F U N D  E V A L U A T I O N  R E P O R T

# Plymouth County Retirement Association

## Investment Review
## November 29, 2017



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

| Boston | Chicago | Miami | Portland | San Diego | London |
|---|---|---|---|---|---|
| Massachusetts | Illinois | Florida | Oregon | California | United Kingdom |

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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.

1. **Private Markets Program Update: June 30, 2017**
2. **Private Equity Manager Finalist Overview: Trilantic Capital Partners**
3. **Global Equity Search Update**
4. **Transition Management Consultant RFP Respondent Review**
5. **Disclaimer, Glossary, and Notes**

# Plymouth County Retirement Association

# Private Markets Program

# June 30, 2017

1. **Private Equity Program**

2. **Private Real Assets Program**

3. **Private Real Estate Program**

5. **Appendices**
   - Disclaimer and Valuation Policies
   - Glossary of Terms

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

As of June 30, 2017, the Retirement Association had committed $332.9 million to 44 partnerships; two additional investments were excluded from this report due to lack of availability of historical data. The reported fair value of those 42 partnerships, in aggregate, was $153.3 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[2]** | 22 | **Number of Partnerships** | 6 | **Number of Partnerships** | 14 |
| **Committed Capital[3]** | $114.5 million | **Committed Capital[3]** | $60.4 million | **Committed Capital** | $158.0 million |
| **Capital Called** | $81.9 million | **Capital Called** | $21.1 million | **Capital Called** | $108.7 million |
| **Distributions** | $65.7 million | **Distributions** | $1.5 million | **Distributions** | $60.1 million |
| **Reported Value** | $32.1 million | **Reported Value** | $17.5 million | **Reported Value** | $103.7 million |
| **Total Value Multiple** | 1.2x | **Total Value Multiple** | 0.9x | **Total Value Multiple** | 1.5x |
| **Net IRR** | 3.8% | **Net IRR** | -3.3% | **Net IRR** | 5.6% |
| **Q2 2017 IRR[4]** | 5.2% | **Q2 2017 IRR[4]** | 1.5% | **Q2 2017 IRR[4]** | 1.7% |
| **Trailing Year IRR[4]** | 13.1% | **Trailing Year IRR[4]** | 1.5% | **Trailing Year IRR[4]** | 3.4% |

[1] Throughout this report, numbers may not sum due to rounding.
[2] Due to lack of availability of historical data, the following partnerships were excluded from the report: Rimco Production Company, Inc. and Senior Tour Players, L.P.
[3] 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.
[4] IRR is net of Meketa Investment Group fees, but gross of prior advisory fees.

**The Retirement Association did not make any new commitments during the second quarter of 2017.**

**In aggregate, approximately $0.8 million was called by the underlying managers from the Retirement Association during the second quarter.**

- Summit Partners Growth Equity Fund IX called approximately $0.6 million from the Association to fund new investments in HealthSun, a Florida-based healthcare delivery network, and Thrive Skilled Pediatric Care, a U.S. provider of clinical homecare to children, in addition to partnership expenses.
- Euro Choice V called approximately $0.2 million from the Association primarily to fund ongoing investment contributions requested by underlying investment funds in addition to management fees.
- Globespan Capital Partners V called approximately $0.1 million from the Association to fund various follow-on investments as well as management fees.

**Distributions received by the Retirement Association from underlying partnerships during the second quarter totaled approximately $0.8 million.**

- Lexington Capital Partners VII distributed $0.3 million in proceeds to the Association during the quarter, primarily from realized gains.
- Landmark Equity Partners XIV distributed $0.2 million to the Association during the quarter in proceeds received from portfolio investments in LAF IV Colony, Landmark Acquisition Funds V-VI, HL Investments, TCL Aventura, and Caltius Equity Partners II.
- Siguler Guff Distressed Opportunities Fund III distributed $0.2 million to the Association during the quarter in proceeds received from portfolio investments in Standard Broadcasting II, SG SPM Fund II, and Regions Plaza.

**During the second quarter of 2017, the Retirement Association made two new commitments including $10.0 million to Basalt Infrastructure Partners II, a partnership targeting investments in core and core-plus infrastructure assets, or asset-backed companies in North America and Western Europe, and IFM Global Infrastructure (U.S.), an open-end vehicle investing in mature, operational, core infrastructure assets located in countries with investment-grade ratings.**

**In aggregate, approximately $0.3 million was called by the underlying managers from the Retirement Association during the second quarter.**

- JPMorgan Global Maritime Investment Fund called approximately $0.3 million during the quarter to repay amounts previously drawn for investment and working capital purposes from the Fund's credit facility.

**Distributions received by the Retirement Association from underlying partnerships during the second quarter totaled approximately $0.1 million.**

- Domain Timbervest Partners III distributed $0.1 million in proceeds to the Association during the quarter, primarily in realized gains from the sale of various timberland assets.

**During the second quarter of 2017, the Retirement Association made a new real estate commitment of $18.0 million to Carlyle Realty Partners VIII, an opportunistic partnership focused on assembling a diversified portfolio in the U.S.**

**In aggregate, $2.1 million was called by the underlying managers from the Retirement Association during the second quarter.**

- AEW Partners Real Estate Fund VIII called approximately $2.1 million from the Association primarily to fund the acquisitions of Atlanta Industrial, a 775,339 sq. ft. portfolio of eight industrial properties in Atlanta, GA, Mellody Farm Apartments, a 260-unit apartment building within a Whole Foods-anchored retail center located in Vernon Hills, IL, and Dalfen Industrial, a 902,567 sq. ft. portfolio of six industrial properties in Dallas, Baltimore, Atlanta, and Chicago.

**Distributions received by the Retirement Association from underlying partnerships during the second quarter totaled approximately $2.0 million.**

- Hunt Redevelopment and Renovation Fund distributed $0.8 million to the Association during the quarter primarily in proceeds received from the realizations of Addison Mill Apartments and The Woods Apartments, which generated gross equity multiples of 1.1x and 2.4x, respectively.
- DSF Multi-Family Real Estate Fund III distributed $0.5 million to the Association primarily as part of a return of capital and interest received in relation to the closing of subsequent investor commitments.
- DSF Capital Partners IV distributed $0.4 million to the Association during the quarter primarily in operating proceeds received from existing portfolio investments as well as financing proceeds received in conjunction with the Halstead New Rochelle asset.
- Mesirow Real Estate International Partnership Fund I distributed $0.3 million to the Association during the quarter in proceeds received from various existing portfolio investments.

# Investment Roadmap

As of October 31, 2017

### Buyout
- Leeds Equity IV — $5 mm — 2004
- Mesirow Capital IX — $4 mm — 2005
- DN Partners II — $5 mm — 2007
- Leeds Equity V — $2.5 mm — 2010
- Wellspring VI — $12 mm — 2017
- LLR Equity V — $12 mm — 2017

### Funds of Funds
- Euro Choice II — €4.1 mm — 2004
- Singular Guff III — $6 mm — 2008
- Euro Choice V — €5.0 mm — 2012

### Growth Equity
- TRG Growth II — $7.5 mm — 2007
- Summit Growth IX — $10 mm — 2016

### Private Debt
- Audax Mezzanine IV — $10 mm — 2016

### Secondary
- Landmark Equity XIV — $6 mm — 2008
- Lexington Capital VII — $10 mm — 2010

### Special Situations
- Levine Leichtman Deep Value — $3 mm — 2005

### Venture Capital
- Charles River X — $5 mm — 1999
- Charles River XI — $1.8 mm — 2000
- Ascent Venture IV — $2.5 mm — 2004
- Ascend Ventures II — $2.5 mm — 2005
- Globespan Capital V — $5 mm — 2006
- Ascent Venture V — $5 mm — 2011

- 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.
- Gray box: Liquidated Investment.

