Perspectives on U.S. Private Debt
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1. Churchill overview
Who we are

nuveen
A TIAA Company

Integrated asset management platform built to serve investors today and in the future

• One of the largest global asset managers in the world with $989B AUM
• Distinguished by:
  - A broad range of strategies and vehicles to serve Income needs in a low and rising rate world
  - One of the most comprehensive Alternatives platforms to diversify equity and fixed income holdings
  - Decades of commitment to Responsible investing through integration, engagement and impact

$1 trillion in assets under management¹:

1. As of 30 June 2019. Private capital AUM shown above includes hedging strategies.
Churchill Asset Management
A leading middle market senior lender

Churchill Asset Management is a leading provider of senior debt financing for middle market companies, primarily those backed by top-tier private equity sponsors.

- Strong sponsor
- Extensive relationships and access
- Stable and deep investment team
- Alignment of interests and principles
- Reliable financing solutions
- Strong relationships with over 150 leading private equity firms, supported by 75+ LP investments, providing unique market access
- Current committed capital under management of $6.8 billion* on behalf of TIAA and other institutional investors
- Invested over $11 billion in nearly 600 transactions since 2006; capability to invest up to $150 million per deal in traditional senior or unitranche financings
- Senior management and investment team averaging over 25 years of middle market lending experience
- Majority owned affiliate of Nuveen (the investment manager of TIAA), and its exclusive provider of middle market senior debt financing

* As of 12 Aug 2019.
2. Advantages of the middle market
## Responding to global market challenges

<table>
<thead>
<tr>
<th>What issues are investors facing?</th>
<th>Optimal investment features</th>
</tr>
</thead>
<tbody>
<tr>
<td>Global growth anemic</td>
<td>U.S. focused</td>
</tr>
<tr>
<td>U.S. business cycle in 10th year</td>
<td>Value stability in a downturn</td>
</tr>
<tr>
<td>Uncertain rate outlook</td>
<td>Floating rate</td>
</tr>
<tr>
<td>Trade worries creates volatility</td>
<td>Less liquid/long-term hold</td>
</tr>
<tr>
<td>Record high valuations</td>
<td>Top of cap structure, secured</td>
</tr>
<tr>
<td>Correlation with liquid assets</td>
<td>Non-correlated</td>
</tr>
</tbody>
</table>
Overview of the US capital markets\(^1\)

\(1\) Asset category risk and yield parameters are presented for illustration purposes only, and are not intended to represent actual or expected outcomes.
U.S. non-investment grade corporate debt market

**EBITDA of $10MM**
- **Small + Senior = Middle Market Senior Loans**
  - *Market participants*: Limited Number of Lenders… the "Club" CPP Antares, Golub Capital, Churchill, etc.
  - *Yields*: 6%-8%, Floating Rate

**EBITDA of $100MM**
- **Large + Senior = Broadly Syndicated Loans**
  - *Market participants*: CLOs, Mutual Funds, Insurance Companies, Asset Managers
  - *Yields*: 4%-5%, Floating Rate

**Credit Facility of $350MM**
- **Large + Junior = High Yield Bonds**
  - *Market participants*: Mutual Funds, Insurance Companies, Asset Managers
  - *Yields*: 6%-7%, Fixed Rate

**Small + Junior = Mezzanine + Second Lien**
- *Market participants*: Mezzanine Funds, BDCs, Credit Opportunities Funds
  - *Yields*: 10%-14%, Typically Fixed Rate

**Small + Senior = Middle Market Senior Loans**
- *Market participants*: Limited Number of Lenders… the "Club" CPP Antares, Golub Capital, Churchill, etc.
  - *Yields*: 6%-8%, Floating Rate

