2020 Q1 INVESTMENT SUMMARY: BOARD REPORT
MODOT & PATROL EMPLOYEES’ RETIREMENT SYSTEM
June 2020
Kevin Leonard, Partner
Will Forde, CFA, CAIA, Senior Consultant Kiley Fischer, Analyst
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2020 FIRST QUARTER HAPPENINGS AT NEPC

From everyone at NEPC, we hope your families and loved ones are safe and healthy during these difficult times. Please know that we remain vigilant in our oversight of your investments as the world focuses on the challenges ahead.

At NEPC, our goal is twofold: to help steer your investment programs through this market turmoil and identify opportunities that may arise from the tumult. Please see below the investment views published by NEPC related to the COVID-19 outbreak. To stay up-to-date on our COVID-19 content, please view https://info.nepc.com/covid-19.

COVID-19 CONTENT

• Taking Stock: China in the Time of Coronavirus (COVID-19)
• Taking Stock: The Implications of COVID-19 and the February 2020 Market Correction
• Taking Stock: Acting Amid Uncertainty
• Taking Stock: Corporate Pension Plans in the Time of COVID-19
• Taking Stock: The Ides of Fed Intervention
• Taking Stock: Pension Investor Flash Poll
• Negative Interest Rates: Here to Stay
• COVID-19: Business & Market Perspectives Webinar Replay
• COVID-19 and NEPC’s Market Perspectives Webinar Replay
2020 FIRST QUARTER HAPPENINGS AT NEPC

**NEPC INSIGHTS**

- Taking Stock: NEPC’s Fourth Quarter Pension Monitor
- Taking Stock: Will the SECURE Act Finally Make Lifetime Income More Than Just a Buzzword?
- Taking Stock: Late Cycle Dynamics, an NEPC Key Market Theme
- Taking Stock: Permanent Interventions, an NEPC Key Market Theme
- Taking Stock: China Transitions, an NEPC Key Market Theme
- Taking Stock: Globalization Backlash, an NEPC Key Market Theme
- 2019 Fourth Quarter Market Thoughts
- The Three Pillars of a Successful Investment Plan for Endowments and Foundations
- NEPC's 2019 Defined Contribution Plan & Fee Survey
- NEPC's 2019 Defined Contribution Plan & Fee Survey - Recording
- Private Wealth: Getting the Most Out of Your Custodian
- Taking Stock: NEPC's February 2020 Pension Monitor

**WEBINAR REPLAYS**

- Webinar Replay: 8th Defined Benefit Plan Trends Survey
- NEPC 2020 Market Outlook Webinar
- Webinar Replay: SECURE Act Webinar with Morgan Lewis
- Fireside Chat with Mellody Hobson: "Is the Investment Industry Ready to be Color Brave™?"

To download NEPC’s recent insights and webinar replays, visit: [www.NEPC.com/insights](http://www.NEPC.com/insights)
MARKET UPDATE
Global risk assets declined during the quarter as markets digested the potential economic impact of COVID-19. Equities experienced the sharpest declines, with most major indices entering bear market territory in March.

Widespread stimulative fiscal and monetary policies have been implemented to help support economic growth.

Energy prices collapsed as tensions intensified between Saudi Arabia and Russia, leading to supply gluts and a sharp decline in prices.

Market segment (index representation) as follows: US Dollar (DXY Index), VIX (CBOE Volatility Index), US 10-Year (US 10-Year Treasury Yield), S&P 500 (US Equity), MSCI EAFE Index (International Developed Equity), MSCI Emerging Markets (Emerging Markets Equity), US Agg (Barclays US Aggregate Bond Index), High Yield (Barclays US High Yield Index), Dollar EMD (JPM EMBI Global Diversified Index), Crude Oil (WTI Crude Oil Spot), Gold (Gold Price Spot), and REITs (NAREIT Composite Index). Source: FactSet
MACRO PERFORMANCE OVERVIEW

Q1 Macro Market Summary

The US announced a $2.2 trillion dollar stimulus package, representing roughly 10% of total GDP

Government bond yields declined with the US 10-Year Treasury yields falling 124 bps, ending Q1 at historical lows

Safe-haven currencies broadly rallied, reflecting a flight-to-quality across markets

