



INVESTED IN TOMORROW.

## **PERA Board Retreat**

Coronado Hall • Los Angelitos Room

Taos Civic Center • 120 Civic Plaza Drive • Taos, NM 87571

**Tuesday, June 27, 2017**

### **AGENDA**

1:00pm - 4:00pm Informational	Liabilities and Long Term Solvency Education Session - Part III	John Garrett, Principal and Consulting Actuary; Jonathon Craven, Senior Actuary; Cavanaugh Macdonald Consulting LLC
4:00pm - 5:00pm Informational	Team Building/Strategic Planning	Denise Montoya, P.S. People Strategy

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### **Wednesday, June 28, 2017**

9:00am - 3:00pm Informational	Team Building/Strategic Planning	Denise Montoya, P.S. People Strategy
3:00pm -5:00pm	Portfolio Review	Mike Krems, TorreyCove Capital Partners
Informational	“Economic Backdrop and Future Return Prospects: Investing in a Time of “Big League” Uncertainty.”	Thomas Toth, Wilshire Associates



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**PERA**

Public Employees  
Retirement Association  
of New Mexico

INVESTED IN TOMORROW.

# 2017 Actuarial Education Session #3: Statutory Rates, Normal Costs, Changes to Benefits, and Modeling

**June 27, 2017**

**John Garrett, ASA, FCA, MAAA**

**Jonathan Craven, ASA, EA, FCA, MAAA**



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Peer Comparison (NASRA)

Review of Statutory Rates

Normal Cost vs. Statutory Rates

Cost-sharing UAAL

Actuarial Model

# FY 2015 NASRA Public Fund Survey



	NASRA Median	N.M. PERA
Funded Ratio	74.7%	75.3%
Investment Return	7.50%	7.25% 10 yrs., 7.75%
Cash Flow	-2.3%	-3.4%
Actives/Retirees	1.44	1.31

Recent NASRA Issue Brief on benefit reforms found at:  
<http://www.nasra.org/files/Spotlight/Significant%20Reforms.pdf>

# Current Statutory Rates

	Member	Employer	Total
State General	8.92%	16.99%	25.91%
Police and Adult Corrections	9.10%	25.50%	34.60%
Juvenile Corrections	6.28%	26.12%	32.40%
<b>State Division Average</b>	<b>8.90%</b>	<b>17.67%</b>	<b>26.57%</b>

	Member*	Employer	Total
Muni General 1	8.50%	7.40%	15.90%
Muni General 2	10.65%	9.55%	20.20%
Muni General 3	14.65%	9.55%	24.20%
Muni General 4	17.15%	12.05%	29.20%
Muni Detention	18.15%	17.05%	35.20%
<b>Muni General Average</b>	<b>13.54%</b>	<b>9.81%</b>	<b>23.35%</b>

\* Employer may pick-up up to 75% of member amount.

# Current Statutory Rates

	Member*	Employer	Total
Muni Police 1	8.50%	10.40%	18.90%
Muni Police 2	8.50%	15.40%	23.90%
Muni Police 3	8.50%	18.90%	27.40%
Muni Police 4	13.85%	18.90%	32.75%
Muni Police 5	17.80%	18.90%	36.70%
<b>Muni Police Average</b>	<b>17.22%</b>	<b>18.68%</b>	<b>35.90%</b>
	Member*	Employer	Total
Muni Fire 1	9.50%	11.40%	20.90%
Muni Fire 2	9.50%	17.90%	27.40%
Muni Fire 3	9.50%	21.65%	31.15%
Muni Fire 4	14.30%	21.65%	35.95%
Muni Fire 5	17.70%	21.65%	39.35%
<b>Muni Fire Average</b>	<b>17.56%</b>	<b>21.57%</b>	<b>39.13%</b>

\* Employer may pick-up up to 75% of member amount.

# Normal Costs and Statutory Rates

	Normal Cost	Statutory Rate	For UAAL
State General	15.75%	25.91%	10.16%
State Police	27.34%	23.90%	7.26%
Adult Corrections	18.83%	27.40%	15.77%
Juvenile Corrections	15.94%	32.75%	16.46%
Police/Corr. Average	21.80%	36.70%	12.49%
<b>State Average</b>	<b>16.23%</b>	<b>35.90%</b>	<b>10.35%</b>

	Normal Cost	Statutory Rate	For UAAL
Muni General 1	10.44%	15.90%	5.46%
Muni General 2	12.40%	20.20%	7.80%
Muni General 3	14.97%	24.20%	9.23%
Muni General 4	15.13%	35.95%	14.07%
Muni Detention	16.96%	39.35%	18.24%
<b>Muni General Average</b>	<b>14.19%</b>	<b>36.13%</b>	<b>9.16%</b>

# Normal Costs and Statutory Rates

	Normal Cost	Statutory Rate	For UAAL
Muni Police 1	13.28%	18.90%	5.62%
Muni Police 2	16.14%	23.90%	7.76%
Muni Police 3	16.34%	27.40%	11.06%
Muni Police 4	20.10%	32.75%	12.65%
Muni Police 5	23.20%	36.70%	13.50%
<b>Muni Police Average</b>	<b>22.70%</b>	<b>35.90%</b>	<b>13.20%</b>

	Normal Cost	Statutory Rate	For UAAL
Muni Fire 1	13.85%	20.90%	7.05%
Muni Fire 2	17.93%	27.40%	9.47%
Muni Fire 3	17.14%	31.15%	14.01%
Muni Fire 4	20.63%	35.95%	15.32%
Muni Fire 5	26.02%	39.35%	13.33%
<b>Muni Fire Average</b>	<b>22.85%</b>	<b>36.13%</b>	<b>13.28%</b>



# 30 Year Amortization UAAL Rates vs. Available UAAL Rates



	30 Year	Available	Shortfall
State General	18.15%	10.16%	7.99%
State Police	-19.49%	7.26%	-26.75%
Adult Corrections	-19.49%	15.77%	-35.26%
Juvenile Corrections	-19.49%	16.46%	-35.95%
Police/Corr. Average	-19.49%	12.49%	-31.98%
<b>State Average</b>	<b>15.15%</b>	<b>10.35%</b>	<b>4.80%</b>

	30 Year	Available	Shortfall
Muni General 1	8.60%	5.46%	3.14%
Muni General 2	8.60%	7.80%	0.80%
Muni General 3	8.60%	9.23%	-0.63%
Muni General 4	8.60%	14.07%	-5.47%
Muni Detention	8.60%	18.24%	-9.64%
<b>Muni General Average</b>	<b>8.60%</b>	<b>9.16%</b>	<b>-0.56%</b>

# 30 Year Amortization UAAL Rates vs. Available UAAL Rates



	30 Year	Available	Shortfall
Muni Police 1	15.20%	5.62%	9.58%
Muni Police 2	15.20%	7.76%	7.44%
Muni Police 3	15.20%	11.06%	4.14%
Muni Police 4	15.20%	12.65%	2.55%
Muni Police 5	15.20%	13.50%	1.70%
<b>Muni Police Average</b>	<b>15.20%</b>	<b>13.20%</b>	<b>2.00%</b>

	30 Year	Available	Shortfall
Muni Fire 1	27.15%	7.05%	20.01%
Muni Fire 2	27.15%	9.47%	17.68%
Muni Fire 3	27.15%	14.01%	13.14%
Muni Fire 4	27.15%	15.32%	11.83%
Muni Fire 5	27.15%	13.33%	13.82%
<b>Muni Fire Average</b>	<b>27.15%</b>	<b>13.28%</b>	<b>13.87%</b>

# Cost-Sharing UAAL Rate vs. Divisional UAAL Rates

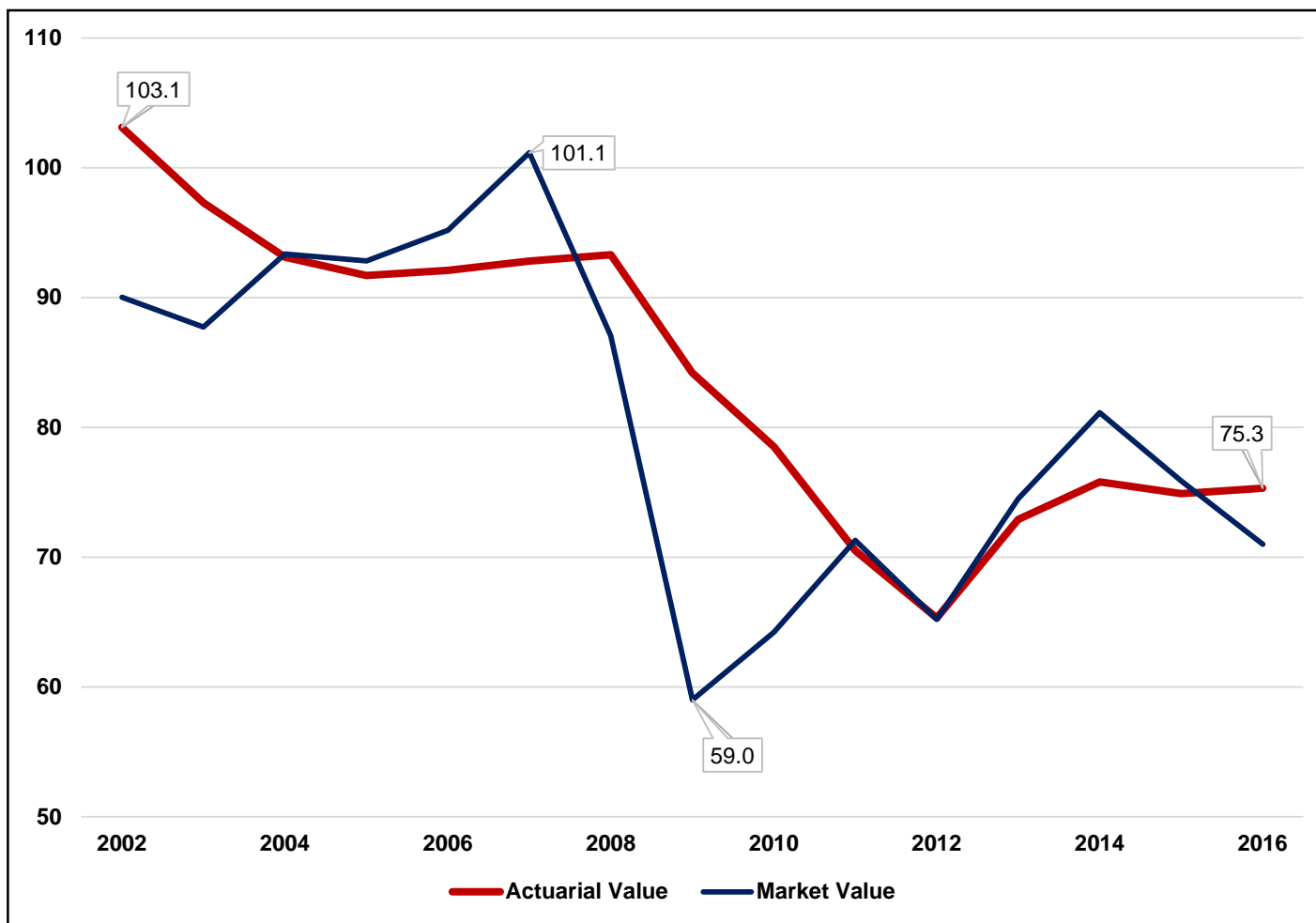


	30 Year	Available	Shortfall	Current Shortfall
State General	13.20%	10.16%	3.04%	7.99%
State Police/Corr.	13.20%	12.49%	0.71%	-31.98%
Muni General	13.20%	9.16%	4.04%	-0.56%
Muni Police	13.20%	13.20%	0.00%	2.00%
Muni Fire	13.20%	13.28%	-0.08%	13.87%
PERA Average	13.20%	10.29%	2.91%	2.91%

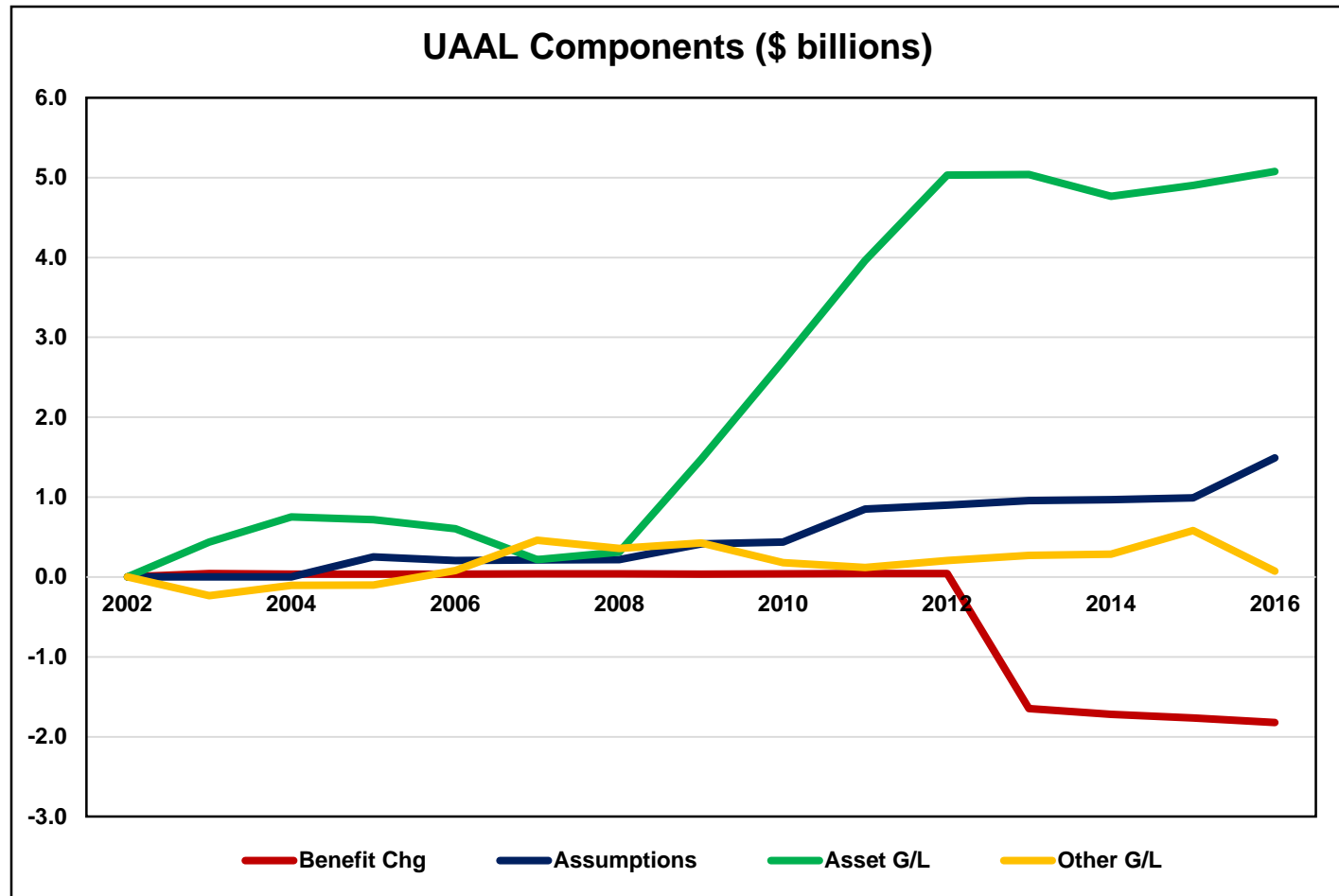
# Summary of Contribution Rates

- Statutory rates are not expected to maintain a perfect fit to satisfy current and future actuarial funding objectives.
- True cost-sharing of UAAL amortization across all division of PERA results in better match of statutory rates and required funding.
- Absent investment losses, rates would be expected to be sufficient for all coverage plans.
- Investment experience is expected to be primary source of changes in future contribution requirements.

# PERA Funded Status 2002-2016

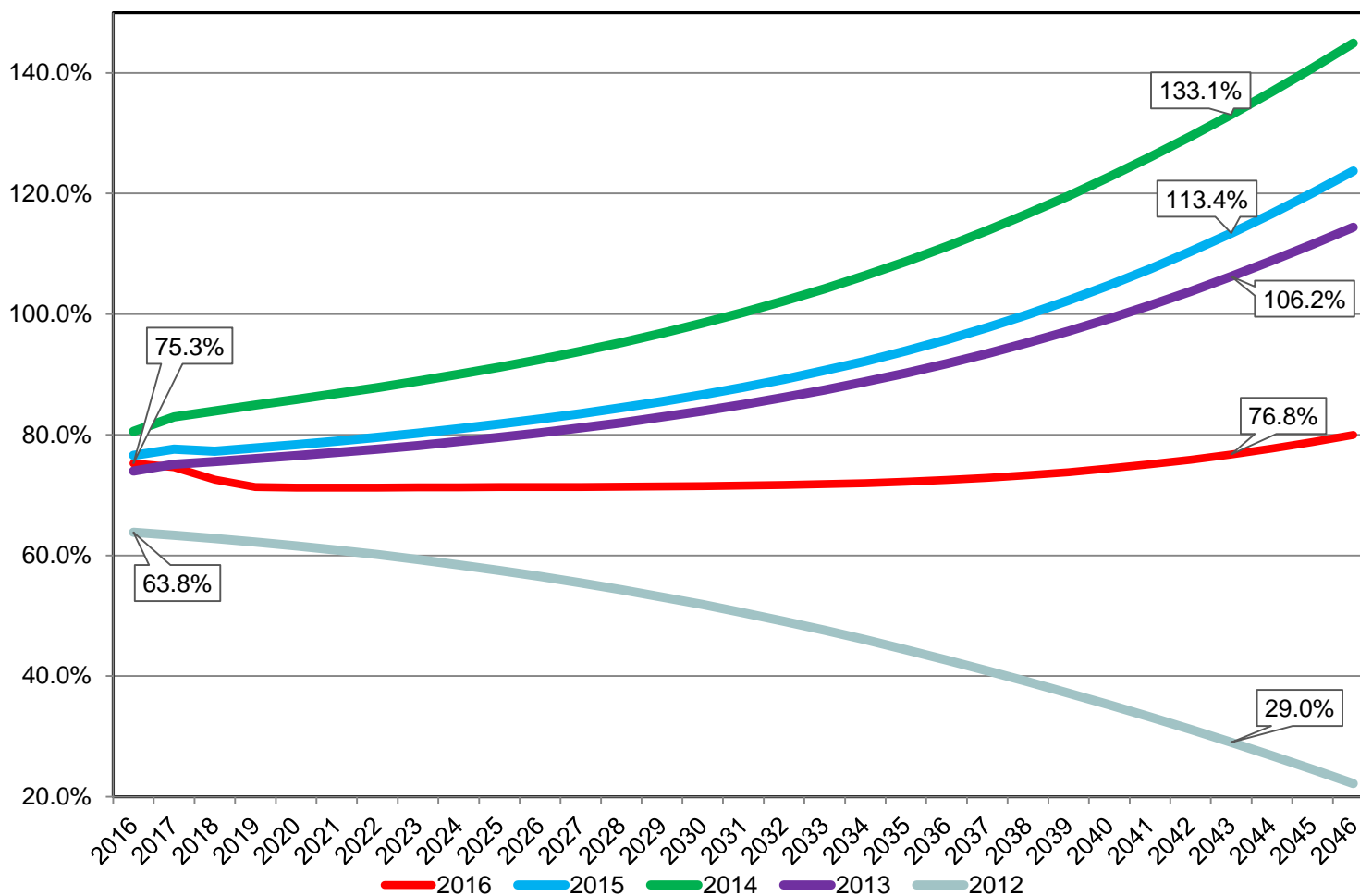


# Sources of UAAL (\$4.82 billion) Since Full Funding in 2002



# Projection of PERA Funded Ratios

Comparison of Projections Total PERA 2012 to 2016



# Likelihood of Investment Returns

- Actual long-term returns are equally likely to be above the median as below
  - 7.25% through 2026
  - 7.75% thereafter
- Actual long-term returns are twice as likely to be above the 33<sup>rd</sup> percentile return as below
  - 5.79% to 6.29%
- Actual long-term returns are three times as likely to be above the 25th percentile return as below
  - 5.02% to 5.52%



# Actuarial Model

- Constructed model to assess impact of future investment volatility and the effectiveness of potential actions.
- Model is only for assessment of alternatives and is not recommendations for current changes.



