NOTICE OF A SPECIAL MEETING OF THE

BOARD OF INVESTMENTS

LOS ANGELES COUNTY EMPLOYEES RETIREMENT ASSOCIATION

LOEWS SANTA MONICA BEACH HOTEL
1700 OCEAN AVENUE, SANTA MONICA, CA 90401

MONDAY, JULY 9, 2018
9:00 A.M. – ARCADIA BALLROOM

The Board may take action on any item on the agenda, and agenda items may be taken out of order.

I. WELCOME
Jonathan Grabel, Chief Investment Officer

II. PUBLIC COMMENT

III. IMPLEMENTING THE NEW STRATEGIC ASSET ALLOCATION, PART 1: MANAGEMENT AND OVERSIGHT
Investment Staff

The Board recently adopted a new strategic asset allocation framework and new policy targets. As a consequence, LACERA's investment portfolio will begin to shift to its new targets. This session provides a blueprint for transitioning to the new policy goals. The discussion will include a timeline with key implementation milestones.

IV. IMPLEMENTING THE NEW STRATEGIC ASSET ALLOCATION, PART 2: INVESTMENT POLICY STATEMENT
Investment Staff, Meketa Investment Group

LACERA's investment policy statement requires updates in order to incorporate the new strategic asset allocation. This session highlights the sections of the current investment policy statement that require modifications and the framework for potential modifications. The discussion includes input from LACERA's legal office and Meketa Investment Group as to best practices for drafting such policies.

V. IMPLEMENTING THE NEW STRATEGIC ASSET ALLOCATION, PART 3: BENCHMARK REVIEW
Meketa Investment Group

Benchmarks are market-based measures against which the performance of the Total Fund, asset category composites and individual managers are evaluated. Appropriate benchmarks are critical for the Board to properly oversee LACERA's investment program. Meketa will lead a discussion and review LACERA's existing performance measurement standards and those for its new asset categories.

VI. IMPLEMENTING THE NEW STRATEGIC ASSET ALLOCATION, PART 4: REBALANCING AND CASH MANAGEMENT
State Street Investment Staff

LACERA's *Investment Beliefs* state that "long-term strategic asset allocation will be the primary determinant of LACERA's risk return outcomes." The *Investment Beliefs* further state that "rebalancing the portfolio is a key aspect of prudent long-term asset allocation policy." This session builds on the rebalancing discussion from the February 2018 offsite and will explore ways to use a cash overlay program as an element of a rebalancing program.

VII. EVOLVING GLOBAL SOCIAL, POLITICAL AND ECONOMIC DYNAMICS
Lazard Asset Management, Capital Group, Investment Staff

LACERA's portfolio is global by design. Throughout the world, there is growing tension between nationalism and globalism. Investment staff will moderate a give-and-take discussion with different points of view as to the investment implications of evolving social, political and economic forces.

VIII. CLOSING

IX. ADJOURNMENT

Documents subject to public disclosure that relate to an agenda item for an open session of the Board of Retirement that are distributed to members of the Board of Retirement less than 72 hours prior to the meeting will be available for public inspection at the time they are distributed to a majority of the Board of Retirement Members at LACERA's offices at 300 N. Lake Avenue, Suite 820, Pasadena, CA 91101, during normal business hours of 9:00 a.m. to 5:00 p.m. Monday through Friday.

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Implementing the New Strategic Asset Allocation, Part I: Management and Oversight

Board Offsite

July 9, 2018

Vache Mahseredjian, Principal Investment Officer
Chris Wagner, Principal Investment Officer
Jim Rice, Senior Investment Officer

LOS ANGELES COUNTY EMPLOYEES RETIREMENT ASSOCIATION

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Current Asset Weights vs. New Allocation Policy

Change in Allocation by Functional Category

New Targets vs Existing Weights (March 31, 2018)

	Growth Assets	Credit	Risk Reducing and Mitigating	Real Assets and Inflation Hedges
Change, ($B)	(5.7)	+1.6	+1.0	+3.1
Change, % of Total Fund	↓10.2%	↑3.0%	↑1.7%	↑5.5%

Policy Band Size	+/- 7%	+/- 3%	+/- 6%	+/- 3%
Movement To Be Within Policy Band	↓ 3.2%	In range	In range	↑ 2.5%

Path to New Allocation

Path to New Allocation:
Task List

- Update Governance Documents
  - IPS
  - Policies
  - Procedures Manual
  - Investment Plans
  - Structure Reviews
- Align Management and Oversight
  - Committees
  - Staffing
  - Manager and Consultant Searches
- Adapt Portfolio Construction and Analytics
  - Risk/Portfolio Analytics
  - Performance Reporting

Path to New Allocation:
Potential Committee Structure

Existing Committee Names	New Name	Changes	Asset Oversight
Equity	No change	− Private Equity Distressed Debt − Private Natural Resources	• Public Equity • Private Equity
Fixed Income/ Hedge Funds/ Commodities	Credit + Risk Mitigation	+ Real Estate Debt + Private Equity Distressed Debt − Commodities	• Investment Grade Bonds • Diversified Hedge Funds • Credit Hedge Funds • Private Equity Distressed Debt • Real Estate Debt • Opportunistic Credit
Real Estate	Real Assets	+ Commodities + **TIPS** + Private Natural Resources + **Infrastructure** - Real Estate Debt	• Real Estate • Commodities • **TIPS** • Private Natural Resources • **Infrastructure**
Risk	No change		
Corporate Governance	No change		

Note: New investment categories are shown in bold type

Path to New Allocation:
Consultants

- Recommend consultant search for:
  - Real Assets
  - Illiquid Credit
  - Hedge Funds
- Use single RFP to address needs on a combined basis or separately
- Search timeline beginning in August 2018 with six month process

Path to New Allocation:
Staffing

- Add budgeted positions for Real Assets and Portfolio Analytics
- Augment staffing for new areas with cross-functional teams
  - Credit
  - Real Assets
  - Portfolio Analytics
- Continue to evaluate staffing and structure on an annual basis
- Headcount budgeted to grow from 33 currently to 40 by end of FY19

Path to New Allocation:
Growth

Current % of Fund: 57%	New Policy Target: 47%
Previous Policy Target: 55%	

Portfolio of Existing Growth Assets

- Public Equities
- Private Equity
- Opportunistic Real Estate

Implementation Steps

- Conduct Public Market Structure Review
- Update Private Equity Annual Investment Plan
- Conduct PE Secondary Sales
- Implement Real Estate Structure Review and Annual Investment Plan

Path to New Allocation:
Credit

Current % of Fund: 9%
Previous Policy Target: N/A
New Policy Target: 12%

Portfolio of Existing Credit Assets

- Opportunistic Credit (High Yield, Bank Loans, EM Debt, Other (e.g. Securitized Credit)
- Less Liquid Credit Hedge Funds
- Real Estate Debt
- Private Equity Special Situations Debt

Implementation Steps

- Conduct Structure Review
- Upsize Existing Liquid Strategy Managers
- Hire New Managers

Path to New Allocation:
Risk Reduction and Mitigation

Current % of Fund: 22%	New Policy Target: 24%
Previous Policy Target: 26%	

Portfolio of Existing Risk Reducing & Mitigating Assets

- Core Fixed Income
- Core Plus Fixed Income
- Diversified Hedge Funds
- Cash

Implementation Steps

- Continue Direct Hedge Fund Investments
- Consider Cash Overlay, Selecting Manager through RFI
- Rationalize Core and Core Plus Fixed Income Manager Roster

Path to New Allocation:
Real Assets

Current % of Fund: 11.5% New Policy Target: 17%
Previous Policy Target: 12%

Portfolio of Existing Real Assets

- Core Real Estate
- Value Added Real Estate
- Commodities

Implementation Phase I

- Add TIPS
- Issue RFI for Completion Portfolio for Public Market Real Assets*

Implementation Phase II

- Add Private Infrastructure
- Add Private Natural Resources
- Use Completion Portfolio to Fund Private Investments*

* Subject to BOI Approval

Path to New Allocation:
Potential Policy Implementation

- New Allocation Policy Time Frame*
  - Previous policy weights in effect for two quarters following quarter in which IPS is approved
  - Interim policy target at 50% of difference between current and new policies for following two quarters
  - New policy target weights take effect four quarters after IPS is approved
- Policy target weights are used to calculate Total Fund policy return benchmark
- Target bands around policy weights to remain during the interim period

* Subject to BOI Approval

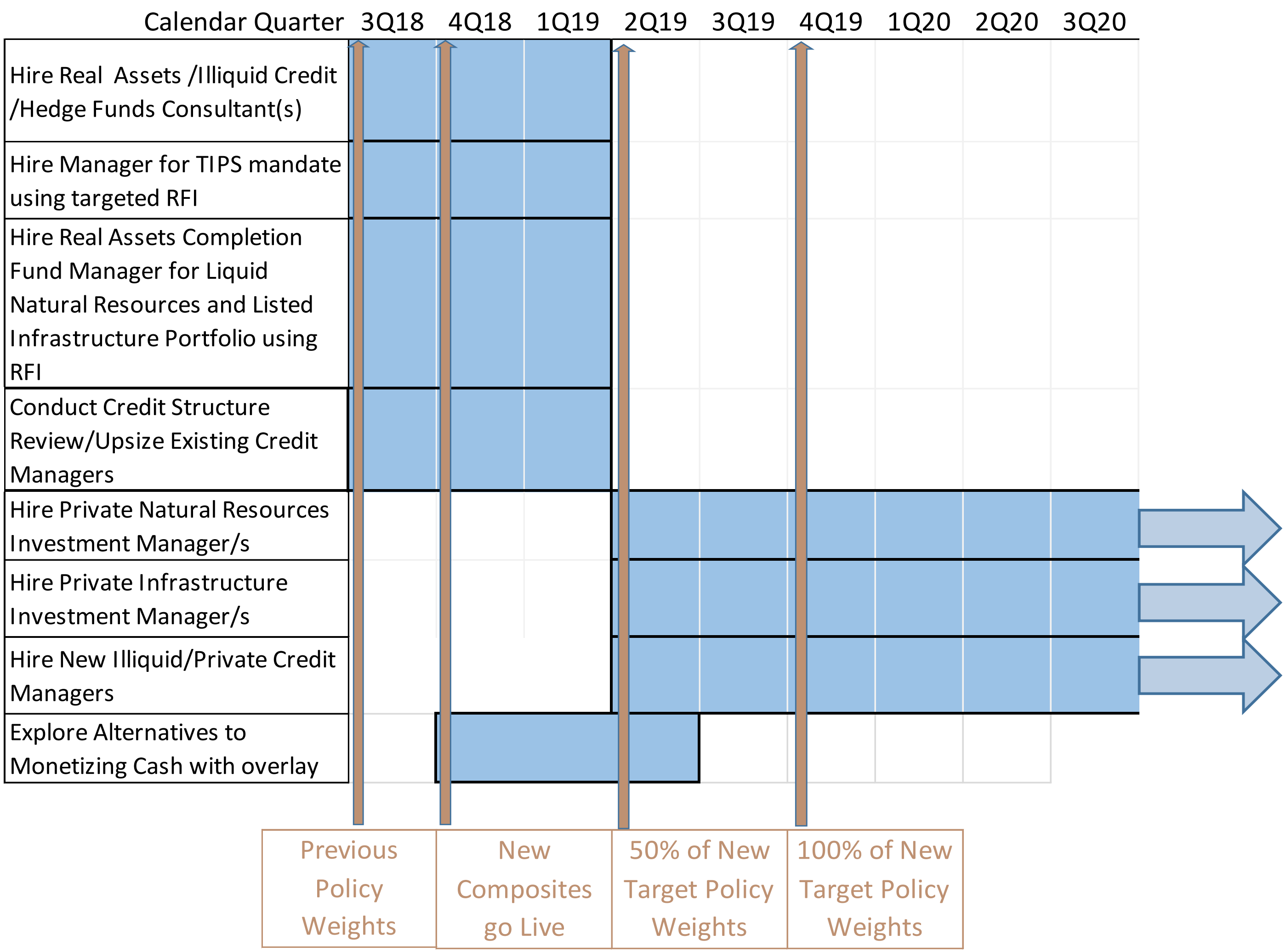
Operational Considerations:

Data and Systems

- Create new asset category and sub-category composites
- Establish risk measures and benchmarks for performance and risk Reporting
- Incorporate new asset categories into total fund risk model
- Anticipated implementation in time for 3Q18 reporting, subject to Board approval of benchmarks