<table>
<thead>
<tr>
<th>Central Banks</th>
<th>Current Rate</th>
<th>CPI YOY</th>
<th>Notes from the Quarter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Federal Reserve</td>
<td>0.00% - 0.25%</td>
<td>2.3%</td>
<td>The Fed cut interest rates by a total of 150 basis points in two emergency meetings in March and announced unlimited QE</td>
</tr>
<tr>
<td>European Central Bank</td>
<td>0.00%</td>
<td>1.2%</td>
<td>The ECB maintained its current benchmark interest rates and announced an €750 billion QE program</td>
</tr>
<tr>
<td>Bank of Japan</td>
<td>-0.10%</td>
<td>0.5%</td>
<td>The BoJ continued its ultra-easy QE and introduced an unscheduled policy to purchase an additional ¥1 trillion worth of government bond</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Bond</th>
<th>Yield 12/31/19</th>
<th>Yield 03/31/20</th>
<th>Δ</th>
</tr>
</thead>
<tbody>
<tr>
<td>US 10-Year</td>
<td>1.92%</td>
<td>0.68%</td>
<td>-1.24%</td>
</tr>
<tr>
<td>US 30-Year</td>
<td>2.39%</td>
<td>1.32%</td>
<td>-1.07%</td>
</tr>
<tr>
<td>US Real 10-Year</td>
<td>0.15%</td>
<td>-0.17%</td>
<td>-0.32%</td>
</tr>
<tr>
<td>German 10-Year</td>
<td>-0.19%</td>
<td>-0.49%</td>
<td>-0.30%</td>
</tr>
<tr>
<td>Japan 10-Year</td>
<td>-0.02%</td>
<td>0.02%</td>
<td>0.04%</td>
</tr>
<tr>
<td>China 10-Year</td>
<td>3.20%</td>
<td>2.61%</td>
<td>-0.59%</td>
</tr>
<tr>
<td>EM Local Debt</td>
<td>5.22%</td>
<td>5.36%</td>
<td>0.14%</td>
</tr>
</tbody>
</table>

Source: FactSet

Currency Performance vs. USD

Source: FactSet
EQUITY PERFORMANCE OVERVIEW

Q1 Equity Market Summary

Global equities entered bear markets, falling over 20% from the peaks, amid COVID-19 concerns

Small cap equities underperformed given their sensitivity and vulnerability to an economic slowdown

Chinese equities performed relatively well as COVID-19 cases declined and manufacturing data rebounded

<table>
<thead>
<tr>
<th>Russell 3000 QTD Sector Returns</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Technology</td>
<td>-12.1%</td>
</tr>
<tr>
<td>Health Care</td>
<td>-12.9%</td>
</tr>
<tr>
<td>Consumer Discretionary</td>
<td>-20.5%</td>
</tr>
<tr>
<td>Consumer Staples</td>
<td>-15.1%</td>
</tr>
<tr>
<td>Energy</td>
<td>-51.6%</td>
</tr>
<tr>
<td>Materials &amp; Processing</td>
<td>-28.3%</td>
</tr>
<tr>
<td>Producer Durables</td>
<td>-27.8%</td>
</tr>
<tr>
<td>Financial Services</td>
<td>-28.6%</td>
</tr>
<tr>
<td>Utilities</td>
<td>-15.1%</td>
</tr>
</tbody>
</table>

Source: FactSet
Credit spreads increased, ending the quarter well above long-term medians

US corporate high yield bonds fell 12.7% after spreads widened by 544 bps

Long credit returns decreased 4.7%, reflecting spread widening, which offset the decline in rates rates

| Credit Spread (Basis Points) | 12/31/2019 | 3/31/2020 | |Δ| |
|-----------------------------|-------------|-------------|---------|
| BC IG Credit                | 93          | 272         | 179     |
| BC Long Credit              | 139         | 279         | 140     |
| BC Securitized              | 42          | 72          | 30      |
| BC High Yield               | 336         | 880         | 544     |
| Muni HY                     | 226         | 473         | 247     |
| JPM EMBI                    | 291         | 626         | 335     |
| Bank Loans - Libor          | 372         | 734         | 362     |

Source: FactSet; Ranges calculated since 11/30/2000
Spot WTI crude oil fell 67.1% as the Russia-Saudi Arabia price war and demand uncertainties from COVID-19 impacted both supply and demand.

Commodities declined reflecting waning demand, with the exception of gold, which increased 4.0%, reflecting a flight-to-quality.

