



# **Q3 2020 PERFORMANCE REPORT**

## **POLICEMEN'S ANNUITY AND BENEFIT FUND OF CHICAGO**

**November 20, 2020**

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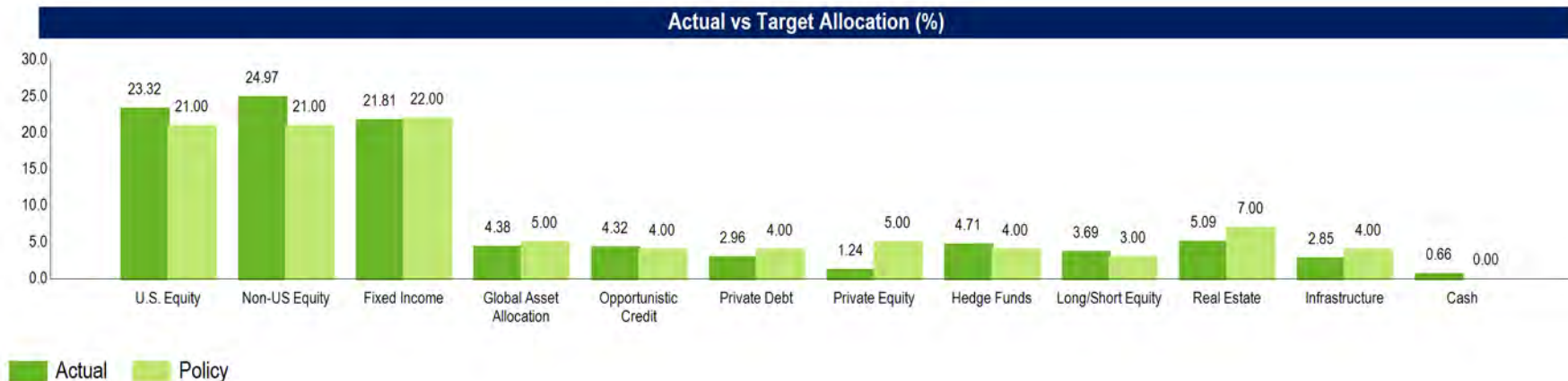
## Chicago Policemen's Annuity and Benefit Fund

# TOTAL PLAN PERFORMANCE SUMMARY

	Market Value	3 Mo	Rank	YTD	Rank	1 Yr	Rank	3 Yrs	Rank	5 Yrs	Rank
<b>Composite</b>	<b>\$2,526,983,722</b>	<b>5.05%</b>	<b>58</b>	<b>0.18%</b>	<b>85</b>	<b>5.18%</b>	<b>86</b>	<b>4.44%</b>	<b>94</b>	<b>7.16%</b>	<b>84</b>
<i>Policy Index</i>		4.21%	86	0.19%	85	5.46%	84	5.38%	79	7.25%	81
<i>Allocation Index</i>		4.70%	72	-0.53%	92	4.45%	92	4.17%	96	6.62%	94
<i>InvMetrics Public DB Net Median</i>		5.18%		2.48%		7.89%		6.59%		8.13%	

3 Years Ending September 30, 2020									
	Anlzd Ret	Rank	Anlzd Std Dev	Rank	Sharpe Ratio	Rank	Sortino Ratio RF	Rank	
Composite	4.44%	94	9.05%	13	0.32	90	0.35		83
Policy Index	5.38%	79	9.71%	23	0.39	75	0.40		81
Allocation Index	4.17%	96	9.76%	24	0.27	95	0.29		94

5 Years Ending September 30, 2020									
	Anlzd Ret	Rank	Anlzd Std Dev	Rank	Sharpe Ratio	Rank	Sortino Ratio	Rank	
Composite	7.16%	84	7.89%	17	0.76	51	0.96		43
Policy Index	7.25%	81	8.25%	23	0.74	63	0.85		77
Allocation Index	6.62%	94	8.30%	24	0.66	87	0.82		83