# Active Employers With Active Municipal Plans With Pickup Percentage

Data Date: 06/26/2017, Total Record Count: 125

Employer Name	Emp N	Plan	Pickup %
A M A F C A	04580	Municipal Plan 3	75.00
ALAMOGORDO CITY OF	02010	Municipal Plan 2	50.27
ALAMOGORDO CITY OF	02010	Municipal Fire Plan 5	74.04
ALAMOGORDO CITY OF	02010	Municipal Police Plan 5	72.09
Albuquerque Bernalillo County Water Authority	04380	Municipal Plan 3	75.00
ALBUQUERQUE CITY OF (REGULAR)	02020	Municipal Detention Officer Plan 1	75.00
ALBUQUERQUE CITY OF (REGULAR)	02020	Municipal Plan 3	75.00
ALBUQUERQUE HOUSING AUTHORITY	04560	Municipal Plan 3	75.00
Animal Service Center of the Mesilla Valley	04460	Municipal Plan 3	50.00
ARTESIA CITY OF	02980	Municipal Plan 1	75.00
ARTESIA CITY OF	02980	Municipal Fire Plan 1	75.00
ARTESIA CITY OF	02980	Municipal Police Plan 1	75.00
BAYARD CITY OF	02050	Municipal Plan 2	10.92
BAYARD CITY OF	02050	Municipal Police Plan 4	8.10
BELEN CITY OF	02060	Municipal Fire Plan 5	43.52
BELEN CITY OF	02060	Municipal Police Plan 5	75.00
BELEN CITY OF	02060	Municipal Fire Plan 5	43.00
BELEN CITY OF	02060	Municipal Plan 4	75.00
BERNALILLO COUNTY	03010	Municipal Police Plan 5	75.00
BERNALILLO COUNTY	03010	Municipal Plan 2	75.00
BERNALILLO COUNTY	03010	Municipal Plan 3	75.00
BERNALILLO COUNTY	03010	Municipal Detention Officer Plan 1	75.00
BERNALILLO COUNTY	03010	Municipal Fire Plan 5	75.00
BERNALILLO TOWN OF	02080	Municipal Police Plan 4	60.00
BERNALILLO TOWN OF	02080	Municipal Plan 4	60.00
BLOOMFIELD CITY OF	02090	Municipal Fire Plan 5	18.50
BLOOMFIELD CITY OF	02090	Municipal Police Plan 5	18.40
BOSQUE FARMS VILLAGE OF	02100	Municipal Plan 2	75.00
CIUDAD SOIL AND WATER CONSERVATION	03480	Municipal Plan 1	50.00
CLAYTON TOWN OF	02160	Municipal Fire Plan 4	75.00
CLAYTON TOWN OF	02160	Municipal Police Plan 2	75.00
CLAYTON TOWN OF	02160	Municipal Plan 2	75.00
CURRY COUNTY	03060	Municipal Plan 3	75.00
DONA ANA COUNTY	03090	Municipal Plan 3	75.00
EDDY COUNTY	03100	Municipal Plan 3	75.00
EDDY COUNTY	03100	Municipal Detention Officer Plan 1	75.00
EDDY COUNTY	03100	Municipal Fire Plan 5	57.00
EDDY COUNTY	03100	Municipal Police Plan 5	75.00
ESPANOLA CITY OF	02290	Municipal Plan 3	75.00
ESTANCIA TOWN OF	02300	Municipal Plan 1	75.00
EUNICE CITY OF	02850	Municipal Police Plan 1	75.00
EUNICE CITY OF	02850	Municipal Police Plan 3	75.00
EUNICE CITY OF	02850	Municipal Plan 1	75.00
EUNICE CITY OF	02850	Municipal Fire Plan 1	75.00
EUNICE CITY OF	02850	Municipal Plan 2	75.00
EUNICE CITY OF	02850	Municipal Fire Plan 3	75.00
GALLUP CITY OF	02330	Municipal Detention Officer Plan 1	75.00
GALLUP CITY OF	02330	Municipal Plan 3	75.00
GALLUP CITY OF HOUSING AUTHORITY	04140	Municipal Plan 3	75.00
GRANT COUNTY	03110	Municipal Police Plan 5	75.00
GRANT COUNTY	03110	Municipal Plan 1	75.00
GRANT COUNTY	03110	Municipal Plan 2	75.00
HAGERMAN TOWN OF	02960	Municipal Police Plan 3	23.75
HAGERMAN TOWN OF	02960	Municipal Police Plan 1	75.00
HAGERMAN TOWN OF	02960	Municipal Plan 1	75.00
HOBBS CITY OF	02370	Municipal Police Plan 5	24.54
HOBBS CITY OF	02370	Municipal Fire Plan 5	24.69
HOBBS CITY OF	02370	Municipal Plan 2	43.72

Employer Name	Emp N	Plan	Pickup %
LAS CRUCES CITY OF	02400	Municipal Police Plan 5	36.81
LAS CRUCES CITY OF	02400	Municipal Plan 2	27.32
LAS CRUCES CITY OF	02400	Municipal Plan 1	2.00
LAS CRUCES CITY OF	02400	Municipal Fire Plan 5	17.28
LAS CRUCES CITY OF	02400	Municipal Fire Plan 5	8.64
LAS CRUCES CITY OF	02400	Municipal Fire Plan 5	2.00
LAS CRUCES CITY OF	02400	Municipal Plan 3	45.63
LEA COUNTY	03150	Municipal Police Plan 4	75.00
LEA COUNTY	03150	Municipal Police Plan 5	28.28
LOS LUNAS VILLAGE OF	02440	Municipal Fire Plan 5	75.00
LOS LUNAS VILLAGE OF	02440	Municipal Police Plan 5	75.00
LOS LUNAS VILLAGE OF	02440	Municipal Plan 3	75.00
LOS RANCHOS VILLAGE OF	02450	Municipal Fire Plan 3	75.00
LOS RANCHOS VILLAGE OF	02450	Municipal Plan 2	75.00
LOS RANCHOS VILLAGE OF	02450	Municipal Fire Plan 5	75.00
LUNA COUNTY	03180	Municipal Plan 2	75.00
MCKINLEY COUNTY	03200	Municipal Plan 3	75.00
MCKINLEY COUNTY	03200	Municipal Fire Plan 5	75.00
MCKINLEY COUNTY	03200	Municipal Police Plan 5	75.00
MELROSE VILLAGE OF	02880	Municipal Police Plan 1	42.80
MELROSE VILLAGE OF	02880	Municipal Plan 1	42.80
Mesilla Valley Public Housing Authority	04150	Municipal Plan 2	75.00
Mid-Region Council of Governments	04570	Municipal Plan 3	75.00
MID. RIO GRANDE CONS. DIST.	02480	Municipal Plan 3	75.00
NORTH CENTRAL NEW MEXICO ECONOMIC DEVELOPMEN	02520	Municipal Plan 3	75.00
OTERO COUNTY	03220	Municipal Police Plan 5	75.00
PECOS VALLEY CONS. DISTRICT	02540	Municipal Plan 3	75.00
PECOS VILLAGE OF	02530	Municipal Plan 3	75.00
Regional Emerg. Dispatch Auth. (Eddy County CCA)	04480	Municipal Plan 3	75.00
RIO RANCHO CITY OF	02620	Municipal Plan 2	75.00
RIO RANCHO CITY OF	02620	Municipal Fire Plan 5	75.00
RIO RANCHO CITY OF	02620	Municipal Police Plan 5	75.00
ROSWELL CITY OF	02630	Municipal Police Plan 5	24.53
ROSWELL CITY OF	02630	Municipal Fire Plan 5	24.69
RUIDOSO VILLAGE OF	02660	Municipal Plan 2	33.57
RUIDOSO VILLAGE OF	02660	Municipal Fire Plan 5	16.90
RUIDOSO VILLAGE OF	02660	Municipal Police Plan 5	16.78
SAN JUAN COUNTY	03260	Municipal Plan 2	75.00
SANDOVAL COUNTY	03280	Municipal Plan 1	75.00
SANDOVAL COUNTY	03280	Municipal Police Plan 5	75.00
SANDOVAL COUNTY	03280	Municipal Police Plan 5	30.67
SANDOVAL COUNTY	03280	Municipal Police Plan 3	75.00
SANTA FE CITY OF	02690	Municipal Plan 2	75.00
SANTA FE CITY OF	02690	Municipal Police Plan 5	50.00
SANTA FE CITY OF	02690	Municipal Plan 3	75.00
SANTA FE CITY OF	02690	Municipal Fire Plan 5	50.00
SANTA FE COUNTY	03290	Municipal Fire Plan 5	50.00
SANTA FE COUNTY	03290	Municipal Fire Plan 5	75.00
SANTA FE COUNTY	03290	Municipal Plan 3	75.00
SANTA FE COUNTY	03290	Municipal Police Plan 5	56.80
SANTA FE COUNTY	03290	Municipal Police Plan 4	75.00
SANTA FE COUNTY HSNG AUTH (INACTIVE)	04220	Municipal Plan 3	75.00
SANTA FE METRO WATER (INACTIVE)	02700	Municipal Plan 3	75.00
SILVER CITY TOWN OF	02720	Municipal Plan 3	75.00
SILVER CITY TOWN OF	02720	Municipal Fire Plan 5	75.00
SILVER CITY TOWN OF	02720	Municipal Police Plan 5	75.00
SOCORRO CITY OF	02730	Municipal Plan 3	75.00
SOUTHWEST NEW MEXICO COG	02740	Municipal Plan 2	75.00
T OR C CITY OF HOUSING AUTHORITY	04180	Municipal Plan 4	41.54
TAOS TOWN OF	02770	Municipal Police Plan 5	30.41
TAOS TOWN OF	02770	Municipal Fire Plan 5	30.41
TAOS TOWN OF	02770	Municipal Plan 3	30.41
UNION COUNTY	03340	Municipal Plan 2	75.00
UNION COUNTY	03340	Municipal Police Plan 4	75.00

Employer Name	Emp N	Plan	Pickup %
VALENCIA COUNTY	03350	Municipal Plan 2	75.00
VALENCIA COUNTY	03350	Municipal Police Plan 5	75.00
VALENCIA COUNTY	03350	Municipal Police Plan 1	75.00

# Public Employees Retirement Association Board Strategic Planning Session

Denise Montoya, Ph.D., SHRM SCP, SPHR

President/Owner

P.S. People Strategy LLC

# Agenda

## Day One:

- ▶ Introductions
- ▶ Expectations for the Next Two Days
- ▶ Change
- ▶ Finish What We Started: Orange Theory Exercise

## Day Two:

- ▶ Style Indicator
- ▶ SWOT Analysis
- ▶ Strategic Alignment and Developing SMART Goals
- ▶ Strategic Goals for 2017 and Beyond
- ▶ Focus Your Vision video
- ▶ Questions & Answers

# Day One: Expectations for the Next Two Days

The goal of resolving  
conflict in a  
relationship is not  
**victory** or **defeat**.  
It's reaching  
**understanding** &  
**letting go** of our  
need to be right.

[www.TheBestStatusMessages.com](http://www.TheBestStatusMessages.com)

# Change: Adapt and Be Flexible

Four eras of spotting talent

1. Physical attributes
2. Emphasized intelligence, experience, and past performance
3. Competency such as emotional intelligence, not just intelligence
4. Potential to learn in a volatile, uncertain, complex, and ambiguous environment.

“What makes someone successful in a particular role today might not tomorrow if the competitive environment shifts, the company’s strategy changes, or she or he must collaborate with or manage a different group of colleagues.”

“Why Potential Now Trumps Brains, Experience, and Competencies” -- Harvard Business Review article

Wanted: Workers Who Can Adapt to Change

1. High cognitive ability - deal with mentally demanding situations; ability to learn new tasks or technologies quickly; complex problem solving; critical thinking
2. Conscientiousness - “when things get tough, the tough keep going”
3. Openness to experience - being able to revise their approaches based on new experiences and information

“Wanted Workers Who Can Adapt to Change: Your Business Will Suffer if Your Employees Aren’t Flexible” -Shonna Waters, SHRM



# Predict Change; Inspire Change

- ▶ Leadership through learning
- ▶ Learning comes from unexpected places
- ▶ Do we have the knowledge to handle the unknown?
- ▶ And if not, can we get this knowledge quickly?
- ▶ Change is a disrupter
- ▶ Cultivate a hunger for learning
- ▶ We do not just tolerate change, we predict change.
- ▶ Lead and inspire change
- ▶ Lead by learning

--Coretha M. Rushing, SHRM-SCP, SHRM Board Chair

## The Ideal Team Player by Patrick Lencioni

- ▶ Humble
- ▶ Hungry
- ▶ Smart (People)

# Get to a Resolution/ Develop a New Perspective

- ▶ Satisfy as many interests as possible
- ▶ Fair and reasonable
- ▶ Relationship is in tact
- ▶ Be creative
- ▶ Be collaborative
- ▶ Be open and receptive to giving/receiving feedback
- ▶ Consider what you can offer
- ▶ Decide how to evaluate possibilities
- ▶ Make the final call
- ▶ Document the agreement
- ▶ Learn from your experience

# Orange Theory Exercise



## Day Two: Strategic Planning Session

You cannot focus  
on the future  
staying stuck  
in the past!

# Style Indicator

Socializer

Relator

Director

Thinker

# Aligning Strategy

## Mission Statement

The mission of the Board of the Public Employees Retirement Association is to **preserve, protect and administer the Trust** to meet its current and future obligations and **provide quality services** to association members.



# PERA Value Statement

- ▶ In order to maintain the **respect, trust and confidence** of its members and retirees, all Board Members and the Executive Director must **use the powers and resources of their office only to advance the interests of PERA members, retirees and beneficiaries** and not to obtain personal benefits or pursue private advantage incompatible with these interests.
- ▶ The Board will act with **integrity** in meeting its fiduciary responsibilities to the Trust. The Board will make **efficient, effective, prudent and visionary decisions** in fulfilling its mission. Board Members will be **reliable, responsible, and will utilize opportunities to receive necessary training in order to be knowledgeable fiduciaries**. The Board will engage in **inclusive decision making processes**, which support its expectation that **the Board speaks with a unified voice**.
- ▶ The Board is responsible for creating and maintaining **an atmosphere that encourages frank and collegial discussions** both at the Board and Committee levels and between the Board and PERA management.

# 2017 Board Expectations

## ▶ Respect

- ▶ Appreciate each other's attributes and strengths
- ▶ Listen even if you do not agree
- ▶ Encourage meaningful dialogue
- ▶ Be less suspension of motivation
- ▶ Respect other's opinions and votes
- ▶ Agree to disagree
- ▶ Start on time
- ▶ Collaborate and compromise

## ▶ Trust/Integrity

- ▶ Be prepared for meetings
- ▶ Review and understand the materials before you vote

## ▶ Progressive

- ▶ Focus on common goals and growth
- ▶ Leave the past behind; less rehashing
- ▶ Be forward thinkers



Internal

Favorable

**S**trengths

Advantages  
Capabilities  
Resources, Assets, People  
Marketing - reach, distribution, awareness



Unfavorable

**W**eaknesses

Lack of competitive strength  
Financials  
Our vulnerabilities  
Timescales, deadlines and pressures  
Continuity, supply chain robustness



External

**O**pportunities

Market developments  
Business and product development



**T**hreats

Environmental effects  
Market demand  
Obstacles



# Strategic Alignment

PERA Strategic Goals

Department Goals

Individual Employee Performance Goals

# SMART Goals

**S**

- **SPECIFIC**

- Define the goal as much as possible with no unclear language
- **Who** is involved, **WHAT** do I want to accomplish, **WHERE** will it be done, **WHY** am I doing this – reasons, purpose, **WHICH** constraints and/or requirements do I have?

**M**

- **MEASURABLE**

- Can you track the progress and measure the outcome?
- How much, how many, how will I know when my goal is accomplished?

**A**

- **ATTAINABLE/ACHIEVABLE**

- Is the goal reasonable enough to be accomplished? How so?
- Make sure the goal is not out of reach or below standard performance.

**R**

- **RELEVANT**

- Is the goal worthwhile and will it meet your needs?
- Is each goal consistent with the other goals you have established and fits with your immediate and long term plans?

**T**

- **TIMELY**

- Your objective should include a time limit. Ex: I will complete this step by month/day/year.
- It will establish a sense of urgency and prompt you to have better time management.

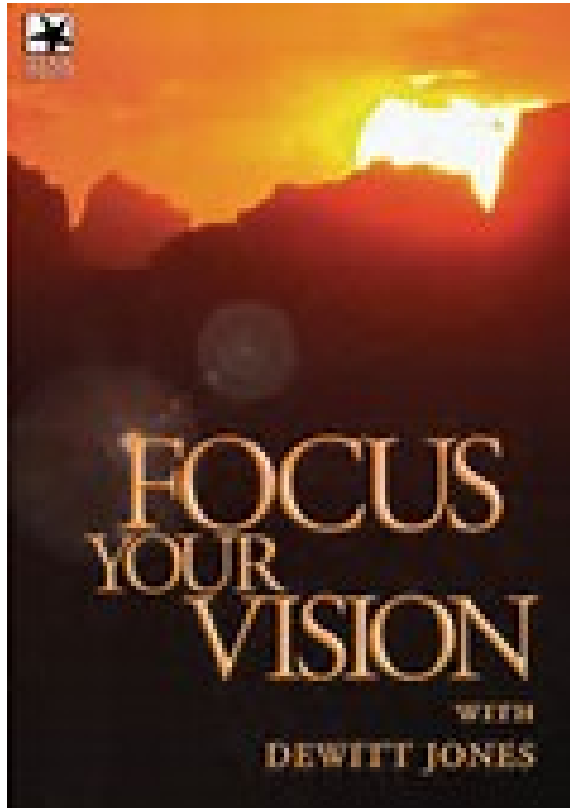
# PERA Strategic Goals

- ▶ Individually document what you think PERA goals should be in the next one to three years?
- ▶ In teams of three, document and modify the goals
- ▶ In teams of five, document and modify the goals
- ▶ Teamwork, create the final draft of the goals

**Brainstorming Exercise**

# Strategic Goals for 2017 and Beyond

The background of the slide features abstract, overlapping geometric shapes in various shades of green, ranging from light lime to dark forest green. These shapes are primarily located on the right side and bottom of the slide, creating a modern, dynamic feel. The main text is positioned on the left side of the slide.



- ▶ Keep your vision focused
- ▶ Stop, look, and listen
- ▶ Hold on to the best, let the rest fall away
- ▶ Trust your intuition
- ▶ It's not trespassing to go beyond your own boundaries
- ▶ Make your vision big enough
- ▶ Do you have juice in your camera?



# Questions and Answers

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505.480.7383

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mail not accepted at this address)*

A wide-angle photograph of a New Mexico desert landscape, featuring rugged, reddish-brown rock formations and mesas under a blue sky with scattered white clouds. The terrain is arid with sparse green shrubs.

# New Mexico Public Employees Retirement Association *Private Credit Performance Report*

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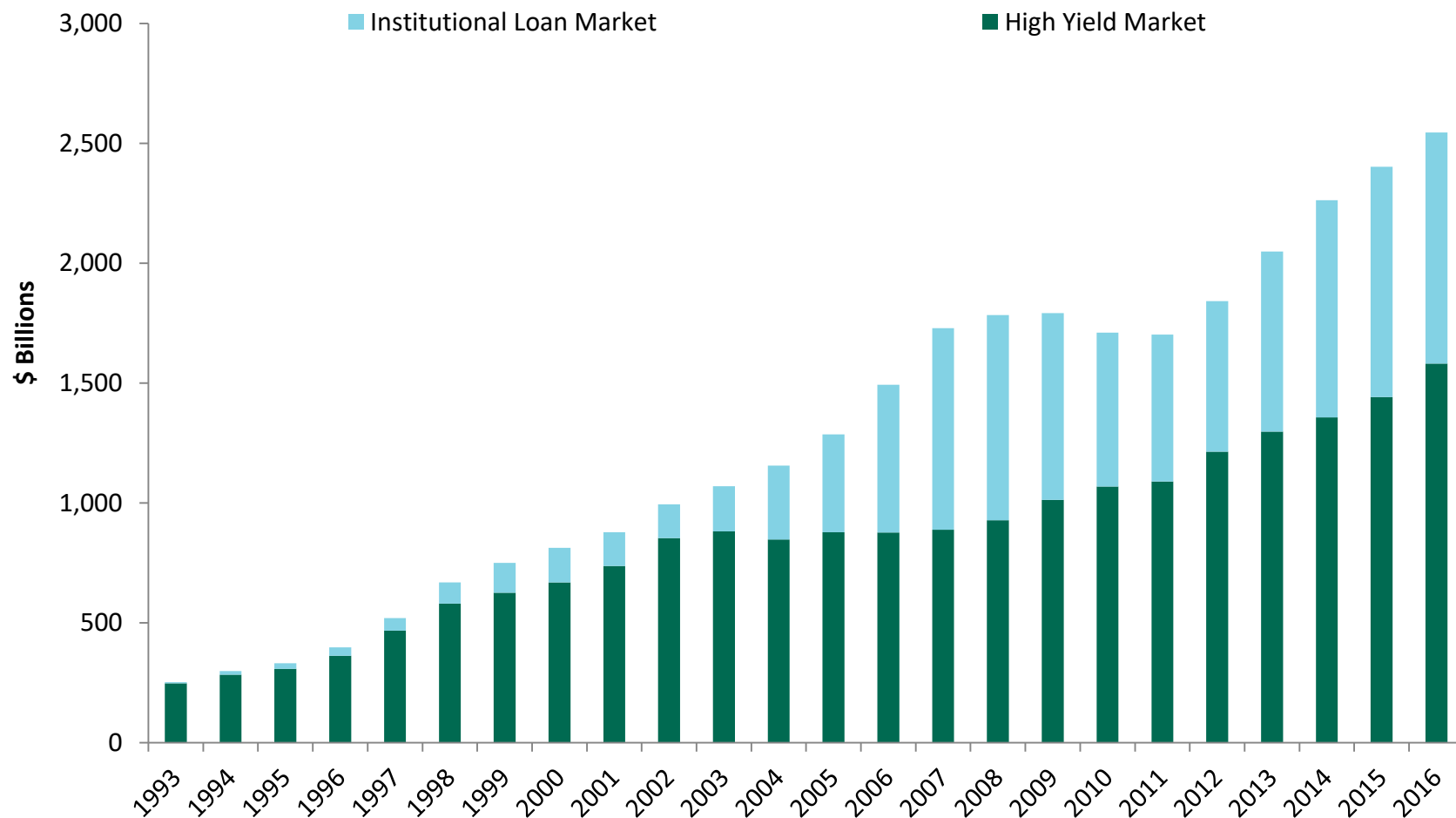
## **Market Review**

