

# PRIVATE MARKETS PROGRAM OVERVIEW

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## San Jose Police and Fire Department Retirement Plan

PUBLIC VERSION  
December 31, 2016



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- 1. Private Equity Program**
- 2. Private & Opportunistic Debt Program**
- 3. Private Real Assets Program**
- 4. Appendices**
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  - Glossary of Terms

## Private Equity Program

**Introduction**  
**As of December 31, 2016**

The purpose of this document is to offer an interim review of the Retirement Plan's private equity investments. It is divided into three sections: Market and Industry Analysis, Executive Summary, and Aggregate Private Equity Portfolio. The Market and Industry Analysis is a broad overview of the private equity industry. The final two sections are a review of the San Jose Police and Fire Department Retirement Plan's private equity partnership investments on both an aggregated and individualized basis.

As of December 31, 2016, the San Jose Police and Fire Department Retirement Plan had committed \$285.0 million to 14 private equity partnerships; two additional investments were excluded from this report due to lack of availability of historical data. The reported fair value of the aggregate Private Equity Program was \$153.8 million at December 31, 2016.

Aggregate Private Equity Program <sup>1</sup>	
Number of Partnerships <sup>2</sup>	14
Committed Capital	\$285.0 million
Capital Called <sup>3</sup>	\$233.7 million
Distributions	\$171.5 million
Reported Value	\$153.8 million
Total Value Multiple	1.4x
Net IRR	8.5%

<sup>1</sup> Throughout this report, numbers may not sum due to rounding.

<sup>2</sup> Due to lack of availability of historical data, Dover Street IX and TCW/Crescent Mezzanine Partners V were excluded from the report.

<sup>3</sup> In certain instances, total contributions may exceed the commitment, as a Partnership may reserve the right to recycle capital and/or recall distributions depending upon the terms of its Limited Partnership Agreement.

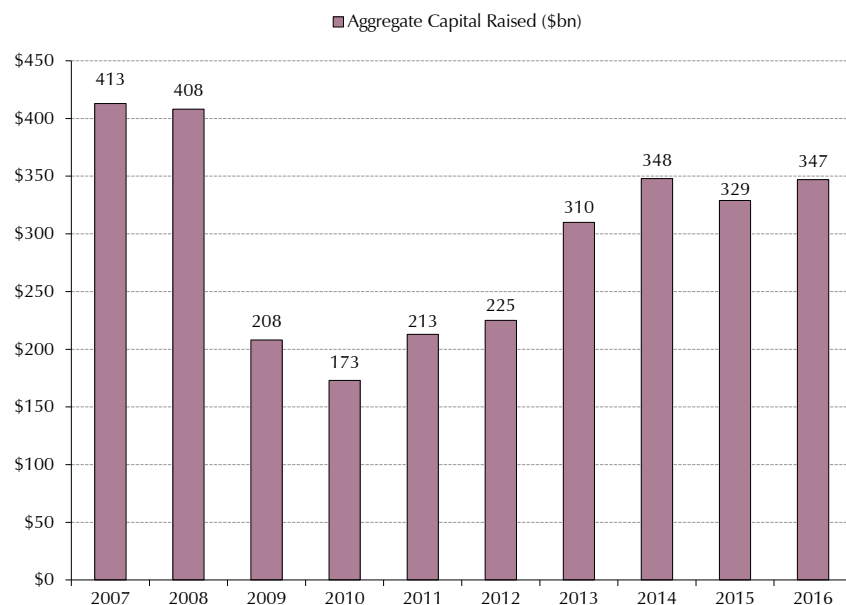
## **Market and Industry Analysis**

### **As of December 31, 2016**

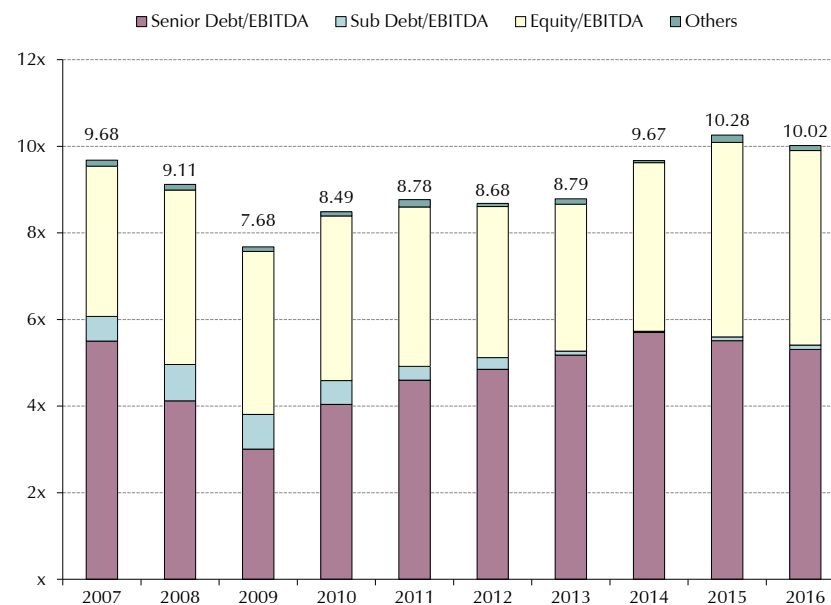
## Private Equity in 2016

The fundraising market for private equity in 2016 continued to be very robust, with \$347 billion of commitments raised during the year. Strong public market returns in North America in 2016 and a relatively robust debt market continued to drive attractive exit valuations in private equity buyout investments. Meanwhile, dry powder levels for private equity overall continued to rise, to \$820 billion at the end of December<sup>1</sup>, raising concerns of increasing competition to find attractive deals. Fundraising for European-focused funds increased to €100 billion, the largest total for the region since prior to the financial crisis, with investors viewing such investments as contrarian given the continued fears over the Eurozone economy and geopolitical tensions. Asia-focused funds raised \$40 billion in 2016, marking the second consecutive year of decline by private equity funds targeting the region. China accounted for approximately 62%, or \$25 billion, of capital raised despite growing concerns over debt levels, slowing growth, and the temporary IPO freeze. Venture capital fundraising, investment pace, and distribution activity all continued their growth in 2016, with \$55 billion of total capital raised. Venture capital in North America continued to lead the way in terms of investment activity and fundraising, followed by Asia, which maintained its lead over Europe.

### Global Fundraising<sup>2</sup>



### Purchase Price break-down All LBO, North America<sup>2</sup>



<sup>1</sup> Source: Preqin

<sup>2</sup> Source: S&P Leverage Finance

### Buyout

North American buyout activity continued to surpass all other regions in fundraising and capital deployment, representing 57% and 59%, respectively, of the global totals in 2016<sup>1</sup>. Following a significant increase in 2015, North American buyout valuations as reported by S&P Capital IQ fell, to an average 10.0x trailing EBITDA through December 2016. Debt markets were slightly less active in 2016 compared to 2015. Debt levels for all U.S. buyouts averaged approximately 5.3x trailing EBITDA through December 2016. The largest North American deal was Apollo Global Management's \$15 billion take-private of ADT Security Services, Inc., which Apollo merged with its existing portfolio company, Protection 1. The IT sector comprised approximately 30% of the aggregate buyout volume, followed by the Consumer & Retail and Healthcare sectors, at 13% each. The European buyout market represented 33% by number and 28% by aggregate value of global deals. Meanwhile, the Asia buyout market represented 6% of all deals globally by number and 8% of aggregate global investment value. In terms of exits by type, trade sales represented the largest at 55% of total global aggregate value, with IPOs at 12%, which was a decrease from 18% in 2015. The growth of sponsor-to-sponsor exit activity seen in 2015 extended into 2016, albeit at a slower pace, representing 31% of the exit market, driven by continued capital overhang and pressure to return cash back to investors.

### Private Debt

Leveraged credit markets continued their sell off from 2015 into the beginning of 2016, but then snapped back and recovered all of their losses by the end of the year. Total returns for the year were 17.1% for high yield bonds and 9.9% for bank loans. The high yield option-adjusted spread finished the year at 410 basis points, approximately 110 basis points below the historical average and 250 basis points lower than where it started the year. Default rates for bank loans actually slightly decreased while the high yield default rate doubled, albeit off of a low starting rate, to 3.6%. Defaults were concentrated in commodity-related industries such as energy and metals/mining, where the high yield market had much higher exposure than the loan market. Distressed managers benefited from lower prices in the beginning of 2016, but the sharp recovery in credit markets made timing of capital deployment an important factor. By the end of the year, bonds rated CCC were priced in the mid-\$90s and those below CCC were near \$80. As the commodity-related industries recovered, some health care and retail companies began to show weakness later in 2016, which created additional potential distressed opportunities. Issuance of mezzanine and other subordinated debt increased slightly in 2016 as borrowers were forced to accept slightly higher borrowing rates due to the sell off in the broad credit markets. BDCs continued to struggle and few were in a position to issue additional equity, which limited their ability to maintain their underwriting volumes. Mezzanine and other subordinated debt providers could be well positioned to fill this void.