## Chicago Policemen's Annuity and Benefit Fund

# INVESTMENT HIGHLIGHTS - NET

				Ending September 30, 2020							
	Market Value (\$)	% of Portfolio	Policy %	3 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
<b>Composite</b>	<b>2,526,983,722</b>	<b>100.0</b>	<b>100.0</b>	<b>5.1</b>	<b>0.2</b>	<b>5.2</b>	<b>4.4</b>	<b>7.2</b>	<b>7.2</b>	<b>8.3</b>	<b>Jan-84</b>
<i>Policy Index</i>				4.2	0.2	5.5	5.4	7.2	6.9	--	Jan-84
<i>Allocation Index</i>				4.7	-0.5	4.4	4.2	6.6	6.9	--	Jan-84
<b>Total Equity</b>	<b>1,313,449,245</b>	<b>52.0</b>	<b>45.0</b>	<b>8.5</b>	<b>-0.5</b>	<b>8.7</b>	<b>5.5</b>	<b>9.9</b>	<b>9.3</b>	<b>6.9</b>	<b>Oct-96</b>
<i>MSCI ACWI</i>				8.1	1.4	10.4	7.1	10.3	8.5	6.5	Oct-96
<b>Total Fixed Income</b>	<b>551,203,868</b>	<b>21.8</b>	<b>22.0</b>	<b>1.4</b>	<b>4.5</b>	<b>4.7</b>	<b>3.8</b>	<b>3.9</b>	<b>3.7</b>	<b>7.1</b>	<b>Jan-84</b>
<i>BBgBarc US Aggregate TR</i>				0.6	6.8	7.0	5.2	4.2	3.6	7.1	Jan-84
<b>Total Private Equity</b>	<b>31,381,212</b>	<b>1.2</b>	<b>5.0</b>	<b>6.8</b>	<b>8.3</b>	<b>6.7</b>	<b>2.5</b>	<b>4.3</b>	<b>9.6</b>	<b>8.0</b>	<b>Oct-95</b>
<i>CJA US All PE</i>				0.0	-0.8	3.0	9.5	10.8	12.5	13.8	Oct-95
<b>Total Infrastructure</b>	<b>72,093,926</b>	<b>2.9</b>	<b>4.0</b>	<b>-0.2</b>	<b>-7.1</b>	<b>-4.5</b>	<b>12.5</b>	<b>17.6</b>	<b>14.0</b>	<b>8.1</b>	<b>Nov-07</b>
<i>NCREIF Property Index</i>				0.7	0.5	2.0	5.1	6.3	9.4	6.0	Nov-07
<b>Total Real Estate</b>	<b>128,617,576</b>	<b>5.1</b>	<b>7.0</b>	<b>-0.3</b>	<b>-2.5</b>	<b>-0.1</b>	<b>2.9</b>	<b>4.0</b>	<b>6.3</b>	<b>5.4</b>	<b>Oct-95</b>
<i>NCREIF Property Index 1 Qtr. Lag</i>				-1.0	1.3	2.7	5.4	6.8	9.7	9.1	Oct-95
<b>Total Hedge Funds</b>	<b>155,025,891</b>	<b>6.1</b>	<b>4.0</b>	<b>0.9</b>	<b>-1.7</b>	<b>-2.7</b>	<b>2.1</b>	<b>--</b>	<b>--</b>	<b>2.9</b>	<b>Aug-16</b>
<i>HFRI Fund of Funds Composite Index</i>				4.2	2.5	5.7	2.9	3.1	2.9	3.8	Aug-16
<b>Total Global Asset Allocation</b>	<b>110,753,518</b>	<b>4.4</b>	<b>5.0</b>	<b>2.5</b>	<b>-3.4</b>	<b>0.7</b>	<b>1.8</b>	<b>5.1</b>	<b>--</b>	<b>4.4</b>	<b>Dec-11</b>
<i>60% MSCI ACWI (Net) / 40% FTSE WGBI</i>				6.1	4.2	9.6	6.4	8.0	6.1	6.6	Dec-11
<b>Opportunistic Credit</b>	<b>65,952,544</b>	<b>2.6</b>	<b>4.0</b>	<b>7.3</b>	<b>2.6</b>	<b>2.7</b>	<b>3.7</b>	<b>--</b>	<b>--</b>	<b>4.4</b>	<b>Nov-16</b>
<i>Opportunistic Credit Custom Index</i>				4.4	0.0	2.2	3.8	--	--	4.5	Nov-16
<b>Private Debt</b>	<b>81,872,888</b>	<b>3.2</b>	<b>4.0</b>	<b>1.8</b>	<b>-5.0</b>	<b>-3.4</b>	<b>5.3</b>	<b>--</b>	<b>--</b>	<b>4.9</b>	<b>Nov-16</b>
<i>Private Debt Custom Index</i>				0.8	2.8	4.1	4.9	--	--	4.8	Nov-16
<b>Cash</b>	<b>15,874,193</b>	<b>0.6</b>	<b>0.0</b>	<b>0.1</b>	<b>0.9</b>	<b>1.5</b>	<b>1.8</b>	<b>1.3</b>	<b>--</b>	<b>0.8</b>	<b>Dec-10</b>
<i>91 Day T-Bills</i>				0.0	0.4	0.8	1.6	1.1	0.6	0.6	Dec-10
<b>Transitions</b>	<b>758,861</b>	<b>0.0</b>	<b>--</b>	<b>2.7</b>	<b>2.3</b>	<b>3.8</b>	<b>4.6</b>	<b>6.1</b>	<b>--</b>	<b>3.7</b>	<b>Jul-14</b>

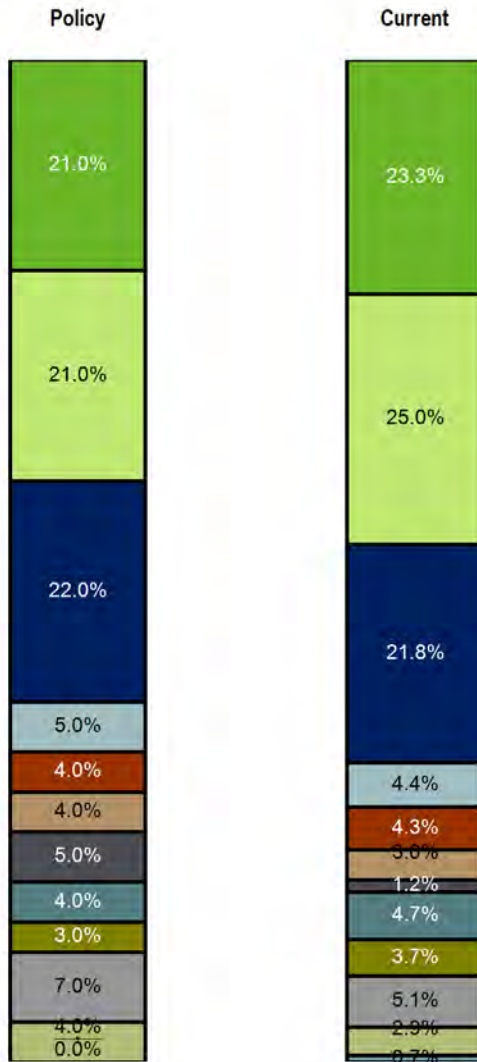
\*Opportunistic Credit Custom Index: 50% BBgBarc High Yield / 50% ICE BofA ML US HY BB-B Rated Constrained Index.