### Real Asset Yields

<table>
<thead>
<tr>
<th>Real Asset Yields</th>
<th>12/31/2019</th>
<th>3/31/2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Midstream Energy</td>
<td>6.4%</td>
<td>12.0%</td>
</tr>
<tr>
<td>Core Real Estate*</td>
<td>4.5%</td>
<td>4.5%</td>
</tr>
<tr>
<td>Composite REITs</td>
<td>4.1%</td>
<td>5.4%</td>
</tr>
<tr>
<td>Global REITs</td>
<td>4.2%</td>
<td>5.7%</td>
</tr>
<tr>
<td>Global Infrastructure Equities</td>
<td>4.0%</td>
<td>4.3%</td>
</tr>
<tr>
<td>Natural Resource Equities</td>
<td>3.9%</td>
<td>4.8%</td>
</tr>
<tr>
<td>US 10-Year Breakeven Inflation</td>
<td>1.77%</td>
<td>0.85%</td>
</tr>
<tr>
<td>Commodity Index Roll Yield</td>
<td>-1.7%</td>
<td>-14.3%</td>
</tr>
<tr>
<td>10-Year TIPS Real Yield</td>
<td>0.2%</td>
<td>-0.2%</td>
</tr>
</tbody>
</table>

Source: FactSet

Core Real Estate* yields are subject to a one quarter lag.
ASSET ALLOCATION VS. CURRENT ALLOCATION

Current Allocation vs. Policy Allocation

Current Asset Allocation vs. Policy Asset Allocation

<table>
<thead>
<tr>
<th>Current Asset Allocation vs. Policy Asset Allocation</th>
<th>Current</th>
<th>Policy</th>
<th>Current</th>
<th>Difference*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Equity</td>
<td>$773,906,444</td>
<td>40.0%</td>
<td>33.9%</td>
<td>-6.1%</td>
</tr>
<tr>
<td>Fixed Income</td>
<td>$369,424,335</td>
<td>22.5%</td>
<td>16.2%</td>
<td>-6.3%</td>
</tr>
<tr>
<td>Opportunistic Fixed Income</td>
<td>$238,584,085</td>
<td>7.5%</td>
<td>10.5%</td>
<td>3.0%</td>
</tr>
<tr>
<td>Private Equity</td>
<td>$368,286,673</td>
<td>10.0%</td>
<td>16.1%</td>
<td>6.1%</td>
</tr>
<tr>
<td>Real Estate</td>
<td>$204,057,878</td>
<td>10.0%</td>
<td>8.9%</td>
<td>-1.1%</td>
</tr>
<tr>
<td>Real Assets</td>
<td>$301,869,641</td>
<td>10.0%</td>
<td>13.2%</td>
<td>3.2%</td>
</tr>
<tr>
<td>Cash</td>
<td>$27,682,603</td>
<td>10.0%</td>
<td>1.2%</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>$2,283,811,659</td>
<td>100.0%</td>
<td>100.0%</td>
<td></td>
</tr>
</tbody>
</table>

*Difference between Policy and Current Allocation

Current Asset Allocation

Policy Asset Allocation

Real Estate 10.0%
Private Equity 10.0%
Opportunistic Fixed Income 7.5%
Fixed Income 22.5%
Cash 0.0%
Real Assets 10.0%
Public Equity 40.0%
MPERS
TOTAL FUND PERFORMANCE SUMMARY

<table>
<thead>
<tr>
<th></th>
<th>Market Value</th>
<th>3 Mo</th>
<th>1 Yr</th>
<th>3 Yrs</th>
<th>5 Yrs</th>
<th>10 Yrs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Composite</strong></td>
<td>$2,283,811,659</td>
<td>-8.88%</td>
<td>-1.51%</td>
<td>4.83%</td>
<td>5.14%</td>
<td>8.03%</td>
</tr>
<tr>
<td><strong>Policy Index</strong></td>
<td>-8.00%</td>
<td>1.43%</td>
<td>5.55%</td>
<td>5.35%</td>
<td>7.11%</td>
<td></td>
</tr>
<tr>
<td><strong>InvMetrics Public DB Net Median</strong></td>
<td>-13.76%</td>
<td>-5.27%</td>
<td>2.78%</td>
<td>3.34%</td>
<td>6.17%</td>
<td></td>
</tr>
</tbody>
</table>

Quarterly and Cumulative Excess Performance
MPERS

TOTAL FUND ATTRIBUTION ANALYSIS

Attribution Effects
3 Months Ending March 31, 2020

Allocation Effect - The return attributable to the asset allocation of the portfolio
Selection Effect - The return attributable to the managers' security selection
Interaction Effect - The return attributable to the interaction between the Allocation and Selection Effects

