Nebraska Investment Council
Fixed Income Review – Active vs. Passive

June 2021
Overview

- In March, NIC investment staff and Aon provided a high-level overview of a DB Plan fixed income structure that had emerged from the fixed income blank sheet review project.
- The Council requested further information on the “illiquid credit” allocation and on active vs. passive management in core / core-plus fixed income.
  - This presentation addresses the latter; i.e., the proposed 20% target allocation to active core-plus bond mandates.
At present, roughly 75% of the fixed income component’s BB agg-centric allocation is actively managed
  - The other 25% is in a Bloomberg Barclays Aggregate Bond Index fund managed by BlackRock

Aon and the Nebraska Investment Team are recommending that NIC move to a 100% active approach to this portion of the portfolio
Active Versus Passive in Fixed Income

- In general, Aon prefers active over passive in fixed income.
- Fixed income indices, unlike their equity counterparts, do not perfectly track the overall bond market.
  - Approximately 52% of the U.S. Bond Market is represented by the Bloomberg Barclays Aggregate Bond Index.
  - Any bond that is convertible, inflation-protected, non-dollar, floating rate or below issuance size limits is excluded from the Aggregate.
- The weight of each security in an equity index is largely dependent on the cumulative wisdom of all investors – how they value that security; the weight of each security in a fixed income index is largely dependent on how much debt the issuer chooses to sell – their internal financing decisions.
- These internal financing decisions also impact the overall risk characteristics (sector weights, credit quality, duration) of the index – characteristics that have little to do with the active or passive investors’ risk tolerance, investment goals or liabilities.
- Benchmarks are more difficult to track in fixed income as not all index securities are easily tradeable.
- As compared to equities, the difference in fees between active and passive is much smaller for fixed income.

*Unlike with equities, the average fixed income manager has historically performed well versus indices / passive strategies; the broader the mandate, the greater the opportunity for outperformance.*
# Historical Active Fixed Income Manager Performance

## Periods Ending March 31, 2021

<table>
<thead>
<tr>
<th>Active Core Bond Manager Universe*</th>
<th>Trailing 3 Years</th>
<th>Trailing 5 Years</th>
<th>Trailing 10 Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Median Core Bond Manager Return (Gross)</td>
<td>5.26%</td>
<td>3.74%</td>
<td>3.99%</td>
</tr>
<tr>
<td>BB Agg. Bond Index</td>
<td>4.65%</td>
<td>3.10%</td>
<td>3.44%</td>
</tr>
<tr>
<td>Difference</td>
<td>+0.61%</td>
<td>+0.64%</td>
<td>+0.55%</td>
</tr>
<tr>
<td>BB Agg. Bond Index Rank in Universe</td>
<td>89</td>
<td>91</td>
<td>93</td>
</tr>
<tr>
<td># of Observations</td>
<td>237</td>
<td>232</td>
<td>220</td>
</tr>
</tbody>
</table>

## Periods Ending March 31, 2021

<table>
<thead>
<tr>
<th>Active Core-Plus Bond Manager Universe*</th>
<th>Trailing 3 Years</th>
<th>Trailing 5 Years</th>
<th>Trailing 10 Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Median Core+ Bond Manager Return (Gross)</td>
<td>5.72%</td>
<td>4.46%</td>
<td>4.54%</td>
</tr>
<tr>
<td>BB Agg. Bond Index</td>
<td>4.65%</td>
<td>3.10%</td>
<td>3.44%</td>
</tr>
<tr>
<td>Difference</td>
<td>+1.07%</td>
<td>+1.35%</td>
<td>+1.10%</td>
</tr>
<tr>
<td>BB Agg. Bond Index Rank in Universe</td>
<td>92</td>
<td>99</td>
<td>99</td>
</tr>
<tr>
<td># of Observations</td>
<td>144</td>
<td>138</td>
<td>118</td>
</tr>
</tbody>
</table>

*eVestment Alliance
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Arguments for Passively Managed Aggregate Fixed Income

Two primary arguments for passive fixed income:

1) Reduces the overall investment management fees of the fixed income portfolio
   - Very low cost (2 bps) fixed income beta exposure

2) Anchor-to-windward in down markets
   - Most active core / core-plus managers underweight Treasuries in favor of spread sectors, which leads to underperformance during market sell-offs
Are Active Management Fees Worth It?

Fees for actively managed core-plus mandates are relatively low
- NIC pays its three existing core-plus bond managers between 16-23 bps

NIC’s net-of-fee results have consistently outpaced the BB Aggregate Bond Index
- I.e., the passive alternative

