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Submitted to the Program in Real Estate Development in Conjunction with the Center for Real Estate in Partial Fulfillment of the Requirements for the Degree of Master of Science in Real Estate Development

at the

Massachusetts Institute of Technology

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Abstract

U.S. commercial real estate debt capital market is experiencing some underlying structural changes. New regulations in banking and CMBS industry have resulted in reduced roles of these regulated lenders in the commercial real estate financing market. Funding gaps appear in the market as regulated lenders pullback from various types of lending.

This paper delivers a comprehensive and most updated analyses on the current U.S. commercial real estate debt capital market opportunities and investment strategies. The paper illustrates the current debt capital market landscape, summarizes the key regulation changes that created challenges for regulated lenders, identifies the current dislocations and opportunities in the U.S. commercial real estate debt capital market, analyzes appropriate investment strategies that can capitalize on these opportunities, and finally identifies target investors for each strategy.

This paper takes the angles of both investment managers and institutional investors, as it provides insights and analyses for both audience groups.

Thesis Supervisor: Walter N. Torous
Title: Senior Lecturer, Center for Real Estate
Acknowledgements:

I would like to express my sincere gratitude for my thesis advisor, Mr. Walter N. Torous, for his guidance, encouragement, and tutorials. His insights and knowledge inspired my interest in the world of real estate debt investing in the first place. I have gained so much support from him throughout my entire time of study in MIT.

In addition I would like to thank all the professors and staffs at MIT Center for Real Estate. I am sincerely grateful for the opportunity they gave to participate this top-notch program, and I am impressed by their latent and their dedication.

I also would like to thank the industry professionals who interviewed with me and helped me along this research for their generous support. I want to thank them for sharing their precious time and industry knowledge with me. I am deeply grateful.

Last but not least, I would like to thank my family who I love the most. I would not have had the opportunity to study in the most prestigious institution in the world without their support. They are my rock and my purpose.
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Chapter 1. Introduction

1.1 Background

Commercial real estate is a capital intensive business. Commercial real estate capital market is complex, layered, and filled with a wide range of institutional investors with drastically different risk profiles and return targets. Changes in supply and demand of capital in individual layer and section of the market can create liquidity floods or funding gaps. The surplus or deficit of capital can significantly impact the availability and pricing of capital, having a profound impact on asset pricing, risk profile, and return expectations for different assets in the market.

Capital flows can be driven by fundamentals. For instance, with an aging population, high growth prospect in healthcare industry, medical offices sector is attracting a growing amount of capital, and the yield investors are getting from this sector is generally attractive; Capital flows can also be driven by policy. Today’s market sees a global wide liquidity flood driven by monetary easing by major central banks in U.S., EU and Asia. U.S. as one of the strongest performing markets is attracting large amount of capital. Investors see today’s U.S. commercial real estate market as a safe haven to park their capital. As a result, asset pricing has increased to a level that the market are starting to worry about asset bubble and excessive risk taking.

At the meantime, capital flows can also be driven by regulations as well. A series of regulations have been rolled out in recent years in response to the global financial crisis in 2008, and they are changing the U.S. commercial real estate debt capital market drastically. Traditional major lending sources such as commercial banks and CMBS are under more stringent scrutiny. They are no longer comfortable conducting certain type of lending business as result of tightened regulations and increased cost of compliance.

The changing regulations and the reduced role of regulated lenders, primarily commercial banks and CMBS, are creating some funding gaps in the U.S. commercial real estate debt capital market. While regulated lenders retreated from some arenas in the market, new debt investment opportunity rises for other non-regulated private real estate debt investors, such as life insurance companies, pension funds, sovereign wealth funds, and university endowments.
Today’s market is at an interesting timing to deploy private real estate debt investment strategies.

As the equity valuation across asset classes continues to increase, investors are beginning to find it more difficult to deploy capital and are increasingly concerned about tail risk. The recent market indicators have already shown that the market has started to cool down and transaction volume started to decrease.

Meanwhile, the market is seeing an increasing amount of institutional investors starting to allocate more capital to debt strategies as equity pricing becomes too high. Some investors is even allocating capital to distressed debt strategy although the market currently see little sign of distress in general.

Given that property yield continue to compress and the equity pricing for institutional real estate becomes priced out, it is logical that opportunities will start to emerge in the private real estate debt investment area. When investors generally perceive that we are in the later stage of this cycle, and the opportunity cost to forego an equity investment opportunity becomes lower due to the limited upside, then the sentiment of downside protection tends to overweight risk-taking.

With a wall of commercial real estate debt going to mature in the upcoming years, dislocations and funding gaps may very well intensify in some parts of the market. This will in turn, create opportunity for nimble private debt investors to profit from the capital market inefficiency.

Real estate debt investments currently offer attractive risk-adjusted return for investors. The return premium between value added equity fund and subordinate (mezzanine) debt fund is compressing, making subordinate (mezzanine) debt investing more attractive given its higher position in the capital stack. In lower yielding debt market, opportunity rises as well given the global wide low-yielding environment as commercial real estate debt investments offer attractive returns to yield-hunger institutional investors.

In summary, as the regulations change the funding landscape of U.S. commercial real estate market, non-regulated private real estate debt investors will likely to see a variety of rising opportunities for nimble investors. For institutional investors, private real estate debt presents a vehicle that delivers attractive yield and meaningful portfolio diversification. Private real estate
debt can serves as an anti-cyclical vehicle to park capital when downside risk increases as the market starts to peak.

1.2 Research Objectives

This research aims to identify the current and uprising funding gaps in the U.S. commercial real estate debt capital market, analyze investment strategies that can tackle the opportunities resulted from these market dislocations, illustrate each strategy’s risk and return profile, and assess the suitability of investments for the major types of institutional investors based on their investment criterion, risk appetites, and return targets.

The research can create tangible value for institutional investors, many of whom are still new to private real estate debt investing. A most updated analysis on the current market opportunities and investment strategies in the U.S. commercial real estate debt capital market can help investors to gain more insights into this territory, and thus make sounder investment decision and better manage their portfolios.

The research can also be constructive for investment managers. A thorough discussion with major institutional investors on their allocation policy, investment criterion, return targets, risk profiles, and interest for the identified opportunities can provide valuable information for investment managers to target the right investors during fund raisings.

1.3 Methodology

The research methodology is mostly qualitative investigations, supported by quantitative analysis and case studies. The following paragraphs describe the research approaches that formed the basis of this thesis:

Literature Reviews

The research draws upon an extensive collections of academic research papers, industry market reports, industry association surveys, analyst reports, trade publications and journals, related laws and regulatory provisions, industry database, and industry newsletters.
Interviews

In order to better understand the most current market dynamics, interviews were conducted with four investment managers and one mortgage banker. Questions posed during the interviews mainly centered on the market pricing for different types of debt instruments, state of market competitions, their investment approaches, and deal structuring tactics.

In order to better understand the investment appetites of different types of investors, interviews were conducted with major institutional investors. Questions posed during the interviews mainly centered on their allocation policies for private real estate debt, investment criterion, risk profiles, and interest for the identified opportunities.

For identified investors available for interview, interviews were conducted with the senior management of these organizations. Many investors are not available for interview. However, most of these investors use investment advisory firms, which run discretionary or non-discretionary accounts for the investors, to deploy capital. In such cases, interviews with major investment advisory firms that cover most of these unavailable investors were conducted as an alternative.

A total of twelve interviews were conducted directly with institutional investors. For investors unavailable for interviews, the research conducted interviews with three major investment advisory firms.

Due to privacy concerns, some of these interviewees preferred not to be identified or quoted. The interviewees who are willing to be identified are listed in Appendix 2.

Quantitative Analysis

In some sections, investment return scenario analysis is adopted to illustrate the return and risk profile associated with a certain investment strategy. In some sections, funding demand projection for a certain strategy is also provided to put the demand into perspectives.

Underwriting assumptions and market data are obtained from a variety of sources including:
- Market information from public sources
- Market information from private databases and subscriptions
- Interviews with major private real estate debt market players, including both investment managers and mortgage bankers
- Historical journals and academic papers

1.4 Thesis Flow

Chapter 2 provides a comprehensive analysis of the current landscape of U.S. commercial real estate debt capital market, a breakdown by different capital source is provided, followed by an analysis of the changes in the role of the major lending sources. Finally a detailed analysis on the profile of a variety of new sources of financing is provided.

Chapter 3 analyzes the most profound commercial real estate related regulation changes and challenges in the CMBS industry and their market implications. Funding gaps and market dislocations resulted from these regulation changes will be identified and analyzed.

Chapter 4 analyzes the most profound commercial real estate related regulation changes and challenges in the banking industry and their market implications. Funding gaps and market dislocations resulted from these regulation changes will be identified and analyzed.

Chapter 5 identifies five investment opportunities. For each investment opportunity, a description of market opportunity is provided, followed by an analysis on investment strategy, with discussions on its return profile. Then, an in-depth analysis on risks and mitigations associated with each strategy is provided. Finally, a suggestion on potential investors that are suitable for such strategy is presented.