Timeline: Path to New Allocation

Timeline* of known new requirements to achieve new Asset Allocation Policy



*Timeline subject to BOI Approval

Timeline: Interim Policy Allocations*

Asset Category Sub-Strategy	1Q18 Actual Allocation	3Q18 Previous Policy Target %	Interim Policy Target % effective 2Q19	New Final Policy Target % effective 4Q19
Growth	**57.2**	**55**	**52.1**	**47**
Global Equity	46.3	43	41	35
Private Equity	9.1	10	10	10
Opportunistic Real Estate	1.8	2	2	2
Credit	**9.0**	**7**	**10.5**	**12**
High Yield	4.7	3	4	3
Bank Loans	1.0	2	3	4
EM Debt	0.8	1	1	2
Illiquid Credit	2.5	1	3	3
Real Assets and Inflation Hedges	**11.5**	**12**	**14.3**	**17**
Core and Value Added Real Estate	8.7	9	8	7
Natural Resources & Commodities	2.8	3	3	4
Infrastructure	0.0	0	2	3
TIPS	0.0	0	2	3
Risk Reducing and Mitigating	**22.2**	**26**	**23.1**	**24**
Investment Grade Bonds	17.9	21	19	19
Diversified Hedge Funds	1.7	3	3	4
Cash	2.6	2	2	1

* Subject to BOI Approval

Summary

- Implement SAA over 2 years
- Update IPS/Procedures/Benchmarks
- Evolve committee structure
- Hire additional consultants
- Staff: cross-asset-class teams and new positions
- Adapt performance reporting and risk systems to new policy

Appendix

Current Allocation vs. New Asset Allocation Policy

Asset Category Sub-Strategy	**Current Allocation % as of end of 1Q18**	**New Policy Target %**	**Difference*** **(New Policy - Current)**
Growth	**57.2**	**47**	**(10.2)**
Global Equity	46.3	35	(11.3)
Private Equity	9.1	10	0.9
Opportunistic Real Estate	1.8	2	0.2
Credit	**9.0**	**12**	**3.0**
High Yield	4.7	3	(1.7)
Bank Loans	1.0	4	3.0
EM Debt	0.8	2	1.2
Illiquid Credit	2.5	3	0.5
Real Assets and Inflation Hedges	**11.5**	**17**	**5.5**
Core and Value Added Real Estate	8.7	7	(1.7)
Natural Resources & Commodities	2.8	4	1.2
Infrastructure	0.0	3	3.0
TIPS	0.0	3	3.0
Risk Reducing and Mitigating	**22.2**	**24**	**1.8**
Investment Grade Bonds	17.9	19	1.1
Diversified Hedge Funds	1.7	4	2.3
Cash	2.6	1	(1.6)

* Numbers rounded to maintain calculation accuracy

New Asset Allocation Targets and Ranges

Asset Category Sub-Strategy	Current Allocation % as of end of 1Q18	New Policy Target %	Allowable Band Above Policy Target	Allowable Band Below Policy Target*
Growth	**57.2**	**47**	**+7**	**-7**
Global Equity	46.3	35	+7	-7
Private Equity	9.1	10	+3	-3
Opportunistic Real Estate	1.8	2	+1	-2
Credit	**9.0**	**12**	**+3**	**-3**
High Yield	4.7	3	+3	-3
Bank Loans	1.0	4	+2	-4
EM Debt	0.8	2	+2	-2
Illiquid Credit	2.5	3	+2	-3
Real Assets and Inflation Hedges	**11.5**	**17**	**+3**	**-3**
Core and Value Added Real Estate	8.7	7	+3	-3
Natural Resources & Commodities	2.8	4	+2	-2
Infrastructure	0.0	3	+1	-3
TIPS	0.0	3	+2	-3
Risk Reducing and Mitigating	**22.2**	**24**	**+6**	**-6**
Investment Grade Bonds	17.9	19	+6	-6
Diversified Hedge Funds	1.7	4	+2	-4
Cash	2.6	1	+2	-1

* Minimum allowable % is greater of zero or policy target less “allowable band below policy target”

Implementing the New Strategic Asset Allocation, Part 2: Investment Policy Statement

Board of Investments

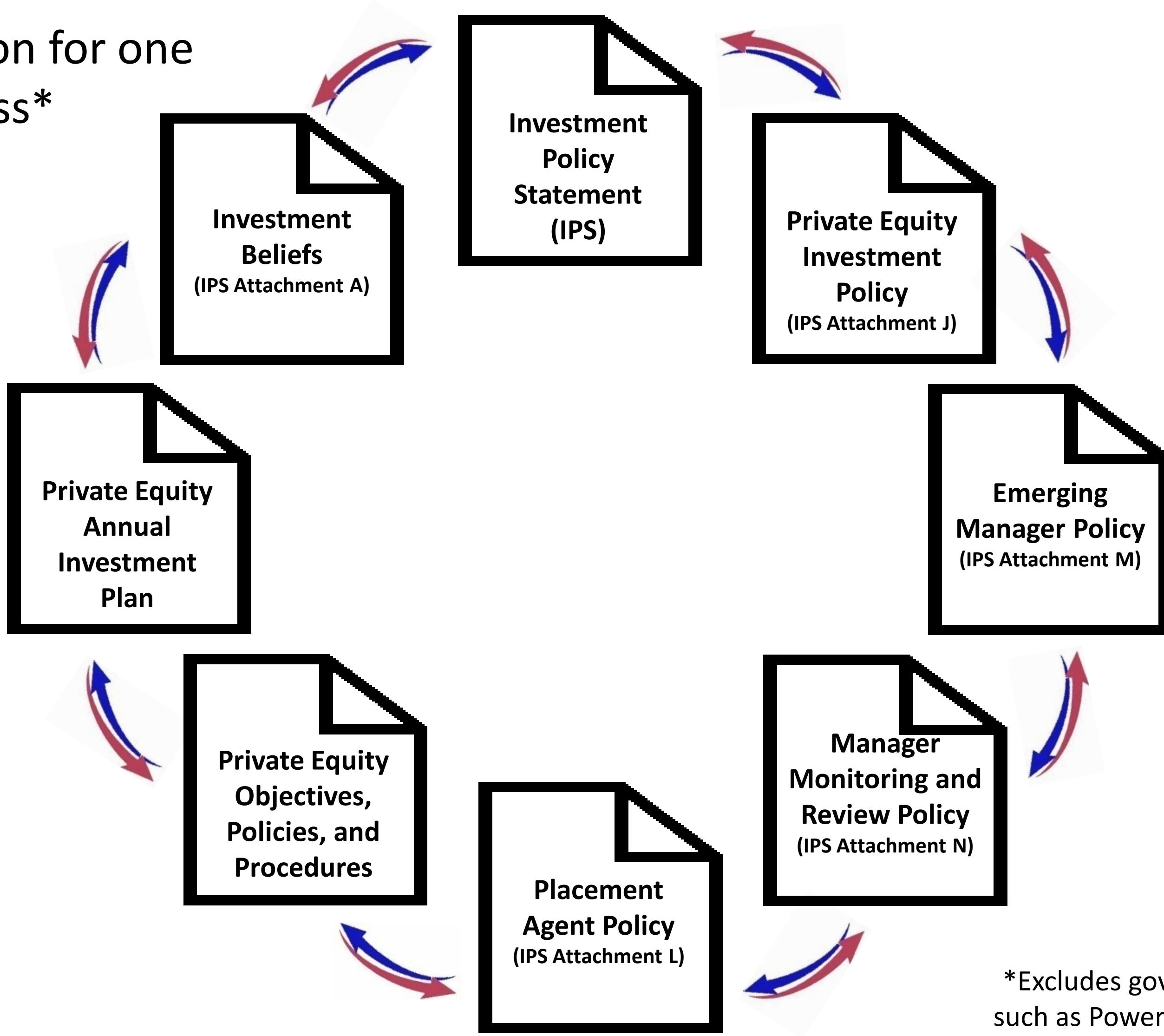
July 9-10, 2018

Jude Perez, Principal Investment Officer
Scott Zdrazil, Senior Investment Officer
Leandro Festino, Managing Principal, Meketa Investment Group

LOS ANGELES COUNTY EMPLOYEES RETIREMENT ASSOCIATION

Which Policy Guides LACERA's Investments?

Illustration for one asset class*

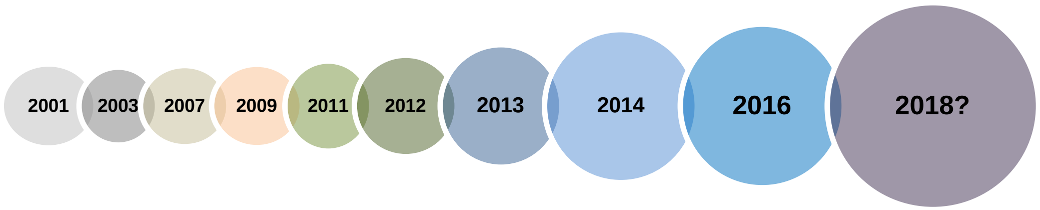


*Excludes governing policies, such as Powers Reserved, etc.

Current IPS and Investment Policies Are the Result of Iterative Additions

- The IPS has generally expanded with each update (currently 106 pages)

IPS Revisions Since 2001



- Additional policies adopted as stand-alone or separate attachments (not incorporated into IPS)

- Does the current structure best guide and serve LACERA in achieving its objectives?

Outline for Discussion

I. **What: *Project Objectives***
What we would like to do and the objectives of the project

II. **Why: *Rationale***
Why we think a "refresh" is desirable

III. **How: *Process, Considerations, and Timeline***
How we are trying to achieve the objectives, considerations, and next steps/timelines

IV. **Questions and Feedback**

I. What: Project Objectives

Project Objectives

1. Enhance clarity of fund objectives and policy
   - Elevate IPS and affirm as primary guiding document
   - Incorporate key aspects of investment program in line with best practices (e.g. risk)
   - Improve accessibility of the LACERA investment policy
     - into a streamlined document *(from current 106 pages to more succinct)*
     - for all stakeholders (current and new Board and staff members, service providers, and plan constituents)

2. Facilitate implementation of newly-adopted asset allocation
   - Reflect new categories and targets
   - Guide implementation and adherence by using consistent nomenclature

3. Extract, unify, and harmonize procedural guidance
   - Consolidate investment procedures into a "Procedural Manual"
   - Address redundancies
   - Avoid unintended consequences of policy proliferation

II. Why: Project Rationale

Address Policy Proliferation

- IPS should serve as primary policy guide
    - Over 20 policies guide investment program for Board and staff
    - Harmonized and simplified policy may provide clarity
- Multiple policies define basic guidance
    - Each asset class has 2-3 policies defining objectives and procedures, with varying overlap and dispersion of guidance:
        - ✓ Investment Policy Statement
        - ✓ Asset Class Investment Policies (separate attachments to IPS)
        - ✓ Objectives, Policies, and Procedures (“OPP”) Policies
        - ✓ Investment Plan
        - ✓ Structure Review
        - ✓ Investment Guidelines
- IPS should serve as unified source for fundamental guidance of LACERA’s investment program

Current Policy Proliferation: Visual Guide

POLICY

PROCEDURE

<table>
<tr><th>PUBLIC EQUITY</th><th>FIXED INCOME</th><th>COMMODITIES</th><th>CASH</th><th>PRIVATE EQUITY</th><th>REAL ESTATE</th><th>HEDGE FUNDS</th></tr>
<tr><td colspan="7">• IPS
• Corporate Governance Principles and Policy
• Statement of Investment Beliefs
• Derivatives Investment Policy
• Emerging Manager Policy
• Real Estate Responsible Contractor Policy
• Securities Lending Policy
• Placement Agent Policy</td></tr>
<tr><td>U.S. IPS Attachment

Non-U.S. IPS Attachment</td><td>IPS Attachment</td><td>IPS Attachment</td><td>IPS Attachment</td><td>IPS Attachment</td><td>IPS Attachment</td><td>IPS Attachment</td></tr>
<tr><td>Public Equity Contract Compliance</td><td>Fixed Income Contract Compliance</td><td>Commodities Contract Compliance</td><td>Cash Contract Compliance</td><td></td><td></td><td></td></tr>
<tr><td colspan="4">Public Markets Search Procedure</td><td></td><td></td><td></td></tr>
<tr><td>Structure Review</td><td>Structure Review</td><td>Structure Review</td><td>Cash Review</td><td>OPP

Annual Investment Plan</td><td>OPP

Annual Investment Plan

International Investment Plan</td><td>OPP

Annual Investment Plan

Structure Review</td></tr>
<tr><td colspan="7">Manager Monitoring and Review Policy</td></tr>
</table>

* Note that the above diagram above (also shown on Slides 10 and 11) excludes newly approved asset categories which do not yet have policy and procedural documents in place. The diagram also excludes other LACERA policies, such as governing documents, that guide LACERA's investment program.