\*Private Debt Custom Index: 3 - Month LIBOR + 3%



## Chicago Policemen's Annuity and Benefit Fund

# TOTAL ASSET ALLOCATION VS. POLICY TARGETS



Asset Allocation vs. Target				
	Current	Policy	Current	Difference*
U.S. Equity	\$589,316,950	21.00%	23.32%	2.32%
Non-US Equity	\$630,888,118	21.00%	24.97%	3.97%
Fixed Income	\$551,203,868	22.00%	21.81%	-0.19%
Global Asset Allocation	\$110,753,518	5.00%	4.38%	-0.62%
Opportunistic Credit	\$109,193,288	4.00%	4.32%	0.32%
Private Debt	\$74,697,576	4.00%	2.96%	-1.04%
Private Equity	\$31,381,212	5.00%	1.24%	-3.76%
Hedge Funds	\$118,960,459	4.00%	4.71%	0.71%
Long/Short Equity	\$93,244,177	3.00%	3.69%	0.69%
Real Estate	\$128,617,576	7.00%	5.09%	-1.91%
Infrastructure	\$72,093,926	4.00%	2.85%	-1.15%
Cash	\$16,633,054	0.00%	0.66%	0.66%
<b>Total</b>	<b>\$2,526,983,722</b>	<b>100.00%</b>	<b>100.00%</b>	

\*Difference between Policy and Current Allocation



## Chicago Policemen's Annuity and Benefit Fund

# TOTAL PLAN NET PERFORMANCE DETAIL

	Market Value (\$)	% of Portfolio	Policy %	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
<b>Composite</b>	<b>2,526,983,722</b>	<b>100.00</b>	<b>100.00</b>	<b>5.05</b>	<b>58</b>	<b>0.18</b>	<b>85</b>	<b>5.18</b>	<b>86</b>	<b>4.44</b>	<b>94</b>	<b>7.16</b>	<b>84</b>	<b>7.23</b>	<b>69</b>	<b>8.35</b>	<b>Jan-84</b>
Policy Index				4.21	86	0.19	85	5.46	84	5.38	79	7.25	81	6.95	80	--	Jan-84
Over/Under				0.84		-0.01		-0.28		-0.94		-0.09		0.28			
Allocation Index				4.70	72	-0.53	92	4.45	92	4.17	96	6.62	94	6.93	81	--	Jan-84
InvMetrics Public DB Net Median				5.18		2.48		7.89		6.59		8.13		7.65		8.35	Jan-84
<b>Total Equity</b>	<b>1,313,449,245</b>	<b>51.98</b>	<b>45.00</b>	<b>8.54</b>	<b>40</b>	<b>-0.50</b>	<b>54</b>	<b>8.73</b>	<b>52</b>	<b>5.51</b>	<b>55</b>	<b>9.86</b>	<b>44</b>	<b>9.27</b>	<b>42</b>	<b>6.89</b>	<b>Oct-96</b>
MSCI ACWI				8.13	45	1.37	49	10.44	47	7.12	46	10.30	41	8.55	56	6.53	Oct-96
Over/Under				0.41		-1.87		-1.71		-1.61		-0.44		0.72		0.36	
eV All Global Equity Net Median				7.56		0.78		9.25		6.13		9.10		8.79		8.10	Oct-96
<b>Total Domestic Equity</b>	<b>589,316,950</b>	<b>23.32</b>	<b>21.00</b>	<b>8.38</b>	<b>37</b>	<b>0.14</b>	<b>44</b>	<b>8.48</b>	<b>44</b>	<b>7.49</b>	<b>47</b>	<b>10.81</b>	<b>45</b>	<b>11.85</b>	<b>44</b>	<b>10.56</b>	<b>Jan-84</b>
Russell 3000				9.21	29	5.41	34	15.00	32	11.65	32	13.69	28	13.48	28	10.97	Jan-84
Over/Under				-0.83		-5.27		-6.52		-4.16		-2.88		-1.63		-0.41	
eV All US Equity Net Median				6.78		-2.87		4.74		6.53		9.83		11.16		11.60	Jan-84
<b>Total Large Cap</b>	<b>451,663,116</b>	<b>17.87</b>	<b>13.00</b>	<b>8.16</b>	<b>47</b>	<b>1.44</b>	<b>51</b>	<b>10.98</b>	<b>47</b>	<b>8.51</b>	<b>55</b>	<b>11.30</b>	<b>53</b>	<b>12.09</b>	<b>51</b>	<b>8.87</b>	<b>Oct-95</b>
Russell 1000				9.47	33	6.40	36	16.01	36	12.38	36	14.09	30	13.76	31	9.43	Oct-95
Over/Under				-1.31		-4.96		-5.03		-3.87		-2.79		-1.67		-0.56	
eV US Large Cap Equity Net Median				7.82		1.46		9.60		9.44		11.54		12.21		9.36	Oct-95
NTGI Russell 1000	357,866,561	14.16		9.44	33	6.33	36	15.94	36	12.32	36	14.07	30	--	--	12.98	Mar-12
Russell 1000				9.47	33	6.40	36	16.01	36	12.38	36	14.09	30	13.76	31	13.37	Mar-12
Over/Under				-0.03		-0.07		-0.07		-0.06		-0.02				-0.39	
eV US Large Cap Equity Net Median				7.82		1.46		9.60		9.44		11.54		12.21		11.56	Mar-12
Great Lakes	93,796,555	3.71		3.54	78	-12.67	68	-3.90	52	0.75	74	7.07	60	9.51	58	9.64	Jul-89
Russell 1000 Value				5.59	42	-11.58	59	-5.03	61	2.63	56	7.66	52	9.95	45	9.24	Jul-89
Over/Under				-2.05		-1.09		1.13		-1.88		-0.59		-0.44		0.40	
eV US Large Cap Value Equity Net Median				5.23		-10.49		-3.67		3.06		7.71		9.80		9.39	Jul-89

\*Current Policy Index: 9% Russell 1000, 3% Russell 2500 Growth, 3% Russell 2500 Value, 4% S&P 500/Citi Pur Value, 2% Russell Micro Cap Index, 6% MSCI Emerging Markets, 3% MSCI EAFE, 4% MSCI EAFE Small Cap, 8% MSCI ACWI ex USA, 3% HFRI Equity Hedge (Total) Index, 16% BBgBarc US Aggregate TR, 3% BBgBarc Global Aggregate TR, 3% JP Morgan GBI - EM Global Diversified Index, 4% NCREIF Property Index, 5% - 60% MSCI ACWI (Net) / 40% CITI WGBI, 5% Cambridge Associates US All PE, 7% NCREIF Property (1 Qtr Lag), 4% HFRI Fund of Funds Composite Index, 4% 50% BBgBarc High Yield/ 50% ICE BofA ML US HY BB-B Rated Constrained Index, 4% 30% CPI+3%/70% S&P/LSTA Leveraged Loan Index



