### Role in the Portfolio

#### Attractive Absolute Returns
- Long-term returns that are competitive with long-term public equities, after consideration of lower downside risk, due to opportunistic investments, longer duration private investments, restructurings, leverage, hedging, and trading skill

#### Competitive Relative Returns
- Achieve or exceed the return on the performance benchmark over a long period of time, within reasonable risk parameters

#### Diversification
- Enhance the diversification of the total fund relative to public equity and investment grade fixed income

#### Capital Preservation
- Protect capital through credit-oriented investments and trading strategies that are designed to minimize downside risk

#### Deflation Protection
- The structure of certain fixed income assets may provide protection against the detrimental effects of deflation

#### Portfolio Launched June 2009
- The asset class (N.C.G.S. § 147-69.2(b)(6c)) was approved for investment by the NC General Assembly in June 2009.

# Portfolio Components

## Components

<table>
<thead>
<tr>
<th>Traditional Corporate Credit</th>
<th>Distressed Credit</th>
<th>Hedge Funds</th>
<th>Special Situations</th>
</tr>
</thead>
</table>

## Strategies / Types of Investments

<table>
<thead>
<tr>
<th>High Yield Bonds</th>
<th>Bank Loans</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Yield Bonds</td>
<td>Post-Reorg Equity</td>
</tr>
<tr>
<td>Structured Credit</td>
<td>Relative Value</td>
</tr>
<tr>
<td>Long/Short Credit</td>
<td>Distressed Credit</td>
</tr>
<tr>
<td>Convertible Arbitrage</td>
<td>Event-Driven</td>
</tr>
<tr>
<td>Derivatives</td>
<td></td>
</tr>
<tr>
<td>Structured Credit</td>
<td>Mezzanine Debt</td>
</tr>
<tr>
<td>Whole Loans</td>
<td>Direct Lending</td>
</tr>
<tr>
<td>Real Estate Loans</td>
<td>Dislocation</td>
</tr>
</tbody>
</table>

* Portfolio Components, Targets, and Maximums come from the Investment Policy Statement for North Carolina Retirement Systems, July 1, 2014
Investment Management Division

Opportunistic Fixed Income

- Currently under-weight vs. target by 1.3%
- Additional capacity for more than $1.4B

<table>
<thead>
<tr>
<th>Market Value ($MM)</th>
<th>%</th>
<th>Target</th>
<th>Range</th>
<th>Relative %</th>
<th>Relative $ (MM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growth</td>
<td>$51,515</td>
<td>47.91%</td>
<td>58.0%</td>
<td>37.0%</td>
<td>-10.09%</td>
</tr>
<tr>
<td>Public Equity</td>
<td>36,599</td>
<td>34.04%</td>
<td>42.0%</td>
<td>37.0%</td>
<td>-7.96%</td>
</tr>
<tr>
<td>Private Equity</td>
<td>5,781</td>
<td>5.38%</td>
<td>6.0%</td>
<td>0.0%</td>
<td>-0.62%</td>
</tr>
<tr>
<td>Non Core Real Estate</td>
<td>2,996</td>
<td>2.79%</td>
<td>3.0%</td>
<td>8.0%</td>
<td>-0.21%</td>
</tr>
<tr>
<td>Opportunistic Fixed Income</td>
<td>6,140</td>
<td>5.71%</td>
<td>7.0%</td>
<td>0.0%</td>
<td>-1.29%</td>
</tr>
<tr>
<td>Rates &amp; Liquidity</td>
<td>42,909</td>
<td>39.90%</td>
<td>29.0%</td>
<td>24.0%</td>
<td>10.90%</td>
</tr>
<tr>
<td>IG Fixed Income &amp; Cash</td>
<td>33,672</td>
<td>31.31%</td>
<td>28.0%</td>
<td>24.0%</td>
<td>3.31%</td>
</tr>
<tr>
<td>Pension Cash</td>
<td>9,237</td>
<td>8.59%</td>
<td>1.0%</td>
<td>0.0%</td>
<td>7.59%</td>
</tr>
<tr>
<td>Inflation Sensitive &amp; Diversifiers</td>
<td>11,008</td>
<td>10.24%</td>
<td>11.0%</td>
<td>4.0%</td>
<td>-0.76%</td>
</tr>
<tr>
<td>Inflation Sensitive</td>
<td>5,520</td>
<td>5.13%</td>
<td>6.0%</td>
<td>2.0%</td>
<td>-0.87%</td>
</tr>
<tr>
<td>Core Real Estate</td>
<td>5,488</td>
<td>5.10%</td>
<td>5.0%</td>
<td>10.0%</td>
<td>0.10%</td>
</tr>
<tr>
<td>Multi-Strategy</td>
<td>2,097</td>
<td>1.95%</td>
<td>2.0%</td>
<td>0.0%</td>
<td>-0.05%</td>
</tr>
<tr>
<td>Grand Total</td>
<td>$107,529</td>
<td>100.00%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Unaudited financials as of 9/30/20
Portfolio History