### Venture Capital

2016 turned out to be a challenging exit environment as the global venture capital market saw a 21% drop, to \$63 billion, in the aggregate value of exits, down from \$80 billion in 2015. Corporate acquisitions accounted for the largest proportion of venture-backed liquidity events in 2016, as the IPO window remained fairly tight for venture-backed companies. Despite this decline in exit valuations, the aggregate value of venture capital deals announced globally in 2016 remained strong at \$134 billion and was the second highest aggregate deal value on record behind only the record setting level in 2015. Fundraising in 2016 was a banner year, as over 350 funds closed on over \$55 billion, surpassing the record fundraising levels seen in both 2014 and 2015. North America continued to lead all regions in fundraising and deal and exit activity. However, venture activity in Greater China continued to catch up to North America, accounting for 21% of global deal volume in 2016, after averaging 8% during the period from 2007 to 2014. Deal value in China increased 20% to \$48 billion in 2016, while deal value in North America amounted to \$61 billion, down 15% from 2015. Seven of the top ten venture capital deals in 2016 involved China-based companies, including Ant Financial, Meituan-Dianping, and Didi Chuxing, which eventually bought Uber's China operations in August. Again, concerns continued to be raised over lofty valuations of VC-backed companies, coupled with weakness in the exit markets over the past couple of years.

<sup>1</sup> Source: Preqin

## **The Global Economy**

Stagnant global trade, weak investment, and increased political uncertainty weighed on the global economy in 2016 as the world continues to slowly recover from the financial crisis. Both the IMF and OECD estimate global GDP growth in 2016 to have been close to 3.0%, but project more promising GDP growth rates over the next couple of years. The primary factor behind the strengthening global outlook is the projected pickup in growth of the emerging market and developing economies (EMDEs), which led the way in 2016 with a 4.1% growth rate, while advanced economies grew at a 1.6% rate. This trend is expected to continue as EMDEs are estimated to grow at 4.8% in 2018, while developed economies are projected to grow at a relatively meager 2.0% in 2018. Looking beyond the headline numbers, the economies of the United States and the United Kingdom continued to fare better while the economies of countries in the Euro-area, Latin America, and Japan continued to face headwinds.

The headlines in 2016 were dominated by geopolitical risks and other noneconomic factors - civil war and domestic conflict in parts of the Middle East and Africa, the refugee crisis in and around Europe, and the continuation of terrorist attacks worldwide. The year got off to a shaky start with oil prices continuing their precipitous fall to a low of \$28 per barrel, but eventually ended up at over \$50 per barrel by the end of the year. The Eurozone slowed from 2% in 2015 to 1.6% in 2016 as both domestic demand and exports lost momentum; however, business confidence proved to be more resilient than expected despite Britain's vote in June 2016 to leave the EU. The European Union remains fragile as key elections in 2017 across Europe could further shift EU countries toward protectionist and populist policies. Major economies, including Brazil, continued to face challenges in 2016, with Brazil's GDP declining by 3.5% while Russia was impacted by the lower oil prices and continued geopolitical tensions. China's economic growth decelerated slightly to 6.7%, as the country continues to rebalance its economy from industry to services and from investment to consumption. China remains the driver of world economic growth and the risk of a slowdown remains heightened given the country's rapid credit expansion, non-performing corporate debt, and persistent government support for inefficient state-owned firms. India along with the ASEAN-5 countries were among the few bright spots among emerging markets, as they achieved GDP growth rates of 6.6% and 4.8%, respectively. Growth in emerging market economies will likely remain uneven, with some economies particularly feeling the impact of continued dollar strength and potential U.S. protectionist policies.

The U.S. has experienced largely stable growth since the end of the financial crisis, but at levels below prior recoveries. The U.S. economy's subdued growth in 2016 remained hampered by a strong U.S. dollar and low oil prices, although the economy continued to move closer to the Federal Reserve's full employment and inflation targets. As largely expected, the U.S. Federal Reserve increased short-term interest rates by 0.25% in December to 0.75%. The election of Donald Trump as President of the United States shocked many. Since the election, investors have focused more on the potential for pro-growth policies including lower taxes, more infrastructure spending, and less regulation, while seemingly placing less emphasis on the potential for policies that could potentially hurt growth such as a protectionist trade stance and tougher immigration policies. Looking ahead, the distinction between campaign rhetoric and enacted policy will be a key consideration. Timing is also important, as the impact of fiscal policy will likely not be felt until 2018, or later.

**Private Equity Program  
As of December 31, 2016**

**Executive Summary**  
**As of December 31, 2016**

**In aggregate, \$4.7 million was called from the Retirement Plan during the fourth quarter of 2016 by the underlying partnerships.**

- Francisco Partners IV called \$2.3 million during the quarter, primarily to fund the acquisition of an underlying partnership and to repay borrowings used to fund two other investments.
- 57 Stars Global Opportunity Fund 3 called \$1.5 million to fund investments in various underlying partnerships.

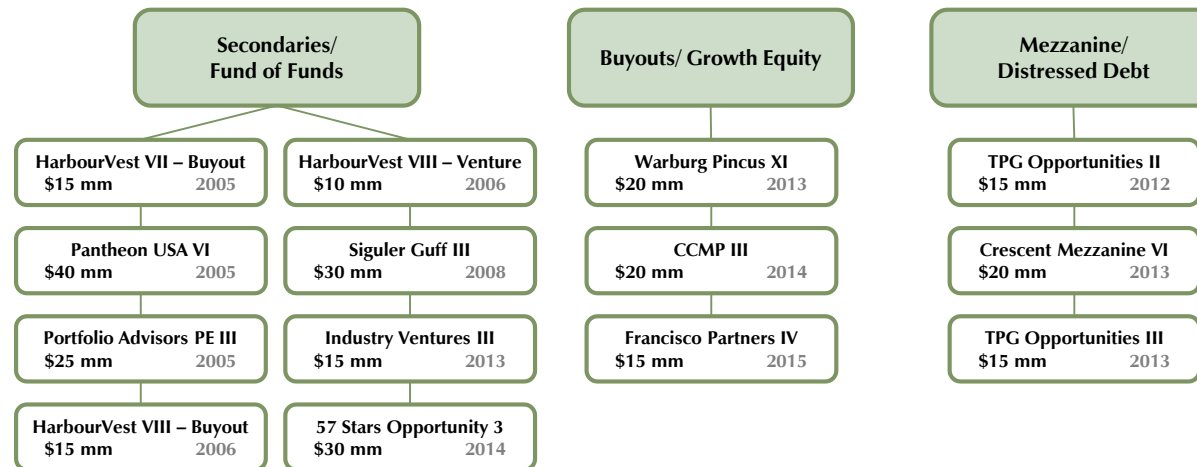
**The Retirement Plan received an aggregate of \$10.7 million in distributions during the fourth quarter of 2016 from its underlying partnerships.**

- Crescent Mezzanine Partners VI distributed \$2.2 million, primarily in proceeds from the disposition of three underlying partnerships.
- Siguler Guff Distressed Opportunities Fund III distributed \$1.6 million during the quarter, from several underlying partnerships.
- Pantheon USA Fund VI distributed \$1.5 million during the quarter. The most significant distributions in the period were made by primary partnership investments in three underlying partnerships.

**The Retirement Plan did not make any new commitments during the fourth quarter of 2016.**

## San Jose Police and Fire Department Retirement Plan Private Equity Program

## Executive Summary Investment Roadmap as of 8/15/17



- White box: Current investment.

