

FUND EVALUATION REPORT

Plymouth County Retirement Association

Investment Review
December 17, 2019



M E K E T A I N V E S T M E N T G R O U P

**BOSTON
MASSACHUSETTS**

**CHICAGO
ILLINOIS**

**MIAMI
FLORIDA**

**NEW YORK
NEW YORK**

**PORTLAND
OREGON**

**SAN DIEGO
CALIFORNIA**

**LONDON
UNITED KINGDOM**

www.meketagroup.com

- 1. Estimated Retirement Association Performance**
- 2. Interim Update as of October 31, 2019**
- 3. Appendices**
 - Private Markets Program As of June 30, 2019
 - Disclaimer, Glossary, and Notes

Estimated Retirement Association Performance

Estimated Aggregate Performance¹

	November ² (%)	QTD (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
Total Retirement Association	1.3	2.9	14.1	8.8	7.7	5.6	7.8
<i>60% MSCI ACWI/40% Barclays Global Aggregate</i>	1.2	3.1	15.8	11.9	8.8	5.3	6.1
<i>Policy Benchmark</i>	1.3	2.8	13.8	9.2	8.7	6.4	8.3

Benchmark Returns

	November (%)	QTD (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
<i>Russell 3000</i>	3.8	6.0	27.3	15.5	14.2	10.6	13.4
<i>MSCI EAFE</i>	1.1	4.8	18.2	12.4	9.6	4.3	5.3
<i>MSCI Emerging Markets</i>	-0.1	4.1	10.2	7.3	9.0	3.1	3.3
<i>Barclays Aggregate</i>	-0.1	0.3	8.8	10.8	4.1	3.1	3.6
<i>Barclays TIPS</i>	0.2	0.4	8.0	8.6	3.2	2.3	3.1
<i>Barclays High Yield</i>	0.3	0.6	12.1	9.7	6.3	5.4	7.7
<i>JPM GBI-EM Global Diversified</i>	-1.8	1.0	9.0	10.4	6.3	0.7	2.3
<i>S&P Global Natural Resources</i>	1.6	3.4	10.6	5.0	6.9	3.0	1.1

Estimated Total Fund Assets

	September Estimate
Total Retirement Association	\$1,092,531,800

¹ The November performance estimates are calculated using index returns as of November 30, 2019 for each asset class. No performance estimate was included for private equity, real estate, infrastructure, and private natural resources asset classes.

² As of November 30, 2019

**Interim Update
As of October 31, 2019**

DRAFT

As of October 31, 2019

Asset Class Net Performance Summary

	Market Value (\$)	% of Portfolio	1 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	15 Yrs (%)	Inception (%)	Inception Date
Total Retirement Association	1,045,410,430	100.0	1.6	12.6	8.3	7.7	5.5	8.0	6.3	7.7	Nov-89
60% MSCI ACWI / 40% Barclays Global Aggregate			1.9	14.5	11.7	8.0	5.2	6.4	5.9	6.6	Nov-89
Custom Benchmark - Policy Benchmark (Net)			1.5	12.4	8.9	8.7	6.2	8.5	7.1	--	Nov-89
Domestic Equity Assets	233,988,558	22.4	2.0	21.8	10.2	13.6	--	--	--	12.3	Jan-16
Russell 3000			2.2	22.7	13.5	14.5	10.3	13.6	9.1	12.8	Jan-16
International Developed Market Equity Assets	105,382,014	10.1	4.3	14.9	9.0	6.8	--	--	--	5.5	Jan-16
MSCI EAFE			3.6	16.9	11.0	8.5	4.3	5.4	5.3	6.5	Jan-16
International Emerging Market Equity Assets	114,567,380	11.0	4.4	10.4	11.2	6.2	--	--	--	8.2	Jan-16
MSCI Emerging Markets			4.2	10.4	11.9	7.4	2.9	3.8	7.9	10.0	Jan-16
Global Equity Assets	104,228,388	10.0	1.4	17.5	11.4	--	--	--	--	1.6	Feb-18
MSCI ACWI			2.7	19.4	12.6	11.3	7.1	8.8	7.1	1.3	Feb-18
Core Fixed Income	89,703,267	8.6	0.3	8.2	10.1	3.1	--	--	--	3.9	Jan-16
75% Bbg Barclays Aggregate/25% Bbg Barclays US TIPs 1-10 year			0.3	8.2	10.3	3.0	2.9	3.4	4.0	3.7	Jan-16
Value Added Fixed Income	114,503,826	11.0	0.1	8.1	6.3	5.1	--	--	--	6.9	Jan-16
Custom Benchmark (1)			0.2	10.6	8.7	5.3	--	--	--	7.3	Jan-16
Hedge Funds (2)	63,702,096	6.1	0.7	10.8	2.3	5.4	3.5	--	--	4.4	Feb-10
HFRI Fund of Funds Composite Index			0.4	5.6	3.4	3.4	2.2	2.7	2.9	2.7	Feb-10
Real Estate (3)	92,188,134	8.8	0.2	8.9	10.4	6.5	--	--	--	5.7	Jan-16
80% NCREIF ODCE / 20% Wilshire REIT			0.2	8.4	9.1	7.9	--	--	--	7.8	Jan-16
Private Equity (4)	60,376,550	5.8	0.0	3.6	1.0	7.3	--	--	--	4.0	Jan-16
Cambridge Associates Fund of Funds Composite 1-Quarter Lag			0.0	7.1	11.1	13.3	10.8	12.5	11.6	10.8	Jan-16
Real Assets (5)	51,455,720	4.9	0.0	3.6	3.6	1.3	--	--	--	-1.1	Jan-16
CPI + 3%			0.6	4.3	4.8	5.1	4.6	4.7	5.0	5.1	Jan-16
Cash and Cash Equivalent	15,314,496	1.5									

(1) The custom benchmark is comprised of 25% BBgBarc US High Yield/ 25% Credit Suisse Leveraged Loans/ 25% JP Morgan EMBI Global diversified/ 25% BBgBarc Multiverse TR

(2) The data for EntrustPermal Special Opportunities Evergreen Fund, Entrust Special Opportunities Fund III, and Old Farm Partners are based on September 30, 2019 market value, adjusted for subsequent cash flows.

(3) The market value and performance is one quarter lagged.

(4) The market value and performance is one quarter lagged.

(5) The market value and performance is one quarter lagged.

As of October 31, 2019

Trailing Net Performance

	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Total Retirement Association	1,045,410,430	100.0	--	1.6	12.6	8.3	7.7	5.5	8.0	7.7	Nov-89
60% MSCI ACWI / 40% Barclays Global Aggregate				1.9	14.5	11.7	8.0	5.2	6.4	6.6	Nov-89
Custom Benchmark - Policy Benchmark (Net)				1.5	12.4	8.9	8.7	6.2	8.5	--	Nov-89
Domestic Equity Assets	233,988,558	22.4	22.4	2.0	21.8	10.2	13.6	--	--	12.3	Jan-16
Russell 3000				2.2	22.7	13.5	14.5	10.3	13.6	12.8	Jan-16
Rhumblin Russell 1000 Value	36,636,185	3.5	15.7	1.4	19.4	11.2	10.4	7.5	--	9.8	Apr-13
Russell 1000 Value				1.4	19.5	11.2	10.5	7.6	12.0	10.0	Apr-13
Rhumblin Russell 1000 Growth	36,080,380	3.5	15.4	2.8	26.7	17.1	18.8	13.3	15.3	15.4	Jul-09
Russell 1000 Growth				2.8	26.8	17.1	18.9	13.4	15.4	15.6	Jul-09
Fisher Midcap Value	43,776,439	4.2	18.7	0.5	20.9	9.4	12.6	8.6	12.8	7.4	Apr-07
Russell MidCap Value				0.5	20.1	10.1	8.9	6.9	12.9	6.9	Apr-07
Boston Company Small Cap Growth	48,765,659	4.7	20.8	3.0	24.5	9.8	18.3	12.4	14.5	14.4	Aug-09
Russell 2000 Growth				2.8	18.6	6.4	13.2	8.4	13.4	13.0	Aug-09
LMCG Small Cap Value	68,707,280	6.6	29.4	2.2	18.7	7.0	7.6	7.0	--	7.8	Mar-11
Russell 2000 Value				2.4	15.5	3.2	8.6	6.2	11.1	8.0	Mar-11
International Developed Market Equity Assets	105,382,014	10.1	10.1	4.3	14.9	9.0	6.8	--	--	5.5	Jan-16
MSCI EAFE				3.6	16.9	11.0	8.5	4.3	5.4	6.5	Jan-16
KBI Master Account	41,023,539	3.9	38.9	4.0	11.3	6.2	4.9	1.3	3.9	3.5	Jul-05
MSCI EAFE				3.6	16.9	11.0	8.5	4.3	5.4	4.7	Jul-05
HGK TS International Equity	28,704,613	2.7	27.2	5.7	20.0	16.7	11.0	6.1	--	6.5	Feb-11
MSCI EAFE				3.6	16.9	11.0	8.5	4.3	5.4	4.3	Feb-11
Copper Rock International Small Cap	35,653,862	3.4	33.8	3.4	16.4	5.8	--	--	--	-4.7	Nov-17
MSCI EAFE Small Cap				4.5	17.1	8.8	8.6	7.4	8.1	-0.7	Nov-17

Total Retirement Association

As of October 31, 2019

	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
International Emerging Market Equity Assets	114,567,380	11.0	11.0	4.4	10.4	11.2	6.2	--	--	8.2	Jan-16
<i>MSCI Emerging Markets</i>				4.2	10.4	11.9	7.4	2.9	3.8	10.0	Jan-16
LMCG Emerging Markets	49,000,207	4.7	42.8	4.4	6.8	6.8	4.8	0.5	--	1.1	Sep-13
<i>MSCI Emerging Markets</i>				4.2	10.4	11.9	7.4	2.9	3.8	3.3	Sep-13
ABS Emerging Markets	27,862,139	2.7	24.3	3.8	12.9	--	--	--	--	12.9	Dec-18
<i>MSCI Emerging Markets</i>				4.2	10.4	11.9	7.4	2.9	3.8	7.4	Dec-18
Copper Rock Emerging Markets Small Cap	10,813,028	1.0	9.4	5.7	8.4	--	--	--	--	8.4	Dec-18
<i>MSCI Emerging Markets Small Cap</i>				3.8	5.7	9.7	3.1	1.0	3.5	4.0	Dec-18
Driehaus Emerging Markets Growth	26,892,007	2.6	23.5	4.4	--	--	--	--	--	7.2	Mar-19
<i>MSCI Emerging Markets</i>				4.2	10.4	11.9	7.4	2.9	3.8	1.2	Mar-19
Global Equity Assets	104,228,388	10.0	10.0	1.4	17.5	11.4	--	--	--	1.6	Feb-18
<i>MSCI ACWI</i>				2.7	19.4	12.6	11.3	7.1	8.8	1.3	Feb-18
First Eagle Global Value Fund	20,482,904	2.0	19.7	1.3	16.0	11.2	--	--	--	1.4	Feb-18
<i>MSCI ACWI</i>				2.7	19.4	12.6	11.3	7.1	8.8	1.3	Feb-18
Kopernik Global All Cap Fund	18,050,458	1.7	17.3	0.1	4.5	3.0	--	--	--	-5.7	Feb-18
<i>MSCI ACWI</i>				2.7	19.4	12.6	11.3	7.1	8.8	1.3	Feb-18
Lee Munder Global Multi-Cap Strategy	29,497,297	2.8	28.3	2.9	16.8	9.2	--	--	--	1.9	Mar-18
<i>MSCI ACWI</i>				2.7	19.4	12.6	11.3	7.1	8.8	4.1	Mar-18
Wellington Durable Enterprises, L.P.	36,197,728	3.5	34.7	1.0	26.9	18.2	--	--	--	11.9	Mar-18
<i>MSCI ACWI</i>				2.7	19.4	12.6	11.3	7.1	8.8	4.1	Mar-18

Total Retirement Association

As of October 31, 2019

	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Core Fixed Income	89,703,267	8.6	8.6	0.3	8.2	10.1	3.1	--	--	3.9	Jan-16
<i>75% Bbg Barclays Aggregate/25% Bbg Barclays US TIPs 1-10 year</i>				0.3	8.2	10.3	3.0	2.9	3.4	3.7	Jan-16
IR&M Core Bonds	59,289,065	5.7	66.1	0.3	8.5	10.4	3.1	3.0	3.8	4.3	Nov-04
<i>75% Bbg Barclays Aggregate/25% Bbg Barclays US TIPs 1-10 year</i>				0.3	8.2	10.3	3.0	2.9	3.4	4.0	Nov-04
Lord Abbett Short Duration Credit Trust II	30,414,201	2.9	33.9	0.4	--	--	--	--	--	1.0	Aug-19
<i>BBgBarc US Credit 1-3 Yr TR</i>				0.4	4.6	5.5	2.5	2.1	2.4	1.3	Aug-19
Value Added Fixed Income	114,503,826	11.0	11.0	0.1	8.1	6.3	5.1	--	--	6.9	Jan-16
<i>Custom Benchmark</i>				0.2	10.6	8.7	5.3	--	--	7.3	Jan-16
Eaton Vance High Yield	21,986,678	2.1	19.2	0.2	11.7	8.6	5.6	5.1	7.6	6.9	Apr-06
<i>ICE BofAML US High Yield TR</i>				0.2	11.8	8.4	6.1	5.2	7.7	7.3	Apr-06
THL Bank Loan Select Fund	31,263,322	3.0	27.3	-0.6	5.0	1.8	3.7	4.1	--	5.2	Sep-10
<i>Credit Suisse Leveraged Loans</i>				-0.5	5.9	2.6	4.2	4.0	5.3	4.7	Sep-10
Franklin Templeton Emerging Market Bonds	20,561,210	2.0	18.0	0.7	6.4	7.1	5.3	4.1	5.9	6.7	May-06
<i>JP Morgan EMBI Global Diversified</i>				0.3	13.3	14.3	5.1	5.4	6.9	7.3	May-06
Manulife Strategic Fixed Income	30,592,617	2.9	26.7	0.8	--	--	--	--	--	1.9	Jul-19
<i>BBgBarc Multiverse TR</i>				0.7	7.2	9.5	2.9	2.3	2.6	1.3	Jul-19
Mesirow High Yield	10,100,000	1.0	8.8	-0.4	--	--	--	--	--	1.0	Aug-19
<i>BBgBarc US Corporate High Yield TR</i>				0.3	11.7	8.4	6.0	5.2	7.8	1.0	Aug-19

Total Retirement Association

As of October 31, 2019

	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Hedge Funds	63,702,096	6.1	6.1	0.7	10.8	2.3	5.4	3.5	--	4.4	Feb-10
<i>HFRI Fund of Funds Composite Index</i>				0.4	5.6	3.4	3.4	2.2	2.7	2.7	Feb-10
ABS Offshore SPC - Global Segregated Portfolio	22,178,621	2.1	34.8	1.9	11.2	8.0	5.8	3.7	--	5.2	Aug-10
<i>HFRI Fund of Funds Composite Index</i>				0.4	5.6	3.4	3.4	2.2	2.7	2.8	Aug-10
Entrust Special Opportunities Fund III, Ltd.	26,216,231	2.5	41.2	0.0	8.7	-5.1	10.2	--	--	10.0	Oct-16
<i>HFRI Fund of Funds Composite Index</i>				0.4	5.6	3.4	3.4	2.2	2.7	3.2	Oct-16
Old Farm Partners Master Fund, L.P.	4,926,707	0.5	7.7	0.0	5.0	2.2	--	--	--	-1.4	Oct-18
<i>HFRI Fund of Funds Composite Index</i>				0.4	5.6	3.4	3.4	2.2	2.7	0.4	Oct-18
EnTrustPermal Special Opportunities Evergreen Fund, Ltd.	10,380,537	1.0	16.3	0.0	20.6	--	--	--	--	20.6	Jan-19
<i>HFRI Fund of Funds Composite Index</i>				0.4	5.6	3.4	3.4	2.2	2.7	5.6	Jan-19
Real Estate	92,188,134	8.8	8.8	0.2	8.9	10.4	6.5	--	--	5.7	Jan-16
<i>80% NCREIF ODCE / 20% Wilshire REIT</i>				0.2	8.4	9.1	7.9	--	--	7.8	Jan-16
Core Real Estate	56,374,969	5.4	61.2	0.3	7.8	8.7	7.3	--	--	7.3	Jan-16
<i>NCREIF-ODCE</i>				0.0	3.8	5.6	7.3	9.3	10.9	7.4	Jan-16
Invesco Equity Real Estate Securities Trust	834,225	0.1	1.5	0.9	29.5	25.2	10.8	8.4	13.0	11.6	Dec-02
<i>Wilshire REIT</i>				1.0	28.5	23.3	9.7	8.2	13.7	10.9	Dec-02
TA Realty Core Property Fund, L.P.	28,006,971	2.7	49.7	0.0	7.2	8.8	--	--	--	11.0	Apr-18
<i>NCREIF ODCE</i>				0.0	3.8	5.6	7.3	9.3	10.9	6.2	Apr-18
JPMorgan Strategic Property	27,533,773	2.6	48.8	0.6	--	--	--	--	--	1.3	Apr-19
<i>NCREIF-ODCE</i>				0.0	3.8	5.6	7.3	9.3	10.9	2.3	Apr-19
Non-Core Real Estate	35,813,165	3.4	38.8	0.0	10.5	14.4	3.4	--	--	0.3	Jan-16

Note: The data for EntrustPermal Special Opportunities Evergreen Fund, Entrust Special Opportunities Fund III, and Old Farm Partners are based on September 30, 2019 market value, adjusted for subsequent cash flows.



Total Retirement Association

As of October 31, 2019

	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Private Equity	60,376,550	5.8	5.8	0.0	3.6	1.0	7.3	--	--	4.0	Jan-16
<i>Cambridge Associates Fund of Funds Composite 1-Quarter Lag</i>				<i>0.0</i>	<i>7.1</i>	<i>11.1</i>	<i>13.3</i>	<i>10.8</i>	<i>12.5</i>	<i>10.8</i>	<i>Jan-16</i>
Private Equity	53,120,383	5.1	88.0	0.0	4.4	0.5	5.6	--	--	2.5	Jan-16
Venture Capital	7,256,167	0.7	12.0	0.0	0.2	3.5	11.2	--	--	9.0	Jan-16
Real Assets	51,455,720	4.9	4.9	0.0	3.6	3.6	1.3	--	--	-1.1	Jan-16
<i>CPI + 3%</i>				<i>0.6</i>	<i>4.3</i>	<i>4.8</i>	<i>5.1</i>	<i>4.6</i>	<i>4.7</i>	<i>5.1</i>	<i>Jan-16</i>
IFM Global Infrastructure	22,095,987	2.1	42.9	0.0	8.9	12.6	--	--	--	11.1	Oct-18
<i>CPI+5% (1q Lagged)</i>				<i>0.6</i>	<i>5.8</i>	<i>6.9</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>6.8</i>	<i>Oct-18</i>
Cash and Cash Equivalent	15,314,496	1.5	1.5								
Cash	15,314,496	1.5	100.0								

Total Retirement Association

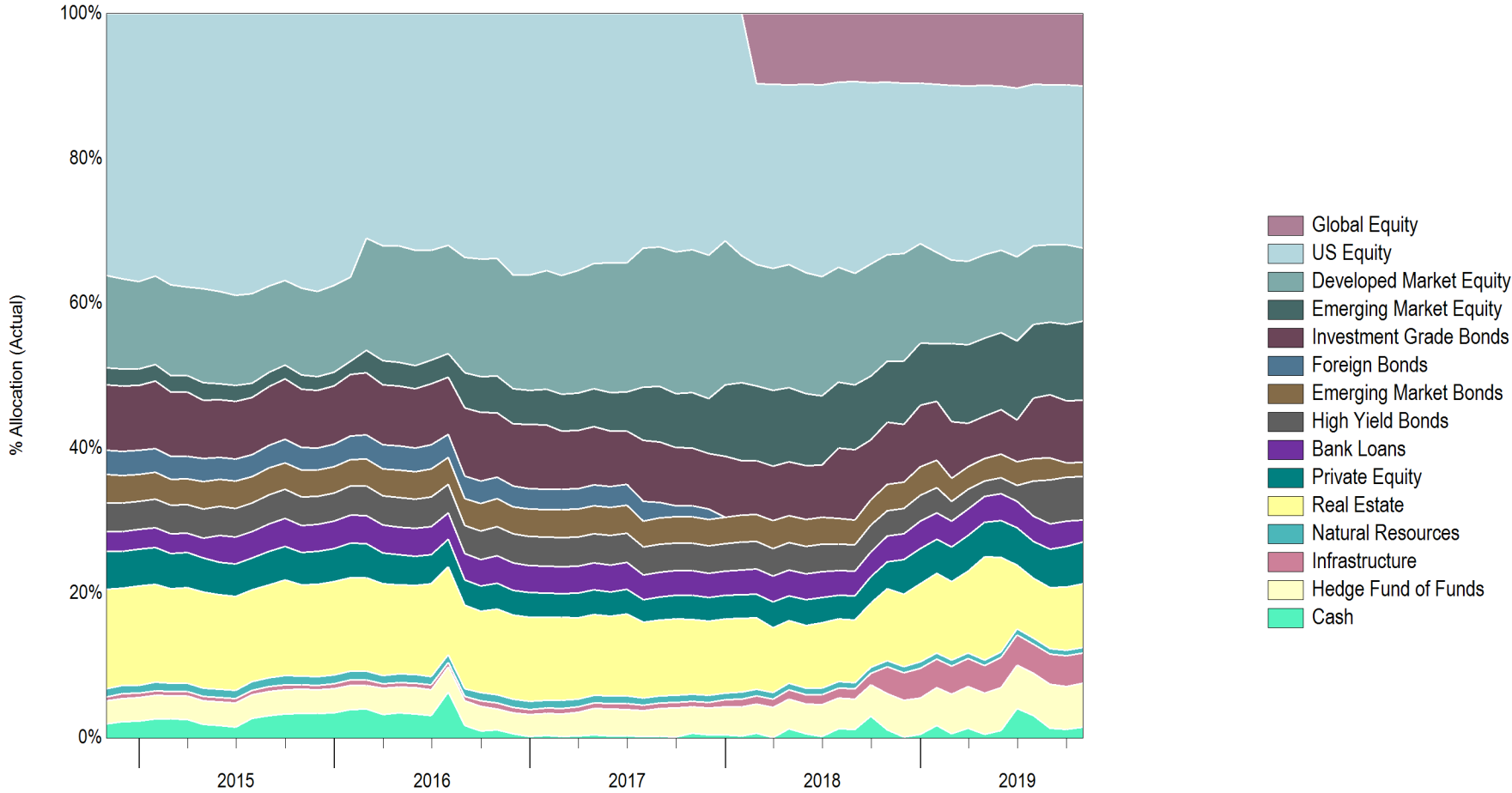
As of October 31, 2019

Allocation vs. Target

	Current Balance	Current Allocation	Policy	Policy Range	Within IPS Range?
Domestic Equity	\$233,988,558	22%	26%	21% - 36%	Yes
International Developed Market Equity	\$105,382,014	10%	6%	1% - 16%	Yes
International Emerging Market Equity	\$114,567,380	11%	10%	5% - 20%	Yes
Global Equity	\$104,228,388	10%	10%	5% - 20%	Yes
Core Bonds	\$89,703,267	9%	9%	4% - 14%	Yes
Value-Added Fixed Income	\$114,503,826	11%	6%	2% - 12%	Yes
Private Equity	\$60,376,550	6%	13%	4% - 18%	Yes
Real Estate	\$92,188,134	9%	10%	5% - 15%	Yes
Real Assets	\$51,455,720	5%	6%	2% - 10%	Yes
Hedge Fund of Funds	\$63,702,096	6%	4%	2% - 8%	Yes
Cash	\$15,314,496	1%	0%	0% - 3%	Yes
Total	\$1,045,410,430	100%	100%		