Portfolio Market Value Timeline by Component

Growth of Manager Relationships and Number of Funds

Note: Fund count excludes liquidated investments.
Portfolio Performance

Annualized Performance

Calendar Year Performance

Note: See slide 20 for details on the composition of the Opportunistic Fixed Income Benchmark.
Portfolio Performance

Portfolio Component Annualized Performance vs. Market Benchmarks

Note: See slide 20 for details on the composition of the Opportunistic Fixed Income Benchmark.
Dislocation Capital Deployed During COVID

- Deployed $513MM beginning in late March/early April
- Took advantage of structural dislocation in credit markets
- Generated ~$67MM in gains

<table>
<thead>
<tr>
<th>Date of First Draw</th>
<th>Manager</th>
<th>Commitment ($MM)</th>
<th>Amount Called ($MM)</th>
<th>Est Total Return (a/o 9/30)</th>
<th>Est IRR</th>
<th>Est Gain/Loss ($MM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4/9/2020</td>
<td>Brigade</td>
<td>250</td>
<td>250</td>
<td>9.28%</td>
<td>19%</td>
<td>23</td>
</tr>
<tr>
<td>3/31/2020</td>
<td>HPS</td>
<td>300</td>
<td>190</td>
<td>9.70%</td>
<td>n/a</td>
<td>18</td>
</tr>
<tr>
<td>3/25/2020</td>
<td>Centerbridge Flex</td>
<td>245</td>
<td>74</td>
<td>26.70%</td>
<td>97%</td>
<td>25</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>Total</strong></td>
<td><strong>795</strong></td>
<td><strong>513</strong></td>
<td></td>
<td></td>
<td><strong>Total Profit</strong> 67</td>
</tr>
</tbody>
</table>
Portfolio Characteristics

Allocation by Strategy
- Special Situations: 28.6%
- Traditional Corporate Credit: 23.0%
- Distressed Credit: 5.6%
- Hedged Fixed Income: 42.8%

Liquidity by Level*
- Level 1: 9.0%
- Level 2: 37.6%
- Level 3: 21.8%
- Level 4: 31.5%

Note: Information is based on market value, as of Sept 30, 2020
*Level 1 Liquidity = T+3; Level 2 = T+3 to 12 Months; Level 3 = 12 to 24 Months; Level 4 = Greater than 24 Months

Allocation by Geography

Capital Structure
- Senior: 53.7%
- Convertibles: 2.3%
- Equity: 14.1%
- Junior: 29.9%

Allocation by Geography

North America: 87.8%
Europe: 7.7%
Asia (ex - Japan): 0.5%
Japan: 0.4%
South America: 1.9%
Australia/New Zealand: 0.6%
Other: 1.1%
Portfolio Characteristics

Allocation by GICS Sector
As of Sept 30, 2020

*Holdings that cannot be classified into any one particular sector, as self-reported by the investment manager, may include CMBS, RMBS, ABS, or CLOs
Credit Market Update

**Private Credit**

- Allocations to senior, secured private loans helped during Spring
- Managers able to closely monitor loan performance and provide financing flexibility

**Structured Credit**

- RMBS and ABS markets have rebounded post-COVID.
- CMBS continue to be depressed.
- CLO debt and equity have rebounded but with more dispersion between quality

**Bonds**

- Higher quality HY spreads snapped back after central bank intervention
- CCC spreads lagged but have tightened in recent months