Proliferation Creates Unintended Consequences and Governance Risks

- Confusion of which policies govern
  - Policies and procedures have different purpose & frequency of review
  - Policy revisions risk rendering related language in other policies outdated *(e.g.* Board *Powers Reserved* document)

- Compliance risks
  - Parties may identify policy guidance in one policy and inadvertently overlook guidance on a related topic in other policies, resulting in inconsistency and compliance risks

- Redundancies and inconsistencies exist with differing levels of specificity

A Few Examples

- Investment Beliefs
  - Adopted in 2016 and placed as an appendix to the IPS
  - *Propose: incorporate into the IPS upfront to serve as framing beliefs*
- Risk Policy
  - Risk is one of the core components of CFA Institutes' model IPS
  - 2006 Risk Management Policy referenced, not incorporated in IPS
  - *Propose: create and incorporate a Risk section into the IPS to meet industry standard*
- Roles and Responsibilities
  - BOI *Powers Reserved* not referenced
  - *IPS, OPP, Investment Plans*, and *Investment Policies* each contain guidance on investment decisions
  - *Propose: name BOI as paramount authority in the IPS for clarity; synchronize guidance on broader Roles and Responsibilities investment decisions in Procedures Manual*

III. How: Project Process, Considerations, and Timeline

Towards Policy Cohesion

POLICY

<table>
<tr><th>PUBLIC EQUITY</th><th>FIXED INCOME</th><th>COMMODITIES</th><th>CASH</th><th>PRIVATE EQUITY</th><th>REAL ESTATE</th><th>HEDGE FUNDS</th></tr>
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</table>

Consolidate core elements into body of the IPS and minimize select attachments:

I. IPS
(including Investment Beliefs)

II. Select attachments
(including Corporate Governance Principles, Corporate Governance Policy, and others)

PROCEDURE

Create Easy Reference for Procedural Guidance

POLICY

PROCEDURE

<table>
<tr><th>PUBLIC EQUITY</th><th>FIXED INCOME</th><th>COMMODITIES</th><th>CASH</th><th>PRIVATE EQUITY</th><th>REAL ESTATE</th><th>HEDGE FUNDS</th></tr>
<tr><td colspan="7">Extract procedural language currently residing in the IPS or drafted by each asset class and consolidate into one Procedure Manual</td></tr>
<tr><td>Public Equity Contract Compliance</td><td>Fixed Income Contract Compliance</td><td>Commodities Contract Compliance</td><td>Cash Contract Compliance</td><td></td><td></td><td></td></tr>
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Annual Investment Plan

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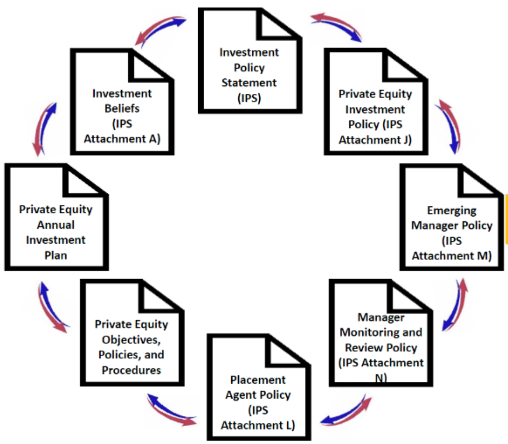
</table>

Summary of Prospective Policy Structure



Elevate IPS as fundamental, cohesive guiding policy

Investment Policy Statement (IPS)

Incorporating numerous attachments, such as:

- Risk Policy
- Investment Beliefs
- Derivatives Policy
- Rebalancing Policy

Centralized binder of procedural guidance

Comprehensive Procedural Manual

Prospective Outline

I. Purpose of Manual
II. Asset Class Specific Procedures and Guidelines
III. Glossary and Definitions

Process and Input

Aim for for an efficient and effective IPS with review and input from:

- CFA Institute template and guidance
- Review of peers' policies
- Meketa Group
- Legal Office

The CFA Institute provides institutional investors guidance on the desirable components of an IPS*

CFA Institute's Elements of an IPS
I. Scope and Purpose
II. Governance
III. Investment, Return, and Risk Objectives
IV. Risk Management

*CFA Institute. *Elements of an Investment Policy Statement for Institutional Investors.* May 2010

Prospective Next Steps and Timeline

2018 Q2	July 2018 Board Offsite	2018 Q3	2018 Q4	2019 Q1
Established Staff-Level "IPS Working Group"	**Preview Prospective Policy Structure for IPS**	Present IPS for First Formal Board Review	Present IPS for Formal Board Consideration	Present Procedural Manual for Formal Review
Board Approved Strategic Asset Allocation	**Receive Feedback, Identify Questions, and Deliberate Next Steps**	Receive Feedback, Identify Questions, and Deliberate Next Steps	Consolidate Policies Defining Procedural Guidance into "Comprehensive Manual"	Receive Feedback, Identify Questions, and Deliberate Next Steps
Previewed IPS and Proposed Policy Structure with Board Leadership				

Questions and Discussion

Discussion: Review and Feedback on Objectives

1. Enhance clarity of fund objectives and policy
   - Elevate IPS and affirm as primary guiding document
   - Incorporate key aspects of investment program in line with best practices (e.g. risk)
   - Improve accessibility of the LACERA investment policy
     - into a streamlined document *(from current 106 pages to more succinct)*
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3. Extract, unify, and harmonize procedural guidance
   - Consolidate investment procedures into a "Procedural Manual"
   - Address redundancies
   - Avoid unintended consequences of policy proliferation

Los Angeles County Employees Retirement Association

Implementing the New Strategic Asset Allocation
Part 3: Benchmark Review

M E K E T A I N V E S T M E N T G R O U P
5796 ARMADA DRIVE SUITE 110 CARLSBAD CA 92008
760 795 3450 fax 760 795 3445 www.meketagroup.com

Background

- The Board of Investments ("The Board") is responsible for reviewing LACERA's investment performance. The Board shall monitor investment returns on both an absolute basis and relative to appropriate benchmarks and peer group comparisons.
- The Board of Investments approved a new asset allocation at the May 9, 2018 meeting. The new policy allocation adds several new asset classes. It also restructures the allocation into a functional framework.
- Given the addition of new asset classes and the new classification of asset classes, it is appropriate to update the Pension Trust's Total Fund and aggregate benchmarks. In addition, it is appropriate to review the remaining asset classes' benchmarks to ensure they are still relevant and appropriate.

Overview of Benchmarks

Definition

A benchmark is a standard against which the performance of a security, mutual fund, or investment manager is measured. Generally, broad market stock or bond indexes are used for this purpose. However, the process becomes more complicated for multi-asset portfolios, illiquid assets, and unique asset classes.

Purpose

The primary purpose of a benchmark is to assist in the evaluation of an investment strategy or portfolio. For the evaluation to be meaningful, it is critical to:

- Select the correct benchmark,
- Understand what active decisions you are trying to measure.

Criteria

There are two widely accepted schools of thought for determining benchmark criteria.

- The Bailey Criteria includes six characteristics.
- The CFA Institute includes five characteristics.
- The criteria have some overlapping characteristics and concepts, which are shown in-depth on the next slide.
- Many commonly used benchmarks fail one or more of these tests, and thus the policy benchmark, made up of asset class benchmarks, will never be a perfect comparison for an institutional fund's diversified asset allocation.

Bailey Benchmark Characteristics:

- **Unambiguous** - The individual securities and their weights in a benchmark should be clearly identifiable.
- **Investible** - It must be possible to replicate and hold the benchmark to earn its return (gross of fees).
- **Measurable** - It must be possible to measure the benchmark's return on a reasonably frequent and timely basis.
- **Appropriate** - The benchmark must be consistent with the manager's investment style or area of expertise.
- **Reflective of current investment options** - The manager should be familiar with the securities that constitute the benchmark and their factor exposures.
- **Specified in advance** - The benchmark must be constructed prior to the evaluation period so that the manager is not judged against benchmarks created after the fact.

CFA Benchmark Characteristics:

- **Investable** – It is possible to forgo active management and simply hold the benchmark. That is, investors can effectively purchase all securities in the benchmark.
- **Accessible** – Difficult to produce benchmarks should be avoided.
- **Transparent** – Understanding the underlying constituency of a benchmark is critical to understanding its suitability for a particular manager.
- **Independent** – A manager's performance should not impact the prescribed benchmark return.
- **Relevant** – Spurious correlation exists between many random sets of data over various time periods. High correlation or low tracking error to a particular benchmark is not enough to conclude the benchmark is appropriate for a particular manager.

Primary Approaches to Asset Class Benchmarking

- Passive Index Benchmark
- Absolute Return Target Benchmark
- Passive Index Plus a Return Premium Benchmark
- Economic Indicator Plus a Return Premium Benchmark
- Peer Group Benchmark

Primary Approaches to Plan Level Benchmarking

- Policy Benchmark
  - A Policy Benchmark consists of multiple asset class indices, with the percentage allocation to each reflecting a plan's target asset allocation.
  - A Policy Benchmark is useful for evaluating both asset allocation shifts (for example, an overweight of small cap equity and underweight of fixed income) and overall active manager performance.
  - There are two primary types of policy benchmarks, which are explained in greater detail on the next pages;
    - Static Benchmark,
    - Dynamic Benchmark.
- Peer Group Benchmark
  - Peer group benchmarks measure how well the Plans' performance compares to other "similar" plans.
  - However, every Plan is unique and very few pension plans track performance at the total plan level.
  - Peer comparisons may be difficult to obtain and are only marginally useful.

Static Benchmark

- A Static Benchmark would consist of a static allocation to several broad market indices.
- A static benchmark is intended to offer a baseline comparison for both asset allocation and active management decisions.
- An example static benchmark for the Plans could be 55% domestic equity, 25% international equity and 20% fixed income.

	Approximate Plan Allocation (%)	Index	December 2016 Index Performance (%)
Investment Grade Bonds	20	Barclays Aggregate	0.1
Domestic Equity	55	Russell 3000 Index	2.0
International Equity	25	MSCI ACWI ex-US IMI	2.5
Total	**100**		**1.7**

- While a static benchmark uses a fairly basic construct, it can be a helpful starting point for benchmarking multi-asset portfolios.
- The Plan's rebalancing policy will dictate how much the static benchmark's allocation can deviate from actual plan exposures.

Dynamic Benchmark

- A Dynamic Benchmark would consist of multiple asset class indices, with the percentage allocation to each reflecting a plan's actual asset allocation.
- A Dynamic Benchmark is useful for evaluating overall active manager performance, excluding the impact of allocation shifts.
- To calculate the Dynamic Benchmark return, the Plan's previous period's asset allocation percentages would be multiplied by broad index returns for each asset class to arrive at an actual allocation Plan performance number.

	November 2016 Allocation (%)	Index	December 2016 Index Performance (%)
Cash / Short-Term Inv. Grade Bonds	5.0	50% Citigroup 1 mo T-Bill/ 50% Barclays US Gov/Credit 1-3 year	0.0
Investment Grade Bonds	13.1	Barclays Aggregate	0.1
Domestic Large Cap Equities	34.7	Russell 1000 Index	1.9
Domestic SMID Cap Equities	10.6	Russell 2500 Index	1.9
Domestic Small Index	1.2	Russell 2000 Index	2.8
International Equities	19.2	MSCI ACWI ex-US IMI	2.5
Real Assets	16.2	25% Bloomberg Commodity 25% FTSE NAREIT Index 25% S&P Global Infrastructure 25% Barclays US TIPS	1.9
Total	**100.0**		**1.7**

Benchmark Analysis

Current[1] Policy Benchmark Components

Current Asset Class	Current Policy Benchmark
Total Fund	22.4% Russell 3000 / 21% Custom MSCI ACWI IMI net 50% Hedge / 26.6% BBgBarc US Universal TR / 10% Private Equity Target / 11% NFI ODCE +40 bps / 4.2% Hedge Fund Custom Index / 2.8% Bloomberg Commodity Index TR USD / 2% Citi 6 Month T-Bill
U.S. Equity	Russell 3000
Non-U.S. Equity	MSCI ACWI ex-U.S.
Fixed Income	Bloomberg Barclays US Universal Bond Index
Real Estate	NFI ODCE Index + 40 bps
Private Equity	Russell 3000 +500 bps, rolling 10 year
Commodities	Bloomberg Commodity Index TR
Hedge Funds	3-month U.S. T-bill + 500 bps
Cash	Citigroup 6-month Treasure Bill Index

- LACERA's current policy utilizes a dynamic benchmark, which is adjusted quarterly to measure Plan level performance.
- Public Equities are currently divided into regional sub-components and benchmarked against relevant indices. Small Cap stocks are not represented in the current international benchmark.
- The illiquid asset categories all employ a passive index plus a premium approach for measuring performance.

[1] Current benchmarks as per the standing IPS.

Forward Looking Benchmark Considerations

- Do the benchmarks from LACERA's current Investment Policy Statement align with LACERA's current and future implementation plans?
- The newly approved asset allocation adds several asset classes to the Trust's portfolio. What benchmarks are most relevant for the new categories?
  - Global Equity
  - High Yield Bonds
  - Emerging Market Debt
  - Core and Value-Added Real Estate
  - Infrastructure
  - Opportunistic Real Estate
  - Bank Loans
  - Illiquid Credit
  - Natural Resources
  - TIPS
- Illiquid Asset Categories:
  - How relevant are public market benchmarks for each category?
  - What level of return premium is required to account for illiquidity?
  - How should reporting lag be handled in each category?
- The following pages will identify some of the key areas for discussion in each of the functional categories.