	Current Balance	Current Allocation	Policy	Policy Range	Within IPS Range?
Total Equity	\$682,244,986	65%	69%	60% - 80%	Yes
Total Fixed Income	\$204,207,093	20%	15%	5% - 25%	Yes
Total Real Assets and Real Estate	\$143,643,855	14%	16%	13% - 19%	Yes
Cash	\$15,314,496	1%	0%	0% - 3%	Yes

Asset Allocation History
5 Years Ending October 31, 2019



As of October 31, 2019

Annual Investment Expense Analysis

As Of October 31, 2019

Name	Fee Schedule	Market Value	Estimated Fee Value	Estimated Fee
Domestic Equity Assets		\$233,988,558		
Rhumblin Russell 1000 Value	0.05% of First 25.0 Mil, 0.04% of Next 25.0 Mil, 0.03% Thereafter	\$36,636,185	\$17,154	0.05%
Rhumblin Russell 1000 Growth	0.05% of First 25.0 Mil, 0.04% of Next 25.0 Mil, 0.03% Thereafter	\$36,080,380	\$16,932	0.05%
Fisher Midcap Value	0.80% of First 25.0 Mil, 0.75% of Next 25.0 Mil, 0.67% Thereafter	\$43,776,439	\$340,823	0.78%
Boston Company Small Cap Growth	0.45% of Assets	\$48,765,659	\$219,445	0.45%
LMCG Small Cap Value	0.90% of Assets	\$68,707,280	\$618,366	0.90%
International Developed Market Equity Assets		\$105,382,014		
KBI Master Account	0.65% of Assets	\$41,023,539	\$266,653	0.65%
HGK TS International Equity	1.00% of Assets	\$28,704,613	\$287,046	1.00%
Copper Rock International Small Cap	0.85% of Assets	\$35,653,862	\$303,058	0.85%
International Emerging Market Equity Assets		\$114,567,380		
LMCG Emerging Markets	0.64% of Assets	\$49,000,207	\$313,601	0.64%
ABS Emerging Markets	0.35% Management Fee and 10% Performance/Incentive Fee.	\$27,862,139		
Copper Rock Emerging Markets Small Cap	0.85% of Assets	\$10,813,028	\$91,911	0.85%
Driehaus Emerging Markets Growth	0.55% of Assets	\$26,892,007	\$147,906	0.55%
Global Equity Assets		\$104,228,388		
First Eagle Global Value Fund	0.75% of Assets	\$20,482,904	\$153,622	0.75%
Kopernik Global All Cap Fund	0.80% of First 50.0 Mil, 0.75% of Next 150.0 Mil, 0.70% of Next 250.0 Mil, 0.65% of Next 350.0 Mil	\$18,050,458	\$144,404	0.80%
Lee Munder Global Multi-Cap Strategy	0.45% of Assets	\$29,497,297	\$132,738	0.45%
Wellington Durable Enterprises, L.P.	0.60% of Assets	\$36,197,728	\$217,186	0.60%

As of October 31, 2019

Name	Fee Schedule	Market Value	Estimated Fee Value	Estimated Fee
Core Fixed Income		\$89,703,267		
IR&M Core Bonds	0.25% of First 50.0 Mil, 0.20% of Next 50.0 Mil, 0.15% Thereafter	\$59,289,065	\$143,578	0.24%
Lord Abbett Short Duration Credit Trust II	0.19% of Assets	\$30,414,201	\$57,787	0.19%
Value Added Fixed Income		\$114,503,826		
Eaton Vance High Yield	0.42% of Assets	\$21,986,678	\$92,344	0.42%
THL Bank Loan Select Fund	0.40% of Assets	\$31,263,322	\$125,053	0.40%
Franklin Templeton Emerging Market Bonds	0.99% of Assets	\$20,561,210	\$203,556	0.99%
Manulife Strategic Fixed Income	0.40% of Assets	\$30,592,617	\$122,370	0.40%
Mesirow High Yield	0.40% of Assets	\$10,100,000	\$40,400	0.40%

Total Retirement Association

As of October 31, 2019

Note: The value is based on June 30, 2019 FMV.

Private Equity	Commitment	Total Contributions	Total Distributions	Adjusted Value
Ascend Ventures II, L.P.	2,500,000	2,324,355	925,962	58,680
Ascent Venture Partners IV, L.P.	2,500,000	2,502,219	388,970	39,975
Ascent Venture Partners V, L.P.	5,000,000	5,104,731	3,432,862	4,273,395
Audax Mezzanine Fund IV, L.P.	10,000,000	4,175,783	1,328,097	3,216,997
Charles River Partnership XI, L.P.	1,839,000	1,820,323	1,996,788	145,112
Charlesbank Technology Opportunities Fund, L.P.	12,000,000	0	0	0
DN Partners II, L.P.	5,000,000	2,362,034	0	1,622,921
Euro Choice V, L.P.	5,048,004	5,688,459	2,345,992	5,173,768
FS Equity Partners VIII, L.P.	12,000,000	0	0	0
Globespan Capital Partners V, L.P.	5,000,000	4,852,500	8,008,564	2,884,117
HarbourVest Partners Co-Investment Fund V, L.P.	12,000,000	1,200,000	0	1,011,070
Ironsides Direct Investment Fund V, L.P.	12,000,000	8,155,144	871,982	7,877,735
Landmark Equity Partners XIV, L.P.	6,000,000	6,288,437	6,612,813	1,031,434
Leeds Equity Partners IV, L.P.	5,185,562	5,089,327	6,224,435	10,390
Leeds Equity Partners V, L.P.	2,500,000	3,573,083	3,980,028	1,608,898
Lexington Capital Partners VII, L.P.	10,000,000	10,556,021	12,912,250	2,639,958
LLR Equity Partners V, L.P.	12,000,000	4,800,000	433,003	4,631,740
Mesirow Financial Capital Partners IX, L.P.	4,000,000	3,840,731	1,897,056	223,461
Ridgemont Equity Partners III, L.P.	12,000,000	0	0	0
Rimco Production Company, Inc	2,000,000	2,000,000	7,486,401	1
Searchlight Capital III, L.P.	12,000,000	0	0	0
Siguler Guff Distressed Opportunities Fund III, L.P.	6,000,000	5,820,000	8,197,030	939,347
Summit Partners Growth Equity Fund IX, L.P.	10,000,000	7,685,000	997,650	8,721,039
TRG Growth Partnership II, L.P.	7,500,000	7,450,399	7,463,445	1,141,155
Trilantic Capital Partners VI (North America), L.P.	12,000,000	2,545,979	0	2,351,079
Wellspring Capital Partners VI, L.P.	12,000,000	3,402,317	0	3,101,445
Total Plymouth County - PE	198,072,566	101,236,843	75,503,329	52,703,717



Total Retirement Association

As of October 31, 2019

Note: The value is based on June 30, 2019 FMV.

Real Assets	Commitment	Total Contributions	Total Distributions	Adjusted Value
Basalt Infrastructure Partners II	10,000,000	5,610,581	49,561	5,686,569
BTG Pactual Global Timberland Resources Fund, LLC	4,343,599	5,043,536	229,998	3,089,992
Global Infrastructure Partners III, L.P.	10,000,000	8,196,596	788,954	8,229,194
Global Infrastructure Partners IV, L.P.	10,000,000	0	0	0
IFM Global Infrastructure (U.S.), L.P.	35,000,000	20,000,000	119,615	22,095,987
JPMorgan Global Maritime Investment	10,000,000	9,186,014	938,504	6,243,947
Domain Timbervest Partners III, L.P.	5,000,000	5,000,000	1,179,000	5,254,225
Total Plymouth County - RA	84,343,599	53,036,727	3,305,633	50,599,914

Real Estate	Commitment	Total Contributions	Total Distributions	Adjusted Value
1921 Realty, Inc.	5,000,000	5,378,194	0	765,556
AEW Partners Real Estate Fund VIII, L.P.	25,000,000	13,152,392	2,840,603	11,428,958
Berkshire Value Fund V, L.P.	9,000,000	0	0	0
Carlyle Realty Partners VIII, L.P.	18,000,000	1,911,908	1,650	2,367,090
DSF Capital Partners IV, L.P.	5,000,000	5,000,000	5,997,885	9,053
DSF Multi-Family Real Estate Fund III, L.P.	15,000,000	15,499,746	1,055,730	15,993,849
Invesco Equity Real Estate Securities Trust	22,000,000	23,908,825	27,000,000	834,225
JPMorgan Strategic Property	27,000,000	27,000,000	0	27,533,773
New Boston Institutional Fund VII, L.P.	5,000,000	3,012,998	3,893,905	130,573
Real Estate International Partnership Fund I, L.P.	15,000,000	12,674,617	10,772,161	2,178,911
Rockpoint Real Estate Fund VI, L.P.	9,000,000	0	0	0
TA Realty Core Property Fund, L.P.	25,000,000	25,000,000	322,844	28,006,971
Total Plymouth County - RE	180,000,000	132,538,681	51,884,778	89,248,959

Note: The value for Invesco Equity Real Estate Securities Trust, IFM Global Infrastructure, and JPMorgan Strategic Property is as of October 31, 2019.



As of October 31, 2019

Cash Flow Summary
Quarter Ending October 31, 2019

	Beginning Market Value	Contributions	Withdrawals	Net Cash Flow	Ending Market Value
1921 Realty, Inc	\$765,556	\$0	\$0	\$0	\$765,556
ABS Emerging Markets	\$22,422,766	\$5,000,000	\$0	\$5,000,000	\$26,847,999
ABS Offshore SPC - Global Segregated Portfolio	\$21,514,775	\$0	-\$54,354	-\$54,354	\$21,763,695
AEW Partners Real Estate VIII	\$11,012,598	\$1,423,111	-\$569,883	\$853,228	\$12,282,186
Ascend Ventures II	\$61,532	\$0	\$0	\$0	\$58,680
Ascent Ventures IV	\$40,167	\$0	\$0	\$0	\$39,975
Ascent Ventures V	\$4,255,389	\$0	\$0	\$0	\$4,273,395
Audax Mezzanine Debt IV	\$3,103,932	\$440,639	-\$579,919	-\$139,281	\$3,077,716
Basalt Infrastructure Partners II	\$5,469,850	\$890,297	\$0	\$890,297	\$6,576,866
Boston Company Small Cap Growth	\$51,214,556	\$0	-\$56,259	-\$56,259	\$47,316,466
BTG Pactual Global Timberland Resources	\$3,043,232	\$0	\$0	\$0	\$3,089,992
Carlyle Realty Partners VIII	\$1,465,438	\$845,255	-\$1,007	\$844,248	\$3,211,338
Cash	\$40,405,258	\$0	-\$28,306,100	-\$28,306,100	\$12,099,158
Charles River Partnership XI	\$145,052	\$0	\$0	\$0	\$145,112
Copper Rock Emerging Markets Small Cap	\$10,832,352	\$0	-\$37,243	-\$37,243	\$10,220,674
Copper Rock International Small Cap	\$35,792,398	\$0	-\$104,466	-\$104,466	\$34,448,630
DN Partners II, LP	\$1,627,979	\$13,807	\$0	\$13,807	\$1,636,728
Driehaus Emerging Markets Growth	\$26,275,510	\$0	-\$35,525	-\$35,525	\$25,744,048
DSF Capital Partners IV	\$16,359	\$0	\$0	\$0	\$9,053
DSF Multi-Family Real Estate Fund III	\$15,518,437	\$0	-\$173,611	-\$173,611	\$15,820,238
Eaton Vance High Yield	\$21,563,131	\$0	-\$182,650	-\$182,650	\$21,935,544
Entrust Special Opportunities Fund III, Ltd.	\$27,352,278	\$0	\$0	\$0	\$26,216,231
EnTrustPermal Special Opportunities Evergreen Fund, Ltd.	\$6,456,658	\$2,364,706	\$0	\$2,364,706	\$9,227,595
Euro Choice V Programme	\$5,000,943	\$0	\$0	\$0	\$5,173,768
First Eagle Global Value Fund	\$20,044,401	\$0	-\$37,584	-\$37,584	\$20,212,722
Fisher Midcap Value	\$44,076,162	\$0	-\$84,874	-\$84,874	\$43,539,526

Total Retirement Association

As of October 31, 2019

	Beginning Market Value	Contributions	Withdrawals	Net Cash Flow	Ending Market Value
Franklin Templeton Emerging Market Bonds	\$32,440,950	\$0	-\$11,570,255	-\$11,570,255	\$20,416,412
FS Equity Partners VIII, L.P.	--	\$965,354	\$0	\$965,354	\$965,354
Global Infrastructure Partners III	\$8,260,304	\$266,973	-\$119,902	\$147,071	\$8,376,265
Global Infrastructure Partners IV, L.P.	--	\$43,750	\$0	\$43,750	\$43,750
Globespan Capital V	\$2,593,945	\$0	\$0	\$0	\$2,884,117
HarbourVest Partners Co-Investment V	\$1,200,000	\$0	\$0	\$0	\$1,011,070
HGK TS International Equity	\$30,036,727	\$0	-\$109,203	-\$109,203	\$30,139,132
IFM Global Infrastructure	\$21,795,049	\$0	\$0	\$0	\$22,275,500
Invesco Equity Real Estate Securities Trust	\$770,593	\$0	-\$1,515	-\$1,515	\$826,789
IR&M Core Bonds	\$57,979,181	\$0	-\$35,701	-\$35,701	\$59,088,354
Ironsides Direct Investment Fund V, L.P.	\$7,437,168	\$4,057,696	-\$22,351	\$4,035,345	\$11,913,080
JP Morgan Global Maritime Investment	\$6,344,048	\$0	\$0	\$0	\$6,243,947
JPMorgan Strategic Property	\$27,296,193	\$0	-\$68,452	-\$68,452	\$27,418,574
KBI Master Account	\$50,117,909	\$0	-\$79,303	-\$79,303	\$49,413,739
Kopernik Global All Cap Fund	\$19,022,074	\$0	-\$36,892	-\$36,892	\$18,034,862
Landmark Equity Partners XIV	\$1,028,077	\$0	-\$56,845	-\$56,845	\$974,589
Lee Munder Global Multi-Cap Strategy	\$28,938,564	\$0	-\$32,008	-\$32,008	\$28,663,847
Leeds Equity Partners IV	\$10,302	\$0	\$0	\$0	\$10,390
Leeds Equity Partners V	\$2,139,649	\$0	\$0	\$0	\$1,608,898
Lexington Capital Partners VII	\$2,605,676	\$0	-\$210,332	-\$210,332	\$2,429,626
LLR Equity Partners V, LP.	\$4,543,057	\$1,440,000	\$0	\$1,440,000	\$6,071,740
LMCG Emerging Markets	\$49,501,232	\$0	-\$75,648	-\$75,648	\$46,946,006
LMCG Small Cap Value	\$66,855,958	\$0	-\$149,650	-\$149,650	\$67,148,279
Lord Abbett Short Duration Credit Trust II	\$0	\$30,000,000	-\$9,589	\$29,990,411	\$30,295,858
Manulife Strategic Fixed Income	\$0	\$30,000,000	-\$20,260	\$29,979,740	\$30,374,269
Mesirow Financial Capital Partners IX, LP	\$223,454	\$0	\$0	\$0	\$223,461
Mesirow Financial International Real Estate Fund I	\$2,189,009	\$0	\$0	\$0	\$2,178,911
Mesirow High Yield	--	\$10,000,000	-\$6,737	\$9,993,263	\$10,140,000
New Boston Institutional Fund, LP VII	\$124,296	\$0	-\$67,533	-\$67,533	\$63,040

Total Retirement Association

As of October 31, 2019

	Beginning Market Value	Contributions	Withdrawals	Net Cash Flow	Ending Market Value
Old Farm Partners Master Fund, L.P.	\$4,971,102	\$0	\$0	\$0	\$4,926,707
PRISA I	\$1,751,815	\$0	-\$2,187,349	-\$2,187,349	--
Rhumblin Russell 1000 Growth	\$34,576,782	\$0	-\$4,143	-\$4,143	\$35,092,144
Rhumblin Russell 1000 Value	\$35,648,319	\$0	-\$4,190	-\$4,190	\$36,131,611
RIMCO Royalty Partners, LP	\$1	\$0	\$0	\$0	\$1
Siguler Guff Distressed Opportunities Fund III, LP	\$922,575	\$0	-\$15,224	-\$15,224	\$924,123
Summit Partners Growth Equity Fund IX	\$7,835,948	\$720,000	-\$1,224,096	-\$504,096	\$8,216,943
TA Realty Core Property Fund, L.P.	\$27,153,280	\$0	\$0	\$0	\$28,006,971
THL Bank Loan Select Fund	\$36,273,500	\$0	-\$36,455	-\$36,455	\$36,480,063
Timbervest Partners III, LP	\$5,147,941	\$0	-\$252,229	-\$252,229	\$5,001,996
TRG Growth Partnership II	\$1,181,037	\$0	\$0	\$0	\$1,141,155
Trilantic Capital Partners VI, L.P.	\$2,404,343	\$361,150	\$0	\$361,150	\$2,712,229
Wellington Durable Enterprises, L.P.	\$35,151,979	\$0	-\$53,886	-\$53,886	\$35,856,280
Wellspring Capital Partners VI	\$3,169,101	\$0	\$0	\$0	\$3,101,445
Total	\$999,117,848	\$88,832,738	-\$46,673,223	\$42,159,515	\$1,039,504,420

Appendices

INTERIM REPORT

Plymouth County Retirement Association
Private Markets Program
June 30, 2019



M E K E T A I N V E S T M E N T G R O U P

BOSTON
MASSACHUSETTS

CHICAGO
ILLINOIS

MIAMI
FLORIDA

NEW YORK
NEW YORK

PORTLAND
OREGON

SAN DIEGO
CALIFORNIA

LONDON
UNITED KINGDOM

Private Equity Program

Real Assets Program

Real Estate Program

Appendices

The purpose of this document is to offer a review of the Retirement Association's aggregate private market investments.

As of June 30, 2019, the Retirement Association had committed \$456.1 million to 50 partnerships. The reported fair value of those 50 partnerships, in aggregate, was \$209.5 million at the end of the second quarter.

Aggregate Private Equity Program ¹		Aggregate Real Assets Program ¹		Aggregate Real Estate Program ¹	
Number of Partnerships	27	Number of Partnerships	7	Number of Partnerships	16
Committed Capital²	\$179.1 million	Committed Capital²	\$70.4 million	Committed Capital	\$210.0 million
Capital Called	\$119.0 million	Capital Called	\$53.0 million	Capital Called	\$184.1 million
Distributions	\$90.9 million	Distributions	\$3.3 million	Distributions	\$138.8 million
Reported Value	\$52.6 million	Reported Value	\$50.3 million	Reported Value	\$106.7 million
Total Value Multiple	1.2x	Total Value Multiple	1.0x	Total Value Multiple	1.3x
Net IRR	4.6%	Net IRR	0.3%	Net IRR	5.2%
Q2 2019 IRR³	2.8%	Q2 2019 IRR³	4.2%	Q2 2019 IRR³	1.3%
Trailing Year IRR³	7.2%	Trailing Year IRR³	7.0%	Trailing Year IRR³	1.0%

¹ Throughout this report, numbers may not sum due to rounding.

² Some partnership commitments were made in foreign currency. This total reflects committed capital in U.S. dollars, adjusted for foreign currency exchange rates, as of the report date.

³ IRR is net of Meketa Investment Group fees, but gross of prior advisory fees.

The Retirement Association made no new commitments during the second quarter.

In aggregate, approximately \$4.1 million was called by the underlying managers from the Retirement Association during the second quarter:

- Wellspring Capital Partners VI, L.P. called \$1.9 million primarily to fund the remainder of its investments in the *Center for Diagnostic Imaging* and *Paragon*, investments which were initially funded during the first quarter of 2019. The remainder of the capital call is related to interest incurred on the Fund's credit facility that was used to finance these investments. The Retirement Association's commitment is now 28% called as of the end of the second quarter.
- HarbourVest Partners Co-Investment Fund V, L.P. called \$1.2 million to fund new direct co-investments in *Information Resources* (data and analytics warehouse for the CPG and retail industries), *Link Mobility* (European B2C mobile messaging), *McLarens* (Insurance and claims management services), and *SK Shipping* (South Korea's largest wet bulk shipping company). The Retirement Association's commitment is now 10% called as of the end of the second quarter.
- Summit Partners Growth Equity Fund IX, L.P. called \$0.6 million to fund new investments in *VeriShip, Inc.* (SaaS spend management and payments platform for corporate shippers throughout the United States) and *Patriot Growth Partners, LLC.* (Insurance services firm). The Retirement Association's commitment is now 77% called as of the end of the second quarter.

Distributions received by the Retirement Association from the underlying partnerships during the second quarter totaled \$1.6 million:

- Globespan Capital Partners V, L.P. distributed \$0.5 million in proceeds from the Fund's disposition of its holdings in *Redfin* (NASDAQ: *RDFN*) (real estate brokerage firm), and *Roku* (NASDAQ: *ROKU*) (manufacturer of digital media devices for streaming content). Including this distribution, the Fund has sold 90% of its holdings in Redfin at an average share price of \$21.06, and 100% of its holdings in Roku at an average share price of \$90.21. The Fund has generated a 0.1x DPI¹ and a 1.3x TVPI² as of the end of the second quarter.
- Leeds Equity Partners V, L.P. distributed \$0.5 million in proceeds from the sale of *Project Management Academy*, and the debt recapitalization of *Prosci, Inc.*, a subsidiary of *Project Management Academy* that was spun out during the sale and is now held in the Fund's portfolio at cost. The Fund has generated a 1.1x DPI and 1.6x TVPI as of the end of the second quarter.

¹ DPI multiple represents the total dollar amount distributed to investors divided by the total amount of dollars invested by the fund

² TVPI multiple represents the total value of portfolio investments (aggregate realized value of investments plus aggregate unrealized value of investments) divided by the total amount of dollars invested by the fund

During the second quarter of 2019, the Retirement Association made one new commitment of \$10 million to Global Infrastructure Partners IV, L.P.

In aggregate, \$2.9 million was called by the underlying managers from the Retirement Association during the second quarter:

- Basalt Infrastructure Partners II called \$2.5 million to fund new investments in *Manx Telecom, plc*, and *Caronte & Tourist, SpA*. The Retirement Association's commitment is now 55.6% called as of the end of the second quarter.
- Global Infrastructure Partners III, L.P. called \$0.4 million to fund new investments in *Hornsea 1*, *Clearway Energy Group*, *Medallion Gathering & Processing*, and *Borkum Riffgrund 2*. The Retirement Association's commitment is now 72.7% called as of the end of the second quarter.

Distributions received by the Retirement Association from the underlying partnerships during the second quarter totaled \$0.2 million:

- Global Infrastructure Partners III, L.P. distributed \$0.1 million of dividend proceeds from *Nuovo Trasporto Viaggiatori, SpA*, *Naturgy Energy Group*, and *EnLink Midstream*. The Fund has generated a 0.1x DPI¹ and 1.1x TVPI² as of the end of the second quarter.
- Domain Timbervest Partners III, L.P. distributed \$0.1 million from the sale of timberland assets. The Fund has generated a 0.2x DPI and 1.3x TVPI as of the end of the second quarter.

¹ DPI multiple represents the total dollar amount distributed to investors divided by the total amount of dollars invested by the fund

² TVPI multiple represents the total value of portfolio investments (aggregate realized value of investments plus aggregate unrealized value of investments) divided by the total amount of dollars invested by the fund

During the second quarter of 2019, the Retirement Association did not make any new commitments.