- Capital Sources
- Available Capital

## **Performance Review**

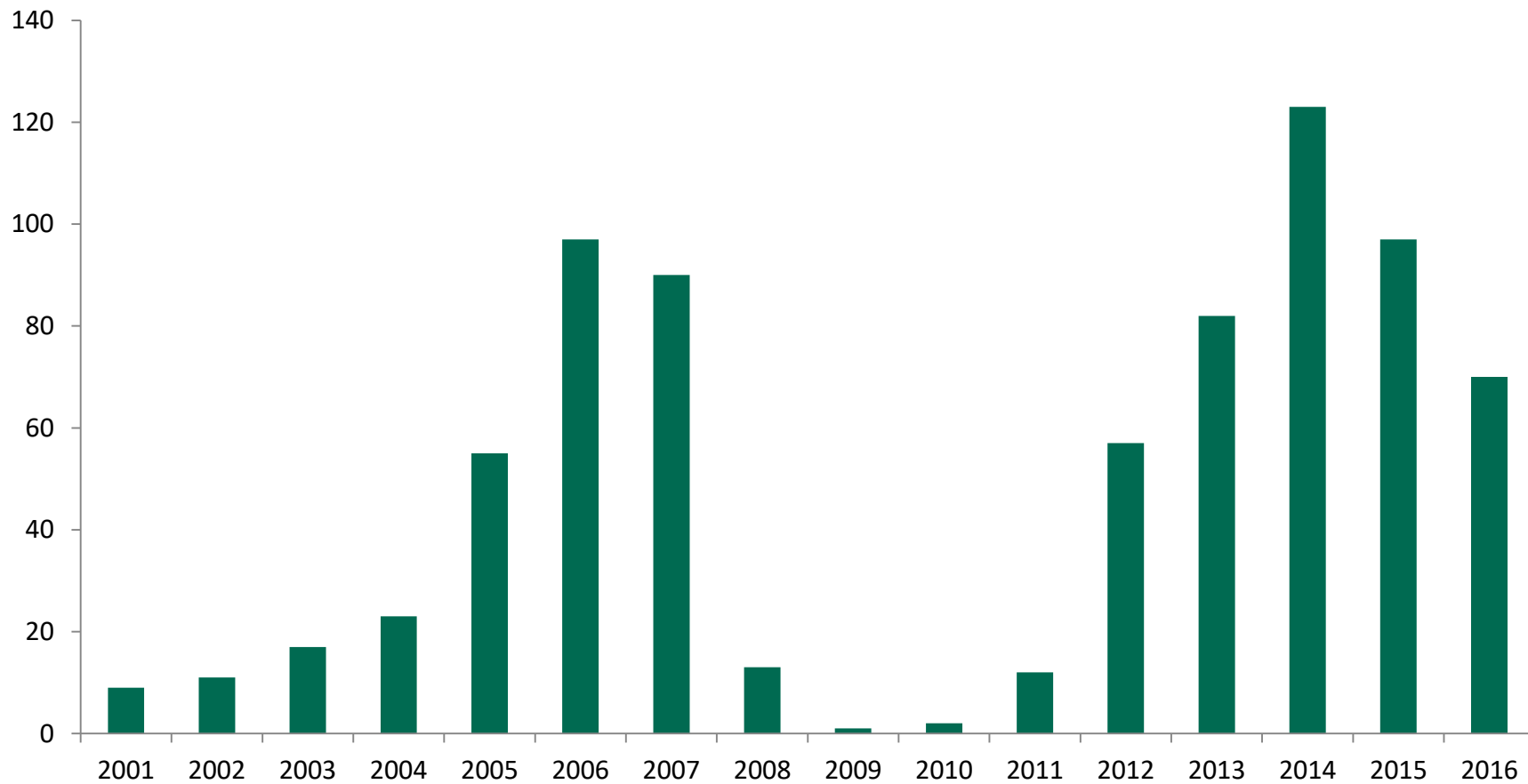
- Portfolio Returns – 2016
- Performance Drivers

# CREDIT MARKET OVERVIEW



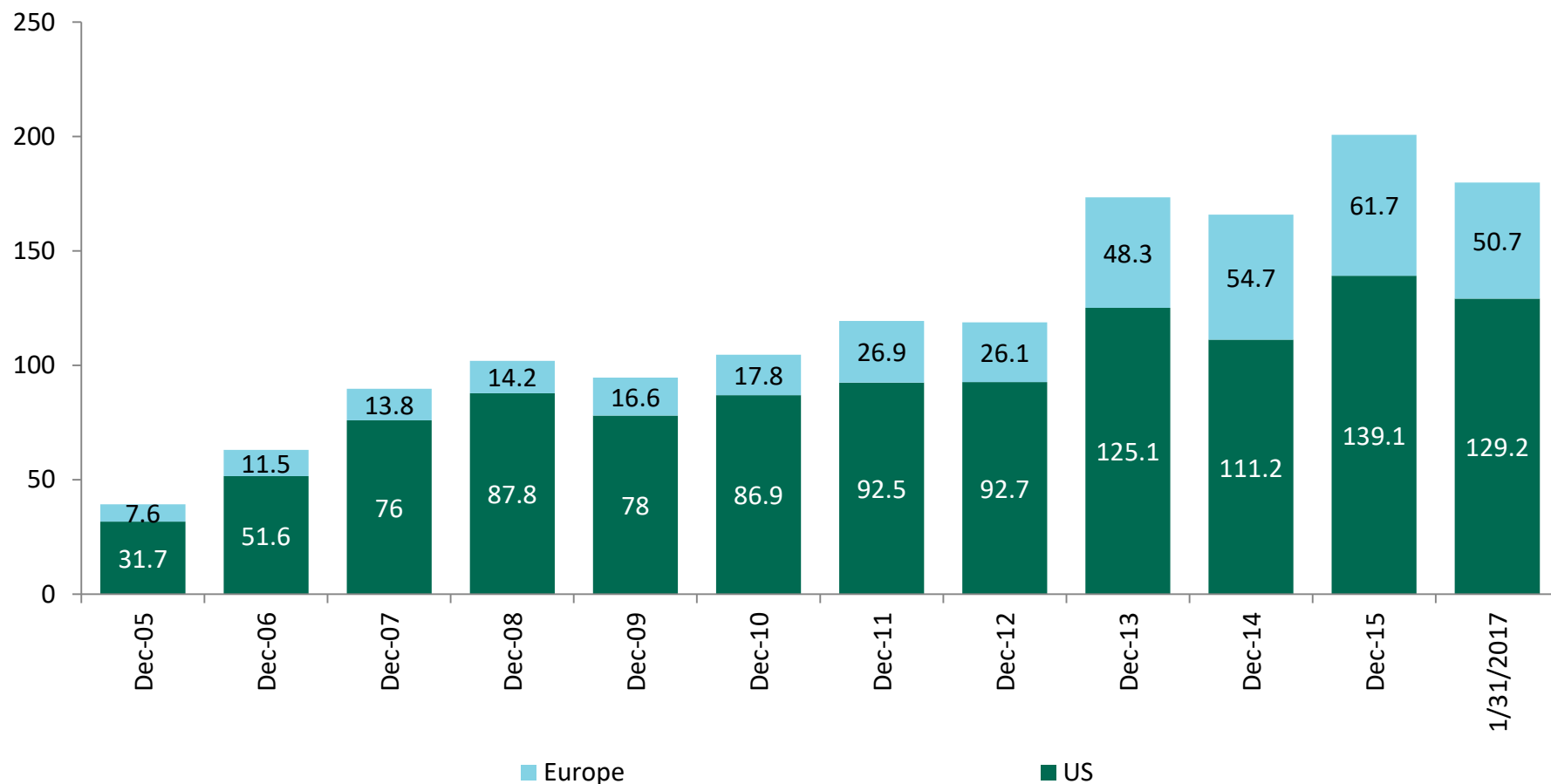
1 Source: Credit Suisse, Leveraged Finance Strategy Monthly, Data as of 12/30/16, Black Diamond Capital Management

## U.S. CLO Issuance | \$ Billions



Source: S&P LCD Capital IQ. 2016 estimated as of January 3, 2016. <https://www.forbes.com/sites/spleverage/2016/01/03/leveraged-loans-us-clo-issuance-hits-2nd-highest-level-ever-in-2015/#1dc580445252>

## Private Debt Dry Powder | \$ Billions



Source: Preqin, January 2017



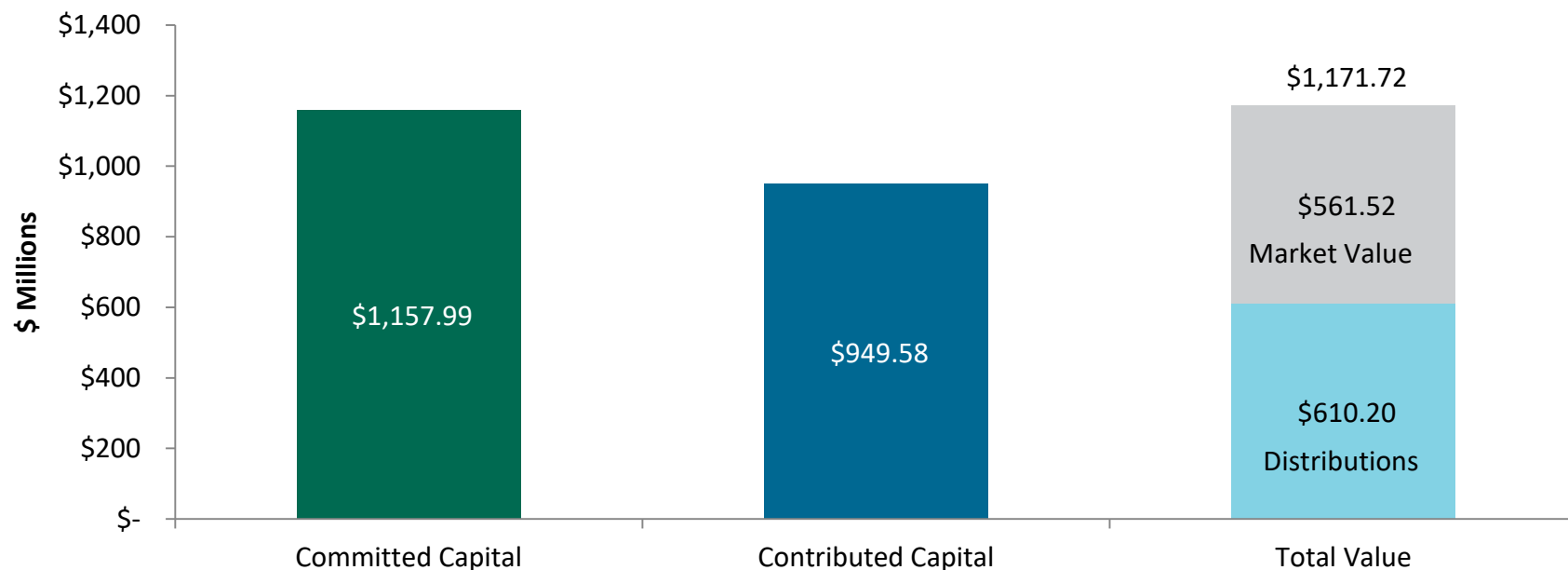
## **Performance Review**

- Program Overview
- Returns
- 2016 Activity
- Cash Flow Attribution and Value Drivers

## Portfolio Overview | \$ Millions

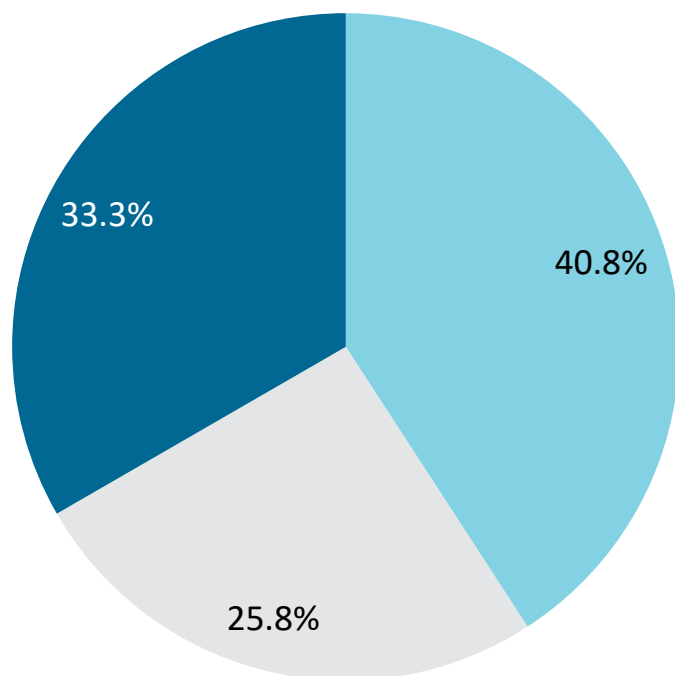
*As of December 31, 2016*

- Since inception (2006) NM PERA has committed \$1.2 billion to 26 investments
- NM PERA has received \$610.2 million of distributions or 64.2% of its contributed capital
- The current market value of the portfolio is \$561.5 million



## Illiquid Credit Exposure

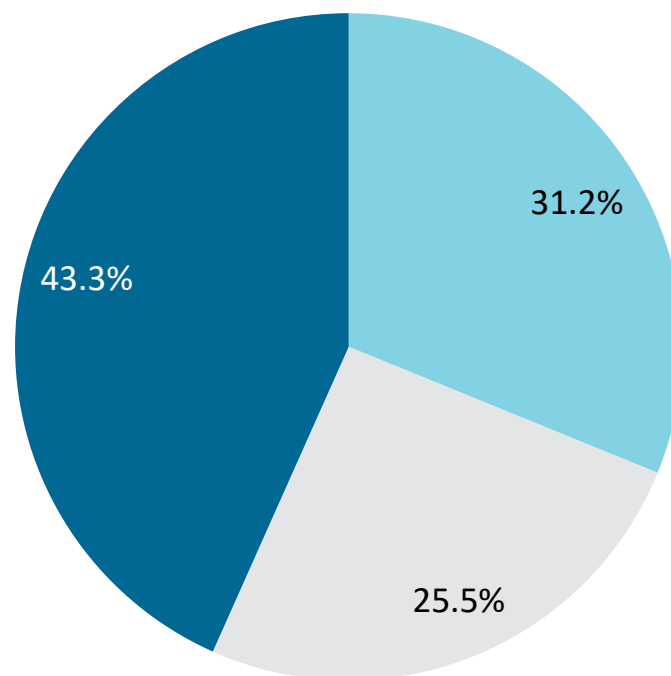
### Target Exposure



■ Distressed Debt

■ Private Debt

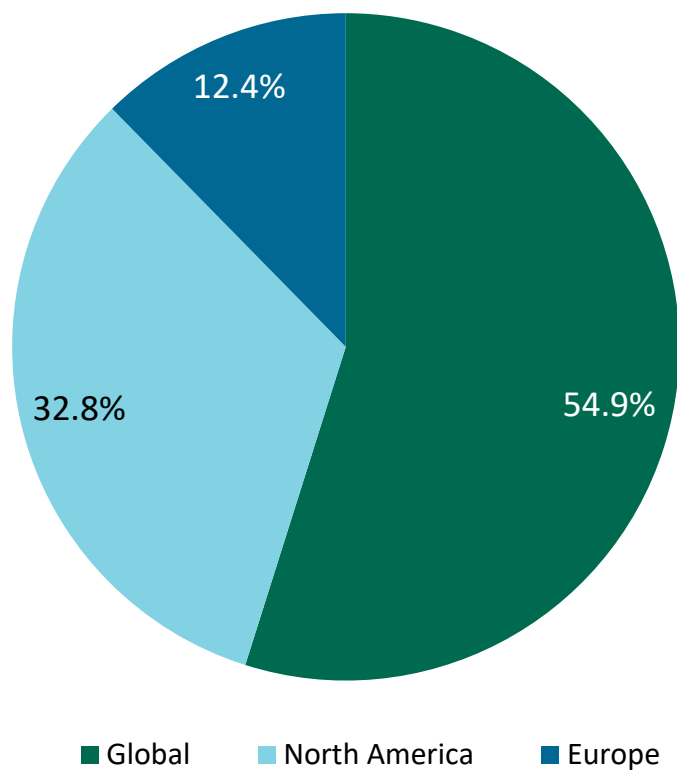
### FMV + Unfunded as of December 31, 2016



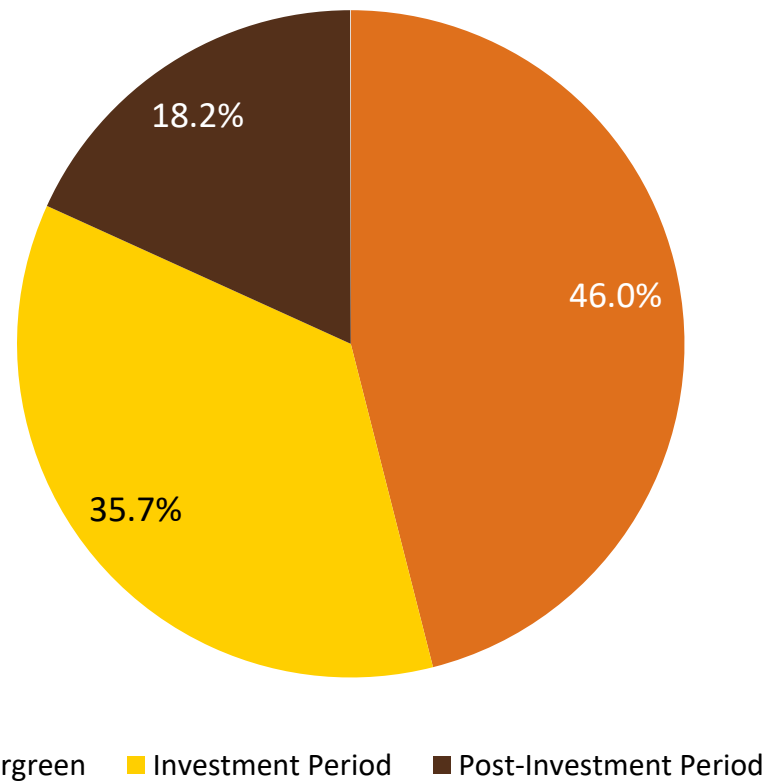
■ Credit Oriented Hedge Funds

## Illiquid Credit Exposure

### Geography



### Investment Stage





- The portfolio has slightly underperformed the index (including the 100 bps illiquidity premium) over longer term periods.
- The portfolio has outperformed the Barclays Global High Yield index over longer term periods on an absolute basis (excluding the 100 bps illiquidity premium)

*As of December 31, 2016*

## Investment Returns

	1 Year	3 Year	5 Year	SINCE INCEPTION
<b>NM PERA Portfolio IRR</b>	5.69%	3.22%	8.00%	7.38%
<b>Barclays Global High Yield (+100 bps)</b>	15.27%	4.60%	8.38%	7.77%
<i>Difference</i>	-9.58%	-1.38%	-0.38%	-0.39%

1 The 100 basis point premium to the Barclays Global High Yield Total Return index is compounded annually.

## Annualized Standard Deviation

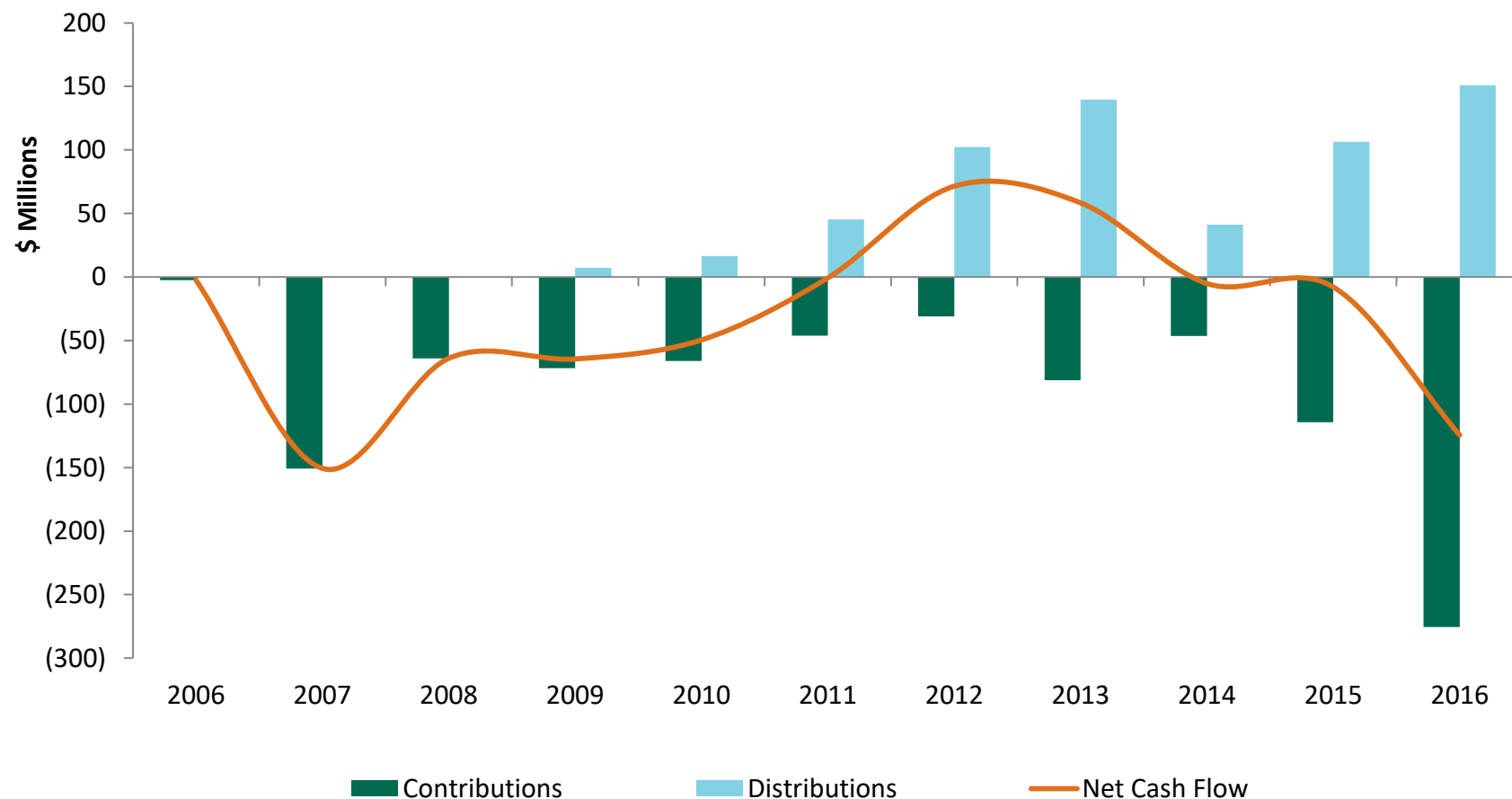
	1 Year	3 Year	5 Year	SINCE INCEPTION
<b>NM PERA Portfolio</b>	1.9%	2.9%	3.9%	8.8%
<b>Barclays Global High Yield</b>	4.3%	5.9%	6.2%	12.8%
<i>Difference</i>	-2.3%	-3.1%	-2.3%	-4.0%