## Chicago Policemen's Annuity and Benefit Fund

# TOTAL PLAN NET PERFORMANCE DETAIL

	Market Value (\$)	% of Portfolio	Policy %	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
<b>Total SMID Cap</b>	<b>92,309,575</b>	<b>3.65</b>	<b>6.00</b>	<b>8.65</b>	<b>24</b>	<b>-0.55</b>	<b>37</b>	<b>5.16</b>	<b>41</b>	<b>7.33</b>	<b>39</b>	<b>11.00</b>	<b>34</b>	<b>11.89</b>	<b>28</b>	<b>9.35</b>	<b>Nov-04</b>
Russell 2500				5.88	49	-5.82	48	2.22	46	4.45	51	8.97	43	10.81	41	8.60	Nov-04
Over/Under				2.77		5.27		2.94		2.88		2.03		1.08		0.75	
eV US Small-Mid Cap Equity Net Median				5.43		-7.00		-0.18		4.74		7.96		10.10		8.87	Nov-04
William Blair SMID Growth	92,309,575	3.65		8.65	50	9.93	68	14.71	75	14.16	59	14.88	54	15.15	34	11.52	Nov-04
Russell 2500 Growth				9.37	41	11.58	61	23.37	52	13.36	66	14.19	57	14.06	49	10.79	Nov-04
Over/Under				-0.72		-1.65		-8.66		0.80		0.69		1.09		0.73	
eV US Small-Mid Cap Growth Equity Net Median				8.59		12.78		24.05		16.95		15.31		13.97		11.29	Nov-04
<b>Total Micro Cap</b>	<b>45,344,259</b>	<b>1.79</b>	<b>2.00</b>	<b>10.02</b>	<b>24</b>	<b>-6.99</b>	<b>28</b>	<b>3.48</b>	<b>30</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>-3.71</b>	<b>Oct-18</b>
BMO Micro Cap Equity	45,344,259	1.79		10.02	24	-6.99	28	3.48	30	--	--	--	--	--	--	-3.71	Oct-18
Russell Microcap				3.69	56	-7.94	33	4.44	29	-0.09	36	6.72	44	9.50	55	-6.32	Oct-18
Over/Under				6.33		0.95		-0.96								2.61	
eV US Micro Cap Equity Net Median				4.83		-12.70		-4.98		-1.80		5.29		10.12		-9.53	Oct-18
<b>Total International Equity</b>	<b>630,888,118</b>	<b>24.97</b>	<b>21.00</b>	<b>9.13</b>	<b>51</b>	<b>-2.35</b>	<b>58</b>	<b>8.66</b>	<b>54</b>	<b>3.43</b>	<b>52</b>	<b>8.81</b>	<b>41</b>	<b>6.22</b>	<b>48</b>	<b>8.57</b>	<b>Jan-84</b>
MSCI ACWI ex USA				6.25	75	-5.44	66	3.00	67	1.16	62	6.23	64	4.00	81	--	Jan-84
Over/Under				2.88		3.09		5.66		2.27		2.58		2.22			
eV All ACWI ex-US Equity Net Median				9.21		-0.58		10.55		3.61		8.07		6.04		8.48	Jan-84
<b>Total Developed Int'l Equity</b>	<b>469,187,064</b>	<b>18.57</b>	<b>15.00</b>	<b>9.93</b>	<b>42</b>	<b>1.41</b>	<b>45</b>	<b>12.31</b>	<b>46</b>	<b>4.71</b>	<b>43</b>	<b>8.77</b>	<b>42</b>	<b>--</b>	<b>--</b>	<b>6.50</b>	<b>Jan-11</b>
MSCI ACWI ex USA				6.25	75	-5.44	66	3.00	67	1.16	62	6.23	64	4.00	81	3.37	Jan-11
Over/Under				3.68		6.85		9.31		3.55		2.54				3.13	
eV All ACWI ex-US Equity Net Median				9.21		-0.58		10.55		3.61		8.07		6.04		5.39	Jan-11
Artisan Partner	106,467,960	4.21		6.82	71	-1.88	55	5.93	61	5.86	34	7.92	52	7.56	32	6.68	Apr-05
MSCI ACWI ex USA				6.25	75	-5.44	66	3.00	67	1.16	62	6.23	64	4.00	81	4.68	Apr-05
Over/Under				0.57		3.56		2.93		4.70		1.69		3.56		2.00	
eV All ACWI ex-US Equity Net Median				9.21		-0.58		10.55		3.61		8.07		6.04		6.04	Apr-05
William Blair International Growth	151,051,078	5.98		12.85	5	12.12	5	23.86	6	8.51	7	10.16	12	7.72	21	6.53	Apr-05
MSCI EAFE				4.80	74	-7.09	60	0.49	62	0.62	53	5.26	56	4.62	73	4.20	Apr-05
Over/Under				8.05		19.21		23.37		7.89		4.90		3.10		2.33	
eV All EAFE Equity Net Median				6.60		-5.98		2.87		0.83		5.56		5.74		5.31	Apr-05
UBS International	87,889,860	3.48		8.28	61	-5.21	66	5.98	61	1.91	58	7.27	56	4.83	68	9.45	Jan-84
MSCI ACWI ex USA				6.25	75	-5.44	66	3.00	67	1.16	62	6.23	64	4.00	81	--	Jan-84
Over/Under				2.03		0.23		2.98		0.75		1.04		0.83			
eV All ACWI ex-US Equity Net Median				9.21		-0.58		10.55		3.61		8.07		6.04		8.48	Jan-84
Acadian	123,764,404	4.90		10.39	36	-2.28	36	10.19	29	1.44	40	9.45	19	--	--	7.21	Jan-14
MSCI EAFE Small Cap				10.25	37	-4.20	42	6.84	47	1.40	40	7.37	41	7.33	58	5.02	Jan-14
Over/Under				0.14		1.92		3.35		0.04		2.08				2.19	
eV EAFE Small Cap Equity Net Median				9.59		-5.97		5.44		-0.11		6.80		8.67		5.02	Jan-14