In aggregate, \$7.5 million was called by the underlying managers from the Retirement Association during the second quarter:

- DSF Multi-Family Real Estate Fund III, L.P. called \$4.1 million to fund the purchase of a 1,020-unit apartment community in Framingham, Massachusetts. The Retirement Association's commitment is now 100% called as of the end of the second quarter.
- AEW Partners Real Estate Fund VIII, L.P. called \$3.4 million to fund the purchase of a site to develop a 109-unit Class A multi-family building in Chicago, Illinois, a 175,500 square-foot Class A industrial warehouse in Denver, Colorado, a 163-unit independent living, assisted living, and memory care community in Evanston, Illinois, a 100,000 square foot historic bank building in San Francisco, California, as well as various development and renovation costs at existing properties in the portfolio. The Retirement Association's commitment is now 47% called as of the end of the second quarter.

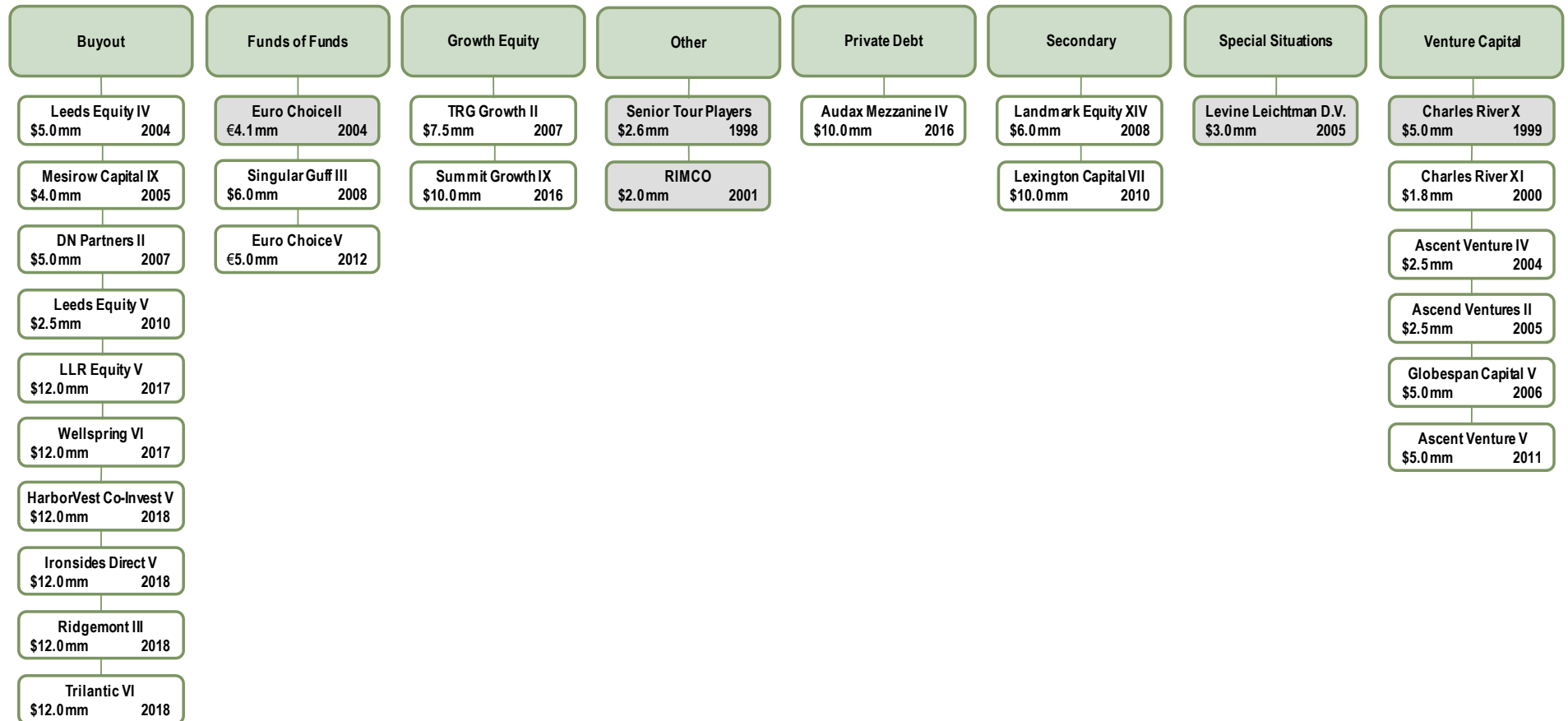
Distributions received by the Retirement Association from the underlying partnerships during the second quarter totaled \$35.8 million:

- PRISA I distributed \$33.3 million after the Retirement Association elected to fully redeem its position in the Fund. The distribution represents 95% of the Retirement Association's prior quarter balance. The Fund has generated a 1.9x DPI¹ and a 2.1x TVPI² as of the end of the second quarter.
- AEW Partners Real Estate Fund VIII, L.P. distributed \$1.4 million from the sale of a property. The Fund has generated a 0.2x DPI and a 1.1x TVPI as of the end of the second quarter.
- Real Estate International Partnership Fund I, L.P. distributed \$0.5 million from proceeds received from various portfolio investments. The Fund has generated a 0.8x DPI and 1.0x TVPI as of the end of the second quarter.

¹ DPI multiple represents the total dollar amount distributed to investors divided by the total amount of dollars invested by the fund

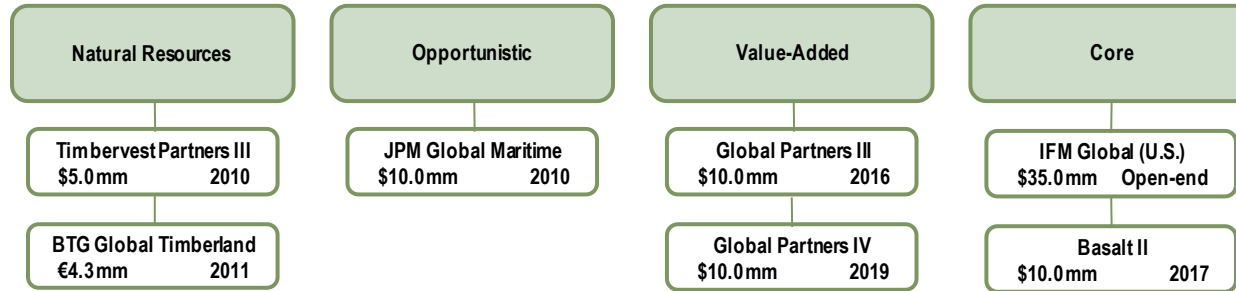
² TVPI multiple represents the total value of portfolio investments (aggregate realized value of investments plus aggregate unrealized value of investments) divided by the total amount of dollars invested by the fund

As of November 15, 2019

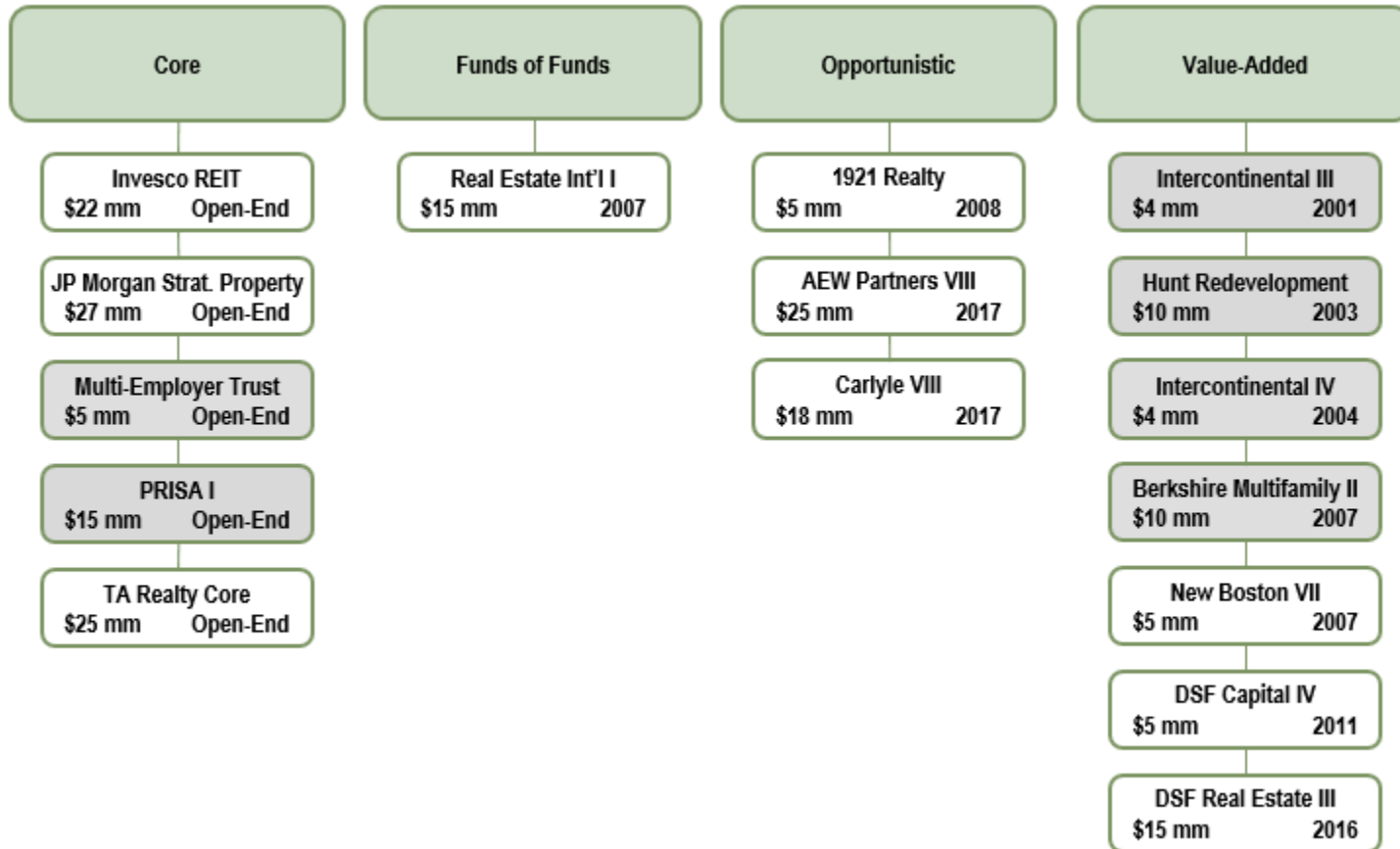


- White box: Current investment.
- Gray box: Liquidated Investment.

As of November 15, 2019



- White box: Current investment.
- Green box: Investment made subsequent to quarter end and, as such, is not included in any other section of this report.



- White box: Current Investment.
- Gray box: Liquidated Investment.

Aggregate Private Equity Program Partnership Roster

	Vintage Year	Commitment (\$ mm)	Committed (%)	Reported Fair Value (\$ mm)	Reported Fair Value (%)
Total Program		179.1	100	52.6	100
Fund of Funds		17.6	10	6.1	12
Euro Choice II, L.P. ¹	2004	5.5	3	0.0	0
Siguler Guff Distressed Opportunities Fund III, L.P.	2008	6.0	3	0.9	2
Euro Choice V, L.P. ²	2012	6.1	3	5.2	10
Secondary		16.0	9	3.7	7
Landmark Equity Partners XIV, L.P.	2008	6.0	3	1.0	2
Lexington Capital Partners VII, L.P.	2009	10.0	6	2.6	5
Buyout		88.5	49	22.3	42
Leeds Equity Partners IV, L.P.	2004	5.0	3	0.0	< 1
Mesirow Financial Capital Partners IX, L.P.	2005	4.0	2	0.2	< 1
DN Partners II, L.P.	2007	5.0	3	1.6	3
Leeds Equity Partners V, L.P.	2010	2.5	1	1.6	3
LLR Equity Partners V, L.P.	2017	12.0	7	4.6	9
Wellspring Capital Partners VI, L.P.	2017	12.0	7	3.1	6
HarbourVest Partners Co-Investment Fund V, L.P.	2018	12.0	7	1.0	2
Ironsides Direct Investment Fund V, L.P.	2018	12.0	7	7.9	15
Ridgemont Equity Partners III, L.P.	2018	12.0	7	-0.1	0
Trilantic Capital Partners VI (North America), L.P.	2018	12.0	7	2.4	4
Special Situations		3.0	2	0.0	0
Levine Leichtman Capital Partners Deep Value Fund, L.P.	2005	3.0	2	0.0	0
Private Debt		10.0	6	3.2	6
Audax Mezzanine Fund IV, L.P.	2016	10.0	6	3.2	6

¹ In 2004, €4.1 million was committed to the Partnership. The \$5.5 million is an estimated amount based on the contributed capital and unfunded commitment as of 6/30/2019

² In 2013, €5.0 million was committed to the Partnership. The \$6.1 million is an estimated amount based on the contributed capital and unfunded commitment as of 6/30/2019

Aggregate Private Equity Program Partnership Roster

	Vintage Year	Commitment (\$ mm)	Committed (%)	Reported Fair Value (\$ mm)	Reported Fair Value (%)
Venture Capital		21.8	12	7.4	14
Charles River Partnership X, L.P.	1999	5.0	3	0.0	0
Charles River Partnership XI, L.P.	2000	1.8	1	0.1	< 1
Ascent Venture Partners IV, L.P.	2004	2.5	1	0.0	< 1
Ascend Ventures II, L.P.	2005	2.5	1	0.1	< 1
Globespan Capital Partners V, L.P.	2006	5.0	3	2.9	5
Ascent Venture Partners V, L.P.	2011	5.0	3	4.3	8
Growth Equity		17.5	10	9.9	19
TRG Growth Partnership II, L.P.	2007	7.5	4	1.1	2
Summit Partners Growth Equity Fund IX, L.P.	2016	10.0	6	8.7	17
Other		4.6	3	0.0	0
Senior Tour Players, L.P.	1998	2.6	1	0.0	0
Rimco Production Company, Inc	2001	2.0	1	0.0	0

Aggregate Real Assets Program Partnership Roster

	Vintage Year	Commitment (\$ mm)	Committed (%)	Reported Fair Value (\$ mm)	Reported Fair Value (%)
Total Program		70.4	100	50.3	100
Core		30.0	43	27.5	55
IFM Global Infrastructure (U.S.), L.P.	2009	20.0	28	21.8	43
Basalt Infrastructure Partners II	2017	10.0	14	5.7	11
Natural Resources		10.4	15	8.3	17
Domain Timbervest Partners III, L.P.	2010	5.0	7	5.3	10
BTG Pactual Global Timberland Resources Fund, LLC ¹	2011	5.4	8	3.1	6
Opportunistic		10.0	14	6.2	12
JPMorgan Global Maritime Investment	2010	10.0	14	6.2	12
Value-Added		20.0	28	8.2	16
Global Infrastructure Partners III, L.P.	2016	10.0	14	8.2	16
Global Infrastructure Partners IV, L.P.	2019	10.0	14	0.0	0

¹ In 2010, €4.3 million was committed to the Partnership. The \$5.0 million is an estimated amount based on the contributed capital and unfunded commitment as of June 30, 2019

Aggregate Real Estate Program Partnership Roster

	Vintage Year	Commitment (\$ mm)	Committed (%)	Reported Fair Value (\$ mm)	Reported Fair Value (%)
Total Program		210.0	100	106.7	100
Fund of Funds		15.0	7	2.2	2
Real Estate International Partnership Fund I, L.P.	2007	15.0	7	2.2	2
Core		94.0	45	73.8	69
PRISA I	1970	15.0	7	2.2	2
Multi-Employer Property Trust	1982	5.0	2	0.0	0
JPMorgan Strategic Property	1998	27.0	13	27.3	26
Invesco Equity Real Estate Securities Trust	2005	22.0	10	16.3	15
TA Realty Core Property Fund, L.P.	2018	25.0	12	28.0	26
Opportunistic		48.0	23	14.6	14
1921 Realty, Inc.	2008	5.0	2	0.8	1
AEW Partners Real Estate Fund VIII, L.P.	2017	25.0	12	11.4	11
Carlyle Realty Partners VIII, L.P.	2017	18.0	9	2.4	2
Value-Added		53.0	25	16.1	15
Intercontinental Real Estate Investment Fund III, LLC	2001	4.0	2	0.0	0
Hunt Redevelopment and Renovation Fund, LLC	2003	10.0	5	0.0	0
Intercontinental Real Estate Investment Fund IV, LLC	2004	4.0	2	0.0	0
Berkshire Multifamily Value Fund II, L.P.	2007	10.0	5	0.0	0
New Boston Institutional Fund VII, L.P.	2007	5.0	2	0.1	< 1
DSF Capital Partners IV, L.P.	2011	5.0	2	0.0	< 1
DSF Multi-Family Real Estate Fund III, L.P.	2016	15.0	7	16.0	15

Aggregate Program Performance Summary

Investment Strategy	Capital Committed (\$ mm)	Total Contributions Paid to Date ¹ (\$ mm)	Unfunded Commitment ² (\$ mm)	Total Distributions Received to Date (\$ mm)	Reported Fair Value (\$ mm)	Reported Fair Value Plus Distributions (\$ mm)	Net IRR ³ (%)	Inv. Multiple ⁴ (x)
Total Program	179.1	118.8	65.9	90.9	52.6	143.5	4.6	1.2
Vintage Year 1998	2.6	2.7	0.0	0.1	0.0	0.1	-25.5	0.0
Senior Tour Players, L.P. Other	2.6	2.7	0.0	0.1	0.0	0.1	-25.5	0.0
Vintage Year 1999	5.0	4.4	0.6	2.2	0.0	2.2	-14.9	0.5
Charles River Partnership X, L.P. Venture Capital	5.0	4.4	0.6	2.2	0.0	2.2	-14.9	0.5
Vintage Year 2000	1.8	1.8	0.0	2.0	0.1	2.1	3.5	1.2
Charles River Partnership XI, L.P. Venture Capital	1.8	1.8	0.0	2.0	0.1	2.1	3.5	1.2
Vintage Year 2001	2.0	2.0	0.0	7.5	0.0	7.5	29.1	3.7
Rimco Production Company, Inc Other	2.0	2.0	0.0	7.5	0.0	7.5	29.1	3.7
Vintage Year 2004	13.0	13.3	0.4	14.7	0.1	14.7	2.0	1.1
Ascent Venture Partners IV, L.P. Venture Capital	2.5	2.5	0.0	0.4	0.0	0.4	-30.7	0.2
Euro Choice II, L.P. ⁵ Fund of Funds	5.5	5.5	0.4	8.0	0.0	8.0	7.0	1.5
Leeds Equity Partners IV, L.P. Buyout	5.0	5.1	0.0	6.2	0.0	6.2	3.2	1.2
Vintage Year 2005	9.5	11.0	0.3	7.9	0.3	8.2	-5.3	0.7
Ascend Ventures II, L.P. Venture Capital	2.5	2.3	0.2	0.9	0.1	1.0	-8.8	0.4
Levine Leichtman Capital Partners Deep Value Fund, L.P. Special Situations	3.0	4.9	0.0	5.1	0.0	5.1	1.3	1.0
Mesirow Financial Capital Partners IX, L.P. Buyout	4.0	3.8	0.2	1.9	0.2	2.1	-7.1	0.6

¹ In certain instances, Total Contributions Paid to Date may exceed Capital Committed as certain partnerships may call fees outside of commitment and most partnerships reserve a limited right to recycle capital and/or recall distributions.

² Unfunded Commitment amounts are an approximation due to the inclusion of recallable distributions.

³ The Net IRR calculations were performed by Meketa Investment Group. Total Program IRR is net of fees, expenses, and carried interest for each partnership and net of Meketa Investment Group fees. Partnership and Vintage Year IRRs are net of partnership fees but gross of Meketa Investment Group fees.

⁴ The Inv. Multiple calculations were performed by Meketa Investment Group. Total Program Inv. Multiple is net of fees, expenses, and carried interest for each partnership and net of Meketa Investment Group fees. Partnership and Vintage Year Inv. Multiples are net of partnership fees but gross of Meketa Investment Group fees.

⁵ In 2004, €4.1 million was committed to the Partnership. The \$5.5 million is an estimated amount based on the contributed capital and unfunded commitment as of 6/30/2019.



Aggregate Program Performance Summary

	Investment Strategy	Capital Committed (\$ mm)	Total Contributions Paid to Date ¹ (\$ mm)	Unfunded Commitment ² (\$ mm)	Total Distributions Received to Date (\$ mm)	Reported Fair Value (\$ mm)	Reported Fair Value Plus Distributions (\$ mm)	Net IRR ³ (%)	Inv. Multiple ⁴ (x)
Vintage Year 2006		5.0	4.9	0.1	8.0	2.9	10.9	13.1	2.2
	Globespan Capital Partners V, L.P.	5.0	4.9	0.1	8.0	2.9	10.9	13.1	2.2
Vintage Year 2007		12.5	9.8	2.7	7.5	2.8	10.2	0.8	1.0
	DN Partners II, L.P.	5.0	2.4	2.6	0.0	1.6	1.6	-4.3	0.7
	TRG Growth Partnership II, L.P.	7.5	7.5	0.1	7.5	1.1	8.6	3.1	1.2
Vintage Year 2008		12.0	12.1	0.2	14.8	2.0	16.8	8.8	1.4
	Landmark Equity Partners XIV, L.P.	6.0	6.3	0.0	6.6	1.0	7.6	6.4	1.2
	Siguler Guff Distressed Opportunities Fund III, L.P.	6.0	5.8	0.2	8.2	0.9	9.1	10.1	1.6
Vintage Year 2009		10.0	10.6	0.0	12.9	2.6	15.6	14.3	1.5
	Lexington Capital Partners VII, L.P.	10.0	10.6	0.0	12.9	2.6	15.6	14.3	1.5
Vintage Year 2010		2.5	3.6	0.0	4.0	1.6	5.6	12.9	1.6
	Leeds Equity Partners V, L.P.	2.5	3.6	0.0	4.0	1.6	5.6	12.9	1.6
Vintage Year 2011		5.0	5.1	0.1	3.4	4.3	7.7	8.7	1.5
	Ascent Venture Partners V, L.P.	5.0	5.1	0.1	3.4	4.3	7.7	8.7	1.5
Vintage Year 2012		6.1	5.7	0.9	2.3	5.2	7.5	8.8	1.3
	Euro Choice V, L.P. ⁶	6.1	5.7	0.9	2.3	5.2	7.5	8.8	1.3
Vintage Year 2016		20.0	11.9	8.1	2.3	11.9	14.3	20.7	1.2
	Audax Mezzanine Fund IV, L.P.	10.0	4.2	5.8	1.3	3.2	4.5	8.0	1.1
	Summit Partners Growth Equity Fund IX, L.P.	10.0	7.7	2.3	1.0	8.7	9.7	29.6	1.3
Vintage Year 2017		24.0	8.2	16.2	0.4	7.7	8.2	NM	1.0
	LLR Equity Partners V, L.P.	12.0	4.8	7.6	0.4	4.6	5.1	NM	1.1

⁶ In 2013, €5.0 million was committed to the Partnership. The \$6.1 million is an estimated amount based on the contributed capital and unfunded commitment as of 6/30/2019.