Growth

Sub Asset Class	% of aggregate	Potential Benchmark	Alternative Benchmark
Global Equity	74.5	MSCI ACWI IMI	Custom Blended Benchmark using regional weights
Private Equity	21.3	MSCI World Index + 200 bps on a three month lag	Peer Group Benchmark (Cambridge, Burgiss, Preqin)
Opportunistic Real Estate	4.2	NFI ODCE+300 bps[1]	Target return or premium to public equity
Growth	**100**	**Custom Blended Benchmark - Static**	**Custom Blended Benchmark - Dynamic**

- **Global Equity**: The MSCI ACWI Investable Market Index (IMI) captures large, mid and small cap equities across 23 Developed Markets (DM) and 24 Emerging Markets (EM) countries*. With 8,498 constituents, the index is comprehensive, covering approximately 99% of the global equity investment opportunity set.
  - Does LACERA want to be tied to the weights of an index?
- **Private Equity:** The MSCI World Index (developed markets) aligns with LACERA's current private equity investments. Utilizing lagged performance reflects the lengthy valuation and reporting cycle of private equity.
  - What is the "right" premium over public equities?
  - Would a peer benchmark more accurately reflect LACERA's performance?
- **Opportunistic Real Estate**: The NCREIF Fund Index Open End Diversified Core Equity (ODCE) Index is a widely used Real Estate benchmark, which reports on 36 open-end commingled funds pursuing a core investment strategy.
  - What is the "right" premium over Core Real Estate?
  - Core Real Estate is part of the Real Assets and Inflation Hedges category. Should a somewhat defensive inflation hedge be the baseline for a Growth asset?
- **Growth:** Should the category benchmark be static based on approved targets, or dynamic?

[1] Per the LACERA Real Estate Objectives, Policies and Procedures.

Credit

Sub Asset Class	% of aggregate	Potential Benchmark	Alternative Benchmark
High Yield	25.0	Bloomberg Barclays US High Yield	Bloomberg Barclays Global High Yield
Bank Loans	33.3	Credit Suisse Leveraged Loans	JP Morgan or S&P Leveraged Loan Indexes
Emerging Market Debt	16.7	50% JP Morgan EMBI Global Diversified (USD) / 50% JP Morgan GBI EM Global Diversified (LC)	Custom Blended Benchmark that reflects LACERA implementation
Illiquid Credit[1]	25.0	Bloomberg Barclays Aggregate+200 bps	Custom Blended Benchmark + premium that reflects LACERA implementation
Credit	**100**	**Custom Blended Benchmark - Static**	**Custom Blended Benchmark - Dynamic**

- **High Yield**: The Bloomberg Barclays US and Global High Yield Indexes are the most widely used indexes.
  - Will LACERA access the global market or focus on the domestic high yield market?
- **Bank Loans:** Bank loans are typically used by firms to fund everything from working capital needs to acquisitions and have a fairly wide range of characteristics. Credit Suisse, JP Morgan and S&P all provide indexes to measure performance in the leveraged loan market.
  - Which index or indices best reflect LACERA's implementation plans?
- **Emerging Market Debt:** JP Morgan Indexes are the most widely used benchmarks for EM Debt. The JP Morgan Global Diversified is composed of dollar-denominated debt issued by sovereign and quasi sovereign entities. The JP Morgan GBI EM Global Diversified Index is composed of local currency sovereign bonds.
  - How much local currency exposure does LACERA intend to have?
- **Illiquid Credit:** The Bloomberg Barclays Aggregate plus a premium is widely used for illiquid credit strategies.
  - What is the "right" premium?
- **Credit:** Should the category benchmark be static based on approved targets, or dynamic?

[1] Illiquid Credit contains credit hedge funds, real estate debt, and private debt strategies. The private debt composite is composed of 40% Mezzanine, 40% Distressed, and 20% Direct Lending.

Real Assets and Inflation Hedges

Sub Asset Class	% of aggregate	Potential Benchmark	Alternative Benchmark
Core and Value-Added Real Estate	41.2	86% NFI ODCE / 14% NFI ODCE +100 bps	Custom Blended Benchmark
Natural Resources/Commodities	23.5	50% Bloomberg Commodity Index TR USD / 50% S&P Global LargeMidCap Commodity and Resources GR USD	Custom Blended Benchmark that reflects LACERA implementation
Infrastructure	17.7	Dow Jones Brookfield Global Infrastructure Index	Peer Group Benchmark or CPI+premium
TIPS	17.7	Bloomberg Barclays US TIPS Index	Bloomberg Barclays US TIPS 0-5 Year Index
Real Assets and Inflation Hedges	**100**	**Custom Blended Benchmark – Static or Dynamic**	**CPI+**

- **Core and Value-Added Real Estate**: The NFI ODCE Index is a widely used Real Estate benchmark, which reports on 36 open-end commingled funds pursuing a core investment strategy.
  - What is the "right" premium for Value-Added over Core?
- **Natural Resources:** The S&P Global LargeMidCap Commodity and Resources Index measures the performance of constituents that fall into three different natural resource buckets: Energy, Materials, and Agriculture.
  - What is the "right" premium for private market assets?
- **Commodities:** The Bloomberg Commodity Index is widely used and provides broad-based exposure.
- **Infrastructure:** The Dow Jones Brookfield Global Infrastructure Index is one of a few public market indexes designed to track the listed infrastructure industry.
  - Is a peer group benchmark more appropriate or CPI plus a premium?
- **TIPS:** The Bloomberg Barclays US TIPS Indexes are the most widely used.
  - What is the likely duration of LACERA's TIPS portfolio?
- **Real Assets and Inflation Hedges:** Should the category benchmark be static based on approved targets, dynamic, or linked to inflation?

Risk Reducing and Mitigating

Sub Asset Class	% of aggregate	Potential Benchmark	Alternative Benchmark
Investment Grade Bonds	79.2	Bloomberg Barclays US Aggregate TR	Custom Blended Benchmark
Diversified Hedge Fund Portfolio	16.7	Citigroup 3-month U.S. T-bill + 500 bps	Peer Group Benchmark
Cash	4.1	Citigroup 3 Month Treasury Bill	NA
Risk Reducing and Mitigating	**100**	**Custom Blended Benchmark - Static**	**Custom Blended Benchmark - Dynamic**

- **Investment Grade Bonds**: The Bloomberg Barclays US Aggregate Bond Index is the most widely used benchmark that measures the investment grade, US dollar-denominated, fixed-rate taxable bond market.
  - Will LACERA continue to utilize Core Plus and how should Core Plus performance be measured?
- **Diversified Hedge Fund Portfolio:** Cash plus a return premium is a common way to measure hedge fund performance.
  - Will the nature of LACERA's hedge fund portfolio change in the future?
  - Does the premium reflect LACERA's goals and is it consistent with potential returns?
- **Cash:** The Citigroup 3-month Treasury Bill Index is widely used for cash.

Potential Total Fund Benchmark

Total Policy Weight (%)	Aggregate Category
47	Growth
12	Credit
17	Real Assets and Inflation Hedges
24	Risk Reducing and Mitigating
Total Fund Benchmark	**47% Growth Custom Benchmark / 12% Credit Custom Benchmark / 17% Real Assets and Inflation Hedges Custom Benchmark / 24% Risk Reducing and Mitigating Custom Benchmark**

- Should LACERA continue to use a dynamic policy benchmark?
- If LACERA shifts from a dynamic policy benchmark, should LACERA establish interim targets?

Case Study: Private Equity Benchmark Challenges

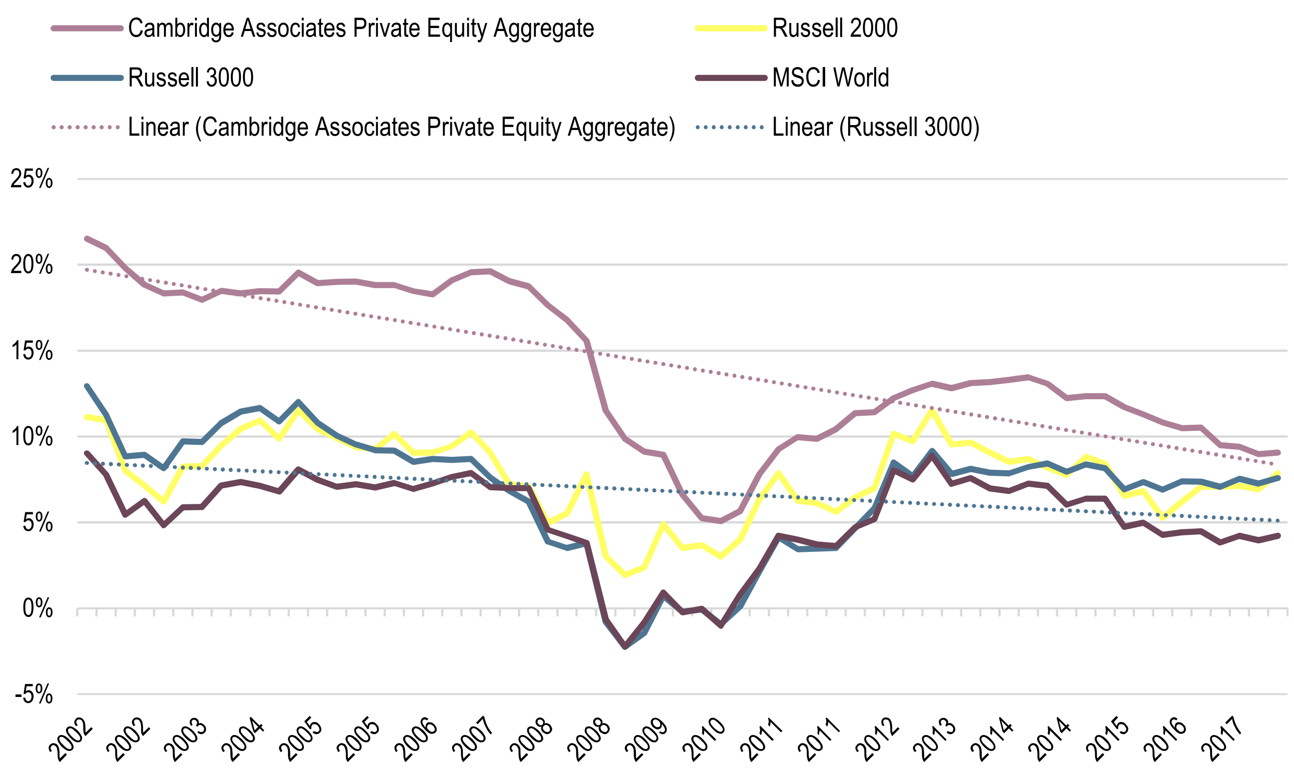
Private Equity Benchmark Challenges

- Private equity is one of the most difficult asset classes to benchmark.
- Due to the idiosyncratic and illiquid nature of many “alternative” asset classes, as well as lack of transparency, a passive index fund “benchmark” for strategies is simply not possible.
- Many investors use a “public market equivalent plus spread” approach to benchmark private equity.
- There are challenges with such an approach as the illiquid and less frequent reporting of private equity often creates a timing mismatch.
- There are also challenges to determine what the correct “spread” should be.

Private Equity Performance vs. Public Market Equities

- Private equity has consistently outperformed public market equities over a long-term horizon.
- The chart below shows the rolling ten-year performance for public equities and private equity, as proxied by the largest database of private equity funds.

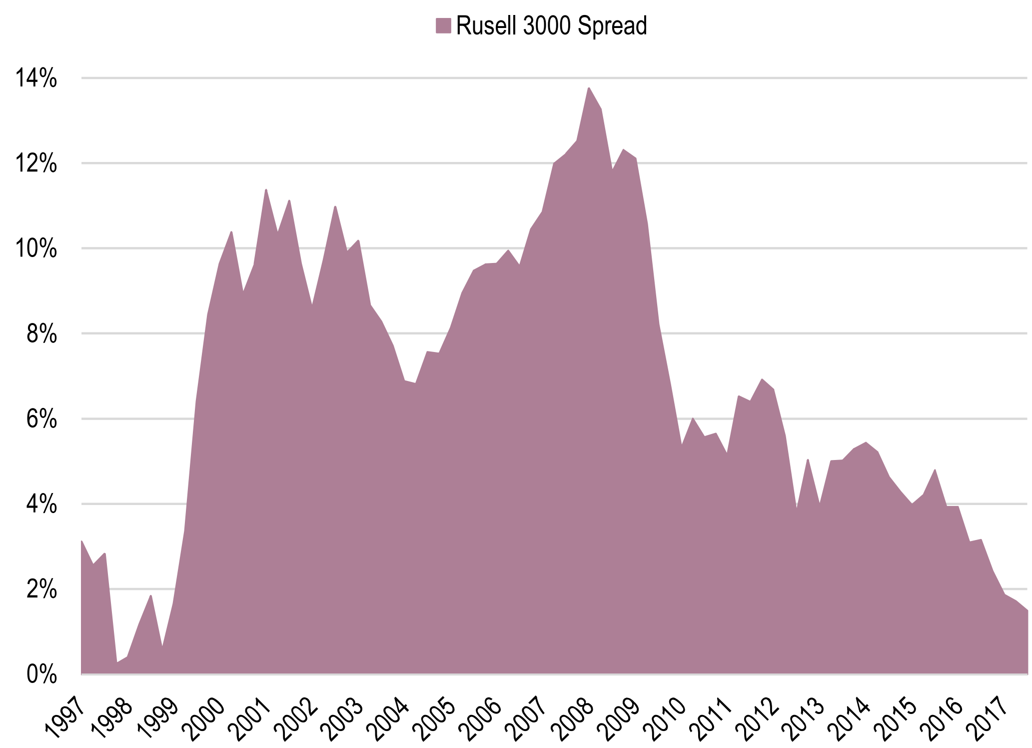
Rolling Ten Year Performance Comparison



Private Equity Outperformance - "Spread"

- Relative to the public equity market, private equity had its best performance in the 2000s.
- Since the Global Financial Crisis, the outperformance of private equity has trended consistently lower.