Attribution Summary
3 Months Ending March 31, 2020

<table>
<thead>
<tr>
<th></th>
<th>Wtd. Actual Return</th>
<th>Wtd. Index Return</th>
<th>Excess Return</th>
<th>Selection Effect</th>
<th>Allocation Effect</th>
<th>Interaction Effects</th>
<th>Total Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equity Beta</td>
<td>-17.4%</td>
<td>-15.6%</td>
<td>-1.8%</td>
<td>-1.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>-1.0%</td>
</tr>
<tr>
<td>Rates and Credit Beta</td>
<td>0.7%</td>
<td>-0.8%</td>
<td>1.5%</td>
<td>0.4%</td>
<td>-0.3%</td>
<td>-0.1%</td>
<td>0.1%</td>
</tr>
<tr>
<td>Real Asset Beta</td>
<td>-0.2%</td>
<td>1.1%</td>
<td>-1.2%</td>
<td>-0.2%</td>
<td>0.1%</td>
<td>0.0%</td>
<td>-0.1%</td>
</tr>
<tr>
<td>Cash Composite</td>
<td>0.3%</td>
<td>0.4%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.1%</td>
<td>0.0%</td>
<td>0.1%</td>
</tr>
<tr>
<td>Total</td>
<td>-8.3%</td>
<td>-8.0%</td>
<td>-0.9%</td>
<td>-0.8%</td>
<td>0.0%</td>
<td>-0.1%</td>
<td>-0.9%</td>
</tr>
</tbody>
</table>

Note: Plan attribution calculations are returns based and the results shown reflect the composites shown. As a result, the total returns shown may vary from the calculated return shown on the performance summary.

The target return shown for each composite is a custom index, based on aggregated policy indices. This policy index asset weights the underlying policy indices of each option in the plan and the respective benchmark return.

The allocation, selection, and interaction effects are calculated using the custom index described above along with the policy or target weight of each composite.

May not add due to rounding.
### Attribution Summary

<table>
<thead>
<tr>
<th>Description</th>
<th>Wtd. Actual Return</th>
<th>Wtd. Index Return</th>
<th>Excess Return</th>
<th>Selection Effect</th>
<th>Allocation Effect</th>
<th>Interaction Effects</th>
<th>Total Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Equities</td>
<td>-17.6%</td>
<td>-11.3%</td>
<td>-6.3%</td>
<td>-2.7%</td>
<td>0.5%</td>
<td>0.4%</td>
<td>-1.9%</td>
</tr>
<tr>
<td>Private Equity</td>
<td>13.8%</td>
<td>35.3%</td>
<td>-21.5%</td>
<td>-1.8%</td>
<td>1.5%</td>
<td>-1.0%</td>
<td>-1.3%</td>
</tr>
<tr>
<td>Traditional Fixed Income</td>
<td>12.4%</td>
<td>9.8%</td>
<td>2.6%</td>
<td>0.6%</td>
<td>-0.5%</td>
<td>-0.2%</td>
<td>-0.1%</td>
</tr>
<tr>
<td>Opportunistic Debt</td>
<td>-0.1%</td>
<td>-6.9%</td>
<td>6.8%</td>
<td>0.5%</td>
<td>-0.2%</td>
<td>0.2%</td>
<td>0.4%</td>
</tr>
<tr>
<td>Real Assets</td>
<td>2.1%</td>
<td>5.6%</td>
<td>-3.5%</td>
<td>-0.3%</td>
<td>0.1%</td>
<td>-0.1%</td>
<td>-0.3%</td>
</tr>
<tr>
<td>Real Estate</td>
<td>6.5%</td>
<td>4.4%</td>
<td>2.2%</td>
<td>0.2%</td>
<td>-0.1%</td>
<td>0.0%</td>
<td>0.1%</td>
</tr>
<tr>
<td>Cash Composite</td>
<td>1.9%</td>
<td>1.9%</td>
<td>0.1%</td>
<td>0.0%</td>
<td>0.1%</td>
<td>0.0%</td>
<td>0.1%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>-1.5%</strong></td>
<td><strong>1.4%</strong></td>
<td><strong>-3.6%</strong></td>
<td><strong>1.4%</strong></td>
<td><strong>-0.7%</strong></td>
<td><strong>-2.9%</strong></td>
<td></td>
</tr>
</tbody>
</table>

Note: Plan attribution calculations are returns based and the results shown reflect the composites shown. As a result, the total returns shown may vary from the calculated return shown on the performance summary.

