

# INTERIM REPORT

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## San Jose Federated City Employees' Retirement System

Private Markets Program  
September 30, 2018

**P U B L I C**



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## Total Private Markets

As of September 30, 2018

	Committed Capital (\$ mm)	Market Value <sup>1</sup> (\$ mm)	Total Contributions (\$ mm)	Total Distributions (\$ mm)	Total Value Multiple (x)	Net IRR (%)
<b>Total Alternatives Account<sup>1</sup></b>	<b>805.0</b>	<b>215.5</b>	<b>520.0</b>	<b>448.5</b>	<b>1.3</b>	<b>6.5</b>
Legacy Private Equity <sup>1,2</sup>	174.3	51.6	148.1	169.4	1.5	7.7
NB Fund of One <sup>1</sup>	225.5	27.7	24.8	0.0	1.1	NM
Private Debt	195.0	70.6	197.9	155.1	1.1	4.5
Real Estate	185.2	45.8	130.1	123.2	1.3	6.0
Real Assets	25.0	19.8	19.2	0.8	1.1	NM

<sup>1</sup> Private Equity and Fund of One underlying data was provided by Neuberger Berman and does not include commitment amounts at this time.

<sup>2</sup> Does not include NB Fund-of-One performance.

## Private Debt Program

As of September 30, 2018, the San Jose Federated City Employees' Retirement System had committed \$195.0 million to five private debt partnerships and one separately managed co-investment. The reported fair value of the aggregate Private Debt Program was \$70.6 million at September 30, 2018, which equates to 3.2% of the overall Retirement System, versus a 4.0% policy target.

Aggregate Private Debt Program <sup>1</sup>	
<b>Number of Partnerships</b>	6
<b>Committed Capital<sup>2</sup></b>	\$195.0 million
<b>Capital Called<sup>3</sup></b>	\$197.9 million
<b>Distributions</b>	\$155.1 million
<b>Reported Value</b>	\$70.6 million
<b>Total Value Multiple</b>	1.1x
<b>Net IRR</b>	4.5%

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

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

<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.

**During the third quarter of 2018, \$1.5 million was called from the Retirement System.**

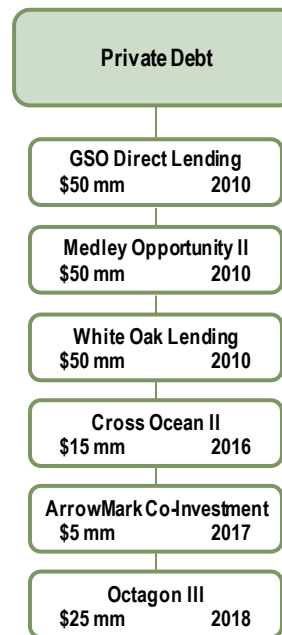
- Cross Ocean USD ESS Fund II called a total of \$1.5 million during the quarter to fund new investments.

**The Retirement System received an aggregate of \$6.4 million in distributions during the third quarter of 2018 from its underlying partnerships.**

- White Oak Direct Lending distributed \$4.6 million during the third quarter.
- Medley Opportunity Fund II distributed a total of \$1.7 million during the quarter, primarily from receipts of interest, amortization, and maturity payments.
- Cross Ocean USD ESS Fund II distributed a total of \$0.1 million during the third quarter of 2018.

**The Retirement System made no new commitments during the third quarter of 2018.**

As of February 28, 2019



- White box: Current investment.

## Aggregate Program Performance Summary

	Investment Strategy	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)	Benchmark	Benchmark
										Net IRR <sup>7</sup> (%)	Net Multiple <sup>7</sup> (%)
Total Program <sup>8</sup>		195.0	197.9	81.2	155.1	70.6	225.7	4.5	1.1	NA	NA
Vintage Year 2010		150.0	182.4	51.5	154.5	53.8	208.3	4.3	1.1	9.9	1.4
GSO SJ Partners	Private Debt	50.0	42.5	29.8	40.3	13.0	53.4	7.7	1.3	9.9	1.4
Medley Opportunity Fund II, L.P.	Private Debt	50.0	51.7	1.7	35.4	26.0	61.4	3.9	1.2	9.9	1.4
White Oak Direct Lending	Private Debt	50.0	88.2	20.0	78.8	14.8	93.5	2.6	1.1	9.9	1.4
Vintage Year 2016		15.0	10.5	4.7	0.6	11.7	12.3	NM	1.2	NM	1.1
Cross Ocean USD ESS Fund II, L.P.	Private Debt	15.0	10.5	4.7	0.6	11.7	12.3	NM	1.2	NM	1.1
Vintage Year 2017		5.0	5.0	0.0	0.0	5.1	5.1	NM	1.0	NM	1.2
ArrowMark Partners Separate Account	Other	5.0	5.0	0.0	0.0	5.1	5.1	NM	1.0	NM	1.2
Vintage Year 2018		25.0	0.0	25.0	NA	NA	NA	NA	NA	NA	NA
Octagon CLO Opportunity Fund III, L.P.	Private Debt	25.0	0.0	25.0	NA	NA	NA	NA	NA	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> Total Contributions include management fees paid outside of capital commitment.

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

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

<sup>5</sup> The Net IRR calculation was performed by Meketa Investment Group. Total Program, Partnership, and Vintage Year IRRs are net of fees, expenses, and carried interest for each partnership.

<sup>6</sup> The Inv. Multiple calculation was performed by Meketa Investment Group. Total Program, Partnership, and Vintage Year Inv. Multiples are net of partnership fees.

<sup>7</sup> Benchmark drawn from Cambridge Associates | Credit Opportunities, Average.

<sup>8</sup> "NM" indicates that a fund is early in its investment period; therefore, the return is not yet meaningful. A not meaningful return is generated by funds with less than 24 months of activity.



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 decreased by 40 basis points during the third quarter, from 4.9% to 4.5%. The fair market value of the total program decreased by -\$1.9 million, or -2.4%, after adjusting for capital calls and distributions during the quarter. The net portfolio valuation was driven by decreases in the valuations of Medley Opportunity Fund II (-\$1.9 million or -6.7%), White Oak Direct Lending (-\$0.4 million or -1.8%), and ArrowMark Partners Separate Account (>-\$0.1 million or >-0.1%), but was partially offset by increases in the valuations of Cross Ocean USD ESS Fund II (\$0.2 million or 1.7%) or GSO SJ Partners (\$0.2 million or 1.5%).

## **Real Estate Program**

As of September 30, 2018, the Retirement System had committed a total of \$185.2 million to eleven real estate funds. The Real Estate Program's reported fair value of real estate investments was \$45.8 million at September 30, 2018, which equates to 2.1% of the overall Retirement System, versus a 3.0% policy target.

Aggregate Real Estate Program <sup>1</sup>	
<b>Number of Partnerships</b>	11
<b>Committed Capital<sup>2</sup></b>	\$185.2 million
<b>Capital Called</b>	\$132.4 million
<b>Distributions</b>	\$123.2 million
<b>Reported Value</b>	\$45.8 million
<b>Total Value Multiple</b>	1.3x
<b>Net IRR</b>	5.8%

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

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

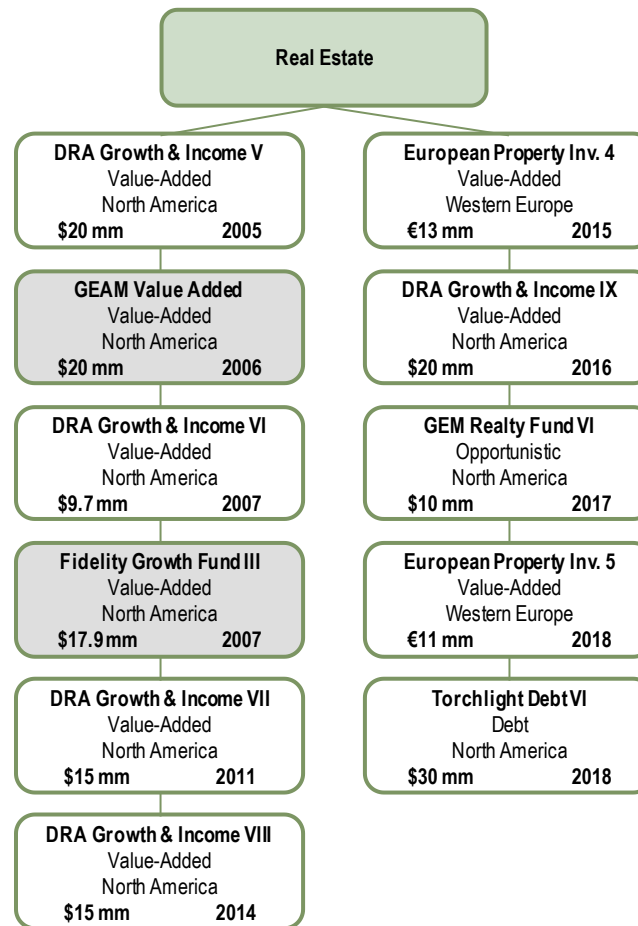
**In aggregate, \$3.6 million was called from the Retirement System during the third quarter of 2018 by the underlying partnerships.**

- DRA Growth and Income Fund IX called \$1.4 million during the quarter, in order to paydown the Fund's credit facility for the acquisitions of seven underlying partnerships.
- European Property Investors Special Opportunities 4 called \$1.1 million during the quarter to fund investments in a number of projects.
- DRA Growth and Income Fund VIII called \$0.6 million during the quarter for follow-on investments within the fund.

**The Retirement System received an aggregate of \$4.4 million in distributions during the third quarter of 2018 from its underlying partnerships.**

- DRA Growth and Income Fund VII distributed a total of \$2.4 million during the quarter primarily from proceeds received from the sale of six underlying partnerships.
- GEM Realty Fund VI distributed a total of \$0.6 million from the sale of one underlying investment.
- DRA Growth and Income Fund IX distributed \$0.6 million during the quarter primarily from a return of capital and cash from operations.