Chapter 6 summarizes the thesis and provides a conclusion and further suggestions/reminders of risks for investors.
Chapter 2. An Anatomy of U.S. Commercial Real Estate Debt Capital Market

2.1 Market Landscape

The U.S. commercial real estate debt capital market is a $2.9 trillion market that draws capital from a variety of sources, including banks, CMBS, government sponsored enterprises, life insurance companies, and other private real estate debt investors that invest through a variety of structures such as private real estate debt funds and mortgage REITs managed by long-term alternative asset managers.

Below is a breakdown of total outstanding commercial mortgage debt:

Exhibit 1. Total Commercial Mortgage Debt Outstanding - Breakdown by Issuer Group

<table>
<thead>
<tr>
<th>Issuer Group</th>
<th>2016 Q1 ($millions)</th>
<th>% of total</th>
<th>2015 Q4 ($millions)</th>
<th>% of total</th>
<th>Change ($millions)</th>
<th>Sector Share of $ Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bank and Thrift</td>
<td>1,103,625</td>
<td>38.6%</td>
<td>1,077,171</td>
<td>38.1%</td>
<td>26,454</td>
<td>2.5%</td>
</tr>
<tr>
<td>CMBS, CDO and other ABS issues</td>
<td>503,690</td>
<td>17.6%</td>
<td>515,346</td>
<td>18.2%</td>
<td>-11,656</td>
<td>-2.3%</td>
</tr>
<tr>
<td>Agency and GSE portfolios and MBS</td>
<td>472,477</td>
<td>16.5%</td>
<td>461,771</td>
<td>16.3%</td>
<td>10,706</td>
<td>2.5%</td>
</tr>
<tr>
<td>Life insurance companies</td>
<td>398,226</td>
<td>13.9%</td>
<td>393,246</td>
<td>13.9%</td>
<td>4,982</td>
<td>1.3%</td>
</tr>
<tr>
<td>State and local government</td>
<td>113,351</td>
<td>4.0%</td>
<td>110,146</td>
<td>3.9%</td>
<td>3,205</td>
<td>2.9%</td>
</tr>
<tr>
<td>Federal government</td>
<td>82,449</td>
<td>2.9%</td>
<td>82,196</td>
<td>2.9%</td>
<td>253</td>
<td>0.3%</td>
</tr>
<tr>
<td>REITs</td>
<td>60,295</td>
<td>2.1%</td>
<td>61,037</td>
<td>2.2%</td>
<td>-742</td>
<td>-1.2%</td>
</tr>
<tr>
<td>Finance companies</td>
<td>29,078</td>
<td>1.0%</td>
<td>29,760</td>
<td>1.1%</td>
<td>-682</td>
<td>-2.3%</td>
</tr>
<tr>
<td>Nonfarm noncorporate business</td>
<td>24,371</td>
<td>0.9%</td>
<td>24,030</td>
<td>0.9%</td>
<td>341</td>
<td>1.4%</td>
</tr>
<tr>
<td>Household sector</td>
<td>21,890</td>
<td>0.8%</td>
<td>21,200</td>
<td>0.8%</td>
<td>690</td>
<td>3.3%</td>
</tr>
<tr>
<td>Private pension funds</td>
<td>19,784</td>
<td>0.7%</td>
<td>19,830</td>
<td>0.7%</td>
<td>-46</td>
<td>-0.2%</td>
</tr>
<tr>
<td>Other insurance companies</td>
<td>13,350</td>
<td>0.5%</td>
<td>12,340</td>
<td>0.4%</td>
<td>1,010</td>
<td>8.2%</td>
</tr>
<tr>
<td>Nonfinancial corporate business</td>
<td>12,246</td>
<td>0.4%</td>
<td>12,091</td>
<td>0.4%</td>
<td>155</td>
<td>1.3%</td>
</tr>
<tr>
<td>State and local government retirement funds</td>
<td>4,702</td>
<td>0.2%</td>
<td>4,702</td>
<td>0.2%</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>2,859,536</strong></td>
<td><strong>2,824,266</strong></td>
<td><strong>35,270</strong></td>
<td><strong>1.2%</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Mortgage Bankers Association

Banks and CMBS are two major sources of capital. Combined they provide 56% of the total outstanding mortgage debt lend to U.S. commercial real estate market. Agency lending is also a

---

1 Chart is prepared Mortgage Bankers Association and is direct cited from "Commercial / Multifamily Mortgage Debt Outstanding, Q1 2016", public report published by Mortgage Bankers Association
major source of capital, but mainly for the multifamily and healthcare real estate sector. Life insurance companies continue to be a rising power in commercial mortgage lending, taking up more and more market share. Given their perpetual need to invest in long-dated income recurring assets to match their long-duration liability, life insurance companies have high potential to play an even more important role in the commercial mortgage business. Other forms of financing currently plays a minor role in terms of total amount of funding. But unlike traditional banks and CMBS financing, which mainly provide senior financing that are standardized in financing terms with low risk profile, they are able to take on more risky financing opportunities, with more flexible financing terms and faster and more secured originations. These private capital sources are instrumental in the U.S. commercial real estate debt capital market.

In 2015, total loan origination reached $503.8 billion. A breakdown by issuer group of newly originated loans can show that the debt capital market is seeing a changing landscape:

Exhibit 2. 2015 U.S. Annual Total Commercial Mortgage Origination - Breakdown by Issuer Group

<table>
<thead>
<tr>
<th>Investor Group</th>
<th>Originations as Lender ($, in billions)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial banks and savings institutions</td>
<td>139</td>
<td>27.5%</td>
</tr>
<tr>
<td>commercial mortgage-backed securities (CMBS), CDO and ABS issuers</td>
<td>99</td>
<td>19.7%</td>
</tr>
<tr>
<td>life insurance companies and pension funds</td>
<td>79</td>
<td>15.6%</td>
</tr>
<tr>
<td>Freddie Mac</td>
<td>51</td>
<td>10.1%</td>
</tr>
<tr>
<td>Fannie Mae</td>
<td>43</td>
<td>8.6%</td>
</tr>
<tr>
<td>REITs, Mortgage REITs, Investment funds</td>
<td>43</td>
<td>7.9%</td>
</tr>
<tr>
<td>FHA/Ginnie Mae</td>
<td>16</td>
<td>3.1%</td>
</tr>
<tr>
<td>Credit company &amp; Specialty Finance</td>
<td>4</td>
<td>0.7%</td>
</tr>
<tr>
<td>Other</td>
<td>34</td>
<td>6.7%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>504</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>

Data Source: Mortgage Bankers Association

---

3 Data cited from “Commercial / Multifamily Annual Origination Volume Summation, 2015”, Mortgage Bankers Association
Exhibit 3. 2015 U.S. Annual Total Commercial Mortgage Origination - Breakdown by Property Type

<table>
<thead>
<tr>
<th>Property Type</th>
<th>Originations as Lender ($ in billions)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multifamily</td>
<td>202</td>
<td>40.0%</td>
</tr>
<tr>
<td>Office</td>
<td>94</td>
<td>18.7%</td>
</tr>
<tr>
<td>Retail</td>
<td>60</td>
<td>11.9%</td>
</tr>
<tr>
<td>Hotel/motel</td>
<td>39</td>
<td>7.8%</td>
</tr>
<tr>
<td>Industrial</td>
<td>35</td>
<td>6.9%</td>
</tr>
<tr>
<td>Health care</td>
<td>19</td>
<td>3.7%</td>
</tr>
<tr>
<td>Other</td>
<td>55</td>
<td>10.9%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>504</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>

Data Source: Mortgage Bankers Association

Commercial banks and savings institutions continued to be the most active issuer group across the board, but its percentage share of new originations in 2015, compared to the percentage share in outstanding loan balance, indicated a reduced role of bank lending judging from historical figure.

A breakdown of banks commercial mortgage portfolio is shown in below:

Exhibit 4. U.S. Banks’ Commercial Mortgage Portfolio - Breakdown by Property Type

Data Source: American Banks Association

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4 Data cited from “1st Annual ABA Commercial Real Estate Survey Report”, April 2016, American Banks Association
CMBS is now playing a much less prominent role in the commercial real estate financing world. According to the Mortgage Bankers Association, the sector was responsible for 24% of the overall commercial mortgage universe in 2007. Now the percentage is down to 18%. As new market rules such as the credit risk retention rule, start to be implemented over the next few years, the prospect of this funding source looks unclear.

2.2 Rising New Stars: Non-Regulated Private Real Estate Lenders

In recent years, the market has witnessed an increasingly important role of non-regulated lenders. These sources of capital include life insurance companies, which has already been a traditional major source of capital in commercial real estate debt financing, and other institutional investors who are increasingly active in commercial mortgage lending. These institutional investors mainly include pension funds and sovereign wealth funds, which primarily invest in private real estate debt through third-party investment managers.