# Investment Roadmap

As of October 31, 2017

| Natural Resources | Opportunistic | Value-Added | Core |
|---|---|---|---|
| Timbervest Partners III<br>$5 mm 2010 | JPM Global Maritime<br>$10 mm 2010 | Global Partners III<br>$10 mm 2016 | IFM Global (U.S.)<br>$20 mm Open-end |
| BTG Global Timberland<br>€4.3 mm 2011 | | | Basalt II<br>$10 mm 2017 |

- 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.

# Investment Roadmap

As of October 31, 2017

| Category | Investment | Amount | Vintage / Type |
|---|---|---|---|
| Core | Invesco REIT | $22 mm | Open-End |
| Core | Multi-Employer Trust | $5 mm | Open-End |
| Core | PRISA I | $15 mm | Open-End |
| Funds of Funds | Real Estate Int'l I | $15 mm | 2007 |
| Opportunistic | 1921 Realty | $5 mm | 2008 |
| Opportunistic | AEW Partners VIII | $25 mm | 2016 |
| Opportunistic | Carlyle VIII | $18 mm | 2017 |
| Value-Added | Intercontinental III | $4 mm | 2001 |
| Value-Added | Hunt Redevelopment | $10 mm | 2003 |
| Value-Added | Intercontinental IV | $4 mm | 2004 |
| Value-Added | Berkshire Multifamily II | $10 mm | 2007 |
| Value-Added | New Boston VII | $5 mm | 2007 |
| Value-Added | DSF Capital IV | $5 mm | 2011 |
| Value-Added | DSF Real Estate III | $15 mm | 2016 |

- 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.

## Aggregate Private Equity Program Partnership Roster

| | Vintage Year | Commitment ($ mm) | Committed (%) | Reported Fair Value ($ mm) | Reported Fair Value (%) |
|---|---|---|---|---|---|
| **Total Program**[1] | | **114.5** | **100** | **32.1** | **100** |
| **Fund of Funds** | | **17.6** | **15** | **6.5** | **20** |
| Euro Choice II, L.P.[2] | 2004 | 5.5 | 5 | 0.0 | 0 |
| Siguler Guff Distressed Opportunities Fund III, L.P. | 2008 | 6.0 | 5 | 1.6 | 5 |
| Euro Choice V, L.P.[3] | 2012 | 6.1 | 5 | 4.9 | 15 |
| **Secondary** | | **16.0** | **14** | **6.3** | **20** |
| Landmark Equity Partners XIV, L.P. | 2008 | 6.0 | 5 | 2.3 | 7 |
| Lexington Capital Partners VII, L.P. | 2009 | 10.0 | 9 | 4.0 | 12 |
| **Buyout** | | **28.5** | **25** | **4.6** | **14** |
| Leeds Equity Partners IV, L.P. | 2004 | 5.0 | 4 | 0.8 | 2 |
| Mesirow Financial Capital Partners IX, L.P. | 2005 | 4.0 | 3 | 1.0 | 3 |
| DN Partners II, L.P. | 2007 | 5.0 | 4 | 0.7 | 2 |
| Leeds Equity Partners V, L.P. | 2010 | 2.5 | 2 | 2.0 | 6 |
| Wellspring Capital Partners VI, L.P. | 2017 | 12.0 | 10 | 0.0 | 0 |
| **Special Situations** | | **3.0** | **3** | **0.0** | **0** |
| Levine Leichtman Capital Partners Deep Value Fund, L.P. | 2005 | 3.0 | 3 | 0.0 | 0 |
| **Private Debt** | | **10.0** | **9** | **1.0** | **3** |
| Audax Mezzanine Fund IV, L.P. | 2015 | 10.0 | 9 | 1.0 | 3 |
| **Venture Capital** | | **21.8** | **19** | **9.7** | **30** |
| Charles River Partnership X, L.P. | 1999 | 5.0 | 4 | 0.0 | 0 |
| Charles River Partnership XI, L.P. | 2000 | 1.8 | 2 | 0.2 | <1 |
| Ascent Venture Partners IV, L.P. | 2004 | 2.5 | 2 | 0.4 | 1 |

[1] Due to lack of availability of historical data, the following partnerships were excluded from the report: Rimco Production Company, Inc. and Senior Tour Players, L.P.
[2] The Retirement Association committed €4.1 million to the Partnership in 2004. The $5.5 million is an estimated amount based on the contributed capital and unfunded commitment as of 6/30/2017.
[3] The Retirement Association committed €5.0 million to the Partnership in 2013. The $6.1 million is an estimated amount based on the contributed capital and unfunded commitment as of 6/30/2017.

## Aggregate Private Equity Program Partnership Roster

| | Vintage Year | Commitment ($ mm) | Committed (%) | Reported Fair Value ($ mm) | Reported Fair Value (%) |
|---|---|---|---|---|---|
| Ascend Ventures II, L.P. | 2005 | 2.5 | 2 | 0.7 | 2 |
| Globespan Capital Partners V, L.P. | 2006 | 5.0 | 4 | 3.8 | 12 |
| Ascent Venture Partners V, L.P. | 2011 | 5.0 | 4 | 4.7 | 15 |
| **Growth Equity** | | **17.5** | **15** | **4.0** | **12** |
| TRG Growth Partnership II, L.P. | 2007 | 7.5 | 7 | 3.0 | 9 |
| Summit Partners Growth Equity Fund IX, L.P. | 2016 | 10.0 | 9 | 0.9 | 3 |

## Aggregate Private Equity Program Partnership Roster

| | Vintage Year | Commitment ($ mm) | Committed (%) | Reported Fair Value ($ mm) | Reported Fair Value (%) |
|---|---|---|---|---|---|
| **Total Program** | | **60.4** | **100** | **17.5** | **100** |
| **Core** | | **30.0** | **50** | **0.0** | **0** |
| IFM Global Infrastructure (U.S.), L.P. | Open-End | 20.0 | 33 | 0.0 | 0 |
| Basalt Infrastructure Partners II | 2017 | 10.0 | 17 | 0.0 | 0 |
| **Natural Resources** | | **10.4** | **17** | **9.8** | **56** |
| Domain Timbervest Partners III, L.P. | 2010 | 5.0 | 8 | 5.7 | 32 |
| BTG Pactual Global Timberland Resources Fund, LLC[1] | 2011 | 5.4 | 9 | 4.1 | 23 |
| **Opportunistic** | | **10.0** | **17** | **6.0** | **34** |
| JPMorgan Global Maritime Investment | 2010 | 10.0 | 17 | 6.0 | 34 |
| **Value-Added** | | **10.0** | **17** | **1.7** | **10** |
| Global Infrastructure Partners III, L.P. | 2016 | 10.0 | 17 | 1.7 | 10 |

[1] The Retirement Association committed €4.3 million to the Partnership in 2010. The $5.4 million is an estimated amount based on the contributed capital and unfunded commitment as of 6/30/2017.