As of February 28, 2019



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

## Aggregate Program Performance Summary

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		Net IRR <sup>3</sup> (%)	Inv. Multiple <sup>4</sup> (x)	Benchmark Net IRR <sup>5</sup> (%)	Benchmark Net Multiple <sup>5</sup> (x)
						Reported Fair Value (\$ mm)	Plus Distributions (\$ mm)				
<b>Total Program</b>	<b>185.2</b>	<b>132.4</b>	<b>69.3</b>	<b>123.2</b>	<b>45.8</b>	<b>169.0</b>		<b>5.8</b>	<b>1.3</b>	<b>NA</b>	<b>NA</b>
<b>Vintage Year 2005</b>	<b>20.0</b>	<b>30.5</b>	<b>0.0</b>	<b>40.3</b>	<b>&lt;0.1</b>	<b>40.3</b>		<b>5.2</b>	<b>1.3</b>	<b>-1.0</b>	<b>1.0</b>
DRA Growth and Income Fund V	Real Estate	20.0	30.5	0.0	40.3	<0.1	40.3	5.2	1.3	-1.0	1.0
<b>Vintage Year 2006</b>	<b>20.0</b>	<b>18.2</b>	<b>1.8</b>	<b>8.8</b>	<b>0.0</b>	<b>8.8</b>	<b>-10.9</b>	<b>0.5</b>	<b>-1.3</b>	<b>1.0</b>	<b>1.0</b>
GEAM Value Add Realty Partners, L.P.	Real Estate	20.0	18.2	1.8	8.8	0.0	8.8	-10.9	0.5	-1.3	1.0
<b>Vintage Year 2007</b>	<b>27.6</b>	<b>28.4</b>	<b>0.0</b>	<b>40.1</b>	<b>1.2</b>	<b>41.2</b>	<b>8.9</b>	<b>1.5</b>	<b>1.6</b>	<b>1.1</b>	<b>1.1</b>
DRA Growth and Income Fund VI <sup>6</sup>	Real Estate	9.7	10.6	0.0	16.4	1.2	17.5	10.8	1.7	1.6	1.1
Fidelity Real Estate Growth Fund III, L.P. <sup>7</sup>	Real Estate	17.9	17.9	0.0	23.7	0.0	23.7	7.3	1.3	1.6	1.1
<b>Vintage Year 2011</b>	<b>15.0</b>	<b>16.2</b>	<b>0.0</b>	<b>21.9</b>	<b>10.6</b>	<b>32.5</b>	<b>20.7</b>	<b>2.0</b>	<b>13.4</b>	<b>1.5</b>	<b>1.5</b>
DRA Growth and Income Fund VII, LLC	Real Estate	15.0	16.2	0.0	21.9	10.6	32.5	20.7	2.0	13.4	1.5
<b>Vintage Year 2014</b>	<b>15.0</b>	<b>17.7</b>	<b>0.3</b>	<b>8.5</b>	<b>13.6</b>	<b>22.1</b>	<b>11.7</b>	<b>1.2</b>	<b>10.9</b>	<b>1.3</b>	<b>1.3</b>
DRA Growth and Income Fund VIII, LLC	Real Estate	15.0	17.7	0.3	8.5	13.6	22.1	11.7	1.2	10.9	1.3
<b>Vintage Year 2015</b>	<b>14.8</b>	<b>8.7</b>	<b>6.1</b>	<b>0.6</b>	<b>9.0</b>	<b>9.6</b>	<b>8.5</b>	<b>1.1</b>	<b>10.2</b>	<b>1.2</b>	<b>1.2</b>
European Property Investors Special Opportunities 4, L.P. <sup>8</sup>	Real Estate	14.8	8.7	6.1	0.6	9.0	9.6	8.5	1.1	10.2	1.2
<b>Vintage Year 2016</b>	<b>20.0</b>	<b>9.2</b>	<b>11.7</b>	<b>2.0</b>	<b>8.7</b>	<b>10.7</b>	<b>NM</b>	<b>1.2</b>	<b>NM</b>	<b>1.1</b>	<b>1.1</b>
DRA Growth and Income Fund IX, LLC	Real Estate	20.0	9.2	11.7	2.0	8.7	10.7	NM	1.2	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> Unfunded Commitment amounts are an approximation due to the inclusion of recallable distributions.

<sup>3</sup> The Net IRR calculation was performed by Meketa Investment Group. Total Program, Partnership, and Vintage Year IRRs are net of fees, expenses, and carried interest for each partnership.

<sup>4</sup> The Inv. Multiple calculation was performed by Meketa Investment Group. Total Program, Partnership, and Vintage Year Inv. Multiples are net of partnership fees.

<sup>5</sup> Real Estate benchmarks (excluding Torchlight Debt Opportunity Fund IV) drawn from Thomson One | Real Estate, Average.

<sup>6</sup> Capital Committed to DRA Growth & Income Fund VI was originally \$15.0 million, and has been reduced to \$9.7 million due to \$5.3 million in released commitments.

<sup>7</sup> Capital Committed to Fidelity Real Estate Growth Fund III was originally \$20.0 million, and has been reduced to \$17.9 million due to \$2.1 million in released commitments.

<sup>8</sup> The Retirement System committed €13.0 million to the Partnership in 2015. The \$14.8 million commitment amount is an estimated amount based on the contributed capital and unfunded commitment as of 9/30/18.

## Aggregate Program Performance Summary

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		Net IRR <sup>3</sup> (%)	Inv. Multiple <sup>4</sup> (x)	Benchmark	
						Plus Distributions (\$ mm)	Fair Value (\$ mm)			Net IRR <sup>5</sup> (%)	Net Multiple <sup>5</sup> (x)
<b>Vintage Year 2017</b>	<b>10.0</b>	<b>1.2</b>	<b>8.9</b>	<b>0.6</b>	<b>0.6</b>	<b>1.2</b>		<b>NM</b>	<b>1.0</b>	<b>NM</b>	<b>1.0</b>
GEM Realty Fund VI, L.P.	Real Estate	10.0	1.2	8.9	0.6	0.6	1.2	NM	1.0	NM	1.0
<b>Vintage Year 2018</b>	<b>42.8</b>	<b>2.3</b>	<b>40.5</b>	<b>0.3</b>	<b>2.2</b>	<b>2.5</b>		<b>NM</b>	<b>1.1</b>	<b>NM</b>	<b>NA</b>
European Property Investors Special Opportunities 5, L.P. <sup>9</sup>	Real Estate	12.8	0.0	12.8	NA	NA	NA	NA	NA	NA	NA
Torchlight Debt Opportunity Fund VI, L.P.	Real Estate	30.0	2.3	27.7	0.3	2.2	2.5	NM	1.1	NM	NA

<sup>9</sup> The Retirement System committed €11.0 million to the Partnership in 2018. The \$12.8 million commitment amount is an estimated amount based on the contributed capital and unfunded commitment as of 9/30/18.

The IRR (internal rate of return) and investment multiple are the most meaningful measures of performance for private closed-end real estate 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 Real Estate Program<sup>1</sup> net IRR remained at 5.8% during the third quarter. The Real Estate Program performance was driven primarily by the increased valuations of European Property Investors Special Opportunities 4 (\$0.7 million or 8.5%), DRA Growth and Income Fund VII (\$0.6 million or 5.6%), and DRA Growth and Income Fund VIII (\$0.4 million or 3.1%). During the third quarter, the reported fair value of the Real Estate Program increased by \$2.4 million, or 5.0%, after adjusting for capital calls and distributions during the quarter.

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





## **Real Assets Program**

As of September 30, 2018, the System had committed \$25.0 million to one real assets funds. The total reported fair value of real assets investments was \$19.8 million at September 30, 2018, which equates to 0.9% of the overall Retirement System, versus a 3.0% policy target.

Aggregate Real Assets Program <sup>1</sup>	
<b>Number of Partnerships</b>	1
<b>Committed Capital</b>	\$25.0 million
<b>Capital Called</b>	\$19.2 million
<b>Distributions</b>	\$0.8 million
<b>Reported Value</b>	\$19.8 million
<b>Total Value Multiple</b>	1.1x
<b>Net IRR</b>	NM

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

**In aggregate, \$4.6 million was called from the Retirement System during the third quarter of 2018 by the underlying partnership.**

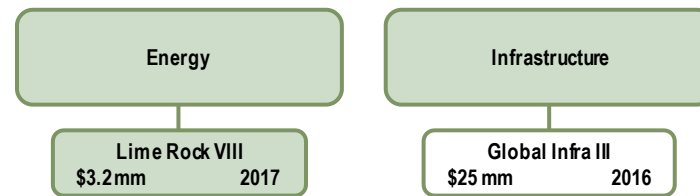
- Global Infrastructure Partners III called \$4.6 million primarily to fund investments in three underlying partnerships.

**The Retirement System received less than \$0.1 million in distributions during the third quarter of 2018.**

- Global Infrastructure Partners III distributed less than \$0.1 million in dividends from its investment in one underlying investment.

**The Retirement System did not make any new commitments during the third quarter of 2018.**

As of February 28, 2019



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

## Aggregate Program Performance Summary

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 Plus Distributions (\$ mm)	Net IRR <sup>3</sup> (%)	Inv. Multiple <sup>4</sup> (x)	Benchmark Net IRR <sup>5</sup> (%)	Benchmark Net Multiple <sup>5</sup> (x)
<b>Total Program</b>	<b>25.0</b>	<b>19.2</b>	<b>6.0</b>	<b>0.8</b>	<b>19.8</b>	<b>20.7</b>	<b>NM</b>	<b>1.1</b>	<b>NM</b>	<b>NA</b>
<b>Vintage Year 2016</b>	<b>25.0</b>	<b>19.2</b>	<b>6.0</b>	<b>0.8</b>	<b>19.8</b>	<b>20.7</b>	<b>NM</b>	<b>1.1</b>	<b>NM</b>	<b>NA</b>
Global Infrastructure Partners III, L.P. Infrastructure	25.0	19.2	6.0	0.8	19.8	20.7	NM	1.1	NM	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 recallable distributions.

<sup>3</sup> The Net IRR calculation was performed by Meketa Investment Group. Total Program, Partnership, and Vintage Year IRRs are net of fees, expenses, and carried interest for each partnership.

<sup>4</sup> The Inv. Multiple calculation was performed by Meketa Investment Group. Total Program, Partnership, and Vintage Year Inv. Multiples are net of partnership fees.

<sup>5</sup> Benchmark is drawn from Cambridge Associates | Infrastructure, Average.

The IRR (internal rate of return) and investment multiple are the most meaningful measures of performance for a private real assets 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.

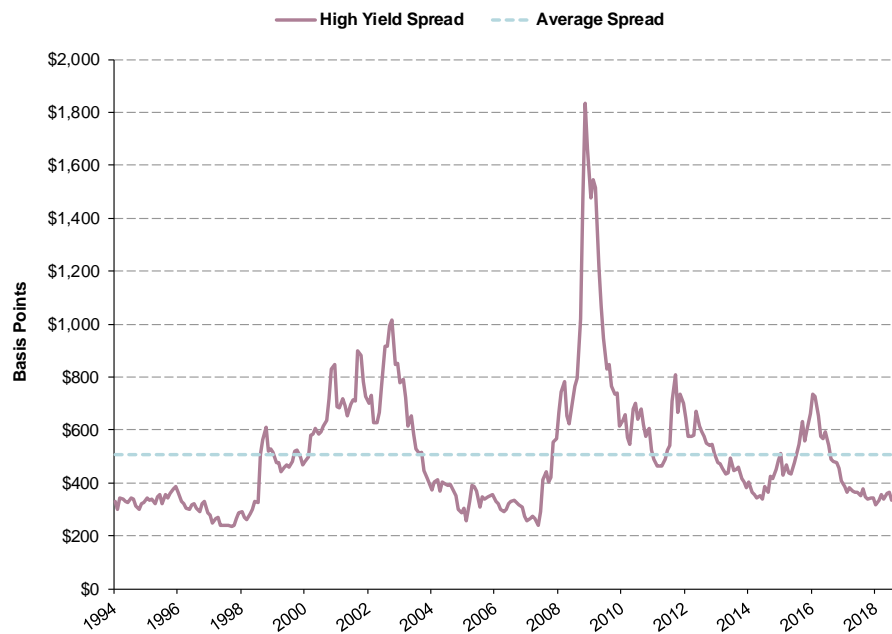
The Real Assets Program is at an early stage in its development and as such, the net IRR of the Program has been listed as “Not Meaningful” across this report. The reported fair value of the Program increased by \$1.4 million, or 8.7%, after adjusting for capital calls and distributions during the third quarter of 2018. The improved performance was driven by the valuation increase of Global Infrastructure Partners III (\$1.4 million or 8.7%).