## Chicago Policemen's Annuity and Benefit Fund

# TOTAL PLAN NET PERFORMANCE DETAIL

	Market Value (\$)	% of Portfolio	Policy %	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
<b>Total Emerging Markets Equity</b>	<b>161,701,054</b>	<b>6.40</b>	<b>6.00</b>	<b>6.88</b>	<b>83</b>	<b>-11.81</b>	<b>90</b>	<b>-0.69</b>	<b>87</b>	<b>-0.04</b>	<b>77</b>	<b>8.75</b>	<b>55</b>	--	--	<b>4.07</b>	<b>Jan-14</b>
<i>MSCI Emerging Markets</i>				<u>9.56</u>	61	<u>-1.16</u>	51	<u>10.54</u>	51	<u>2.42</u>	51	<u>8.97</u>	52	<u>2.51</u>	69	<u>3.61</u>	<i>Jan-14</i>
Over/Under				<b>-2.68</b>		<b>-10.65</b>		<b>-11.23</b>		<b>-2.46</b>		<b>-0.22</b>				0.46	
<i>eV Emg Mkts All Cap Equity Net Median</i>				<u>10.04</u>		<u>-0.98</u>		<u>10.60</u>		<u>2.44</u>		<u>9.21</u>		<u>3.26</u>		<u>4.01</u>	<i>Jan-14</i>
<b>Earnest Partners Emerging Markets Equity</b>	<b>69,850,175</b>	<b>2.76</b>		<b>3.35</b>	<b>96</b>	<b>-20.48</b>	<b>99</b>	<b>-10.88</b>	<b>98</b>	<b>-2.56</b>	<b>92</b>	<b>5.74</b>	<b>87</b>	--	--	<b>2.13</b>	<b>Jan-14</b>
<i>MSCI Emerging Markets</i>				<u>9.56</u>	61	<u>-1.16</u>	51	<u>10.54</u>	51	<u>2.42</u>	51	<u>8.97</u>	52	<u>2.51</u>	69	<u>3.61</u>	<i>Jan-14</i>
Over/Under				<b>-6.21</b>		<b>-19.32</b>		<b>-21.42</b>		<b>-4.98</b>		<b>-3.23</b>				<b>-1.48</b>	
<i>eV Emg Mkts All Cap Equity Net Median</i>				<u>10.04</u>		<u>-0.98</u>		<u>10.60</u>		<u>2.44</u>		<u>9.21</u>		<u>3.26</u>		<u>4.01</u>	<i>Jan-14</i>
<b>Lazard</b>	<b>91,850,879</b>	<b>3.63</b>		<b>9.72</b>	<b>57</b>	<b>-3.82</b>	<b>70</b>	<b>8.77</b>	<b>61</b>	<b>2.07</b>	<b>57</b>	<b>11.47</b>	<b>30</b>	--	--	<b>5.79</b>	<b>Jan-14</b>
<i>MSCI Emerging Markets</i>				<u>9.56</u>	61	<u>-1.16</u>	51	<u>10.54</u>	51	<u>2.42</u>	51	<u>8.97</u>	52	<u>2.51</u>	69	<u>3.61</u>	<i>Jan-14</i>
Over/Under				<u>0.16</u>		<b>-2.66</b>		<b>-1.77</b>		<b>-0.35</b>		<u>2.50</u>				<u>2.18</u>	
<i>eV Emg Mkts All Cap Equity Net Median</i>				<u>10.04</u>		<u>-0.98</u>		<u>10.60</u>		<u>2.44</u>		<u>9.21</u>		<u>3.26</u>		<u>4.01</u>	<i>Jan-14</i>
<b>Long/Short Equities</b>	<b>93,244,177</b>	<b>3.69</b>	<b>3.00</b>	<b>5.64</b>	<b>51</b>	<b>9.25</b>	<b>33</b>	<b>11.98</b>	<b>43</b>	--	--	--	--	--	--	<b>6.11</b>	<b>Mar-18</b>
<i>Long/Short Custom Index</i>				<u>0.03</u>	82	<u>0.56</u>	57	<u>1.02</u>	66	<u>1.65</u>	61	<u>1.16</u>	80	<u>0.61</u>	93	<u>1.72</u>	<i>Mar-18</i>
Over/Under				<u>5.61</u>		<u>8.69</u>		<u>10.96</u>								<u>4.39</u>	
<i>eV Alt Fundamental - Long/Short Equity Median</i>				<u>5.68</u>		<u>2.79</u>		<u>8.66</u>		<u>3.83</u>		<u>5.88</u>		<u>6.19</u>		<u>3.11</u>	<i>Mar-18</i>
<b>UBS Bucktown CPD LLC</b>	<b>59,253,000</b>	<b>2.34</b>		<b>5.09</b>	<b>55</b>	<b>10.76</b>	<b>29</b>	<b>14.09</b>	<b>38</b>	--	--	--	--	--	--	<b>7.28</b>	<b>May-18</b>
<i>Long/Short Custom Index</i>				<u>0.03</u>	82	<u>0.56</u>	57	<u>1.02</u>	66	<u>1.65</u>	61	<u>1.16</u>	80	<u>0.61</u>	93	<u>1.73</u>	<i>May-18</i>
Over/Under				<u>5.06</u>		<u>10.20</u>		<u>13.07</u>								<u>5.55</u>	
<i>eV Alt Fundamental - Long/Short Equity Median</i>				<u>5.68</u>		<u>2.79</u>		<u>8.66</u>		<u>3.83</u>		<u>5.88</u>		<u>6.19</u>		<u>3.59</u>	<i>May-18</i>
<b>Pluscios L/S EQ FD</b>	<b>33,991,177</b>	<b>1.35</b>		<b>6.60</b>	<b>43</b>	<b>6.73</b>	<b>38</b>	<b>8.48</b>	<b>51</b>	--	--	--	--	--	--	<b>5.12</b>	<b>Apr-18</b>
<i>Long/Short Custom Index</i>				<u>0.03</u>	82	<u>0.56</u>	57	<u>1.02</u>	66	<u>1.65</u>	61	<u>1.16</u>	80	<u>0.61</u>	93	<u>1.73</u>	<i>Apr-18</i>
Over/Under				<u>6.57</u>		<u>6.17</u>		<u>7.46</u>								<u>3.39</u>	
<i>eV Alt Fundamental - Long/Short Equity Median</i>				<u>5.68</u>		<u>2.79</u>		<u>8.66</u>		<u>3.83</u>		<u>5.88</u>		<u>6.19</u>		<u>3.33</u>	<i>Apr-18</i>