**Aggregate Private Equity Portfolio  
As of December 31, 2016**

## San Jose Police and Fire Department Retirement Plan Private Equity Program

## Aggregate Program Performance Summary as of 12/31/16

	Investment Strategy	Capital Committed (\$ mm)	Total Contributions Paid to Date <sup>1</sup> (\$ mm)	Unfunded Commitment <sup>2</sup> (\$ mm)	Total Distributions Received to Date (\$ mm)	Reported Fair Value (\$ mm)	Reported Fair Value Plus Distributions (\$ mm)	Net IRR <sup>3</sup> (%)	Inv. Multiple <sup>4</sup> (x)
<b>Total Program</b>		<b>285.0</b>	<b>233.7</b>	<b>53.8</b>	<b>171.5</b>	<b>153.8</b>	<b>325.2</b>	<b>8.5</b>	<b>1.4</b>
<b>Vintage Year 2005</b>		<b>80.0</b>	<b>74.0</b>	<b>5.9</b>	<b>83.0</b>	<b>30.0</b>	<b>113.0</b>	<b>7.1</b>	<b>1.5</b>
HarbourVest Partners VII – 2005 Buyout Partnership Fund L.P.	Fund of Funds	15.0	14.0	1.0	16.3	5.7	22.0	6.7	1.6
Pantheon USA Fund VI, L.P.	Fund of Funds	40.0	37.8	2.2	40.7	17.3	58.0	7.5	1.5
Portfolio Advisors Private Equity Fund III, L.P.	Fund of Funds	25.0	22.1	2.7	26.0	7.0	33.0	6.7	1.5
<b>Vintage Year 2006</b>		<b>25.0</b>	<b>23.9</b>	<b>1.1</b>	<b>23.1</b>	<b>15.6</b>	<b>38.7</b>	<b>9.9</b>	<b>1.6</b>
HarbourVest Partners VIII – Buyout Fund, L.P.	Fund of Funds	15.0	14.1	0.9	14.3	8.1	22.4	9.9	1.6
HarbourVest Partners VIII – Venture Fund, L.P.	Fund of Funds	10.0	9.8	0.2	8.8	7.5	16.3	10.0	1.7
<b>Vintage Year 2008</b>		<b>30.0</b>	<b>29.3</b>	<b>0.9</b>	<b>35.8</b>	<b>10.0</b>	<b>45.8</b>	<b>10.8</b>	<b>1.6</b>
Siguler Guff Distressed Opportunities Fund III, L.P.	Fund of Funds	30.0	29.3	0.9	35.8	10.0	45.8	10.8	1.6
<b>Vintage Year 2012</b>		<b>15.0</b>	<b>12.3</b>	<b>2.7</b>	<b>13.3</b>	<b>5.6</b>	<b>18.9</b>	<b>17.4</b>	<b>1.5</b>
TPG Opportunities Partners II, L.P.	Distressed Debt	15.0	12.3	2.7	13.3	5.6	18.9	17.4	1.5
<b>Vintage Year 2013</b>		<b>70.0</b>	<b>54.3</b>	<b>16.9</b>	<b>14.8</b>	<b>51.4</b>	<b>66.2</b>	<b>11.0</b>	<b>1.2</b>
Crescent Mezzanine Partners VI, L.P.	Mezzanine	20.0	18.2	1.8	8.3	13.1	21.4	8.9	1.2
Industry Venture Partnership Holdings III, L.P.	Secondaries	15.0	10.6	4.4	1.1	11.6	12.8	13.6	1.2
TPG Opportunities Partners III, L.P.	Distressed Debt	15.0	6.7	8.3	0.7	6.7	7.5	9.1	1.1
Warburg Pincus Private Equity XI, L.P.	Growth Equity	20.0	18.9	2.4	4.7	20.0	24.6	12.2	1.3

<sup>1</sup> 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.

<sup>2</sup> Unfunded Commitment amounts are an approximation due to the inclusion of recallable distributions.

<sup>3</sup> The Net IRR calculations were performed by Meketa Investment Group. Total Program IRR is net of fees, expenses, and carried interest for each partnership but gross of Meketa Investment Group fees.

<sup>4</sup> 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 but gross of Meketa Investment Group fees.



## San Jose Police and Fire Department Retirement Plan Private Equity Program

## Aggregate Program Performance Summary as of 12/31/16

	Investment Strategy	Capital Committed (\$ mm)	Total Contributions Paid to Date (\$ mm)	Unfunded Commitment (\$ mm)	Total Distributions Received to Date (\$ mm)	Reported Fair Value (\$ mm)	Reported Fair Value Plus Distributions (\$ mm)	Net IRR (%)	Inv. Multiple (x)
<b>Vintage Year 2014</b>		<b>50.0</b>	<b>32.6</b>	<b>18.5</b>	<b>1.5</b>	<b>33.3</b>	<b>34.8</b>	<b>3.7</b>	<b>1.1</b>
57 Stars Global Opportunity Fund 3, L.P.	Fund of Funds	30.0	21.1	10.0	0.9	20.0	20.8	-0.9	1.0
CCMP Capital Investors III, L.P.	Buyout	20.0	11.4	8.6	0.6	13.3	14.0	11.2	1.2
<b>Vintage Year 2015</b>		<b>15.0</b>	<b>7.4</b>	<b>7.7</b>	<b>0.0</b>	<b>7.9</b>	<b>7.9</b>	<b>NM</b>	<b>1.1</b>
Francisco Partners IV, L.P.	Buyout	15.0	7.4	7.7	0.0	7.9	7.9	NM	1.1

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.

The Total Program net IRR remained unchanged during the fourth quarter at 8.5%. Over this period, the total reported fair value of the Private Equity Program increased by \$3.5 million, or 2.3%, after adjusting for capital calls and distributions during the period. Performance was primarily driven by the net valuation increase of 57 Stars Global Opportunity Fund 3 (\$0.9 million or 4.6%), Warburg Pincus Private Equity XI (\$0.4 million or 2.1%), Pantheon USA Fund VI (\$0.4 million or 2.4%), and Francisco Partners IV (\$0.4 million or 5.7%).

## **Private & Opportunistic Debt Program**

**Introduction**  
**As of December 31, 2016**

The purpose of this document is to offer an interim review of the Retirement Plan's private & opportunistic debt investments. It is divided into three sections: Market and Industry Analysis, Executive Summary, and Aggregate Private & Opportunistic Debt Portfolio. The Market and Industry Analysis is a broad overview of the private debt industry. The final two sections are a review of the San Jose Police and Fire Department Retirement Plan's private & opportunistic debt partnership investments on both an aggregated and individualized basis.

As of December 31, 2016, the San Jose Police and Fire Department Retirement Plan had committed \$350.0 million to eight opportunistic debt partnerships; one additional investment was excluded from this report due to lack of availability of historical data. The reported fair value of the aggregate Private & Opportunistic Debt Program was \$202.6 million at December 31, 2016.

Aggregate Private Debt Program <sup>1</sup>	
Number of Partnerships <sup>2</sup>	8
Committed Capital	\$350.0 million
Capital Called <sup>3</sup>	\$321.7 million
Distributions	\$172.9 million
Reported Value	\$202.6 million
Total Value Multiple	1.2x
Net IRR	7.8%

<sup>1</sup> Throughout this report, numbers may not sum due to rounding.

<sup>2</sup> Due to lack of availability of historical data, Cross Ocean USD ESS Fund I was excluded from the report.

<sup>3</sup> In certain instances, total contributions may exceed the commitment, as a Partnership may reserve the right to recycle capital and/or recall distributions depending upon the terms of its Limited Partnership Agreement.

**Market and Industry Analysis**  
**As of December 31, 2016**

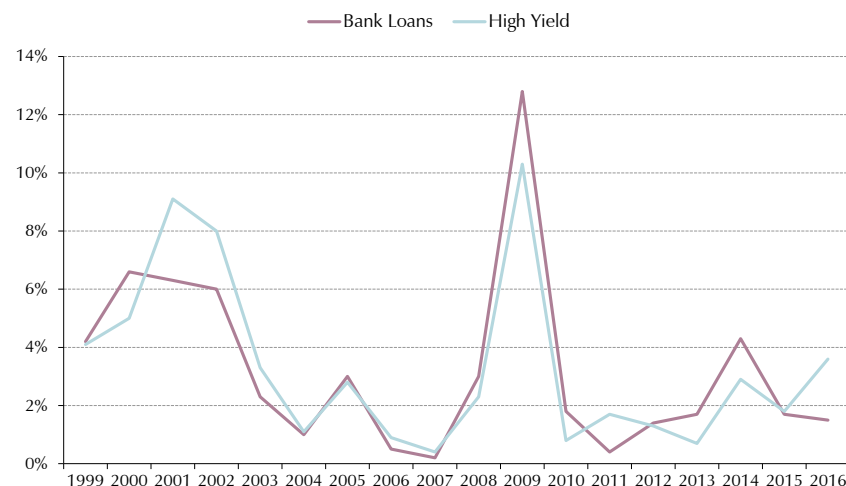
### Debt Markets in 2016

Leveraged credit markets continued their sell off from 2015 into the beginning of 2016, but then snapped back and recovered all of their losses by the end of the year. Total returns for the year were 17.1% for high yield bonds and 9.9% for bank loans. The high yield option-adjusted spread finished the year at 410 basis points, approximately 110 basis points below the historical average and 250 basis points lower than where it started the year. Default rates for bank loans actually slightly decreased while the high yield default rate doubled, albeit off of a low starting rate, to 3.6%. Defaults were concentrated in commodity-related industries such as energy and metals/mining, where the high yield market had much higher exposure than the loan market.