The target return shown for each composite is a custom index, based on aggregated policy indices. This policy index asset weights the underlying policy indices of each option in the plan and the respective benchmark return.

The allocation, selection, and interaction effects are calculated using the custom index described above along with the policy or target weight of each composite.

May not add due to rounding.

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**Allocation Effect** - The return attributable to the asset allocation of the portfolio

**Selection Effect** - The return attributable to the managers' security selection

**Interaction Effect** - The return attributable to the interaction between the Allocation and Selection Effects
## MPERS

### TOTAL COMPOSITE

<table>
<thead>
<tr>
<th>Category</th>
<th>Policy %</th>
<th>% of Portfolio</th>
<th>Market Value ($)</th>
<th>3 Mo (%)</th>
<th>Rank</th>
<th>1 Yr (%)</th>
<th>Rank</th>
<th>3 Yrs (%)</th>
<th>Rank</th>
<th>5 Yrs (%)</th>
<th>Rank</th>
<th>10 Yrs (%)</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Composite</strong></td>
<td>100.00</td>
<td>100.00</td>
<td>2,283,811,659</td>
<td>-8.88</td>
<td>4</td>
<td>-1.51</td>
<td>6</td>
<td>4.83</td>
<td>5</td>
<td>5.14</td>
<td>2</td>
<td>8.03</td>
<td>1</td>
</tr>
<tr>
<td><strong>Policy Index</strong></td>
<td></td>
<td></td>
<td></td>
<td>-8.00</td>
<td>3</td>
<td>1.43</td>
<td>3</td>
<td>5.55</td>
<td>2</td>
<td>5.35</td>
<td>1</td>
<td>7.11</td>
<td>11</td>
</tr>
<tr>
<td><strong>Equity Beta</strong></td>
<td>50.00</td>
<td>50.01</td>
<td>1,142,193,117</td>
<td>-17.55</td>
<td>-6.66</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Public Equities</strong></td>
<td>40.00</td>
<td>33.89</td>
<td>773,906,444</td>
<td>-25.54</td>
<td>80</td>
<td>-17.57</td>
<td>77</td>
<td>-2.94</td>
<td>75</td>
<td>0.22</td>
<td>71</td>
<td>5.56</td>
<td>61</td>
</tr>
<tr>
<td><strong>MSCI ACWI</strong></td>
<td></td>
<td></td>
<td></td>
<td>-21.37</td>
<td>59</td>
<td>-11.26</td>
<td>51</td>
<td>1.50</td>
<td>45</td>
<td>2.85</td>
<td>46</td>
<td>5.88</td>
<td>52</td>
</tr>
<tr>
<td><strong>Private Equity</strong></td>
<td>10.00</td>
<td>16.13</td>
<td>368,286,673</td>
<td>2.79</td>
<td>13.84</td>
<td>16.07</td>
<td>13.50</td>
<td>13.58</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>MO Hwy Priv. Equ. Index - Lagged</strong></td>
<td></td>
<td></td>
<td></td>
<td>9.86</td>
<td>35.34</td>
<td>18.69</td>
<td>15.02</td>
<td>16.96</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Rates and Credit Beta</strong></td>
<td>30.00</td>
<td>26.62</td>
<td>608,008,420</td>
<td>0.74</td>
<td>7.45</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Traditional Fixed Income</strong></td>
<td>22.50</td>
<td>16.18</td>
<td>369,424,335</td>
<td>5.86</td>
<td>1</td>
<td>12.40</td>
<td>1</td>
<td>7.03</td>
<td>1</td>
<td>6.01</td>
<td>1</td>
<td>7.12</td>
<td>1</td>
</tr>
<tr>
<td><strong>Fixed Income Custom Benchmark</strong></td>
<td></td>
<td></td>
<td></td>
<td>3.37</td>
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<td><strong>CPI + 4% (Unadjusted)</strong></td>
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<td><strong>91 Day T-Bills</strong></td>
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Total Composite is ranked in the IFx Public DB (peer) Net+ Universe  
Global Equity Composite is ranked in the eV Global All Cap Equity Net Universe  
Fixed Income Composite is ranked in the eV All Global Fixed Inc Net Universe  
Opportunistc Debt Composite is ranked in the eV US High Yield Fixed Inc Net Universe
MPERS
TOTAL FUND RETURN SUMMARY