\*Long/Short Custom Index: 100% FTSE T-Bill 3 Months TR



## Chicago Policemen's Annuity and Benefit Fund

# TOTAL PLAN NET PERFORMANCE DETAIL

	Market Value (\$)	% of Portfolio	Policy %	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
<b>Total Fixed Income</b>	<b>551,203,868</b>	<b>21.81</b>	<b>22.00</b>	<b>1.36</b>	<b>48</b>	<b>4.51</b>	<b>45</b>	<b>4.71</b>	<b>50</b>	<b>3.81</b>	<b>56</b>	<b>3.87</b>	<b>52</b>	<b>3.68</b>	<b>53</b>	<b>7.06</b>	<b>Jan-84</b>
BBgBarc US Aggregate TR				0.62	77	6.79	24	6.98	27	5.24	27	4.18	46	3.63	54	7.07	Jan-84
Over/Under				0.74		-2.28		-2.27		-1.43		-0.31		0.05		-0.01	
eV All US Fixed Inc Net Median				1.30		3.78		4.63		4.06		3.97		3.80		7.13	Jan-84
<b>Core/Core Plus Fixed Income</b>	<b>415,307,897</b>	<b>16.43</b>	<b>16.00</b>	<b>1.40</b>	<b>24</b>	<b>6.63</b>	<b>69</b>	<b>6.69</b>	<b>75</b>	<b>5.17</b>	<b>68</b>	<b>4.52</b>	<b>39</b>	<b>--</b>	<b>--</b>	<b>4.31</b>	<b>Dec-10</b>
BBgBarc US Aggregate TR				0.62	88	6.79	63	6.98	62	5.24	61	4.18	71	3.63	72	3.72	Dec-10
Over/Under				0.78		-0.16		-0.29		-0.07		0.34				0.59	
eV US Core Fixed Inc Net Median				1.06		7.18		7.24		5.35		4.38		3.88		3.96	Dec-10
Wellington	106,593,987	4.22		1.50	18	7.39	43	7.97	21	5.84	19	5.30	5	4.65	7	5.29	Dec-04
BBgBarc US Aggregate TR				0.62	88	6.79	63	6.98	62	5.24	61	4.18	71	3.63	72	4.42	Dec-04
Over/Under				0.88		0.60		0.99		0.60		1.12		1.02		0.87	
eV US Core Fixed Inc Net Median				1.06		7.18		7.24		5.35		4.38		3.88		4.59	Dec-04
Earnest Partners Core Fixed Income	104,033,008	4.12		1.23	37	6.48	71	--	--	--	--	--	--	--	--	5.72	Nov-19
BBgBarc US Aggregate TR				0.62	88	6.79	63	6.98	62	5.24	61	4.18	71	3.63	72	6.66	Nov-19
Over/Under				0.61		-0.31										-0.94	
eV US Core Fixed Inc Net Median				1.06		7.18		7.24		5.35		4.38		3.88		6.98	Nov-19
Garcia Hamilton	105,726,365	4.18		0.75	76	7.19	50	--	--	--	--	--	--	--	--	7.03	Nov-19
BBgBarc US Aggregate TR				0.62	88	6.79	63	6.98	62	5.24	61	4.18	71	3.63	72	6.66	Nov-19
Over/Under				0.13		0.40										0.37	
eV US Core Fixed Inc Net Median				1.06		7.18		7.24		5.35		4.38		3.88		6.98	Nov-19
National Investment Services	98,954,538	3.92		2.18	3	5.34	93	--	--	--	--	--	--	--	--	5.83	Nov-19
BBgBarc US Aggregate TR				0.62	88	6.79	63	6.98	62	5.24	61	4.18	71	3.63	72	6.66	Nov-19
Over/Under				1.56		-1.45										-0.83	
eV US Core Fixed Inc Net Median				1.06		7.18		7.24		5.35		4.38		3.88		6.98	Nov-19