## Appendices

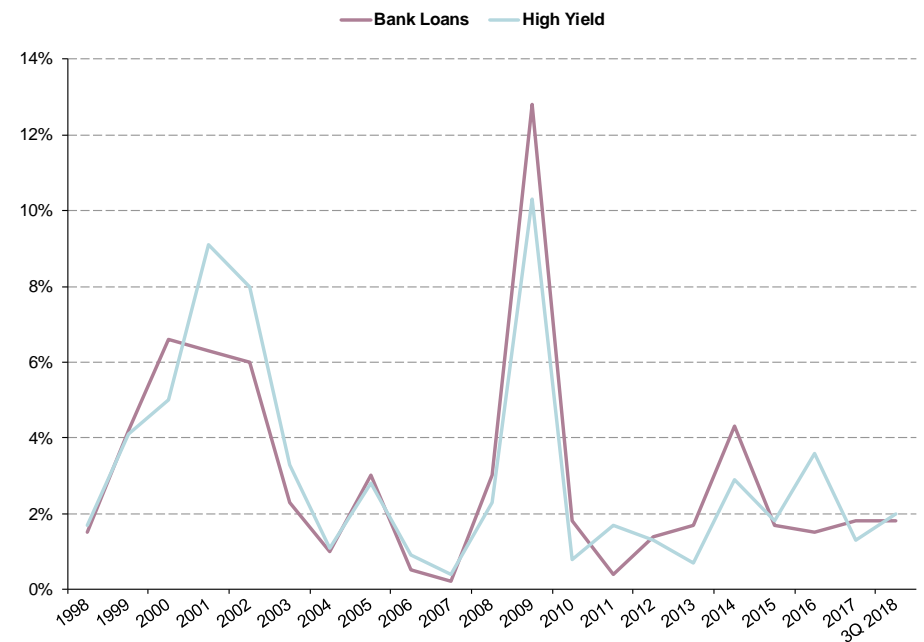
## Private Debt

Credit spreads continued to compress during the third quarter with performance in the lower rated credit quality segments driving returns. Interest rates continued to increase as well putting some price pressure on longer duration, more interest rate sensitive bonds. Issuance slowed and shifted from high yield bonds to bank loans as investors favored floating rate assets. Bond and loan default rates were largely unchanged during the quarter as just \$2.3 billion of total debt defaulted, marking the second straight quarter where defaulted debt hit lows not seen since the end of 2013.

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



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



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

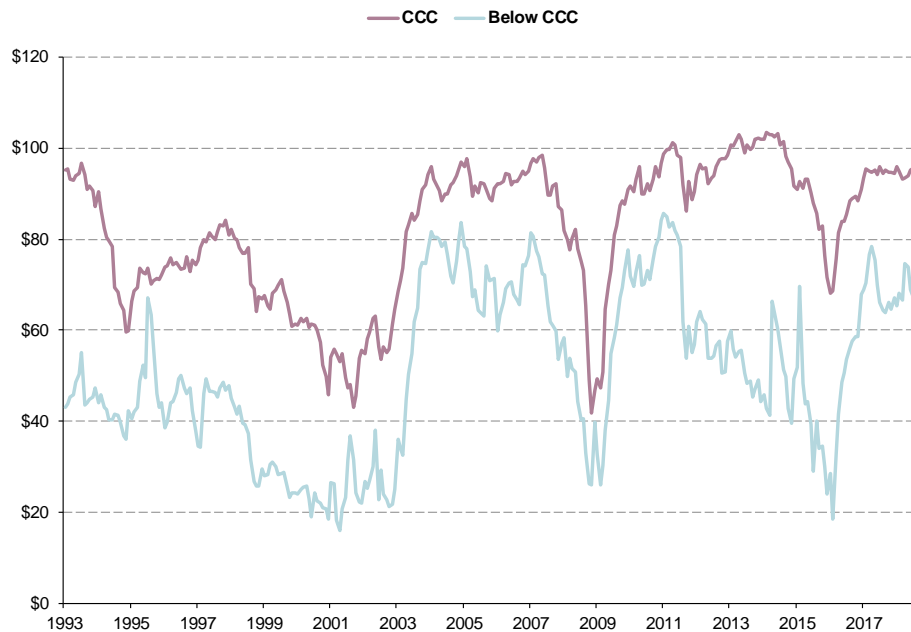
<sup>2</sup> Source: JP Morgan



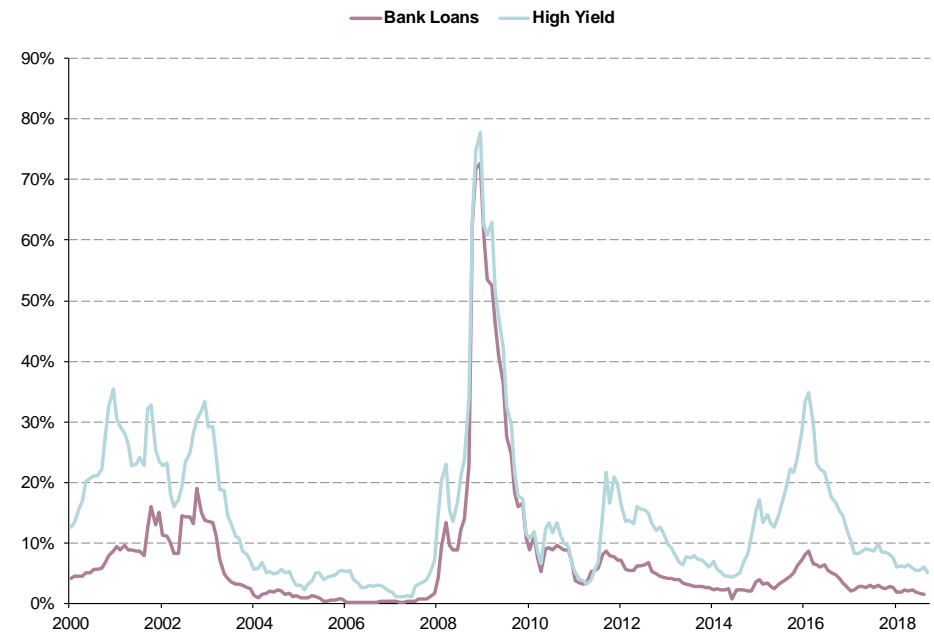
## Distressed & Opportunistic Debt

The opportunity for distressed managers remained muted as the supply of low priced debt continued to shrink and remains concentrated by economic industry. Energy, retail, and telecom continue to be the industries with the most debt priced at distressed levels and highest current default rates. The distressed ratio continued to fall in both high yield and bank loans.

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



### Distressed Ratio<sup>2</sup>



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

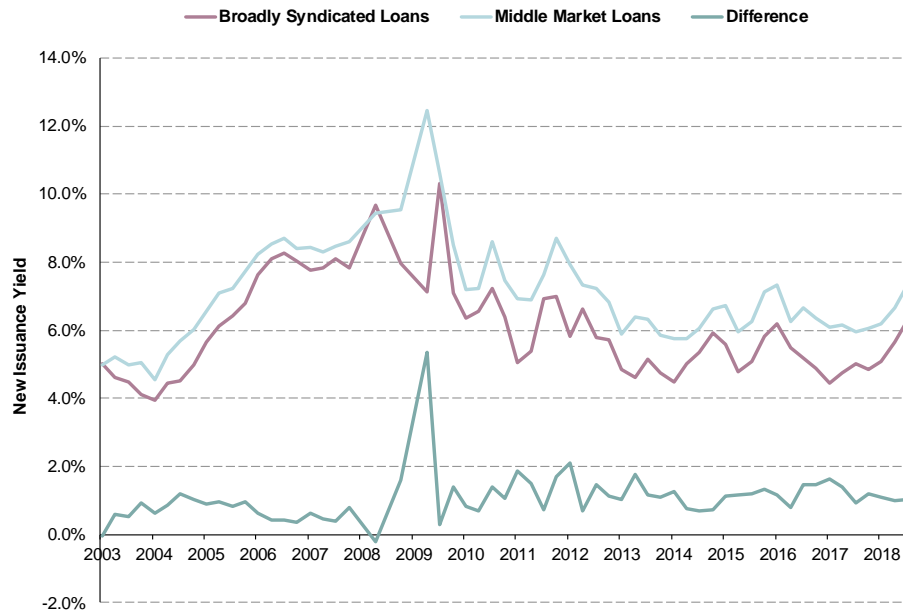
<sup>2</sup> Source: Bank Loans trading below \$80, Credit Suisse; High Yield trading at spread of more than 1,000bps, Deutsche Bank.

## Private Senior & Subordinated Debt

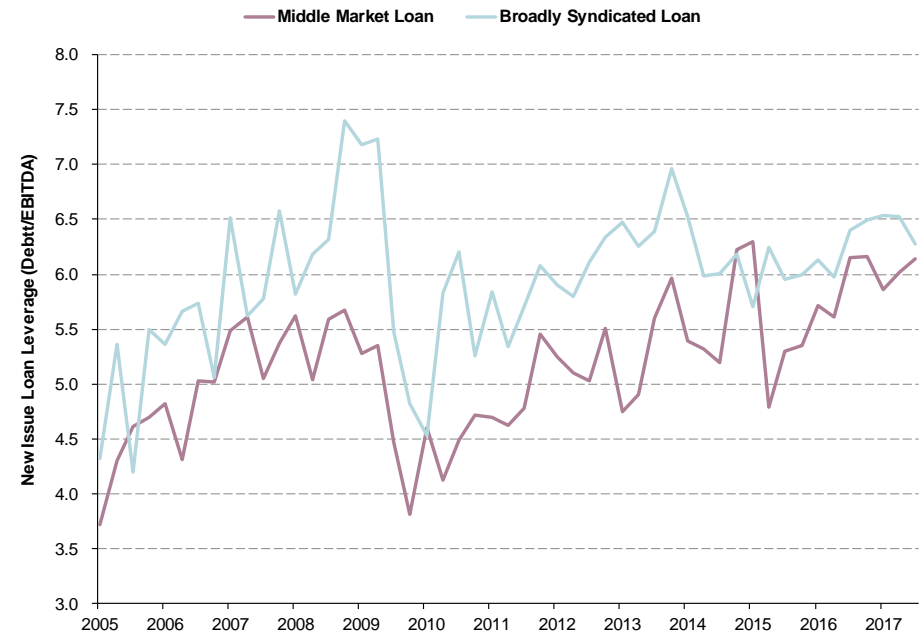
New issuance volumes across private debt (senior and subordinated) marginally slowed in the third quarter. Yields in both markets increased slightly and the “small issuer” and illiquidity spread remained constant. While new deal leverage multiples increased in the middle market to broadly syndicated loan market levels, covenant-lite decreased as a percentage of the new issuance.

Business Development Companies (“BDCs”) performance was positive but finished the quarter trading at a 9% discount to book value, in aggregate. BDCs significantly increased their second lien issuance during the quarter which partially contributed to the higher overall yield of the market. As of the end of September, 3.4% of the loans in BDCs was classified with “non-accrual” status where default is more likely. Services, manufacturing and health care debt account for approximately half of the total loans in non-accrual status.