Aggregate Program Performance Summary

		Capital Committed (\$ mm)	Total Contributions Paid to Date ¹ (\$ mm)	Unfunded Commitment ² (\$ mm)	Total Distributions Received to Date (\$ mm)	Reported Fair Value (\$ mm)	Reported Fair Value Plus Distributions (\$ mm)	Net IRR ³ (%)	Inv. Multiple ⁴ (x)
Wellspring Capital Partners VI, L.P.	Buyout	12.0	3.4	8.6	0.0	3.1	3.1	NM	0.9
Vintage Year 2018		48.0	11.9	36.1	0.9	11.1	12.0	NM	1.0
HarbourVest Partners Co-Investment Fund V, L.P.	Buyout	12.0	1.2	10.8	0.0	1.0	1.0	NM	0.8
Ironsides Direct Investment Fund V, L.P.	Buyout	12.0	8.2	3.8	0.9	7.9	8.7	NM	1.1
Ridgemont Equity Partners III, L.P.	Buyout	12.0	0.0	12.0	0.0	-0.1	-0.1	NA	NA
Trilantic Capital Partners VI (North America), L.P.	Buyout	12.0	2.5	9.4	0.0	2.4	2.4	NM	0.9

Aggregate Program Performance Summary

	Investment Strategy	Capital Committed (\$ mm)	Total Contributions Paid to Date ¹ (\$ mm)	Unfunded Commitment ² (\$ mm)	Total Distributions Received to Date (\$ mm)	Reported Fair Value (\$ mm)	Reported Fair Value Plus Distributions (\$ mm)	Net IRR ³ (%)	Inv. Multiple ⁴ (x)
Total Program		84.3	53.0	17.8	3.3	50.3	53.6	0.3	1.0
Total Closed-end		50.4	33.0	17.8	3.2	28.5	31.7	-1.2	1.0
Vintage Year 2010		15.0	14.2	1.1	2.1	11.5	13.6	-0.8	1.0
Domain Timbervest Partners III, L.P.	Natural Resources	5.0	5.0	0.0	1.2	5.3	6.4	4.0	1.3
JPMorgan Global Maritime Investment	Opportunistic	10.0	9.2	1.1	0.9	6.2	7.2	-5.6	0.8
Vintage Year 2011		5.4	5.0	0.4	0.2	3.1	3.3	-6.8	0.7
BTG Pactual Global Timberland Resources Fund, LLC ⁵	Natural Resources	5.4	5.0	0.4	0.2	3.1	3.3	-6.8	0.7
Vintage Year 2016		10.0	8.2	1.9	0.8	8.2	9.0	7.0	1.1
Global Infrastructure Partners III, L.P.	Value-Added	10.0	8.2	1.9	0.8	8.2	9.0	7.0	1.1
Vintage Year 2017		10.0	5.6	4.4	0.0	5.7	5.7	NM	1.0
Basalt Infrastructure Partners II	Core	10.0	5.6	4.4	0.0	5.7	5.7	NM	1.0
Vintage Year 2019		10.0	0.0	10.0	0.0	NA	NA	NA	NA
Global Infrastructure Partners IV, L.P.	Value-Added	10.0	0.0	10.0	0.0	NA	NA	NA	NA
Total Open-end		20.0	20.0	0.0	0.1	21.8	21.9	13.1	1.1
IFM Global Infrastructure (U.S.), L.P.	Core	20.0	20.0	0.0	0.1	21.8	21.9	13.1	1.1

¹ In certain instances, Total Contributions Paid to Date may exceed Capital Committed as certain partnerships may call fees outside of commitment and most partnerships reserve a limited right to recycle capital and/or recall distributions.

² Unfunded Commitment amounts are an approximation due to the inclusion of recallable distributions.

³ The Net IRR calculations were performed by Meketa Investment Group. Total Program IRR is net of fees, expenses, and carried interest for each partnership and net of Meketa Investment Group fees. Partnership and Vintage Year IRRs are net of partnership fees but gross of Meketa Investment Group fees.

⁴ The Inv. Multiple calculations were performed by Meketa Investment Group. Total Program Inv. Multiple is net of fees, expenses, and carried interest for each partnership and net of Meketa Investment Group fees. Partnership and Vintage Year Inv. Multiples are net of partnership fees but gross of Meketa Investment Group fees.

⁵ In 2010, €4.3 million was committed to the Partnership. The \$5.4 million is an estimated amount based on the contributed capital and unfunded commitment as of 6/30/2019



Aggregate Program Performance Summary

	Investment Strategy	Capital Committed (\$ mm)	Total Contributions Paid to Date ¹ (\$ mm)	Unfunded Commitment ² (\$ mm)	Total Distributions Received to Date (\$ mm)	Reported Fair Value (\$ mm)	Reported Fair Value Plus Distributions (\$ mm)	Net IRR ³ (%)	Inv. Multiple ⁴ (x)
Total Program		210.0	184.1	34.1	138.8	106.7	245.5	5.2	1.3
Total Closed-end		116.0	86.0	34.1	62.3	32.9	95.2	2.4	1.1
Vintage Year 2001		4.0	4.6	0.0	5.7	0.0	5.7	2.4	1.2
Intercontinental Real Estate Investment Fund III, LLC	Value-Added	4.0	4.6	0.0	5.7	0.0	5.7	2.4	1.2
Vintage Year 2003		10.0	9.0	1.9	11.7	0.0	11.7	5.1	1.3
Hunt Redevelopment and Renovation Fund, LLC	Value-Added	10.0	9.0	1.9	11.7	0.0	11.7	5.1	1.3
Vintage Year 2004		4.0	4.6	0.0	2.4	0.0	2.4	-8.0	0.5
Intercontinental Real Estate Investment Fund IV, LLC	Value-Added	4.0	4.6	0.0	2.4	0.0	2.4	-8.0	0.5
Vintage Year 2007		30.0	26.9	4.3	32.6	2.3	34.9	5.3	1.3
Berkshire Multifamily Value Fund II, L.P.	Value-Added	10.0	11.3	0.0	17.9	0.0	17.9	11.0	1.6
New Boston Institutional Fund VII, L.P.	Value-Added	5.0	3.0	2.0	3.9	0.1	4.0	5.7	1.3
Real Estate International Partnership Fund I, L.P.	Fund of Funds	15.0	12.7	2.3	10.8	2.2	13.0	0.4	1.0
Vintage Year 2008		5.0	5.4	0.0	0.0	0.8	0.8	-16.2	0.1
1921 Realty, Inc.	Opportunistic	5.0	5.4	0.0	0.0	0.8	0.8	-16.2	0.1
Vintage Year 2011		5.0	5.0	0.0	6.0	0.0	6.0	4.8	1.2
DSF Capital Partners IV, L.P.	Value-Added	5.0	5.0	0.0	6.0	0.0	6.0	4.8	1.2
Vintage Year 2016		15.0	15.5	0.0	1.1	16.0	17.0	7.7	1.1
DSF Multi-Family Real Estate Fund III, L.P.	Value-Added	15.0	15.5	0.0	1.1	16.0	17.0	7.7	1.1

¹ In certain instances, Total Contributions Paid to Date may exceed Capital Committed as certain partnerships may call fees outside of commitment and most partnerships reserve a limited right to recycle capital and/or recall distributions.

² Unfunded Commitment amounts are an approximation due to the inclusion of recallable distributions.

³ The Net IRR calculations were performed by Meketa Investment Group. Total Program IRR is net of fees, expenses, and carried interest for each partnership and net of Meketa Investment Group fees. Partnership and Vintage Year IRRs are net of partnership fees but gross of Meketa Investment Group fees.

⁴ The Inv. Multiple calculations were performed by Meketa Investment Group. Total Program Inv. Multiple is net of fees, expenses, and carried interest for each partnership and net of Meketa Investment Group fees. Partnership and Vintage Year Inv. Multiples are net of partnership fees but gross of Meketa Investment Group fees.



Aggregate Program Performance Summary

		Capital Committed (\$ mm)	Total Contributions Paid to Date ¹ (\$ mm)	Unfunded Commitment ² (\$ mm)	Total Distributions Received to Date (\$ mm)	Reported Fair Value (\$ mm)	Reported Fair Value Plus Distributions (\$ mm)	Net IRR ³ (%)	Inv. Multiple ⁴ (x)
Vintage Year 2017		43.0	15.1	27.9	2.8	13.8	16.6	NM	1.1
AEW Partners Real Estate Fund VIII, L.P.	Opportunistic	25.0	13.2	11.8	2.8	11.4	14.3	NM	1.1
Carlyle Realty Partners VIII, L.P.	Opportunistic	18.0	1.9	16.1	0.0	2.4	2.4	NM	1.2
Total Open-end		94.0	98.1	0.0	76.5	73.8	150.3	6.6	1.5
Invesco Equity Real Estate Securities Trust	Core	22.0	23.9	0.0	27.0	16.3	43.3	7.9	1.8
JPMorgan Strategic Property	Core	27.0	27.0	0.0	0.0	27.3	27.3	2.2	1.0
Multi-Employer Property Trust	Core	5.0	5.0	0.0	15.9	0.0	15.9	6.5	3.2
PRISA I	Core	15.0	17.2	0.0	33.3	2.2	35.5	5.3	2.1
TA Realty Core Property Fund, L.P.	Core	25.0	25.0	0.0	0.3	28.0	28.3	13.6	1.1

Open-end Real Estate Time-Weighted Performance

	2Q19 (%)	1 YR (%)	3 YR (%)	5 YR (%)	Since Inception (%)	Inception Date
Private Real Estate	1.1	7.3	6.2	NA	7.4	01/01/2016
Invesco Equity Real Estate Securities Trust	2.1	12.4	5.8	8.1	11.3	11/20/2002
Wilshire REIT	1.6	10.5	4.1	7.8	10.6	
PRISA I	0.0	5.4	6.7	9.3	6.7	6/30/2004
NCREIF ODCE	1.0	6.4	7.6	9.8	7.9	
JPMorgan Strategic Property	0.7	NA	NA	NA	0.7	4/1/2019
NCREIF ODCE	1.0	NA	NA	NA	1.0	
TA Realty Core Property Fund, L.P.	2.1	3.9	NA	NA	11.4	3/21/2018
NCREIF ODCE	1.0	6.4	NA	NA	6.8	

The IRR (internal rate of return) and investment multiple are the most meaningful measures of performance for a private equity fund. IRR measures how assets are performing in relation to time. Investment multiple shows the cash on cash return generated on the invested capital by the underlying assets.

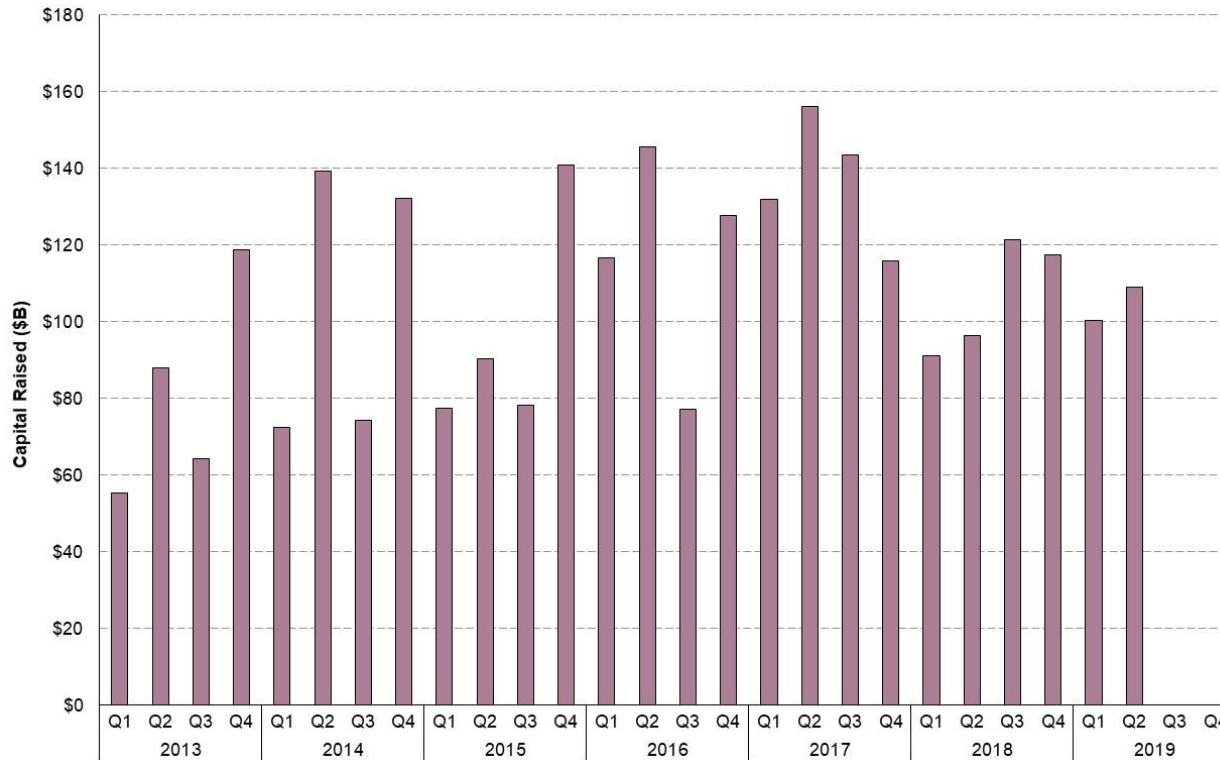
As of June 30, 2019, the Retirement Association's Private Equity program generated a 4.5% net IRR and a 1.2x net TVPI. After adjusting for capital calls and distributions that occurred during the quarter, the reported fair value of the program increased by \$1.4 million, or 2.8%. The increase was primarily driven by increases in the valuations of Summit Partners Growth Equity Fund IX, L.P. (\$0.9 million, or 11.7%) and Ironsides Direct Investment Fund V, L.P. (\$0.4 million, or 5.9%). Growth was partially offset by a decrease in valuation of Leeds Equity Partners V, L.P. (\$0.5 million, or -22.4%).

As of June 30, 2019, The Retirement Association's Real Assets Program generated a 0.3% net IRR and a 1.0x net TVPI. After adjusting for capital calls and distributions that occurred during the quarter, the reported fair value of the program increased by \$2.0 million, or 4.2%. The increase was primarily driven by increases in the valuations of IFM Global Infrastructure (U.S.), L.P. (\$1.2 million, or 6.0%), and Global Infrastructure Partners III, L.P. (\$0.9 million, or 11.9%), and partially offset by a decrease in the valuation of JPMorgan Global Maritime Investments (\$0.5 million, or -7.0%).

As of June 30, 2019, the Retirement Association's Real Estate Program generated a 5.2% net IRR and 1.3x net TVM. After adjusting for capital calls and distributions that occurred during the quarter, the reported fair value of the program increased by \$1.7 million, or 1.6%. The increase was primarily driven by increases in valuations of Carlyle Realty Partners VIII, L.P. (\$0.9 million, or 61.5%), and TA Realty Core Property Fund, L.P. (\$0.9 million, or 3.1%). The increase was partially offset by decrease in the valuation of Invesco Equity Real Estate Securities Trust (\$1.6 million, or -9.2%).

Appendices

Private Equity Global Fundraising¹

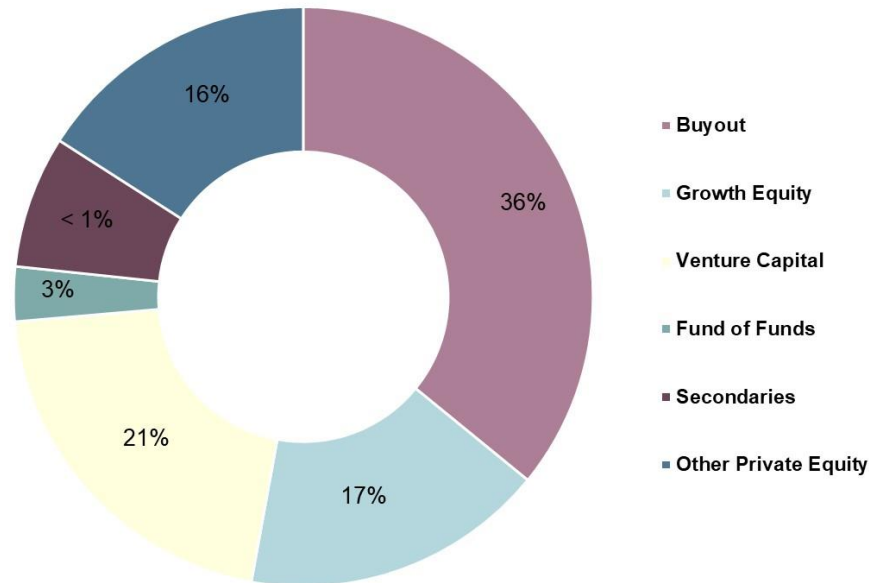


Fundraising activity for private equity funds in the second quarter of 2019 was slightly above that of the prior quarter, at \$109 billion raised. This increase is in line with prior years since fundraising is typically lower during the first quarter of each year. Appetite for the asset class remains strong despite concerns about a potential macro-economic market downturn. The trend of capital concentration continues with 244 funds fundraising in the second quarter of 2019 compared to 399 funds in the prior year. This suggests that funds are growing significantly in size, making the lower end of the fundraising market very competitive. Only 5% of funds in market are targeting over \$1 billion, but collectively they account for nearly two-thirds of all capital sought. Most of this fundraising activity is in North America, with 139 funds securing \$68 billion in commitments.

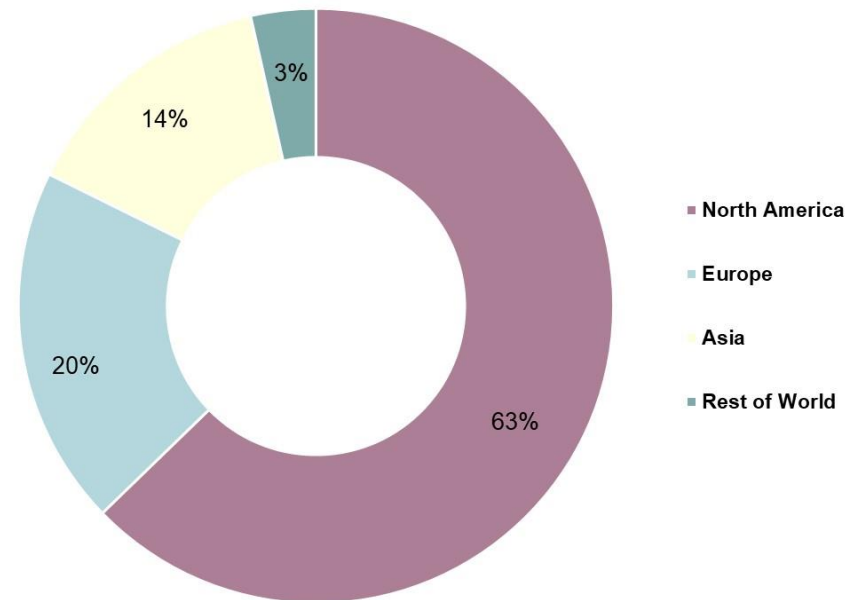
¹ Preqin



Capital Raised by Strategy¹



Capital Raised by Geography²



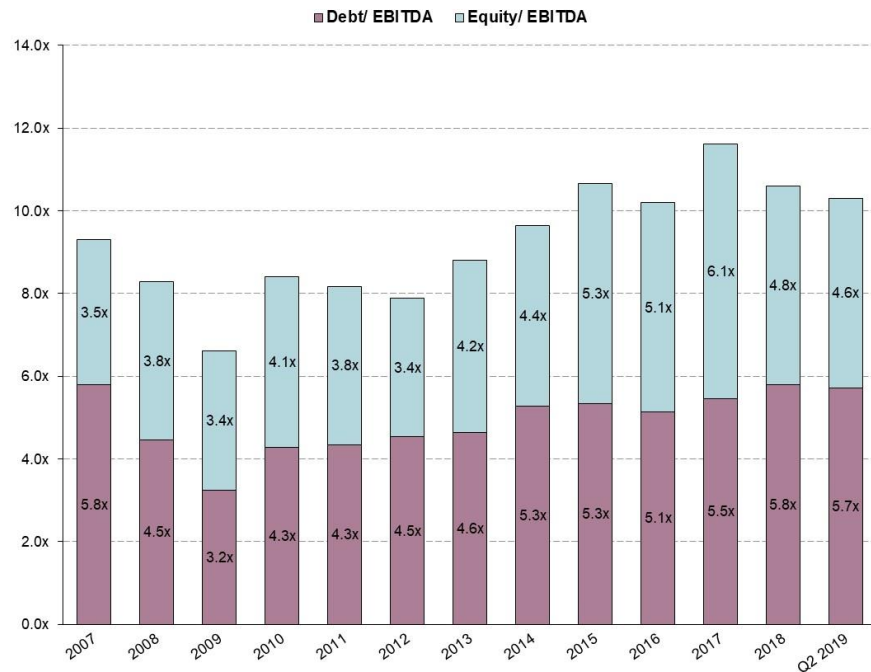
Buyout funds continued to be the most popular private equity strategy with 36% of all private equity capital raised dedicated to Buyout funds in the second quarter of 2019. Despite remaining the dominant private equity strategy, the amount of Buyout exposure decreased significantly in Q2 2019 from 62% in Q1 2019. Venture Capital funding increased by 4% in the quarter, suggesting that the deal market has not lost momentum. Secondaries and Other Private Equity vehicles such as co-investments and direct secondaries experienced a significant increase in Q2 2019 of 7% and 13%, respectively. North American focused vehicles continued to be a majority of all funds raised in Q2 2019, representing nearly two-thirds of the quarterly capital raised, which is consistent with the prior quarter. Europe focused funds stayed consistent, with 20% of capital raised in Q2 2019 compared to 22% in Q1 2019.

¹ Preqin

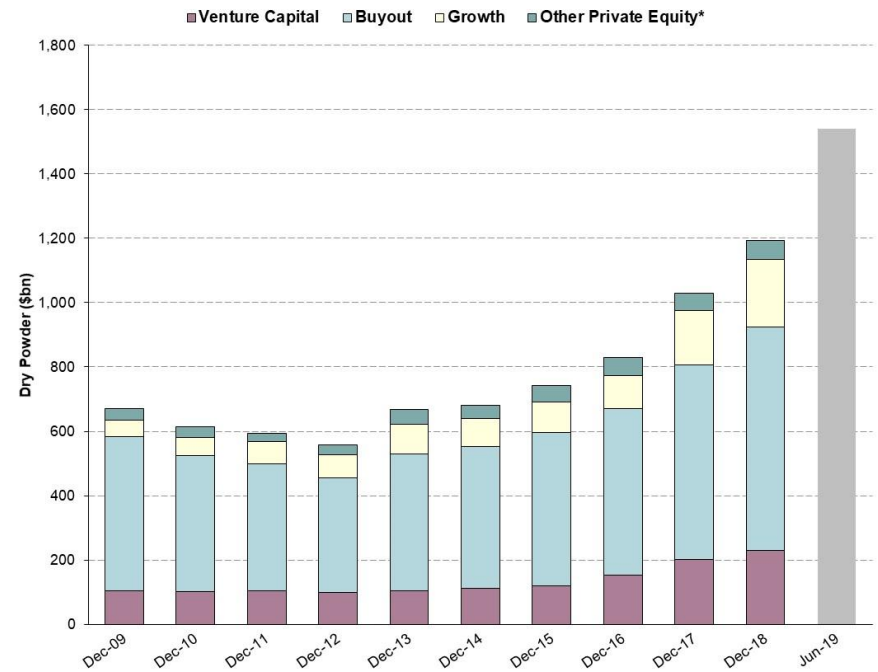
² Preqin



Purchase Price Breakdown, All LBOs¹



Dry Powder by Fund Type²³



Private Equity purchase price multiples in 2019 were in line with levels seen in 2018, remaining near all-time highs but beginning to come down. Notably, equity contribution (relative to total purchase price) continued to stay relatively low, but remained only slightly below the 10-year average. Elevated prices are supported by the record level of dry powder, which increased by 29% from last year to a record high of \$1.54 trillion. Dry powder levels are expected to continue to increase as long as more capital is being raised than is being deployed, and investors should expect to continue to see high purchase prices as a result of the high levels of capital competing for deals. Capital concentration along with larger sized funds should be expected to contribute to increasing levels of dry powder as well, with larger funds taking longer to deploy all capital. TMT (36%), Services and Leasing (21%), and Automotive (20%) were the three largest sectors targeted for LBOs, collectively making up nearly 78% of all LBO deals.⁴

¹ S&P

² Preqin

³ A 2019 YTD breakdown was not provided. The figure represents total value.

