A MESSAGE FROM OUR CO-CIOs

- These are extremely difficult times for many people across the globe, and our thoughts are with those who are affected by the virus.
- There is extraordinary pressure in the markets - volatility has spiked while liquidity has plunged. Corporate bond spreads are as cheap as they have been in over 25 years, excepting the global financial crisis.
- The market is dysfunctional right now, and investors need to lean on certain skills honed in prior crises.
- We believe that we started from a muted risk position, and therefore we can average in thoughtfully, deliberately, and opportunistically, seeking to buy good bonds at much better prices than were available only days ago.
- We are laser-focused on liquidity, and will work to get the best execution possible.
- We respect the market, and know we cannot time the best entry point. We firmly believe that a well-diversified, high quality portfolio will perform well as the current dislocations stabilize.
- At IR+M, we lean on this phrase heavily: take what the market gives you. Earlier this year, the market was not very generous, but now the opportunity set is plentiful. Crisis begets opportunity, and providing liquidity in unstable times can unearth unusual value.

MARKET NEWS

- The front end of the curve was extremely dislocated; the Fed infused liquidity by dropping the fed funds rate to zero, and similar to 2008, implementing emergency lending programs.
- In a meeting Sunday evening, the Fed lowered its fed-funds rate by 100bps to a range of 0.0-0.25%, driving short-term rates close to zero.
- Intermediate- and long-term Treasury yields rose as a selloff in both risk assets and Treasuries highlighted investors' preference to remain on the sidelines.
- Market tone Thursday was soft, but improving, as investors reacted to the Fed's supportive measures.
- Investment-grade corporate borrowers took advantage of fleeting market strength, and priced over $46 billion of debt during relative calmness Tuesday and Thursday.
- Corporate spreads widened 120bps week-over-week, closing at 329bps.
- Long corporate spreads followed, rising by 88bps to close at 335bps.
- A substantial drop in oil prices, over 40% this month, pushed high-yield spreads 250bps wider to 976bps.
MARKET NEWS CONT’D...

- Mortgage-backed securities (MBS) outperformed other securitized sectors, as investors steered clear of assets that may be affected by weak consumer demand such as commercial mortgages and asset-backed securities (ABS).
- Municipal yields climbed dramatically over the week, underperforming Treasuries, with the 10-year AAA municipal yield making a multi-year high at 2.43%.
- Municipal fund outflows reached a record $12.2 billion for the week, topping the recent high of $4.5 billion, adding to liquidity issues for the sector and weighing on spreads.

TRADING DESK OBSERVATIONS

- Corporates
  - Liquidity, especially in the front-end of the curve, was hampered as disconnected sell-side teams adapted to new communication norms.
  - The credit curve flattened, as long corporate spreads widened less than short corporates.
  - Investment-grade corporate borrowers paid heavily in new issue concessions in order to clear deals.

- Securitized
  - MBS liquidity struggled, as the Fed’s $2.5 billion purchases did little to prop up the market; the Fed bought 2.0-3.5% coupons as part of its plan to purchase up to $200 billion.
  - Short-settle pass-through MBS and ABS continued to struggle to find a bid.

- Municipals
  - Heavy selling in municipals put pressure on an already weak market, further widening muni spreads.
  - Muni/Treasury ratios rose dramatically to over 200%, before retreating to more normal levels late on Thursday.

- Treasuries
  - Liquidity in both on-the-run (OTR) and off-the-run (OFTR) Treasuries remained weak.
  - Bid-ask spreads were more than two points for more seasoned Treasuries in the long-end.
  - The Treasury auctioned a 10-year TIPS on Thursday, with non-dealer bidding coming in at 80.3%, below the average of 82.4%.
  - TIPS trading in the secondary markets was bond-by-bond, as there were fewer dealers focused on the TIPS market.

---

YTD Spread Changes – Currently At or Near Wides

<table>
<thead>
<tr>
<th></th>
<th>12/31/19 (bps)</th>
<th>3/12/20 (bps)</th>
<th>3/19/20 (bps)</th>
<th>YTD Change (bps)</th>
</tr>
</thead>
<tbody>
<tr>
<td>IG Corporate</td>
<td>93</td>
<td>209</td>
<td>329</td>
<td>+236</td>
</tr>
<tr>
<td>Financials</td>
<td>80</td>
<td>195</td>
<td>326</td>
<td>+246</td>
</tr>
<tr>
<td>Industrials</td>
<td>99</td>
<td>220</td>
<td>342</td>
<td>+243</td>
</tr>
<tr>
<td>Utilities</td>
<td>97</td>
<td>172</td>
<td>238</td>
<td>+141</td>
</tr>
<tr>
<td>AAA</td>
<td>52</td>
<td>119</td>
<td>189</td>
<td>+137</td>
</tr>
<tr>
<td>AA</td>
<td>48</td>
<td>136</td>
<td>233</td>
<td>+185</td>
</tr>
<tr>
<td>A</td>
<td>70</td>
<td>167</td>
<td>274</td>
<td>+204</td>
</tr>
<tr>
<td>BBB</td>
<td>120</td>
<td>258</td>
<td>396</td>
<td>+176</td>
</tr>
<tr>
<td>Short</td>
<td>43</td>
<td>159</td>
<td>328</td>
<td>+285</td>
</tr>
<tr>
<td>Long</td>
<td>136</td>
<td>247</td>
<td>335</td>
<td>+199</td>
</tr>
<tr>
<td>Securitized</td>
<td>42</td>
<td>100</td>
<td>135</td>
<td>+93</td>
</tr>
<tr>
<td>MBS</td>
<td>39</td>
<td>100</td>
<td>132</td>
<td>+93</td>
</tr>
<tr>
<td>ABS</td>
<td>44</td>
<td>56</td>
<td>185</td>
<td>+141</td>
</tr>
<tr>
<td>CMBS</td>
<td>72</td>
<td>114</td>
<td>154</td>
<td>+82</td>
</tr>
<tr>
<td>HY Corporate</td>
<td>336</td>
<td>726</td>
<td>976</td>
<td>+640</td>
</tr>
</tbody>
</table>

---

Corporate OAS Spiked on Market Turmoil

As of: 3/19/20. Sources: Bloomberg, Bloomberg Barclays. “Excess returns are the curve-adjusted excess return of a given index relative to a term structure-matched position in Treasuries.

The views contained in this report are those of IR+M and are based on information obtained by IR+M from sources that are believed to be reliable. This report is for informational purposes only and is not intended to provide specific advice, recommendations, or projected returns for any particular IR+M product. No part of this material may be reproduced in any form, or referred to in any other publication, without express written permission from Income Research + Management. BLOOMBERG® is a trademark and service mark of Bloomberg Finance L.P. and its affiliates (collectively “Bloomberg”). BARCLAYS® is a trademark and service mark of Barclays Bank Plc (collectively with its affiliates, “Barclays”), used under license. Bloomberg or Bloomberg's licensors, including Barclays, own all proprietary rights in the Bloomberg Barclays Indices. Neither Bloomberg nor Barclays approves or endorses this material, or guarantees the accuracy or completeness of any information herein, or makes any warranty, express or implied, as to the results to be obtained therefrom and, to the maximum extent allowed by law, neither shall have any liability or responsibility for injury or damages arising in connection therewith.