### Senior Loan Pricing<sup>1</sup>



### New Deal Leverage Multiples



<sup>1</sup> Source: Thomson Reuters LPC

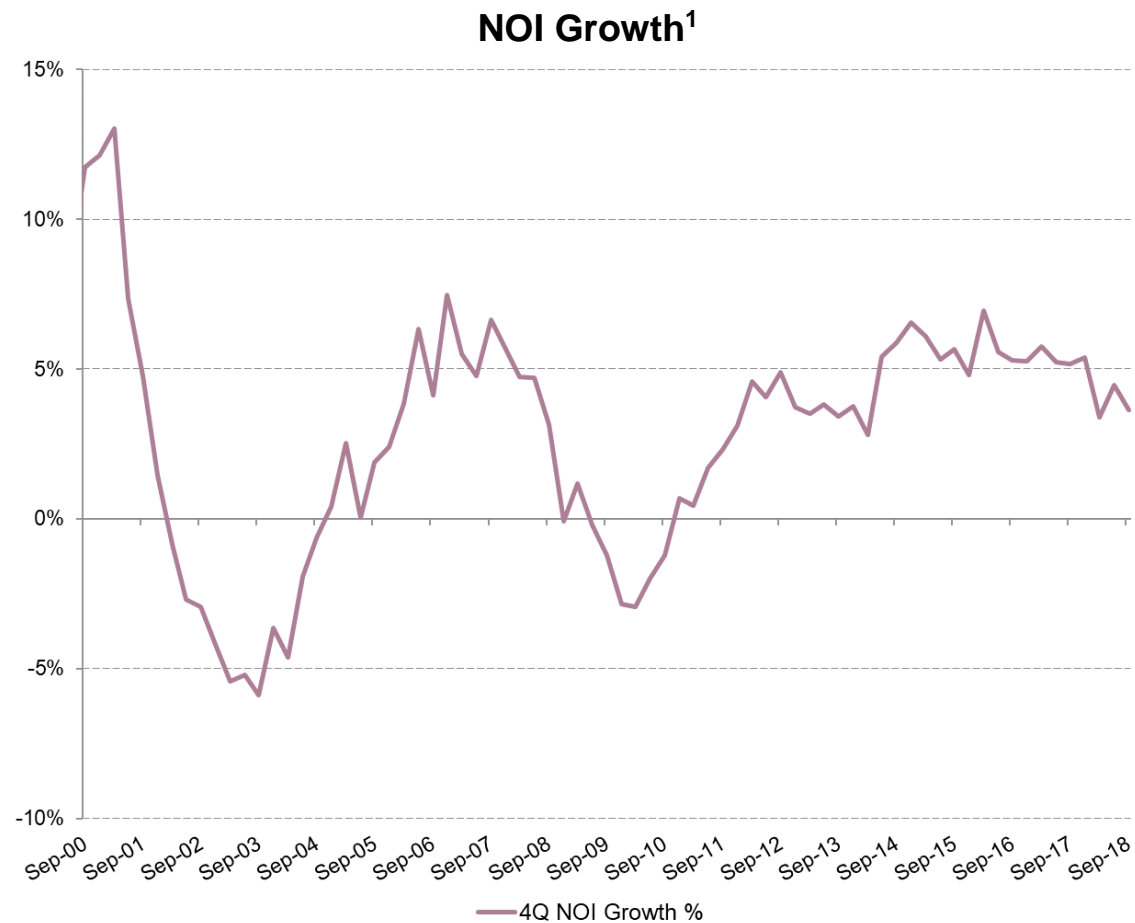
## Real Estate Fundamentals

### Vacancy by Property Type<sup>1</sup>



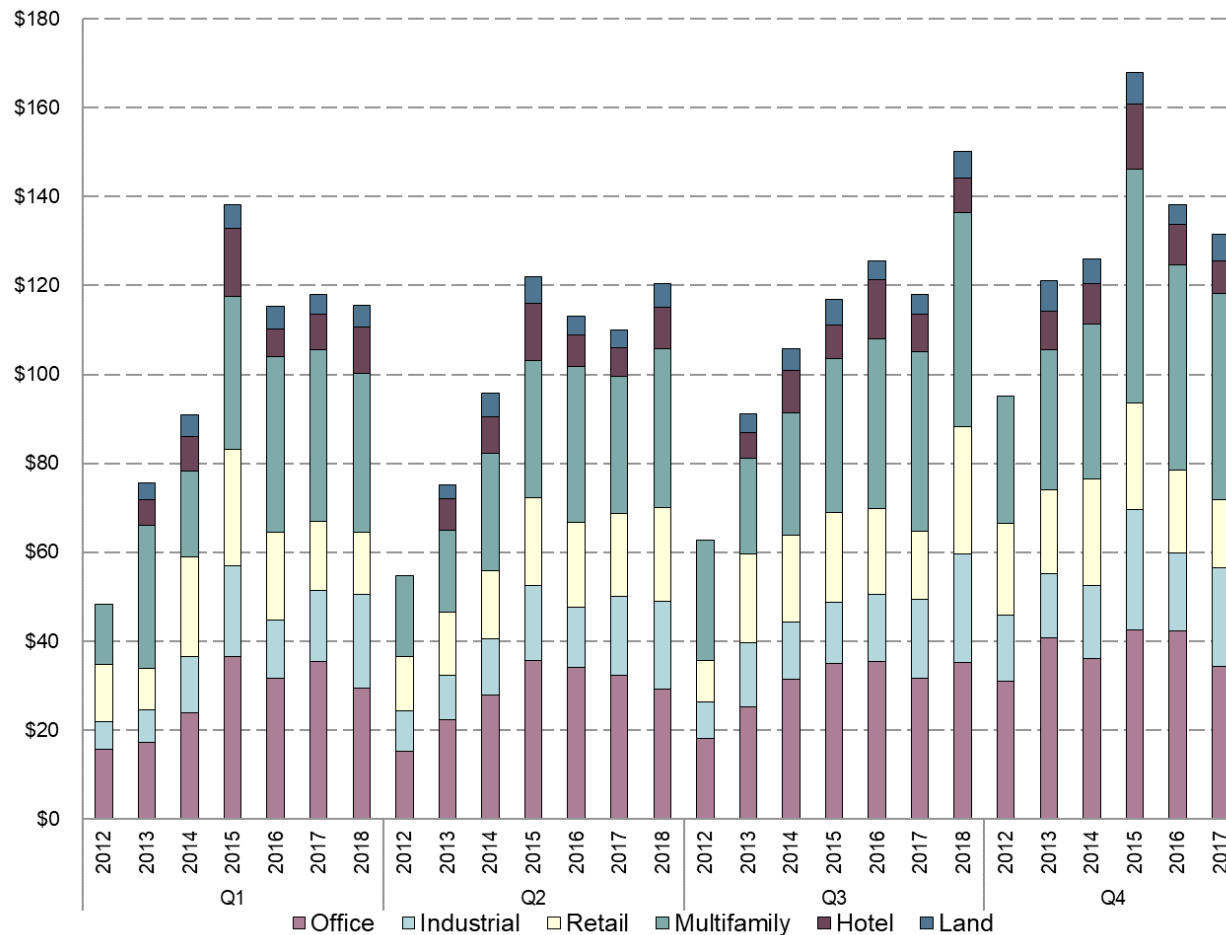
In the third quarter of 2018, vacancy rates across all properties decreased. Multifamily vacancies have been choppy, but in a slight upward trend since 2011. Retail vacancies flattened over the last three years, and office and industrial vacancies continued to decline. Compared to one year ago, vacancy rates in multifamily decreased 66 basis points, office decreased 61 basis points, industrial decreased 84 basis points, and retail decreased 8 basis points. Overall, the vacancy rate across all properties decreased 81 basis points from Q3 2017.

<sup>1</sup> Source: NCREIF



The trailing twelve month rate of NOI growth dropped below 4% again in the third quarter of 2018. Continued growth of the U.S. economy coupled with only moderate new construction allowed property owners to increase rents and lease vacant space. However, growth moderated in 2018 to a range of 3.5% to 4.5%. The strongest NOI growth during the quarter was within the industrial sector, which grew at 8.7% year-over-year ending Q3 2018. Office and retail NOI growth decreased to 3.3% and 0.2%, respectively, while apartment NOI growth increased to 4.3%.

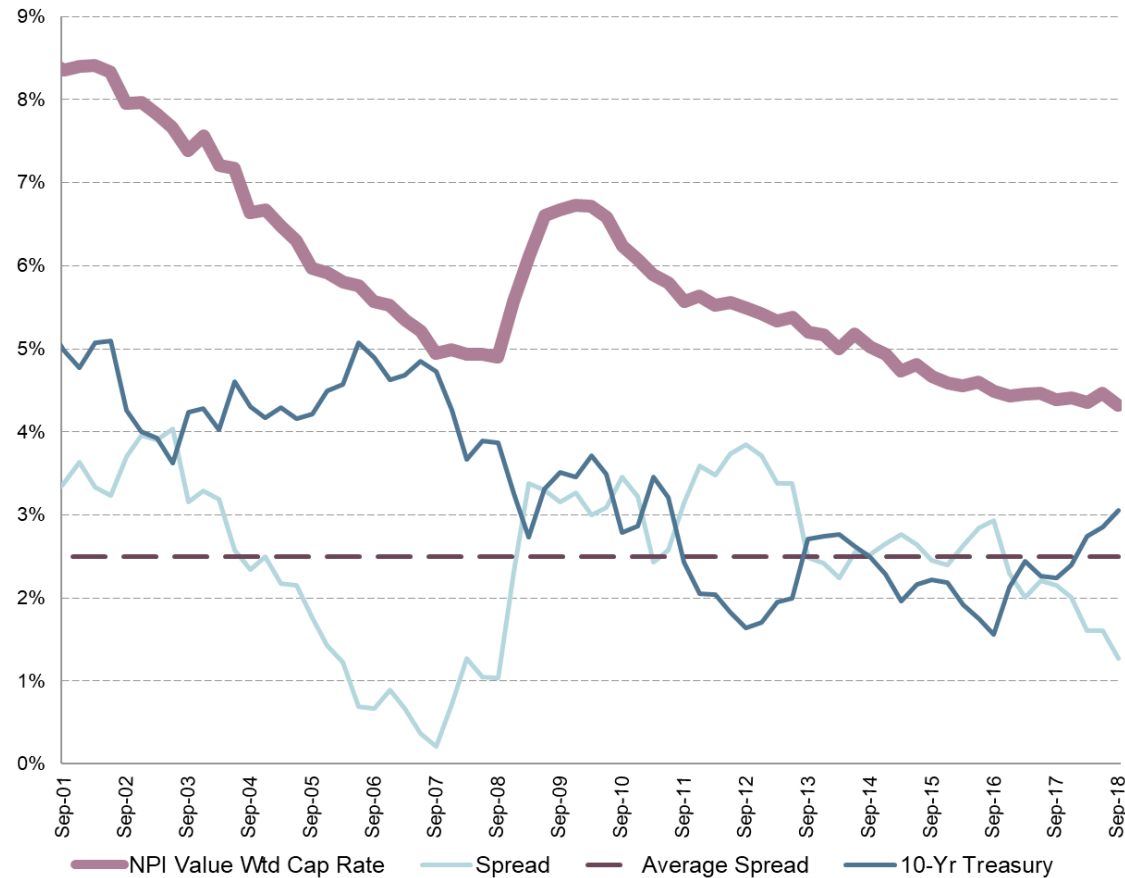
<sup>1</sup> Source: NCREIF

Transaction Volume (\$bn)<sup>1</sup>

Private real estate transaction volume for properties valued over \$2.5 million increased to the second highest level in any quarter since 2012, at over \$150 million. Retail and multifamily volumes were up 35% compared to last quarter, while hotel volumes were down 17%. Office and industrial volumes increased 21% and 24%, respectively. Multifamily and office properties made up the largest percentages of total transaction volume during the quarter, at 32% and 23%, respectively.