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- *Market participants*: Mezzanine Funds, BDCs, Credit Opportunities Funds
  - *Yields*: 10%-14%, Typically Fixed Rate
### Key advantages of the U.S. middle market

| **Market assessment** | Significant white space for private equity investment penetration and compelling capital supply/competitive dynamics  
|                      | Consistently better returns than alternative strategies |
| **Sourcing**         | Large target universe of companies  
|                      | Fragmented nature of intermediaries, funds and financing sources places a premium on relationship development |
| **Capital structure**| Transactions generally completed at lower valuation multiples  
|                      | Lower total leverage multiples with strong sponsor equity commitment, including attractive prospects for equity co-investment  
|                      | Enhanced risk-adjusted return proposition |
| **Value creation**   | Consistent opportunities to improve business models and professionalize operations provide middle market sponsors multiple ways to create and drive substantially higher growth rates |
| **Monetization**     | Middle market companies are attractive acquisition candidates to strategic buyers and a maturing private equity ecosystem  
|                      | Little to no reliance on volatile exit channels such as IPOs |
Strong market exists for increased private equity ownership

Compelling institutional ownership fundamentals with positive private equity ownership momentum

- ~9,400 institutionally owned companies suggests over 4% ownership penetration
- Over $500 billion of private equity dry powder poises upcoming years for robust buyout activity
- Middle market companies sit at an attractive cross section of scale and growth opportunity
- Through Q4 2018, middle market companies showed 7.9% year over year revenue growth and 5.4% employment job growth

**PE company inventory & dry powder**

**Middle market IRRs versus alternatives**

1 Source: Pitchbook through Q4 2019. Note: US Data Only. 2 Source: State Street data as of December 31, 2017. Returns are net of fees, expenses, and carried interest. 3 Includes early/seed stage, balanced stage, and late stage. 4 Funds from $1 billion to $5 billion. 5 Funds from $500 million to $1 billion
Significant opportunity for alternative sources of capital to lend to middle market companies

US Middle market Private Equity fundraising remains robust¹

<table>
<thead>
<tr>
<th>Year</th>
<th>MM PE Funds</th>
<th>Private Debt Funds</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>74</td>
<td>37</td>
</tr>
<tr>
<td>2013</td>
<td>83</td>
<td>55</td>
</tr>
<tr>
<td>2014</td>
<td>112</td>
<td>39</td>
</tr>
<tr>
<td>2015</td>
<td>97</td>
<td>53</td>
</tr>
<tr>
<td>2016</td>
<td>114</td>
<td>75</td>
</tr>
<tr>
<td>2017</td>
<td>121</td>
<td>72</td>
</tr>
<tr>
<td>2018</td>
<td>113</td>
<td>25</td>
</tr>
<tr>
<td>2019*</td>
<td>9</td>
<td></td>
</tr>
</tbody>
</table>

...creating a growing “dry powder” gap in the market

Non-bank lenders have filled the void left by banks⁴

Banks’ role in the U.S. leveraged loan market has diminished³: bank consolidation ● regulatory pressure ● Federal Reserve guidelines ● competitive dynamics

¹ Sources: Pitchbook & Preqin; Note: US Data Only; 2 Source: Preqin; In the “dry powder” gap illustration, Private Debt Funds include direct lending and mezzanine. Note: US Data Only; 3 Source: Federal Financial Institutions Examination Council (US); 4 Source: LCD/S&P Global *As of 6/30/2019

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Consistent yield premium and favorable credit performance: senior middle market loans

**Average loan yields**

<table>
<thead>
<tr>
<th>Year</th>
<th>Middle market</th>
<th>Broadly syndicated</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>8%</td>
<td>8.5%</td>
</tr>
<tr>
<td>2011</td>
<td>7%</td>
<td>7.5%</td>
</tr>
<tr>
<td>2012</td>
<td>6%</td>
<td>6.5%</td>
</tr>
<tr>
<td>2013</td>
<td>5%</td>
<td>5.5%</td>
</tr>
<tr>
<td>2014</td>
<td>4%</td>
<td>4.5%</td>
</tr>
<tr>
<td>2015</td>
<td>3%</td>
<td>3.5%</td>
</tr>
<tr>
<td>2016</td>
<td>2%</td>
<td>2.5%</td>
</tr>
<tr>
<td>2017</td>
<td>1%</td>
<td>1.5%</td>
</tr>
<tr>
<td>2018</td>
<td>0%</td>
<td>0.5%</td>
</tr>
<tr>
<td>2019</td>
<td>-1%</td>
<td>-0.5%</td>
</tr>
</tbody>
</table>