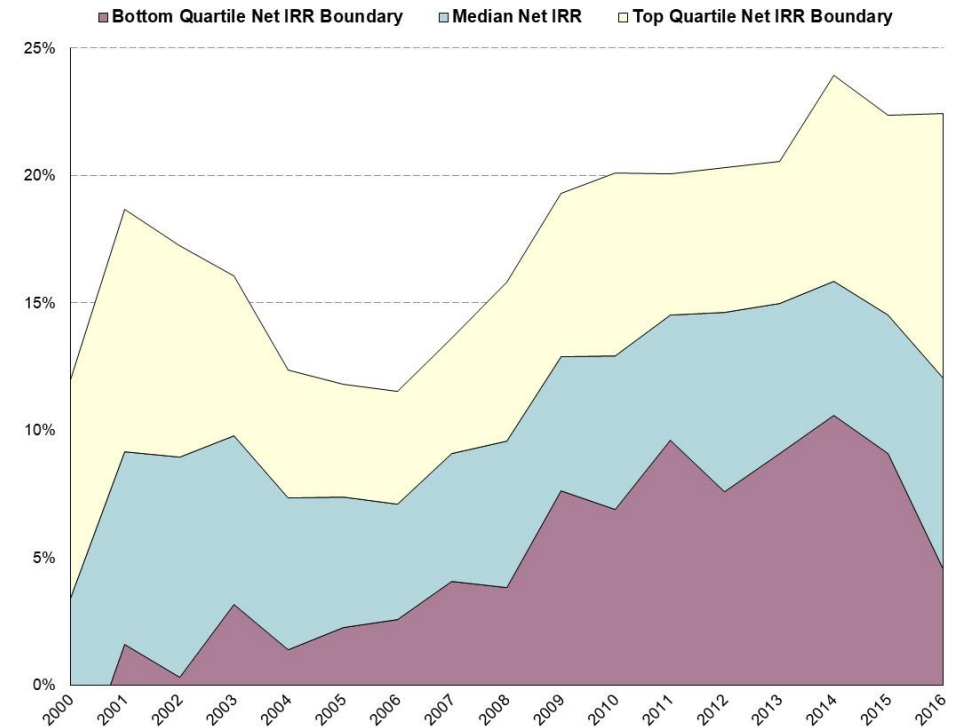
⁴ S&P



Private Equity Performance by Horizon¹

Horizon	Private Equity	Buyout	Venture Capital	Fund of Funds
1 Year to Mar-19	19.5%	16.3%	24.0%	15.2%
3 Years to Mar-19	18.7	22.0	19.7	13.9
5 Years to Mar-19	17.8	19.6	19.3	12.9
10 Years to Mar-19	19.3	22.4	19.7	14.6

Private Equity Performance by Vintage Year²



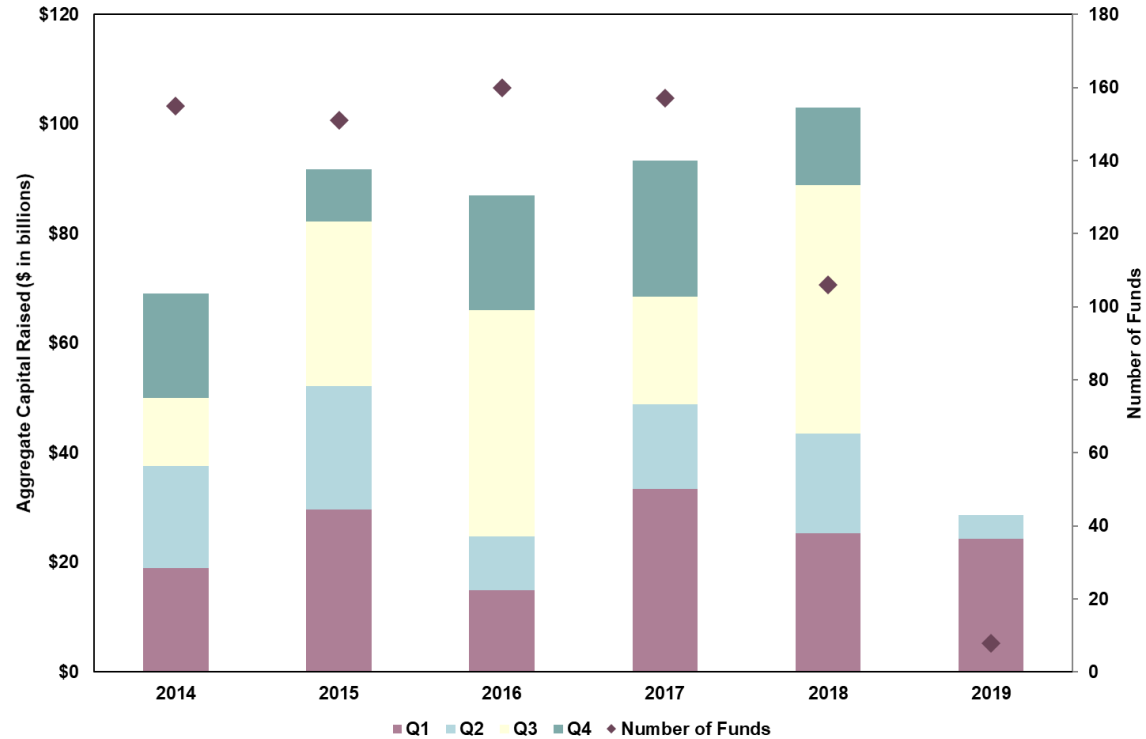
Recent aggregate private equity returns remained strong at 19.5% over the prior year, 18.7% over the prior three years, and 17.8% over the prior five years. In general, performance has been strong in each vintage year since the Global Financial Crisis. Buyout and Venture funds have both performed well over the four time horizons on an absolute basis, with Buyout funds outperforming Venture funds over the 3-year horizon. The gap between top and bottom performers in private equity has grown consistently since the Global Financial Crisis; 2007 vintage funds reported a 10% spread while 2016 vintage funds reported an 18% spread.

¹ Cambridge Associates Global Top Quartile Pooled Returns as of 3/31/2019. Performance as of 6/30/2019 is not yet available.

² Cambridge Associates Global Top Quartile Returns as of 3/31/2019. Performance as of 6/30/2019 is not yet available.



Global Quarterly Unlisted Natural Resource Fundraising¹



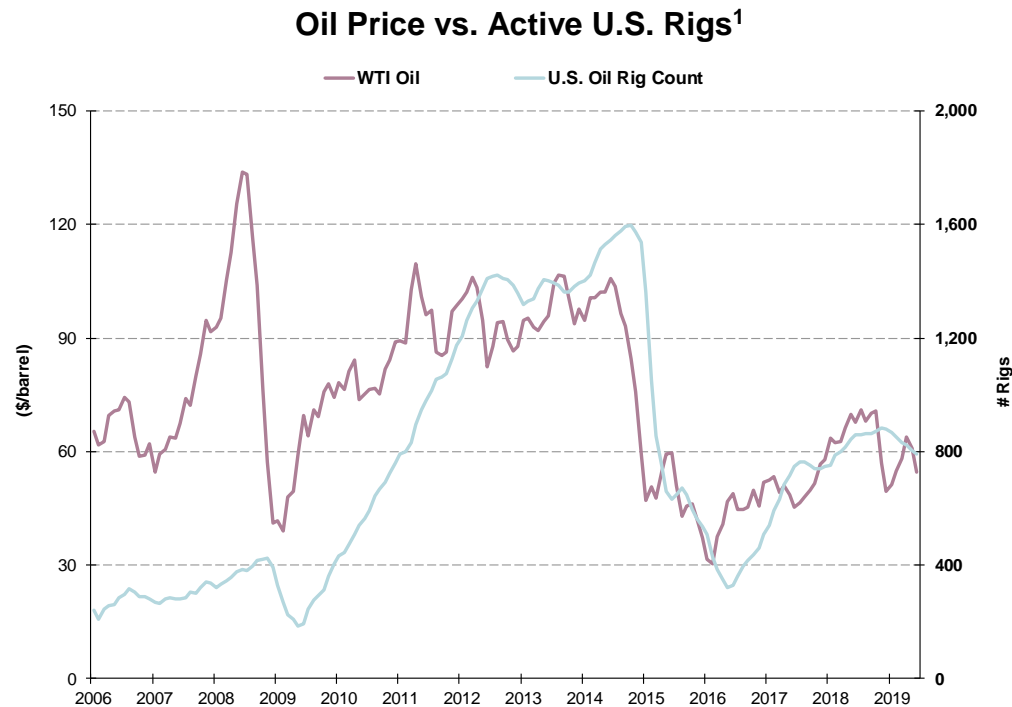
Capital raised in the second quarter of 2019 was the lowest quarterly amount raised in the past six years and was approximately 60% less than for the second quarter of 2018. The number of funds raised was down during 2Q with just 15 funds reaching final close. This quarter, the average fund size raised was \$300 million, below the 2018 average of \$800 million. As of June 30, 2019, Preqin reported a total of 307 unlisted natural resource funds with a combined fundraising target of approximately \$208 billion.

The majority of natural resources managers fundraising during the second quarter was focused on North America, accounting for nearly 60% of aggregate target capital in the market.

¹ Source: Preqin Private Capital Fundraising Update, Q2 2019.



Extracted Resources

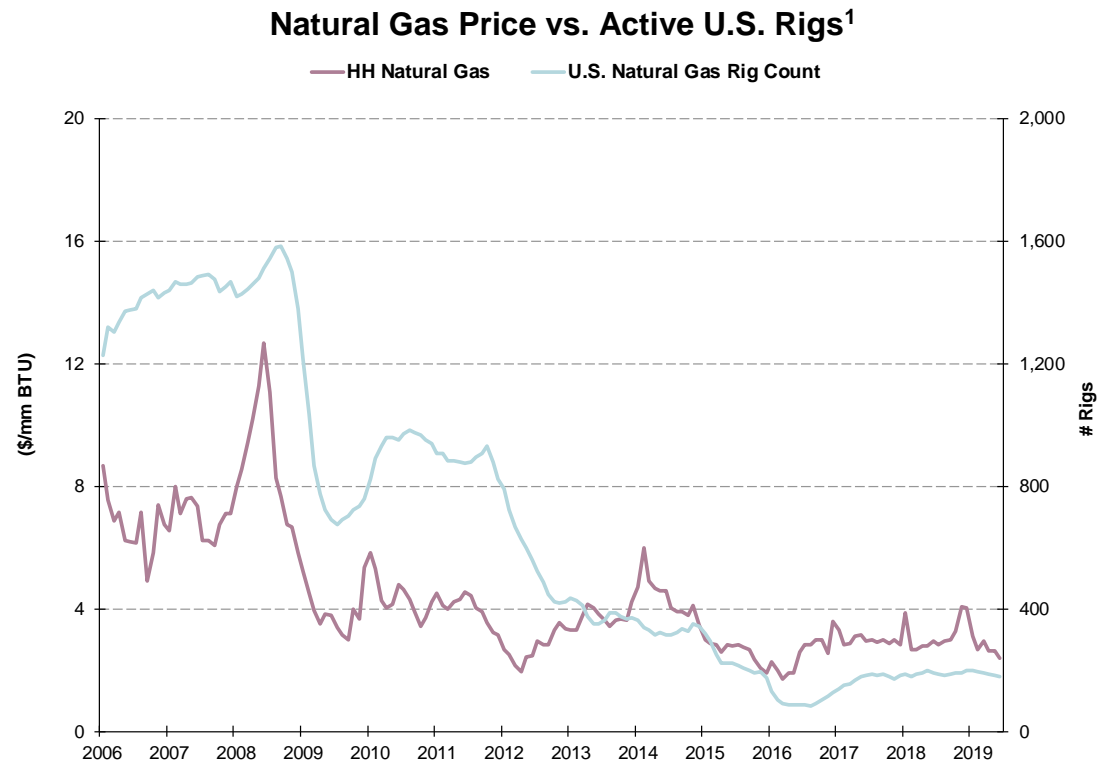


West Texas Intermediate (“WTI”) oil prices decreased by 6% to \$55 per barrel during the second quarter. Escalation of the U.S. – China trade wars offset bullish news of OPEC production cuts and an end to Iranian oil export waivers. During the quarter, a mega-deal was announced between Occidental Petroleum and Anadarko that will create the largest producer in the Permian Basin and a top producer in the Gulf of Mexico. Once the deal is completed, it is expected that the combined company will seek to sell several non-core assets. During the second quarter, the U.S. produced over 12.1 million barrels of oil equivalent per day. The rig count in the U.S. fell by 40 bringing the total to 760. U.S. gasoline prices for regular blend increased by 11% to \$2.96 from the previous quarter representing a 4% decrease from one year prior.

¹ Source: EIA and Baker Hughes.



Extracted Resources



Henry Hub natural gas spot prices ended the quarter at approximately \$2.40/MM BTU, representing a 19% decrease from the prior quarter. Significant pricing differentials exist between other markets and Henry Hub, the national benchmark for U.S. natural gas. The Gulf Coast Express Pipeline is nearing completion and this will add significant takeaway capacity of associated natural gas production from the Permian Basin region eastward to the Gulf Coast. The U.S. continues to produce significant amounts of natural gas despite decreases in the rig count. During the second quarter, the natural gas rig count fell by 14 to 179 while daily production average over 95 billion cubic feet. Refiners, petrochemical companies, and power generation companies continue to expand plant capacity to utilize the abundant natural gas feedstock in the U.S.

¹ Source: EIA and Baker Hughes.



Extracted Resources

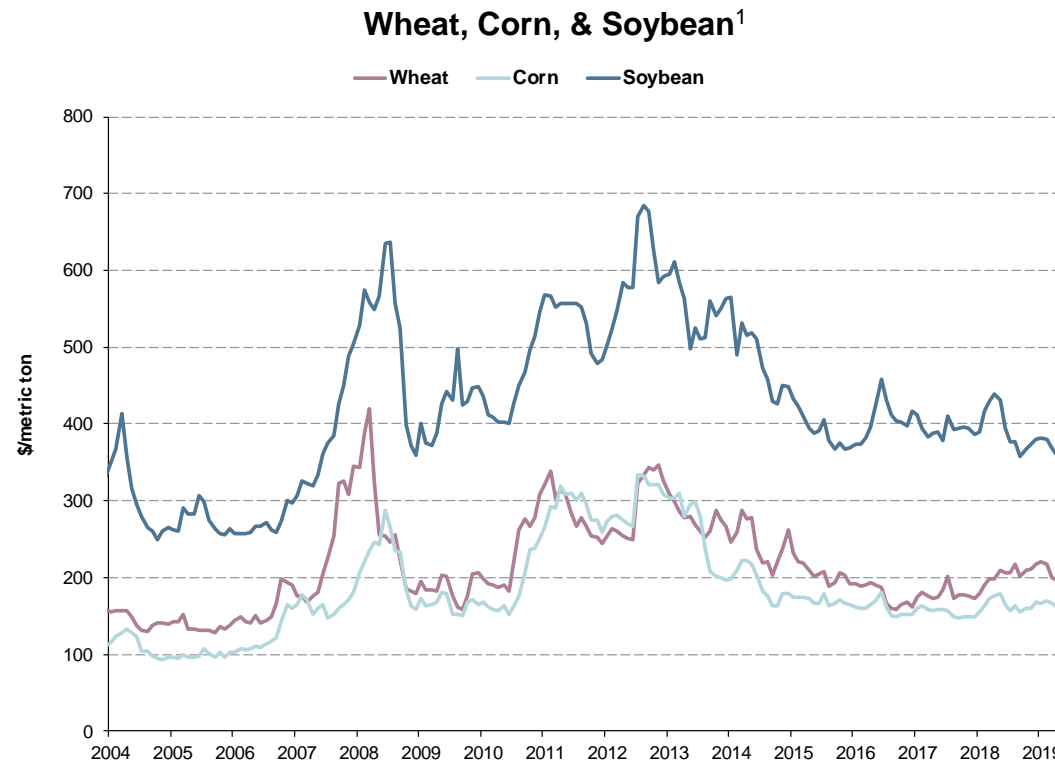


The U.S. -- China trade war, rising geopolitical risks, and slowing manufacturing figures continued to weigh on global growth concerns and the demand for certain base and industrial metals. Copper prices fell by approximately 9% to \$2.67 per ounce. Safe-haven assets, such as gold, tend to fare better in periods of uncertainty. The price of gold rose to \$1,409 per ounce during the quarter. Relative to one year prior, copper and gold prices changed by -16% and +6%, respectively.

¹ Source: World Bank



Harvested Resources



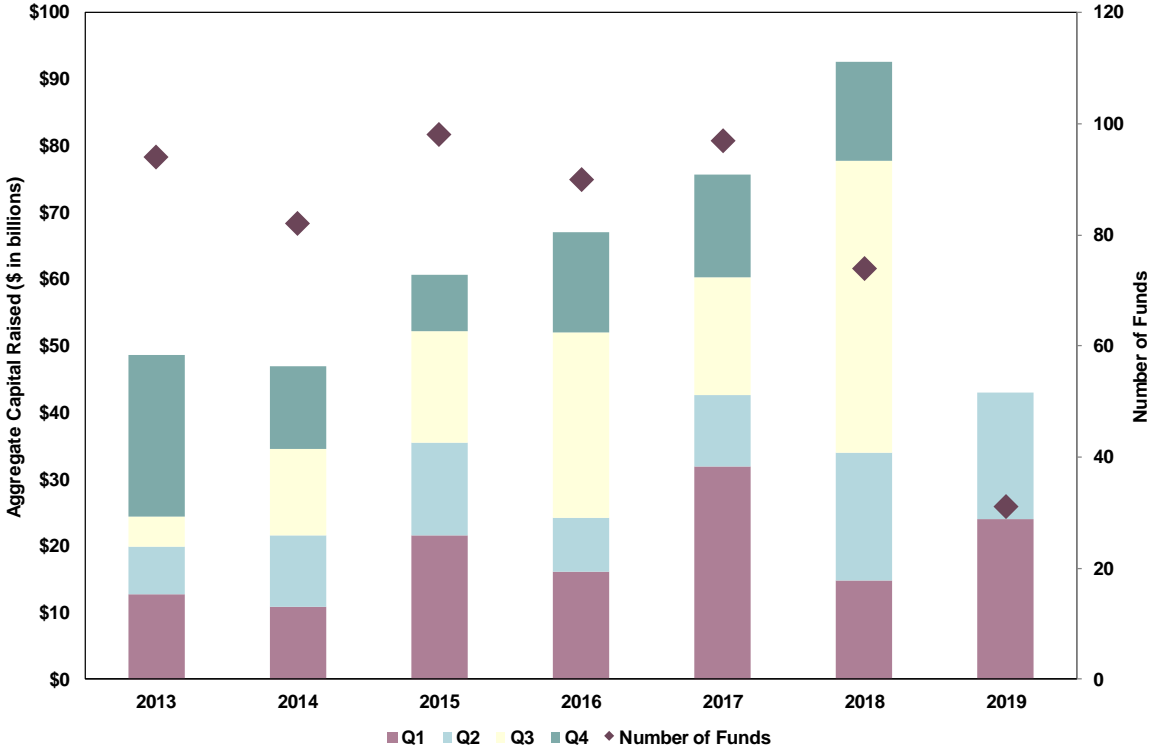
Record levels of rainfall and flooding across the Midwest and South regions significantly impacted the ability of farmers to plant their crops during the second quarter. As a result, initial expectations of reduced crop harvests later in the year may help draw down the significant grain inventories held. The trade wars between the U.S. and China continue to weigh on China demand for U.S. agricultural products. A \$16 billion relief package was announced to help support the U.S. agriculture industry while it negotiates trade with other countries. During the quarter, wheat and corn prices increased by 11% and 17%, respectively, while soybean prices fell by 3%.

During the quarter, the NCREIF Farmland index experienced a 0.7% increase driven by income gains of 0.6% and appreciation of 0.1%. The NCREIF Timberland index increased 1.0% with income and appreciation increases accounting for 0.6% and 0.4%, respectively.

¹ Source: World Bank



Global Quarterly Unlisted Infrastructure Fundraising¹



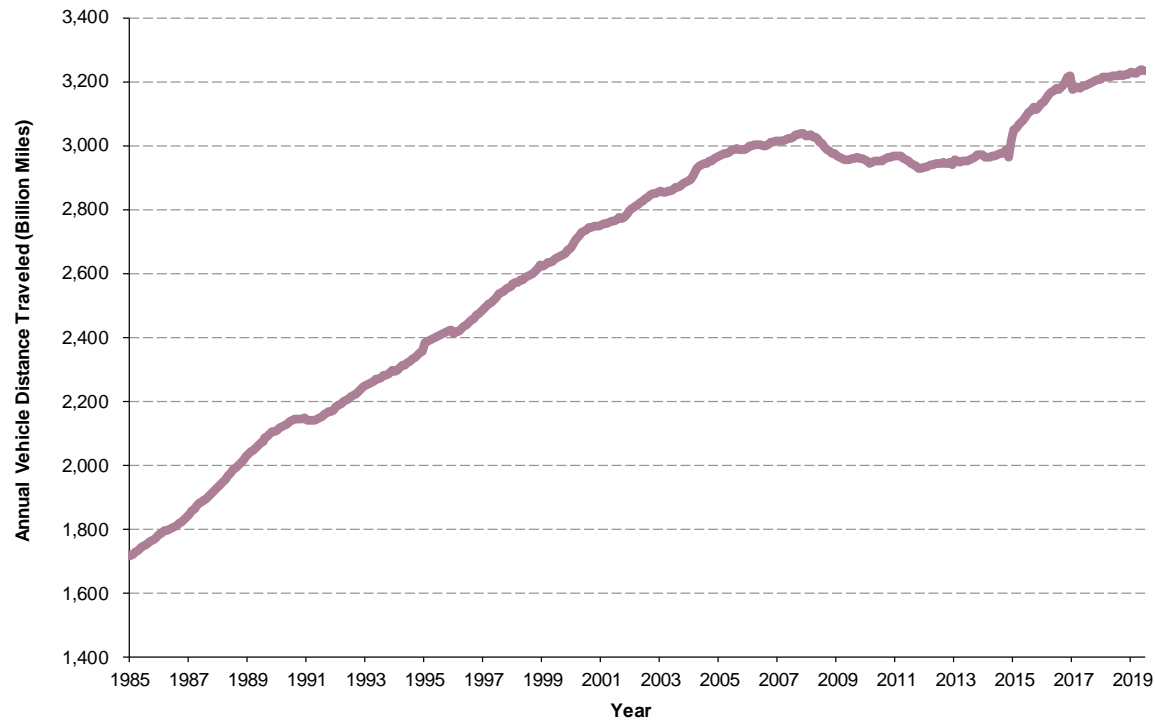
Capital raised in the second quarter of 2019 falls slightly below the amount raised in the first quarter of 2019. This quarter, the average fund size barely exceeded \$1 billion, falling below the 2018 average of \$1.3 billion. As of June 30, 2019, a total of 221 unlisted infrastructure funds were in market, according to Preqin, with a combined fundraising target of approximately \$193 billion.

The majority of infrastructure capital was focused on the developed market in Europe, accounting for nearly 42% of the capital raised so far in 2019 even though European funds only made up 4 of the 14 funds closed so far in 2019.

¹ Source: Preqin Private Capital Fundraising Update, Q2 2019.