## Aggregate Real Estate Program Partnership Roster

| | Vintage Year | Commitment ($ mm) | Committed (%) | Reported Fair Value ($ mm) | Reported Fair Value (%) |
|---|---|---|---|---|---|
| **Total Program** | | **158.0** | **100** | **103.7** | **100** |
| **Core** | | **42.0** | **27** | **82.1** | **79** |
| PRISA I | Open-End | 15.0 | 9 | 36.9 | 36 |
| Multi-Employer Property Trust | Open-End | 5.0 | 3 | 15.2 | 15 |
| Invesco Equity Real Estate Securities Trust | Open-End | 22.0 | 14 | 30.0 | 29 |
| **Opportunistic** | | **48.0** | **30** | **2.7** | **3** |
| 1921 Realty, Inc. | 2008 | 5.0 | 3 | 1.0 | 1 |
| AEW Partners Real Estate Fund VIII, L.P. | 2017 | 25.0 | 16 | 1.7 | 2 |
| Carlyle Realty Partners VIII, L.P. | 2017 | 18.0 | 11 | 0.0 | 0 |
| **Value-Added** | | **53.0** | **34** | **13.0** | **13** |
| Intercontinental Real Estate Investment Fund III, LLC | 2001 | 4.0 | 3 | 0.1 | < 1 |
| Hunt Redevelopment and Renovation Fund, LLC | 2003 | 10.0 | 6 | 1.0 | 1 |
| Intercontinental Real Estate Investment Fund IV, LLC | 2004 | 4.0 | 3 | 0.1 | < 1 |
| Berkshire Multifamily Value Fund II, L.P. | 2007 | 10.0 | 6 | 0.4 | < 1 |
| New Boston Institutional Fund, L.P. VII | 2007 | 5.0 | 3 | 2.3 | 2 |
| DSF Capital Partners IV, L.P. | 2011 | 5.0 | 3 | 4.6 | 4 |
| DSF Multi-Family Real Estate Fund III, L.P. | 2016 | 15.0 | 9 | 4.7 | 5 |
| **Fund of Funds** | | **15.0** | **9** | **6.0** | **6** |
| Real Estate International Partnership Fund I, L.P. | 2007 | 15.0 | 9 | 6.0 | 6 |

## 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[5]** | | **114.5** | **81.9** | **36.7** | **65.7** | **32.1** | **97.8** | **3.8** | **1.2** |
| **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** | **<0.1** | **1.9** | **0.2** | **2.1** | **3.2** | **1.1** |
| Charles River Partnership XI, L.P. | Venture Capital | 1.8 | 1.8 | <0.1 | 1.9 | 0.2 | 2.1 | 3.2 | 1.1 |
| **Vintage Year 2004** | | **13.0** | **13.1** | **0.4** | **13.3** | **1.3** | **14.6** | **1.8** | **1.1** |
| Ascent Venture Partners IV, L.P. | Venture Capital | 2.5 | 2.5 | 0.0 | 0.4 | 0.4 | 0.8 | -15.7 | 0.3 |
| Euro Choice II, L.P. | Fund of Funds | 5.5 | 5.5 | 0.4 | 7.7 | 0.0 | 7.7 | 6.3 | 1.4 |
| Leeds Equity Partners IV, L.P. | Buyout | 5.0 | 5.0 | 0.0 | 5.2 | 0.8 | 6.1 | 3.0 | 1.2 |
| **Vintage Year 2005** | | **9.5** | **11.0** | **0.3** | **6.7** | **1.7** | **8.4** | **-4.9** | **0.8** |
| Ascend Ventures II, L.P. | Venture Capital | 2.5 | 2.3 | 0.2 | 0.2 | 0.7 | 1.0 | -9.3 | 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 | 1.3 | 1.0 | 2.3 | -6.1 | 0.6 |
| **Vintage Year 2006** | | **5.0** | **4.7** | **0.3** | **4.6** | **3.8** | **8.4** | **11.1** | **1.8** |
| Globespan Capital Partners V, L.P. | Venture Capital | 5.0 | 4.7 | 0.3 | 4.6 | 3.8 | 8.4 | 11.1 | 1.8 |
| **Vintage Year 2007** | | **12.5** | **9.7** | **2.8** | **6.2** | **3.8** | **10.0** | **0.6** | **1.0** |
| DN Partners II, L.P. | Buyout | 5.0 | 2.3 | 2.7 | 0.0 | 0.7 | 0.7 | -17.6 | 0.3 |
| TRG Growth Partnership II, L.P. | Growth Equity | 7.5 | 7.4 | 0.1 | 6.2 | 3.1 | 9.3 | 5.1 | 1.3 |

[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] Due to lack of availability of historical data, the following partnerships were excluded from the report: Rimco Production Company, Inc. and Senior Tour Players, L.P.

## 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 2008** | | **12.0** | **11.5** | **0.5** | **12.6** | **3.9** | **16.5** | **10.5** | **1.4** |
| Landmark Equity Partners XIV, L.P. | Secondary | 6.0 | 5.7 | 0.3 | 5.2 | 2.3 | 7.5 | 11.1 | 1.3 |
| Siguler Guff Distressed Opportunities Fund III, L.P. | Fund of Funds | 6.0 | 5.8 | 0.2 | 7.4 | 1.6 | 9.0 | 10.3 | 1.5 |
| **Vintage Year 2009** | | **10.0** | **10.3** | **0.0** | **10.8** | **4.0** | **14.8** | **15.1** | **1.4** |
| Lexington Capital Partners VII, L.P. | Secondary | 10.0 | 10.3 | 0.0 | 10.8 | 4.0 | 14.8 | 15.1 | 1.4 |
| **Vintage Year 2010** | | **2.5** | **3.6** | **0.0** | **2.8** | **2.0** | **4.8** | **11.4** | **1.4** |
| Leeds Equity Partners V, L.P. | Buyout | 2.5 | 3.6 | 0.0 | 2.8 | 2.0 | 4.8 | 11.4 | 1.4 |
| **Vintage Year 2011** | | **5.0** | **4.8** | **0.4** | **3.0** | **4.7** | **7.7** | **11.8** | **1.6** |
| Ascent Venture Partners V, L.P. | Venture Capital | 5.0 | 4.8 | 0.4 | 3.0 | 4.7 | 7.7 | 11.8 | 1.6 |
| **Vintage Year 2012** | | **6.1** | **5.2** | **1.1** | **1.5** | **4.9** | **6.4** | **10.8** | **1.2** |
| Euro Choice V, L.P. | Fund of Funds | 6.1 | 5.2 | 1.1 | 1.5 | 4.9 | 6.4 | 10.8 | 1.2 |
| **Vintage Year 2015** | | **10.0** | **1.2** | **8.8** | **0.1** | **1.0** | **1.1** | **NM** | **1.0** |
| Audax Mezzanine Fund IV, L.P. | Private Debt | 10.0 | 1.2 | 8.8 | 0.1 | 1.0 | 1.1 | NM | 1.0 |
| **Vintage Year 2016** | | **10.0** | **0.6** | **9.4** | **0.0** | **0.9** | **0.9** | **NM** | **1.5** |
| Summit Partners Growth Equity Fund IX, L.P. | Growth Equity | 10.0 | 0.6 | 9.4 | 0.0 | 0.9 | 0.9 | NM | 1.5 |
| **Vintage Year 2017** | | **12.0** | **0.0** | **12.0** | **0.0** | **NA** | **NA** | **NA** | **NA** |
| Wellspring Capital Partners VI, L.P. | Buyout | 12.0 | 0.0 | 12.0 | 0.0 | NA | NA | NA | NA |