**Loans**

- Outflows from mutual funds and ETFs have slowed but continue
Structured Credit

- CMBS has not bounced back like the V-shaped recovery in corporate credit and equity markets
- Fed intervention targeted primarily corporate and muni markets
- Fiscal/monetary stimulus to securitized markets was small and targeted

High Yield Credit Spreads

- CCCs have been slower to rebound to pre-COVID levels
- High and low quality HY spreads are back to long-term average

Stress in Corporate Credit

- Downgrades have outpaced upgrades YTD

**High Yield**

**Loans**

Source: J.P. Morgan.
Excessive Leverage Late in the Credit Cycle

- Defaults and restructurings driven by excess leverage
- 78% of LBO transactions with leverage greater than 6x
- 50% with leverage greater than 7x

Source: Centerbridge and LPC, information as of Sept 30, 2020
Portfolio Priorities

1. Reposition to reflect more robust opportunity in:
   1. Stressed credit
   2. Restructurings
   3. Recapitalizations
   4. Rescue financing/flexible corporate lending

2. Reduce hedged credit strategies, particularly in commingled funds

3. Continue to focus on SMAs and custom opportunities with co-investments

4. Fully build dislocation mandate
Investment Management Division

Re-building Allocations to Stressed/Restructurings

- Commitments to distressed credit has been minimal over the past several years
- Distributions from existing allocations have outweighed paid-in capital
- Ample room to grow this allocation

<table>
<thead>
<tr>
<th>Portfolio Component*</th>
<th>Target*</th>
<th>9/30/20</th>
<th>+/-</th>
<th>Maximum*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traditional Corporate Credit</td>
<td>15%</td>
<td>19%</td>
<td>+4%</td>
<td>50%</td>
</tr>
<tr>
<td>Distressed Credit</td>
<td>25%</td>
<td>6%</td>
<td>-19%</td>
<td>50%</td>
</tr>
<tr>
<td>Hedged Fixed Income</td>
<td>45%</td>
<td>47%</td>
<td>+2%</td>
<td>75%</td>
</tr>
<tr>
<td>Special Situations</td>
<td>15%</td>
<td>29%</td>
<td>+14%</td>
<td>75%</td>
</tr>
</tbody>
</table>

Data as of Sept 30, 2020
Forward Looking Opportunity Set

**More Attractive**
- Restructurings, stressed credit, rescue financing
- Dislocation Mandate
  - Opportunistically buy corporate credit when market triggers are breached
- On a select basis:
  - Loans – higher quality, trading off due to technical issues
    - Larger issuers
    - High Quality
    - Senior/Secured
    - Strong fundamentals
  - Middle market lending

**Less Attractive**
- US High Yield beta
- Commercial RE debt (retail, office and hospitality)
- Regular way loans – “loan beta”
- Covenant-lite, broadly syndicated loans
## Portfolio Components

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Note: See slide 19 for details on the composition of the Opportunistic Fixed Income Benchmark.
Note: The BOAML US High Yield Index is from BofA Merrill Lynch and is used with permission. See disclaimer on slide 27.
Portfolio Characteristics

Account Type by Count

- Separately Managed, 12
- Commingled, 24

Account Type by Market Value

- Separately Managed, 60.6%
- Commingled, 39.4%
High Yield Bond and Loan Default Rates

Note: Data as of 9/30/2020.
High Yield Bond and Loan Recovery Rates

**Bond issuer-weighted recovery rates**

**First-lien leveraged loan issuer-weighted recovery rates**

*Note: Data as of 9/30/2020.*
High Yield Bond and Loan Issuance

Note: Data as of 9/30/2020. Values are in billions of U.S. Dollars.
High Yield Bond and Loan Fund Flows

High Yield

Loans

Source: Lipper FMI.
Notes:

All data presented are based on currently available information at time of publication and may be revised subsequently.

The Opportunistic Fixed Income Benchmark is comprised of 50% HFRX Distressed Securities Index; 20% HFRX Relative Value Index; 15% Credit Suisse Leveraged Loan Index; and 15% BOAML US High Yield Index. The BOAML US High Yield Index is from BofA Merrill Lynch and is used with permission. See disclaimer on slide 28.

The Opportunistic Fixed Income asset class (N.C.G.S. § 147-69.2(b)(6c)) was created by the General Assembly in June 2009. It included some investments that were previously authorized under other provisions of G.S. § 147-69.2.
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