Moving 12-month Total on All U.S. Roads¹



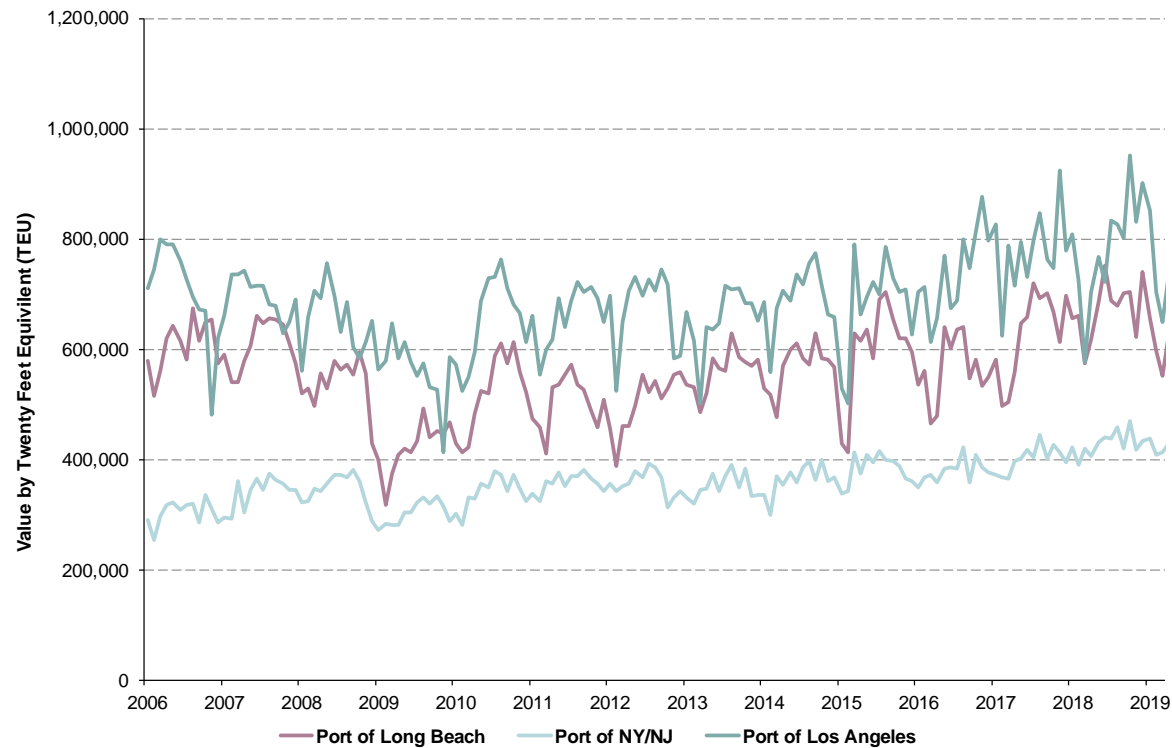
During the second quarter of 2019, travel on U.S. roads totaled approximately 845 billion miles. This represented an increase of 0.6% over the same period in 2018. Year to Date, Federal Highway Administration data showed vehicle miles traveled increased by 5.3 billion miles, up 0.33% over 2Q 2018.

In the first half of 2019, the average U.S. price of a gallon of gas went up to a monthly average of \$2.66 per gallon, with a peak of \$2.95. This compares to \$2.82 and \$2.99 seen in 2018. According to INRIX, Boston, Washington, D.C., and Chicago rank as the top three cities in the U.S. in which drivers spend the most hours in traffic.

¹ Source: U.S. Department of Transportation, Federal Highway Administration: Office of Highway Policy Information.



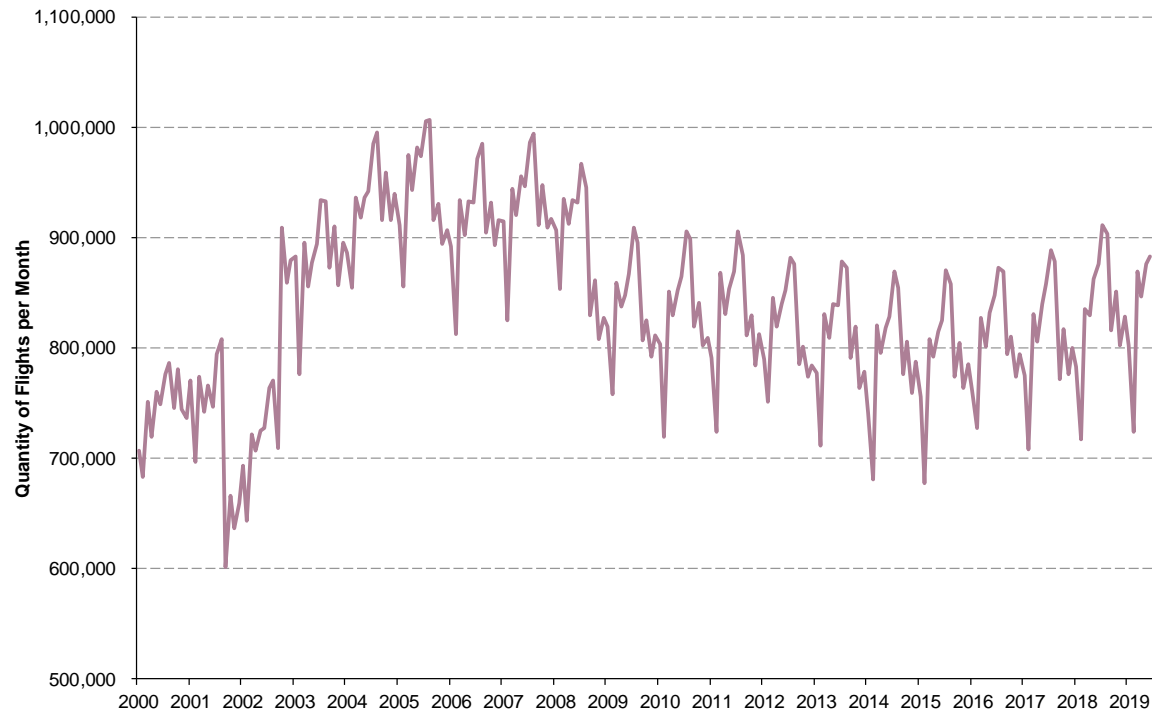
U.S. Port Activity – Container Trade in TEUs



The chart represents the top three U.S. ports by container volume, as measured by twenty-foot equivalent units (TEU). Activity at the three ports provides a high-level representation of the volume of imports received into the U.S. more broadly.

During the second quarter of 2019, volumes at the three ports did not change from the same period in 2018. On a year-over-year basis, the combined port volumes increased by 520,299 TEU, or 2.3%, over the prior 12 month period. All three ports saw an increase in year-over-year activity. The Port of Long Beach recorded a decrease of 2.8% (222,000 TEU), the Port of NY/NJ reported an increase of 4.5% (224,000 TEU) and the Port of Los Angeles recorded an increase of 5.7% (519,000 TEU) from the prior 12 months.

Total U.S. Domestic and International Flights¹



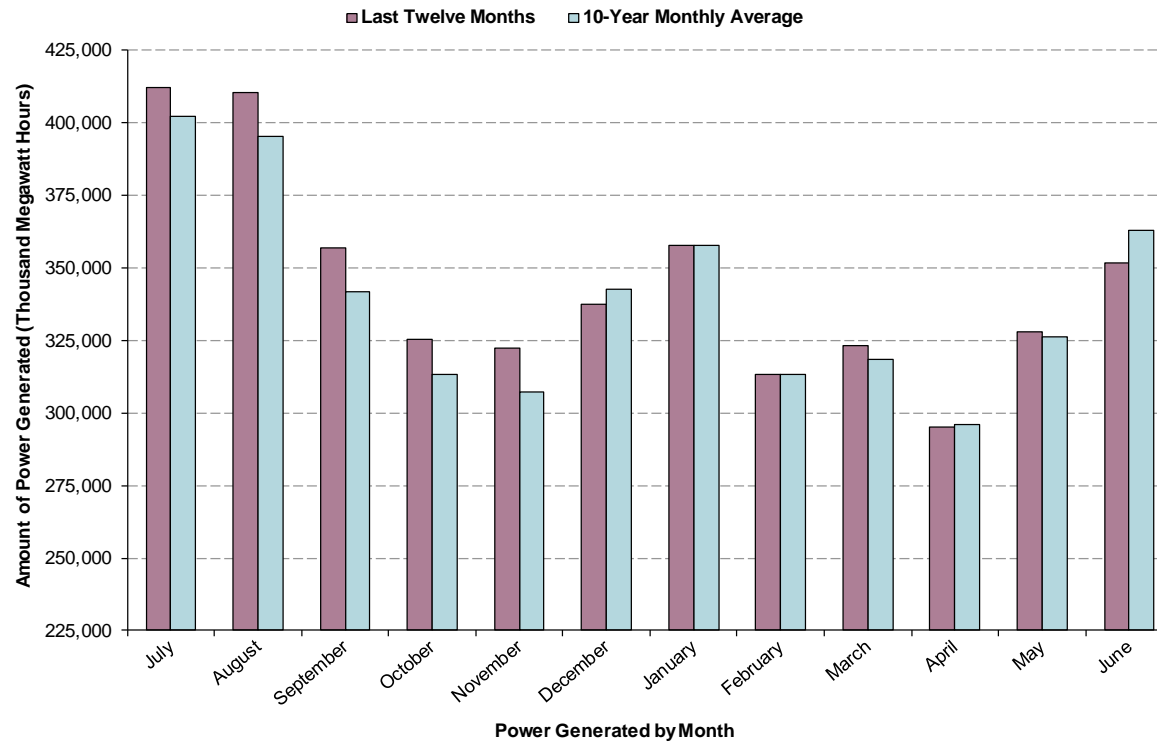
The chart above represents all U.S. domestic and international flights, excluding foreign point-to-point flights by month. Air traffic is cyclical with peaks in the summer months and declines in the winter months.

There were over 40,000 more flights during the second quarter of 2019, representing a 1.5% increase compared to the same period in 2018. Air traffic activity also increased by 2.8% for the 12 months ending June 30, 2019 over the previous period. In addition to the number of flights during the second quarter increasing year-over-year, the total number of passengers travelling on U.S. and international airlines increased by 4.2% from 2018 to 2019, which indicates higher capacity factors among airlines compared to the prior period.

¹ Source: Bureau of Transportation Statistics: Flights, All U.S., and Foreign Carriers.



Total U.S. Power Generation¹

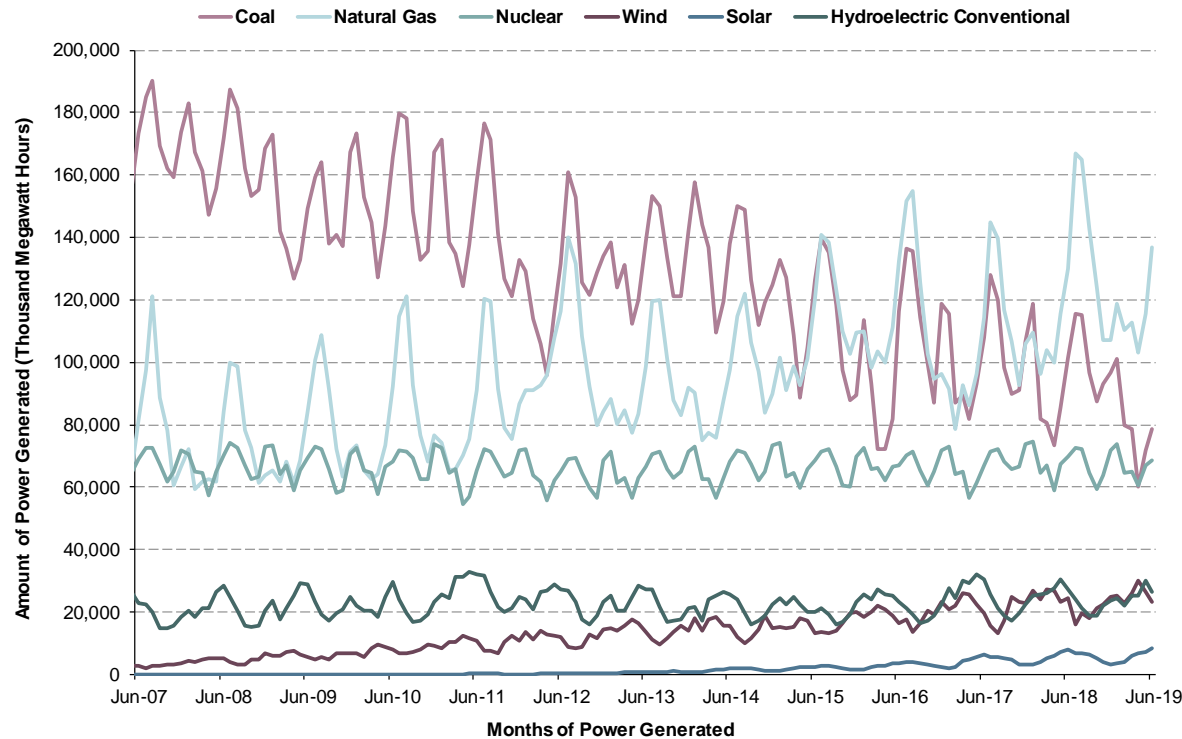


The graph above represents the total net generation for the past 12 months compared to the 10-year average for each month. Over the past year, power generation exceeded the 10-year average in 9 out of the 12 months. Net energy generation in the U.S. decreased by 3.7% during the first quarter, compared to the same period in 2018. For the 12 months ended June 30, 2019, net energy generation increased by 0.8% over the previous 12 months.

¹ Source: U.S. Energy Information Administration: Electric Power Monthly, June 2019.



U.S. Power Generation by Source¹



When comparing individual generation sources in the U.S., natural gas, nuclear, wind, and solar increased 2.8%, 0.2%, 7.4%, and 6.9% respectively in the first quarter of 2019 as compared to the same period in the previous year, while generation from coal and hydroelectric conventional dropped by 19.1% and 4.1% respectively, during the same period. Wind and utility scale solar continue to make up a small portion of total net energy generation in the U.S., accounting for only 8.2% and 2.3% of energy generation in the first quarter, while coal, natural gas, and nuclear accounted for 21.6%, 36.4%, and 20.2%, respectively. However, the growth of wind and solar as sources of energy generation continues to increase at a faster rate than coal and natural gas, especially over the last couple of years.

¹ Source: U.S. Energy Information Administration: Electric Power Monthly, June 2019.



Real Estate Fundamentals Vacancy by Property Type¹

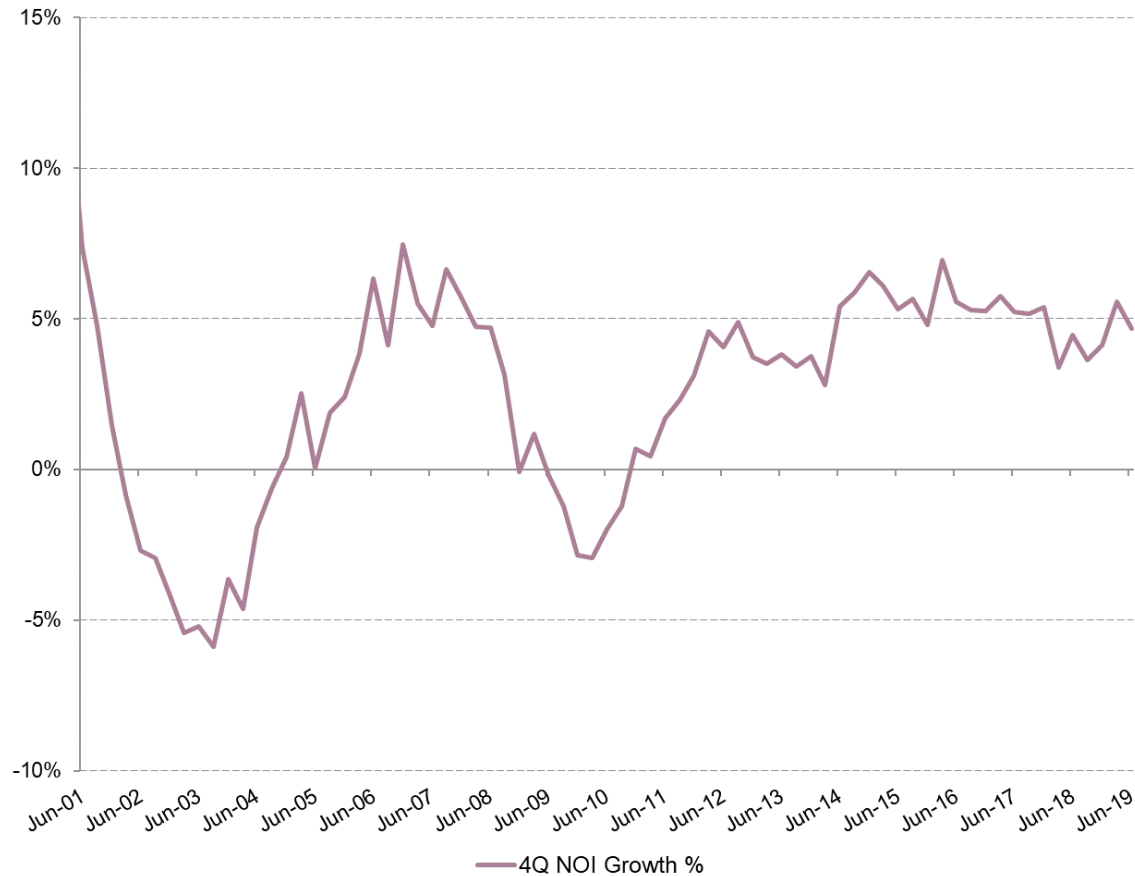


In the second quarter of 2019, vacancy rates decreased for all property types. Multifamily vacancies have fluctuated around 6% since 2009. Retail vacancies have flattened over the last three years, and office vacancies continue a downward trend. Industrial vacancies continue to hover just above 3.0%, at all-time lows for the sector. Compared to one year ago, vacancy rates in multifamily decreased 116 basis points, office decreased 113 basis points, industrial decreased 16 basis points, and retail decreased 45 basis points. Overall, the vacancy rate across all properties decreased 60 basis points from Q2 2018.

¹ Source: NCREIF



NOI Growth¹

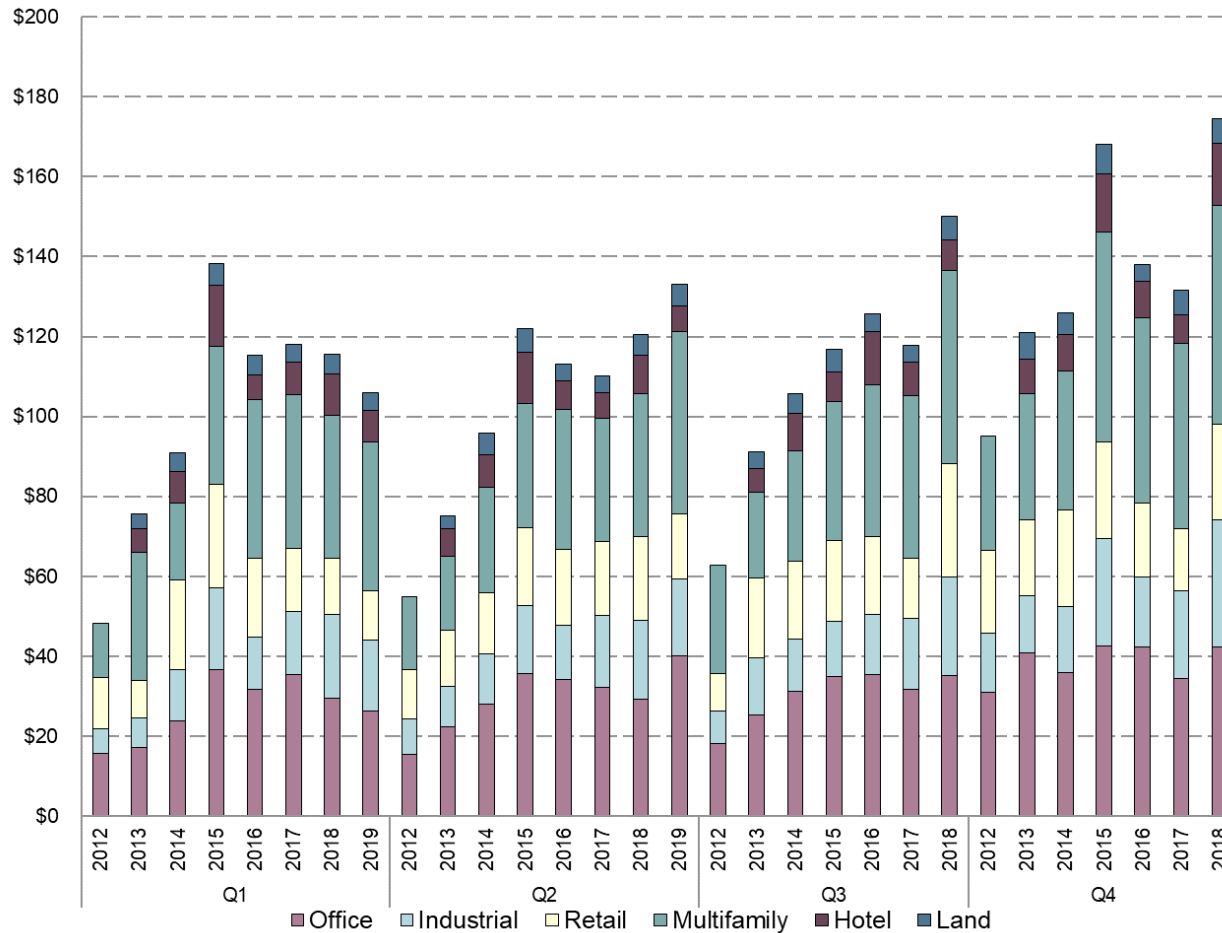


The trailing twelve month rate of NOI decreased to 4.7% in the second quarter of 2019. Continued growth of the U.S. economy coupled with only moderate new construction has allowed property owners to increase rents and lease vacant space. The strongest NOI growth continues to be within the industrial sector, trending at 8.9% for the trailing year ending Q2 2019. Office NOI has moderated at 4.4%, while apartment increased to 7.7%. Retail NOI is continuing a negative year-over-year trend, currently at -0.4%.

¹ Source: NCREIF



Transaction Volume (\$bn)¹

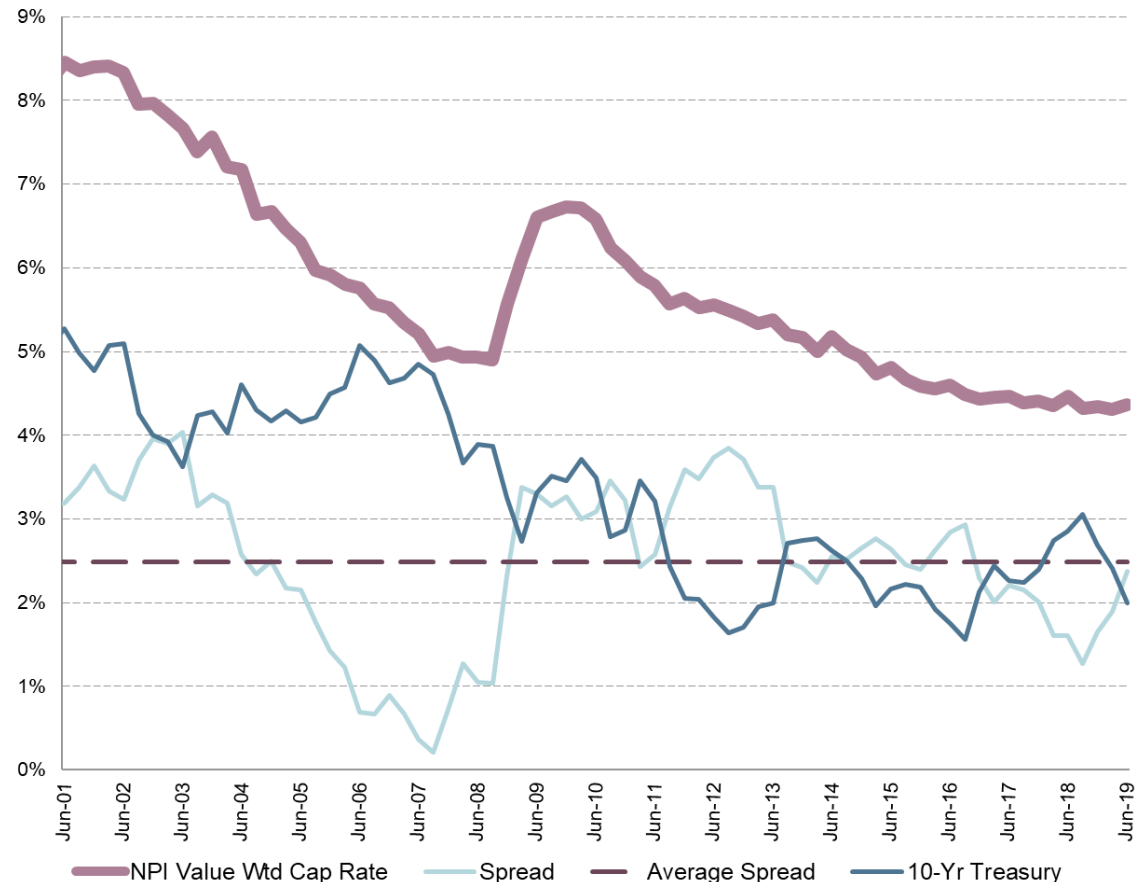


Private real estate transaction volume for properties valued over \$2.5 million was up for Q2 2019 at \$133 million. Compared to a year ago, office (+37%) and multifamily (+28%) saw increases to transaction volumes, while hotel (-32%), retail (-23%), and industrial (-2%) saw decreases to transaction volume. Multifamily and office properties made up the largest percentages of total transaction volume during the quarter, at 34% and 30%, respectively.