## 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** | | **60.4** | **21.1** | **39.7** | **1.5** | **17.5** | **19.0** | **-3.3** | **0.9** |
| **Total Closed-end** | | **40.4** | **21.1** | **19.7** | **1.5** | **17.5** | **19.0** | **-3.3** | **0.9** |
| **Vintage Year 2010** | | **15.0** | **14.1** | **1.2** | **1.1** | **11.7** | **12.8** | **-2.9** | **0.9** |
| Domain Timbervest Partners III, L.P. | Natural Resources | 5.0 | 5.0 | 0.0 | 0.3 | 5.7 | 6.0 | 4.0 | 1.2 |
| JPMorgan Global Maritime Investment | Opportunistic | 10.0 | 9.1 | 1.2 | 0.8 | 6.0 | 6.8 | -11.0 | 0.8 |
| **Vintage Year 2011** | | **5.4** | **5.0** | **0.4** | **0.1** | **4.1** | **4.2** | **-4.5** | **0.8** |
| BTG Pactual Global Timberland Resources Fund, LLC | Natural Resources | 5.4 | 5.0 | 0.4 | 0.1 | 4.1 | 4.2 | -4.5 | 0.8 |
| **Vintage Year 2016** | | **10.0** | **1.9** | **8.1** | **0.2** | **1.7** | **2.0** | **NM** | **1.0** |
| Global Infrastructure Partners III, L.P. | Value-Added | 10.0 | 1.9 | 8.1 | 0.2 | 1.7 | 2.0 | NM | 1.0 |
| **Vintage Year 2017** | | **10.0** | **0.0** | **10.0** | **0.0** | **NA** | **NA** | **NA** | **NA** |
| Basalt Infrastructure Partners II | Core | 10.0 | 0.0 | 10.0 | 0.0 | NA | NA | NA | NA |
| **Total Open-end** | | **20.0** | **0.0** | **20.0** | **0.0** | **NA** | **NA** | **NA** | **NA** |
| IFM Global Infrastructure (U.S.), L.P. | Core | 20.0 | 0.0 | 20.0 | 0.0 | NA | NA | NA | NA |

[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

| | 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** | | **158.0** | **108.7** | **57.3** | **60.1** | **103.7** | **163.8** | **5.6** | **1.5** |
| **Total Closed-end** | | **116.0** | **62.7** | **57.3** | **47.0** | **21.7** | **68.6** | **1.7** | **1.1** |
| **Vintage Year 2001** | | **4.0** | **4.6** | **0.0** | **5.6** | **0.1** | **5.7** | **2.4** | **1.2** |
| Intercontinental Real Estate Investment Fund III, LLC | Value-Added | 4.0 | 4.6 | 0.0 | 5.6 | 0.1 | 5.7 | 2.4 | 1.2 |
| **Vintage Year 2003** | | **10.0** | **9.0** | **1.9** | **10.6** | **1.0** | **11.6** | **4.9** | **1.3** |
| Hunt Redevelopment and Renovation Fund, LLC | Value-Added | 10.0 | 9.0 | 1.9 | 10.6 | 1.0 | 11.6 | 4.9 | 1.3 |
| **Vintage Year 2004** | | **4.0** | **4.6** | **0.0** | **2.4** | **0.1** | **2.4** | **-8.0** | **0.5** |
| Intercontinental Real Estate Investment Fund IV, LLC | Value-Added | 4.0 | 4.6 | 0.0 | 2.4 | 0.1 | 2.4 | -8.0 | 0.5 |
| **Vintage Year 2007** | | **30.0** | **26.9** | **4.3** | **26.7** | **8.7** | **35.3** | **5.8** | **1.3** |
| Berkshire Multifamily Value Fund II, L.P. | Value-Added | 10.0 | 11.3 | 0.0 | 17.5 | 0.4 | 17.9 | 11.0 | 1.6 |
| New Boston Institutional Fund, L.P. VII | Value-Added | 5.0 | 3.0 | 2.0 | 1.9 | 2.3 | 4.2 | 7.0 | 1.4 |
| Real Estate International Partnership Fund I, L.P. | Fund of Funds | 15.0 | 12.7 | 2.3 | 7.2 | 6.0 | 13.2 | 0.8 | 1.0 |
| **Vintage Year 2008** | | **5.0** | **5.4** | **0.0** | **0.0** | **1.0** | **1.0** | **-17.5** | **0.2** |
| 1921 Realty, Inc. | Opportunistic | 5.0 | 5.4 | 0.0 | 0.0 | 1.0 | 1.0 | -17.5 | 0.2 |
| **Vintage Year 2011** | | **5.0** | **5.0** | **0.0** | **1.3** | **4.6** | **5.8** | **4.9** | **1.2** |
| DSF Capital Partners IV, L.P. | Value-Added | 5.0 | 5.0 | 0.0 | 1.3 | 4.6 | 5.8 | 4.9 | 1.2 |
| **Vintage Year 2016** | | **15.0** | **5.2** | **10.2** | **0.5** | **4.7** | **5.1** | **NM** | **1.0** |
| DSF Multi-Family Real Estate Fund III, L.P. | Value-Added | 15.0 | 5.2 | 10.2 | 0.5 | 4.7 | 5.1 | NM | 1.0 |

[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

| | 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 2017** | | **43.0** | **2.1** | **40.9** | **0.0** | **1.7** | **1.7** | **NM** | **0.8** |
| AEW Partners Real Estate Fund VIII, L.P. | Opportunistic | 25.0 | 2.1 | 22.9 | 0.0 | 1.7 | 1.7 | NM | 0.8 |
| Carlyle Realty Partners VIII, L.P. | Opportunistic | 18.0 | 0.0 | 18.0 | 0.0 | NA | NA | NA | NA |
| **Total Open-end** | | **42.0** | **46.0** | **0.0** | **13.1** | **82.1** | **95.2** | **7.3** | **2.1** |
| Invesco Equity Real Estate Securities Trust | Core | 22.0 | 23.7 | 0.0 | 13.1 | 30.0 | 43.1 | 8.8 | 1.8 |
| Multi-Employer Property Trust | Core | 5.0 | 5.0 | 0.0 | 0.0 | 15.2 | 15.2 | 6.6 | 3.0 |
| PRISA I | Core | 15.0 | 17.2 | 0.0 | 0.0 | 36.9 | 36.9 | 6.6 | 2.1 |

## Open-end Real Estate Time-Weighted Performance

| | 2Q17 (%) | 1 YR (%) | 3 YR (%) | 5 YR (%) | Inception Date | Since Inception (%) |
|---|---|---|---|---|---|---|
| **Private Real Estate** | **1.8** | **4.3** | **9.3** | **9.7** | **12/30/1999** | **6.9** |
| PRISA I | 1.4 | 6.7 | 10.7 | 10.9 | 6/30/2004 | 6.8 |
| *NCREIF ODCE Equal Weighted (net)* | *1.5* | *7.2* | *10.7* | *10.8* | | *6.9* |
| Multi-Employer Property Trust | 1.4 | 6.2 | 9.8 | 9.5 | 12/30/1999 | 6.3 |
| *NCREIF ODCE Equal Weighted (net)* | *1.5* | *7.2* | *10.7* | *10.8* | | *7.1* |
| Invesco Equity Real Estate Securities Trust | 2.4 | 0.5 | 7.3 | 8.3 | 12/31/2002 | 10.0 |
| *MSCI US REIT* | *1.3* | *-2.9* | *7.8* | *9.1* | | *10.8* |

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, 2017, the Retirement Association's Private Equity Program (excluding two investments for which information was not available) generated a 3.8% net IRR and a 1.2x net TVM. After adjusting for capital calls and distributions that occurred during the quarter, the reported fair value of the Program increased by approximately $1.6 million or 5.4% which was primarily driven by increases in the valuations of Euro Choice V ($0.5 million or 12.6%) and Globespan Capital Partners V ($0.4 million or 10.6%).