<table>
<thead>
<tr>
<th>Periods Ending 12/31/2020</th>
<th>Trailing 1 Year</th>
<th>Trailing 3 Years</th>
<th>Trailing 5 Years</th>
<th>Trailing 10 Years</th>
<th>Since Inception</th>
<th>Inception Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>BlackRock Core-Plus</td>
<td>8.3%</td>
<td>5.7%</td>
<td>5.0%</td>
<td>4.6%</td>
<td>5.8%</td>
<td>Apr-1998</td>
</tr>
<tr>
<td>BB Aggregate Index</td>
<td>7.5</td>
<td>5.3</td>
<td>4.4</td>
<td>3.8</td>
<td>5.0</td>
<td></td>
</tr>
<tr>
<td>PIMCO</td>
<td>9.4%</td>
<td>6.4%</td>
<td>5.9%</td>
<td>4.5%</td>
<td>6.0%</td>
<td>Apr-1998</td>
</tr>
<tr>
<td>BB Aggregate Index</td>
<td>7.5</td>
<td>5.3</td>
<td>4.4</td>
<td>3.8</td>
<td>5.0</td>
<td></td>
</tr>
<tr>
<td>Neuberger Berman</td>
<td>9.5%</td>
<td>6.4%</td>
<td>5.8%</td>
<td>--</td>
<td>5.1%</td>
<td>Jul-2015</td>
</tr>
<tr>
<td>BB Aggregate Index</td>
<td>7.5</td>
<td>5.3</td>
<td>4.4</td>
<td>--</td>
<td>4.1</td>
<td></td>
</tr>
</tbody>
</table>
To What Extent Does Active Management Underperform in Stressed Markets?

### 4Q 2008

**Global Stocks** = -22.3% / **BB Agg** = 4.6%

<table>
<thead>
<tr>
<th>Distribution %tile</th>
<th>Core-Plus Bond Manager Universe*</th>
</tr>
</thead>
<tbody>
<tr>
<td>5th</td>
<td>5.5%</td>
</tr>
<tr>
<td>25th</td>
<td>2.7%</td>
</tr>
<tr>
<td>50th</td>
<td>0.1%</td>
</tr>
<tr>
<td>75th</td>
<td>-3.2%</td>
</tr>
<tr>
<td>95th</td>
<td>-6.8%</td>
</tr>
</tbody>
</table>

**4Q 2008 Returns**
- BlackRock Core-Plus = 1.2%
- PIMCO = 3.4%
- **BB Aggregate Index** = 4.6%

### 1Q 2020

**Global Stocks** = -21.3% / **BB Agg** = 3.1%

<table>
<thead>
<tr>
<th>Distribution %tile</th>
<th>Core-Plus Bond Manager Universe*</th>
</tr>
</thead>
<tbody>
<tr>
<td>5th</td>
<td>3.1%</td>
</tr>
<tr>
<td>25th</td>
<td>1.2%</td>
</tr>
<tr>
<td>50th</td>
<td>-0.4%</td>
</tr>
<tr>
<td>75th</td>
<td>-2.2%</td>
</tr>
<tr>
<td>95th</td>
<td>-5.4%</td>
</tr>
</tbody>
</table>

**1Q 2020 Returns**
- BlackRock Core-Plus = 0.1%
- PIMCO = 0.2%
- Neuberger Berman = -1.2%
- **BB Aggregate Index** = 3.1%

*eVestment Alliance Manager Database*
How Long Might It Take to Recoup Active Management Drawdowns? (vs. BB US Aggregate Bond Index)

- **13 Month Drawdown (-6.2%); 7 Month Recovery**
- **6 Month Drawdown (-7.9%); 22 Month Recovery**
- **3 Month Drawdown (-3.0%); 5 Month Recovery**
- **2 Month Drawdown (-3.2%); 5 Month Recovery**
- **3 Month Drawdown (-4.3%); 5 Month Recovery**
Summary

- It is Aon and the Nebraska investment staff’s view that the benefits of actively managed Bloomberg Barclays Agg-centric mandates outweigh the drawbacks
  - Likely to increase both long-term returns and volatility
  - Assuming NIC “stays the course” in equity market corrections, benchmark-relative losses associated with actively managed mandates will be recouped
    - The DB Plans’ favorable liquidity profile should allow NIC to stay the course, even in stressed environments
  - Aon and the NIC investment staff would only suggest core-plus strategies that are managed in a risk-controlled fashion
Q&A

- **Question: Would moving to an all active “risk-reducing” bond portfolio increase portfolio downside risk?**
  - **Answer:** Yes. The vast majority of core-plus bond managers are consistently underweight Treasuries relative to the Bloomberg Barclays Aggregate Bond Index in favor of higher-yielding spread sectors. These spread-sector investments will almost certainly underperform Treasuries in an equity market sell-off.

- **Question: Why would we want to increase risk within our “risk-reducing” bond portfolio?**
  - **Answer:** Two primary reasons:
    1) As the U.S. Government has issued more and more debt, U.S. Treasuries have become a larger and larger part of the Bloomberg Barclays Aggregate Bond Index. Today, U.S. Treasuries represent nearly 40% of the Index, and their aggregate yield-to-maturity is less than 1%. (I.e., is negative in real terms.) We believe being able to underweight the Index’s exposure to Treasuries is very likely to be additive to the DB Plans’ long-term returns.
    2) NIC has a long history with actively managed core-plus bond mandates. Over that history, these mandates have consistently added about 1% over the BB Aggregate Bond Index, net of fees. We believe it is reasonable to expect this level of outperformance to continue, albeit with the occasional drawdown associated with risk-market corrections. We believe this level of “reward” to be worth the additional risk, particularly in today’s historically low-yield environment.
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Aon Investments USA Inc.
200 E. Randolph Street
Suite 700
Chicago, IL 60601
ATTN: Aon Investments Compliance Officer

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