¹ Source: PREA



Real Estate Capital Markets Cap Rates vs. 10-Year Treasury¹



The NPI Value Weighted Cap Rate continued to hover around 4.4%. The 10-year Treasury yield peaked above 3.0% in Q3 2018, but continued to trend back down, landing at 2.0% in Q2 2019. The spread between cap rates and treasury yields increased to 237 basis points, which is 12 basis points below the long term average spread.

¹ Source: NCREIF and U.S. Department of the Treasury



Trailing Period Returns¹

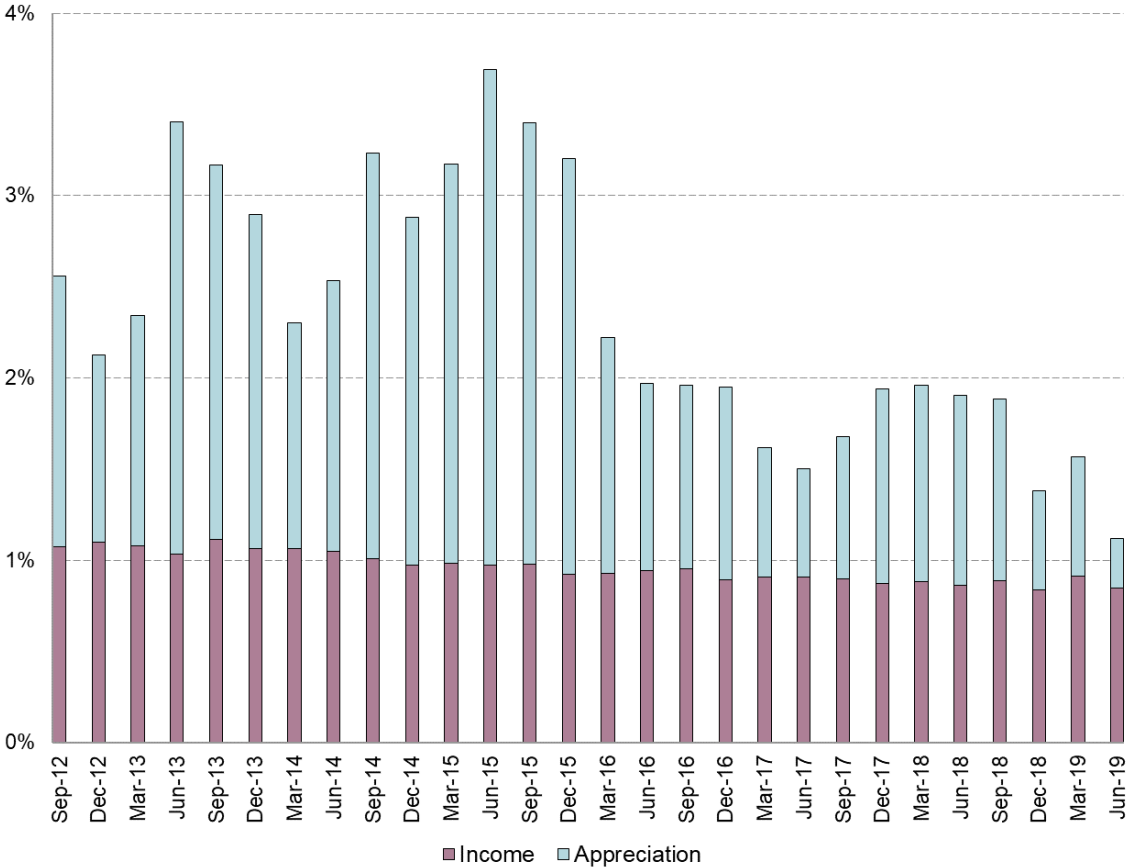
<i>As of June 30, 2019</i>	1 Year	3 Years	5 Years	10 Years
NFI-ODCE (EW, net)	6.0%	7.0%	9.1%	8.8%
NFI-ODCE (VW, net)	5.5	6.6	8.8	8.9
NCREIF Property Index	6.5	6.9	8.8	9.3
NAREIT Equity REIT Index	12.6	5.8	8.8	16.0

Private real estate indices have continued to post positive returns, driven by strong property-level fundamentals and a low interest rate environment. Recent public real estate performance has experienced significant volatility with negative returns in Q4 2018, but strong positive returns in Q1 and Q2 of 2019.

¹ Source: NCREIF



ODCE Return Components¹ (Equal Weight, Net)



The NFI-ODCE Equal Weight return for Q2 2019 was down slightly to 1.1%, about 36 basis points lower than the previous quarter. The income component of the quarterly return continues to remain consistent around 0.9%. Appreciation has compressed, adding only 27 basis points to Q2 2019’s return.

¹ Source: NCREIF



The material contained in this report is confidential and may not be reproduced, disclosed, or distributed, in whole or in part, to any person or entity other than the intended recipient. The data are provided for informational purposes only, may not be complete, and cannot be relied upon for any purpose other than for discussion.

Meketa Investment Group has prepared this report on the basis of sources believed to be reliable. The data are based on matters as they are known as of the date of preparation of the report, and not as of any future date, and will not be updated or otherwise revised to reflect information that subsequently becomes available.

If we manage your assets on a discretionary basis, please contact us if there are any changes in your financial situation or investment objectives, or if you want to impose any reasonable restrictions on our management of your account or reasonably modify existing restrictions.

In general, the valuation numbers presented in this report are prepared by the custodian bank for listed securities, and by the fund manager or appropriate General Partner in the case of unlisted securities. The data used in the market comparison sections of this report are sourced from various databases. These data are continuously updated and are subject to change.

This report does not contain all the information necessary to fully evaluate the potential risks of any of the investments described herein. Because of inherent uncertainties involved in the valuations of investments that are not publicly traded, any estimated fair values shown in this report may differ significantly from the values that would have been used had a ready market for the underlying securities existed, and the differences could be material. Note that for unlisted securities the valuations may be lagged by one or more calendar quarters, or may reflect original cost.

This document may contain certain forward-looking statements, forecasts, estimates, projections, and opinions (“Forward Statements”). No representation is made or will be made that any Forward Statements will be achieved or will prove to be correct. A number of factors, in addition to any risk factors stated in this material, could cause actual future results to vary materially from the Forward Statements. No representation is given that the assumptions disclosed in this document upon which Forward Statements may be based are reasonable. There can be no assurance that the investment strategy or objective of any fund or investment will be achieved, or that the client will receive a return of the amount invested.

In some cases Meketa Investment Group assists the client in handling capital calls or asset transfers among investment managers. In these cases we do not make any representations as to the managers’ use of the funds, but do confirm that the capital called or transferred is within the amounts authorized by the client.

The values of companies and partnerships in this review are based on unaudited reports for March 30, 2019, provided by the General Partners, unless otherwise noted.

Because there is no readily accessible market for private markets assets (companies and partnerships), the values placed on private markets assets are calculated by General Partners using conservative and industry standard pricing procedures. Annually, an independent auditor reviews the pricing procedures employed by the General Partner of each partnership.

While all private markets partnerships are audited by an independent entity, there is some discretion as to the method employed to price private companies and, therefore, private markets partnerships. At all times, Meketa Investment Group expects General Partners to utilize conservative and industry standard pricing procedures, and requires the General Partners to disclose those procedures in their reports. However, because of the inherent uncertainty of valuation, these estimated values may differ from the values that would be used if a ready market for the investments existed, and the differences could be significant.

Private markets investors have developed a number of unique terms to describe their investment work. The following glossary of private markets terms is intended to help make sense of these terms. Where the term “private equity” is used, the definition will generally also apply to private debt funds that are structured in similar manner.

Absorption: The amount of inventory or units of a specific commercial property type that become occupied during a specified time period (usually a year) in a given market, typically reported as the absorption rate.

Advisory Board: Partnerships often establish an advisory board comprised of representatives of the Limited Partners to oversee the on-going work of the General Partners. Advisory boards typically meet once each year to review the partnership’s investments. It is important to note that unlike the Board of Directors of a public company, the advisory board has very little power to control the activities of the General Partners.

Angel Investor: Angel investors are individuals who invest their own capital directly in small, early stage companies. Angels are an alternative source of funding for entrepreneurs. Such investments are characterized by high levels of risk and potentially a large return on investment.

Appraisal: An estimate of a property’s fair market value that is typically based on replacement cost, discounted cash flow analysis and/or comparable sales price.

Appreciation: An increase in the value or price of a real estate asset.

Appreciation Return: The portion of the total return generated by the change in the value of the real estate assets during the current quarter, as measured by both appraisals and sales of assets.

Asset Management: The various disciplines involved with managing real property assets from the time of investment through the time of disposition, including acquisition, management, leasing, operational/financial reporting, appraisals, audits, market review and asset disposition plans.

Asset Management Fee: A fee charged to investors based on the amount invested into real estate assets for the fund or account.

Barrel: 42 U.S. gallons of oil.

Base Metals: Non-precious, non-ferrous metals that include copper, aluminum, lead, nickel, tin, and zinc.

Base Rent: A set amount used as a minimum rent with provisions for increasing the rent over the term of the lease.

Biofuels: Biofuels are combustible fuels, such as bio-ethanol, that are made and processed from vegetation sources such as corn, sugar cane, barley, or wheat.

Blind Pool: Most Limited Partnerships are organized as blind pools, meaning that Limited Partners commit capital to the partnership before any actual investments are made. At the point of commitment, the Limited Partners do not know specifically how their money will be used (hence the term blind pool), and must therefore rely entirely upon the track record and experience of the General Partner.

BOE/day: A daily production metric equivalent to the energy content of a barrel of oil equivalent often related to natural gas, natural liquids, and condensates.

Broker: A person who acts as an intermediary between two or more parties in connection with a transaction.

Brownfield: A project with an operating history. The initial outlay is entirely to the public entity. Brownfield can be considered an easier starting point for investors, given the shorter J-curve and lower level of risk. Meketa Investment Group categorizes a Fund as brownfield if the Fund’s investment strategy calls for over 65% of its underlying investments to be in brownfield (operating) assets.

Buyout Fund: A buyout partnership uses the partners' capital to purchase existing, established businesses. The acquired firms may be family owned prior to purchase, or may be operating divisions of larger companies seeking to restructure their businesses. In a few cases, the buyout partners may purchase all of the outstanding shares of a publicly traded company, effectively taking it private. Buyout funds are not involved in venture capital or startups.

Buyout partnerships own the acquired companies outright, or in combination with other buyout partnerships. In some cases the buyout partners will replace the existing management with a new team, or the acquired firm will be left autonomous. The buyout partners frequently take one or more board seats in order to ensure control of the business.

Capital Appreciation: The change in market value of a property or portfolio adjusted for capital improvements and partial sales.

Capital Call (Contribution): Once a partnership has declared its first close, the General Partners will begin to make portfolio investments. As each investment is made, the capital necessary to fund the investment is "called" from the Limited Partners.

Capitalization Rate: A percentage that relates the value of an income-producing property to its future income, expressed as net operating income divided by purchase price. This is also referred to as cap rate.

Carried Interest: The share of profits that the fund manager is due once it has returned the cost of investment to investors. Carried interest is normally expressed as a percentage of the total profits of the fund. The industry norm is 20%. The fund manager will normally therefore receive 20% of the profits generated by the fund and distribute the remaining 80% of the profits to investors.

Carrying Value: The General Partner must list on the partnership's balance sheet a value for every investment held. These valuations are called carrying values, and in most cases are simply the original cost of the investment. Note that carrying values in most cases are not audited and do not represent actual market values.

Cash Flow Positive: When a company generates more free cash than it consumes in normal operations, it is deemed to be cash flow positive. Such companies may not need extra financing or debt in order to grow.

Cash Leasing Farmland: A low risk/return strategy that shifts the operational risk of farming to a local operator. Farmland investors receive stable lease payments from the local operators who are allowed to farm the land. Cash leasing is typically used for row croplands.

Cash on Cash Return: The simple gross total return earned by the Limited Partners, calculated as the total distributions received divided by the total contributions made. Thus, if an investor supplied a total of \$100 in cash calls and contributions, and received over the life of the partnership \$200 in distributions, the cash on cash return would be 100%. The cash on cash return is typically reported as a multiple. In the example above, the investment returned 2x (two times).

Chip-N-Saw: Produced from mid-sized trees that are cut and chipped to pulpwood chips or small dimension lumber. Chip-N-Saw is typically derived from trees measuring 10-13" DBH.

Claw-Back Provision: A claw-back provision ensures that a General Partner does not receive more than its agreed percentage of carried interest over the life of the fund. So, for example, if a General Partner receives 21% of the partnership's profits instead of the agreed 20%, Limited Partners can claw back the extra one percent.

Cleantech: A broad term used to classify products or services that improve energy productivity, performance, or efficiency while reducing input costs, consumption, waste, or pollution. Common products associated with cleantech are wind farms, photovoltaics, fuel cells, biofuels, and smart grid technologies.

Closed-end Fund: A commingled fund that has a targeted range of investor capital and a finite life.

Closings and Closing Dates: Every partnership must specify the date upon which the General Partners will cease fundraising and begin making actual investments with the Limited Partners' committed capital. That date is called the closing date, and defines the vintage year of the partnership. Most partnerships, however, have several closing dates, and all partnerships must eventually have a final closing. In most cases, the final closing lags six to nine months after the first closing. If a majority of the original Limited Partners consent, a partnership can remain open to new investors after the final closing and while early investments are being made, in order to have time to attract additional investors.

Co-Investment: In some cases, Limited Partners want the right to make additional direct investments in one or more of the underlying companies purchased by the General Partner. If the partnership agreement gives co-investment rights to specific Limited Partners, then they may elect to invest additional monies “along side” the General Partner in various deals. In these cases, the co-investing Limited Partners would have two investments in an underlying property: their share of the partnership’s investment, and their direct additional co-investment on the side. Note that co-investment rights may be available only to the largest Limited Partners.

Co-investment rights are often negotiated by very large Limited Partners when they have strong convictions about the deal finding skills of the General Partners, because co-investment rights permit them to make even larger investments in the underlying properties than would otherwise be possible, without paying carried interest.

Committed Capital: When a Limited Partnership is formed, each Limited Partner agrees to contribute a specific amount of capital to be invested over the life of the partnership. Once the agreement is signed, the Limited Partners are legally bound and committed to supply the agreed upon capital when it is called for by the General Partner.

Concession: A business operated under a contract or license associated with a degree of exclusivity. In the case of a public service concession, a private company (the concessionaire) enters into an agreement with the government to have the exclusive right to operate, maintain and carry out investment in a public asset (such as a utility) for a given number of years.

Concessions: Cash or cash equivalents expended by the landlord in the form of rental abatement, additional tenant finish allowance, moving expenses or other monies expended to influence or persuade a tenant to sign a lease.

Consolidation (Roll Up): Many industries in America are highly fragmented, as the market space is serviced by a large number of locally owned businesses. By consolidating fragmented industries (i.e., purchasing many local businesses), firms can create a single larger company with greater market control, more attractive financial characteristics, and potentially, better pricing flexibility and lower costs.

Construction Loan: Interim financing during the developmental phase of a property.

Convertible Bonds: Some private equity partnerships, generally those that provide mezzanine financing, may take convertible bonds as part of their compensation for providing investment capital. The convertible bond pays interest like other bonds, but can be exchanged for shares of the company stock at a favorable price if certain conditions are met, hence the term convertible.

Core Properties: The major property types - specifically office, retail, industrial and multifamily. Core assets tend to be built within the past five years or recently renovated. They are substantially leased (90% or better) with higher-credit tenants and well-structured long-term leases with the majority fairly early in the term of the lease. Core assets generate good, stable income that, together with potential appreciation, is expected to generate total returns in the 10% to 12% range.

Crude Oil: An unpurified mixture of liquid hydrocarbons derived from rock formations, containing different levels or impurities such as water or sulfur.

DBH: DBH (Diameter at Breast Height) is the most common measure made by a forester to determine the growth, volume, yield, and potential of a tree. DBH is defined as 4.5 ft. above the ground on the uphill side of a tree.

Development Well: A well drilled in a proven area of an oil or gas reservoir to a depth known to be productive.

Direct Investment: Partnerships that invest in companies are said to make direct investments. The alternative is a partnership that invests in other partnerships, a fund of funds.

Direct Operation Farmland: A strategy typically employed with permanent crops to retain complete control over the assets. Farmland investors use farmland management firms to operate the farm and add value through increased quality and output. The primary risks associated with direct operation are operating, weather, and marketing risks.

Diversification: The process of consummating individual investments in a manner that insulates a portfolio against the risk of reduced yield or capital loss, accomplished by allocating individual investments among a variety of asset types, each with different characteristics.

Downstream: Portion of the energy chain that includes oil refineries, petrochemical plants, power generation, and distribution outlets.

Dry Hole: An oil well that fails to find or produce any oil or gas.

Due Diligence: The process of examining a property, related documents, and procedures conducted by or for the potential lender or purchaser to reduce risk. Applying a consistent standard of inspection and investigation one can determine if the actual conditions do or do not reflect the information as represented.

E&P: Acronym for "Exploration and Production" that relates to the exploration, development, and production of crude oil or natural gas reserves. E&P is also referred to as the upstream sector.

EBITDA (Earnings Before Interest, Taxes, Depreciation, and Amortization): The "top line" profits of a private company are the monies earned before paying interest and taxes, and adding back depreciation and amortization. Unlike public companies, which are valued as the multiple of bottom line earnings to the stock price (P/E or price to earnings), private companies are valued as the multiple of EBITDA to the price of the stock.

There is no simple conversion factor that will convert an EBITDA multiple to a P/E for all companies, but in general, a factor of 2 is appropriate. Thus, a private company selling for an EBITDA multiple of 6 is priced about as richly as a public company with a P/E of 12.

EBITDA Multiples: The ratio of a private company's top line earnings to the price of its shares. See EBITDA above.

Enterprise Value: A measure of a company's value, often used as an alternative to straightforward market capitalization. Enterprise Value is calculated as market cap plus debt, minority interest and preferred shares, minus total cash and cash equivalents.

Exploratory Well: A well drilled to find and produce oil or gas in an unproven area or expand production of a previously known reservoir.

Fee Income: The General Partners in a private markets partnership generally receive two types of compensation: fee income as payment for their portfolio management services, and a share of any profits (carried interest) as incentive compensation.

Fuel Cell: A device that captures the electricity generated from a chemical reaction between a fuel and an oxidant. An example is a hydrogen fuel cell, which uses hydrogen as the fuel and oxygen as the oxidant to produce electricity and water.

Fund of Funds: A private markets partnership that consists primarily of investments in other partnerships, as opposed to direct investments in individual companies and deals. The General Partners of a fund of funds thus act as a manager of managers to create a diversified portfolio of partnerships, each of which in turn consists of a portfolio of direct investment deals.

Although a fund of funds is a collection of partnerships, the fund of funds itself is a partnership, and therefore has a vintage year, a commitment period, a distribution phase, and a final end. Thus, fund of funds have finite lifetimes, just like their underlying partnerships.

The advantages of a fund of funds are high diversification and "one stop shopping," i.e., the client has a single relationship with the fund of funds manager.

The disadvantages of fund of funds are higher costs (another entire layer of management fees and carried interest), an additional loss of liquidity, and an additional loss of control by the Limited Partners. Just as with direct private markets funds, a fund of funds is organized as a blind pool. That is, when a new fund of funds is announced, and a subscription target set, early investors do not know what specific sub-funds will be selected by the manager. Generally, the Private Placement Memorandum gives the General Partner almost unlimited latitude in making subsequent investments.

General Partner: The control partner in private equity partnerships, analogous to the portfolio manager in a public stock portfolio. Under the IRS code, the General Partner must commit some personal capital to the partnership (a minimum of 1% of the partnership's committed capital), and unlike the Limited Partners, is liable for leverage and other losses generated by the partnership.

Geothermal Energy: Energy extracted from the earth's interior to produce heat and electricity. Applications of geothermal energy include conventional geothermal (use of steam to drive turbines), geothermal heat pumps (pipes sunk beneath the earth's surface to act as a heat exchanger during the warmer and colder seasons), and direct heat (hot water pumped from the earth for use as a heat source).

Greenfield: A project without an operating history. Some of the initial outlay may be to the public entity, but the majority is used for construction. Greenfield opportunities may take an exceptionally long time to come to fruition. Meketa Investment Group categorizes a Fund as Greenfield if the Fund's investment strategy calls for over 65% of its underlying investments to be in greenfield assets.

Growth (Expansion Capital): A strategy that entails providing capital to a private company with the intention that the capital be used to expand operations. Generally, expansion capital strategies result in minority equity positions in companies, but with some degree of control over how the expansion capital is spent.

Hedging: Strategy used to limit or offset exposure to pricing risk of an underlying commodity. A common way to execute this strategy is through the use of futures contracts, a financial derivative that allows for the sale of a commodity at a pre-specified price in the future, whether or not the market price increases or decreases at the time. Counterparties to the futures contracts are speculators who are willing to accept the risk of price fluctuations in exchange for the potential upside.

High-rise: In the central business district, this could mean a building higher than 25 stories above ground level, but in suburban markets, it generally refers to buildings higher than seven or eight stories.

Hurdle Rate: The minimum rate of return that the Limited Partners must receive before the General Partners have a right to a share of any additional profits (carried interest) produced by the partnership's investments. For example, the partnership may specify that once the Limited Partners have received distributions representing an 8% total return on their commitment (the hurdle rate), the General Partner will share in all future distributions until they have been allocated 80% to the Limited Partners, and 20% to the General Partners (their carried interest).

Hydro Energy: Energy derived from the natural movement of falling or flowing water. The most common form of hydro energy comes from dammed water driving a turbine and generator to produce electricity. Once a hydroelectric complex is built, no direct waste is produced.

Hydrocarbon: A hydrogen and carbon compound created from the decomposition of organic material over time. Most hydrocarbons are found naturally in fossil fuels such as crude oil, natural gas, and coal.

Improvements: In the context of leasing, the term typically refers to the improvements made to or inside a building but may include any permanent structure or other development, such as a street, sidewalk, utilities, etc.

Independent Oil Company: A company involved in the exploration, production, and development of oil and natural gas that is not a Major Oil Company.

In-Kind Distribution: Most distributions from private equity partnerships are in cash. However, in some cases, a private deal will be taken public through an initial public offering (IPO), or through a trade sale for stock to a public company. In these cases, the Limited Partners will receive their distributions in the form of publicly traded common stocks and/or rights and warrants.