<sup>1</sup> Source: PREA

### Real Estate Capital Markets Cap Rates vs. 10-Year Treasury<sup>1</sup>



The NPI Value Weighted Cap Rate has hovered just below 4.5% for several quarters now. The 10-year Treasury yield continues to rise in 2018 after a slight pullback in 2017, with the spread between cap rates and treasury yields narrowing even further, ending the quarter at 1.3%, 122 basis points below the long term average.

<sup>1</sup> Source: NCREIF and U.S. Department of the Treasury

**Trailing Period Returns<sup>1</sup>**

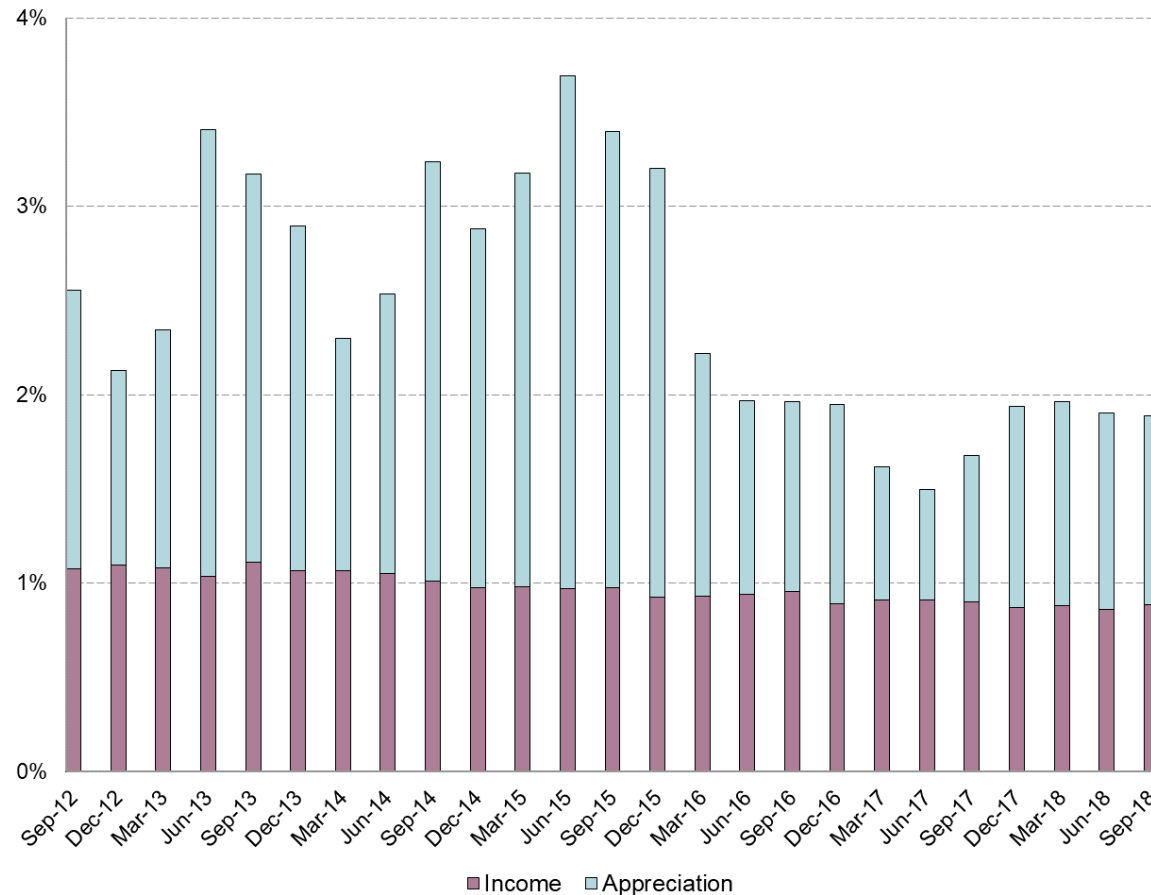
<i>As of September 30, 2018</i>	<b>1 Year</b>	<b>3 Years</b>	<b>5 Years</b>	<b>10 Years</b>
<b>NFI-ODCE (EW, net)</b>	<b>7.9%</b>	<b>8.2%</b>	<b>9.9%</b>	<b>4.5%</b>
<b>NCREIF Property Index</b>	<b>7.2</b>	<b>7.8</b>	<b>9.6</b>	<b>6.4</b>
<b>NAREIT Index</b>	<b>4.3</b>	<b>9.0</b>	<b>9.6</b>	<b>7.8</b>

Public and private real estate indices have continued to post positive returns, driven by strong property-level fundamentals and a low interest rate environment. Performance within private real estate has moderated slightly in recent years but continues to post consistent positive returns. Recent public real estate performance has experienced more volatility.

<sup>1</sup> Source: NCREIF



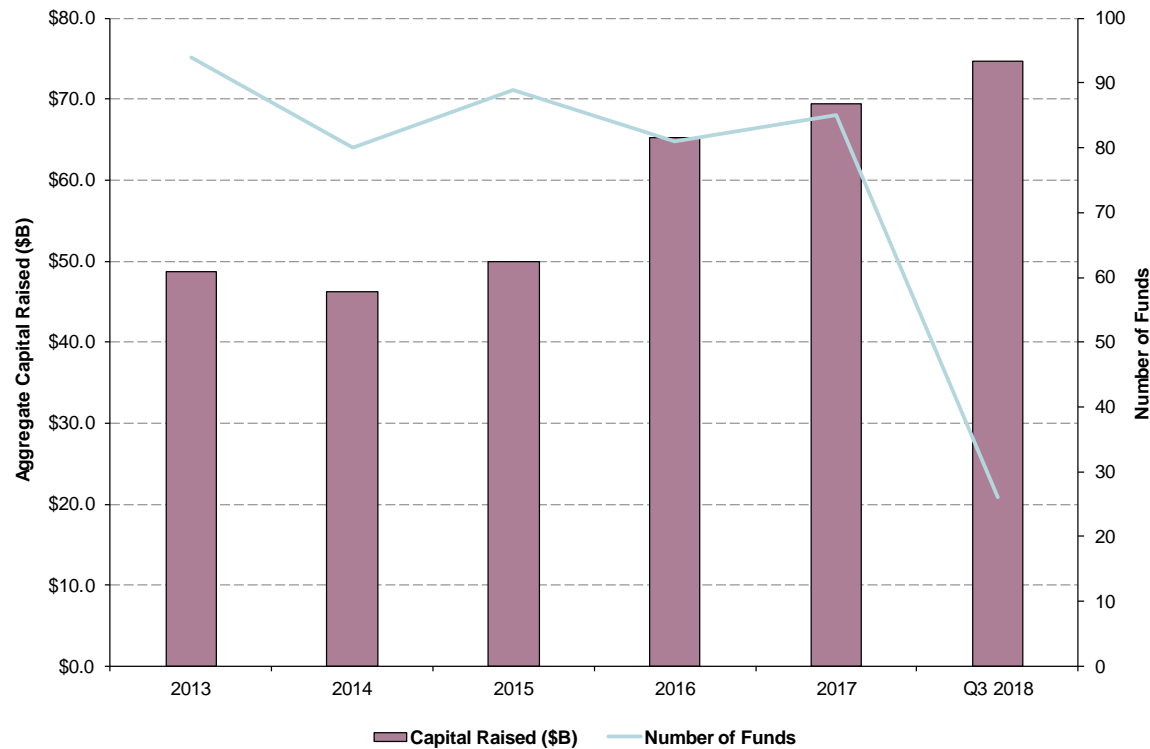
### ODCE Return Components<sup>1</sup> (Equal Weight, Net)



The NFI-ODCE Equal Weight return for Q3 2018 was 1.9%, consistent with that of the previous three quarters. The appreciation component of the return has maintained 2016 levels, at just over 1.0%. The income return has remained stable in the last five years with only a slight compression to below 1.0%.

<sup>1</sup> Source: NCREIF

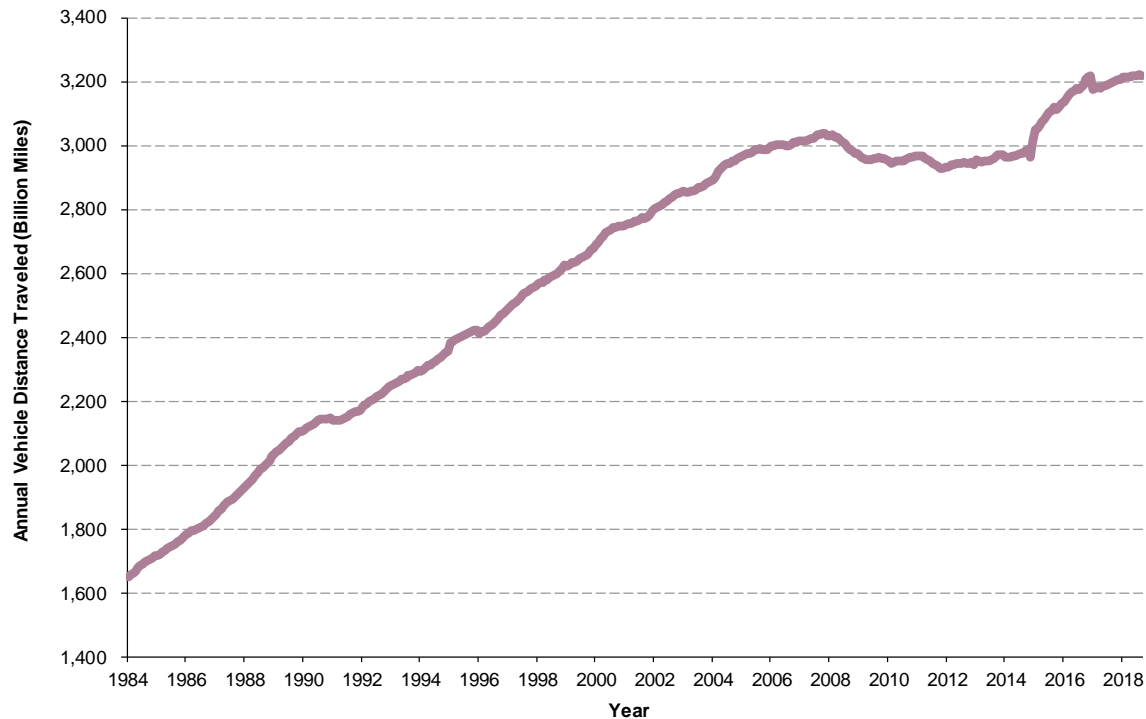


Global Quarterly Unlisted Infrastructure Fundraising<sup>1</sup>

Capital raised in the first three quarters of 2018 has already outpaced 2016, in terms of dollars raised, and is on track to exceed 2017. However, the market continues to trend toward fewer funds at higher target sizes. In all three quarters this year, the average fund size raised has exceeded \$1 billion, with Q3 posting a record \$1.9 billion average sized fund. As of September 30, 2018, a total of 187 unlisted infrastructure funds were in market, according to Preqin, with a combined fundraising target of approximately \$147 billion.