As of June 30, 2017, the Retirement Association's Real Assets Program generated a -3.3% net IRR and a 0.9x net TVM. After adjusting for capital calls and distributions that occurred during the quarter, the reported fair value of the Program increased by approximately $0.3 million or 1.5%. Performance was primarily driven by an increase in the valuation of JPMorgan Global Maritime Investment ($0.3 million or 4.4%).

As of June 30, 2017, the Retirement Association's Real Estate Program generated a 5.6% net IRR and a 1.5x net investment multiple. After adjusting for capital calls and distributions that occurred during the quarter, the reported fair value of the Program increased by approximately $1.7 million, or 1.6%. Performance was primarily driven by increases in the valuations of Invesco Equity Real Estate Securities Trust ($0.7 million or 2.4%), PRISA I ($0.5 million or 1.4%), and New Boston Institutional Fund VII ($0.3 million or 16.4%).

# Appendices

# Confidentiality

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.

# Market and Industry Analysis

**Global fundraising for all private equity funds totaled $121 billion during the second quarter of 2017[1], marking a 21% increase from the approximately $100 billion raised in the prior quarter and essentially no increase compared to the second quarter of 2016.**

- Fundraising by buyout funds during the second quarter stood at $88 billion, an increase from $57 billion in the prior quarter. The second quarter's uptick in fundraising was also reflected in venture capital fundraising with $16 billion raised, an increase from $10 billion in the first quarter of 2017. A total of 92 venture funds were closed during the second quarter, representing 45% of all closed private equity funds.
- According to Preqin, the number of buyout deals completed or announced in Q2 decreased by 1% from the previous quarter, while the aggregate value of deals rose significantly, increasing by $28 billion, or 51%. The number of global private equity buyout-backed exits decreased by 9% to 381, but the respective aggregate exit values increased by 22%, to $59 billion.
  - The largest buyout deal announced during the quarter was Sycamore Partners' $6.9 billion take-private transaction of Staples, Inc.
- The aggregate value of venture capital deals globally rose to $47 billion, a 26% increase from the previous quarter. North American venture deal activity rose by 26% and accounted for 40% of venture capital deals globally. Meanwhile, venture capital activity in Asia also increased, accounting for $20 billion (43%) of global deal value during the quarter compared to the previous quarter's value of $12 billion (39%). Series A / Round 1 was the most common type of venture capital deals, representing 28% of all deals.
  - The most notable venture deal during the quarter was Didi Chuxing's $5.5 billion funding round led by Silver Lake, Softbank, China Merchants Bank, and Bank of Communications. Didi Chuxing was founded in 2012 and is one of China's major ride-sharing companies, providing transportation services to more than 400 million users.

[1] All data referenced as of Q2 2017 are from Preqin as of September 2017 and subject to revision, unless otherwise noted.

- Transaction valuations remained high in the second quarter of 2017 as buyout transaction data published by S&P Capital IQ showed average YTD pricing at 9.9x trailing EBITDA for all U.S. buyout transactions, compared to 9.7x trailing EBITDA for 2016 and 9.9x trailing EBITDA for 2015. Transaction valuations in Europe showed a slight increase in the second quarter, with transactions between €250 million and €500 million completed at average LTM pricing of 9.0x EBITDA, compared to 8.8x EBITDA for the year of 2016. Even though the availability of debt financing remained high, all transactions on average were well capitalized with 42% equity.
- Asia is still the second most targeted region in terms of funds in the market and target capital commitments, with 380 funds targeting $192 billion as of Q2 2017. Europe, after being surpassed by Asia in 2016, is the third most targeted region, with 350 funds targeting $98 billion as of Q2 2017.
- According to EMPEA data, emerging markets comprised 11% of the global fundraising market and 9% of global invested capital year-to-date. Emerging market fundraising has increased 26% relative to the same quarter last year. Across all asset classes, approximately $10.8 billion was raised in the second quarter of this year for developing economies compared to $8.0 billion of private capital raised in Q2 2016.

**Commodity price performance was mixed during the quarter.**

- West Texas Intermediate oil prices ended the quarter at $45 per barrel representing an 8% quarterly decline as well as a 7% decrease from one year prior. Robust U.S. oil production and abundant inventories contributed to the decline. The number of U.S. oil rigs increased by 113 during the quarter.
- Natural gas prices increased slightly to $2.97 per MMBTU resulting in a 3% quarterly increase and a gain of 15% from one year prior. There were 30 natural gas rigs added during the quarter.
- U.S. gasoline prices for regular blend increased slightly to $2.54 per gallon representing a 2% quarterly increase and a 2% increase from one year prior.
- The price of gold was volatile during the quarter. After the U.S. attacked a Syrian airbase, gold spiked on safe haven buying. However, gold prices gave up most of its gains leading up to and after the Federal Reserve's decision to increase rates. Gold prices were up 2% during the quarter to $1,260 per ounce and down 1% relative to one year prior.
- Copper prices decreased slightly to $2.59 per pound representing a 2% decrease during the quarter and a 23% increase from one year prior.
- With the 2017 season underway, expectations of crop plantings indicate relative increases in soybean and cotton acreage at the expense of corn and wheat. Wheat prices were flat and corn and soybeans were down 12% and 19%, respectively, from one year prior. A record number of planted soybean acreage with high yields helped push prices lower. Farmland, as represented by the NCREIF Farmland index, grew by 1.6% during the quarter.
- In April, lumber prices reached a temporary four-year high but subsequently fell to end the quarter down 1% but up 14% from one year prior. Paneling prices were up slightly by 1% but notched an annual increase of 9%. Timberland investments, as represented by the NCREIF Timberland index, logged a 0.7% quarterly gain.

## Infrastructure fundraising and transactions

- In the second quarter, a total of 171 unlisted infrastructure funds were in the market, according to Preqin, with a combined fundraising target of approximately $149 billion. One notable new fund in market is Blackstone Infrastructure I, targeting $40 billion. Geographically, Europe-focused funds represented the largest number of funds in market (43%), followed by North America (26%), and Asia (6%). However, North America-focused funds led in the amount of capital targeted, representing over 50% of fundraising target in market.
- Eleven unlisted infrastructure funds closed during the quarter, raising a total of $5.3 billion, which is the lowest amount of capital raised in a single quarter since Q3 2012. This may be attributable to capital largely flowing to a small group of large fund managers, several of which closed in prior quarters. The two largest funds raised this quarter were ICON Infrastructure Partners IV (€1.2 billion), and Castlelake Aviation III ($1.0 billion).
- Deals numbering 256 were reported to Preqin by unlisted infrastructure fund managers in the first quarter, with an aggregate value of $104 billion and an average deal size of $406 million. These results show a drop in the number of transactions and average deal size compared to last quarter, but the trend for both deal volume and aggregate values remains positive since 2013.

## Notable transactions during the second quarter

- A consortium including Macquarie Infrastructure, AMP Capital Investors, British Columbia Investment Management, and Qatar Investment Authority acquired a 50.4% stake in the power grid Endeavor Energy from the Australian state of New South Wales for AUD $7.62 billion ($5.61 billion).
- KKR agreed to acquire a 100% stake in Dutch car operator Q-Park, which operates 870,000 parking spaces in Europe, for €2.95 billion.
- Danish Fund manager, Copenhagen Infrastructure Partners acquired three offshore wind sites under development in Taiwan with a combined capacity of 1,500MW for $5.97 billion.

During the second quarter of 2017, airports[1] and seaport[2] utilization increased, while roads[3] utilization and electricity generation decreased compared to metrics for the same period in 2016.