Spread of Cambridge Associates PE Aggregate minus Russell 3000 Returns[1]



[1] On a rolling ten year basis.

Private Equity Outperformance - "Spread" (continued)

The outperformance investors have been able to earn through private equity (i.e. spread over public markets) has consistently decreased as the asset class has become more popular and likely more "efficient" and competitive.

Average Spread vs. Russell 2000 Index Fund

15 Year Average	6.1%
10 Year Average	4.5%
5 Year Average	3.6%

Average Spread vs. Russell 3000 Index Fund

15 Year Average	7.1%
10 Year Average	6.1%
5 Year Average	3.9%

Average Spread vs. MSCI World Index Fund

15 Year Average	8.6%
10 Year Average	6.9%
5 Year Average	5.8%

Other Meketa Investment Group Clients

- Other Meketa Investment Group clients (mostly large pension plans) have recognized the shift that has occurred and they have either reduced or had discussions about reducing the "spread" built into their private equity benchmarks.
- The following table highlights some example clients and the changes they have made over the past few years.

Client	Size ($ bn)	Old PE Benchmark	New PE Benchmark
Client A	2.5	Russell 3000 Index + 300 bps	Russell 3000 Index + 200 bps
Client B	350	66% FTSE US Total Market/33%FTSE All World (ex-US) + 300 bps	FTSE All World Index + 150 bps
Client C	8	Russell 3000 Index + 300 bps	MSCI ACWI Index + 300 bps
Client D	2.5	S&P 500 Index + 500 bps	Russell 3000 Index + 200 bps
Client E	50	MSCI ACWI Index + 200 bps	No change
Client F	30	80% Russell 3000 Index/20% MSCI EAFE Index + 300 bps on a 3-month lag	No Change
LACERA	55.6	Russell 3000 +500 bps, rolling 10 year	

The Other Approach to Private Equity Benchmarking

- The other approach many investors have used for private equity benchmarking is peer group comparison.
- Performance results from a large group of private equity funds are compiled in peer composites such as the Cambridge Associates Private Equity Composites.
- Like the "public markets plus spread" approach to benchmarking, this approach is not perfect either. These peer group databases introduce a different set of biases because private equity funds self-report (and are not required to continue reporting if a fund fails).
- These composites are also often slow to be released because they are at the mercy of the self-reporting funds.
- The Cambridge Associates dataset of private investments is one of the most comprehensive databases of private markets performance.
- At the end of 2017, it contained the historical performance records of over 2,000 fund managers and over 7,100 funds across different private markets (private equity, private debt, private infrastructure, private natural resources).
- At the end of 2017 the Cambridge Associates US Private Equity Index contained data from nearly 1,400 private equity funds. Its track record dates back to 1986.
- It provides investors with Internal Rate of Return (IRR), Multiple (X) for funds based on vintage year peer groups, as well as aggregated time weighted performance by vintage year or broad asset class type.
- As needed Cambridge Associates will add funds to the database (both newly-raised funds and backfill funds that previously did not report) and occasionally it will remove funds that cease reporting. Cambridge Associates states that this number has been less than 1% historically.

LACERA
Rebalancing & Cash Management

Michael O. Martel

Sonya K. Park

July 9, 2018

STATE STREET GLOBAL ADVISORS

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Appendices

All the information contained in this presentation is as of date indicated unless otherwise noted.

Cash Overlay

What Exposure Management Solutions Do We Provide?

Completion
- Cash Overlay
- Rebalancing
- Factor Risk Management

Risk Management
- Volatility Management
- Options Programs
- Liability Hedging

Return Seeking
- Tactical Asset Allocation
- Volatility Harvesting

Liquidity Management

As of December 31, 2017

Our Approach

Understand the liquidity needs of LACERA

- Quantify the amount of cash needed for operational and investment commitments
- Consider the variability of the cash requirement

Estimate the cost of managing cash

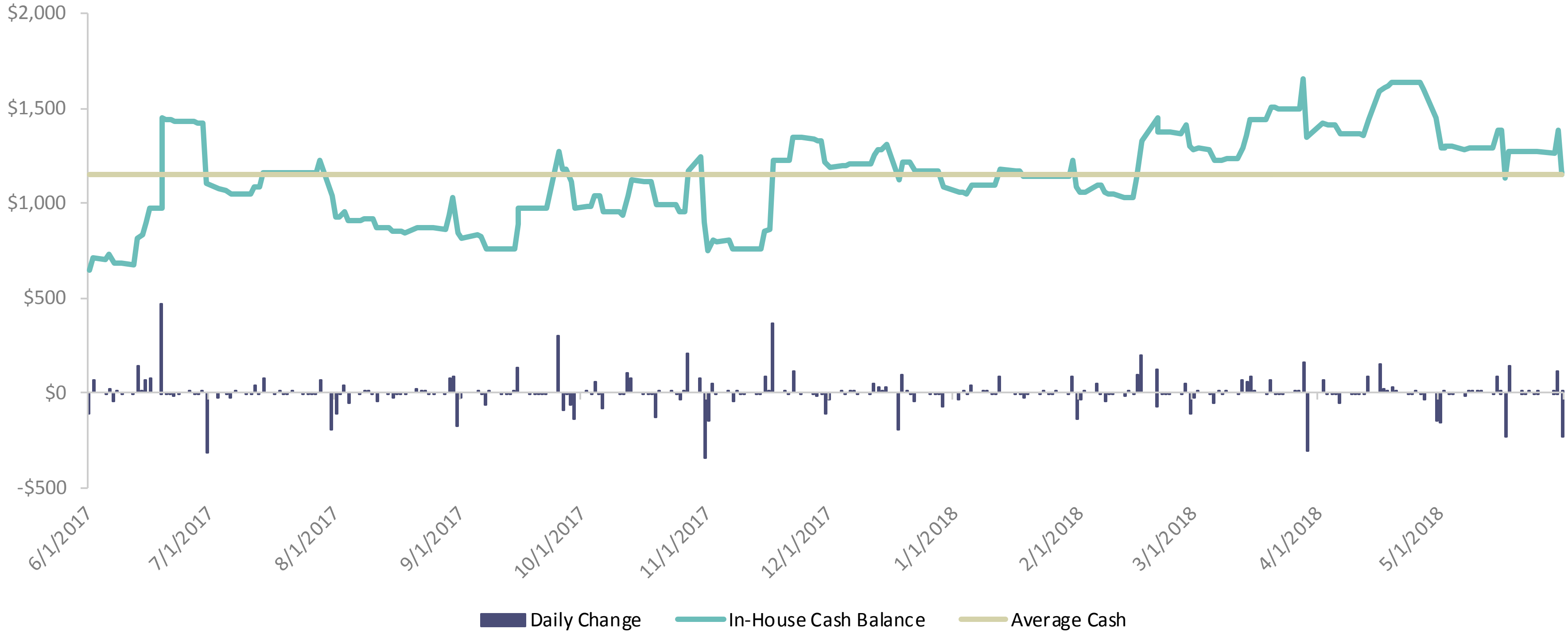
- Explicit costs: Trading costs, turnover
- Opportunity costs: Cash drag, logistics

Suggest an alternative approach through a cash overlay

- Create a solution that is simple, cost effective and appropriate

Liquidity Needs

Daily Cash Level and Change ($millions)
LC4V: In-House Cash Account



Summary

- Average balance $1.15B or 2.2% of total portfolio assuming $52B total value
- Low balance $649M (1.25%) and high was $1.66B (3.2%)
- 95% of the time daily flows were between -$153M to +$156M with an average of $1.5M
- Largest daily outflow was $343M and largest daily inflow was $470M

Source: SSGA & LACERA 6/1/2017 through 5/31/2018.

Costs of Liquidity

Costs are both explicit and opportunity

- Cash drag: Assuming a portfolio return of 7.3% and a long-term expected cash return of 2.8%, then each 1% held in cash would cost about 4.5bps annually or $23.4M
- New lower cash target (from 2% to 1%) will help, but might lead to increased time staff dedicates to monitoring and trading
- If ranges are tightened, this will likely lead to more transactions and therefore more transaction costs

Source: SSGA and LACERA, as of May 2018.

Cash Overlay

Designed to reduce cash drag and increase efficiency

- Use an appropriate combination of derivatives and physical securities to provide market exposure to frictional cash
- Enables clients to hold more cash
- Derivatives are not fully funded, so most cash remains in the LACERA custody account
- Clients have greater flexibility to trade to/from managers
- Reduces staff time spent on monitoring cash balances and trading
- Reduces trading costs as futures tend to trade more cost effectively than stocks and bonds. Although, futures do need to be rolled periodically and those costs should be considered.

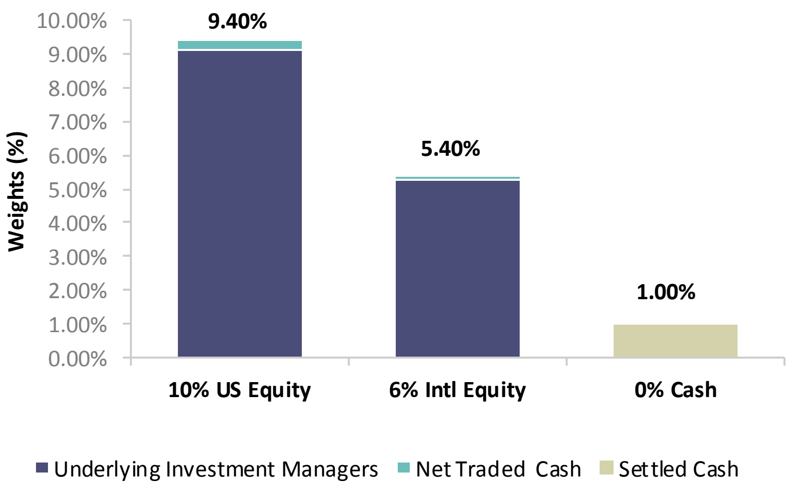
Source: SSGA, As of May 2018

Understanding Cash Exposure Illustrative Example

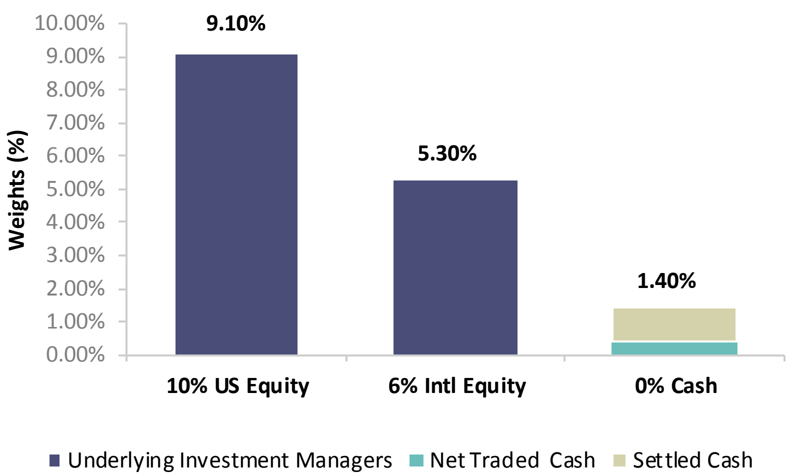
Looking beyond balances: Identify hidden sources of drag

- Identify sources of cash — administrative, equity manager
- For equity managers, define net traded cash
- Retrieve total NAV and net cash per manager from custodian
- Account for flows/transitions between managers
- Re-calculate exposures and compare to targets