The majority of infrastructure capital continues to focus on the developed markets of North America and Europe, accounting for nearly 96% of the capital raised in Q3 and 16 of the 20 funds closed this quarter. There was only one fund consisting of \$0.4 billion raised in Asia and three funds consisting of \$1.1 billion in the rest of the world. Notable final closes held in Q3 2018 included KKR Global Infrastructure Investors III's (\$7.4 billion), Stonepeak Infrastructure Partners III's (\$7.2 billion), ISQ Global Infrastructure Fund II's (\$7.0 billion), and Macquarie Super Core Infrastructure Fund's (€2.5 billion).

<sup>1</sup> Source: Preqin Quarterly Update: Infrastructure, Q3 2018.

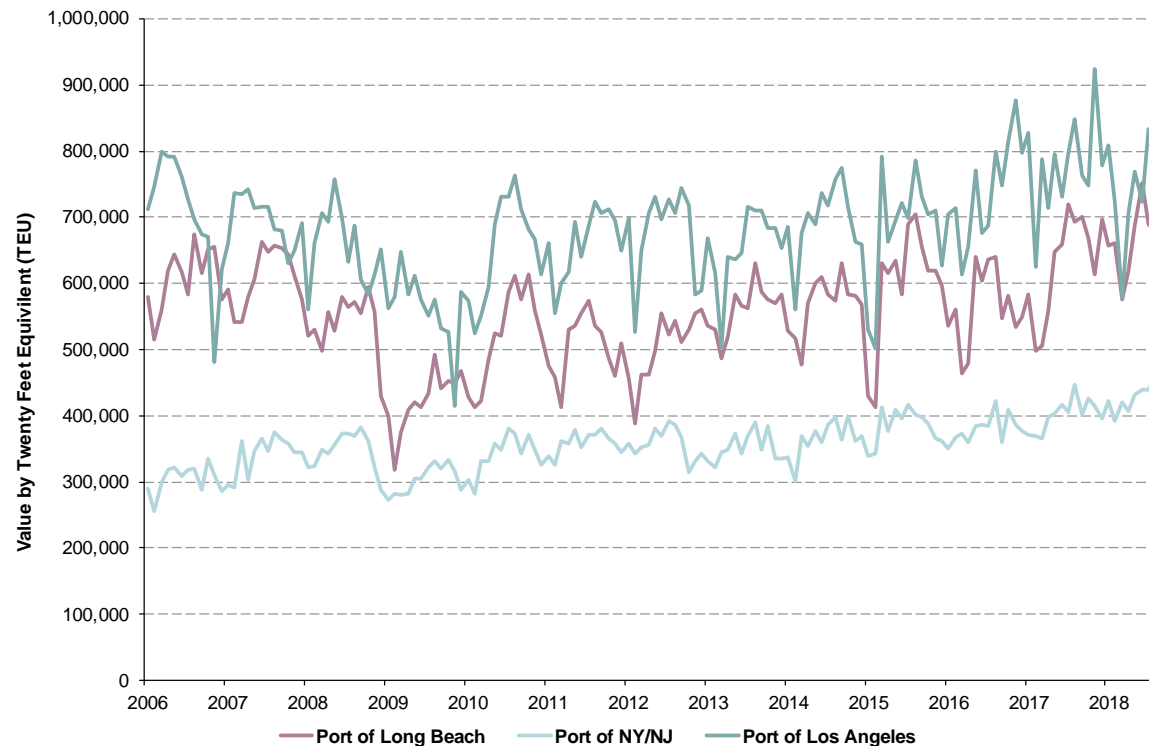
**Moving 12-month Total on All U.S. Roads<sup>1</sup>**

During the third quarter of 2018, travel on U.S. roads totaled approximately 835 billion miles. This represented an increase of 0.7% over the same period in 2017. For the Year to Date, Federal Highway Administration data showed vehicle miles traveled increased by 5,315 million miles, up 0.2% over the Year to Date of Q3 2017.

In Q3 2018, the average U.S. price of a gallon of gas came down to a monthly average of \$2.85 per gallon, with a peak of \$2.99. This compares to \$2.50 and \$2.76 seen in 2017. According to INRIX, Los Angeles, New York City, and San Francisco rank as the top three cities in the U.S. in which drivers spend the most hours in traffic.

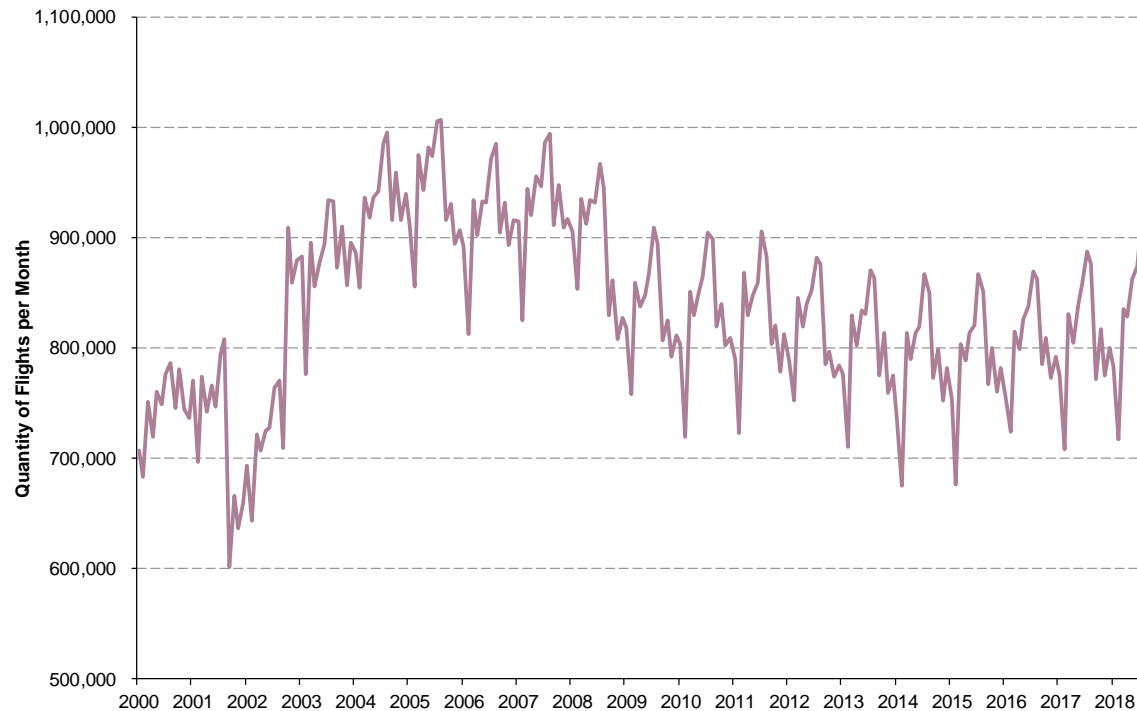
<sup>1</sup> Source: U.S. Department of Transportation, Federal Highway Administration: Office of Highway Policy Information.

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



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

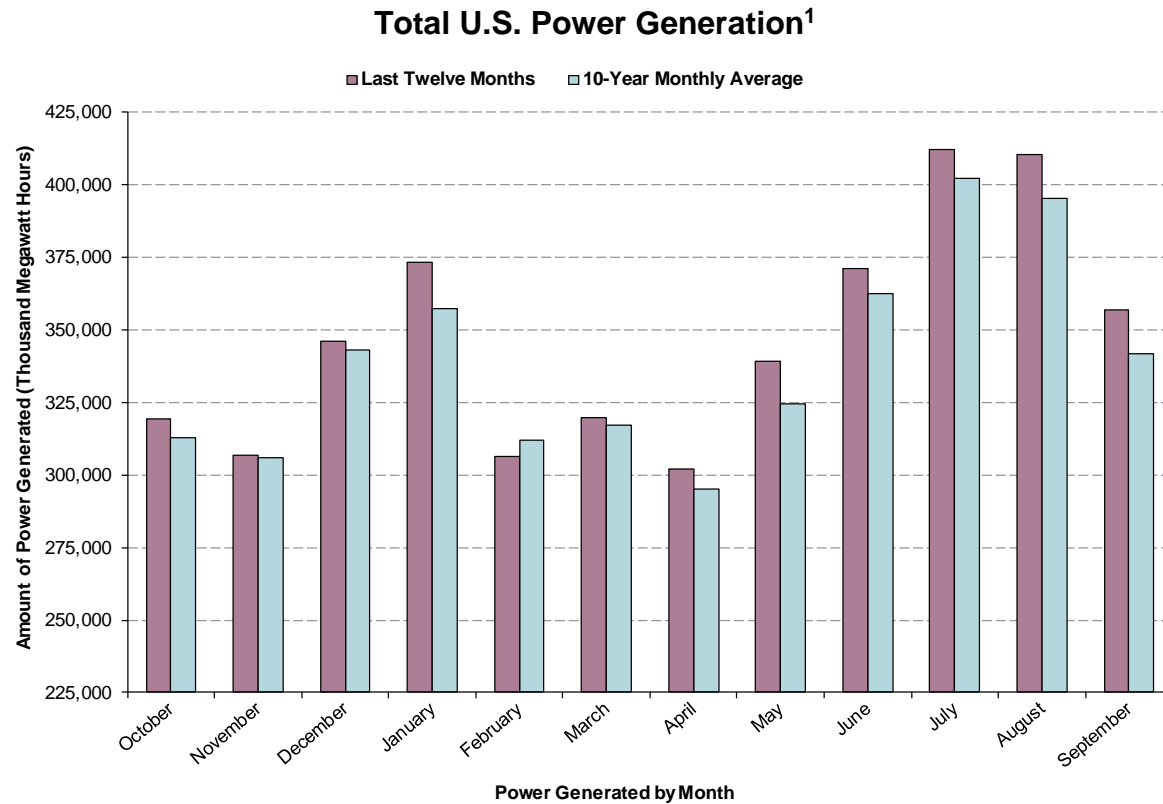
During the third quarter of 2018, volumes at the three ports increased by approximately 73,867 TEU, or 1.3% over same period in 2017. On a year-over-year basis, the combined port volumes increased by 934,377 TEU, or 4.4%, over the prior 12 month period. The Port of Long Beach and the Port of NY/NJ both saw an increase in year-over-year activity, while the Port of Los Angeles saw a slight decrease. The Port of Long Beach and NY/NJ recorded increases of 10.7% (770,000 TEU) and 6.8% (321,000 TEU), respectively, from the prior 12 months. The Port of Los Angeles recorded a decrease of 1.7% (156,000 TEU).