U.S. Corporate High Yield Spread<sup>1</sup>



U.S. Corporate Default Rate<sup>2</sup>



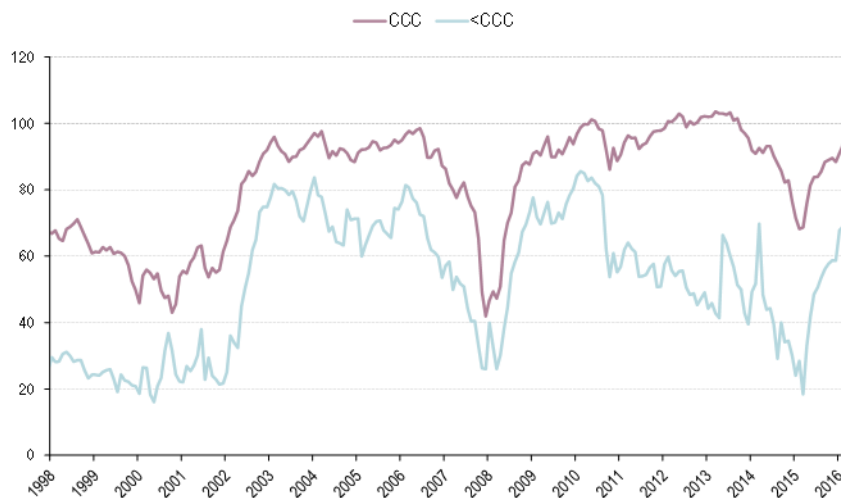
<sup>1</sup> Source: Barclays Capital

<sup>2</sup> Source: JP Morgan

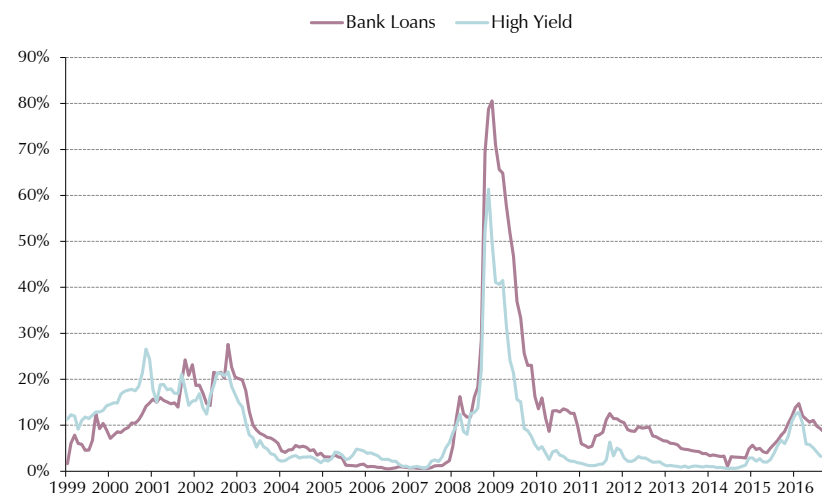
### Distressed & Opportunistic Debt

Distressed managers benefited from lower prices in the beginning of 2016, but the sharp recovery in credit markets made timing of capital deployment an important factor. By the end of the year, bonds rated CCC were priced in the mid-\$90s and those below CCC were near \$80. Most of the distressed opportunities were in commodity-related industries as there was limited sell off in other industries in 2015. Fallen angels, or bonds downgraded from investment grade to high yield provided an additional investment opportunity for distressed managers as 36 companies with over \$140 billion of debt was downgraded in the first quarter of 2016 creating significant price volatility. As the commodity-related industries recovered, some health care and retail companies began to show weakness later in 2016, which created additional potential distressed opportunities.

Lower Rated Debt Pricing<sup>1</sup>



Distressed Ratio<sup>2</sup>



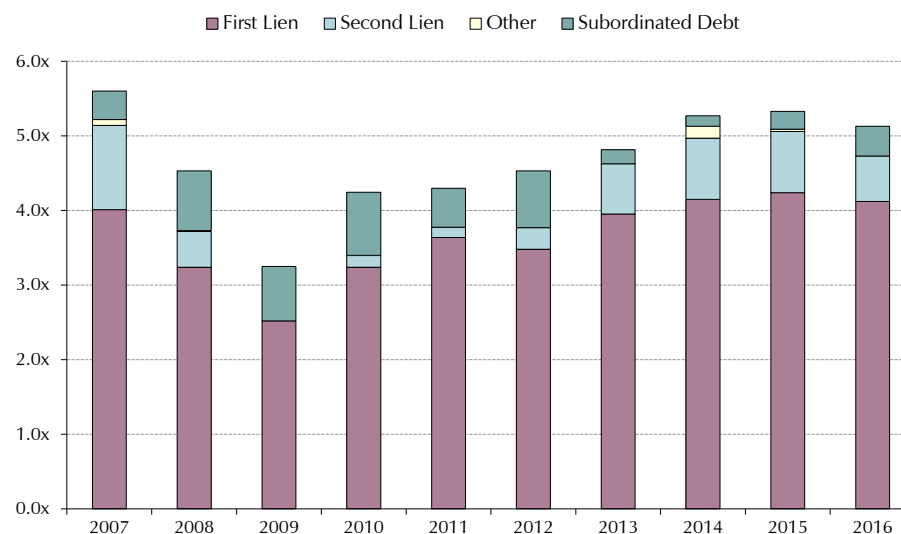
<sup>1</sup> Source: Barclays Capital

<sup>2</sup> Source: Bank Loans trading below \$80, Credit Suisse; High Yield trading below \$75, Merrill Lynch

### Mezzanine & Subordinated Debt

Issuance of mezzanine and other subordinated debt increased slightly in 2016 as borrowers were forced to accept slightly higher borrowing rates due to the selloff in the broad credit markets. Overall leverage in new LBO financings for middle market companies slightly decreased. BDCs continued to struggle and few were in positions to issue additional equity which limited their ability to maintain their underwriting volumes. Mezzanine and other subordinated debt providers could be well positioned to fill this void.

**Middle Market Leverage Multiples, by Debt Security<sup>1</sup>**



<sup>1</sup> Source: Standard & Poor's, December 2016

**Private & Opportunistic Debt Program  
As of December 31, 2016**

**Executive Summary**  
**As of December 31, 2016**

**In aggregate, \$15.4 million was called from the Retirement Plan during the fourth quarter of 2016 by the underlying partnerships.**

- Cross Ocean USD ESS Fund II called \$7.5 million during the quarter, primarily to fund new investments.
- Octagon CLO Debt Fund II (US) called \$7.5 million. During the quarter, the partnership made 14 new investments in BB-rated floating rate loans.
- Shoreline China Value III called \$0.3 million to fund new investments and management fees for the second half of 2016.

**The Retirement Plan received an aggregate of \$14.1 million in distributions during the fourth quarter of 2016 from its underlying partnerships.**

- Medley Opportunity Fund II distributed \$5.6 million of income, reflective of various cash receipts including interest, amortization, and maturity payments.
- GSO SJ Partners distributed \$4.8 million during the quarter from refinancing out of the partnership's investment in an underlying partnership, which generated a gross MOIC of 1.6x and a gross IRR of 13.3%.
- Shoreline China Value III distributed \$2.0 million in return of capital and realized gains.
- Park Square Capital Credit Opportunities II distributed \$0.7 million. Investments in 25 companies were partially or fully realized during the quarter.
- Marathon European Credit Opportunity Fund distributed \$0.6 million in net operating income generated by the partnership's cash-flowing real estate assets.

**The Retirement Plan did not make any new commitments during the fourth quarter of 2016.**



- White box: Current investment.