- **Utilities:** Net energy generation decreased 1.0% during the first quarter of 2017 compared to the prior year. Net generation has been flat for several years as increases in energy efficiency balanced against economic demand growth. Although coal-generated power increased over the same period in 2016, the trend is downward as natural gas-generated and renewables-generated power increase.
- **Transportation:** During the second quarter, approximately 834 billion miles were travelled on U.S. roads, representing a 0.1% decrease versus the same period in 2016. Container volume at the nation's three largest U.S. ports (Long Beach, Los Angeles, and New York/New Jersey) increased by approximately 3.5% compared to the first quarter of 2016. The number of domestic and international flights during the period was up 1.3% over the same period in 2016.

[1] Represent all U.S. domestic and international flights, excluding foreign point-to-point flights.
[2] Represents the top three U.S. ports by container volume, as measured by twenty-foot equivalent units (TEU).
[3] Aggregate travel on U.S. roads.

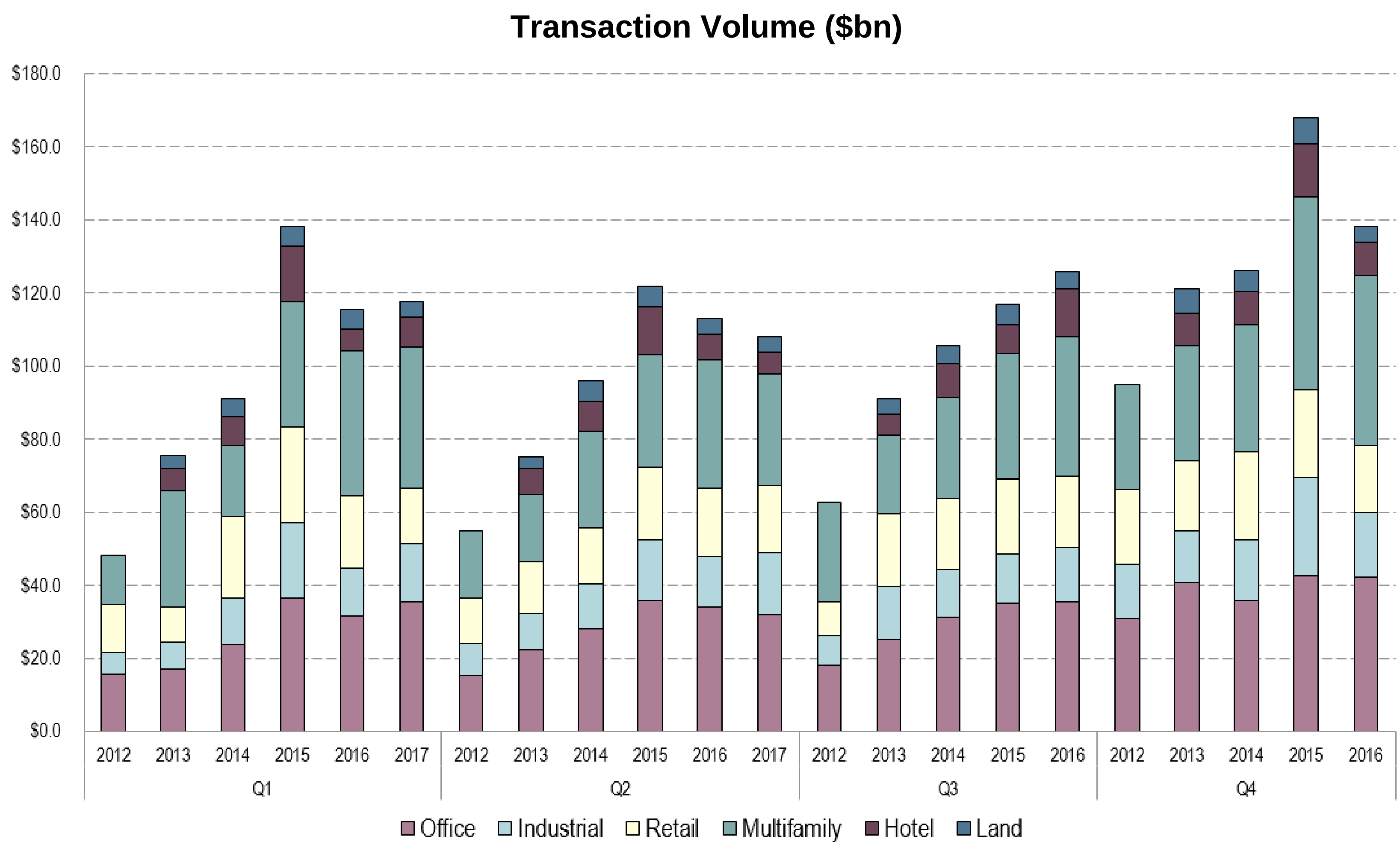
## Real Estate Fundamentals

### Vacancy by Property Type


In the second quarter of 2017, vacancy rates for office and industrial properties increased, while rates for multifamily and retail properties decreased. Compared to the same period one year ago, vacancy in office properties rose by 73 basis points, retail by 70 basis points, and multifamily by 51 basis points, while industrial has remained relatively flat. Overall, total vacancy across all property types increased 35 basis points from Q2 2016. Industrial properties exhibit the highest occupancy rates at 96%, while office properties continue to have the highest vacancy rate of the major property types at 12%.

**NOI Growth**


The trailing twelve month rate of NOI growth continued at a strong pace, remaining above 5% through the second quarter of 2017. This is largely due to the continued growth of the U.S. economy coupled with only moderate new construction, allowing property owners to increase rents and lease vacant space. The strongest NOI growth NOI continues to be with industrial properties, which grew at 7.5% year-over-year ending Q2 2017.




Private real estate transaction volume for properties valued over $2.5 million decreased 5% in Q2 2017 when compared to Q2 2016. Transaction volume for the first half of 2017 decreased 2% when compared to the same period one year prior. Industrial volumes increased 25% over the quarter, while multifamily, office and retail volumes were down 13%, 7%, and 2%, respectively. Office and multifamily properties made up the largest percentage of total transaction volume, at 30% and 28%, respectively.