Investment Period: The period of time after the first closing during which the General Partner will call capital from the Limited Partners and make partnership investments. Legally, the investment period is usually six years. Practically, it is three to four years. Not to be confused with the term of the partnership, generally ten to twelve years.

IPO (Initial Public Offering): When a private company issues publicly traded stock, it becomes known as a public company. The initial sale of publicly available stock is called the initial public offering, or IPO.

IRR (Internal Rate of Return): The annualized rate of return on capital that is generated or capable of being generated within an investment or portfolio over a period of time, assuming all cash flows can be reinvested at the same rate. Mathematically, the IRR of an investment is the discount rate applied to that investment such that the net present value of the investment is zero. IRR is commonly used to measure profitability by applying the calculation to the after-tax cash flows to arrive at an after-tax equity yield rate.

J-Curve: Many private markets partnerships have small negative returns in their first years of operation as capital is invested. The negative returns result because the partnership's investments have not matured and turned a profit, but the partnership has nevertheless experienced various operating costs. When early deals begin to mature and are liquidated at a profit, the partnership's returns should become positive. Thus, the graph of the partnership's returns versus time can resemble the capital letter "J."

Landfill Methane: Landfill methane is generated from the decomposition of waste in landfills. Bacteria break down the organic matter, releasing a gas that is rich in methane. By capturing the methane, greenhouse gases released into the atmosphere are reduced, and the gases can be used as an energy source.

Later Stage Fund: A venture capital partnership that specializes in investing in startup companies that have already achieved at least some actual revenues, or a venture fund that provides subsequent rounds of venture financing after all of the capital provided in the first rounds has been consumed.

Lead Investor: Describes a General Partner who is the “lead” investor in a deal, as opposed to co-investors or follow-on investors. The term implies that the lead investor has taken the lead in sourcing, evaluating, and executing the deal.

Lease: An agreement whereby the owner of real property gives the right of possession to another for a specified period of time and for a specified consideration.

Lease Rate: The period rental payment to a lessor for the use of assets. It may also be considered as the implicit interest rate in minimum lease payments.

Leverage: Many General Partners use both equity capital provided by the Limited Partners and money borrowed from banks or other lenders to finance their investments. Any borrowed money is called leverage. If a deal is successful, leverage can often enhance the returns of the Limited Partners substantially. On the other hand, too much leverage can cripple an investment with interest and financing costs. It is important to note that the Limited Partners are not responsible for the repayment of any borrowed money.

Leveraged Buyouts: The purchase of a private or public company wherein the bulk of the purchase price is paid using borrowed money.

Lifecycle: The various developmental stages of a property: pre-development, development, leasing, operating and redevelopment (or rehab).

Limited Partner: All investors in a Limited Partnership other than the named General Partner are defined under the IRS code as Limited Partners. Limited Partners have only the control rights defined for them in the Private Placement Memorandum, and are generally passive investors in the partnership's deals.

A very important point is that Limited Partner's total liability for all deals made by the partnership are limited strictly by law to the Limited Partner's committed capital. Thus, even if the General Partners borrow a great deal of money (leverage), and lose it all, the lenders have no recourse to the assets of the Limited Partners. In effect, a Limited Partner can lose no more than the amount of money invested.

Look-Back Provision: See Claw-Back Provision above.

Low-rise: A building with fewer than four stories above ground level.

Major Oil Company: One of the original "Seven Sisters" consisting initially of Exxon, British Petroleum, Chevron, Gulf, Mobil, Texaco, and Royal Dutch Shell.

Market Strategy: A course of action defined with respect to a particular real estate market phase. For example, consider the market strategy of avoiding real estate transactions when there is an oversupply of space available in the market.

Market Value: The most probable price that a property would bring in a competitive and open market under fair sale conditions. Market value also refers to an estimate of this price.

Mezzanine Financing: An additional level of financing provided to a private company to expand sales, market share, or develop new products. Most mezzanine financing is structured as a package of high coupon bonds with equity “kickers,” i.e., rights to acquire the company's stock at a favorable price at a future point. Companies seeking mezzanine financing often have substantial revenues, and if not actual profits, the expectation of imminent profitability.

Midstream: Portion of the energy chain that transports and stores commodities such as oil and natural gas.

MMCF: One million cubic feet.

Multiples and Multiple Expansion: Managers purchasing public common stocks often buy companies with low price to earnings multiples when they believe some factor will induce other investors to bid up the price of the stock without an increase in actual earnings, thus causing the price multiple to expand. In the same fashion, a General Partner may purchase a private company with a low EBITDA multiple, expecting to profit through an expansion of that multiple. A typical example of a multiple expansion plan is consolidation. Many small companies, operating independently, may each be priced at relatively low multiples. But if purchased and combined into a larger, cohesive entity, investors might be willing to pay a higher multiple for the aggregate than for any individual component.

Natural Gas: A gaseous fossil fuel consisting primarily of methane and other heavier hydrocarbons. Natural gas burns cleaner than oil and coal and is a major source of electricity generation through the use of gas and steam turbines.

Net Metering: An arrangement that allows a facility to sell any excess energy it generates back to the electrical grid to offset its consumption.

Net Operating Income (NOI): The potential rental income plus other income, less vacancy, credit losses, and operating expenses.

Oil Sands: Naturally occurring mixtures of a very dense, tar-like form of petroleum called bitumen and sand or clay. Because of the high production and refining costs associated with oil sands, economic feasibility only occurs with high oil prices.

OPEC: OPEC (Organization of Petroleum Exporting Countries) is an oil cartel comprising twelve countries around the world.

Open-end Fund: A commingled fund that does not have a finite life, it continually accepts new investor capital and makes new property investments.

Operator: The party responsible for managing the asset; may be (and usually is) different than the owner/lessee of the asset.

Opportunistic: A phrase generally used by advisers and managers to describe investments in underperforming and/or undermanaged assets that hold the expectation of near-term increases in cash flow and value. Total return objectives for opportunistic strategies tend to be 20% or higher. Opportunistic investments typically involve a high degree of leverage - typically 60% to 100% on an asset basis and 60% to 80% on a portfolio basis.

Permanent Crops: Permanent crops include those grown on a tree or vine such as almonds, wine grapes, apples, and oranges. They are usually directly operated to produce higher income returns from crop sales but can carry a higher level of risk.

PFI: The Private Finance Initiative specifies a method, developed initially by the U.K. government, to provide financial support for Public-Private Partnerships. This has since been adopted as part of a wider reform program for the delivery of public services which is driven by the WTO, IMF & World Bank as a part of their "deregulation" and privatization drive. In return for their services, the private sector receives payment linked to its performance.

Pipeline: A system made of steel piping used to transport oil, gas, and other liquids from one location to another.

Placement Agent: Unlike public stock management companies, most of whom utilize an in-house sales force to market their services, private equity partnerships are generally marketed by third-party placement agents. These outside marketing firms and individuals are paid a commission by the General Partner.

Platform Company: Some private equity buyout funds attempt to add value by merging companies into larger, more cost efficient enterprises. This strategy generally begins with the acquisition of a platform company, often a market leader, to which other companies are added.

Possible Reserves: Reserves of oil or natural gas that have a less likely chance of being recovered than probable reserves. These reserves are often claimed as having a 10% certainty of being produced and are also known as P10 or 3P.

PPM (Private Placement Memorandum): Because Limited Partnership interests are not registered with the SEC, private equity managers must distribute a comprehensive document to prospective investors that describes the broad investment thesis of the partnership, and highlights any risks involved in the partnership. This document is called a Private Placement Memorandum.

PPP: A Public Private Partnership (or P3) is a system in which a government service or private business venture is funded and operated through a partnership of government and one or more private sector companies. Also referred to as Collective Development Agreements or Alternative Finance Procurement.

Precious Metals: Precious metals include gold, silver, palladium, and platinum. These metals have wide industrial uses but are better known for their usage in jewelry, art, and store of value.

Pre-merch (merchantable): Logs that do not meet the minimum size, quality, or usable volume required for the commercial sale of timber.

Privatization: The transfer of property or control of assets used to provide public services from the public sector to the private sector.

Probable Reserves: Probable reserves are those reserves based on median estimates and claim a 50% confidence of recoverability. These reserves are also known as P50 or 2P.

Producing Well: A well that produces oil and gas in sufficient quantities such that the revenue generated exceeds the associated production costs and taxes.

Property Type: The classification of commercial real estate based on its primary use. The four primary property types are: retail, industrial, office, and multi-family residential.

Proved Reserves: Reserves of oil or natural gas that are claimed to have a 90% certainty of being recovered using existing technology. The SEC only allows oil companies to report proved reserves to investors. Proved reserves are also known as P90 or 1P.

Public to Private: If a private partnership (or group of private partnerships) purchases all of the outstanding shares of a publicly traded company, the company's shares may be de-listed from the stock exchange. The company is then said to have been "taken private." For example, in June 1989, the private partnership Wings Holdings acquired the public stock of Northwest Airlines in a \$3.65 billion-dollar leveraged buyout. Following this acquisition, Northwest became a privately held corporation for the first time since 1941.

Pulpwood: Wood cut and chipped for the manufacturing of paper and paper related products. Pulpwood is typically too small or of insufficient quality for sawtimber and is classified as 6-9" DBH.

Real Estate Cycles (phases): The regularly repeating sequence of economic downturns and upturns and associated changes in real estate market transactions tied to market dynamics and changing macroeconomic conditions, whose phases include (in order) recession, recovery, expansion, and oversupply.

Real Estate Investment Trust (REIT): An investment vehicle in which investors purchase certificates of ownership in the trust, which in turn invests the money in real property and then distributes any profits to the investors. The trust is not subject to corporate income tax as long as it complies with the tax requirements for a REIT.

Shareholders must include their share of the REIT's income in their personal tax returns. (Barron's Dictionary of Real Estate Terms and Encyclopedia of Real Estate Terms 2nd Edition, Damien Abbott)

Real Estate Trends: Long-term movements or tendencies in the demand for commercial real estate (which can typically last for years or decades), usually tied to macro-economic or business cycles.

Renewable Energy: Energy derived from natural resources such as solar, wind, geothermal, or biofuels. Unlike oil, natural gas, or coal, these sources of energy are naturally replenished, providing a potential source of cleaner and more sustainable energy.

Row Crops: Row crops are those that are planted and harvested annually from the soil, as opposed to trees or vines, and include corn, cotton, rice, soybeans, and vegetables. Row crops are often eligible to receive federal subsidies.

Sawtimber: Timber of sufficient size and quality to be cut and harvested for lumber or other solid wood products. Sawtimber is usually derived from trees measuring 14" + DBH.

Secondary Fund: Occasionally, a Limited Partner will wish to sell his interest in a partnership before the term of the partnership is completed. Any such sale is termed a secondary market sale. A secondary fund creates a portfolio of partnership interests from earlier partnerships purchased in the secondary market. The advantage of a secondary fund is that it gives investors an opportunity to invest in seasoned partnerships from closed funds of prior vintage years.

Shadow Tolls: Payments made by government to the private sector operator of a road based, at least in part, on the number of vehicles using the road. They are currently in operation on some roads in the U.K., and they have also been adopted in other countries.

Solar Energy: Source of energy derived from the sun's light and heat. Common solar technologies include photovoltaics (PV) and solar thermal.

Sponsor: Every private equity opportunity that Meketa Investment Group evaluates is assigned to a sponsor. This individual, who is a member of Meketa Investment Group's Private Equity Investment Committee, is responsible for the collection of information and the evaluation of the opportunity.

Submarket: A segment or portion of a larger geographic market defined and identified on the basis of one or more attributes that distinguish it from other submarkets or locations.

Take Down/Draw Down: A take down or a draw down is the same as a capital call.

Term: The term of a private partnership is its expected lifetime, and is specified in the Private Placement Memorandum. Most partnerships have a term of ten years, with the option to extend the term once or twice by an additional year if the Limited Partners approve.

The term of a partnership consists of several phases. After the final closing, no new commitments are accepted and the partnership enters the commitment phase or investment phase, legally lasting up to six years, but generally lasting three to four years, during which the individual investments are made. A distribution phase follows, during which mature investments are realized and profits distributed to the partners. The final phase is the liquidation phase, during which all remaining properties and assets are sold in order to terminate the partnership.

Trade Sale: The most prevalent exit strategy for many private equity managers involves selling a company in the private markets, usually through an auction process, to other private equity investors or to larger companies. This type of exit is termed a trade sale.

Turnaround: A turnaround strategy involves buying a troubled company, usually for a relatively low price, and making significant managerial or organizational changes to better the company's operations and enhance profitability.

Upstream: Portion of the energy industry engaged in the exploration, production, and development of crude oil and natural gas reserves.

Vacancy: The number of units or space (of a specific commercial type) that are vacant and available for occupancy at a particular point in time within a given market (usually expressed as a vacancy rate).

Vacancy Rate: The percentage of the total supply of units or space of a specific commercial type that is vacant and available for occupancy at a particular point in time within a given market.

Value-added: A phrase generally used by advisers and managers to describe investments in underperforming and/or undermanaged assets. The objective is to generate 13 % to 18% returns.

VCOC (Venture Capital Operating Company): The IRS code defines one category of private partnerships to be venture capital operating companies for tax purposes. The General Partners of VCOCs are not required to register with the SEC as investment advisors. The name venture capital operating company relates only to the partnership's legal and tax structure, and does not imply that the partnership will invest in venture capital deals. For example, a middle market buyout fund, which invests only in mature companies with enterprise values of between \$200 million and \$1 billion, may be structured as a venture capital operating company.

Veneer: Continuous sheets of thin wood cut from trees measuring at least 16" + DBH. Veneer is commonly used in the manufacture of furniture and plywood.

Venture Capital: Money supplied to entrepreneurs to create new businesses is called venture capital. It is the first stage of financing for any new venture.

Traditionally, the recipient of the venture capital was a small group of entrepreneurs with an idea and a business plan, but no management team, corporate structure, revenues or profits. In the 1990s, however, venture capital was often used to seed established teams of entrepreneurs with well-defined products and in-place corporate structures. Thus, there is great variability in the meaning of venture capital and in the types of deals financed with venture capital money.

Vintage Year: The calendar year in which the first cash flow to a partnership occurred. This cash flow can be intended for management fees or investment capital. Vintage year can be used to differentiate the partnerships established over time by a General Partner, to track portfolio commitment pacing, and to benchmark portfolio performance.

Warrants: Just like publicly traded companies, private companies may issue warrants to their shareholders or to other groups providing some form of financing. A warrant is the right to purchase shares of the company's stock at a future date at a predetermined price, called the exercise price. Warrants become valuable if the exercise price is below the market price of the stock.

Wind Energy: Source of energy derived from wind motion that can be converted to electricity by turning a turbine and generator.

Disclaimer, Glossary, and Notes

WE HAVE PREPARED THIS REPORT (THIS "REPORT") FOR THE SOLE BENEFIT OF THE INTENDED RECIPIENT (THE "RECIPIENT").

SIGNIFICANT EVENTS MAY OCCUR (OR HAVE OCCURRED) AFTER THE DATE OF THIS REPORT AND THAT IT IS NOT OUR FUNCTION OR RESPONSIBILITY TO UPDATE THIS REPORT. ANY OPINIONS OR RECOMMENDATIONS PRESENTED HEREIN REPRESENT OUR GOOD FAITH VIEWS AS OF THE DATE OF THIS REPORT AND ARE SUBJECT TO CHANGE AT ANY TIME. ALL INVESTMENTS INVOLVE RISK. THERE CAN BE NO GUARANTEE THAT THE STRATEGIES, TACTICS, AND METHODS DISCUSSED HERE WILL BE SUCCESSFUL.

INFORMATION USED TO PREPARE THIS REPORT WAS OBTAINED FROM INVESTMENT MANAGERS, CUSTODIANS, AND OTHER EXTERNAL SOURCES. WHILE WE HAVE EXERCISED REASONABLE CARE IN PREPARING THIS REPORT, WE CANNOT GUARANTEE THE ACCURACY OF ALL SOURCE INFORMATION CONTAINED HEREIN.

CERTAIN INFORMATION CONTAINED IN THIS REPORT MAY CONSTITUTE "FORWARD - LOOKING STATEMENTS," WHICH CAN BE IDENTIFIED BY THE USE OF TERMINOLOGY SUCH AS "MAY," "WILL," "SHOULD," "EXPECT," "AIM," "ANTICIPATE," "TARGET," "PROJECT," "ESTIMATE," "INTEND," "CONTINUE" OR "BELIEVE," OR THE NEGATIVES THEREOF OR OTHER VARIATIONS THEREON OR COMPARABLE TERMINOLOGY. ANY FORWARD - LOOKING STATEMENTS, FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS IN THIS PRESENTATION ARE BASED UPON CURRENT ASSUMPTIONS. CHANGES TO ANY ASSUMPTIONS MAY HAVE A MATERIAL IMPACT ON FORWARD - LOOKING STATEMENTS, FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS. ACTUAL RESULTS MAY THEREFORE BE MATERIALLY DIFFERENT FROM ANY FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS IN THIS PRESENTATION.

PERFORMANCE DATA CONTAINED HEREIN REPRESENT PAST PERFORMANCE. PAST PERFORMANCE IS NO GUARANTEE OF FUTURE RESULTS.

Credit Risk: Refers to the risk that the issuer of a fixed income security may default (i.e., the issuer will be unable to make timely principal and/or interest payments on the security.)

Duration: Measure of the sensitivity of the price of a bond to a change in its yield to maturity. Duration summarizes, in a single number, the characteristics that cause bond prices to change in response to a change in interest rates. For example, the price of a bond with a duration of three years will rise by approximately 3% for each 1% decrease in its yield to maturity. Conversely, the price will decrease 3% for each 1% increase in the bond's yield. Price changes for two different bonds can be compared using duration. A bond with a duration of six years will exhibit twice the percentage price change of a bond with a three-year duration. The actual calculation of a bond's duration is somewhat complicated, but the idea behind the calculation is straightforward. The first step is to measure the time interval until receipt for each cash flow (coupon and principal payments) from a bond. The second step is to compute a weighted average of these time intervals. Each time interval is measured by the present value of that cash flow. This weighted average is the duration of the bond measured in years.

Information Ratio: This statistic is a measure of the consistency of a portfolio's performance relative to a benchmark. It is calculated by subtracting the benchmark return from the portfolio return (excess return), and dividing the resulting excess return by the standard deviation (volatility) of this excess return. A positive information ratio indicates outperformance versus the benchmark, and the higher the information ratio, the more consistent the outperformance.

Jensen's Alpha: A measure of the average return of a portfolio or investment in excess of what is predicted by its beta or "market" risk. $\text{Portfolio Return} - [\text{Risk Free Rate} + \text{Beta} * (\text{market return} - \text{Risk Free Rate})]$.

Market Capitalization: For a firm, market capitalization is the total market value of outstanding common stock. For a portfolio, market capitalization is the sum of the capitalization of each company weighted by the ratio of holdings in that company to total portfolio holdings; thus it is a weighted-average capitalization. Meketa Investment Group considers the largest 65% of the broad domestic equity market as large capitalization, the next 25% of the market as medium capitalization, and the smallest 10% of stocks as small capitalization.

Market Weighted: Stocks in many indices are weighted based on the total market capitalization of the issue. Thus, the individual returns of higher market-capitalization issues will more heavily influence an index's return than the returns of the smaller market-capitalization issues in the index.

Maturity: The date on which a loan, bond, mortgage, or other debt/security becomes due and is to be paid off.

Prepayment Risk: The risk that prepayments will increase (homeowners will prepay all or part of their mortgage) when mortgage interest rates decline; hence, investors' monies will be returned to them in a lower interest rate environment. Also, the risk that prepayments will slow down when mortgage interest rates rise; hence, investors will not have as much money as previously anticipated in a higher interest rate environment. A prepayment is any payment in excess of the scheduled mortgage payment.

Price-Book Value (P/B) Ratio: The current market price of a stock divided by its book value per share. Meketa Investment Group calculates P/B as the current price divided by Compustat's quarterly common equity. Common equity includes common stock, capital surplus, retained earnings, and treasury stock adjusted for both common and nonredeemable preferred stock. Similar to high P/E stocks, stocks with high P/B's tend to be riskier investments.

Price-Earnings (P/E) Ratio: A stock's market price divided by its current or estimated future earnings. Lower P/E ratios often characterize stocks in low growth or mature industries, stocks in groups that have fallen out of favor, or stocks of established blue chip companies with long records of stable earnings and regular dividends. Sometimes a company that has good fundamentals may be viewed unfavorably by the market if it is an industry that is temporarily out of favor. Or a business may have experienced financial problems causing investors to be skeptical about its future. Either of these situations would result in lower relative P/E ratios. Some stocks exhibit above-average sales and earnings growth or expectations for above average growth. Consequently, investors are willing to pay more for these companies' earnings, which results in elevated P/E ratios. In other words, investors will pay more for shares of companies whose profits, in their opinion, are expected to increase faster than average. Because future events are in no way assured, high P/E stocks tend to be riskier and more volatile investments. Meketa Investment Group calculates P/E as the current price divided by the I/B/E/S consensus of twelve-month forecast earnings per share.

Quality Rating: The rank assigned a security by such rating services as Fitch, Moody's, and Standard & Poor's. The rating may be determined by such factors as (1) the likelihood of fulfillment of dividend, income, and principal payment of obligations; (2) the nature and provisions of the issue; and (3) the security's relative position in the event of liquidation of the company. Bonds assigned the top four grades (AAA, AA, A, BBB) are considered investment grade because they are eligible bank investments as determined by the controller of the currency.

Sharpe Ratio: A commonly used measure of risk-adjusted return. It is calculated by subtracting the risk free return (usually three-month Treasury bill) from the portfolio return and dividing the resulting excess return by the portfolio's total risk level (standard deviation). The result is a measure of return per unit of total risk taken. The higher the Sharpe ratio, the better the fund's historical risk adjusted performance.

Standard Deviation: A measure of the total risk of an asset or a portfolio. Standard deviation measures the dispersion of a set of numbers around a central point (e.g., the average return). If the standard deviation is small, the distribution is concentrated within a narrow range of values. For a normal distribution, about two thirds of the observations will fall within one standard deviation of the mean, and 95% of the observations will fall within two standard deviations of the mean.

STIF Account: Short-term investment fund at a custodian bank that invests in cash-equivalent instruments. It is generally used to safely invest the excess cash held by portfolio managers.

Style: The description of the type of approach and strategy utilized by an investment manager to manage funds. For example, the style for equities is determined by portfolio characteristics such as price-to-book value, price-to-earnings ratio, and dividend yield. Equity styles include growth, value, and core.

Yield to Maturity: The yield, or return, provided by a bond to its maturity date; determined by a mathematical process, usually requiring the use of a “basis book.” For example, a 5% bond pays \$5 a year interest on each \$100 par value. To figure its current yield, divide \$5 by \$95—the market price of the bond—and you get 5.26%. Assume that the same bond is due to mature in five years. On the maturity date, the issuer is pledged to pay \$100 for the bond that can be bought now for \$95. In other words, the bond is selling at a discount of 5% below par value. To figure yield to maturity, a simple and approximate method is to divide 5% by the five years to maturity, which equals 1% pro rata yearly. Add that 1% to the 5.26% current yield, and the yield to maturity is roughly 6.26%.

$$\frac{5\% \text{ (discount)}}{5 \text{ (yrs. to maturity)}} = 1\% \text{ pro rata, plus } 5.26\% \text{ (current yield)} = 6.26\% \text{ (yield to maturity)}$$

Sources: [Investment Terminology](#), International Foundation of Employee Benefit Plans, 1999.
[The Handbook of Fixed Income Securities](#), Fabozzi, Frank J., 1991.

The Russell Indices[®], TM, SM are trademarks/service marks of the Frank Russell Company.

Throughout this report, numbers may not sum due to rounding.

Returns for periods greater than one year are annualized throughout this report.

Values shown are in millions of dollars, unless noted otherwise.