During the past few years, the amount of capital raised and the number of private real estate debt funds have both increased significantly. In today’s market context, equity price is already very high and the opportunity cost of giving up an equity deal is lower compared to that in the earlier phase of this cycle. One the other hand, debt investment offers attractive yield in this low interest rate environment, making debt strategies more and more attractive. As a matter of fact, according to return index data compiled by Preqin, the U.S. focused debt strategies delivered a better total return from the 2008 – 2015 period, than U.S. focused value added and opportunistic equity strategies.\(^6\)

According to data from Commercial Mortgage Alert, in 2015, U.S. commercial real estate market saw a record total of $52.1 billion sought by private real estate debt funds, while the latest review showed that total real estate debt fund raising target for 2016 reached $66.7 billion, 28% higher than 2015. The review revealed 64 active funds that seek a return of at least 10% by investing primarily in commercial real estate debt, including senior loans and other forms of subordinate debt. That was up from 53 in 2015. Of all equity being raised for commingled vehicle that invest in commercial properties, the $66.7 billion being sought by the debt-fund

\(^6\) See Appendix 1 for the Preqin Real Estate Quarterly Index: Value Added, Opportunistic and Debt Return Index
component accounts for 21.5%. That's the highest share since the annual review began in 2003, exceeding the previous record of 18.7% set in 2015. A summary of U.S. focused debt fund closed in the past 12 months is listed below:

### Exhibit 5. Major U.S. Focused Real Estate Debt Fund Closed In the Past 12 Months

<table>
<thead>
<tr>
<th>Fund</th>
<th>Manager</th>
<th>Vintage</th>
<th>Target Size (mn USD)</th>
<th>Final Size (mn USD)</th>
<th>Strategies</th>
<th>Debt Types (if applicable)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AllianceBernstein Commercial Real Estate Debt Fund II</td>
<td>AB Global</td>
<td>2016</td>
<td>1,000</td>
<td>1,550</td>
<td>Debt</td>
<td>Senior Debt</td>
</tr>
<tr>
<td>Blackstone Real Estate Debt Strategies III</td>
<td>Blackstone Group</td>
<td>2016</td>
<td>4,000</td>
<td>N/A</td>
<td>Debt</td>
<td>Mezzanine</td>
</tr>
<tr>
<td>C-III High Yield Real Estate Debt Fund IV</td>
<td>C-III Capital Partners</td>
<td>2015</td>
<td>115</td>
<td>135</td>
<td>Debt</td>
<td>N/A</td>
</tr>
<tr>
<td>Colony Distressed Credit &amp; Special Situations Fund IV</td>
<td>Colony Capital</td>
<td>2015</td>
<td>2,500</td>
<td>N/A</td>
<td>Debt and Distressed</td>
<td>CMBS, Distressed Debt, Mezzanine, Distressed Debt</td>
</tr>
<tr>
<td>Emet Municipal Real Estate Strategy</td>
<td>Emet Capital Management</td>
<td>2016</td>
<td>127</td>
<td>127</td>
<td>Debt and Distressed</td>
<td>CMBS, Distressed Debt, Mezzanine, Distressed Debt</td>
</tr>
<tr>
<td>Garrison Real Estate Fund III</td>
<td>Garrison Investment Group</td>
<td>2014</td>
<td>575</td>
<td>314</td>
<td>Debt, Distressed, Opportunistic and Value</td>
<td>N/A</td>
</tr>
<tr>
<td>H/2 Special Opportunities III</td>
<td>H/2 Capital Partners</td>
<td>2014</td>
<td>1,200</td>
<td>1,495</td>
<td>Debt</td>
<td>CMBS, Distressed Debt, Mezzanine</td>
</tr>
<tr>
<td>Heitman Real Estate Debt Partners</td>
<td>Heitman</td>
<td>2014</td>
<td>250</td>
<td>75</td>
<td>Debt</td>
<td>Mezzanine</td>
</tr>
<tr>
<td>Madison Realty Capital Debt Fund III</td>
<td>Madison Realty Capital</td>
<td>2014</td>
<td>600</td>
<td>695</td>
<td>Debt</td>
<td>N/A</td>
</tr>
<tr>
<td>Mesa West Real Estate Income Fund IV</td>
<td>Mesa West Capital</td>
<td>2015</td>
<td>750</td>
<td></td>
<td>Debt</td>
<td>Bridge Loans, First Mortgages</td>
</tr>
<tr>
<td>Morrison Street Debt Opportunities Fund</td>
<td>Morrison Street Capital</td>
<td>2015</td>
<td>200</td>
<td></td>
<td>Debt</td>
<td>B-Notes, Mezzanine, Preferred Equity, Bridge Loans</td>
</tr>
<tr>
<td>Paramount Group Real Estate Fund VIII</td>
<td>Paramount Group</td>
<td>2015</td>
<td>775</td>
<td></td>
<td>Debt</td>
<td>Mezzanine</td>
</tr>
<tr>
<td>PCCP Credit V</td>
<td>PCCP</td>
<td>2014</td>
<td>750</td>
<td>909</td>
<td>Debt</td>
<td>N/A</td>
</tr>
<tr>
<td>Pretium Mortgage Credit Partners</td>
<td>Pretium Partners</td>
<td>2014</td>
<td>850</td>
<td>900</td>
<td>Debt, Distressed and Opportunistic</td>
<td>N/A</td>
</tr>
<tr>
<td>Raith Real Estate Fund I</td>
<td>Raith Capital Partners</td>
<td>2014</td>
<td>225</td>
<td>208</td>
<td>Debt</td>
<td>CMBS, Distressed Debt</td>
</tr>
<tr>
<td>Rialto Credit Partnership</td>
<td>Rialto Capital Management</td>
<td>2016</td>
<td>243</td>
<td>239</td>
<td>Debt</td>
<td>N/A</td>
</tr>
<tr>
<td>Rialto Real Estate Fund III - Debt</td>
<td>Rialto Capital Management</td>
<td>2015</td>
<td>N/A</td>
<td>N/A</td>
<td>CMBS, Distressed and Opportunistic</td>
<td>N/A</td>
</tr>
<tr>
<td>ROC</td>
<td>Debt Strategies Fund</td>
<td>Bridge Investment Group Partners</td>
<td>2014</td>
<td>500</td>
<td>400</td>
<td>CMBS, Debt and Distressed</td>
</tr>
<tr>
<td>Square Mile Tactical Partners</td>
<td>Square Mile Capital Management</td>
<td>2015</td>
<td>N/A</td>
<td>352</td>
<td>Debt</td>
<td>N/A</td>
</tr>
<tr>
<td>TCI Real Estate Partners Co-Investment (I)</td>
<td>The Children's investment Fund Management</td>
<td>2014</td>
<td>N/A</td>
<td>160</td>
<td>Debt</td>
<td>First Mortgages</td>
</tr>
<tr>
<td>TCI Real Estate Partners Co-Investment (II)</td>
<td>The Children's investment Fund Management</td>
<td>2014</td>
<td>N/A</td>
<td>8</td>
<td>Debt</td>
<td>First Mortgages</td>
</tr>
<tr>
<td>TCI Real Estate Partners Fund II</td>
<td>The Children's investment Fund Management</td>
<td>2016</td>
<td>N/A</td>
<td></td>
<td>Debt</td>
<td>First Mortgages</td>
</tr>
<tr>
<td>TCI Real Estate Partners I</td>
<td>The Children's investment Fund Management</td>
<td>2014</td>
<td>1,300</td>
<td>1,300</td>
<td>Debt</td>
<td>First Mortgages</td>
</tr>
<tr>
<td>Thorofare Asset Based Lending Fund IV</td>
<td>Thorofare Capital</td>
<td>2016</td>
<td>300</td>
<td>N/A</td>
<td>Core-Plus, Debt and Opportunistic</td>
<td>Senior Debt</td>
</tr>
<tr>
<td>Torchlight Debt Opportunity Fund V</td>
<td>Torchlight Investors</td>
<td>2015</td>
<td>1,000</td>
<td>N/A</td>
<td>CMBS and Debt</td>
<td>CMBS, CRE CDOs</td>
</tr>
<tr>
<td>US Direct Lending</td>
<td>Aalto Invest</td>
<td>2015</td>
<td>80</td>
<td>80</td>
<td>Debt and Value Added</td>
<td>Senior Debt</td>
</tr>
<tr>
<td>Walton Street Real Estate Debt Fund</td>
<td>Walton Street Capital</td>
<td>2015</td>
<td>500</td>
<td>654</td>
<td>Debt</td>
<td>First Mortgages, Mezzanine</td>
</tr>
<tr>
<td>Woodbourne Capital Partners III</td>
<td>Woodbourne Capital Management</td>
<td>2015</td>
<td>N/A</td>
<td>384</td>
<td>Debt and Opportunistic</td>
<td>Distressed Debt, Mezzanine</td>
</tr>
</tbody>
</table>

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7 "Debt Funds Rise as Traditional Lenders Sag", 18th March 2016, Commercial Mortgage Alert
8 Chart obtained from Preqin database
The range of debt fund strategy is wide, with distinctive investment strategies and return targets. The below discussed players are the major investors of these debt vehicles.

2.2.1 Life Insurance Companies

Life insurance companies have long been a pillar of commercial mortgage lending business. Some of them have directly lending team to originate loans, while others commit capital to investment managers that runs a commercial mortgage lending program.

Some larger life insurance companies, such as AIG, are tightly regulated. They are recognized as Non-Bank Systematically Important Financial Institutions, or non-bank SIFIs. Most other life insurance companies are not deemed as non-bank SIFIs. Many of them are smaller players, but there are also larger ones such as Metlife. These life insurance companies are relatively less bounded by regulations and can allocate more percentage of capital to commercial mortgage investments. They are also more willing to engage in lending programs that are viewed “risky” by regulators.

