow Jones, J.P. Morgan Asset Management. DJIA volatility are represented as three-month moving averages of the daily absolute percentage change in the Dow Jones Industrial Average.

Charts shown for illustrative purposes only. Guide to the Markets – U.S.

Data are as of 12/31/14.

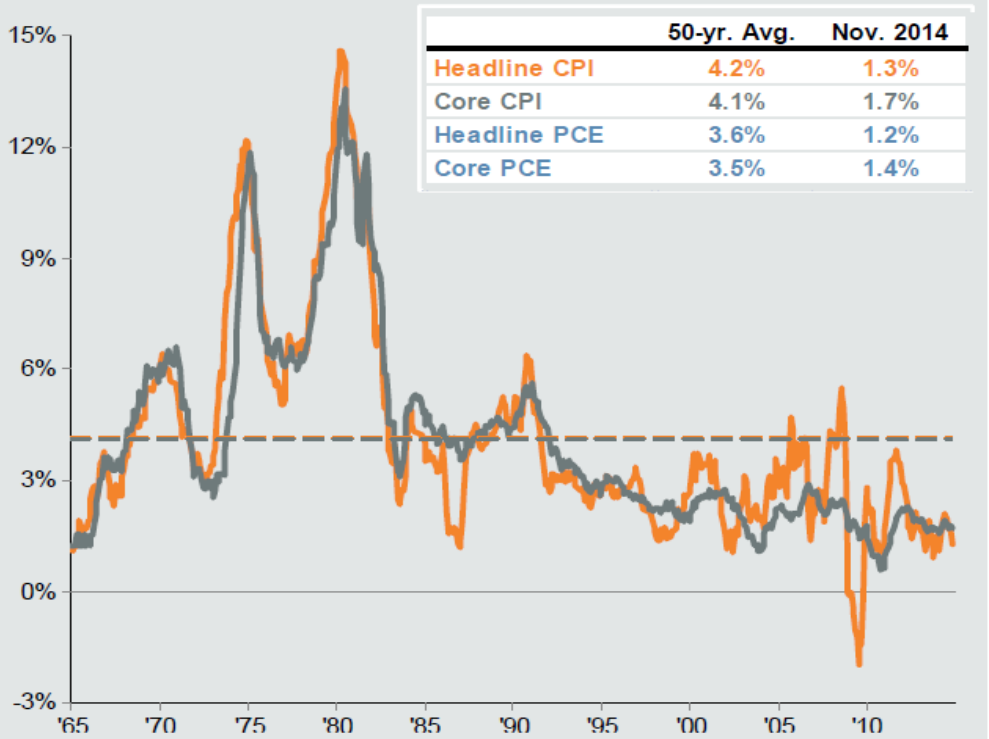
J.P.Morgan Asset Management

Source: JP Morgan Asset Management – Guide to the Markets 1Q 2015

Inflation

CPI and Core CPI

% change vs. prior year, seasonally adjusted



	50-yr. Avg.	Nov. 2014
Headline CPI	4.2%	1.3%
Core CPI	4.1%	1.7%
Headline PCE	3.6%	1.2%
Core PCE	3.5%	1.4%

CPI Components	Weight in CPI	12-month Change
Food & Bev.	14.1%	3.2%
Housing	32.3%	3.0%
Apparel	3.5%	-0.3%
Transportation	5.6%	1.8%
Medical Care	5.8%	2.3%
Recreation	2.0%	-2.8%
Edu. & Comm.	0.6%	-4.0%
Other	1.6%	1.5%
Headline CPI	**100.0%**	**1.3%**
Less:		
Energy	8.9%	-4.8%
Food	14.1%	3.2%
Core CPI	**77.1%**	**1.7%**

Source: BLS, FactSet, J.P. Morgan Asset Management.

CPI used is CPI-U and values shown are % change vs. one year ago and reflect November 2014 CPI data. CPI component weights are as of November 2014. Core CPI is defined as CPI excluding food and energy prices. The Personal Consumption Expenditure (PCE) deflator employs an evolving chain-weighted basket of consumer expenditures instead of the fixed weight basket used in CPI calculations.