Valuation from Custodian



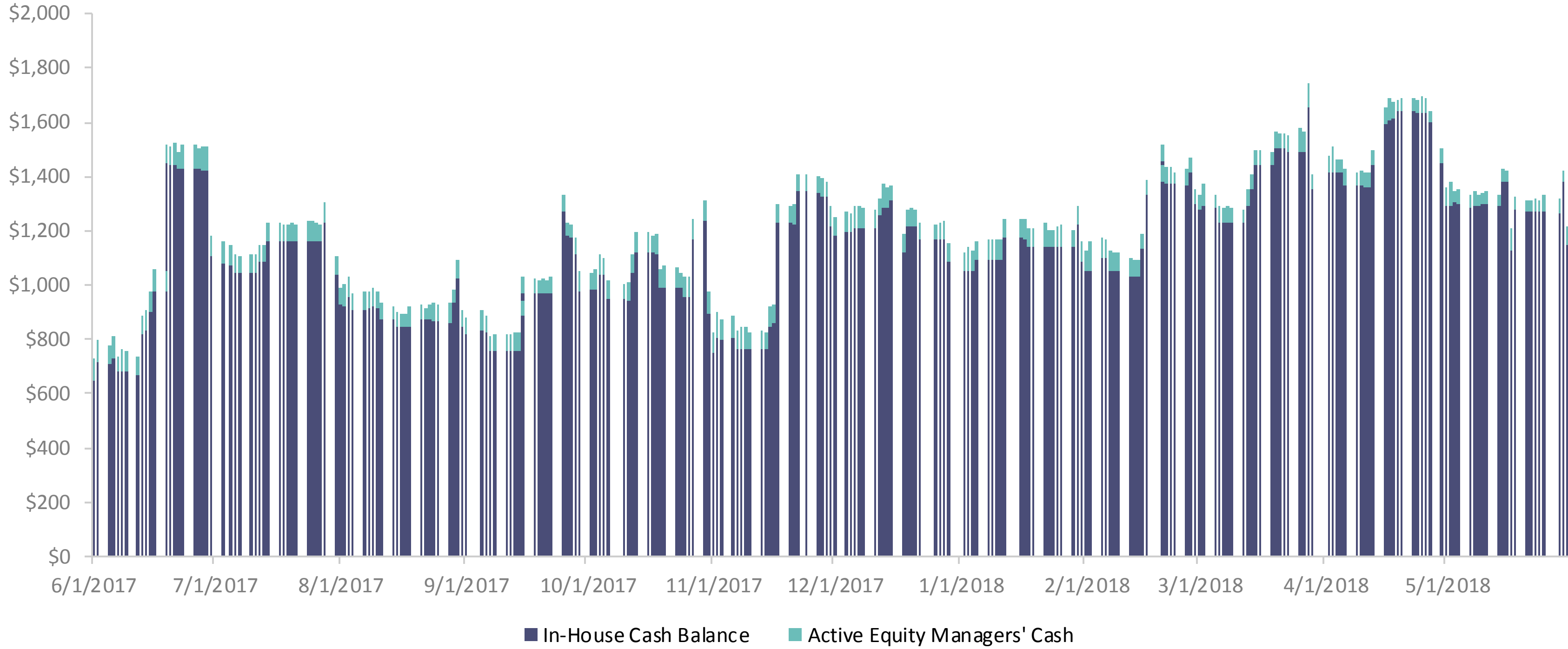
Adjusted Exposures



Source: SSGA, Investment Solutions Group ("ISG").
The information contained above is intended for illustrative purposes only.
All data displayed is hypothetical.

LACERA Sources of Cash

Total Cash to Equitize ($millions)



Summary

- Include cash held by non-commingled active equity managers
- Adds on average an additional $64M or 12bps to total cash
- Ideally, we would calculate net traded cash for each manger = Cash + Receivables for Sales – Payables for Purchases

Source: SSGA & LACERA 6/1/2017 through 5/31/2018.

Cash Overlay — What Might It Look Like?

Solutions are not one size fits all

Asset Class	Growth	Credit	Real Assets & Inflation Hedges	Risk Reducing & Mitigating	Total
Policy	59.1%	6.3%	11.9%	22.7%	100.0%
Included in Overlay	Y	Y	Y	Y	
Benchmark	MSCI ACWI IMI	Custom Credit Blend	Custom Real Asset Blend	Barclays US Aggregate	
Instruments	23 Local Mkt Futures Top 5: S&P 500 Russell 2000 TOPIX FTSE 100 Hang Seng 13 Developed Currencies EUR, JPY, GBP	HY CDX Or HY ETF Bank Loan ETF? EM Debt ETF	US REIT ETF Natural Resource ETF Infrastructure ETF US TIPS ETF Commodities?	US TSY Futures Mortgage TBA's (To Be Announced) Credit ETF?	

Key is to understand how client values the tradeoff between cost, liquidity and tracking error

Source: SSGA, and LACERA as of 4Q17.

Cash Overlay — Expected Results

Create a solution that is simple, cost effective, and appropriate

- Clients can hold more cash while mitigating performance drag
- Cash can be “allocated” to better align portfolio to policy benchmark
- Enhanced flexibility in raising or deploying cash
- Investment staff can focus on higher value add activities
- Operationally simple to manage and implement

Rebalancing Overlay

Managing Asset Mix Drift

An appropriate policy benchmark should be commensurate with the risk/reward objectives of a plan sponsor

- Deviations from plan benchmark asset class weights create a risk of not achieving plan objectives
- Some risk vis-à-vis the benchmark can be taken, but should be associated with additional reward such as excess returns (alpha)

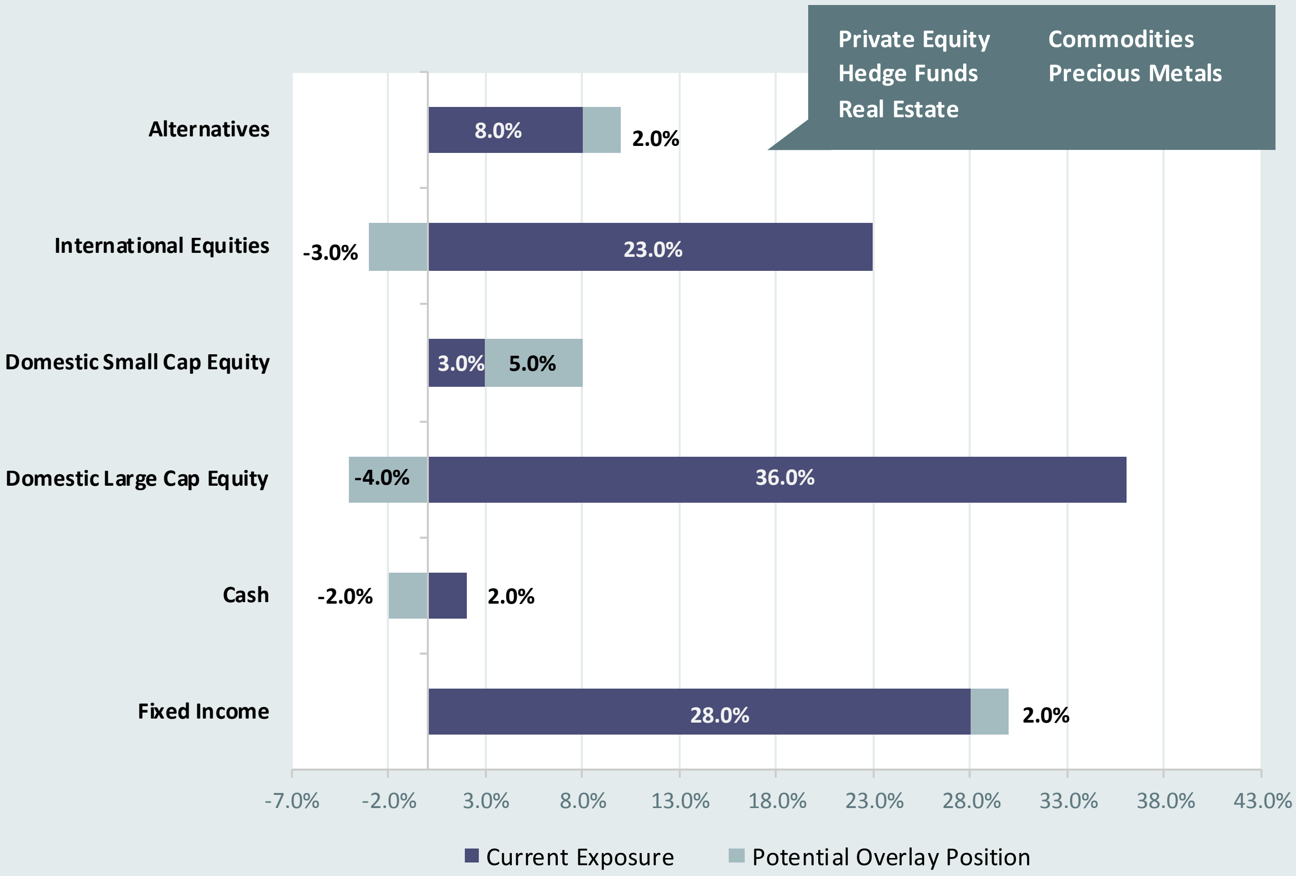
An asset class rebalancing policy can be implemented to help reduce risk from unintended asset class misweights

- Overlay management typically offers speed, flexibility and transaction cost advantages over a physical rebalancing of underlying exposures
- In this manner, the risk budget can be spent in a controlled environment with the goal of alpha generation

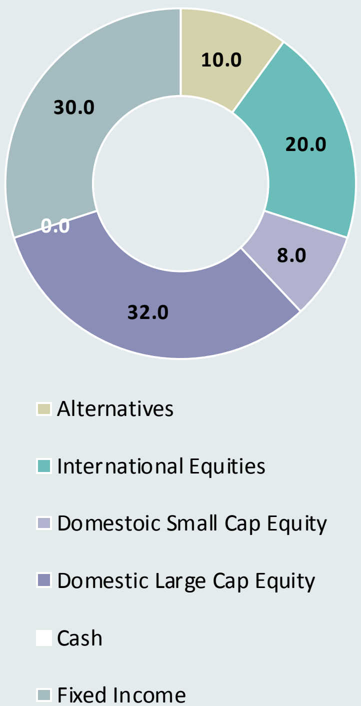
Overlay Portfolio Construction Illustrative Example

Overlay portfolio customized to provide the exposure you want.
Rebalancing and cash flow requirements met with futures, forward contracts, ETFs or index funds.

Example Target Asset Allocation



Example Target Asset Allocation Percentage

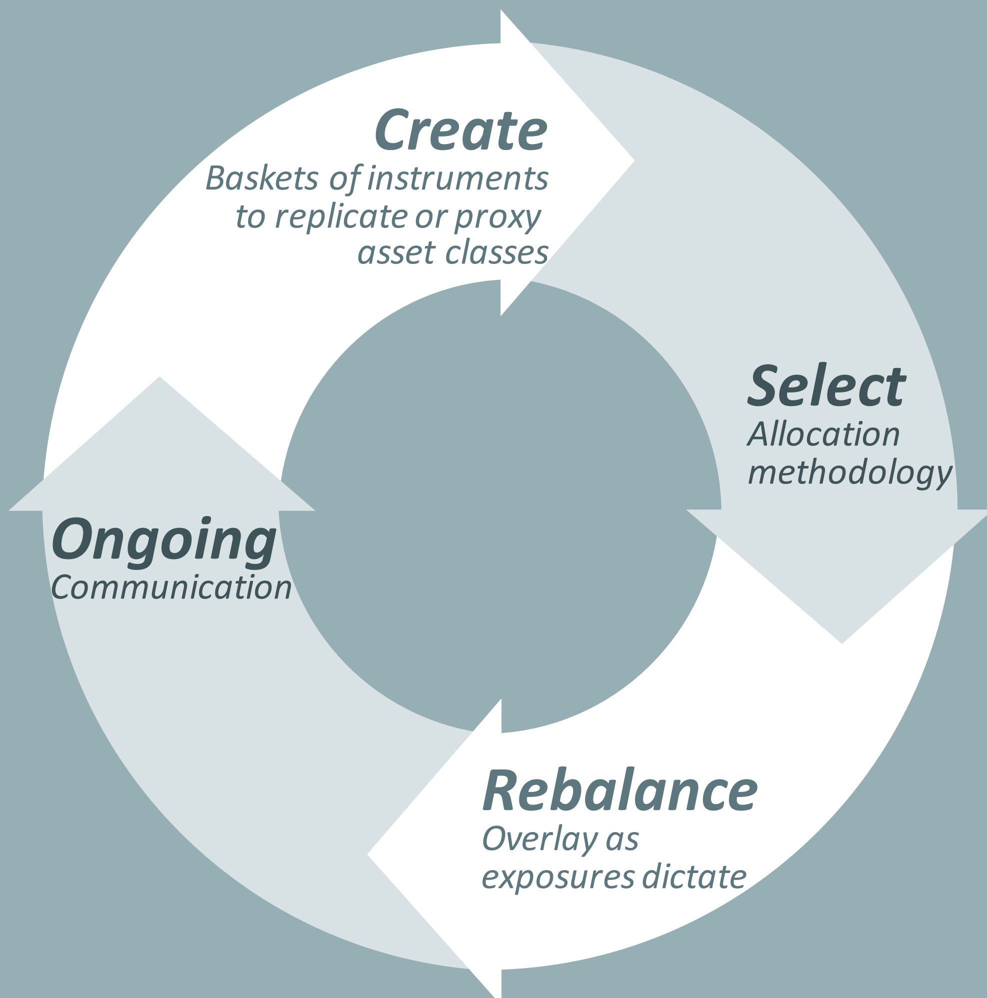


The information contained above is for illustrative purposes only. This example above should not be considered a recommendation to invest in a particular sector or to buy or sell any security shown. It is not known whether the sectors or securities shown will be profitable in the future.