## Other Metrics

	1 Year	3 Year	5 Year	SINCE INCEPTION
<b>Correlation with Barclays Global HY</b>	0.30	0.80	0.65	0.90
<b>Beta vs Barclays Global High Yield</b>	0.49	1.51	0.99	1.27

## Annual Contributions, Distributions & Net Cash Flow | \$ Millions

*As of December 31, 2016*



# PERFORMANCE BY VINTAGE YEAR

## Performance - Vintage Year

*As of December 31, 2016*

VINTAGE YEAR	FUND COUNT	COMMITMENT (Millions)	PROGRAM TVPI <sup>2</sup>	PROGRAM IRR
2006	1	\$25	1.65x	8.35%
2007	5	\$183	1.57x	7.37%
2008	2	\$60	1.40x	13.38%
2009	2	\$46	1.43x	13.14%
2010	3	\$75	1.12x	3.31%
2011	1	\$20	1.33x	8.19%
2012	2	\$51	1.29x	5.96%
2013	2	\$55	0.96x	-2.21%
2014	4	\$213	1.11x	8.51%
2015	1	\$50	1.06x	9.5%
2016	3	\$380	1.11x	6.1%
<b>Total</b>	<b>26</b>	<b>\$1,158</b>	<b>1.26x</b>	<b>7.4%</b>

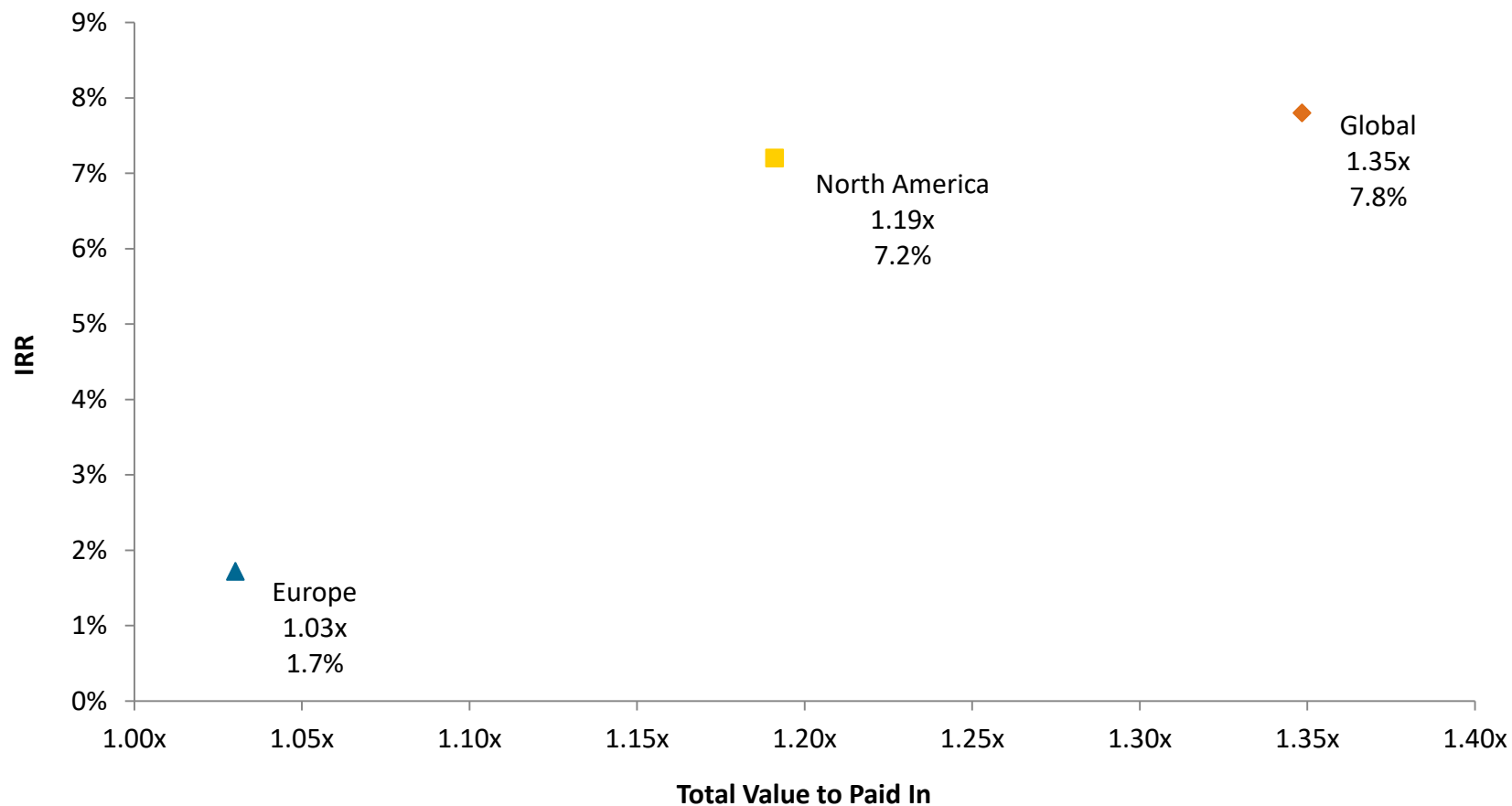
## Performance – Investment Strategy

*As of December 31, 2016*



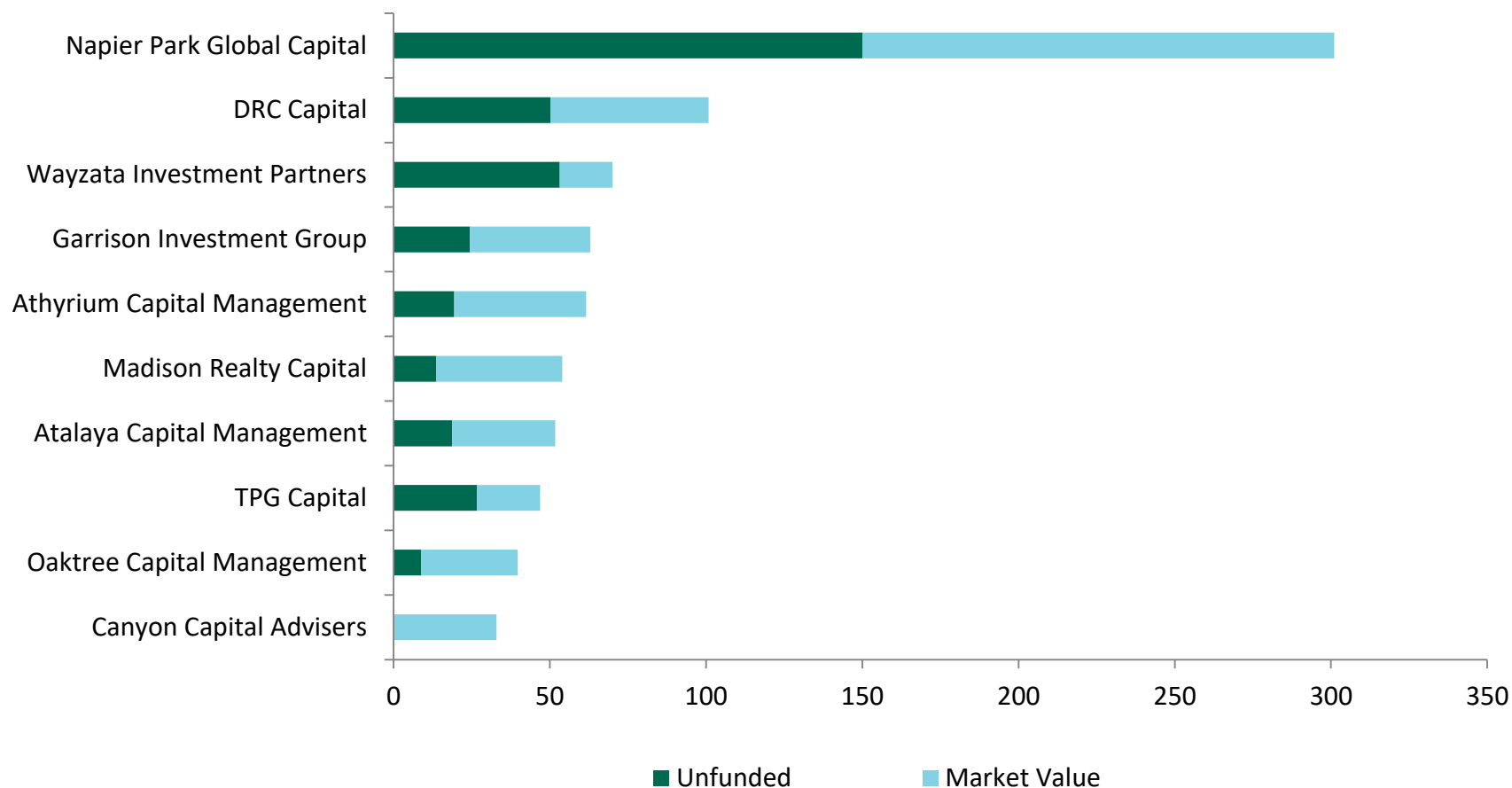
## Performance – Investment Geography

*As of December 31, 2016*



## Top Ten Relationships | Based on Market Value + Unfunded

*As of December 31, 2016*



## 2016 AT A GLANCE

**2016 Calendar Year Closed  
Commitments: \$345.4 million**

### Credit Related Hedge Funds

- New Mexico Napier Park Fund

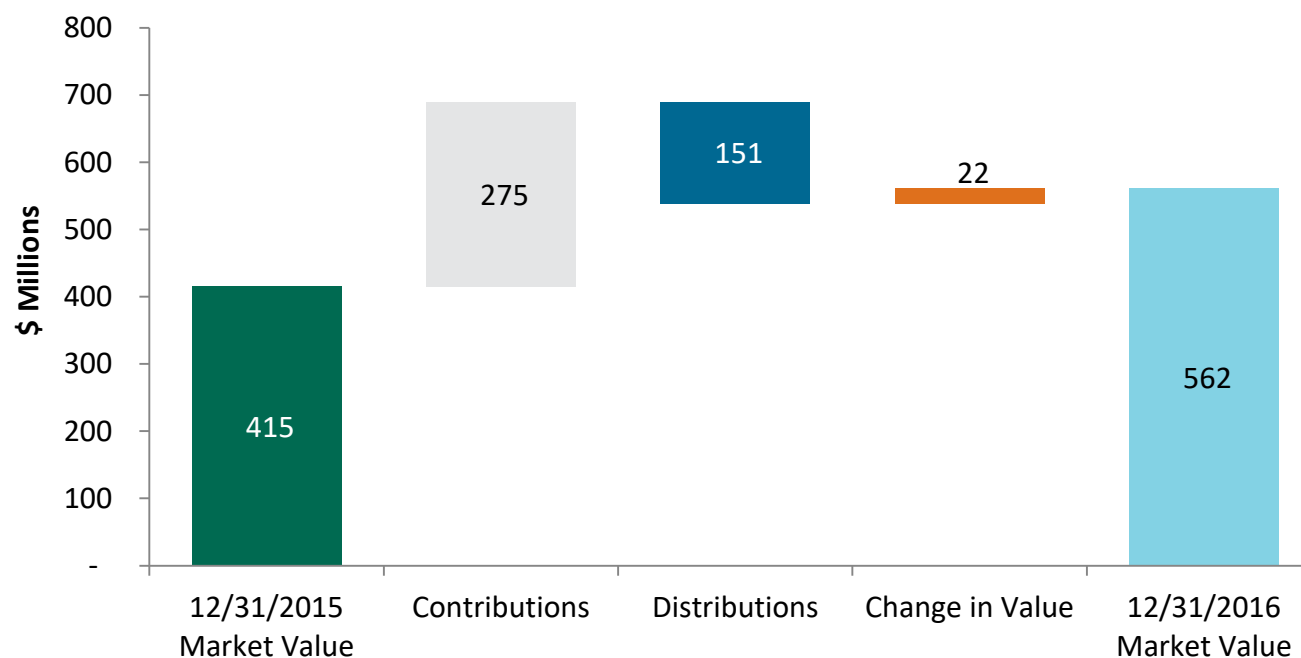
### Private Debt

- DRC European Real Estate Debt Fund III

	2014	2015	2016
Number of New Funds Closed	4	3	2
Commitments Closed <sup>1</sup>	207.2	157.6	345.4

### Portfolio Value Bridge | \$ Millions

*Period: December 31, 2015 – December 31, 2016*



<sup>1</sup> Commitments made in currencies other than the U.S. Dollar were converted at the exchange rate at the time of the commitment approval.

# MOST ACTIVE FUNDS: CASH FLOWS

## Top Contributors and Distributors of Capital for 2016

As of December 31, 2016 | USD Million

Top 5 Distributors of Capital	Vintage Year	Strategy	Distributions	% of Total
Madison Realty Capital Debt Fund III	2014	Private Debt	20.6	13.7%
DRC European Real Estate Debt Fund II	2012	Private Debt	15.7	10.4%
Athyrium Opportunities Fund II	2014	Private Debt	10.0	6.6%
Anchorage Capital Partners	2012	Credit Hedge Fund	9.7	6.4%
Wayzata Opportunities Fund III	2013	Distressed Debt	4.7	3.1%
<b>Total</b>			<b>60.6</b>	<b>40.1%</b>

Top 5 Callers of Capital	Vintage Year	Strategy	Contributions	% of Total
New Mexico Napier Park Fund	2016	Credit Hedge Fund	150.0	54.5%
DRC European Real Estate Debt Fund III	2016	Private Debt	28.3	10.3%
Athyrium Opportunities Fund II	2014	Private Debt	25.0	9.1%
Atalaya Special Opportunities Fund VI	2015	Distressed Debt	20.1	7.3%
Garrison Opportunity Fund IV A	2014	Distressed Debt	15.7	5.7%
<b>Total</b>			<b>239.1</b>	<b>86.8%</b>

- NM PERA also redeemed an aggregate \$71.6 million from King Street Capital, Canyon Value Realization Fund, and Silver Point Capital Fund.
- Top callers are Napier Park, which had its initial draw down of half of total committed capital, as well as 2014 to 2016 illiquid funds still in their investment periods.



# MOST ACTIVE FUNDS: VALUE DRIVERS

## Top Appreciating and Depreciating Fund for 2016

As of December 31, 2016 | USD Million

Significant Appreciation	Vintage Year	Strategy	Appreciation	% Change
Athyrium Opportunities Fund II	2014	Debt	4.1	0.1
Madison Realty Capital Debt Fund III	2014	Debt	4.0	0.1
Canyon Value Realization Fund	2016	Hedge	2.8	0.1
TPG Opportunities Partners III	2014	Debt	2.6	0.1
Silver Point Capital Fund	2007	Hedge	2.5	0.0
<b>Total</b>			<b>16.0</b>	

Significant Depreciation	Vintage Year	Strategy	Depreciation	% Change
DRC European Real Estate Debt Fund II	2012	Debt	-2.5	-0.1
DRC European Real Estate Debt Fund III	2016	Debt	-1.8	-0.1
OCM Opportunities Fund VIIb	2008	Debt	-0.4	-0.1
<b>Total</b>			<b>-5.8</b>	

# NEW FUNDS: INVESTMENTS IN 2016

- NM PERA closed on two fund commitments during 2016, totaling \$345.4 million.

As of December 31, 2016 | USD Million

Fund Name	Geography	Strategy	Commitment
DRC European Real Estate Debt Fund III	Europe	Debt	45.4
New Mexico Napier Park Fund	Global	Hedge	300.0
<b>Total</b>			<b>345.4</b>

# CREDIT PORTFOLIO SUMMARY

## Investment Performance

- Slight underperformance of 0.39% versus the benchmark (Barclays Global High Yield + 100 bps) since inception.
- Outperformance versus the index without the 100 bps premium.

## Portfolio Positioning

- The portfolio repositioning from risk reduction to credit is well under way
- Ongoing projects include the reassessment of credit related hedge fund managers with the intent to consolidate prior undersized commitments into fewer managers
- Strong relationships with top-tier managers
- Diversification across geography, strategy, and vintage year
- Recent/Planned additions of new and complementary strategies



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mail not accepted at this address)*

A wide-angle photograph of a rugged, red-rock desert landscape, likely Monument Valley, with a semi-transparent text box overlaid in the center. The text box has a dark green background and contains the following text in white serif font:

**We are proud to be your partner.  
Thank you for allowing us to be  
your private markets consultant.**

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## New Mexico Public Employees Retirement Association

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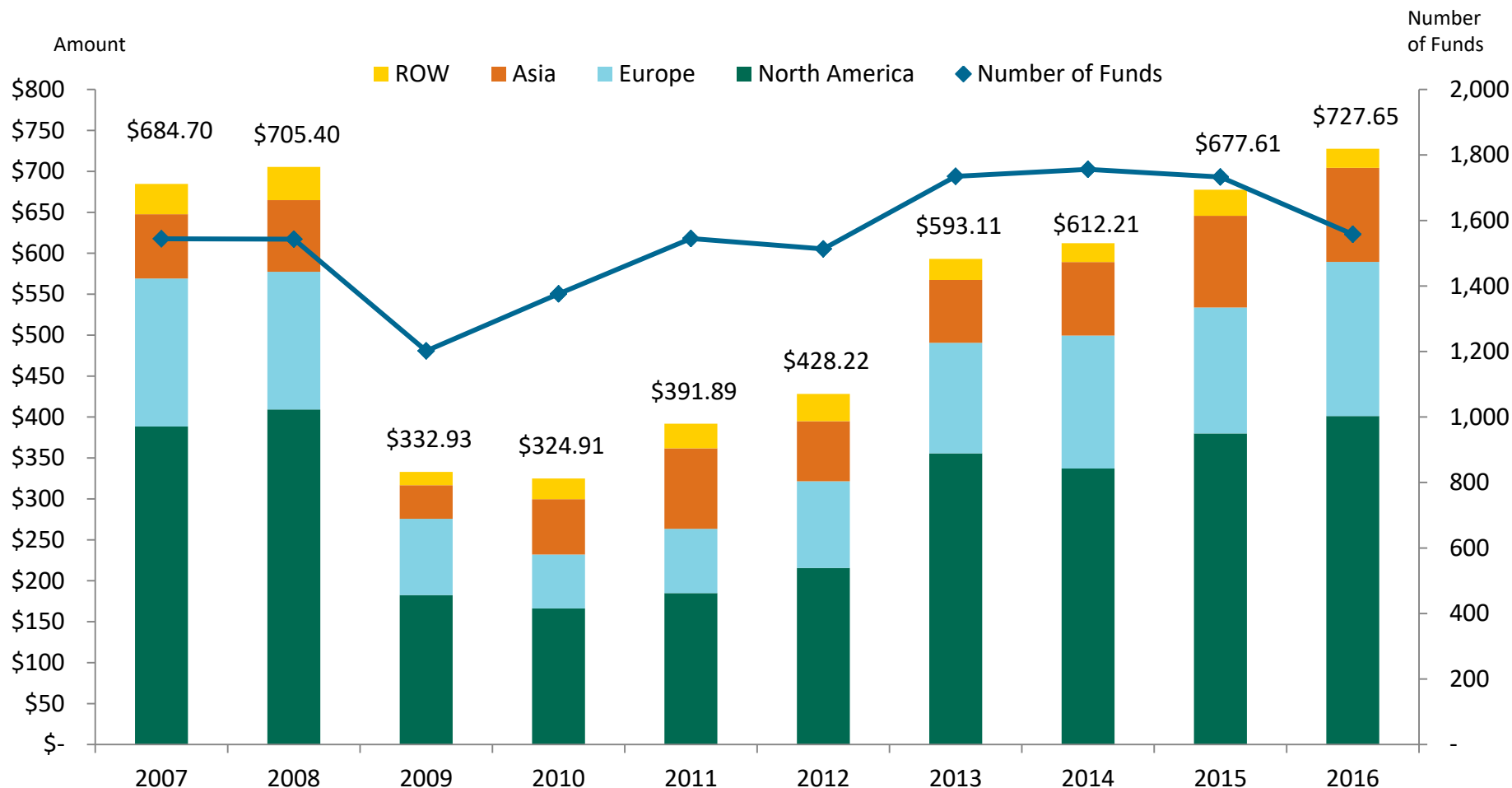