**Recovery and loss rates**

<table>
<thead>
<tr>
<th>Category</th>
<th>Recovery Rate</th>
<th>Loss Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Middle market</td>
<td>75.2%</td>
<td>0.7%</td>
</tr>
<tr>
<td>Broadly syndicated</td>
<td>69.9%</td>
<td>1.3%</td>
</tr>
</tbody>
</table>

Past performance does not guarantee future results. It is not possible to invest in an index. Performance for indices does not reflect fees or transaction costs. 1 Source: S&P LCD, 2010 – 8/31/2019. 2 Source: S&P Capital IQ LCD.
Middle market private credit: Historical yield and correlations

Middle market loans have offered high yields and limited correlation relative to other fixed income and public market asset classes

### Middle market asset class yields (%)

<table>
<thead>
<tr>
<th>Middle market asset class yields</th>
<th>Middle market senior secured loans</th>
<th>High yield bonds</th>
<th>Broadly syndicated</th>
<th>Emerging equity</th>
<th>Developed equity</th>
<th>Government bonds</th>
<th>Cash and short maturity bonds</th>
<th>Investment-grade bonds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yields</td>
<td>8.09</td>
<td>5.38</td>
<td>5.35</td>
<td>2.35</td>
<td>2.46</td>
<td>1.72</td>
<td>0.78</td>
<td>1.56</td>
</tr>
</tbody>
</table>

### Historical correlations to middle market private credit

<table>
<thead>
<tr>
<th>Historical correlations to middle market private credit</th>
<th>High yield bonds</th>
<th>Broadly syndicated loans</th>
<th>Emerging equity</th>
<th>Developed equity</th>
<th>Cash and short maturity bonds</th>
<th>Investment-grade bonds</th>
<th>Government bonds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Correlation</td>
<td>0.72</td>
<td>0.66</td>
<td>0.41</td>
<td>0.40</td>
<td>0.17</td>
<td>0.17</td>
<td>0.06</td>
</tr>
</tbody>
</table>

Past performance does not guarantee future results. It is not possible to invest in an index. Performance for indices does not reflect investment fees or transaction costs. Note: Middle market loans represent first-lien loans below 10% YTM.

Sources: Middle market loans: S&P/LSTA Middle Market Index; HY bonds: S&P/LSTA BB-B Index; Broadly syndicated: S&P/LSTA Loan 100 Index; Emerging equity: MSCI EM; Developed equity: MSCI World; Cash: Barclays Global Treasury 1-3 Year; Government bonds: Bloomberg Barclays Global Treasury 7-10 Year; for the 10-year period ending 31 Mar 2019.
Nuveen experience confirms higher growth, lower leverage and more attractive valuations

Underlying portfolio of 1,000 sponsor-backed companies supports middle market thesis

Middle market buyouts have more attractive entry multiples and lower leverage

Closing capitalization by company size

- Total debt to EBITDA at close
- Enterprise value to EBITDA at close

EBITDA growth rate by company size

- EBITDA CAGR

Nuveen internal analysis presenting the median metrics of active portfolio companies with available data as of December 31, 2017. Past performance is no guarantee of future results.

* 5 year average between 2013 – 2017

** 5 year average growth of the components of the Russell 2000 between 2013 – 2017

~680bps higher EBITDA growth compared to Russell 2000 components

< $10mm $10mm - $50mm $50mm - $100mm > $100mm LCD buyouts*

Middle Market

~10%+ higher equity cushion compared to large buyouts

Middle market buyouts have more attractive entry multiples and lower leverage

... and superior growth compared to larger buyouts
Important information

The investment advisory services, strategies and expertise of TIAA Investments, a division of Nuveen, are provided by Teachers Advisors, LLC and TIAA-CREF Investment Management, LLC. Securities offered through Nuveen Securities, LLC, member FINRA and SIPC. Churchill Asset Management is a registered investment advisor and an affiliate of Nuveen, LLC.

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Investments in middle market loans and junior capital are subject to certain risks. Please consider all risks carefully prior to investing in any particular strategy. These investments are subject to credit risk and potentially limited liquidity, as well as interest rate risk, currency risk, prepayment and extension risk, inflation risk, and risk of capital loss.

All information is as of 31 December 2018 unless otherwise disclosed.