## Real Estate Capital Markets

### Cap Rates vs. 10-Year Treasury

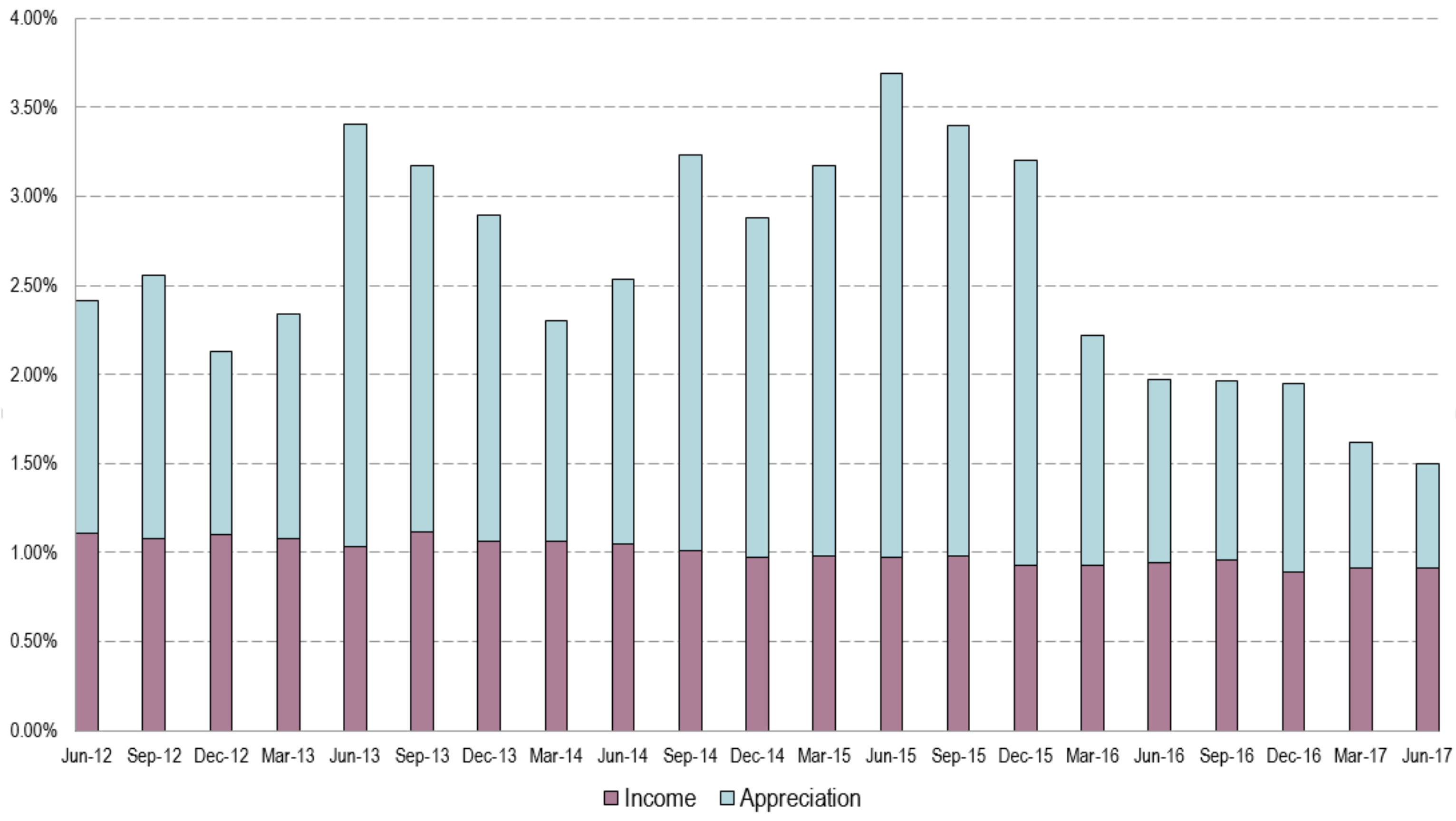

The NPI Value Weighted Cap Rate stabilized around 4.5% following a declining trend post-GFC. 10-year Treasury yields trended down over the quarter after steady increases at the end of 2016 through Q1 2017. The spread between cap rates and the 10- year Treasury widened slightly, ending the quarter at 2.2%, 34 basis points below the long term average.

## Trailing Period Returns

| *As of June 30, 2017* | 1 Year | 3 Years | 5 Years | 10 Years |
|---|---|---|---|---|
| **NFI-ODCE (EW, net)** | **7.2%** | **10.7%** | **10.8%** | **4.2%** |
| **NCREIF Property Index** | **7.0** | **10.2** | **10.5** | **6.4** |
| **NFI-CEVA (EW, net)** | **8.1** | **13.2** | **13.0** | **4.7** |
| **NAREIT Index** | **0.2** | **8.9** | **10.0** | **6.2** |

Public and private real estate indices have continued to post positive returns, driven by strong property-level fundamentals and a low interest rate environment. The NFI-CEVA (Closed-End Value Add) Index has outperformed over recent time periods, although the funds included in the index utilize higher leverage and vacancy risk than the comparable indices, which generally include stabilized properties.

**ODCE Return Components**
(Equal Weight, Net)




The NFI-ODCE Equal Weight return for Q2 2017 was 1.5%, the lowest quarter since 2010. The continuing decline in total return can be almost entirely attributed to a slowdown in appreciation, which has dropped from a peak of 2.7% in Q2 2015 to 0.6% in Q2 2017. Appreciation return is expected to be moderate in the near term due to the stabilization of cap rates.

## Disclaimer

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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 Retirement System will receive a return of the amount invested.

In some cases Meketa Investment Group assists the Retirement System 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 Retirement System.

## Valuation Policies

The values of companies and partnerships in this review are based on unaudited reports for June 30, 2017, 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 or 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 the 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.

# Private Equity Manager
# Finalist Overview

## Background

- At last month's meeting, Meketa Investment Group reviewed proposals from private equity managers for consideration from within the Retirement Association's private equity allocation.
  - For private equity, Meketa recommends two to three investments per year with an approximate commitment of $12 million to each manager.
- Trilantic Capital Partners was selected as the finalist and invited to present at this meeting.

# Trilantic Capital Partners VI
# Overview

| Trilantic Capital Partners | |
|---|---|
| Firm Location (Headquarters) | New York, NY |
| Firm Inception | 2009 |
| Strategy Inception | 2003 |
| Firm AUM (As of 8/31/2017) | $7.7B |
| Strategy AUM | $6.3B |
| Ownership Structure | Owned by four senior partners |

- Trilantic Capital Partners was formed in 2009 by five founding partners that had previously worked together at Lehman Brothers Merchant Banking. Trilantic is currently led by four Managing Partners: Charlie Ayres, Danny James, Chris Manning, and Jon Mattson. The organization consists of two separate platforms (Trilantic North America and Trilantic Europe) that operate independently within their respective geographies. Trilantic is an established manager that continues to demonstrate an ability to be an active value-added partner and strategic advisor to founders/management teams.

## Trilantic Capital Partners
## Investment Team

- Trilantic currently has 44 employees based in New York, NY and Austin, TX. The investment team is led by four Managing Partners: Charlie Ayres, Danny James, Chris Manning, and Jon Mattson, all of whom have worked together since 2007.
- The Trilantic team considers both control and minority positions, with the latter having significant influence or control elements, while focusing primarily on three sectors: Business Services, Consumer, and Energy.
- Throughout the firm's history there has been only one senior level departure, with Managing Partner Charlie Moore retiring at the end of 2016 to pursue interests outside of private equity. Mr. Moore currently serves as a Senior Advisor to the firm.

# Trilantic Capital Partners
# Investment Terms

| Trilantic Capital Partners VI (North America) | |
|---|---|
| Partnership Name | Trilantic Capital Partners VI (North America) |
| Partnership Type | Delaware Limited Partnership |
| Investment  Strategy/Focus | Middle Market Buyout |
| Geographic Focus | North America |
| Vintage Year | 2018 |
| Fund Size | $2.25 billion target; $2.75 billion hard cap anticipated |
| Anticipated Final Closing | Q2 2018 |
| Total Term | Ten years, subject to extension with LPAC consent |
| **Fees / Expenses:** | |
| Management Fee | 1.75% on committed capital during investment period; thereafter, 1.25% on invested capital |
| Preferred Return | 8% |
| Carried Interest / Performance Fee | 20% carried interest on a deal-by-deal basis with 100% GP Catch-Up |

## Trilantic Capital Partners
## Investment Strategy

- Trilantic Capital Partners VI (North America) will pursue a predominantly growth equity investment strategy, seeking to invest $50 million to $200 million per transaction in North American companies with enterprise values between $100 million and $1 billion. The fund expects to make 13 to 18 portfolio investments, with generally no more than 10% of committed capital invested in any single deal. Trilantic will target returns of at least a 20% gross IRR and a 2.0x to 4.0x multiple of invested capital over a three-to-five year investment horizon.