**Total U.S. Domestic and International Flights<sup>1</sup>**

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

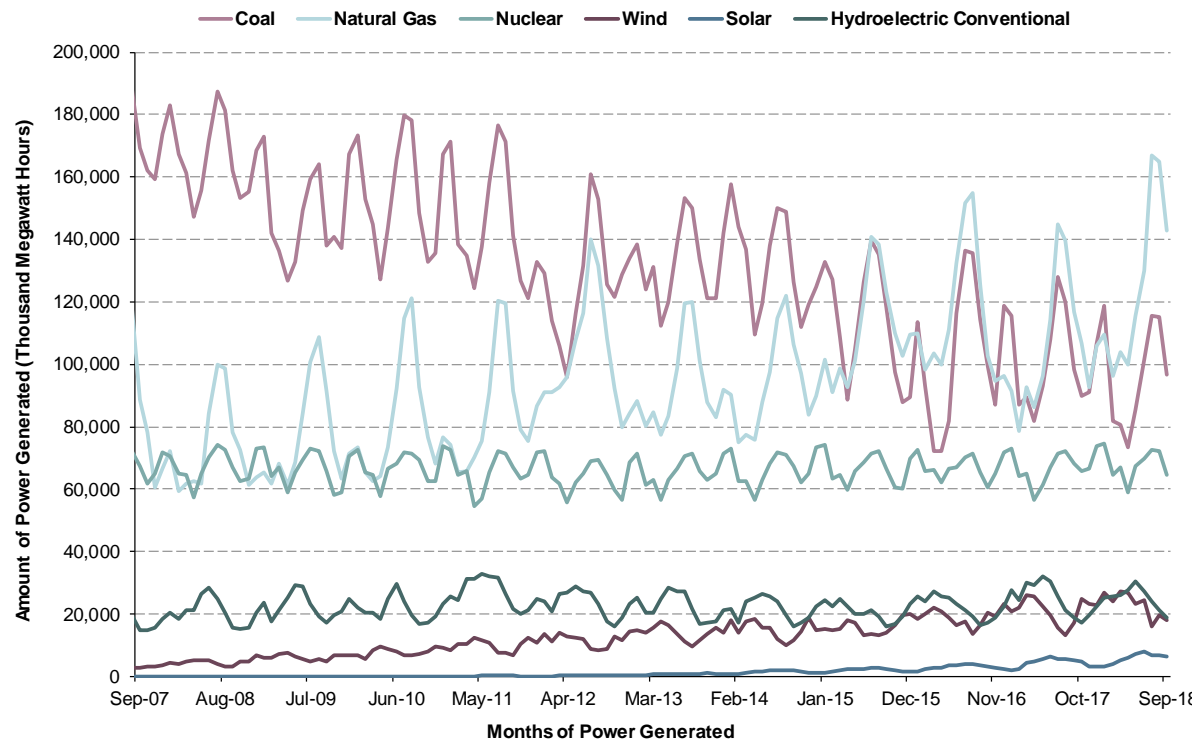
There were over 94,100 more flights during the third quarter of 2018, representing a 3.7% increase, compared to the same period in 2017. Air traffic activity also increased by 2.0% for the 12 months ending September 30, 2018 over the previous period. In addition to the number of flights during the third quarter increasing year-over-year, the total number of passengers travelling on U.S. and international airlines increased by 4.9% from 2017 to 2018, which indicates higher capacity factors among airlines compared to the prior period.

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



The graph above represents the total net generation for the past 12 months compared to the 10-year average for each month. Over the past year, power generation exceeded the 10-year average in 11 out of the 12 months. Net energy generation in the U.S. increased by 5.5% during the third quarter, compared to the same period in 2017. For the 12 months ended September 30, 2018, net energy generation increased by 4.3% over the previous 12 months.

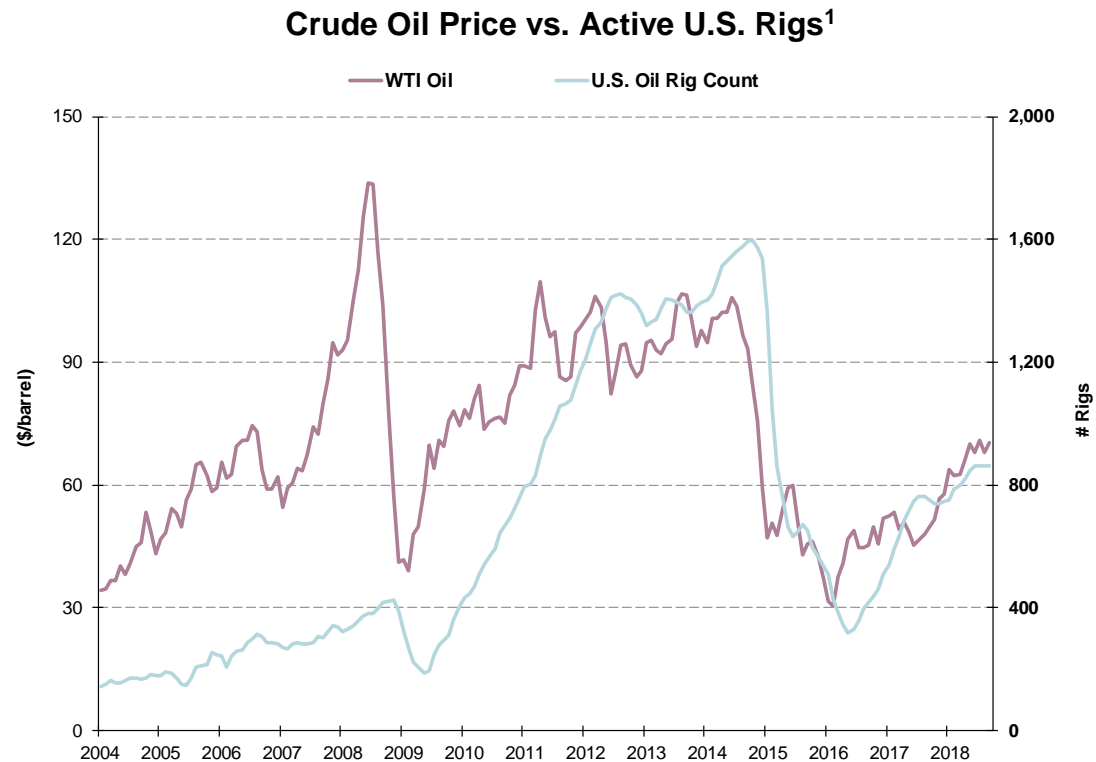
<sup>1</sup> Source: U.S. Energy Information Administration: Electric Power Monthly, September 2018.

**U.S. Power Generation by Source<sup>1</sup>**

When comparing individual generation sources in the U.S., natural gas, wind, and solar increased 18.4%, 16.0%, and 26.9%, respectively in the third quarter of 2018 as compared to the same period in the previous year, while generation from coal, nuclear, and hydroelectric conventional dropped by 5.4%, 1.1, and 2.8%, respectively, during the same period. Wind and utility scale solar continue to make up a small portion of total net energy generation in the U.S., accounting for only 4.5% and 1.7% of energy generation in the third quarter, while coal, natural gas, and nuclear accounted for 27.8%, 40.2%, and 17.8%, respectively. However, the growth of wind and solar as sources of energy generation continues to increase at a faster rate than coal and natural gas, especially over the last couple of years.

<sup>1</sup> Source: U.S. Energy Information Administration: Electric Power Monthly, September 2018.

## Extracted Resources

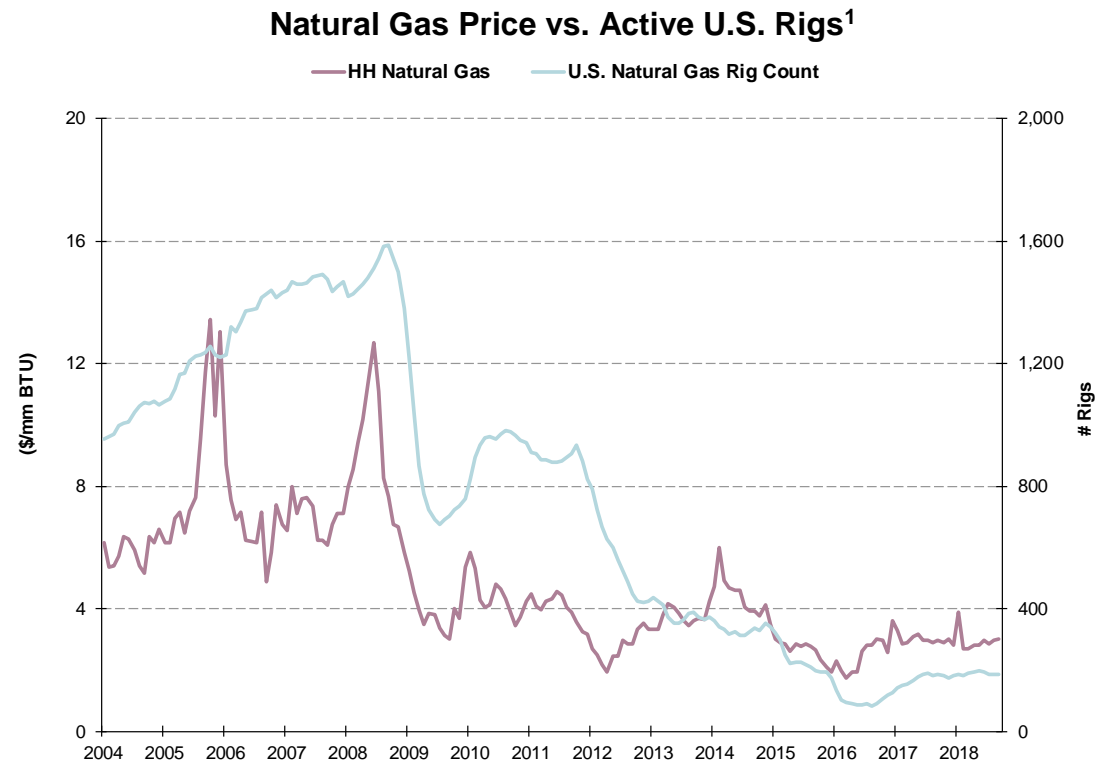


Supply concerns from Iran and Venezuela were primarily offset by an increase in production from OPEC and Russia which kept oil prices relatively flat during the third quarter. U.S. sanctions on Iran were scheduled to take effect in November and expected to impact Iran's oil exports. Economic conditions continue to deteriorate in Venezuela and its production continues to decline. While the U.S. continues to increase production, pipeline constraints have affected the ability to transport oil from the region. The escalation of trade wars between the U.S. and China stoked fears of slowing global growth and decreasing oil demand.

Prices for West Texas Intermediate ("WTI") oil increased to \$70 per barrel representing a 3% quarterly increase and a 41% increase from one year prior. During the quarter, an additional three oil rigs were added, which brought the total count to 864. During the month of September, the U.S. produced approximately 11.5 million barrels of oil per day. U.S. gasoline prices for regular blend slightly decreased to \$2.98 per gallon representing a 3% decrease from the previous quarter and a 6% increase from one year prior.

<sup>1</sup> Source: EIA and Baker Hughes.