## **Market Review**

- Fundraising Activity
- Investment Activity
- Market Pricing
- Exit Markets

## By Region and Strategy

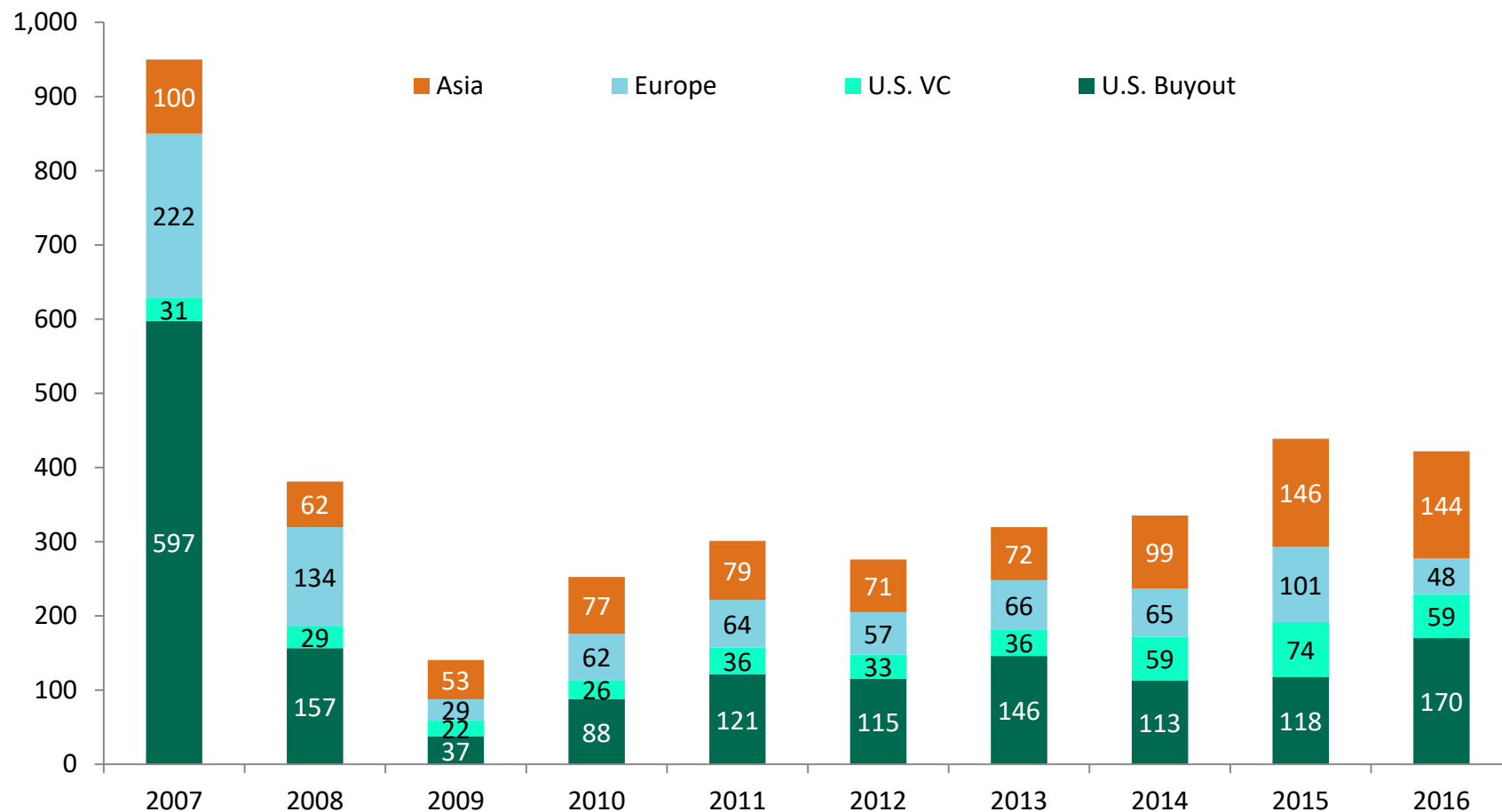
As of December 31, 2016 | USD Billion



Source: Buyouts, Thomson Reuters & National Venture Capital Association, Preqin

## Investment Activity

As of December 31, 2016 | USD Billion

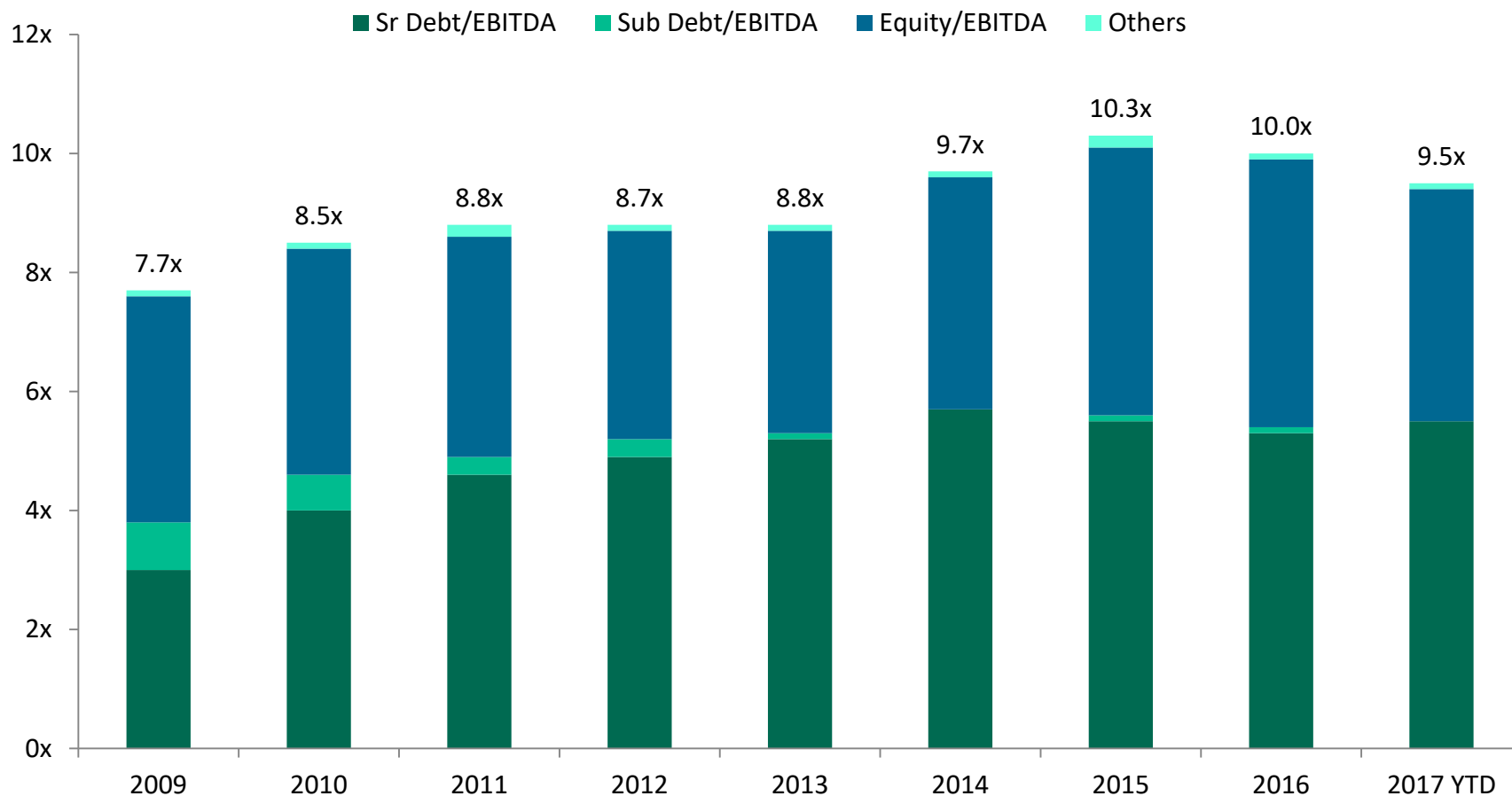


Source: Buyouts, PricewaterhouseCoopers/ National Venture Capital Association MoneyTree™ Report, Thomson Reuters, AVCJ



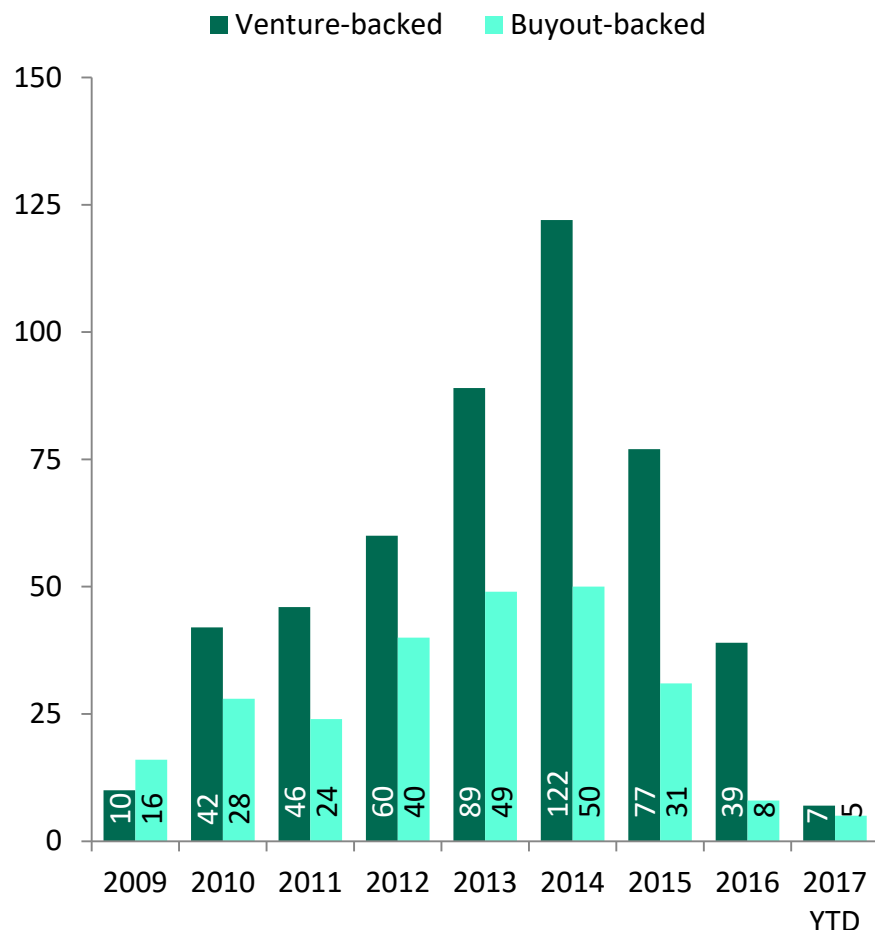
## Purchase Price Breakdown – Leveraged Buyouts

As of March 31, 2017



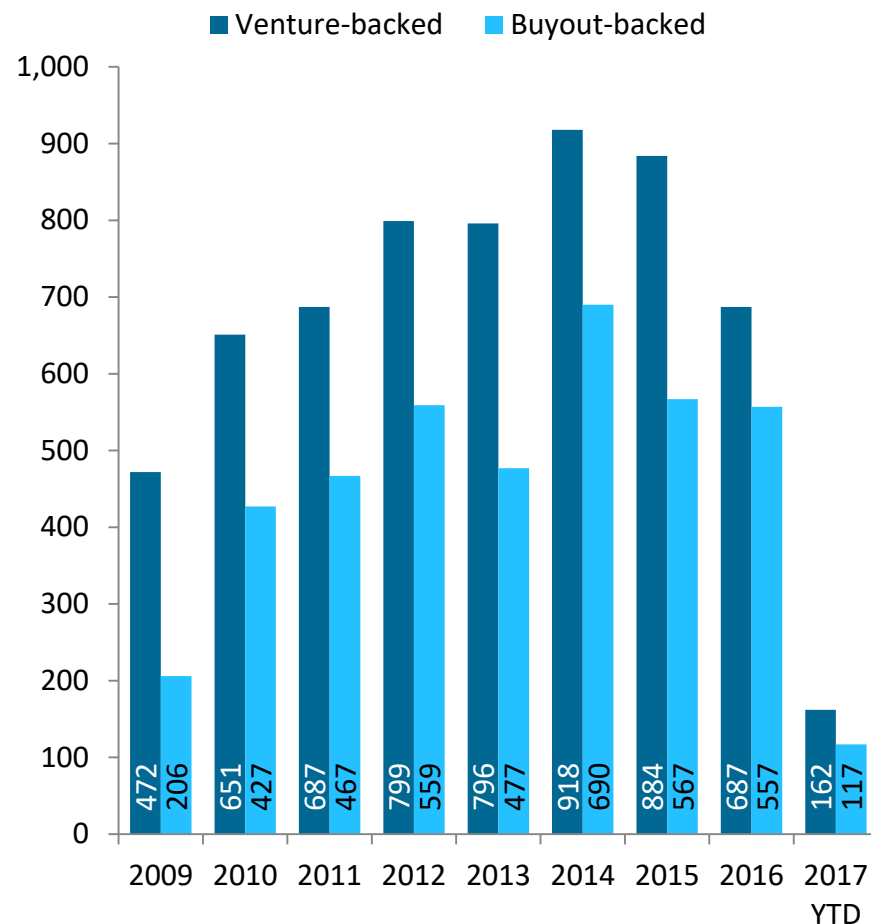
Source: S&P LCD

## Number of U.S.– Based IPOs



Source: Buyouts, Pitchbook & National Venture Capital Association. As of March 20, 2017.

## Disclosed Value of U.S. – Based M&A Activity





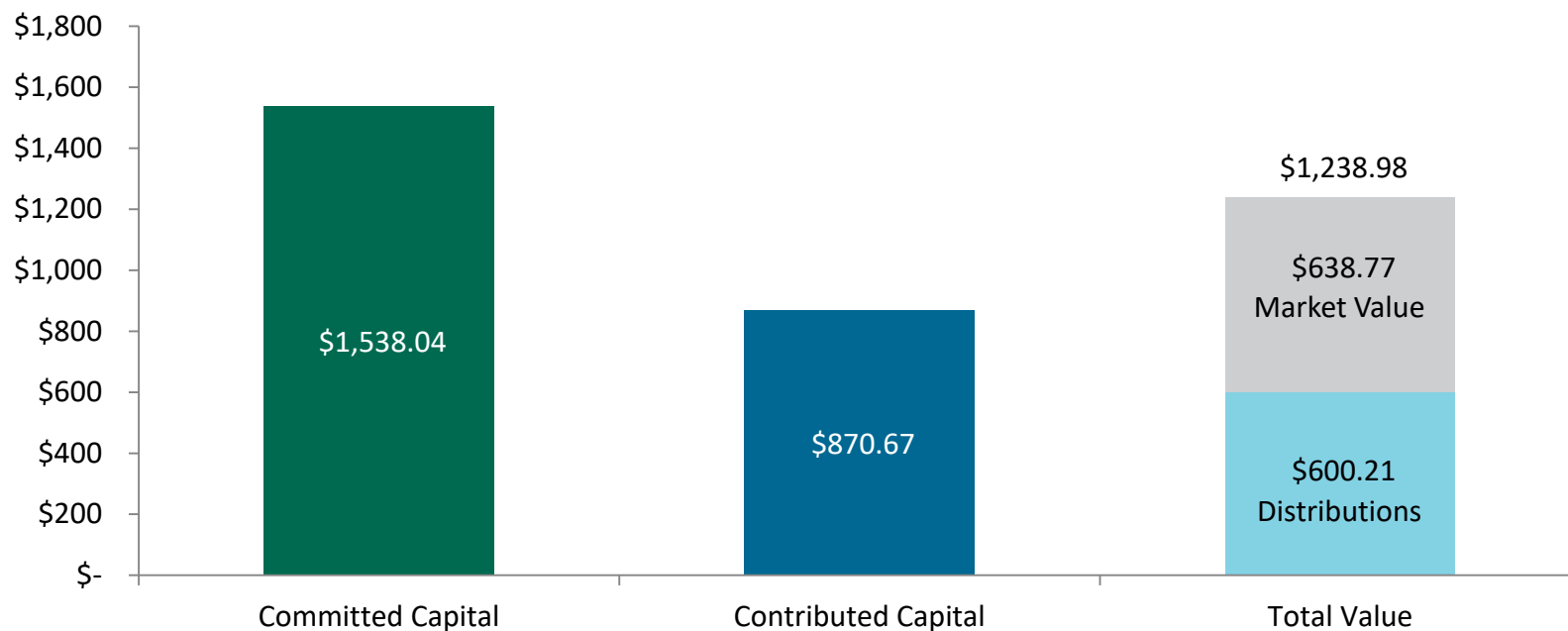
## **Performance and Exposure Review**

- Private Equity Portfolio Exposure
- Private Equity Portfolio Returns
- Private Equity Portfolio Geography and Sector Analysis
- 2016 Activity and Value Drivers

## Portfolio Overview | \$ Millions

*As of December 31, 2016*

- From inception through 2016, NM PERA has committed \$1.5 billion to 42 different private equity funds
- Contributed capital for NM PERA totals \$870.7 million
- NM PERA has received \$600.2 million of distributions or 68.9% of its contributed capital
- The private equity portfolio has generated a net IRR of 11.6% and a 1.5x total value multiple



## Exposure – Investment Strategy

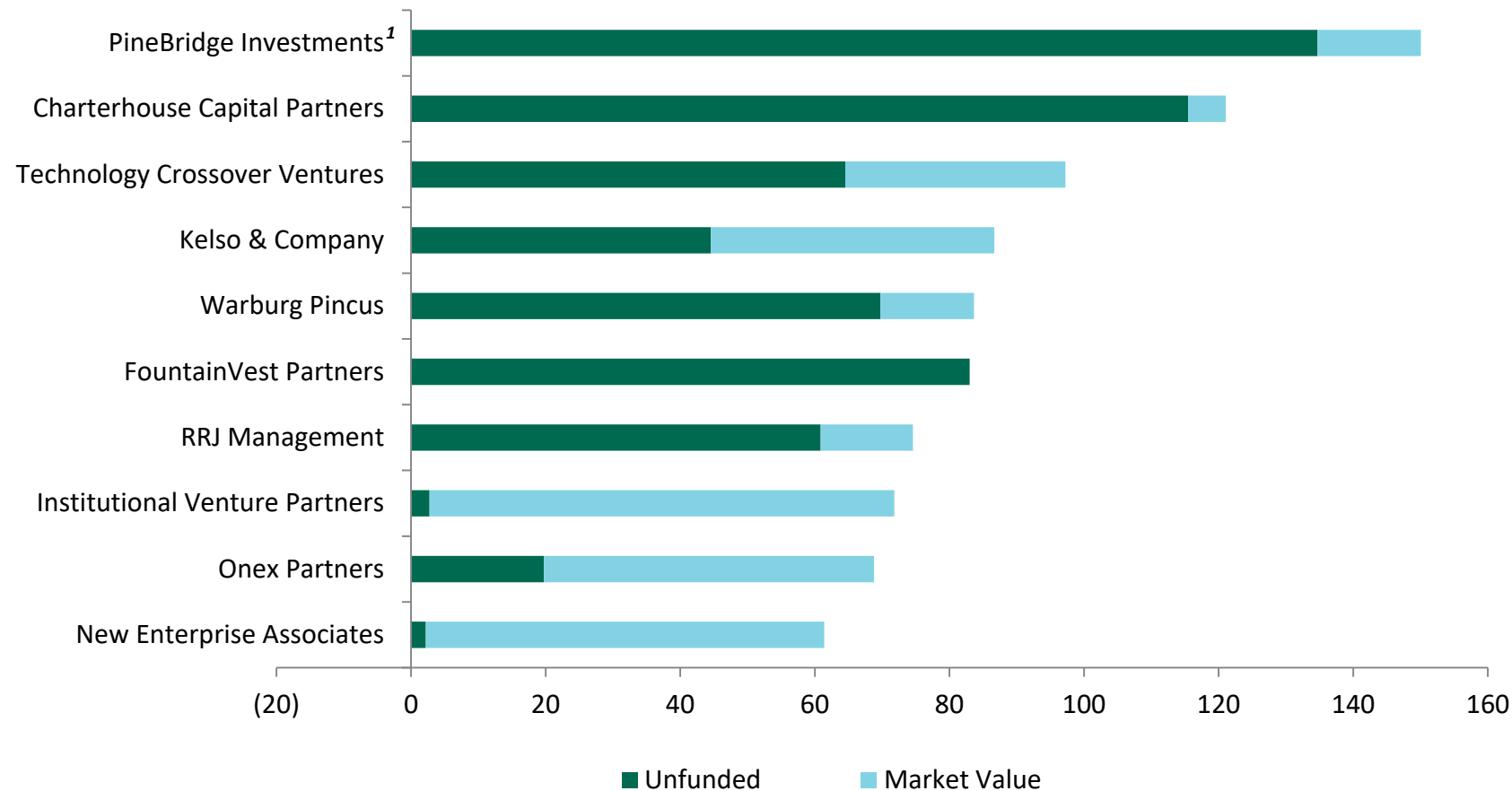
As of December 31, 2016

		FMV	FMV %	Unfunded	Unfunded %	Exposure	Exposure %
Buyout	Large	177,007,807	27.7%	371,194,826	48.1%	548,202,633	38.9%
	Medium	220,731,465	34.6%	113,077,283	14.6%	333,808,748	23.7%
	Small	15,710,102	2.5%	32,174,495	4.2%	47,884,597	3.4%
	<b>Total</b>	<b>413,449,374</b>	<b>64.7%</b>	<b>516,446,604</b>	<b>66.9%</b>	<b>929,895,978</b>	<b>65.9%</b>
Venture Capital	Diversified	59,183,585	9.3%	2,200,000	0.3%	61,383,585	4.4%
	Early	26,071,301	4.1%	45,050,000	5.8%	71,121,301	5.0%
	Late/Growth	119,365,879	18.7%	67,676,164	8.8%	187,042,043	13.3%
	<b>Total</b>	<b>204,620,765</b>	<b>32.0%</b>	<b>114,926,164</b>	<b>14.9%</b>	<b>319,546,929</b>	<b>22.7%</b>
Other	Secondary	5,322,095	0.8%	5,856,250	0.8%	11,178,345	0.8%
	Fund of One <sup>1</sup>	15,374,141	2.4%	134,692,976	17.4%	150,067,117	10.6%
	<b>Total</b>	<b>20,696,236</b>	<b>3.2%</b>	<b>140,549,226</b>	<b>18.2%</b>	<b>161,245,462</b>	<b>11.4%</b>
<b>Total</b>		<b>638,766,375</b>	<b>100.0%</b>	<b>771,921,994</b>	<b>100.0%</b>	<b>1,410,688,369</b>	<b>100.0%</b>

<sup>1</sup> Total Commitment of \$150mm that will be spaced out over three VY years, \$50mm per year in 2016, 2017, and 2018.