Strategic Rebalancing

- Determined based upon cost, tracking error, liquidity
- Collateral availability

- Daily exposure reporting
- Direct contact with PM Team



- Simple replication of current targets minimize differences to targets
- Active TAA

- Calendar based, range based, other

Appendix A: Process

Exposure Management Strategies — Futures Overview

Example of how $100 of cash is securitized via investment in futures

SSGA coordinates all activities:

- Monitoring cash positions
- Monitoring collateral
- Buying/selling futures
- Coordinating margin cash flows
- Reporting

Cash available: $100

$95

Held by custodian and invested in a money market or STIF

$5

Held as collateral at futures broker and invested in T-Bills

Custody cash: *Assume approximately 3 Mo US LIBOR*

Collateral: *Assume approximately 3 Mo US T Bill*

Total Cash Return:

STIF return +T-Bill return

Desired equity exposure: $100

$100

Using $5collateral as margin, SSGA purchases the appropriate number of futures contracts to create $100 of Equity Index exposure

Equity Index futures :

Price = Index – Dividends + Financing

Equity Index Futures Return:

Approx. total index return less 3 Mo US LIBOR

Total return:

Total Cash Return + Index Futures Return approximately = Total Index Return

The information contained above is for illustrative purposes only.

Disciplined Investment Process

Key is to create a solution that is simple, cost effective, and appropriate

1 Define scope

- Investment objective
- Scope of services for the program

2 Evaluate implementation options

- Define mandate parameters and trade-offs
- Asset classes, benchmarks, instruments, currency exposures
- Sensitivity to cost, liquidity, counterparty risk, tracking error

3 Communication

- Identification of relevant parties and contacts
- Underlying managers, custodian, clearing broker
- Establish sources of cash, funding for margin accounts
- Setup contingency plan

4 Management and monitoring

- Daily assessment of market data, manager balances, flows
- Compare exposures to targets
- Confirm trades, update portfolio, instruct on margin
- Reporting and attribution

Appendix B: Important Disclosures

MSCI Index Disclaimer

MSCI Indices are trademarks of MSCI Inc. Any financial products referred to herein are not sponsored, endorsed, or promoted by MSCI, and MSCI bears no liability with respect to any such financial products or any index on which such financial products are based. The fund documents contain a more detailed description of the limited relationship MSCI has with SSGA and any related financial products. Source: MSCI: Neither MSCI nor any other party involved in or related to compiling, computing or creating the MSCI data makes any express or implied warranties or representations with respect to such data (or the results to be obtained by the use thereof), and all such parties hereby expressly disclaim all warranties of originality, accuracy, completeness, merchantability or fitness for a particular purpose with respect to any of such data. Without limiting any of the foregoing, in no event shall MSCI, any of its affiliates or any third party involved in or related to compiling, computing or creating the data have any liability for any direct, indirect, special, punitive, consequential or any other damages (including lost profits) even if notified of the possibility of such damages. No further distribution or dissemination of the MSCI data is permitted without MSCI's express written consent.

Important Disclosures

A higher re-balancing frequency for an account could mandate more trading and thus lead to added costs and tax consequences.

Bonds generally present less short-term risk and volatility than stocks, but contain interest rate risk (as interest rates rise, bond prices usually fall); issuer default risk; issuer credit risk; liquidity risk; and inflation risk. These effects are usually pronounced for longer-term securities. Any fixed income security sold or redeemed prior to maturity may be subject to a substantial gain or loss.

Investing involves risk including the risk of loss of principal.

ETFs trade like stocks, are subject to investment risk, fluctuate in market value and may trade at prices above or below the ETFs net asset value. Brokerage commissions and ETF expenses will reduce returns.

Investing in commodities entail significant risk and is not appropriate for all investors. Commodities investing entail significant risk as commodity prices can be extremely volatile due to wide range of factors. A few such factors include overall market movements, real or perceived inflationary trends, commodity index volatility, international, economic and political changes, change in interest and currency exchange rates .

The information provided does not constitute investment advice and it should not be relied on as such. It should not be considered a solicitation to buy or an offer to sell a security. It does not take into account any investor's particular investment objectives, strategies, tax status or investment horizon. You should consult your tax and financial advisor. All material has been obtained from sources believed to be reliable. There is no representation or warranty as to the accuracy of the information and State Street shall have no liability for decisions based on such information.

Investing in futures is highly risky. Futures positions are considered highly leveraged because the initial margins are significantly smaller than the cash value of the contracts. The smaller the value of the margin in comparison to the cash value of the futures contract, the higher the leverage. There are a number of risks associated with futures investing including but not limited to counterparty credit risk, currency risk, derivatives risk, foreign issuer exposure risk, sector concentration risk, leveraging and liquidity risks.

Derivative investments may involve risks such as potential illiquidity of the markets and additional risk of loss of principal.

Options investing entail a high degree of risk and may not be appropriate for all investors.

There can be no assurance that a liquid market will be maintained for ETF shares .

Currency Risk is a form of risk that arises from the change in price of one currency against another. Whenever investors or companies have assets or business operations across national borders, they face currency risk if their positions are not hedged.

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This document contains certain statements that may be deemed forward-looking statements. Please note that any such statements are not guarantees of any future performance and actual results or developments may differ materially from those projected.

Investing in foreign domiciled securities may involve risk of capital loss from unfavorable fluctuation in currency values, withholding taxes, from differences in generally accepted accounting principles or from economic or political instability in other nations.

Investments in emerging or developing markets may be more volatile and less liquid than investing in developed markets and may involve exposure to economic structures that are generally less diverse and mature and to political systems which have less stability than those of more developed countries.

The use of leverage, as part of the investment process, can multiply market movements into greater changes in an investment's value, thus resulting in increased volatility of returns.

Diversification does not ensure a profit or guarantee against loss.

Companies with large market capitalizations go in and out of favor based on market and economic conditions. Larger companies tend to be less volatile than companies with smaller market capitalizations. In exchange for this potentially lower risk, the value of the security may not rise as much as companies with smaller market capitalizations.

Investments in small-sized companies may involve greater risks than in those of larger, better known companies.

US Treasury bills are insured and guaranteed by the US government. US Treasury Bills maintain a stable value if held to maturity, but returns are generally only slightly above the inflation rate.

These investments may have difficulty in liquidating an investment position without taking a significant discount from current market value, which can be a significant problem with certain lightly traded securities.

Asset Allocation is a method of diversification which positions assets among major investment categories. Asset Allocation may be used in an effort to manage risk and enhance returns. It does not, however, guarantee a profit or protect against loss.

United States: State Street Global Advisors, One Iron Street, Boston MA, 02210.

Web: www.ssga.com

Tracking Number: 2151815.1.1.NA.INST

Expiration Date: December 31, 2018

STATE STREET GLOBAL ADVISORS

Appendix C: Biographies

Biographies

Michael O. Martel

Mike is a Managing Director of State Street Global Advisors and the Head of Portfolio Management in the Americas for SSGA's Investment Solutions Group (ISG). In this role, he is responsible for the design and management of multi-asset class strategies geared towards meeting the investment objectives of a broad and diverse client base. His work with clients includes aligning assets with long and short-term investment objectives, tactical asset allocation, and employing overlay strategies to enhance return and better manage risks. Prior to this role, Mike led ISG's Exposure Management Team.

He has been working in the investment management field since 1992.

Mike holds a Bachelor of Arts degree in Economics from the College of the Holy Cross and Master degrees in both Finance and Business Administration from the Carroll School of Management at Boston College.

Sonya K. Park

Sonya is a Vice President of State Street Global Advisors and a Senior Relationship Manager in the San Francisco Office. She is responsible for managing existing SSGA client relationships and driving new business development in the Western US Prior to joining State Street Global Advisors in 2011, Sonya was a Vice President at Dimensional Fund Advisors in the Institutional Sales & Services Group.

Prior to Dimensional Fund Advisors, Sonya was an Associate Director at Watson Pharmaceuticals. Sonya has also worked at Lehman Brothers as an Equity Research Analyst and began her career at SEI Corporation.

Sonya earned a BA from the University of Pennsylvania and an MBA from the NYU Stern School of Business and has been working in the financial services industry since 1993. Sonya holds the FINRA 7 and 63 registrations. Sonya also holds the NFA Series 3 and is an Associated Person of SSGA Funds Management, Inc. ('SSGA FM') SSGA FM is a Commodity Trading Advisor registered with the Commodity Futures Trading Commission.

Evolving Global Social, Political and Economic Dynamics

Board of Investments Offsite

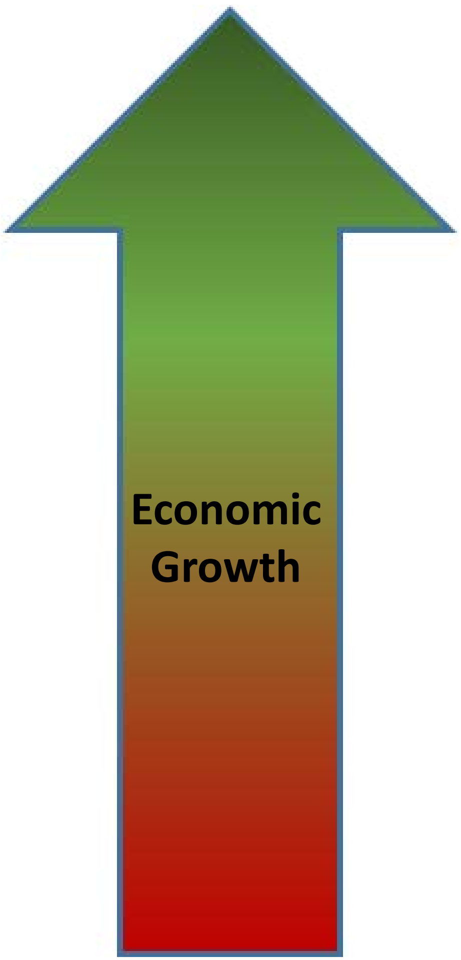
July 9, 2018

Ted Wright, CFA, FRM, PRM, CAIA – Principal Investment Officer, LACERA
Kun Deng, CFA – Managing Director, Lazard Asset Management LLC
John Emerson – Vice Chairman, Capital Group International, Inc.

LOS ANGELES COUNTY EMPLOYEES RETIREMENT ASSOCIATION

Geopolitical Tensions

Open Economies versus Nationalism



Free Markets/Economic Liberalism

- Globalization
- Comparative Advantage
- Free Trade

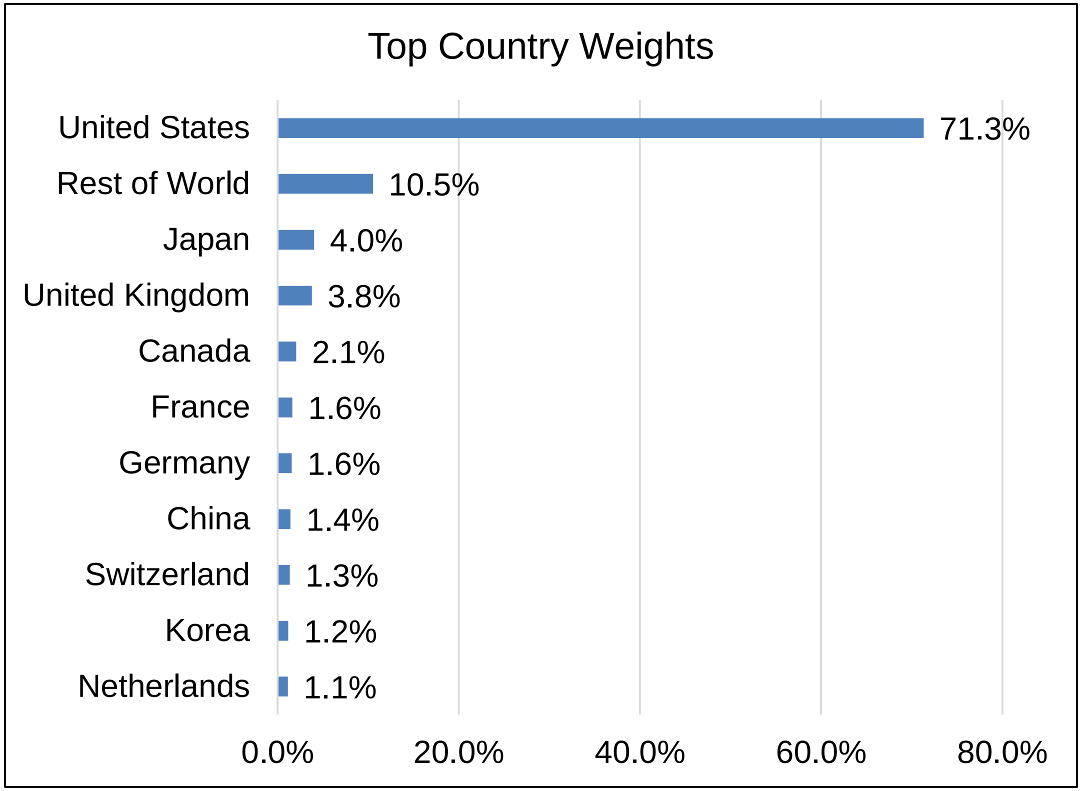
Nationalism

- Protectionism
- Uncompetitive Production
- Tariffs

Source: "Democracy Index 2017: Free Speech Under Attack." The Economist Intelligence Unit, 2018. www.eiu.com (accessed May 30, 2018).