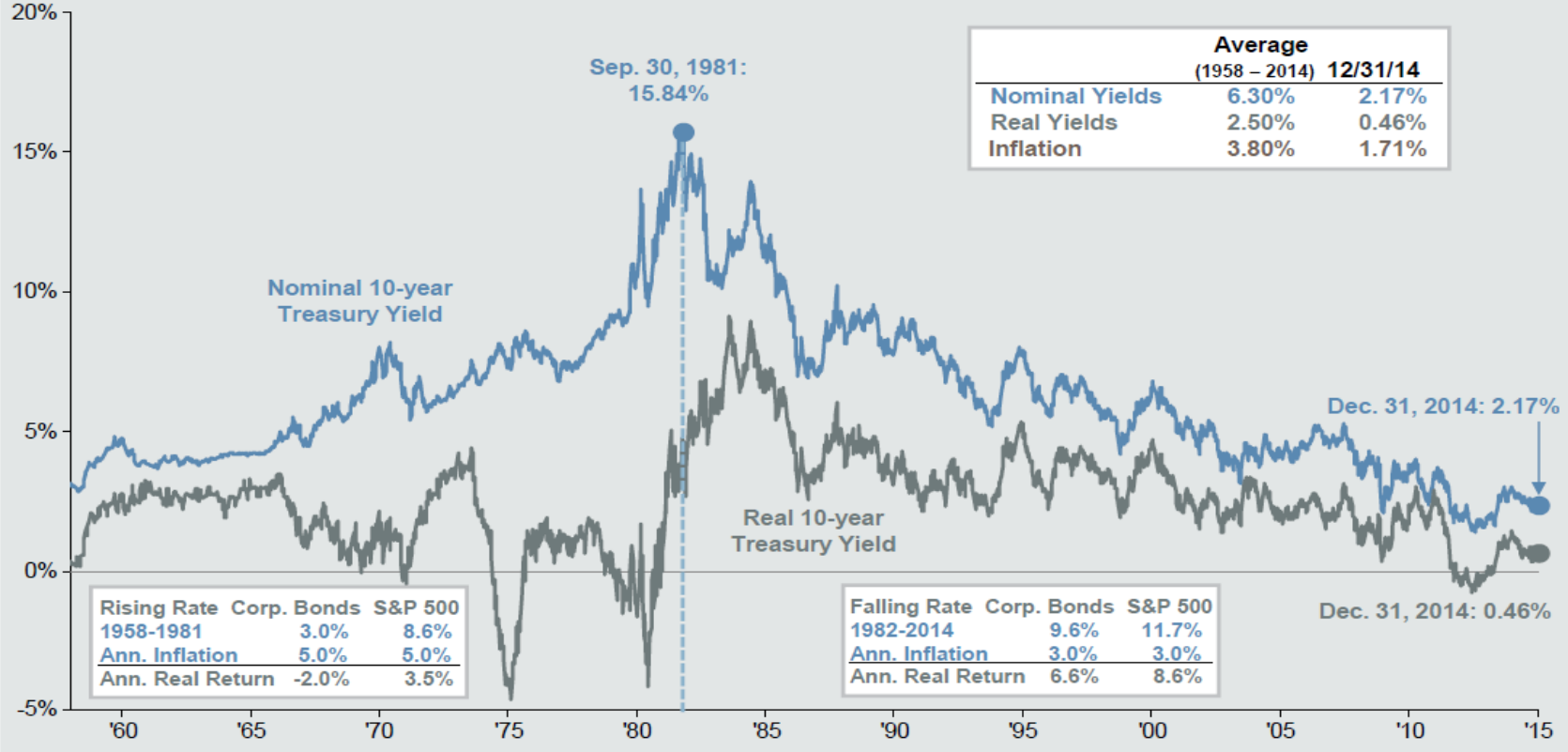
Guide to the Markets – U.S. Data are as of 12/31/14.

J.P.Morgan Asset Management

Source: JP Morgan Asset Management – Guide to the Markets 1Q 2015

Interest Rates and Inflation

Nominal and Real 10-year Treasury Yields



Source: Federal Reserve, BLS, J.P. Morgan Asset Management.
Real 10-year Treasury yields are calculated as the daily Treasury yield less year-over-year core CPI inflation for that month except for December 2014, where real yields are calculated by subtracting out November 2014 year-over-year core inflation. All returns above reflect annualized total returns, which include reinvestment of dividends. Corporate bond returns are based on a composite index of investment grade bond performance.
Guide to the Markets – U.S.
Data are as of 12/31/14.

J.P.Morgan Asset Management

Source: JP Morgan Asset Management – Guide to the Markets 1Q 2015