## Chicago Policemen's Annuity and Benefit Fund

# TOTAL PLAN NET PERFORMANCE DETAIL

	Market Value (\$)	% of Portfolio	Policy %	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
<b>Global Multi Sector Fixed Income</b>	<b>23,056,527</b>	<b>0.91</b>	<b>3.00</b>	<b>2.88</b>	<b>50</b>	<b>3.64</b>	<b>23</b>	<b>4.74</b>	<b>43</b>	<b>3.75</b>	<b>20</b>	<b>3.81</b>	<b>47</b>	--	--	<b>3.38</b>	<b>Jun-15</b>
BBgBarc Global Aggregate TR				2.66	52	5.72	15	6.24	32	4.09	16	3.92	46	2.36	75	3.75	Jun-15
Over/Under				0.22		-2.08		-1.50		-0.34		-0.11				-0.37	
eV Global Unconstrained Fixed Inc Net Median				2.86		1.08		3.91		2.54		3.61		2.82		3.00	Jun-15
Manulife Asset Management	23,056,527	0.91		2.88	50	3.64	23	4.74	43	3.75	20	3.81	47	--	--	3.38	Jun-15
BBgBarc Global Aggregate TR				2.66	52	5.72	15	6.24	32	4.09	16	3.92	46	2.36	75	3.75	Jun-15
Over/Under				0.22		-2.08		-1.50		-0.34		-0.11				-0.37	
eV Global Unconstrained Fixed Inc Net Median				2.86		1.08		3.91		2.54		3.61		2.82		3.00	Jun-15
<b>Short Duration</b>	<b>64,567,127</b>	<b>2.56</b>	<b>--</b>	<b>0.10</b>	<b>99</b>	<b>1.19</b>	<b>99</b>	<b>1.76</b>	<b>99</b>	<b>2.19</b>	<b>99</b>	--	--	--	--	<b>2.01</b>	<b>Jan-17</b>
BBgBarc US Govt/Credit 1-3 Yr. TR				0.23	99	3.12	99	3.73	99	2.84	99	2.09	99	1.57	99	2.55	Jan-17
Over/Under				-0.13		-1.93		-1.97		-0.65						-0.54	
eV US Core Fixed Inc Net Median				1.06		7.18		7.24		5.35		4.38		3.88		5.18	Jan-17
HGK Asset Management	64,567,127	2.56		0.10	96	1.19	97	1.76	97	2.19	95	--	--	--	--	2.01	Jan-17
BBgBarc US Govt/Credit 1-3 Yr. TR				0.23	81	3.12	56	3.73	49	2.84	64	2.09	73	1.57	75	2.55	Jan-17
Over/Under				-0.13		-1.93		-1.97		-0.65						-0.54	
eV US Short Duration Fixed Inc Net Median				0.50		3.18		3.72		2.96		2.38		1.84		2.75	Jan-17
<b>Emerging Market Debt</b>	<b>48,272,318</b>	<b>1.91</b>	<b>3.00</b>	<b>1.42</b>	<b>76</b>	<b>-3.78</b>	<b>69</b>	<b>-3.73</b>	<b>95</b>	--	--	--	--	--	--	<b>-1.02</b>	<b>Mar-19</b>
JP Morgan GBI - EM Global Diversified Index				0.61	89	-6.32	83	-1.45	79	0.17	74	4.78	73	0.52	79	1.20	Mar-19
Over/Under				0.81		2.54		-2.28								-2.22	
eV All Emg Mkts Fixed Inc Net Median				2.51		-1.71		1.50		2.08		5.70		4.22		4.00	Mar-19
Lazard EM Income Fund L	24,105,325	0.95		0.77	86	-5.23	73	-4.13	97	--	--	--	--	--	--	-1.75	Mar-19
JP Morgan GBI - EM Global Diversified Index				0.61	89	-6.32	83	-1.45	79	0.17	74	4.78	73	0.52	79	1.20	Mar-19
Over/Under				0.16		1.09		-2.68								-2.95	
eV All Emg Mkts Fixed Inc Net Median				2.51		-1.71		1.50		2.08		5.70		4.22		4.00	Mar-19
Blackrock EM Local Curr	24,166,993	0.96		2.07	65	-2.28	56	-3.33	95	--	--	--	--	--	--	-2.86	Aug-19
JP Morgan GBI - EM Global Diversified Index				0.61	89	-6.32	83	-1.45	79	0.17	74	4.78	73	0.52	79	-2.68	Aug-19
Over/Under				1.46		4.04		-1.88								-0.18	
eV All Emg Mkts Fixed Inc Net Median				2.51		-1.71		1.50		2.08		5.70		4.22		0.43	Aug-19



## Chicago Policemen's Annuity and Benefit Fund

# TOTAL PLAN NET PERFORMANCE DETAIL

	Market Value (\$)	% of Portfolio	Policy %	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
<b>Total Private Equity</b>	<b>31,381,212</b>	<b>1.24</b>	<b>5.00</b>	<b>6.81</b>	--	<b>8.32</b>	--	<b>6.66</b>	--	<b>2.46</b>	--	<b>4.29</b>	--	<b>9.58</b>	--	<b>8.00</b>	<b>Oct-95</b>
CJA US All PE				0.00	--	-0.77	--	2.97	--	9.50	--	10.81	--	12.47	--	13.84	Oct-95
Over/Under				6.81		9.09		3.69		-7.04		-6.52		-2.89		-5.84	
<b>Total Infrastructure</b>	<b>72,093,926</b>	<b>2.85</b>	<b>4.00</b>	<b>-0.21</b>	--	<b>-7.13</b>	--	<b>-4.48</b>	--	<b>12.53</b>	--	<b>17.60</b>	--	<b>14.04</b>	--	<b>8.06</b>	<b>Nov-07</b>
NCREIF Property Index				0.74	--	0.45	--	2.01	--	5.11	--	6.28	--	9.37	--	6.01	Nov-07
Over/Under				-0.95		-7.58		-6.49		7.42		11.32		4.67		2.05	
<b>Total Real Estate</b>	<b>128,617,576</b>	<b>5.09</b>	<b>7.00</b>	<b>-0.30</b>	--	<b>-2.52</b>	--	<b>-0.07</b>	--	<b>2.93</b>	--	<b>3.99</b>	--	<b>6.27</b>	--	<b>5.42</b>	<b>Oct-95</b>
NCREIF Property Index 1 Qtr. Lag				-0.99	--	1.26	--	2.69	--	5.44	--	6.77	--	9.70	--	9.15	Oct-95
Over/Under				0.69		-3.78		-2.76		-2.51		-2.78		-3.43		-3.73	
<b>Total Hedge Funds</b>	<b>155,025,891</b>	<b>6.13</b>	<b>4.00</b>	<b>0.88</b>	93	<b>-1.75</b>	79	<b>-2.67</b>	88	<b>2.05</b>	74	--	--	--	--	<b>2.91</b>	<b>Aug-16</b>
HFRI Fund of Funds Composite Index				4.24	44	2.54	62	5.71	61	2.88	68	3.08	65	2.88	77	3.81	Aug-16
Over/Under				-3.36		-4.29		-8.38		-0.83						-0.90	
eV Alt Fund of Funds - Multi-Strategy Median				3.98		4.50		7.52		4.00		3.99		4.37		4.75	Aug-16
Pluscios	62,873,982	2.49		0.00	94	-3.50	81	-1.96	87	1.37	79	--	--	--	--	2.82	Aug-16
HFRI Fund of Funds Composite Index				4.24	44	2.54	62	5.71	61	2.88	68	3.08	65	2.88	77	3.81	Aug-16
Over/Under				-4.24		-6.04		-7.67		-1.51						-0.99	
eV Alt Fund of Funds - Multi-Strategy Median				3.98		4.50		7.52		4.00		3.99		4.37		4.75	Aug-16
EnTrust Permal	56,086,477	2.22		0.00	94	2.43	63	-0.91	84	3.72	55	--	--	--	--	3.18	Feb-17
HFRI Fund of Funds Composite Index				4.24	44	2.54	62	5.71	61	2.88	68	3.08	65	2.88	77	3.59	Feb-17
Over/Under				-4.24		-0.11		-6.62		0.84						-0.41	
eV Alt Fund of Funds - Multi-Strategy Median				3.98		4.50		7.52		4.00		3.99		4.37		4.97	Feb-17
Blueprint Capital Advisors	36,065,432	1.43		3.89	53	-4.89	87	-6.42	93	-0.17	85	--	--	--	--	-0.16	Aug-17
Blueprint Capital Custom Index				4.13	47	2.44	63	5.59	62	2.84	68	--	--	--	--	3.10	Aug-17
Over/Under				-0.24		-7.33		-12.01		-3.01						-3.26	
eV Alt Fund of Funds - Multi-Strategy Median				3.98		4.50		7.52		4.00		3.99		4.37		4.15	Aug-17