- As was the case with prior LBMB funds and Trilantic North America Fund V, the investment team will focus primarily on opportunities within three sectors: Business Services, Consumer, and Energy. The fund will seek to structure investments using participating preferred or other structured securities, often providing current income and liquidation preferences to mitigate downside risk.

- Trilantic is a well-qualified private equity manager focused mainly on growth equity transactions. Since spinning out from the Lehman Brothers Merchant Banking platform, there has been strong continuity in regard to strategy focus and team. Trilantic continues to demonstrate an ability to identify unique deals and structure them in a manner that employs below market leverage relative to traditional buyouts, which emphasizes downside protection.

## Trilantic Capital Partners
## Historical Track Record
(as of June 30, 2017)

| | Year of First Investment | Number of Investments | Invested Capital ($ mm) | Realized Value ($ mm) | Unrealized Value ($ mm) | Total Value ($ mm) | Gross IRR (%) | Net IRR (%) |
|---|---|---|---|---|---|---|---|---|
| LBMB Fund III (Global) | 2003 | 19 | 1,011.1 | 2,190.5 | 53.9 | 2,244.4 | 22.4 | 16.6 |
| *Fund III North America Only* | *2003* | *13* | *642.6* | *1,230.8* | *54.3* | *1,285.1* | *25.8* | -- |
| LBMB Fund IV (Global) | 2007 | 20 | 1,588.5 | 2,884.8 | 373.9 | 3,258.7 | 23.8 | 15.6 |
| *Fund IV North America Only* | *2007* | *14* | *1,371.5* | *2,570.1* | *291.6* | *2,861.8* | *25.5* | -- |
| Trilantic Fund V (North America) | 2013 | 17 | 1,577.5 | 415.2 | 2,124.9 | 2,540.1 | 28.7 | 15.3 |
| TEP I North America | 2014 | 7 | 248.6 | 0.0 | 400.5 | 400.5 | *41.0* | *27.6* |
| ***Total*** | | ***56*** | ***4,425.7*** | ***5,490.6*** | ***2,953.2*** | ***8,443.8*** | ***23.5*** | ***15.8*** |

## Trilantic Capital Partners VI (North America)
## Status Update

- Trilantic Capital Partners VI (North America) expects to be fully allocated by the first quarter of 2018 and anticipates a final close to occur in the second quarter.

# Relative Strengths & Potential Weakness

| Trilantic Capital Partners | |
|---|---|
| **Relative Strengths** | • Trilantic is led by an experienced management team, including four Managing Partners who previously worked together at Lehman Brothers Merchant Banking. The senior team has been stable with only one partner level departure over the firm's history, and there are no likely near term succession issues.<br>• The track record is fairly strong, with LBMB Fund IV Global ranking in the top quartile compared to other Buyout and Growth Equity Funds, while Trilantic Fund V North America and Trilantic Energy Partners are performing well, albeit still youthful.<br>• Trilantic has generated its returns using less than 3.5x leverage across all prior fund portfolios and focuses on structuring investments for downside protection. As a result, prior performance has arguably been generated with less risk than is typical for a buyout strategy. |
| **Potential Weaknesses** | • The fund may not have the same level of proprietary deal sourcing resources as some competing firms, particularly on growth equity transactions.<br>• Energy exposure within the portfolio has created additional volatility in Fund V, driven by two early investments at recent peak energy prices. |

# Global Equity Search Update

## Wellington Durable Enterprises

- At the October 26th meeting, PCRA voted to hire the Wellington Durable Enterprises strategy as one of their global growth equity managers.
  - The mandate is for $30 million.
- Wellington will be launching Wellington Durable Enterprises LP on February 1, 2018.
  - Initially, PCRA will represent 100% of the AUM in the fund. After 30 days, PCRA will represent 30% of the AUM as separately managed accounts transition to the limited partnership.
- Wellington proposed a discounted fee of 0.60% for seed investors. The proposed fee represents a 0.25% discount to the standard fee and proposed separate account fee of 0.85%, representing an annual fee savings of $75,000 based on a $30 million account.
  - The fund offers monthly liquidity.
- Fund documents will be available shortly for legal review.

# Transition Management Consultant
# Search Summary

## Background

- The Board directly issued an RFP for a transition management consultant in September, but PERAC requested that Meketa Investment Group conduct the search.
- As a result, Meketa issued an RFP in September with responses due on October 30, 2017.
  - Meketa Investment Group received one response, which is reviewed on the following pages.

# Search Respondent Reviews

# Manager Respondents Composite Rating Overview

| Manager | Score | Rationale |
|---|---|---|
| Zeno Consulting Group | Advantageous | Zeno is an independent boutique consulting firm with an experienced team of professionals that specializes in assisting investors monitor and manage their trading costs. |

## Zeno Consulting Group

| Rating Criteria | Score | Rationale |
|---|---|---|
| Overall | Advantageous | • Zeno is an independent boutique consulting firm with an experienced team of professionals that specializes in assisting investors monitor and manage their trading costs. |
| Organization | Highly Advantageous | • Zeno is a boutique consulting firm that specializes in assisting asset owners monitor and manage their trading practices.<br>• Zeno has been conducting trade cost analysis since inception in 1986 (formerly known as "Plexus Group") and transition consulting services since 1996.<br>• Zeno is not a subsidiary of another company, nor does it have any affiliated companies.<br>• Zeno is a Registered Investment Advisors under the Investment Advisors Act of 1940. |
| Team | Advantageous | • The team of five investment professionals is led by Steven Glass, who has 32 years of experience and 22 years at Zeno. |
| Investment Philosophy & Process | Advantageous | • Zeno's Transition Consulting service provides independent, fiduciary and expert assistance throughout the entire transition process, for all asset classes.<br>• The focus of the process is predicated on understanding and identifying the operational, performance, trading and fiduciary risks associated with each respective transition.<br>• The process includes both quantitative and qualitative assessments.<br>• During a Transition Consulting engagement, Zeno will provide recommendations and assistance in establishing optimal transition strategies (based on the characteristics determined in the Pre-Transition Analysis), identifying appropriate transition agents (based on the transition strategy, and use of Zeno's proprietary Transition Manager Universe), and administering the transition. |
| Performance | Advantageous | • Zeno contends that their services reduce costs and risk for plan sponsors. |
| Terms and Fees | Not Advantageous | • Transition Consulting: $10,000; +1bp for first $100mm; 0.5bp on next $900mm.<br>• $2,500 plus expenses per meeting<br>• Pre-Transition Report: $5,000 per portfolio (if necessary)<br>• Post-Transition Report: $5,000 per portfolio (if necessary)<br>• Fees can be paid directly via check from the System, or paid indirectly from the winning transition manager's bid. Fees are disclosed up front in the bidding process and incorporated into the bids. |

## Summary & Recommendation

- Meketa Investment Group appreciates the importance of monitoring trading costs and transition management for institutional plan sponsors.
- However, given the relatively small and simple upcoming transitions, we are not confident that the potential benefits will offset the costs of the dedicated consultant.
  - Many of the System's portfolios are in commingled funds, which accept and distribute cash, limiting the transaction costs borne by the System. Therefore the potential value added of a transition manager and consultant is limited.
- Should the Board wish to engage with Zeno, we would recommend a hard-dollar direct fee to Zeno for their services (not and indirect fee paid through the winning transition manager).

# Disclaimer, Glossary, and Notes

# Disclaimer

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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.

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.

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In some cases, Meketa Investment Group assists the Trustees 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 Trustees.

**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. Portfolio Return- [Risk Free Rate+Beta*(market return-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 is 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%.

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

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

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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.