## Top Ten Relationships Portfolio | Based on Market Value + Unfunded

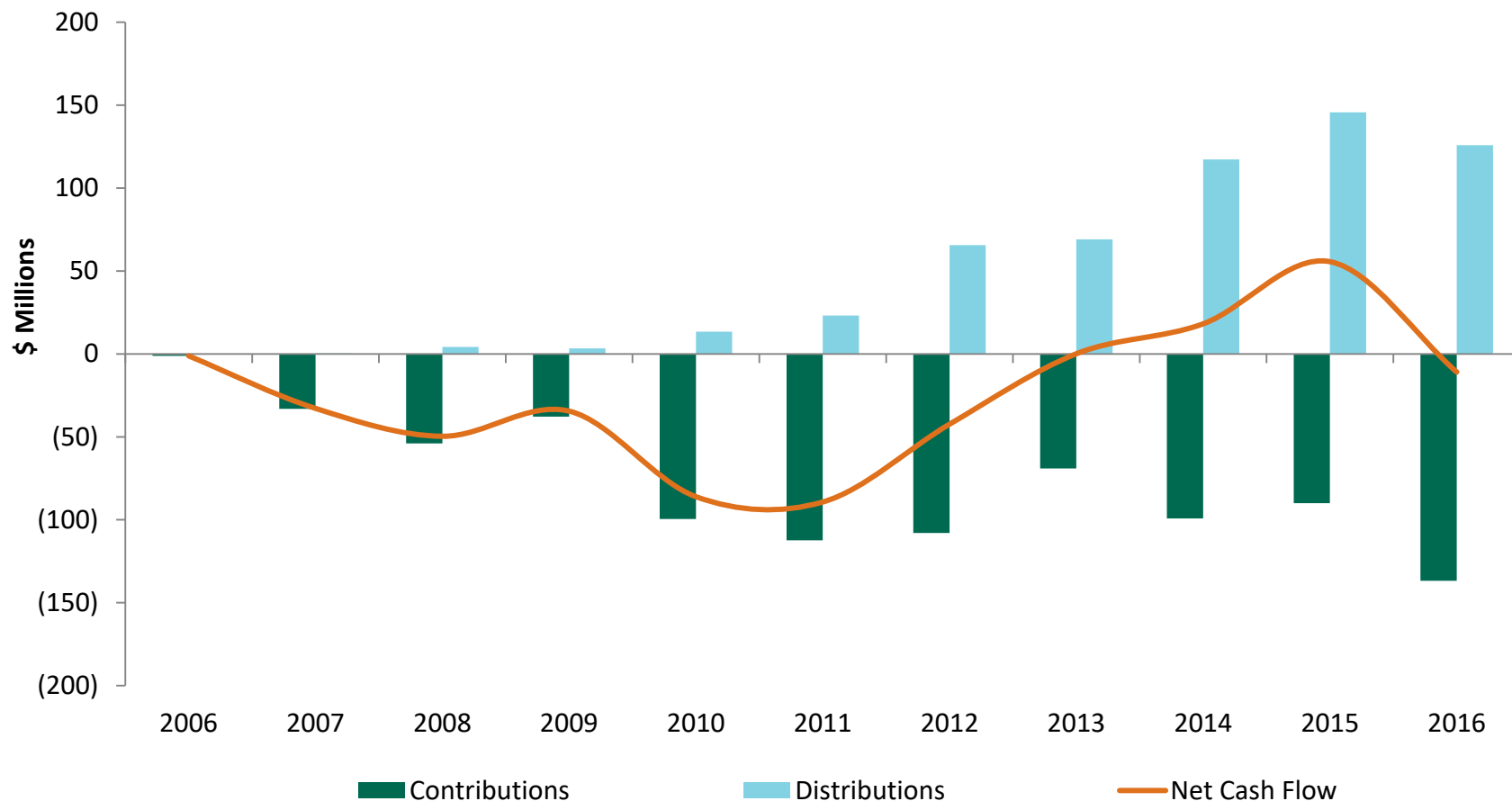
As of December 31, 2016



<sup>1</sup> Total Commitment of \$150mm that will be spaced out over three VY years, \$50mm per year in 2016, 2017, and 2018.

## Annual Contributions, Distributions & Net Cash Flow | \$ Millions

*As of December 31, 2016*



- Portfolio underperformance relative to the public benchmarks reflects the fact that public equity has performed very well.

- NM PERA has outperformed the Cambridge Associates benchmark over all time periods except over the one year period.

As of December 31, 2016	1 Year IRR	3 Year IRR	5 Year IRR	SINCE INCEPTION
<b>Portfolio IRR</b>	8.39%	13.86%	14.50%	11.63%
<b>PME Russell® 3000<sup>1</sup> (+300 bps)</b>	16.23%	11.73%	18.28%	15.25%

<sup>1</sup> Data is a dollar-weighted Long-Nickels calculation of monthly changes in the Russell 3000 index plus 300 basis points. Russell Investment Group is the source and owner of the trademarks, service marks and copyrights related to the Russell Indexes. Russell is a trademark of Russell Investment Group.

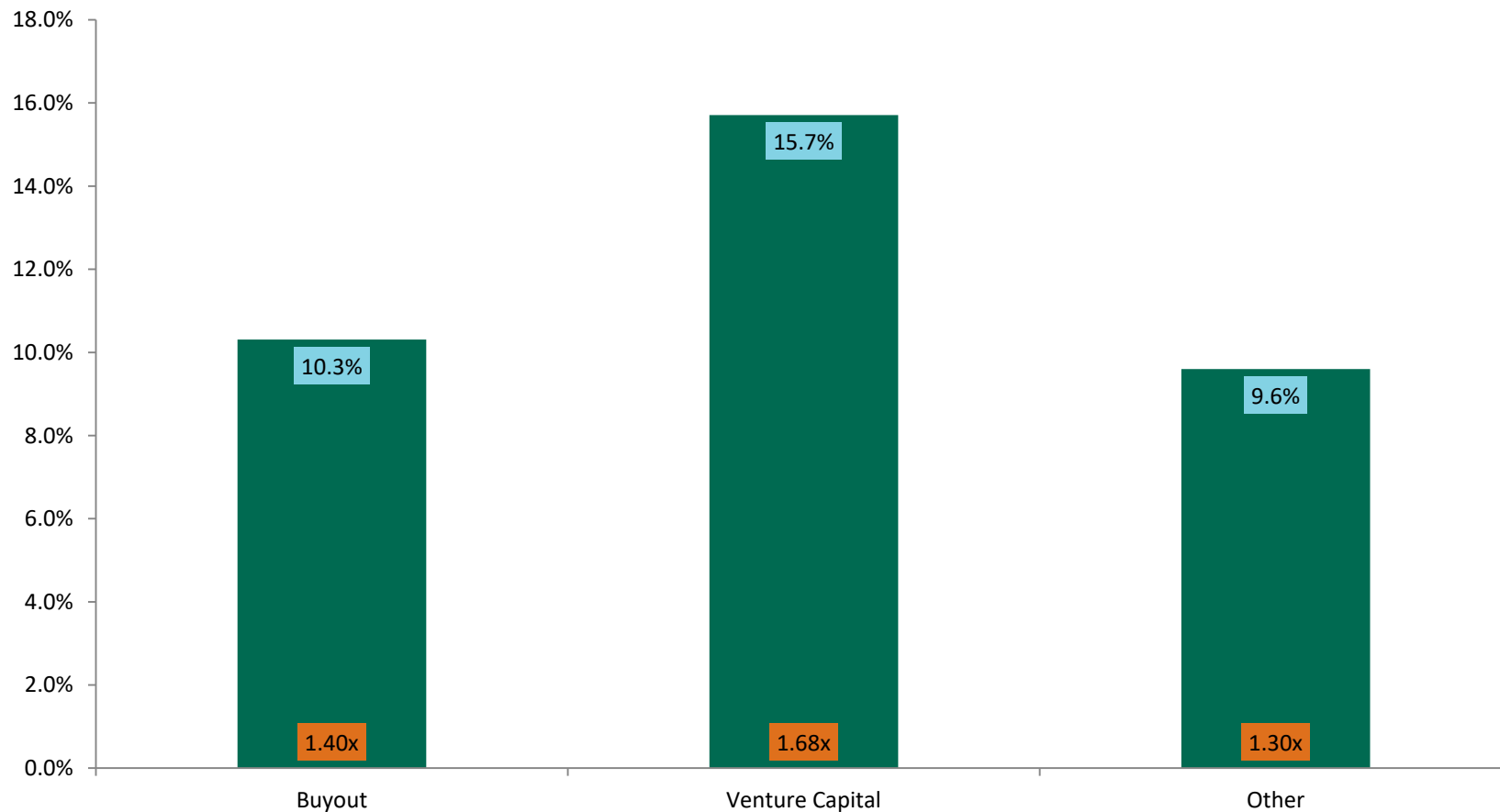
As of December 31, 2016	1 Year IRR	3 Year IRR	5 Year IRR	SINCE INCEPTION
<b>Portfolio IRR</b>	8.39%	13.86%	14.50%	11.63%
<b>Cambridge Associates<sup>1</sup></b>	10.47%	9.69%	12.59%	9.73%

<sup>1</sup> Cambridge Associates Pooled IRR: All Private Equity Funds as of December 31, 2016.



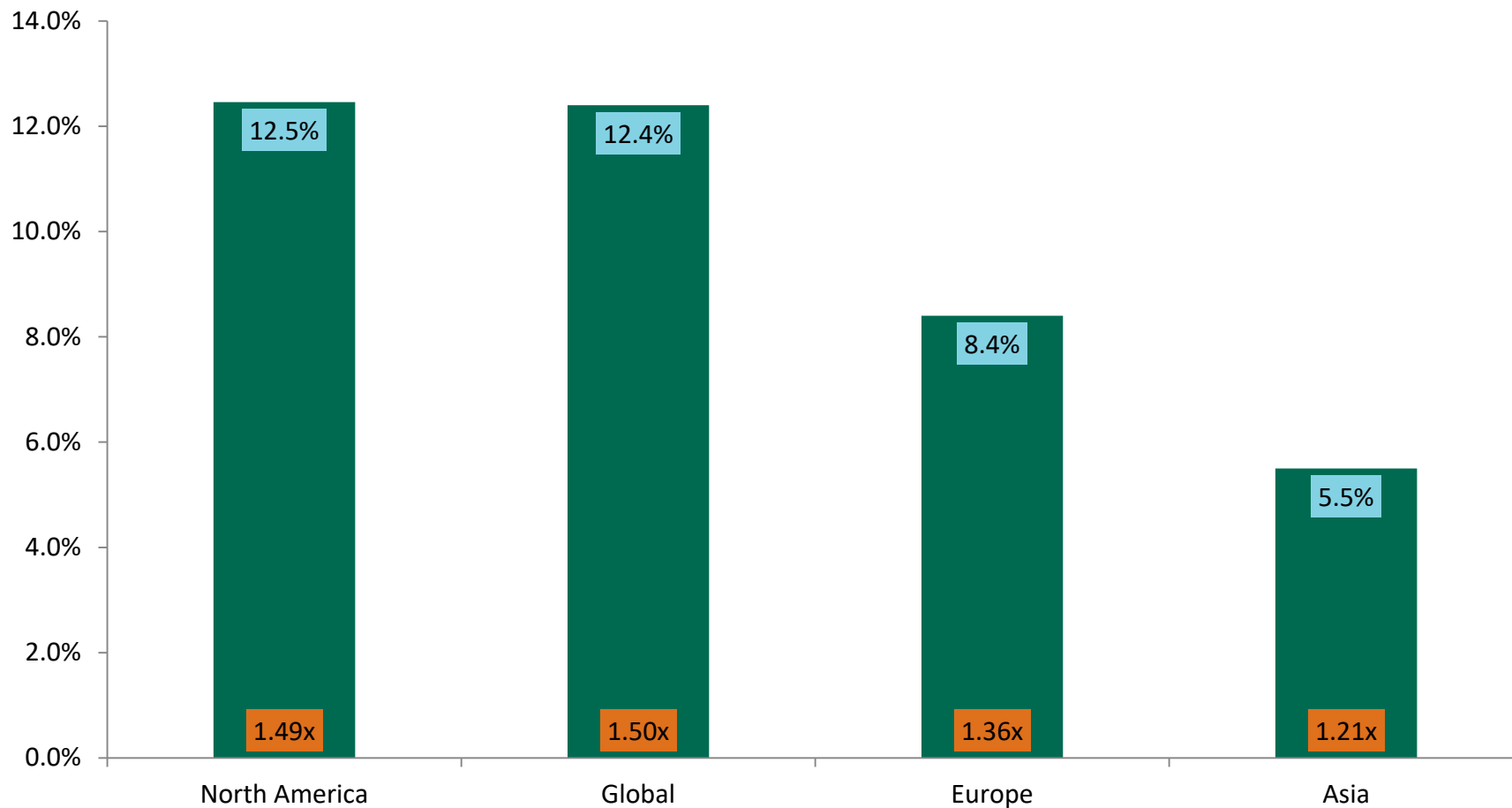
## Performance – Investment Strategy

*As of December 31, 2016*



## Performance – Investment Geography

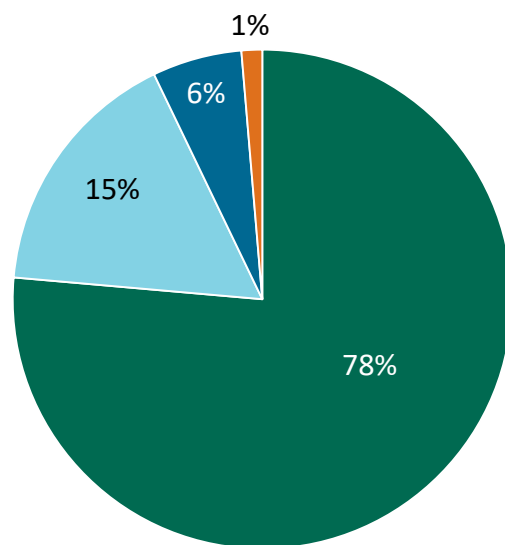
*As of December 31, 2016*



## Portfolio Company Exposure | By Market Value

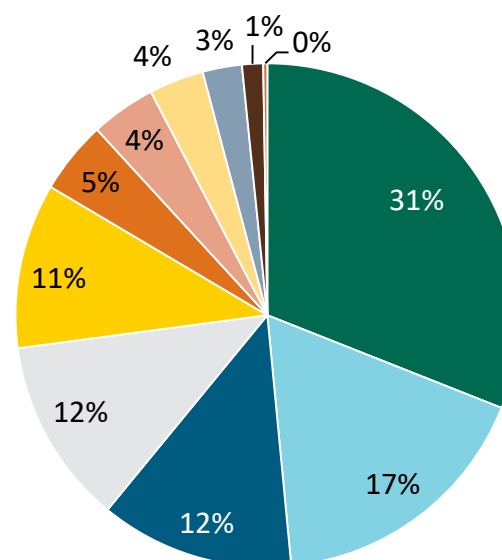
As of September 30, 2016

Fair Value by Geography



■ North America    ■ Europe  
■ Asia    ■ Other

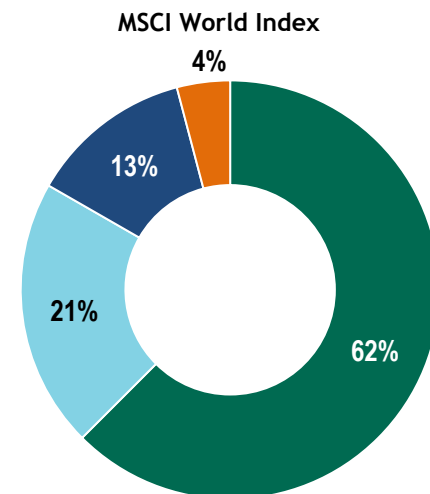
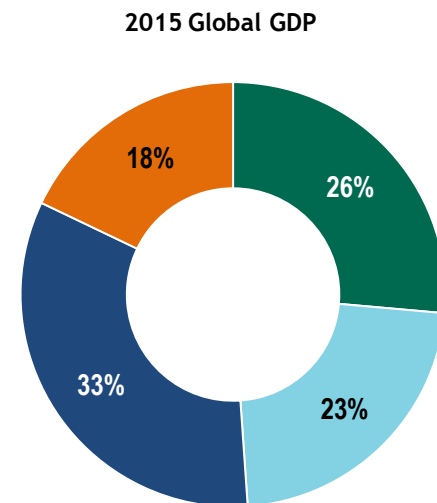
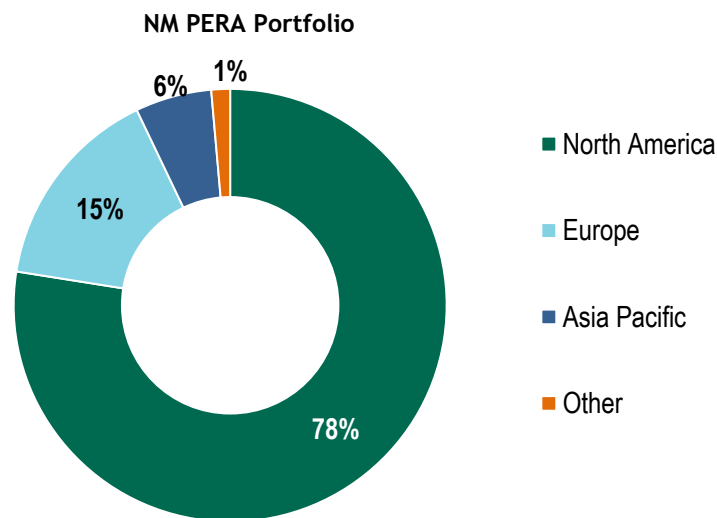
Fair Value by Sector



■ Information Technology    ■ Consumer Discretionary  
■ Industrials    ■ Health Care  
■ Financials    ■ Consumer Staples  
■ Materials    ■ Energy  
■ Telecommunication Services    ■ Other  
■ Utilities

- Many institutional investors have increasingly taken the view that maintaining too large of a “home bias” in their private equity equity portfolio can come with substantial market timing risk.

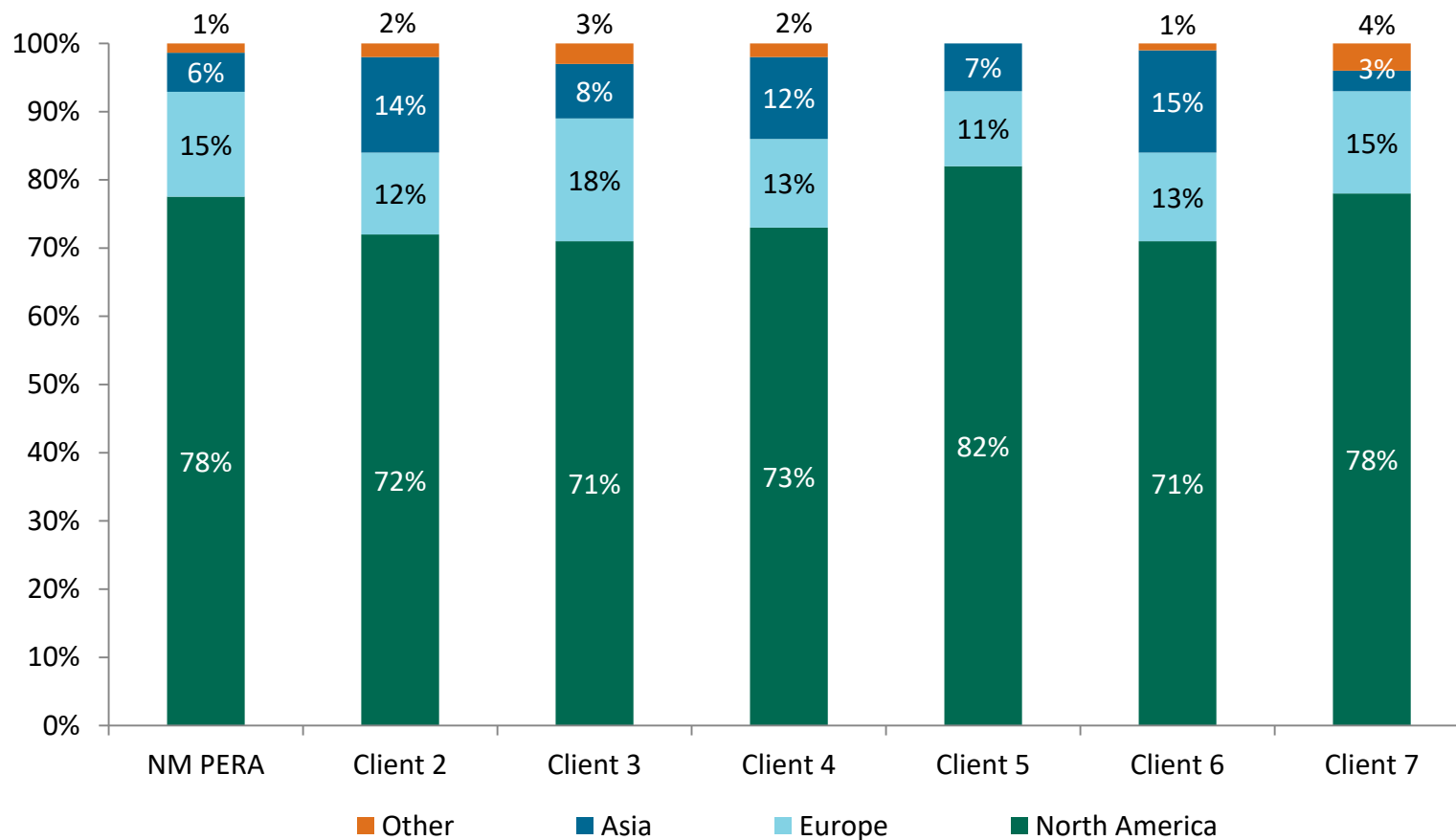
## Program Weight vs. Relevant Benchmarks



# RELATIVE GEOGRAPHIC EXPOSURE

AS OF SEPTEMBER 30, 2016

## Portfolio Company Exposure by Market Value



- NM PERA has a mix of ongoing and legacy relationships in both the European and Asian portfolios.