**Aggregate Private & Opportunistic Debt Portfolio  
As of December 31, 2016**

## San Jose Police and Fire Department Retirement Plan Private & Opportunistic Debt Program

## Aggregate Program Performance Summary as of 12/31/16

	Capital Committed (\$ mm)	Total Contributions Paid to Date <sup>1,2</sup> (\$ mm)	Unfunded Commitment <sup>3</sup> (\$ mm)	Total Distributions Received to Date <sup>4</sup> (\$ mm)	Reported Fair Value (\$ mm)	Reported Fair Value Plus Distributions (\$ mm)	Net IRR <sup>5</sup> (%)	Inv. Multiple <sup>6</sup> (x)
<b>Total Program</b>	<b>350.0</b>	<b>321.7</b>	<b>71.9</b>	<b>172.9</b>	<b>202.6</b>	<b>375.5</b>	<b>7.8</b>	<b>1.2</b>
<b>Vintage Year 2010</b>	<b>150.0</b>	<b>183.8</b>	<b>6.3</b>	<b>143.0</b>	<b>80.1</b>	<b>223.0</b>	<b>7.4</b>	<b>1.2</b>
GSO SJ Partners	50.0	43.7	6.3	41.5	12.0	53.4	8.0	1.2
Medley Opportunity Fund II, L.P.	50.0	55.1	0.0	31.5	41.0	72.5	8.0	1.3
White Oak Direct Lending	50.0	85.0	0.0	70.0	27.1	97.1	6.3	1.1
<b>Vintage Year 2012</b>	<b>25.0</b>	<b>25.0</b>	<b>0.0</b>	<b>22.5</b>	<b>7.1</b>	<b>29.6</b>	<b>7.9</b>	<b>1.2</b>
Marathon European Credit Opportunity Fund SPC	25.0	25.0	0.0	22.5	7.1	29.6	7.9	1.2
<b>Vintage Year 2013</b>	<b>50.0</b>	<b>43.4</b>	<b>9.1</b>	<b>3.3</b>	<b>44.6</b>	<b>47.9</b>	<b>7.8</b>	<b>1.1</b>
Park Square Capital Credit Opportunities II	50.0	43.4	9.1	3.3	44.6	47.9	7.8	1.1
<b>Vintage Year 2014</b>	<b>25.0</b>	<b>21.9</b>	<b>4.0</b>	<b>4.0</b>	<b>20.9</b>	<b>24.9</b>	<b>10.0</b>	<b>1.1</b>
Shoreline China Value III, L.P.	25.0	21.9	4.0	4.0	20.9	24.9	10.0	1.1
<b>Vintage Year 2015</b>	<b>25.0</b>	<b>25.0</b>	<b>0.0</b>	<b>0.0</b>	<b>25.6</b>	<b>25.6</b>	<b>NM</b>	<b>1.0</b>
Octagon CLO Debt Fund II (US)	25.0	25.0	0.0	0.0	25.6	25.6	NM	1.0
<b>Vintage Year 2016</b>	<b>75.0</b>	<b>22.5</b>	<b>52.5</b>	<b>0.1</b>	<b>24.4</b>	<b>24.4</b>	<b>NM</b>	<b>1.1</b>
Cross Ocean USD ESS Fund II, L.P.	75.0	22.5	52.5	0.1	24.4	24.4	NM	1.1

<sup>1</sup> 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.

<sup>2</sup> Total contributions include management fees paid outside of capital committed.

<sup>3</sup> Unfunded Commitment amounts are an approximation due to the inclusion of recyclable distributions.

<sup>4</sup> Distributions may include capital that was recycled back into the Partnership.

<sup>5</sup> The Net IRR calculations were performed by Meketa Investment Group. Total Program IRR is net of fees, expenses, and carried interest for each partnership but gross of Meketa Investment Group fees.

<sup>6</sup> 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 but gross of Meketa Investment Group fees.



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

The total program net IRR increased by 30 basis points during the fourth quarter, from 7.5% to 7.8%. The fair market value of the total program increased by \$5.5 million, or 2.8%, after adjusting for capital calls and distributions during the fourth quarter. The net portfolio valuation was driven by increases in the valuation of Medley Opportunity Fund II (2.8%), Cross Ocean USD ESS Fund II (6.0%), and Park Square Capital Credit Opportunities II (1.7%).

## Private Real Assets Program

**Introduction**  
**As of December 31, 2016**

The purpose of this document is to offer an interim review of the Retirement Plan's private real assets investments. It is divided into three sections: Market and Industry Analysis, Executive Summary, and Aggregate Private Real Assets Portfolio. The Market and Industry Analysis is a broad overview of the economy and the real assets industry through quarter-end. The final two sections are a review of the San Jose Police and Fire Department Retirement Plan's private real assets partnership investments on both an aggregated and individualized basis.

As of December 31, 2016, the Plan had committed to 13 real assets funds; two additional investments were excluded from this report due to lack of availability of historical data. The total reported fair value of real assets investments was \$180.7 million at December 31, 2016, including \$122.8 million in core real estate, \$51.6 million in closed-end real estate, and \$6.3 million in infrastructure.

Aggregate Real Assets Program <sup>1</sup>	
<b>Number of Partnerships<sup>2</sup></b>	13
<b>Committed Capital</b>	\$305.0 million
<b>Capital Called<sup>3</sup></b>	\$178.6 million
<b>Distributions</b>	\$68.6 million
<b>Reported Value</b>	\$180.7 million
<b>Total Value Multiple</b>	1.4x
<b>Net IRR</b>	10.6%

<sup>1</sup> Throughout this report, numbers may not sum due to rounding.

<sup>2</sup> Due to lack of availability of historical data, Orion European Real Estate Fund IV and the American Realty separate account were excluded from the report.

<sup>3</sup> In certain instances, total contributions may exceed the commitment, as a Partnership may reserve the right to recycle capital and/or recall distributions depending upon the terms of its Limited Partnership Agreement.

## **Market and Industry Analysis**

### **As of December 31, 2016**

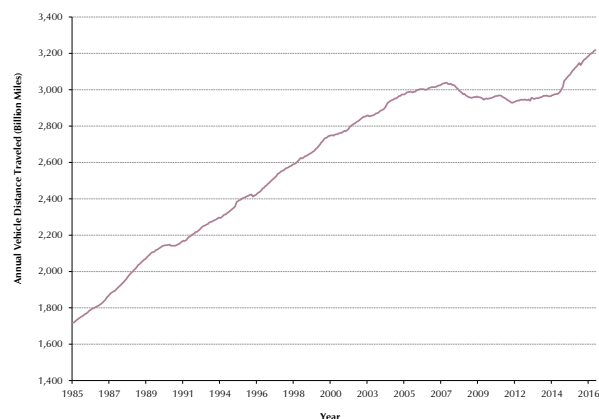
**Infrastructure fundraising and transactions**

- 51 unlisted infrastructure funds closed in 2016, raising a combined \$58 billion, a 32% increase from 2015. At year-end 2016, a total of 181 unlisted infrastructure funds were in market, according to Preqin, with a combined fundraising target of approximately \$141 billion.
- Notable final closes held in the fourth quarter included Antin Infrastructure Partners III, which raised €3.6 billion, and Carlyle Energy Mezzanine Opportunities Fund II, which raised \$2.8 billion.
- As reported by Preqin, 1,774 deals were completed in 2016, a slight increase from 2015. The average annual deal size increased to a record \$364 million, a 14% increase from 2015.

**Several notable transactions reached financial close during the fourth quarter**

- A consortium led by Allianz Capital Partners, China Investment Corporation, Macquarie Infrastructure and Qatar Investment Authority agreed to acquire a 61% ownership stake in National Grid's gas distribution business for £3.6 billion. National Grid has 82,000 miles of pipelines which deliver gas to 11 million households and businesses.
- A consortium led by Global Infrastructure Partners agreed to acquire a 20% equity stake in Gas Natural Fenosa for €3.8 billion. Gas Natural Fenosa is a Spanish natural gas utility that provides natural gas transmission and distribution services to over 23 million customers in more than 30 countries.
- A consortium comprised of IFM Investors and Australian Super agreed to acquire a 50.4% stake in Ausgrid, the electricity distribution network of the state of New South Wales, for \$12.3 billion. Ausgrid is the largest electricity network in Australia, supplying power to 1.7 million homes and businesses.

## Moving 12-month Total on All Roads (U.S.)

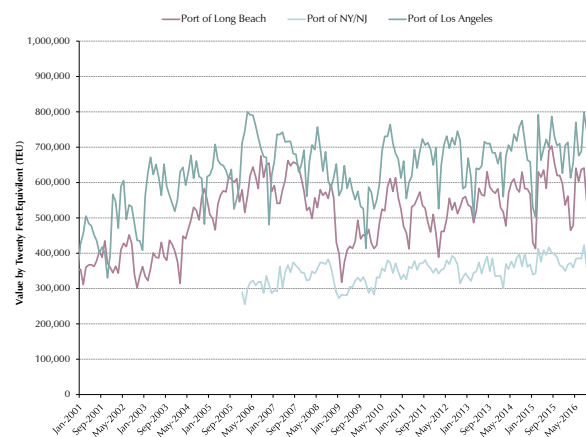


During the fourth quarter of 2016, travel on U.S. roads totaled approximately 802 billion miles. This represented an increase of 2.1% over the same period in 2015. On a year-to-date basis, Federal Highway Administration data showed vehicle miles traveled increased by 62 billion miles, up 2.0% from 2015.

In 2016, the average U.S. price of a gallon of gas came down to a monthly average of \$2.25, with a peak of \$2.47. This compares to \$2.52 and \$2.89 seen in 2015.

According to INRIX data, none of the top ten most congested routes in the U.S. were toll roads.