## Chicago Policemen's Annuity and Benefit Fund

# TOTAL PLAN NET PERFORMANCE DETAIL

	Market Value (\$)	% of Portfolio	Policy %	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
<b>Total Global Asset Allocation</b>	<b>110,753,518</b>	<b>4.38</b>	<b>5.00</b>	<b>2.49</b>	<b>80</b>	<b>-3.42</b>	<b>64</b>	<b>0.75</b>	<b>65</b>	<b>1.84</b>	<b>66</b>	<b>5.08</b>	<b>54</b>	--	--	<b>4.41</b>	<b>Dec-11</b>
60% MSCI ACWI (Net) / 40% FTSE WGBI				6.09	30	4.20	21	9.58	16	6.38	13	8.01	13	6.07	35	6.61	Dec-11
Over/Under				-3.60		-7.62		-8.83		-4.54		-2.93				-2.20	
eV Global TAA Net Median				4.53		-0.76		4.05		2.86		5.37		5.28		5.36	Dec-11
<b>PIMCO</b>	<b>110,753,518</b>	<b>4.38</b>		<b>2.49</b>	<b>80</b>	<b>-3.42</b>	<b>64</b>	<b>0.75</b>	<b>65</b>	<b>1.98</b>	<b>64</b>	<b>5.76</b>	<b>42</b>	--	--	<b>4.17</b>	<b>Dec-11</b>
PIMCO All Asset Index				2.54	80	5.75	14	7.72	25	5.53	17	5.51	46	4.85	57	4.66	Dec-11
Over/Under				-0.05		-9.17		-6.97		-3.55		0.25				-0.49	
eV Global TAA Net Median				4.53		-0.76		4.05		2.86		5.37		5.28		5.36	Dec-11
<b>Opportunistic Credit</b>	<b>65,952,544</b>	<b>2.61</b>	<b>4.00</b>	<b>7.28</b>	--	<b>2.63</b>	--	<b>2.68</b>	--	<b>3.66</b>	--	--	--	--	--	<b>4.45</b>	<b>Nov-16</b>
Opportunistic Credit Custom Index				4.38	--	-0.01	--	2.17	--	3.77	--	--	--	--	--	4.46	Nov-16
Over/Under				2.90		2.64		0.51		-0.11						-0.01	
Beach Point LP	25,777,276	1.02		7.07	--	1.72	--	5.94	--	5.92	--	--	--	--	--	6.84	Dec-16
Voya Credit Opportunities	10,901,160	0.43		2.67	--	11.22	--	11.95	--	6.26	--	--	--	--	--	5.94	Nov-16
Eagle Point Credit Management	18,714,764	0.74		12.74	--	0.32	--	-6.24	--	--	--	--	--	--	--	-1.48	Aug-18
Voya Bank Loan	10,559,344	0.42		3.70	--	-2.16	--	-0.48	--	--	--	--	--	--	--	3.16	Jan-19
<b>Private Debt</b>	<b>81,872,888</b>	<b>3.24</b>	<b>4.00</b>	<b>1.83</b>	--	<b>-5.01</b>	--	<b>-3.37</b>	--	<b>5.30</b>	--	--	--	--	--	<b>4.90</b>	<b>Nov-16</b>
Private Debt Custom Index				0.80	--	2.81	--	4.08	--	4.94	--	--	--	--	--	4.77	Nov-16
Over/Under				1.03		-7.82		-7.45		0.36						0.13	
<b>Cash</b>	<b>15,874,193</b>	<b>0.63</b>	<b>0.00</b>	<b>0.07</b>	--	<b>0.93</b>	--	<b>1.46</b>	--	<b>1.81</b>	--	<b>1.35</b>	--	--	--	<b>0.83</b>	<b>Dec-10</b>
91 Day T-Bills				0.02	--	0.43	--	0.82	--	1.58	--	1.13	--	0.59	--	0.60	Dec-10
Over/Under				0.05		0.50		0.64		0.23		0.22				0.23	
Cash	15,278,687	0.60		0.07	33	0.98	30	1.52	30	1.82	35	1.36	49	0.82	25	2.39	Sep-98
91 Day T-Bills				0.02	64	0.43	79	0.82	82	1.58	72	1.13	76	0.59	69	1.78	Sep-98
Over/Under				0.05		0.55		0.70		0.24		0.23		0.23		0.61	
Benefit Payments Account	595,506	0.02		0.05	--	--	--	--	--	--	--	--	--	--	--	0.15	Apr-20
91 Day T-Bills				0.02	--	0.43	--	0.82	--	1.58	--	1.13	--	0.59	--	0.05	Apr-20
Over/Under				0.03												0.10	
<b>Transitions</b>	<b>758,861</b>	<b>0.03</b>	<b>--</b>	<b>2.66</b>	--	<b>2.29</b>	--	<b>3.85</b>	--	<b>4.60</b>	--	<b>6.10</b>	--	--	--	<b>3.71</b>	<b>Jul-14</b>
Tax Reclaims	758,861	0.03		2.66	--	2.29	--	3.85	--	4.60	--	6.10	--	--	--	3.71	Jul-14

\*Opportunistic Credit Custom Index: 50% BBgBarc High Yield / 50% ICE BofA ML US HY BB-B Rated Constrained Index

\*Private Debt Custom Index: 3 - Month LIBOR + 3%