## INTERNATIONAL RELATIONSHIPS

European Relationships	Fund / VY	Geography	Strategy	Commitment mm	TVPI	IRR
Nordic Capital	Fund VII (2007)	Nordics	Buyout	€17.0	1.24x	3.9%
Charterhouse Capital	Fund IX (2008)	Pan-European	Buyout	€20.0	1.36x	11.4%
CVC Europe	Fund V (2008)	Pan-European / US	Buyout	€20.0	1.64x	13.8%
Gilde Partners	Fund IV (2010)	Benelux / DACH	Buyout	€15.0	1.09x	2.8%
Charterhouse Capital	Fund X (2016)	Pan-European	Buyout	\$110.8	NM	NM
CVC Europe	Fund VII (2017)	Pan-European / US	Buyout	€100.0	NM	NM

Asian Relationships	Fund / VY	Geography	Strategy	Commitment mm	TVPI	IRR
TPG Asia	Fund V (2007)	Pan-Asia	Buyout / Growth	\$30.0	1.34x	6.0%
RRJ Capital	Fund III (2015)	Pan-Asia / Global	Buyout / Growth	\$75.0	NM	NM
FountainVest	Fund III (2017)	China	Buyout / Growth	\$83.0	NM	NM

## INTERNATIONAL EXPOSURE THROUGH U.S. RELATIONSHIPS

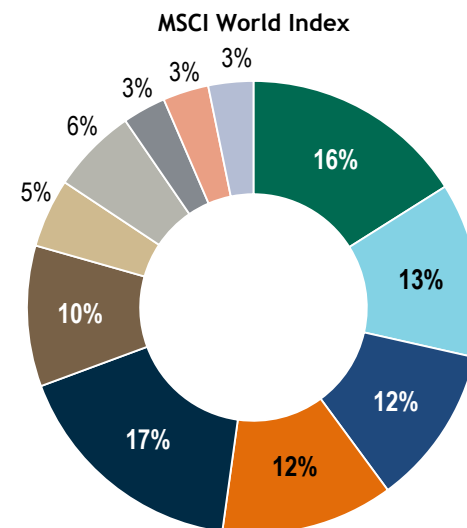
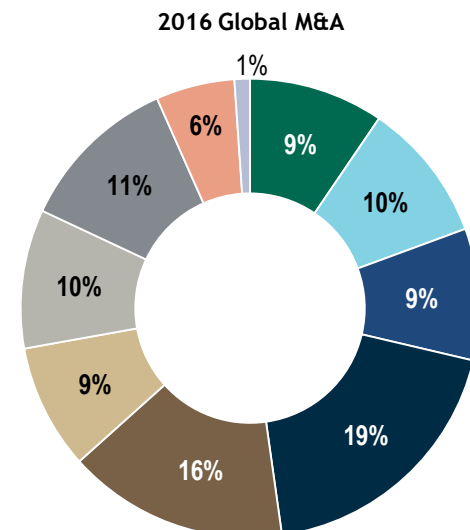
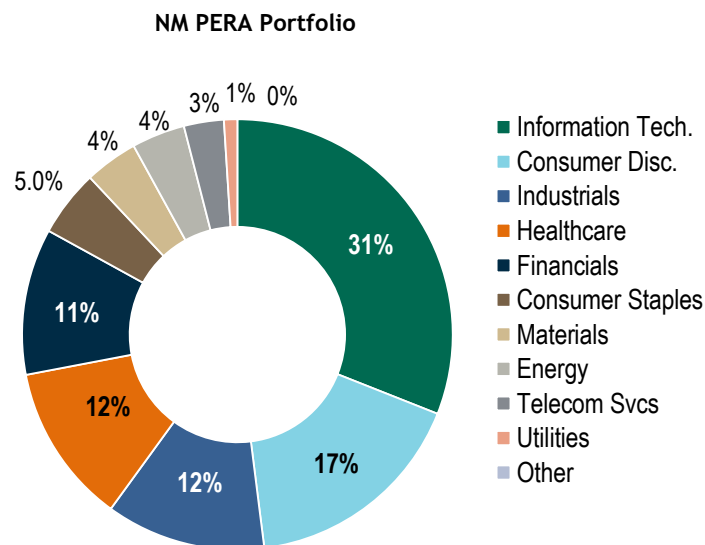
- On a look through basis, NM PERA gets significant exposure to Western Europe through a number of U.S.-focused managers.

European Exposure	# of Investments	Current Exposure \$mm
Onex Partners	3	7.7
Coller Intl	26	7.5
Sun Capital	13	6.6
TCV	2	3.5
Providence	5	3.4
Hellman & Friedman	5	3.1
GTCR	1	3.0
Institutional Venture Partners	3	2.4
TPG	7	2.2
New Enterprise Assoc.	6	2.1
Carlyle Partners	2	1.9
Lincolnshire	1	1.2
4 Firms w/ under \$1.0mm exposure each	22	1.8
<b>Total</b>	<b>96</b>	<b>46.4</b>

Asian Exposure	# of Investments	Current Exposure \$mm
New Enterprise Assoc.	20	3.6
PineBridge Passport	2	3.1
Providence Equity	4	1.5
Warburg Pincus	6	1.5
Carlyle Partners	2	1.3
2 Firms w/ under \$0.1mm exposure each	10	0.2
<b>Total</b>	<b>44</b>	<b>11.2</b>

- NM PERA's private equity portfolio has an overweight in the technology sector relative to several different benchmarks.

## Program Weight vs. Relevant Benchmarks





- Other NM PERA relationships that invest a significant amount of capital in the technology sector include:  
**Carlyle Partners, GTCR, Hellman & Friedman, Providence, and Warburg Pincus.**

Tech-Focused Relationships	Fund / VY	Geography	Strategy	Commitment \$mm	TVPI	IRR
JMI Equity	Fund VI (2007)	N. America	Venture	17.5	1.71x	11.2%
Technology Crossover Ventures	Fund VII (2008)	N. America	Venture	35.0	2.22x	21.1%
New Enterprise Associates	Fund 13 (2009)	N. America	Venture	20.0	1.89x	16.5%
DFJ	Fund X (2010)	N. America	Venture	20.0	1.36x	8.5%
Institutional Venture Partners	Fund XIII (2010)	N. America	Venture	20.0	1.68x	13.3%
JMI Equity	Fund VII (2011)	N. America	Venture	18.5	1.37x	10.3%
New Enterprise Associates	Fund 14 (2012)	N. America	Venture	25.0	1.53x	17.2%
Institutional Venture Partners	Fund XIV (2013)	N. America	Venture	35.0	1.61x	23.8%
Trinity Ventures	Fund XII (2016)	N. America	Venture	30.0	NM	NM
DFJ	Fund XII (2016)	N. America	Venture	20.0	NM	NM
Technology Crossover Ventures	Fund IX (2016)	N. America	Venture	65.0	NM	NM
<b>Total</b>				<b>306.0</b>		



## **2016 – A Year in Review**

- 2016 Activity
- Cash Flow Attribution and Value Drivers
- New Investments

**2016 Vintage Year**  
**Commitments: \$305.8 million**

## Buyouts / Growth

- Charterhouse X
- Century Focused Fund IV

## Venture Capital

- DFJ Venture XII
- TCV IX
- Trinity Ventures XII

## Fund of One

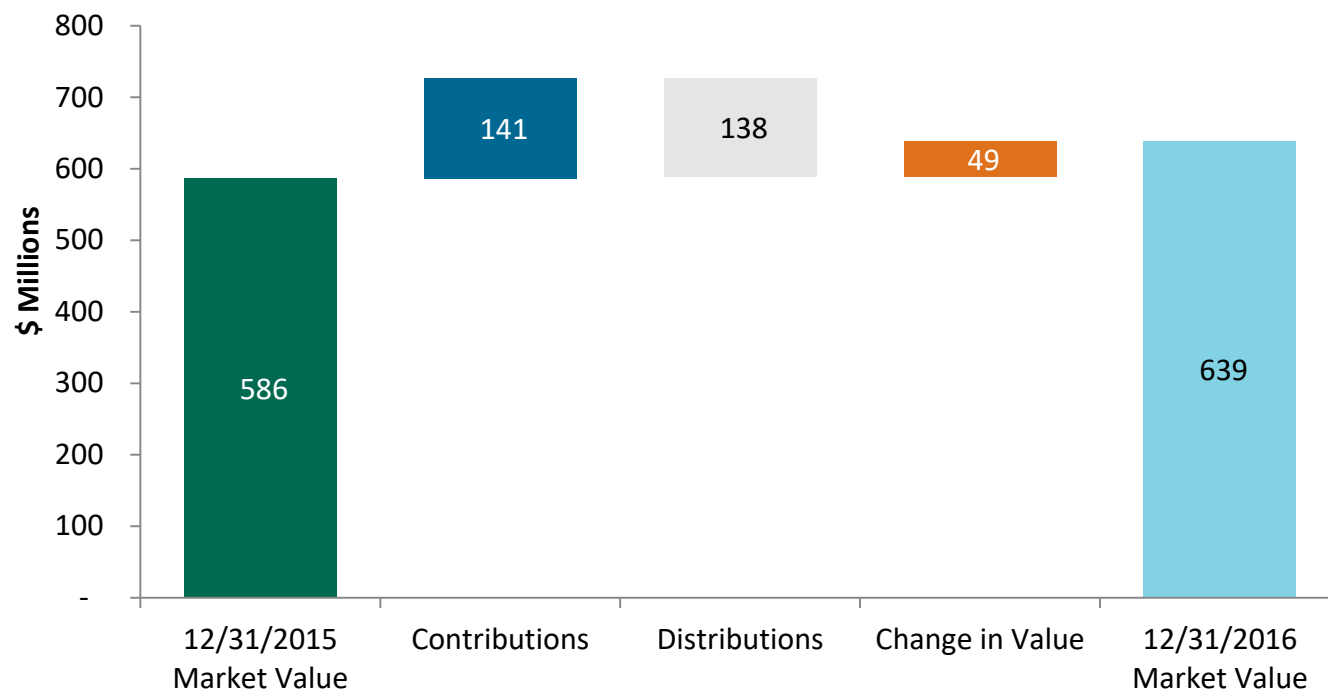
- PineBridge Passport Fund I

## VY 2016

Number of 2016 Vintage Year Commitments	6
Commitment Amounts <sup>1</sup>	\$305.8

## Portfolio Value Bridge | \$ Millions

*Period: December 31, 2015 – December 31, 2016*



<sup>1</sup> Commitments made in currencies other than the U.S. Dollar were converted at the exchange rate at the time of the commitment approval.

# MOST ACTIVE FUNDS: CASH FLOWS

## Top Contributors and Distributors of Capital for 2016

As of December 31, 2016 | USD Million

Top 5 Distributors of Capital	Vintage Year	Strategy	Distributions \$mm	% of Total
KRG Capital Fund IV	2007	Buyout	13.9	10.1%
Technology Crossover Ventures VII	2008	Venture Capital	12.0	8.7%
GTCR Fund X-AB	2011	Buyout	11.8	8.6%
Kelso Investment Associates IX	2015	Buyout	11.0	8.0%
Carlyle Partners V	2007	Buyout	9.9	7.2%
<b>Total</b>			<b>58.6</b>	<b>42.6%</b>

Top 5 Callers of Capital	Vintage Year	Strategy	Contributions \$mm	% of Total
Kelso Investment Associates IX	2015	Buyout	26.4	19.1%
NM PERA PineBridge Passport Fund I	2016	Fund of One	15.3	11.1%
RRJ Capital Master Fund III	2015	Buyout	15.2	11.0%
Warburg Pincus Private Equity XII	2016	Buyout	13.9	10.1%
Onex Partners IV	2014	Buyout	12.5	9.1%
<b>Total</b>			<b>83.3</b>	<b>59.0%</b>

- Distributions are driven by some of NM PERA's largest commitments in 2007 and 2008.
- Top callers are 2014 to 2016 funds still in their investment periods.

# MOST ACTIVE FUNDS: VALUE DRIVERS

## Top Appreciations and Depreciations for 2016

As of December 31, 2016 | USD Million

Significant Appreciations	Vintage Year	Strategy	Appreciation \$mm	% Change
Technology Crossover Ventures VII	2008	Venture Capital	8.7	24.9%
KRG Capital Fund IV	2007	Buyout	8.2	44.8%
CVC European Equity Partners V	2008	Buyout	6.0	44.1%
GTCR Fund X-AB	2011	Buyout	5.5	18.7%
Kelso Investment Associates IX	2015	Buyout	4.7	13.9%
<b>Total</b>			<b>33.1</b>	

Significant Depreciations	Vintage Year	Strategy	Depreciation \$mm	% Change
The Resolute Fund III	2013	Buyout	-6.0	-29.3%
Kelso Investment Associates VIII	2007	Buyout	-4.2	-16.4%
Institutional Venture Partners XIV	2013	Venture Capital	-3.2	-6.5%
Institutional Venture Partners XIII	2010	Venture Capital	-1.5	-6.3%
Draper Fisher Jurvetson Fund X	2010	Venture Capital	-1.3	-5.3%
<b>Total</b>			<b>-16.2</b>	

# NEW FUNDS: INVESTMENTS IN 2016 VY FUNDS

- NM PERA made six commitments to 2016 vintage year funds, totaling \$305.8 million.

As of December 31, 2016 | USD Million

Fund Name	Geography	Strategy	Commitment \$mm
Century Focused Fund IV	North America	Buyouts	30.0
Charterhouse X	Europe	Buyouts	110.8
Trinity Ventures XII	North America	Venture Capital	30.0
DFJ Venture XII	North America	Venture Capital	20.0
TCV IX	North America	Venture Capital	65.0
PineBridge Passport Fund I	Global	Fund of One	50.0 <sup>1</sup>
<b>Total</b>			<b>305.8</b>

<sup>1</sup> Total Commitment of \$150mm that will be spaced out over three VY years, \$50mm per year in 2016, 2017, and 2018.

## Investment Performance

- The private equity portfolio has generated a net IRR of 11.6% and a 1.5x total value multiple since inception.
- The private equity portfolio has outperformed the Cambridge Associates benchmark over all time periods except over the one-year period.
- The private equity portfolio's recent underperformance relative to public markets (plus a premium), reflects the fact that public equity has performed very well in recent years.

## Portfolio Positioning

- The private equity portfolio maintains a “home bias,” with growing exposure to international markets.
- The private equity portfolio has an overweight in the technology sector relative to several different benchmarks.
- Strong existing relationships with top-tier managers.
- Diversification across industry, geography, strategy, and vintage year.
- Recent / planned additions of new and complimentary strategies.





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New York, NY 10017  
*(for compliance reasons,  
mail not accepted at this address)*

A wide-angle photograph of a rugged, red-rock desert landscape, likely Monument Valley. The image shows high, flat-topped buttes and mesas with deep shadows and bright highlights on the red sandstone. Sparse green desert shrubs are scattered across the lower slopes. A semi-transparent dark blue text box is overlaid on the right side of the image.

**We are proud to be your partner.  
Thank you for allowing us to be  
your private equity consultant.**

**DISCLOSURE AUTHORIZED**

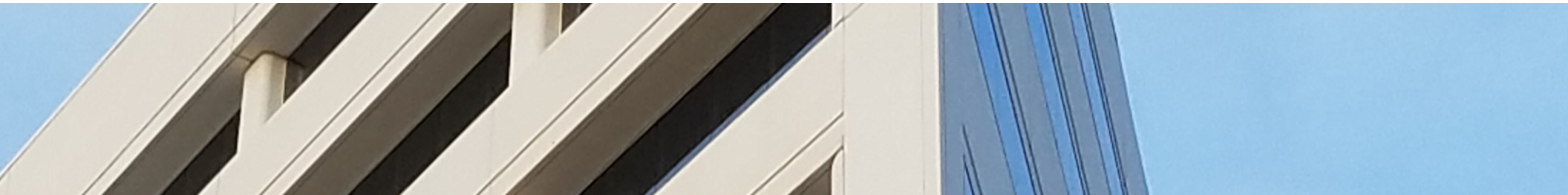
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# WILSHIRE ASSOCIATES

Wilshire Consulting



## Economic Backdrop and Return Prospects: Investing in a Time of “Big League” Uncertainty

Thomas Toth, CFA, Managing Director

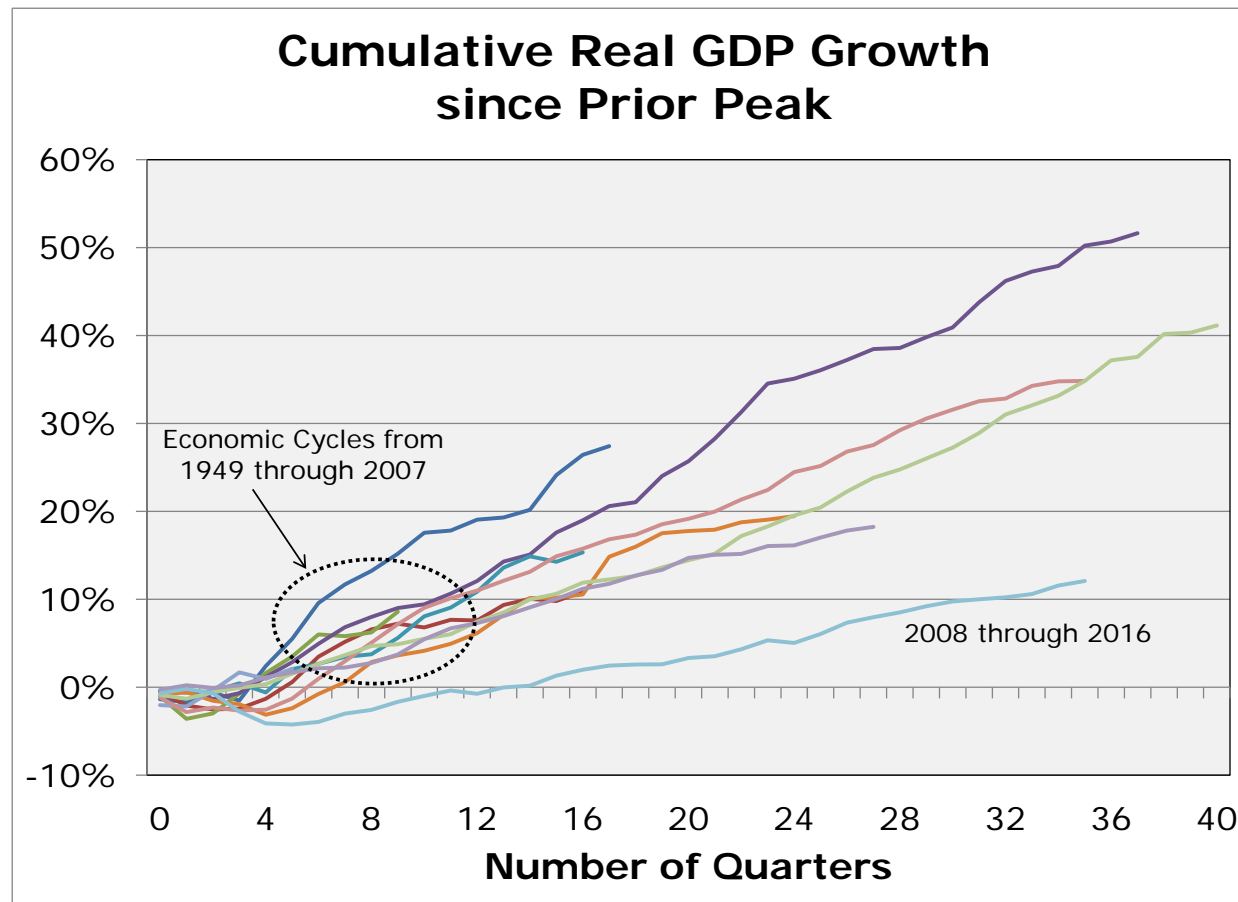
June 2017



# ECONOMIC BACKDROP

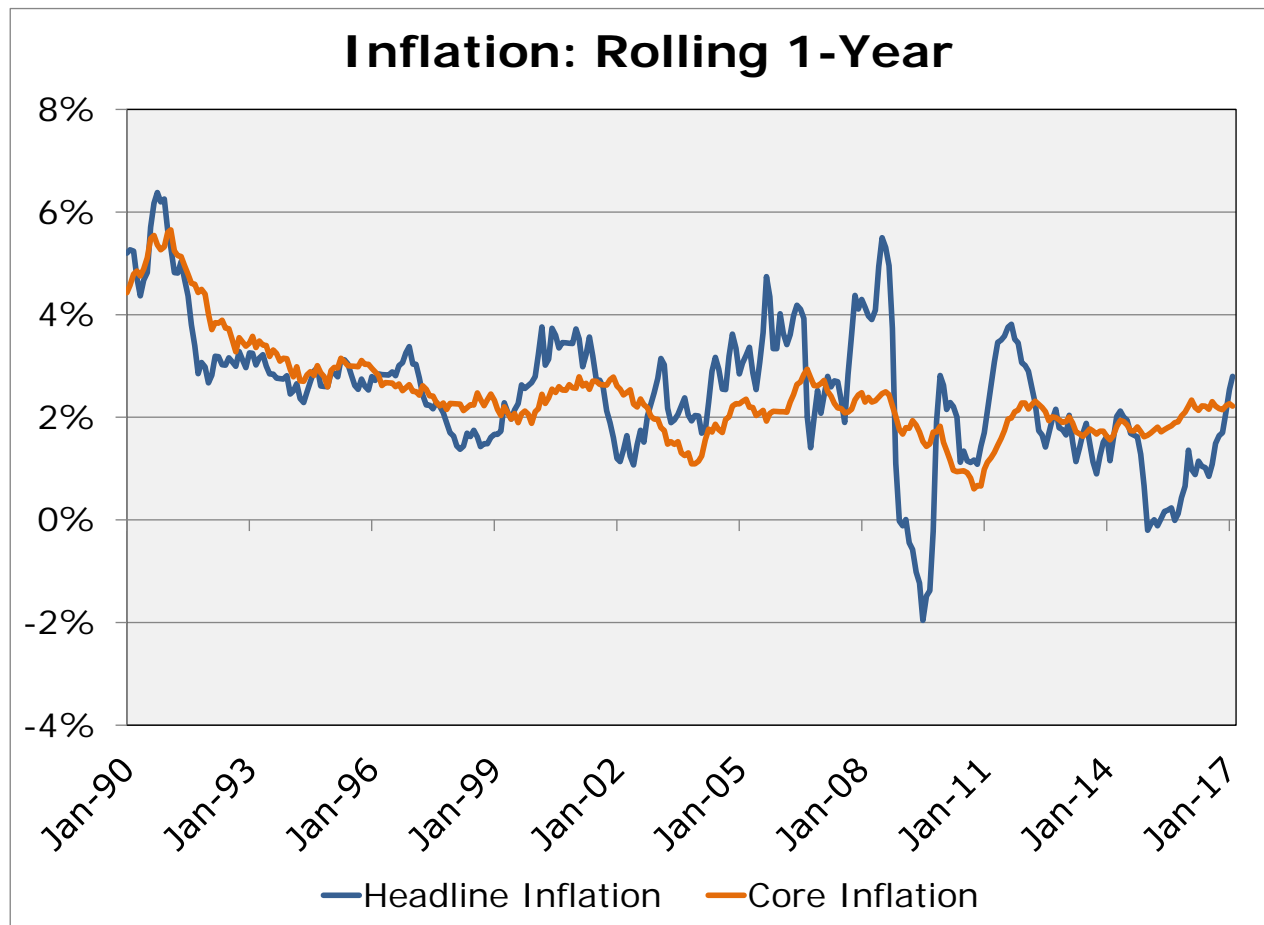
# SLOW GROWTH CONTINUES

- Current economic cycle is now 9 years in duration, expansion at 7.5 years
- Among the longest but weakest cycles in nearly 70 years
- Expansions have been trending longer; last 3 have averaged nearly 8 years