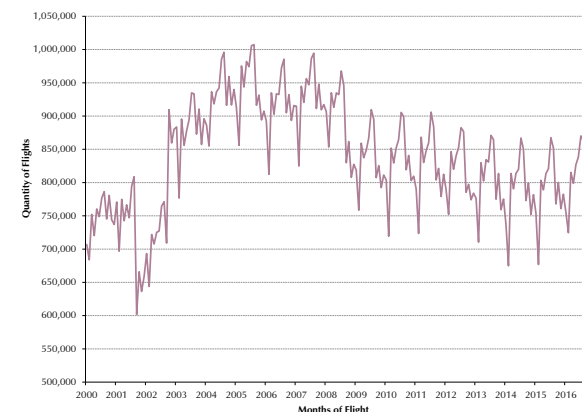
## U.S. Port Activity – Container Trade in TEUs



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

During the fourth quarter of 2016, volumes at the three ports increased by approximately 333,000 TEU, or 6.7% over same period in 2015. On a year-over-year basis, the combined port volumes increased by 232,000 TEU, or 1.2%, over 2015. There was some variation by region. The Port of Los Angeles recorded an increase of 8.5% (696,000 TEU) from 2015 while Long Beach and the Port of NY/NJ saw decreases of -5.8% and -1.0%, respectively, over the same period.

## Total Flights (U.S.)



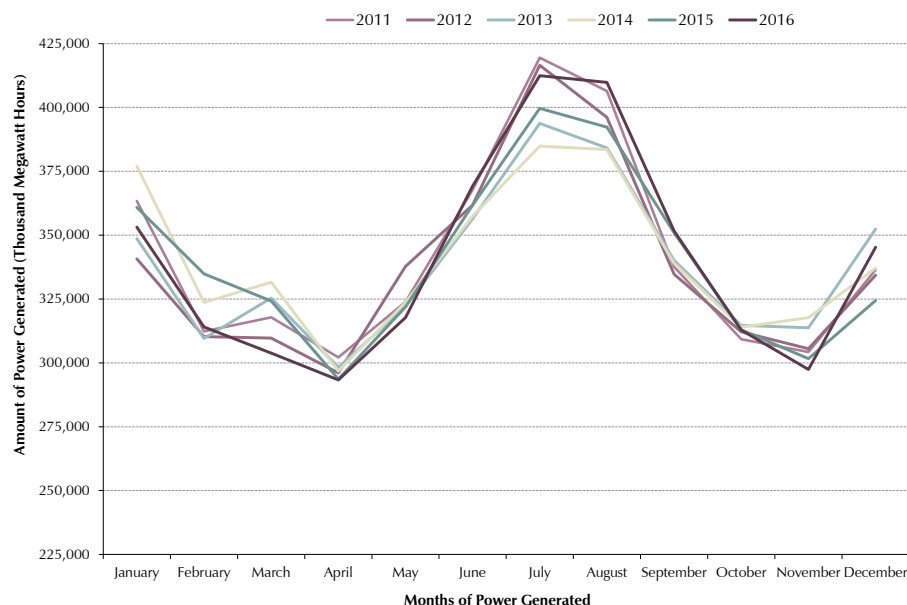
The summary totals in the chart above represent all U.S. domestic and international flights, excluding foreign point-to-point flights. As shown in the chart, air traffic is cyclical with peaks in the summer months and declines in the winter months.

There were 32,200 more flights during the fourth quarter of 2016, representing a 1.4% increase over the same period in 2015. Air traffic activity also increased by 1.7% for the year over year period. In addition to the number of flights during the fourth quarter increasing year-over-year, the total number of passengers travelling on U.S. airlines increased by 1.8%, which indicates higher capacity factors among airlines compared to the prior period.

## San Jose Police and Fire Department Retirement Plan Private Real Assets Program

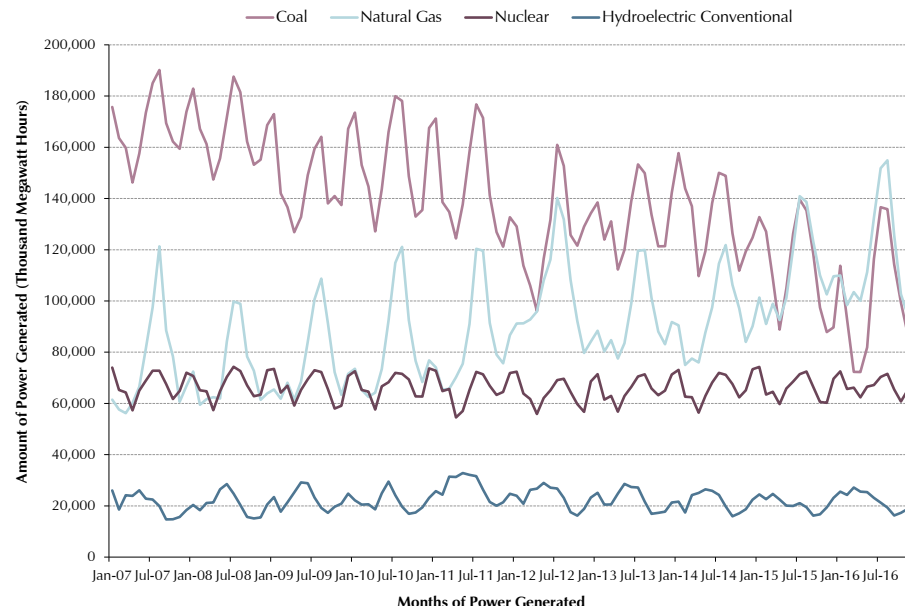
## Market and Industry Analysis as of 12/31/16

**Total Power Generation (U.S.)**



Net energy generation in the U.S. increased by 1.7% during the fourth quarter, compared to the same period in 2015. In December 2016, the price of Henry Hub natural gas had reached \$3.70/MMBtu a meaningful increase from the 2015 December price of \$1.93/MMBtu. Due to this price increase, natural gas consumption decreased in the fourth quarter as compared to the previous year.

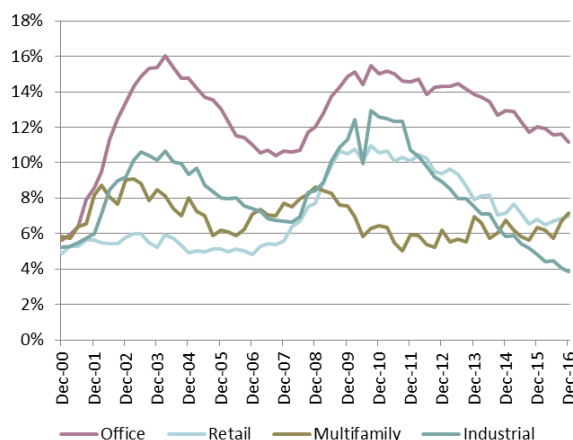
**Power Generation by Source (U.S.)**



When comparing individual generation sources in the U.S., natural gas and hydroelectric generation were down 8.9%, and 1.1%, respectively, during the fourth quarter compared to the same period in 2015. However, coal and nuclear generation were up by 11.0% and 3.7%, respectively, compared to the same period in 2015. In 2016, natural gas and coal supply are in line with each other, accounting for 71% of U.S. power generation combined. Nuclear generation represented 23%, while conventional hydroelectric power was 7% of total U.S. power generation.

## Real Estate Fundamentals

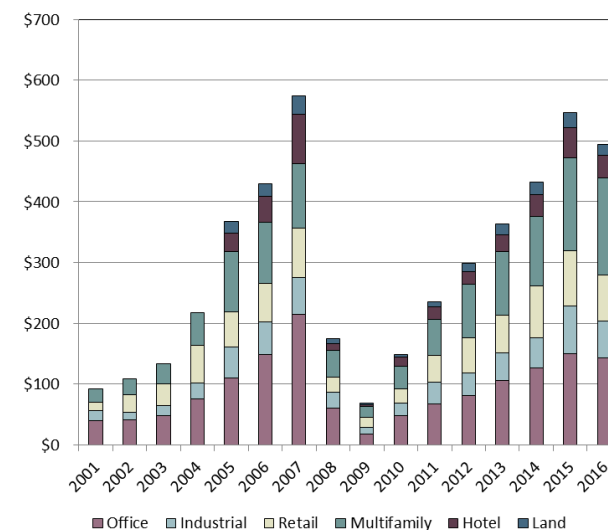
### Vacancy by Property Type



### NOI Growth



### Transaction Volume (\$bn)



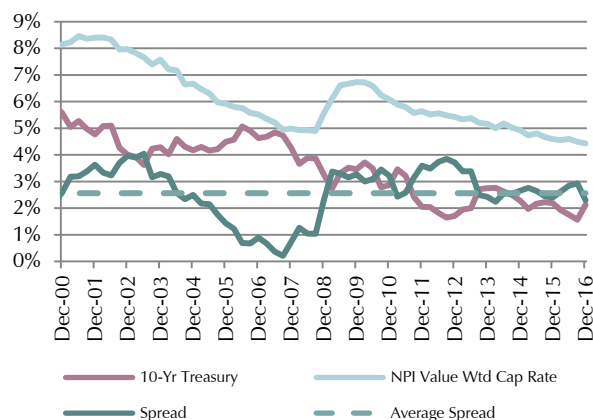
Private real estate occupancy rates were mixed throughout 2016, with industrial and office vacancy decreasing, while multifamily and retail vacancy increased slightly when compared to year-end 2015. Overall, total vacancy decreased by 36 basis points during the year and remains at cycle lows. Industrial properties recorded the largest improvement, decreasing by 92 basis points and ending the year with a total vacancy of 3.9%.