Life insurance companies have long-dated liability on their balance sheet. That’s the reason why life insurance companies like mortgage investments - they are one of the few assets on the market that can help them achieve the duration matching.

Most of insurance companies’ mortgage holdings are commercial mortgages. In the latest issued Life Insurer Fact Book, commercial mortgages account for 93% of the mortgages held by insurers.9

Such long dated assets can also be found in corporate bond market. Corporate bonds market offers much higher liquidity in general compared to commercial mortgages, and are bigger than commercial mortgages market. As of Q1 2016, total outstanding U.S. bond market debt totals $40.5 trillion, with $8.4 trillion as corporate bond (vs $ 2.9 trillion for commercial mortgage

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9 “2015 Life Insurers Fact Book”, American Council of Life Insurers
market).\textsuperscript{10} However, the corporate bond market does not provide as much choices in terms of product types, and the pricing attributes may not be as attractive as commercial mortgages. Thus compared with corporate bond, commercial mortgage is a fixed income alternatives, which tend to have different performance characteristics than corporate bonds historically.

Exhibit 6. Total Returns and Standard Deviations for Commercial Mortgages and Corporate Bonds\textsuperscript{11}

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial Mortgages</td>
<td>7.3%</td>
<td>4.1%</td>
<td>1.00</td>
<td>4.7%</td>
<td>7.7%</td>
<td>0.58</td>
</tr>
<tr>
<td>Public Corporate Bonds</td>
<td>8.1%</td>
<td>6.9%</td>
<td>0.71</td>
<td>5.7%</td>
<td>16.9%</td>
<td>0.37</td>
</tr>
</tbody>
</table>

Data Source: Institutional Real Estate, Inc

Commercial mortgage investments can somewhat be a differentiator that gears diversification for the portfolio.

Commercial mortgages generally are considered riskier fixed income investments than bonds because of the illiquidity of the commercial mortgages.\textsuperscript{12} Therefore the investment return target is higher than corporate bonds in general. Generally, the market has observed a 50 bps to 100bps yield premium over corporate bonds with similar duration and similar perceived risk associated with borrower.\textsuperscript{13}

The vast majority of capital that life insurance companies lend out is their own general account capital.\textsuperscript{14} But some larger players such as Metlife, also manages third party capital for other institutional investors.

Life insurance companies do have limitations in terms of the percentage of capital they invest in commercial mortgages. Rating agency put pressure on them because they have to limit their

\textsuperscript{10} "Issuance in the U.S. Bond Markets", data sheet prepared by SIFMA

\textsuperscript{11} Data cited from "Commercial mortgages as a fixed-income alternative", Melissa Reagen, Mike Roch and Jim Brusco, Institutional Real Estate Americas, 2015.

\textsuperscript{12} Interview with Michael Medvin, Managing Director/National Head of Originations, Commercial Mortgage Lending of AIG Investments; "2015 Life Insurers Fact Book", American Council of Life Insurers.

\textsuperscript{13} Interview with Sam Davis, former Senior Managing Director, Private Asset Investment Group of Allstate Insurance.

\textsuperscript{14} Interview with Sam Davis, former Senior Managing Director, Private Asset Investment Group of Allstate Insurance.
exposure to commercial mortgages to maintain their credit worthiness. Generally speaking, average life insurance companies keep 10-15% of assets on commercial mortgage.\textsuperscript{15} They cannot increase their exposure to a level significantly above industry standard without causing rating agencies anxiety and concerns. Additionally, if they are public companies, stock analyst and investors will also start to worry if they overweight their investment in commercial mortgages. Given the current market sentiment, where the consensus is that we are in the later phase in this cycle, a substantial increase in commercial mortgages will make rating agencies, analysts, and investors all very nervous.

Life insurance companies are generally not opportunistic and are not total return investors. Their primary two purpose of investing into commercial mortgages are 1) to create net investment income, and 2) to match their assets to liabilities by pushing out the durations on the asset side to match the duration of their liability. Therefore, their appetite mainly lies in long term, fixed rate, first lien senior mortgages, which generally in the 0% to 60%-65% LTV position in capital stack. For 10 to 15 year or even longer termed mortgages, there are very few other source of capital that can provide a better spreads than does insurance companies.\textsuperscript{16} In today’s market, banks and CMBS typically do not issue loans with over 10 years maturity.

All insurance companies interviewed indicated that they do not have a separate allocation plan for mezzanine loan and other subordinated loans. They would only look at subordinate debt opportunistically. After all, according to new rule of risk-based capital charges. It is not an easy asset class to put on their balance sheet because more capital is required to be set aside for such investment.

The last few years have been a glorious period for life insurance companies because of the reduced role of and thus the competitions from CMBS and banks. As a result, life insurance companies have been able to lend at low leverage level at around 50% to 60~65% LTV, while

\textsuperscript{15} “2015 Life Insurers Fact Book”, American Council of Life Insurers; and interview with Sam Davis, former Senior Managing Director, Private Asset Investment Group of Allstate Insurance

\textsuperscript{16} Interview with Michael Medvin, Managing Director/National Head of Originations, Commercial Mortgage Lending of AIG Investments, and one anonymous insurance company
still enjoying a spreads that is attractive to them compared to the spreads they get from corporate bond investment.\textsuperscript{17}

For borrowers, life insurance company lending in general is more expensive than bank lending, which at today’s market generally ranges from Libor + 175bps - 300bps, versus Life Co. lending cost at around Libor + 300bps - 400bps.\textsuperscript{18} However, borrowers still have demand for life insurance companies financing.

Mortgages from banks tend to be short-termed, floating rate, recourse loan, while life insurance companies generally originate long-term, fixed rate, non-recourse loan. Additionally, since life insurance companies are generally less regulated than banks, they do not have tough protocols and standards for borrowers to follow during the term of loans. For instance, banks sometimes require borrowers to keep compensating balances and keeps bank accounts with the banks, while life insurance companies typically do not require that. Life insurance companies also are in a much better position to provide large loans (in current market standard, above $200 million) compared to banks,\textsuperscript{19} which is bound by the regulations to issue large loans.

\subsection*{2.2.2 U.S. Pension Funds}

State pension funds in U.S. have been the major investors for real estate debt funds over the past few years.\textsuperscript{20} Pension funds, like life insurance companies, also have long-dated liability on their balance sheet. Pension obligations have long duration and thus need for inflation protection.

Based on my interviews with interviewees from pension funds and pension investment advisory firms, I found that pension funds vary significantly in their allocation strategy for real estate assets, and the appetites for real estate debt also differ among each other. I found the investment

\footnotesize{\textsuperscript{17} Interview with Sam Davis, former Senior Managing Director, Private Asset Investment Group of Allstate Insurance
\textsuperscript{18} Summary of market pricing gained from interviews with interviewees from life insurance companies
\textsuperscript{19} Consensus from interviews with interviewees from life insurance companies
\textsuperscript{20} Consensus from interviews with interviewees from investment managers; fund raising information from Preqin real estate database}
approach of pension funds in terms of the real estate debt strategy can be roughly categorized into two types: opportunistic approach, and core approach.

For pension funds that adopt an opportunistic approach, they generally describe their real estate debt investment strategy as “total return focused” strategy. These pension funds still have the pension obligations to meet and long duration to match, and they do typically target assets that generate recurring income and with inflation protection nature. However, they typically try to achieve this goal through their fixed income and core equity investments. Therefore, real estate debt investment for them is purely opportunistic. They are interested in pursuing whichever opportunity that yields a well justified risk adjusted return. Their real estate debt portfolio could include assets ranging from a fixed rate 10 year senior loan with a LTV of 55%, all the way to a floating rate 3 year mezzanine loan that sits on the 65% - 80% LTV position on the capital stack. These pension funds are willing to not only invest in highly leveraged loans, but also provide capital to finance transitional properties that are not fully leased, or are undergoing value added renovations. Some of these pension funds even invest in construction loans through specialized debt fund managers.

For other pension funds, within which real estate debt tend to be co-managed by the real estate team and the fixed income team, real estate debt investment is generally conducted through a more conservative, core approach. Such type of pension funds generally like investment vehicles through which they would originate whole loans with moderate LTV and stable underlying assets. Their return target is lower, and are more cautious on pure investment in subordinate debt.

2.2.3 Sovereign Wealth Funds

Sovereign wealth funds traditionally invest in equities and fixed income securities, which combined constitute more than 80% of their assets. Alternative assets have emerged as an increasingly important portion of the portfolios of many sovereign wealth fund investors over recent years, as these investors seek to diversify their portfolios and acquire assets that can generate attractive total returns and help them to meet their long-term return objectives. Real
estate is the most popular asset class given the size of the market, and its historic return profile. Sovereign wealth funds have a growing appetite for real estate assets over the years.\textsuperscript{21}

According to a survey conducted in May 2015 by Prein, sovereign wealth funds are generally new to real estate debt as oppose to equity, and are typically under-allocated to real estate assets in general compared to their internal target allocation.