Return Summary Net

Rate of Return %
-20.0 -15.0 -10.0 -5.0 0.0 5.0 10.0 15.0 20.0
Q1-20 1 Year 3 Years 5 Years 10 Years Fiscal 2019 Fiscal 2018 Fiscal 2017 Fiscal 2016
-8.9 -8.0 1.4 4.8 5.6 5.1 5.3 8.0 7.1 6.8 8.8 9.4 7.7 11.2 11.1 1.0 1.9

Total Composite Policy Index
MPERS

TOTAL FUND RISK/RETURN - 10 YEARS

Statistics Summary
10 Years Ending March 31, 2020

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<th>Anlzd Ret</th>
<th>Rank</th>
<th>Anlzd Std Dev</th>
<th>Rank</th>
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<tr>
<td>Policy Index</td>
<td>7.11%</td>
<td>11</td>
<td>5.51%</td>
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Statistics Summary
10 Years Ending March 31, 2020

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TOTAL FUND PERFORMANCE
# MPERS

## TOTAL FUND PERFORMANCE DETAIL

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<tr>
<th></th>
<th>Market Value ($)</th>
<th>% of Portfolio</th>
<th>Policy %</th>
<th>3 Mo (%)</th>
<th>1 Yr (%)</th>
<th>3 Yrs (%)</th>
<th>5 Yrs (%)</th>
<th>10 Yrs (%)</th>
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<td>100.00</td>
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<td><strong>Silchester</strong></td>
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<td>3.99</td>
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<td>4.79</td>
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## TOTAL FUND PERFORMANCE DETAIL

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<th>Hedge Equity</th>
<th>Market Value ($)</th>
<th>% of Portfolio</th>
<th>Policy %</th>
<th>3 Mo (%)</th>
<th>1 Yr (%)</th>
<th>3 Yrs (%)</th>
<th>5 Yrs (%)</th>
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## TOTAL FUND PERFORMANCE DETAIL

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<th>Policy %</th>
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Fixed Income Custom Benchmark was BBgBarc US Universal TR preceding 01/01/2017. As of 01/01/2017 the benchmark is BBgBarc US Agg Govt/Credit.
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<th>% of Portfolio (%)</th>
<th>Policy %</th>
<th>3 Mo (%)</th>
<th>1 Yr (%)</th>
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### TOTAL FUND PERFORMANCE DETAIL

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<th>Market Value ($)</th>
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<th>Policy %</th>
<th>3 Mo (%)</th>
<th>1 Yr (%)</th>
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## TOTAL FUND PERFORMANCE DETAIL

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91 Day T-Bills

| 91 Day T-Bills | 0.37 | 1.85 | 1.72 | 1.13 | 0.59 |
APPENDIX
MPERS

TOTAL FUND ASSET ALLOCATION HISTORY

Asset Allocation History

Policy

- Fixed Income
- Opportunistic Fixed Income
- Private Equity
- Real Estate
- Real Assets
- Cash
- Public Equity

% Allocation (Actual)


0 % 20 % 40 % 60 % 80 % 100 %
TOTAL FUND RETURN SUMMARY VS. PEER UNIVERSE

<table>
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<th>Period</th>
<th>5th Percentile</th>
<th>25th Percentile</th>
<th>Median</th>
<th>75th Percentile</th>
<th>95th Percentile</th>
<th># of Portfolios</th>
<th>Total Composite</th>
<th>Policy Index</th>
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<td></td>
<td>(99)</td>
<td>(92)</td>
<td>(83)</td>
<td>(80)</td>
<td>(76)</td>
<td>(67)</td>
<td>(99)</td>
<td>(92)</td>
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**Information Disclaimer**

- Past performance is no guarantee of future results.

- All investments carry some level of risk. Diversification and other asset allocation techniques are not guaranteed to ensure profit or protect against losses.

- NEPC’s source for portfolio pricing, calculation of accruals, and transaction information is the plan’s custodian bank. Information on market indices and security characteristics is received from other sources external to NEPC. While NEPC has exercised reasonable professional care in preparing this report, we cannot guarantee the accuracy of all source information contained within.

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- The client’s custodian bank is NEPC’s preferred data source unless otherwise directed. NEPC generally reconciles custodian data to manager data. If the custodian cannot provide accurate data, manager data may be used.

- Trailing time period returns are determined by geometrically linking the holding period returns, from the first full month after inception to the report date. Rates of return are annualized when the time period is longer than a year. Performance is presented gross and/or net of manager fees as indicated on each page.

- For managers funded in the middle of a month, the “since inception” return will start with the first full month, although actual inception dates and cash flows are taken into account in all Composite calculations.

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