## Extracted Resources



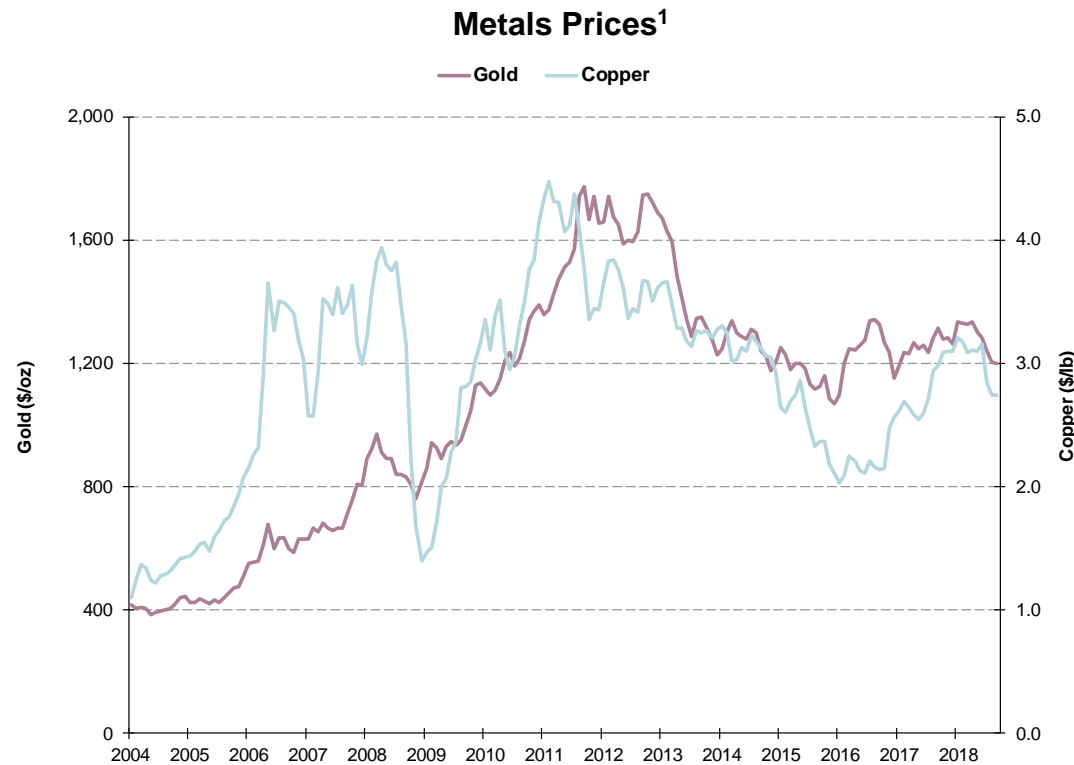
The Henry Hub natural gas spot price ended the quarter at approximately \$3.0/MM BTU representing a 1% increase from the prior quarter. Relative to one year prior, natural gas prices were flat. During the third quarter of 2018, the U.S. produced an average of 93.6 billion cubic feet of natural gas per day. The natural gas rig count was 187 at the end of the quarter representing a decrease of 6 from the prior quarter.

Natural gas production, as a byproduct, will increase as oil production activity increases in the major U.S. oil basins (e.g., Delaware, Midland, Powder River). Significant investment is being made by the refining, petrochemical, and liquefied natural gas (“LNG”) industries seeking to take advantage the abundant supplies and low prices of natural gas and natural gas liquids (“NGL”) being produced in the U.S.

<sup>1</sup> Source: EIA and Baker Hughes.



## Extracted Resources

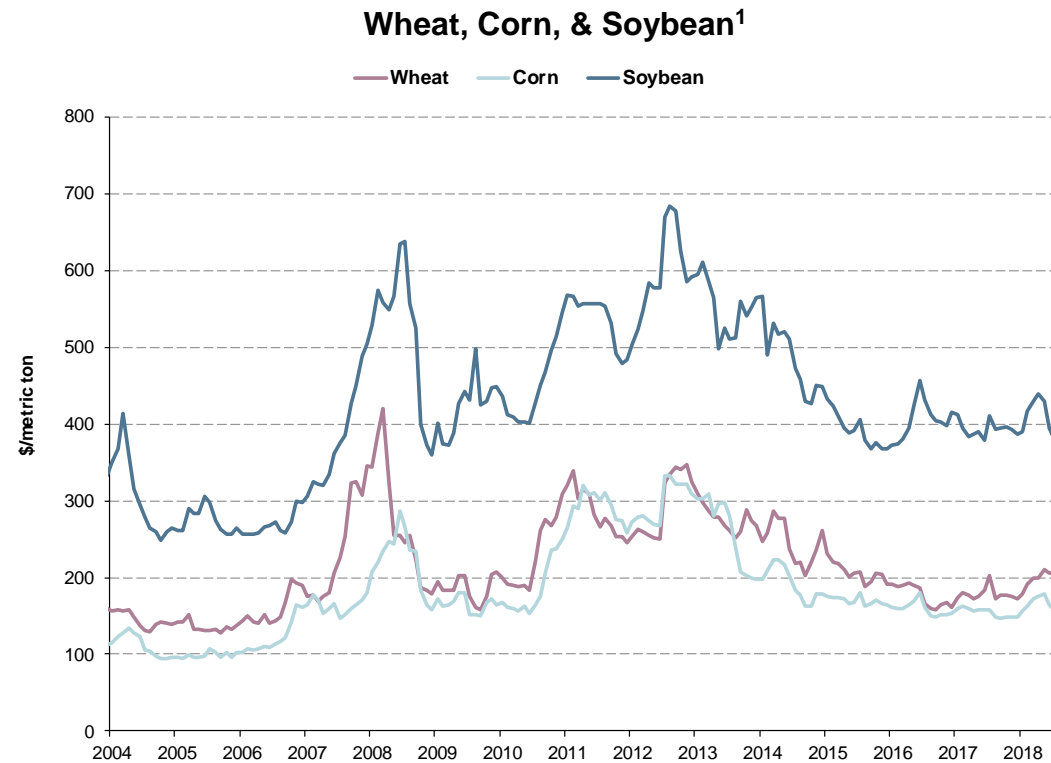


During the quarter, gold traded between \$1,175 and \$1,275 and finished the quarter at approximately \$1,198 per ounce representing a 6% decrease from the prior quarter. Relative to one year prior, gold prices were down by 9%. Further rate increases in the U.S. are expected to contribute to a stronger U.S. dollar which will likely limit positive momentum in gold prices.

Copper prices fell during the quarter to \$2.74 per pound, representing a 13% decrease from the previous quarter. Relative to one year prior, copper prices were down by approximately 8%. Copper tends to perform well on global growth and optimism, and underperform in slowing or weakening economic periods.

<sup>1</sup> Source: World Bank

## Harvested Resources



Concerns of tariffs and trade wars between the U.S. and China continued into the third quarter. China significantly slowed its purchase of products from the U.S. including soybeans and other agricultural products. Additionally, U.S. corn and soybeans had strong harvests and high crop yields which contributed to weaker prices. At the end of the quarter, an agreement was reached between the U.S., Mexico, and Canada on trade. Key agricultural terms include new access to the Canadian market for U.S. dairy and poultry producers, and improved wheat access into Canada. During the quarter, wheat, corn, and soybean prices were down 2%, 6%, and 10%, respectively. Relative to one year prior, wheat and corn were up 14% and 5%, respectively, while soybeans were down by 9%.

<sup>1</sup> Source: World Bank

**Harvested Resources****Trailing Period Returns<sup>1</sup>**

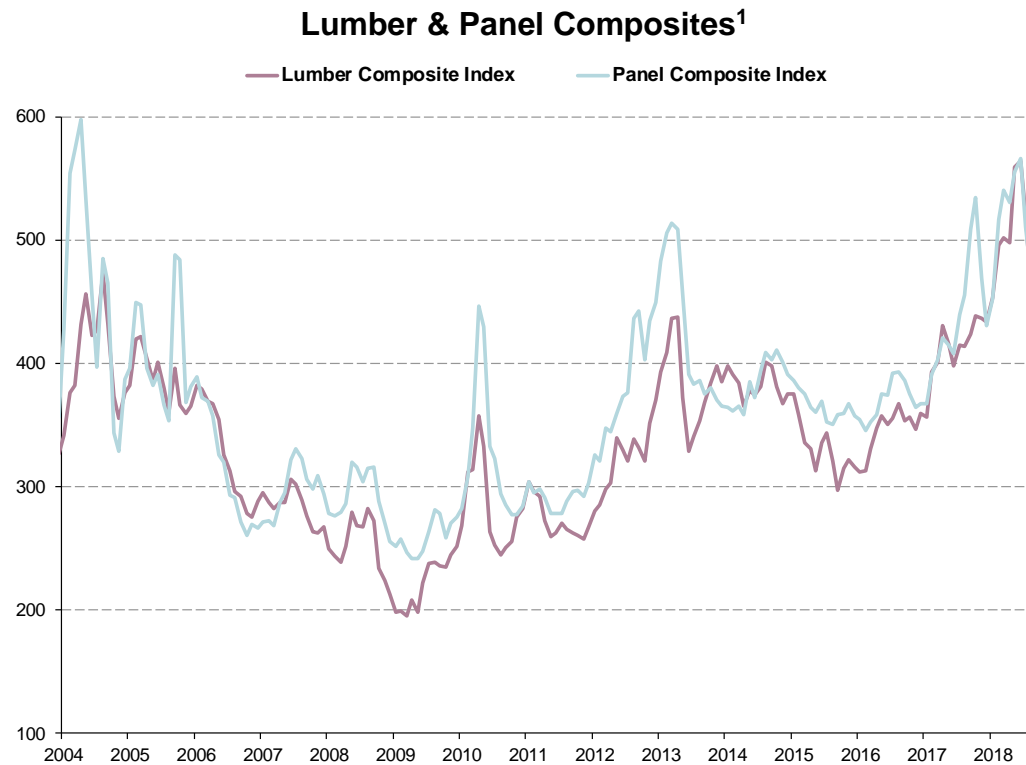
<i>As of September 30, 2018</i>	<b>Q3 18</b>	<b>1 Year</b>	<b>5 Years</b>	<b>10 Years</b>
<b>NCREIF Farmland</b>	<b>1.3%</b>	<b>6.8%</b>	<b>9.9%</b>	<b>11.6%</b>
<b>NCREIF Timberland</b>	<b>1.0</b>	<b>4.0</b>	<b>6.0</b>	<b>4.0</b>
<b>S&amp;P 500</b>	<b>7.7</b>	<b>17.9</b>	<b>13.9</b>	<b>12.0</b>
<b>Barclays Aggregate</b>	<b>0.0</b>	<b>-1.2</b>	<b>2.2</b>	<b>3.8</b>

The NCREIF Farmland index experienced a 1.3% increase during the quarter with income accounting for 1.1% and appreciation generating 0.2%. The Southeast generated the strongest regional returns of 3.2% while the Lake States produced the weakest returns of 0.1%. Row crop returns were driven by 0.8% income and 0.4% appreciation. Permanent crop returns of 1.3% were driven by 1.4% of income and 0.1% depreciation.

The NCREIF Timberland index increased 1.0% during the quarter as a result of income of 0.8% and appreciation of 0.2%. For its one-year returns, the index generated 4.0% largely from an income return of 3.2%. The Pacific Northwest region generated the strongest regional return of 2.8% during the quarter and 11.1% for the one-year period.

<sup>1</sup> Source: National Council of Real Estate Investment Fiduciaries (NCREIF).

## Harvested Resources



Inventories for timber products, such as lumber and panel, increased during the quarter as customers decreased orders and destocked, as construction activity slowed due to weather. Additionally, tariffs imposed by China decreased demand from the country. As a result, lumber and panel prices decreased by 24% and 16%, respectively during the quarter. Relative to one year prior, lumber prices were up 2% while panel prices were down 7%.

<sup>1</sup> Source: Random Lengths

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