\textbf{Exhibit 7. Breakdown of Sovereign Wealth Funds’ Current and Target Allocations to Real Estate by Proportion of Total Assets}\textsuperscript{22}

\begin{figure}[h!]
\centering
\includegraphics[width=\textwidth]{chart.png}
\caption{Breakdown of Sovereign Wealth Funds’ Current and Target Allocations to Real Estate by Proportion of Total Assets}
\end{figure}

Source: Preqin

\textsuperscript{21} Interview with Barry Brakey, Head of Property, Australia Future Fund

\textsuperscript{22} Chart obtained from Preqin database


Exhibit 8. Strategy Preferences of Sovereign Wealth Funds Investing in Real Estate

Source: Prequin

From my interviews with interviewees from sovereign wealth funds, all of the interviewees indicated that they approach real estate debt investing in an opportunistic way. They are total return investors that focus on long term wealth creation. From my interviews with investment advisory, the interviewees also confirmed their sovereign wealth fund clients' general interest in more risky real estate debt such as construction loans and mezzanine loans to transitional properties.24

With indifference about the income distribution pattern, little yields requirement, and high risk tolerance, sovereign wealth funds are well positioned to participate in more risky debt strategies such as transitional property financing, mezzanine financing, and construction lending.

2.2.4 Other Forms of Foreign Capital

Some foreign institutional investors are facing harsh interest rate environment at their home markets. BOJ and ECB have both cut their benchmark lending rates to 0% or below level.25

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23 Chart obtained from Prequin database
24 Interviews with Joe Davenport, Vice President, Townsend Group, and two other anonymous investment consultants
25 Trading Economics Database
Institutional investors from these economies are hunger for yield, and U.S. debt capital market gives these yield-seeking investors a perfect option for inflation hedge.

Foreign insurance companies are expanding their U.S. commercial mortgage business. German investors are particularly aggressive. According to Commercial Observer, “In 2014, four of the ten foreign lenders that provided more than $1 billion each to the U.S. real estate market were based in Germany. Of them, Allianz Real Estate of America originated $ 1.8 billion of commercial mortgage that year, more than the combine total of the previous four years.”

Foreign banks are also pushing into the U.S. commercial mortgage market. According to Bloomberg News, “in a bid for higher-yielding assets, the domestic subsidiaries of foreign-owned banks have substantially increased their U.S. presence. Loans from domestic subsidiaries of foreign banks account for $837 billion, or 10.4%, of the total U.S. loan market, an increase of 56.8% since 2009.” Banks of China, for instance, have been financing quite many high profile projects in the past 2 years, and it is informally learnt that their financing cost is attractive due to low cost of capital.

The pricing of debt from foreign capital can pose competition to local lenders. According to my interview with one of the largest real estate debt investment managers in U.S., they are witness rising competitions from foreign capital, which is aggressively marching into the U.S. commercial real estate lending business. Korea pension investors, for instance, are offering very attractive pricing on senior mezzanine loans in the 5% to 6% range for some projects in New York City. Such pricing is rare but still can cause market pressure in subordinate loan pricing.

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26 “German Lenders Are Racing Back Into the U.S. Real Estate Market”, 5th August 2015, Alessia Pirolo, Commercial Observer
28 According to an informal conversation with an anonymous source related to Bank of China
29 Interview with an anonymous interviewee work for one of the largest real estate debt investment managers in U.S.
Chapter 3. Challenges for CMBS Lenders and Market Implications

3.1 Bond Market Volatility

3.1.1 Market Turmoil

Spreads in the CMBS market is closely tied to the spreads in the corporate debt market. When corporate debt spreads widen out, CMBS spreads widen out accordingly. Recent bond market turmoil has resulted in a substantial widening of spreads for CMBS lender originated loans.

Exhibit 9. CMBS Spreads Widening, as of June 30, 2016

Source: Trepp, LLC

The spreads shown in the above chart prepared by Trepp, LLC, indicated a total widen of spreads across the rating spectrum. As shown, the spreads widening as of June 30, 2016, was most obvious in junior tranches of CMBS bonds.

Since the start of 2016, bond market upheaval has led to a dramatic slowdown in CMBS lending this year. Borrowers currently feel uncomfortable for the volatility in the CMBS market in general. They cannot really know what the terms of the CMBS loan would be until they are ready to close the term.

Most recently, the unexpected Brexit added additional volatility which made CMBS pricing even less attractive. According to Commercial Mortgage Alert, “following the U.K.’s surprising vote to quit the European Union, spreads on credit default swaps tied to 2014 and 2015 CMBS deals

30 Directly cited from Liu, Catherine “Spreads and Stocks Roar Back After Brexit-Induced Drops”, Trepp, LLC 5th July 2016.
soared to the widest levels in the previous 2 to 3 months. That drove up the cost of hedging against a decline in CMBS value." 31

### 3.1.2 Market Implications

Wider spreads make it more expensive for investors looking to lock in the interest. That increases the cost for CMBS lenders, who heavily rely on swaps to hedge against potential declines in the value of commercial mortgages that will later be securitized. Consequently, lenders will be forced to pass on the increased costs to borrowers. According to a recent research conducted by Pacific Investment Corporation, “CMBS lenders have increased interest rate on their debt quotes by 50bps to 100 bps in general this year.” 32

Such increased financing cost have already been felt by investors and they are changing funding strategy to other sources of capital. In a recent industry conference, according to Commercial Mortgage Alert, “two major investors/borrowers, Blackstone and KKR, told attendees that they are significantly scaling back their use of CMBS financing after financing cost from this source of capital went up during the recent wave of market volatility.” 33

The most recent volatility brought by Brexit has also shown its effect in the first conduit deal after the referendum. According to Commercial Mortgage Alert, “two mortgage bankers struggled to line up buyers for a $736.8 million offering, even though it was the only commercial MBS deal on sale and the broader markets had already began to rebound from the U.K.’s surprising vote to leave the European Union.” 34 From Commercial Mortgage Alert’s conversations with seasoned mortgage bankers, traders and investors, it was suggested that the spreads would end up far wider than in the last round of conduit issues.

### 3.2 Tighter Regulations and Challenged Profitability

#### 3.2.1 Dodd-Frank on CMBS lending - Credit Risk Retention Rule

The Dodd-Frank Wall Street Reform and Consumer Protection Act, or more commonly referred to as “Dodd-Frank”, is intended to prevent the excess behavior and moral hazard that led to the

31 “CMBX Retraces Some of Brexit Dip”, 1st July 2016, Commercial Mortgage Alert
32 “Storm Brewing for US RE: A Storm is Brewing”, June 2016, John Murray, Anthony Clarke, PIMCO Alternative
33 “Blackstone, KKR Demote CMBS”, 18th March 2016, Asset-Backed Alert
34 “Conduit Deal Struggles After Brexit Turmoil”, 1st July 2016, Commercial Mortgage Alert
economic and financial crisis in 2008. One of its key provisions that has substantial impact on the CMBS market is the credit risk retention rule.

The credit risk retention rule stipulated in Dodd Franks will take effect starting from this December. Under this rule, which aimed at forcing lenders to maintain credit quality by keeping “skin in the game,” issuers must a 5% equity interest in every new origination. Issuers can retain a “vertical” strip encompassing 5% of every tranche in a securitization, a “horizontal” 5% strip at the bottom of the capital stack, or an “L-shape” strip that combines the first two options. 36 CMBS issuers can also pass off all or part of the retention responsibility to B-piece buyers, which must hold a horizontal strip. Under all the choices, bonds from conduit deals must effectively be retained for at least 5 years and most likely longer.

No one knows how this rule will change the market as it is still to be rolled out in December 2016. In the past, CMBS lenders who pool the loans and issue securities, loved the previous business model because they could sell off all of the risk. Now they run an inventory model, which requires the amount of capital that is a regulatory burden for a lot of the players. According to interview with a seasoned industry professional, many CMBS lender don’t even have the equity to hold 5% of the loans they originate. 37

3.2.2 Basel III’s Fundamental Review of Trading Book (FRTB)
This rule is currently under review by individual country’s banking regulator. The rule essentially would dramatically increase the amount of capital that banks must hold in reserve against securitized assets, including CMBS.

According to Real Estate Roundtable, the rule would require banks to hold from 30% to over 200% of the value of CMBS, depending on factors such as the CMBS bond’s rating and whether the bank holds a senior or subordinate tranche. As for non-rated bonds, typically held by B-piece buyers, capital reserve requirements could soar to as much as 400% of the market value of the securities. 38

36 Dodd-Frank, credit risk retention rule provisions, Securities and Exchange Commission
37 Interview with an anonymous interview from an real estate debt fund
38 “Ensuring Healthy Flows Of Credit & Capital; Avoiding Regulatory Overreach”, The Real Estate Roundtable
3.2.3 Market Implications

The FRTB rule, if implemented, could increase the capital requirement for financial institutions and force them to reassess their currently appetite for CMBS origination, thus jeopardizing future liquidity in U.S. commercial real estate market. The progressive capital reserve requirement means especially challenged market prospect for the junior debt financing though CMBS issuance.