The trailing twelve month rate of NOI growth continued at a strong pace, remaining above 5% for all of 2016. This is largely due to the continued growth of the U.S. economy coupled with moderate new construction, allowing property owners to increase rents and lease vacant space. The strongest NOI growth was seen across industrial properties, which grew at 7.4% over 2016.

Private real estate transaction volume for properties valued over \$2.5 million declined 10% year-over-year, although 2016 volume remained above that of 2014. The volume decline was widespread, with multifamily the only property type with increasing volume. Apartment and office properties remain the largest percentage of total transactions, at 32% and 29% of total volume, respectively.

## Real Estate Capital Markets

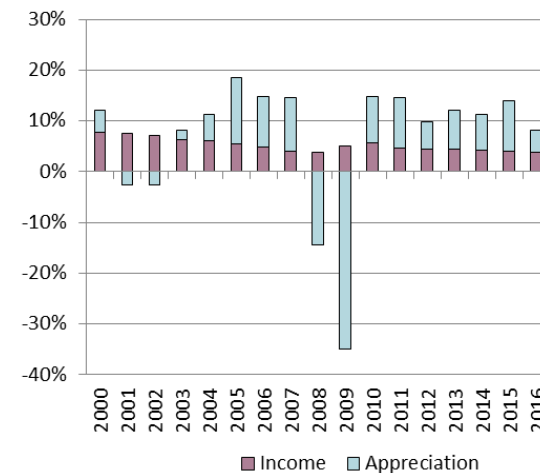
### Cap Rates vs 10-Year Treasury



### Trailing Period Returns

As of December 31, 2016	1 Year	3 Years	5 Years	10 Years
NFI-ODCE (EW, net)	8.4%	11.3%	11.2%	4.7%
NCREIF Property Index	8.0	11.1	11.0	7.0
NFI-CEVA (EW, net)	9.7	15.0	13.8	5.2
NAREIT Index	8.5	13.4	12.0	5.1

### ODCE Return Components (Equal Weight, net)



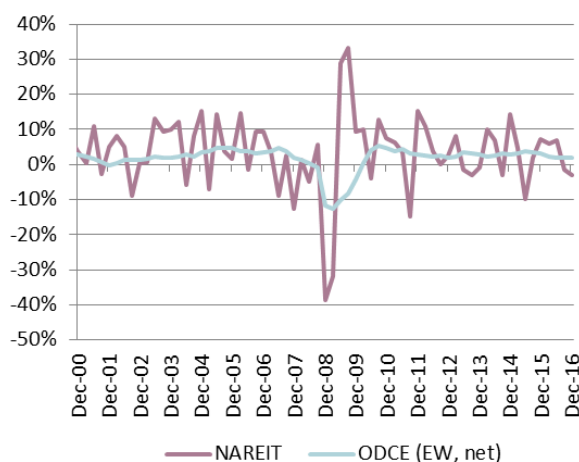
The NPI Value Weighted Cap Rate continued its downward trend, decreasing by 16 basis points and ending the year at 4.4%. Although the spread between cap rates and the 10-year Treasury remains in line with historical average, an uptick in Treasury yields decreased the spread by 63 basis points during the fourth quarter. A further increase in bond yields could put upward pressure on cap rates, limiting appreciation generated by cap rate compression.

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

The NFI-ODCE Equal Weight return for 2016 was 8.4%, net of fees, consisting of a 4.5% appreciation return and a 3.8% income return. The decline from 2015's net return of 14.2% is almost entirely attributable to a slowdown in appreciation, which returned 10.0% throughout 2015. Moderate returns from appreciation are expected in the near term.

## Public REIT Market

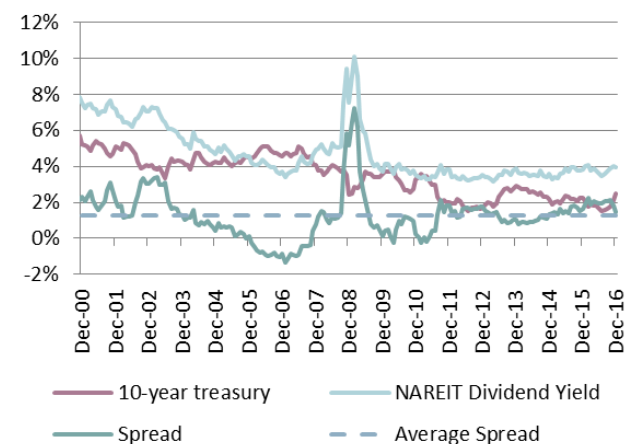
### Public vs Private Real Estate Returns



### REIT Premium/Discount to NAV<sup>1</sup>



### NAREIT Dividend Yield



REITs have outperformed private core real estate in relevant trailing periods, however private vehicles exhibit significantly less volatility. Volatility, as measured by the 10-year standard deviation of quarterly returns, was 12.6% for the NAREIT compared to 4.3% for the ODCE.

REITs traded at a 5% discount to underlying property NAV as of December 2016, which is below the historical average of a 3% premium since 2000. REITs traded as low as a 10% discount during 2016 at the end of November, and rebounded following a 4.7% total return in December.

The NAREIT Dividend Yield has remained relatively steady following the GFC and ended 2016 at 4.0% with the spread to the 10-year Treasury at 1.5%, slightly above the average spread since 2000 of 1.3%. Public REITs trade similarly to long duration bonds, whose prices are highly sensitive to interest rates, so caution should be paid to REIT prices as the Federal Reserve signals further increases to its benchmark interest rate.

<sup>1</sup> Data from Green Street Advisors

**Private Real Assets Program  
As of December 31, 2016**

**Executive Summary**  
**As of December 31, 2016**

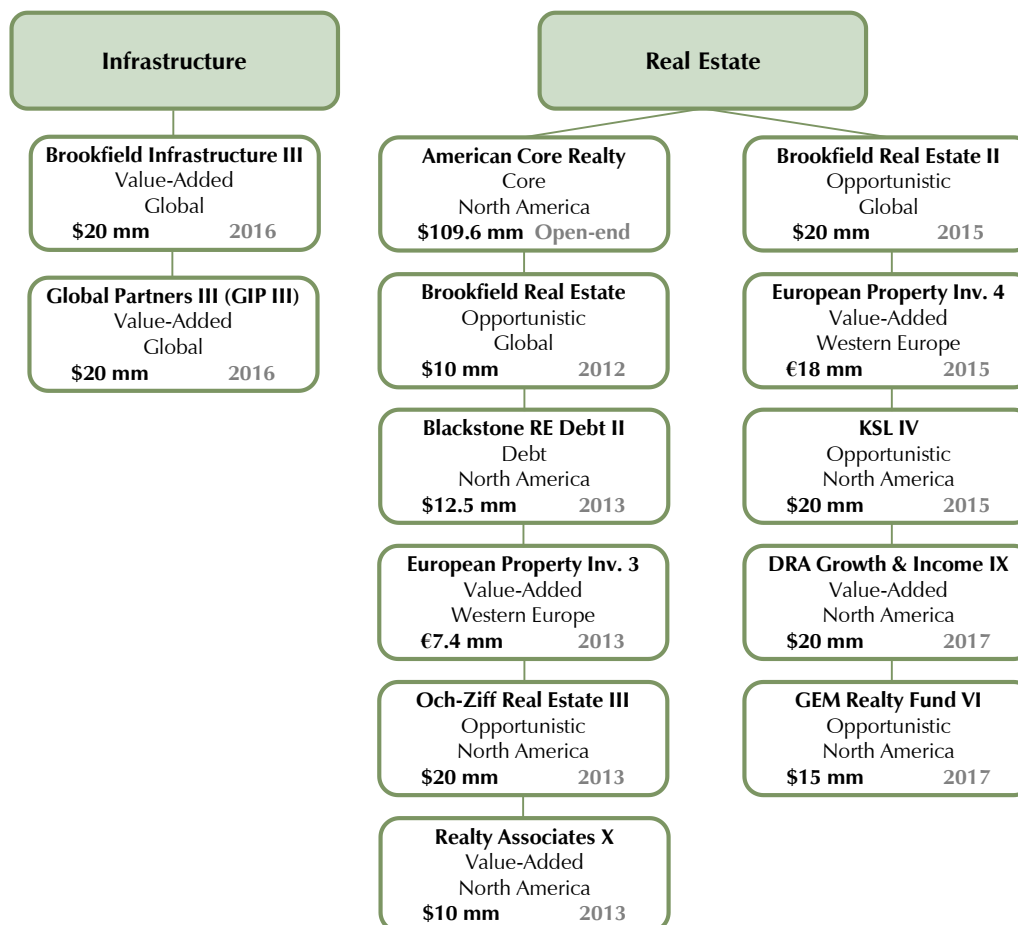
**In aggregate, \$6.4 million of capital was called from the Retirement Plan during the fourth quarter of 2016 by the underlying closed-end partnerships.**

- KSL Capital Partners IV called \$2.0 million, primarily to fund investments in two underlying partnerships.
- Brookfield Real Estate Partners II called \$1.9 million to pay down the credit facility primarily used for the acquisition of properties.
- Och-Ziff Real Estate Fund III called \$0.9 million, primarily to fund an investment in a senior loan towards an underlying partnership.
- European Property Investors Special Opportunities 4 called \$0.7 million, primarily to fund new investments.