# MODEST INFLATION

- Inflation has fluctuated within a moderate range since the credit crisis despite highly accommodative monetary policy
- Commodity prices have moved higher and will eventually effect Core inflation as prices adjust throughout the open market



## Economic Backdrop

# LOOKING BACK A YEAR...

- Oil up 44% since YE 2015 (WTI)
- U.S. dollar roughly flat
- Europe economy improving; China continues to address slowdown
- Housing prices improving; supply and demand stabilizing
- Wages slowly improving

### *Inflation Summary*

- Deflationary pressures
  - Oil prices – unprecedented capacity build-up in China has slowed, contributing to falling prices
  - “Importing” deflation, weakness from trading partners
- Inflationary pressures
  - Housing prices trending higher
  - Employment – despite unemployment rate near 5%, wage growth modest
- Expectations? Subdued...

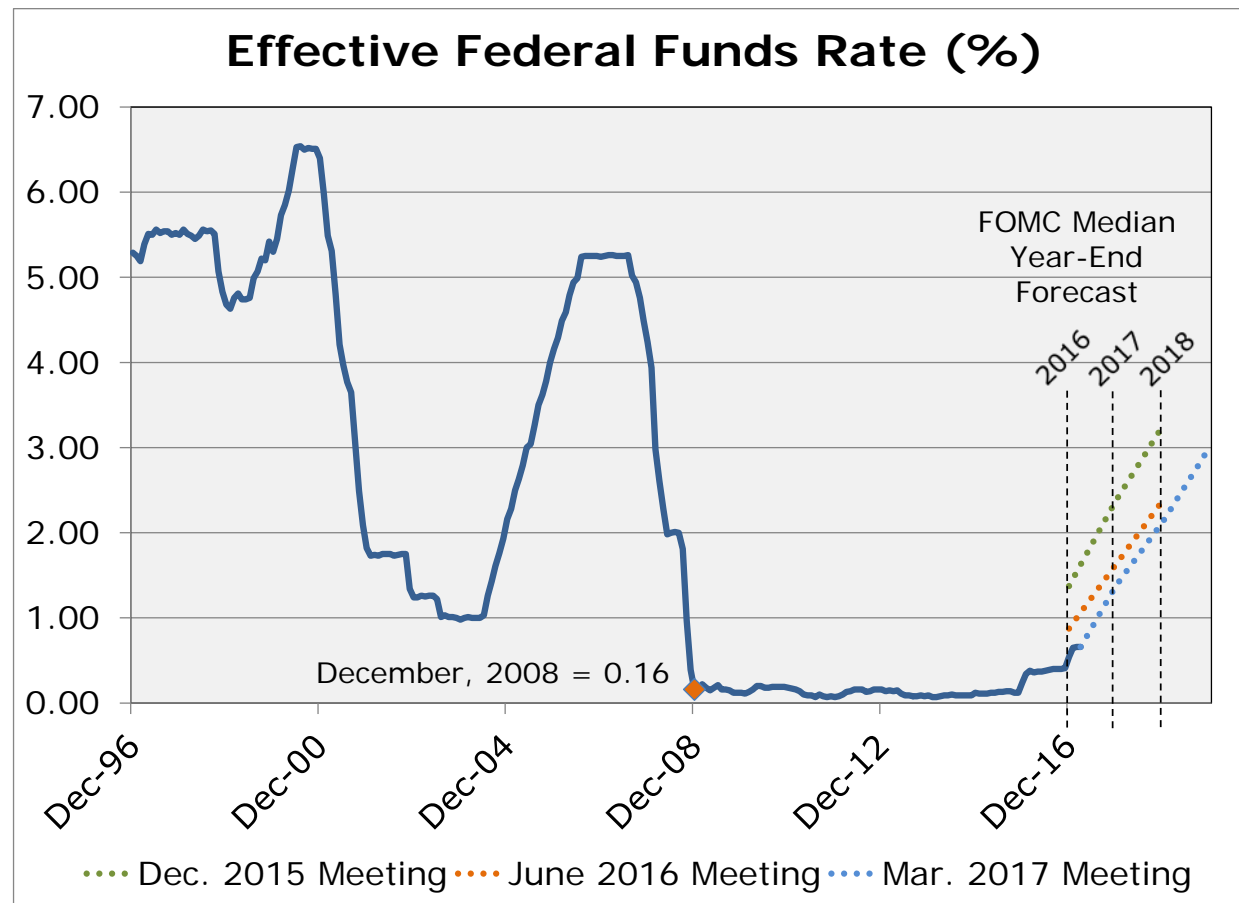


# CONSIDERING REFLATION

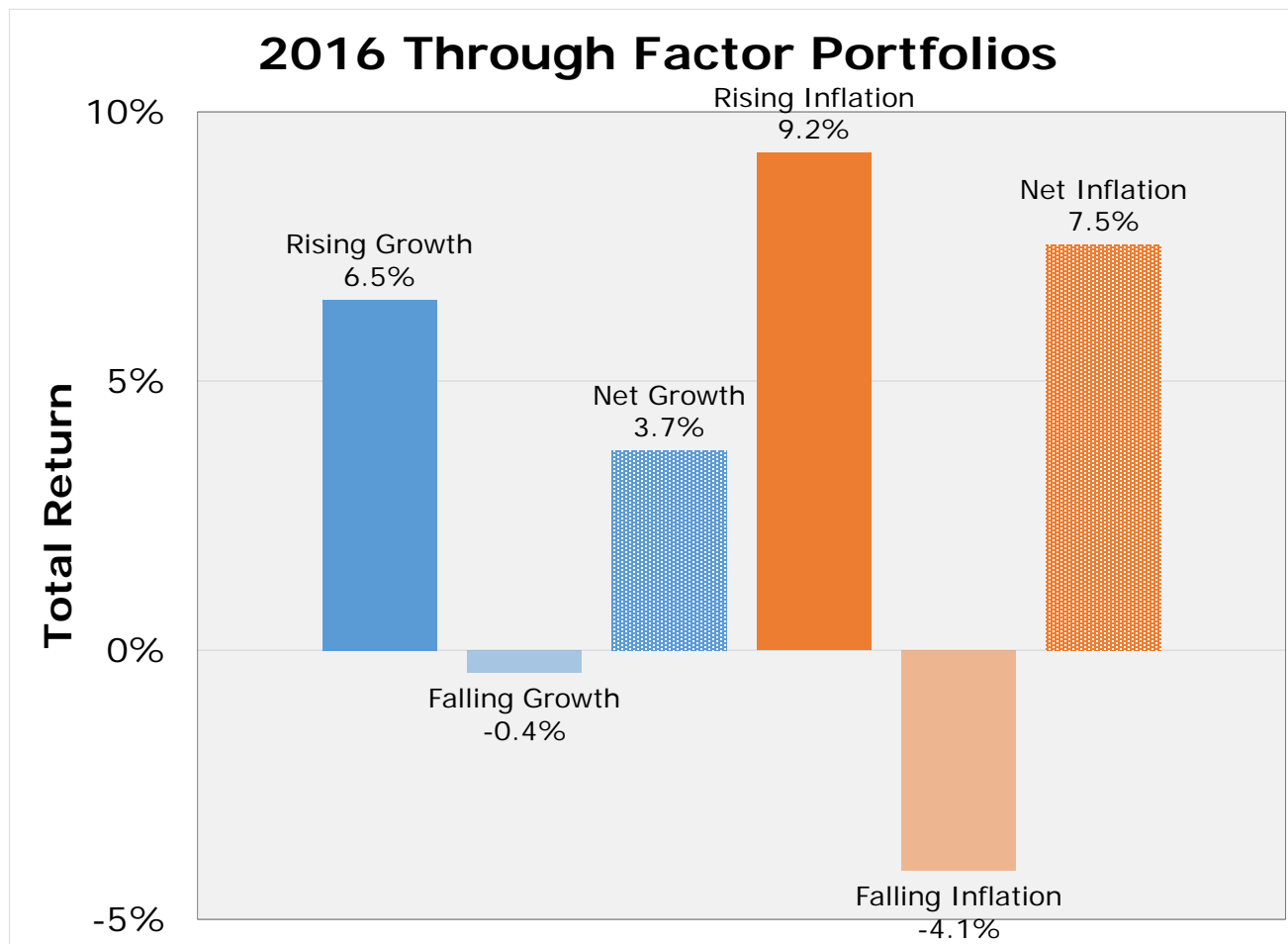
- Periods of continued growth following a mature expansion are often described as ‘reflationary’
- Investors were seeing such an environment in the new administration’s policies:
  - Decrease government regulation
  - Incentivize domestic production
  - Increase government spending
- Broad deflationary forces still exist:
  - Little central banks can do should an economic downturn occur
  - Moderate economic growth has led to considerable debt still in the system
- Resulting in...increased *uncertainty* surrounding inflation

# FED FUNDS RATE

- Achieved “lift-off” after 7 years near zero; 0.25% increase was in March and June
- Maintaining aggressive forecast; however continue to adjust downward
- Current FOMC and market forecast suggest 1-2 more increases in 2017



- Helpful to examine market behavior through a broad lens of economic factors
- Market performance during 2016 clearly shows the importance of asset class exposure to inflation expectations



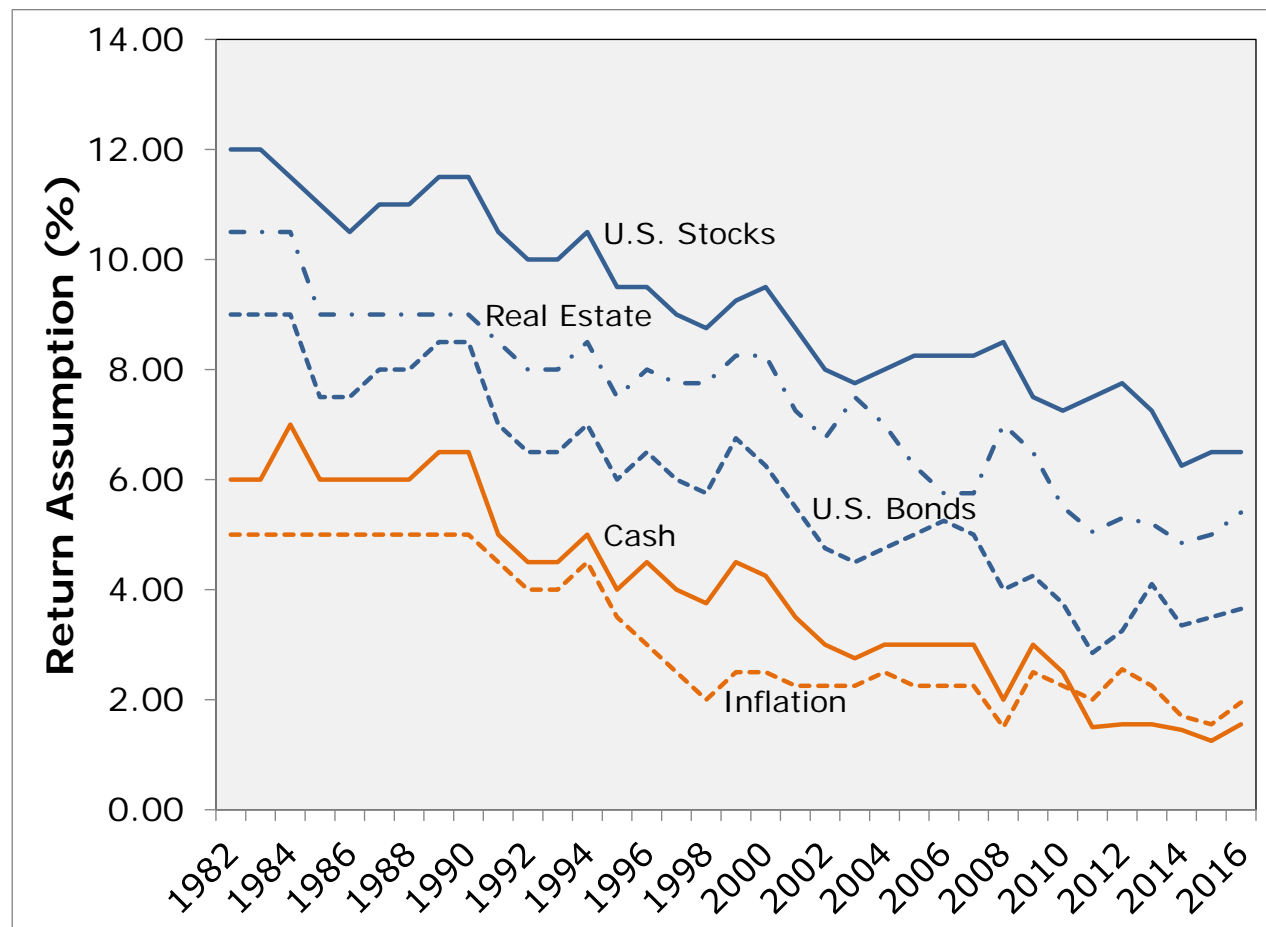




# ADDRESSING UNCERTAINTY

# WILSHIRE FORECASTS THROUGH TIME

- Return prospects have been declining for decades, following the downward trend in interest rates
- Recent environment has been one of “financial repression,” where investors are essentially being taxed via a negative real cash rate



## Addressing Uncertainty

# FACTORS CONTRIBUTING TO UNCERTAINTY

- While the future is never clear, there seem to be an unusually high number of factors contributing to current uncertainty
  - Political/Geopolitical uncertainty
    - » U.S.: New Administration and single-party leadership in Washington
    - » International: Global populism/nationalism (i.e. Brexit, etc.)
  - Market uncertainty
    - » Inflation: pressures mounting?
    - » Rates: finally poised to rise?
    - » Market drawdowns: Are stocks vulnerable to a sell-off at current lofty valuation levels and following an 8-year rally in stocks?
- How should an investor pursue returns against this daunting backdrop?

## Addressing Uncertainty

# HOW TO PROCEED?

- Modest expected returns vs. considerably uncertainty
  - We don't get to choose the market environment, only how we'll invest through it
- Does such an environment call for more or less risk taking?
  - Take on greater/different risk to make up the target return vs. RFR gap?, or
  - Protect against uncertain outcomes by increasing diversification (i.e. limit portfolio vulnerability to any single outcome)?



# INVESTMENT APPROACH OPTIONS

## Investment Approach Options

# WHAT ARE THEY?

- Strive for enhanced returns and accept additional volatility and/or illiquidity
  - Private markets exposure
- Be patient and play defense until return environment normalizes
- More risk balanced portfolio
  - Real Assets - Inflation Linked Bonds, Timber/Farmland,
  - Private debt
  - Options based equity strategies
  - Risk Parity approaches
  - Dynamic asset allocation

## Investment Approach Options

# PATIENT AND/OR DEFENSIVE APPROACH

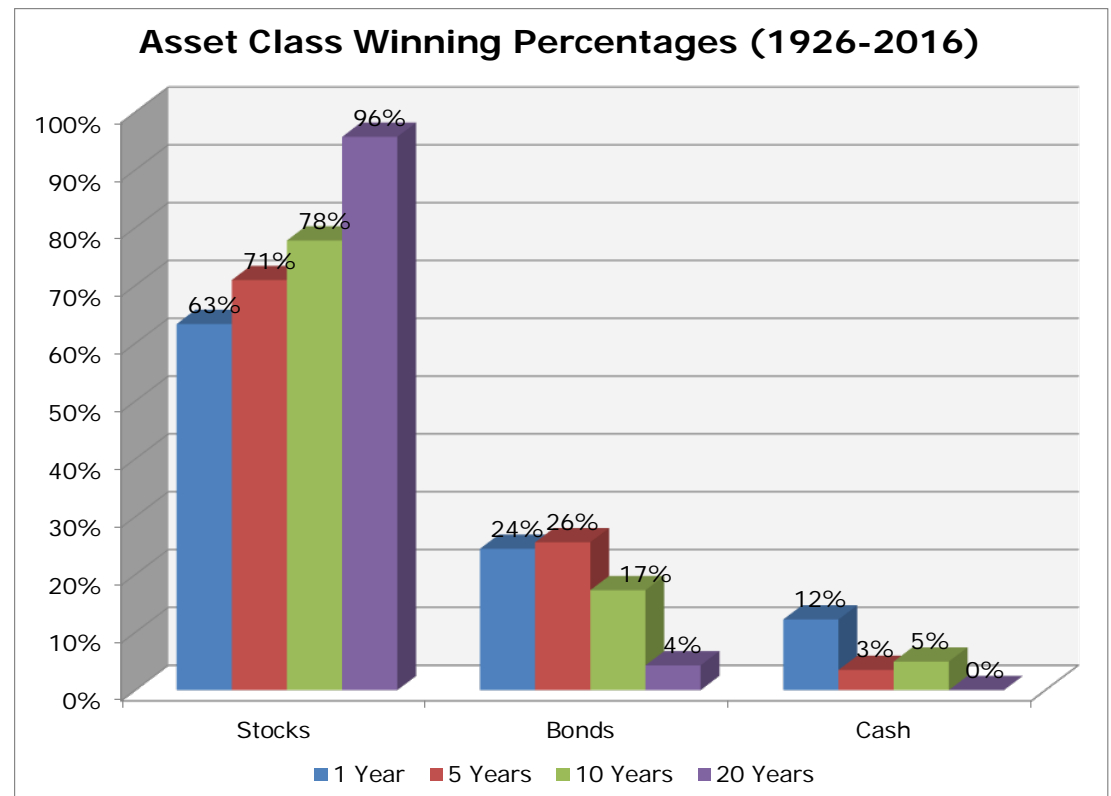
- Which time horizon should drive risk taking?
- Should investors seek to meet return targets over the 10 or 30 year horizon?
  - Investors seeking return targets over 10-years have likely added risk to their portfolios over recent years
  - Investors with the financial wherewithal to accept below-target returns over the 10-year horizon have likely maintained previous risk levels, view prospects over 30-year horizon as motivation to remain patient
  - Only time will tell how these approaches reward investors

INVESTMENT HORIZON	EXPECTED RETURN*	PROB. $\geq$ 7.25%	PROB. $\geq$ 7.75%
10 Years	6.9%	45.9%	40.2%
30 Years	8.0%	64.9%	55.1%

\* PERA target portfolio expectation based on Wilshire's standard 10 year horizon expectations and 30 year horizon long term equilibrium expectations

# THE ADVANTAGES OF LONG-TERM INVESTING

- Risk-taking is more likely to pay off over longer holding periods
  - Realizing that advantage requires surviving the “short term”
  - The “long-term” is simply an accumulation of short-term periods
- Avoiding forced selling requires managing several key risks:
  - Drawdown Risk
  - Liquidity Risk
  - Behavioral Risk





## Investment Approach Options

# RISK BALANCED

- Real Assets
  - PERA increased the target exposure in this area during the last asset allocation
- Private Debt
  - PERA increased the target exposure to Credit, of which this is a sub set
- Alternative Risk Premia/Hedge Funds
  - PERA continually evaluates the merits of new and existing alternative strategies
- Risk Parity
  - Wilshire would like to present an educational session on the topic at the Board's convenience
- Option Based Equity Strategies – volatility risk premium exposure
  - PERA is currently engaged in an active search for this strategy
- PERA has actively worked to structure the portfolio in a way that is more risk-balanced to provide a higher level of diversification for the Total Fund

## Investment Approach Options

# SUMMARY

*“We do not choose the times in which we invest, we only choose how we invest in them”*



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