The credit risk retention rule is to be rolled out in December 2016. Most immediate impact and funding gap can be expected even before the rule take effect. For instance, if a CMBS lender close a loan in October or November 2016 before the rule come to, but later find it unable to securitize it until next January effect (securitization process generally takes 2 months), then the higher cost could reduce or wipe out the profit. Borrowers is likely to start seeing increase in CMBS loan spreads as lenders increase the pricing to protect themselves against this risk.

Many industry professionals are trying to figure out a solution or an alternative way to continue the CMBS business, some other players are digesting the new rules and trying to adept. While it is hard to predict how the industry will evolve in the longer term, it is safe to foresee that in this transitional period, CMBS lending volume is expected to decrease, while financing cost from a CMBS lender is expected to edge up in general.

Pressure Points: Pullback in CMBS lending and Rising Financing Cost

Due to the increasing cost of hedging resulted from the bond market volatility, and more stringent regulations that challenge the business model of CMBS lending and eat into CMBS originators’ profit, an increase in CMBS financing cost and a substantial pullback in issuance volume have been observed and are reasonably expected to continue.

Data from various sources have shown a drastic deduction in CMBS issuance this year:

- According to PIMCO, who cited numbers from Bank of America, “CMBS issuance tumbled over 30% y-o-y in the first quarter”;\(^{39}\)

\(^{39}\)“U.S. Real Estate: A Storm is Brewing”, June 2016, John Murray, Anthony Clarke, PIMCO
According to Commercial Mortgage Alert, which cited Mortgage Bank Association’s data, “CMBS issuance plunged 59% y-o-y in the second quarter, to $11.4 billion, from $27.5 billion a year earlier. Volume amounted to just $2.7 billion in April and $1.7 billion in June, the lowest monthly totals in four years.”\(^{40}\)

According to Trepp, LLC, “only 17 CMBS private-label transactions with a balance of $9.5 billion were issued (lowest since 2012) during the second quarter of 2016, bringing issuance for the year to $27.3 billion. That number is down 47.3% from same period last year.”\(^ {41}\)

**Exhibit 10. Historical U.S. CMBS Issuance, as of 30th June 2016**\(^ {42}\)

![CMBS Issuance Chart]

Source: Trepp, LLC

**Exhibit 11. Domestic CMBS Issuance, as of 30th June 2016**\(^ {43}\)

<table>
<thead>
<tr>
<th>Deal Type</th>
<th>#Deals</th>
<th>Bal $mln</th>
<th>#Deals</th>
<th>Bal $mln</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conduit</td>
<td>22</td>
<td>18,499.2</td>
<td>30.0</td>
<td>31,576.3</td>
</tr>
<tr>
<td>Single-borrower</td>
<td>13</td>
<td>6,986.0</td>
<td>27.0</td>
<td>19,200.5</td>
</tr>
<tr>
<td>Floater</td>
<td>1</td>
<td>337.0</td>
<td>2.0</td>
<td>1,051.1</td>
</tr>
<tr>
<td>NPL</td>
<td>0</td>
<td>-</td>
<td>2.0</td>
<td>267.5</td>
</tr>
<tr>
<td>Seasoned</td>
<td>1</td>
<td>265.6</td>
<td>1.0</td>
<td>281.5</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
<td>757.9</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>TOTAL</td>
<td>41</td>
<td>27,307.7</td>
<td>62.0</td>
<td>52,377.5</td>
</tr>
</tbody>
</table>

\(^{40}\) “CMBS Pipeline a Little Better, but Still Thin”, 1st July 2016, Commercial Mortgage Alert

\(^{41}\) “CMBS Market Has Slowest Quarter in Four Years”, 7th July 2016, Orest Mandzy, Trepp, LLC

\(^{42}\) This chart is prepared by Trepp, LLC and cited from “CMBS Market Has Slowest Quarter in Four Years”, 7th July 2016, Orest Mandzy, Trepp, LLC

\(^{43}\) The data from chart is cited from “CMBS Market Has Slowest Quarter in Four Years”, 7th July 2016, Orest Mandzy, Trepp, LLC

29
Exhibit 12. Worldwide CMBS Issuance YTD Volume Comparison, as of 15th July 2016

Going forward, it is reasonable to anticipate more pullbacks in CMBS lending activities given the fundamental change brought by the implementation of credit risk retention rule. A recent origination survey from Commercial Mortgage Alert shows that “the tentative July-September CMBS issuance pipeline totals $15.9 billion, versus $23.1 billion in the same period of 2015.”

Further quite-out in the market is also likely as the time approaches the December of 2016, when the credit risk retention rule will come into effect. The above mention concern that CMBS originators not being able to securitize the loans before the execution date will have negative impact on their profit, will very much likely to further drag the issuance volume down during the fourth quarter of 2016, making the whole year origination volume drop significantly from 2015.

As the market faces a wall of CMBS debt maturing in this year and the next, the pullback in CMBS lending will intensify the dislocation in CMBS market. Creating pricing turbulence and refinancing risk.

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44 This chart is prepared by Commercial Mortgage Alert, obtained from the newsletter the author subscribed from Commercial Mortgage Alert on 15th July 2016.
45 “CMBS Pipeline a Little Better, but Still Thin”, 1st July 2016, Commercial Mortgage Alert
In the long term, as traditional CMBS lenders face higher capital requirement to run their business due to the credit risk retention rule, some players will drop out from the game, while other players may consolidate. Although it is hard to know what exactly would be the case, it is safe to say that the CMBS market landscape will never be the same. CMBS lending, which represented 20% of total commercial real estate debt origination in 2015, will pull back significantly in volume as a primary lending source, and the borrowing cost will increase.

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46 Chart prepared by CREFC, and is directly cited from “The Impact of Regulation on Commercial Real Estate Finance”, December 2015, Sameer Chandan, Christina Zausner, CREFC

47 “Commercial / Multifamily Quarterly Databook, Q4 2015, Mortgage Bankers Association
Chapter 4. Challenges for Bank Lenders and Market Implications

Bank lending is the single most important debt capital sources for commercial real estate investment. According to Mortgage Bankers Association database, as of year-end 2015, Banks and Thrifts comprise 38.6% of the total $2.86 trillion of commercial mortgages outstanding.48

After the 2008’s Global Financial Crisis, the banking industry has went through a series of dramatic structural regulation changes that have long-lasting impact on the commercial real estate debt capital market. Banks are now under stricter regulation. Their risk appetite changed significantly as they have to meet higher standard for capital adequacy, and they are bounded by more restrictions over the type of commercial mortgage loans they can put on their balance sheets. The most prominent regulations that impact commercial mortgage are discussed in the below sections of this chapter.

4.1 Basel III

Basel III is a landmark legislation designed as preventive measures against future global financial crises.

Basel III regulations, which is scheduled to be phased in from 2013 to 2019, require banks to maintain top quality capital (Tier 1 capital) equivalent to 6% of their risk bearing assets, roughly 1.5 times what they were required to hold under existing prior to the implementation of Basel III rules.49

Additionally, the number of banks that will be required to comply with Basel III will grow from roughly 20 of the large financially institutions that were required to abide by Basel II to roughly 8,000 U.S. banking institutions.

Among all the Basel III details, changes in risk weighing to real estate assets under the “High Volatility Commercial Real Estate (HVCRE)” provision have raised most concerns in commercial real estate industry. The HVCRE provision is designed to strengthen the balance

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48 “Commercial / Multifamily Quarterly Databook, Q4 2015”, Mortgage Bankers Association
49 Wikipedia

32
sheet of banks. High Volatility Commercial Real Estate (HVCRE) is defined as “credit facility that finances or has financed the acquisition, development, and construction of real estate”, later referred as ADC loans.

Basel III requires that Banks should assign a 150% risk weight to HVCRE. Before Basel III, rules on risk weight were only 100% for all commercial real estate exposure with exception of multifamily properties, for which previous rules allow for either 50% or 100% risk weighting dependent on the loan characteristics.

The HVCRE provision essentially requires banks to set aside much more risk-based capital on their balance sheets for the HVCRE loans. Effects have already shown in banks current risk-based capital level. According to a recent study by CREFC, as of 2015, capital levels have increased by more than 200 bps on average since 2007. Large US banks hold approximately 12.75% tier I capital today versus roughly 10% at the peak. The study indicated that considering the fact that Basel III also use more conservative method to calculate risk-based capital ratio (the denominator of capital ratio nowadays is calculated more rigorously), the actual additional amount of capital banks have to hold is actually more than just 2.75% of the total asset in 2007 basis.

Basel III does stipulates some exempt from the HVCRE classification: Loans that finance the acquisition, development or construction of one-to-four-family residential properties, real property that would qualify as community development investments, or loans to business or farms with gross revenues of $1 million or more. Other ADC loans may be exempt from the HVCRE classification if they meet three specific criteria: 1) the loan must have a loan-to-value ratio (LTV) of less than or equal to 80%, 2) the borrower must contribute capital to the project in the form of cash or unencumbered marketable assets of at least 15% of the appraised “as

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50 HVCRE provision according to Basel III  
51 HVCRE provision according to Basel III  
52 “The Impact of Regulation on Commercial Real Estate Finance”, December 2015, Sameer Chandan, Christina Zausner, CREFC  
53 HVCRE provisions according to Basel III
complete” value, and 3) the borrower’s capital must be contributed prior to bank funding and remain in the project throughout the life of the project.