LACERA Total Fund Country Exposures

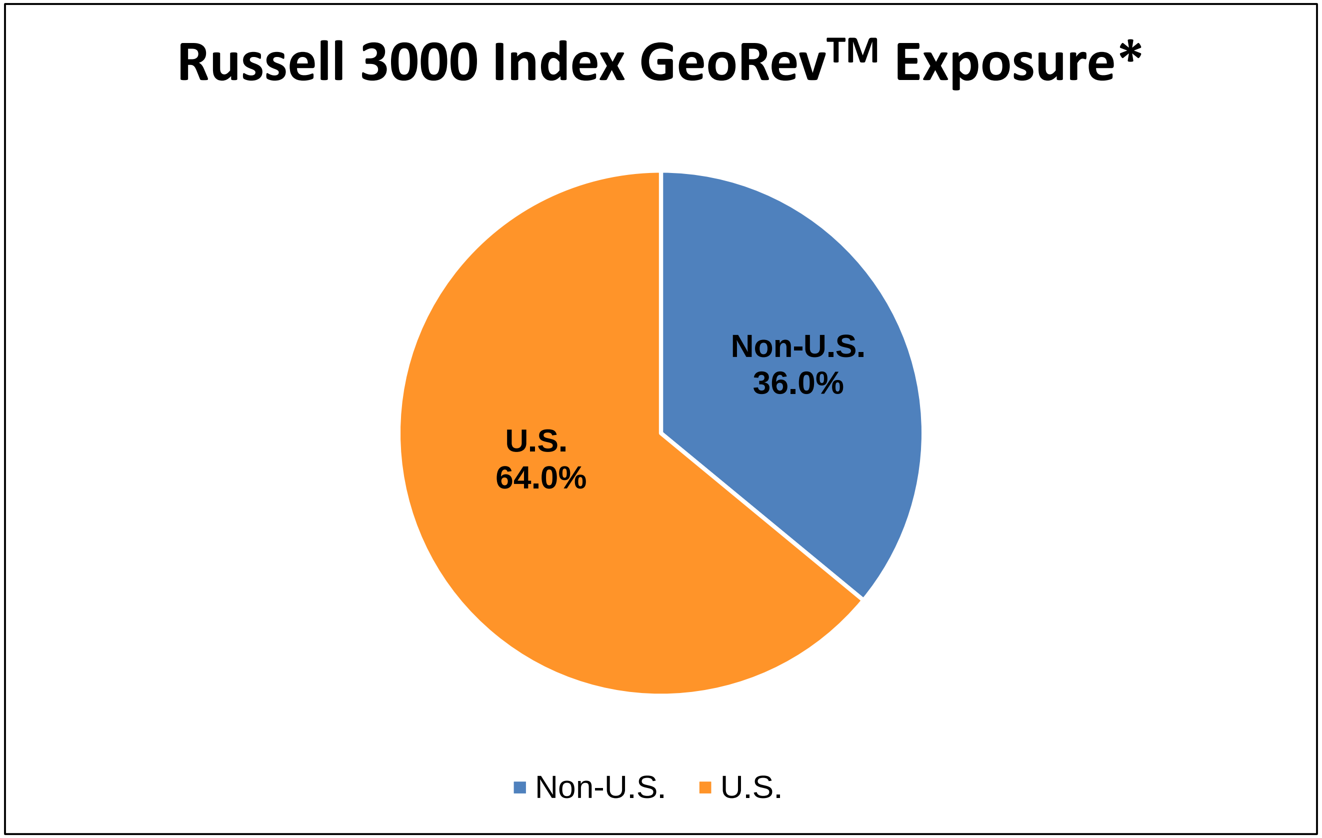
- LACERA is a global investor with investments in over 90 individual countries
- The U.S. is single largest country exposure at 71.3%
- Top 9 countries represent approximately 90%



As of April 30, 2018.

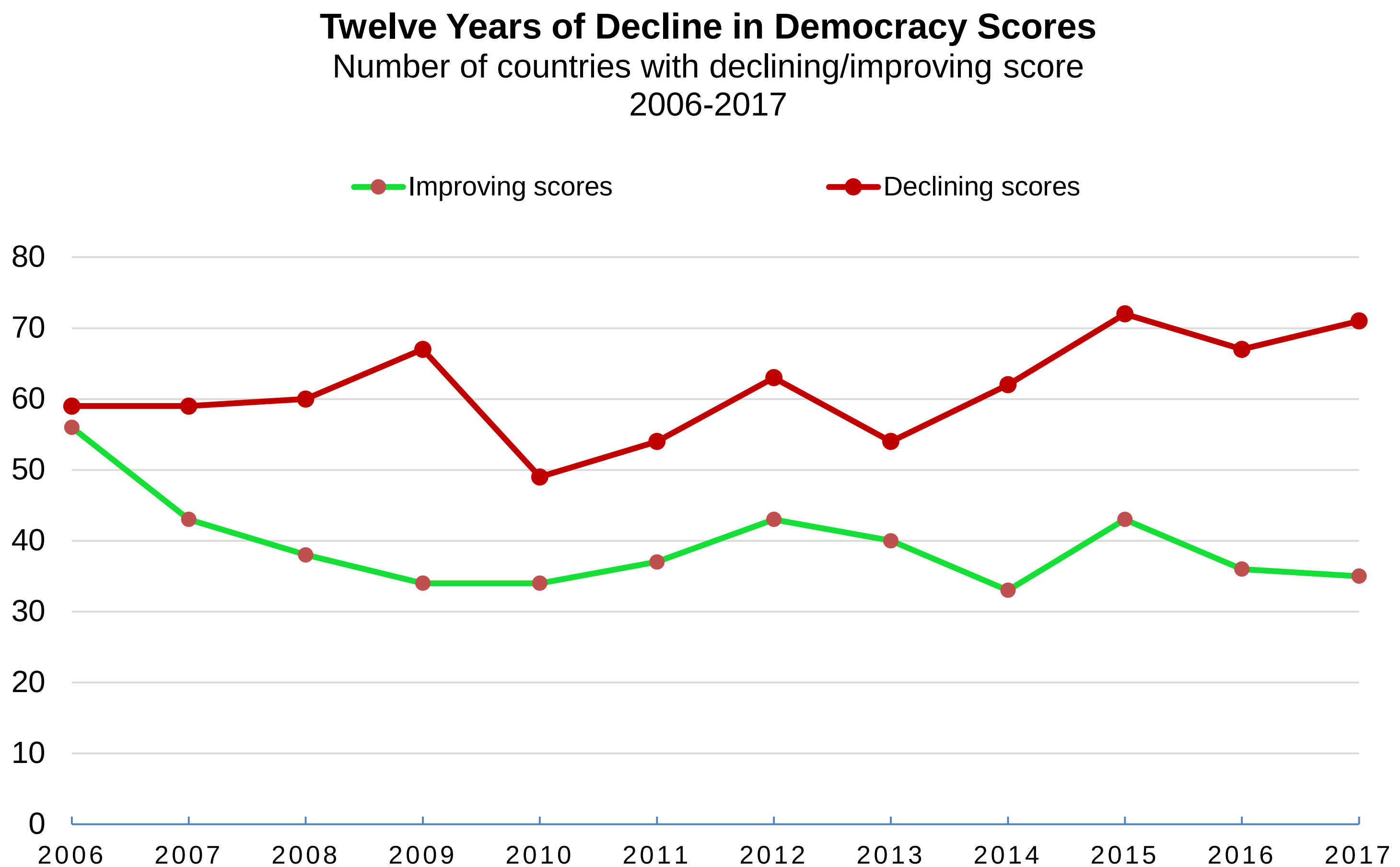
Source: LACERA-created with data from State Street. Classification based on country of domicile with exception of fixed income (country of issue).

Source of Revenue by Geography – Russell 3000 Index



Source: FactSet, as of May 31, 2018. *FactSet Geographic Revenue Exposure (GeoRevTM).

Shifting Tide in Political Regime Types



Source: Abramowitz, Michael J. "Freedom in the World 2018: Democracy in Crisis." Freedom House, January 16, 2018. www.freedomhouse.org (accessed May 30, 2018).

Current Political State of the World

Countries by Regime Type
Democracy Index 2017

	No. Countries	% of Countries	% of World Population
Full democracies	19	11.4	4.5
Flawed democracies	57	34.1	44.8
Hybrid regimes	39	23.4	16.7
Authoritarian regimes	52	31.1	34.0

Source: "Democracy Index 2017: Free Speech Under Attack." The Economist Intelligence Unit, 2018. www.eiu.com (accessed May 30, 2018). Survey covers 167 counties, excluding only microstates. Results are based on evaluation of 5 categories: 1) electoral process and pluralism, 2) civil liberties, 3) functioning of government, 4) political participation, and 5) political culture.

Stock Returns by Regime Type – 10 Years

Average (Equal Weighted) Annualized Returns
10 Years ending March 31, 2018

	Full Democracy	Flawed Democracy	Hybrid Regime	Autocracy
Annualized Return	1.4%	0.7%	-2.0%	-2.2%
Standard Deviation	3.5%	7.0%	10.3%	6.7%
No. of countries	15	33	8	13

Source: MSCI and "Democracy Index 2017: Free Speech Under Attack." The Economist Intelligence Unit, 2018. www.eiu.com (accessed May 30, 2018). 10-year equal weighted MSCI country returns as of March 31, 2018.

Stock Returns by Regime Type – 5 Years

Average (Equal Weighted) Annualized Returns
5 Years ending March 31, 2018

	Full Democracy	Flawed Democracy	Hybrid Regime	Autocracy
Annualized Return	6.1%	4.5%	1.6%	4.7%
Standard Deviation	4.1%	8.8%	8.3%	6.7%
No. of countries	15	38	10	14

Source: MSCI and "Democracy Index 2017: Free Speech Under Attack." The Economist Intelligence Unit, 2018. www.eiu.com (accessed May 30, 2018).
5-year equal weighted MSCI country returns as of March 31, 2018.

Implications for Investors

Panelists

LAZARD
ASSET MANAGEMENT

Kun Deng Portfolio Manager responsible for Lazard Asset Management's Global, International and Emerging Markets Discounted Asset strategies. Kun began his investment career in 1994. Prior to joining Lazard in 1997, he was a Senior Portfolio Manager at Newgate Investment Management and taught at Beijing and Hofstra universities. Kun has an MIA from Columbia University, an MA from Beijing University, and sits on the Board of Directors of Peking University Education Foundation (USA). Financial Times ranked Kun as a top global equity manager in 2000-2003 and his Lazard Emerging World Fund was awarded "Best Fund over 10 Years" in the emerging markets category by Lipper in 2010.

CAPITAL GROUP℠

John Emerson Vice Chairman at Capital Group International, Inc. in global distribution. He has been with Capital Group for 17 years and most recently served as the U.S. ambassador to Germany. In 2015, John was awarded the State Department's Susan M. Cobb Award for Exemplary Diplomatic Service, and in 2017 he was awarded the CIA Medal and the U.S. Navy's Distinguished Public Service award. Before joining Capital, he was deputy assistant to President Clinton where he coordinated his economic conferences. John holds an honorary doctor of laws degree from Hamilton College, a juris doctorate degree from the University of Chicago and a bachelor's degree in philosophy from Hamilton College.

Appendix

Globalization versus Nationalism

	Globalization	Nationalism
Pros	• Globalization promotes free trade which reduces barriers such as tariffs • Global competition makes companies more competitive lowering prices for consumers • Poor countries benefit from increase in foreign investments and jobs • With shared financial interests multi-national corporations try to solve ecological problems together	• Promotes patriotism towards one's nation or country • National interest discourages corruption and promotes economic growth • Nationalism could lead to self-determination and investment in infrastructure programs • Fosters a common identity and preserves cultural norms and traditions
Cons	• Jobs are transferred from higher wage economies to lower wage economies • Exploitation of labor as companies move where wages are lowest • Large multi-national corporations have ability to exploit tax havens and avoid taxes	• Nationalism can be used as a tool of manipulation by leaders • Could lead to isolationist policies and make it difficult to form alliances • Intense nationalism could potentially lead to war

Source:
https://www.forbes.com/sites/mikecollins/2015/05/06/the-pros-and-cons-of-globalization/#74b7745bccce
http://foreignpolicy.com/2009/10/08/is-nationalism-good-for-you/