**In aggregate, \$4.1 million of capital was distributed to the Retirement Plan by the underlying closed-end partnerships during the fourth quarter of 2016.**

- European Property Investors Special Opportunities 3 distributed \$0.9 million, primarily from three underlying partnerships
- Realty Associates Fund X distributed \$0.8 million, primarily from the sale of industrial assets which generated an unleveraged gross IRR of 19.6%.

**The Retirement Plan did not make any new commitments during the fourth quarter of 2016.**



- White box: Current investment.

**Aggregate Private Real Assets Portfolio  
As of December 31, 2016**

## San Jose Police and Fire Department Retirement Plan Private Real Assets Program

## Aggregate Program Performance Summary as of 12/31/16

	Investment Strategy	Capital Committed (\$ mm)	Total Contributions Paid to Date <sup>1</sup> (\$ mm)	Unfunded Commitment <sup>2</sup> (\$ mm)	Total Distributions Received to Date (\$ mm)	Reported Fair Value (\$ mm)	Reported Fair Value Plus Distributions (\$ mm)	Net IRR <sup>3</sup> (%)	Inv. Multiple <sup>4</sup> (x)	
Total Real Assets Program		305.0	178.6	127.9	68.6	180.7	249.3	10.6	1.4	
Total Closed-end Real Assets		195.4	69.0	127.9	20.7	57.9	78.6	10.1	1.1	
Vintage Year 2012		10.0	10.8	0.8	3.8	11.7	15.5	17.4	1.4	
	Brookfield Strategic Real Estate Partners	Real Estate	10.0	10.8	0.8	3.8	11.7	15.5	17.4	1.4
Vintage Year 2013		51.2	35.4	16.0	14.4	26.4	40.8	9.1	1.2	
	Blackstone Real Estate Debt Strategies II	Real Estate	12.5	10.9	1.7	7.2	5.3	12.5	10.3	1.1
	European Property Investors Special Opportunities 3, L.P. <sup>5</sup>	Real Estate	8.7	8.0	0.7	2.0	5.3	-3.8	0.9	
	Och-Ziff Real Estate Fund III	Real Estate	20.0	6.6	13.5	0.4	7.2	7.6	15.6	1.2
	Realty Associates Fund X, L.P., The	Real Estate	10.0	10.0	0.0	4.9	8.6	13.5	12.3	1.4
Vintage Year 2015		59.1	15.0	44.1	1.4	13.3	14.7	NM	1.0	
	Brookfield Strategic Real Estate Partners II	Real Estate	20.0	8.3	11.7	0.3	8.2	8.5	NM	1.0
	European Property Investors Special Opportunities 4, L.P. <sup>6</sup>	Real Estate	19.1	3.6	15.5	0.5	3.0	3.5	NM	1.0
	KSL Capital Partners IV, L.P.	Real Estate	20.0	3.1	16.9	0.6	2.1	2.7	NM	0.9
Vintage Year 2016		40.0	7.7	32.0	1.1	6.3	7.4	NM	1.0	
	Brookfield Infrastructure Fund III, L.P.	Infrastructure	20.0	3.9	16.1	0.7	3.4	4.1	NM	1.1
	Global Infrastructure Partners III, L.P.	Infrastructure	20.0	3.8	15.9	0.4	2.9	3.3	NM	0.8
Vintage Year 2017		35.0	0.0	35.0	0.0	0.2	0.2	NA	NA	
	DRA Growth and Income Fund IX, LLC <sup>7</sup>	Real Estate	20.0	0.0	20.0	0.0	0.2	0.2	NA	NA
	GEM Realty Fund VI, L.P.	Real Estate	15.0	0.0	15.0	0.0	0.0	NA	NA	

<sup>1</sup> 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.

<sup>2</sup> Unfunded Commitment amounts are an approximation due to the inclusion of callable distributions.

<sup>3</sup> The Net IRR calculations were performed by Meketa Investment Group. Total Program IRR is net of fees, expenses, and carried interest for each partnership but gross of Meketa Investment Group fees.

<sup>4</sup> 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 but gross of Meketa Investment Group fees.

<sup>5</sup> The Retirement Plan committed €7.4 million to the Partnership in 2013. The \$8.7 million commitment amount is an estimated amount based on contributed capital and unfunded commitments as of 12/31/2016.

<sup>6</sup> The Retirement Plan committed €18.0 million to the Partnership in 2015. The \$19.1 million commitment amount is an estimated amount based on contributed capital and unfunded commitments as of 12/31/2016.

<sup>7</sup> DRA Growth and Income Fund IX has funded existing investments through a credit borrowing facility, but as of the date of this report, no capital was called from Limited Partners.



## San Jose Police and Fire Department Retirement Plan Private Real Assets Program

## Aggregate Program Performance Summary as of 12/31/16

	Investment Strategy	Capital Committed (\$ mm)	Total Contributions Paid to Date (\$ mm)	Unfunded Commitment (\$ mm)	Total Distributions Received to Date (\$ mm)	Reported Fair Value (\$ mm)	Reported Fair Value Plus Distributions (\$ mm)	Net IRR (%)	Inv. Multiple (x)	
Total Open-end Real Assets		109.6	109.6	0.0	48.0	122.8	170.7	10.7	1.6	
American Core Realty Fund, LLC		Real Estate	109.6	109.6	0.0	48.0	122.8	170.7	10.7	1.6

The IRR (internal rate of return) and investment multiple are the most meaningful measures of performance for private closed-end real assets program. The IRR measures how assets are performing in relation to time. The investment multiple shows the cash on cash return generated on the invested capital by the underlying assets.

The Total Closed-End Program<sup>1</sup> net IRR increased by 40 basis points during the fourth quarter, from 9.7% to 10.1%.<sup>2</sup> The reported fair value of the Total Closed-End Program increased by \$1.5 million, or 2.6%, after adjusting for capital calls and distributions during the quarter. The improved performance was driven primarily by the valuation increase of Brookfield Strategic Real Estate Partners (\$0.4 million or 3.9%), European Property Investors Special Opportunities 3 (\$0.4 million or 7.9%), and Och-Ziff Real Estate Fund III (\$0.4 million or 5.7%). Furthermore, the Aggregate Private Real Assets Program<sup>3</sup> increased by \$2.7 million, or 1.5%, over the same period.

<sup>1</sup> Total Closed-End Program includes all closed-end funds in the real assets program.

<sup>2</sup> May not sum due to rounding.

<sup>3</sup> The Aggregate Private Real Assets Program includes both open-end and closed-end funds in the real assets program.

## **Appendices**

### **As of December 31, 2016**

## **Disclaimers and Valuation Policies**

### **As of December 31, 2016**

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

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

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

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

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

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

The values of companies and partnerships in this review are based on audited reports for December 31, 2016, 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.

**Glossary of Terms**  
**As of December 31, 2016**

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 a 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.

**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.

**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.

**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.

**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.

**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 (Infrastructure):** 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 (Real Estate):** 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.

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

**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), private equity firms can create a single larger company with greater market control, more attractive financial characteristics, and potentially, better pricing flexibility and lower costs.

**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 limited 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 limited 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 limited partnerships, 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).

**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.

**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.

**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.

**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.

**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 limited 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. In real estate funds, positive leverage occurs when the interest rate is lower than the capitalization rate or projected internal rate of return whereas negative leverage occurs when the current return on equity is diminished by the employment of debt.

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

**Operator (Natural Resources):** An individual or company responsible for the exploration, production, and development of an oil or gas well.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

**Pulpwood:** Wood cut and chipped for the manufacturing of paper and paper related products. Pulpwood is typically too small or 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 limited 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.

**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.

**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.

**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.