4.2 Market Implications

4.2.1 LTV constrains

Traditionally banks used to be comfortable to originate senior loan with LTV as high as 75% to 80% in the 2006 to 2007 period. But under the current regulations, banks have stepped down in the capital stack significantly. Generally banks would now be comfortable to only finance up to 55% to 65% LTV, leaving the “above 65% LTV position” in the capital stack to be taken up either all by equity owner, or by equity owners together with subordinate debt investors who are interested to take the B-Notes or the mezzanine pieces.

4.2.2 Funding Gaps for Construction Lending and Transitional Property Financing

While there might be some room to debate whether a permanent 5-year fixed-rate mortgage with an 50% leased Class B office building in New York City as the underlying asset should be deemed as a HVCRE loan, a construction loan of any kind, even to a high profile project in Manhattan, would almost certainly be deem as HVREC loan.

Under the current regulation rules, banks are simply under heavy pressure in originating construction loans. By putting up more capital for construction loans, banks have to require a lot more interest if they want to keep their return on equity. The HVCRE provision eventually increase the cost of construction financing originated by banks. As more banks decreased their scale of construction lending business, the availability of construction financing funding has become challenged.

The impact is not just on construction financing.

The FDIC’s explanation for whether a loan to purchase an existing building under renovation with tenants qualify as HVCRE indicated that: “The terms of financing (for example, interest-

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56 Interview consensus
only loans) are not a relevant criterion for HVCRE determination. Rather, the classification of the loan depends primarily on whether it is permanent financing.” According to FDIC, a loan cannot be classified as permanent financing if:57

1) The loan is based on the “as completed” value of the project (i.e., the project has not yet been completed) and,
2) There will be any future advances on the loan.

Therefore, it is clear that mezzanine loans for value added acquisitions, renovation loans, bridge loans, and other types of financing to transitional properties are all very likely to be categorized as HVCRE loan.

As banks scale back these lending business, funding gaps are expected to appear in transitional property financing.

4.2.3 Banks Shying Away From Secondary Markets
The regulations also changed lending appetite on the market. With lower risk appetites, banks began to focus on investments in prime real estate markets, taking comfort in the greater liquidity and less burden in terms of capital requirement associated with such investments. This increased competition and decreased margins in these primary markets, while limiting the capital availability hence the growth prospect of secondary markets.

57 “High Volatility Commercial Real Estate (HVCRE) Exposures”, FDIC
Chapter 5. Opportunities and Investment Strategies for Non-Regulated Private Real Estate Debt Investors

A number of market opportunities, given the underlying structural changes in terms of the reduced role of regulated lenders, can capitalize on the fund gaps left by these players.

In-depth analyses on each opportunity are provided in this chapter. The analyses center on a variety of issues including the angle of investment, entry strategy, investment structure, return profile, risks and mitigations, and the suitability of investment for various types of investors.

5.1 Mezzanine Financing for Transitional Property Acquisitions and Recapitalizations

5.1.1 Description of Opportunity

On the bank lending side, commercial banks used to be able to finance up to around 80% LTV. Due to banking regulations, mainly Dodd Frank and Basel III, banks are now more likely to be only able to finance up to around 60% - 65% LTV, according to the LTV constrains in these regulation rules.\(^{58}\) The “above 65% LTV” piece of subordinate debt is no longer likely to be provided by banks.

Exhibit 14. Indicative Capital Stack and Pre & Post Crisis Capital Structure Comparison

Source: Summarized from interviews

\(^{58}\) Interview consensus
On the CMBS side, the LTV underwriting standard has also tightened over the years. In 2015, average LTV for CMBS loan originations was 63% and ranged between 62% and 70%, depending on different characteristics of underlying assets such as property type, location, and etc.\(^5\) This is lower than the close-to-70% LTV level in the 2006-2008 period.

**Exhibit 15. Historical Underwritten LTV level (2006-2008)\(^6\)**

<table>
<thead>
<tr>
<th>CMBS Origination Date</th>
<th>CMBS Pools</th>
<th>Loan to Value Ratio (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>70</td>
<td>68.3</td>
</tr>
<tr>
<td>2007</td>
<td>65</td>
<td>68.9</td>
</tr>
<tr>
<td>2008</td>
<td>8</td>
<td>67.3</td>
</tr>
</tbody>
</table>

Data Source: Bloomberg, Commercial Mortgage Alert

**Exhibit 16. CMBS Loan-to-Value Ratio Breakdown by Property Types (2015)\(^6\)**

<table>
<thead>
<tr>
<th>Servicer</th>
<th>2015 LTV%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industrial</td>
<td>65.5</td>
</tr>
<tr>
<td>Lodging</td>
<td>62.46</td>
</tr>
<tr>
<td>Multifamily</td>
<td>69.91</td>
</tr>
<tr>
<td>Office</td>
<td>63.89</td>
</tr>
<tr>
<td>Retail</td>
<td>66.43</td>
</tr>
</tbody>
</table>

Data Source: Trepp LLC

Suppose future origination for both refinancing and new issuance will follow the current underwriting standard for LTV, there will be an obvious financing gap for the “above-65%-LTV” piece. Never the less, even though the entire industry has been deleveraging during the recovery and has seen a decrease in overall LTV ratio, it is unpractical for all owners to contribute as much as 35% of total investment in equity.

Additionally, with the credit risk retention rule resulting in a pullback of CMBS, borrowers might turn to mezzanine investors for capital, and CMBS lenders might also be willing to sell the BBB, BB, or B pieces to mezzanine loan investors.

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\(^5\) Data obtained from Trepp, LLC
\(^6\) Data obtained from Trepp, LLC
From the pricing perspective, CMBS is also going to be a less attractive lending source for subordinate debt. With the overall issuance volume having fell off the cliff and the cost of borrowing through CMBS market recently been rising due to volatile bond market.\(^{63}\), the junior tranches of CMBS saw the most increase in cost. According to Hedge Fund Alert, “Latest transactions saw the triple-A benchmark paper traded with 110-125 bps over swaps, while spreads on the BBB-minus classes (65% - 70% LTV) varied by additional 125 bps.”\(^{64}\) Given the uncertainty ahead of the CMBS industry, such widening in spreads is very likely to continue, making CMBS less attractive as a source of junior debt financing from the borrowers’ perspective.

On life insurance companies’ side, although they are growing their commercial mortgage loan book and could potentially fill some of the financing gaps of junior debt financing, life insurance companies are capped as well in terms of the LTV they can finance up to. According to interviews with major insurance companies, the limit of leverage they are willing finance up to is 60% to 65% in general.\(^{65}\)

Exhibit 17. Underwriting Trends for Life Company and CMBS\(^{66}\)

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\(^{63}\) See Exhibit 9. CMBS Spreads Widening; Exhibit 10. Historical CMBS Issuance

\(^{64}\) “Junior CMBS Spreads Fluctuate Widely”, 27th May 2016, Hedge Fund Alert

\(^{65}\) Interviews with Michael Medvin, Managing Director/National Head of Originations, Commercial Mortgage Lending of AIG Investments, and Sam Davis, former Senior Managing Director, Private Asset Investment Group of Allstate Insurance, and another anonymous life insurance company

\(^{66}\) Direct citation from Woodwell, Jamie, “Sources of Commercial and Multifamily Mortgage Financing in 2016.” Mortgage Bankers Association, March 2016
With major regulated lenders restricted to finance over a 55% or 60% LTV, there is an evident need for mezzanine capital to fill in the junior debt position (roughly the 60% and 80% LTV range in the capital stack). The void of junior debt financing left by regulated lenders including banks and CMBS leaves rooms for non-regulated debt investors to step in.

In terms of the underlying assets, banks and CMBS are no longer comfortable to finance transitional properties, properties that are undergoing major renovations or conversions, or need substantial lease-ups, or recapitalizations.

Mezzanine loans are stacked below senior loan from CMBS lenders or banks, and above the equity. Mezzanine loans could take the form of either fixed rate or floating rate financing, which has historically been the most common form of subordinate debt financing.

Mezzanine financing opportunity mainly exist in transitional property acquisitions and recapitalizations. As traditional regulated lenders pullback significantly from transitional properties financing, non-regulated private lenders face great opportunity to fill in the financing gap and enjoy a good spreads. Private mezzanine lenders that offer fast loan closing and flexible loan terms such as accrual interest and prepayment option, can be very valuable for value added and opportunistic buyers.

To roughly project the future potential demand for mezzanine financing, I collected fund raising information for all U.S. focused valued added and opportunistic equity private equity real estate funds. According to Preqin database, currently there are 157 U.S. focused value added funds seeking at least $42 billion in equity, while there are 80 U.S. focused opportunistic funds seeking at least $18 billion.67

Assuming a 70% average LTV for value added acquisitions and an 80% average LTV for opportunistic acquisitions, and assuming the senior financing LTV will be 55% for both type of

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67 Data gained from Preqin database, which tracks fund raising targets of investment managers. Some managers did not provide exact fund raising target, therefore the number indicated here may be understated.
transactions, the total potential demand for mezzanine financing solely from the current funds seeking capital would be at least $44 billion.

Assuming an average fund raising period of 2 years and an average investment period of 2 years, the annual demand for mezzanine financing for these funds will amount to be at least $10 billion.

**Exhibit 18. Mezzanine Financing Demand Projection**

<table>
<thead>
<tr>
<th>Strategy</th>
<th>No. of Funds</th>
<th>Fund Raising Target ($, in Bn)</th>
<th>Senior Financing LTV</th>
<th>Total LTV</th>
<th>Total Purchasing Power ($, in Bn)</th>
<th>Demand for Mezzanine Loans ($, in Bn)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value Added</td>
<td>157</td>
<td>42</td>
<td>55%</td>
<td>70%</td>
<td>140</td>
<td>21</td>
</tr>
<tr>
<td>Opportunistic</td>
<td>69</td>
<td>18</td>
<td>55%</td>
<td>80%</td>
<td>90</td>
<td>23</td>
</tr>
<tr>
<td>Total</td>
<td>226</td>
<td>60</td>
<td></td>
<td></td>
<td>230</td>
<td>44</td>
</tr>
</tbody>
</table>

Source: Proprietary projection by the author

If we account the current already raised but uncommitted capital, which is hard to exactly quantify, the number will be even larger.

Generally, less mezzanine lending opportunities can be found in stable property financing as stable properties are mainly owned by core investors, who commonly adopt a lower LTV ratio during acquisitions. Perhaps one of the few opportunities in stable property mezzanine financing is to provide mezzanine permanent financing to ultra large sized core property acquisitions. Please refer to later sections of this chapter for more detailed analysis.

### 5.1.2 Investment Strategy and Return Analysis

There are a variety of ways to do gain a mezzanine loan exposure:

**A. Whole Loan, Note-on-Note Financing Structure:** a mezzanine loan investor can originate a whole loan, which finance up to 75% to 85% LTV depending on individual deal, and then the investor will get a financial leverage (commonly referred to as repo-financing) from a senior lender on the fund level (or other forms of investment vehicle such as a mortgage REIT) to finance the origination. Effectively after the transaction, the investor will have a net exposure to the mezzanine piece by using this note-on-note

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69 Summarized from interviews with four real estate debt investment managers.
financing structure. In this case, the mezzanine loan investor is the first lien holder and have the right to control the restructuring and bankruptcy process. Such right is later referred to as “rights and remedies”.

B. Whole Loan, Senior Loan Sale Structure: An alternative strategy is to originate a whole loan first, and then sell the senior loan, or the A-Note to a senior loan investor such as a bank or an insurance company. Essentially the sale of the senior piece is a “structural leverage” for the mezzanine investor. In this case, the mezzanine loan investor normally do not have the first lien and control of the “rights and remedies” after the senior piece is sold.

C. Whole Loan, A + B Note Structure: In rarer cases, a mezzanine loan investor will work with a senior loan investor to form a consortium that offers a whole loan, in which the mezzanine loan investor will hold the mezzanine piece while the senior loan investor will hold the senior piece. The whole loan is structured in a way that both investor have the first lien and control of the “rights and remedies”.

D. Standalone Mezzanine Loan Structure: A mezzanine loan investor will simply originate a standalone mezzanine loan. The investor do not have the first lien and control of the “rights and remedies”.

In today’s market, a “one stop shop” whole loan offering is typically more attractive to borrowers. Whole loans simply provide borrowers a more secured forms of financing, with less time consuming origination process without the need to go for a round of loan syndication. Therefore whole loan pricing tend to be more favorable to the lenders than syndication loan as borrowers compensate the lenders for the swiftness and security of funding.

For the three whole loan based structures, all else equal, the mezzanine loan investors’ return varies according to the cost of financing on the senior piece. Empirically, the note-on-note financing structure tend to bear a higher financing cost from the senior lender because the senior lender does not have direct ownership of the mortgage and thus the control of “rights and remedies” associated with the mortgage, thus they would require a premium in senior loan pricing to compensate the lesser control and higher risk. Pricing of the senior piece in a note-on-
note structure could be around 25-50 bps higher than in the other two whole loan based structures.\textsuperscript{70}

However, it is not always the case. If the senior loan investor perceives that the mezzanine loan investor's credibility is so high that they would rather own the pledge of the mezzanine loan investor's equity than the first lien mortgage, the cost of the senior loan financing in a note-on-note structure may very well be the similar to or even lower than that in the other two whole loan based structures.

\textbf{Case Study – Mezzanine Financing for Transitional Property Acquisitions}

For illustration purpose, a commonly used “Whole Loan, Note-on-Note Financing” investment structure is assumed.

To set up the investment analysis, key loan terms and current market pricing are as follows:\textsuperscript{71}

- Usage of loan: Value-added and opportunistic acquisitions and recapitalizations
- Whole loan financing leverage from non-regulated private real estate debt investors: up to 75-85\% LTV, for illustration purposes, assume 80\% LTV
- Whole loan financing cost from private real estate debt investors: Libor + 400-600bps, for illustration, assume Libor + 500bps
- Maturity: Short to medium term, 3 to 5 years, with 2 one-year extension rights, for illustration purpose, assume 5 years
- Amortization: Interest only
- Recourse: Non-recourse financing
- DSCR: Below 1.0X DSCR acceptable if supported by interest reserve
- Prepayment: Open to prepayment subject to yield maintenance and lockout
- TI/LC facility: Option to fund 100\% of tenant improvements and leasing commissions
- Loan fees: 1\% of total loan amount
- Repo financing cost from banks: Libor + 200-300 bps, varies with fund level LTV, and fund manager profile

\textsuperscript{70} Summarized market pricing from interviews with four real estate debt investment managers.
\textsuperscript{71} Underwriting assumptions are based on online public information on lending programs of the following firms: Torchlight Investors, Mesa West Capital, Thorofare Capital, Calmwater Capital, and Acore Capital. Assumptions are also verified through interviews with four real estate debt investment managers.
- Fund level leverage Repo financing: 50%-85% LTV

The indicative return summary in fund level is showcased in below:

**Exhibit 19. Indicative Fund Level Gross Return Analysis for Mezzanine Investment**

<table>
<thead>
<tr>
<th>70% Fund Level Gearing</th>
<th>Yr 0</th>
<th>Yr 1</th>
<th>Yr 2</th>
<th>Yr 3</th>
<th>Yr 4</th>
<th>Yr 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole Loan drawdown</td>
<td>(100.0)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Whole Loan Repayment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>100.0</td>
</tr>
<tr>
<td>Loan Fee Received</td>
<td>1% 1.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Repo Financing drawdown</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>70.0</td>
</tr>
<tr>
<td>Repo financing repayment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(70.0)</td>
</tr>
<tr>
<td>Interest received</td>
<td>5.50%</td>
<td>5.5</td>
<td>5.5</td>
<td>5.5</td>
<td>5.5</td>
<td>5.5</td>
</tr>
<tr>
<td>Interest paid to bank</td>
<td>3.00%</td>
<td>(2.1)</td>
<td>(2.1)</td>
<td>(2.1)</td>
<td>(2.1)</td>
<td>(2.1)</td>
</tr>
<tr>
<td>Total</td>
<td>(29.0)</td>
<td>3.4</td>
<td>3.4</td>
<td>3.4</td>
<td>3.4</td>
<td>33.4</td>
</tr>
<tr>
<td>IRR</td>
<td>12.3%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>60% Fund Level Gearing</th>
<th>Yr 0</th>
<th>Yr 1</th>
<th>Yr 2</th>
<th>Yr 3</th>
<th>Yr 4</th>
<th>Yr 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole Loan drawdown</td>
<td>(100.0)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Whole Loan Repayment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>100.0</td>
</tr>
<tr>
<td>Loan Fee Received</td>
<td>1% 1.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Repo Financing drawdown</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>60.0</td>
</tr>
<tr>
<td>Repo financing repayment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(60.0)</td>
</tr>
<tr>
<td>Interest received</td>
<td>5.50%</td>
<td>5.5</td>
<td>5.5</td>
<td>5.5</td>
<td>5.5</td>
<td>5.5</td>
</tr>
<tr>
<td>Interest paid to bank</td>
<td>2.75%</td>
<td>(1.7)</td>
<td>(1.7)</td>
<td>(1.7)</td>
<td>(1.7)</td>
<td>(1.7)</td>
</tr>
<tr>
<td>Total</td>
<td>(39.0)</td>
<td>3.9</td>
<td>3.9</td>
<td>3.9</td>
<td>3.9</td>
<td>43.9</td>
</tr>
<tr>
<td>IRR</td>
<td>10.3%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>50% Fund Level Gearing</th>
<th>Yr 0</th>
<th>Yr 1</th>
<th>Yr 2</th>
<th>Yr 3</th>
<th>Yr 4</th>
<th>Yr 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole Loan drawdown</td>
<td>(100.0)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Whole Loan Repayment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>100.0</td>
</tr>
<tr>
<td>Loan Fee Received</td>
<td>1% 1.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Repo Financing drawdown</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>50.0</td>
</tr>
<tr>
<td>Repo financing repayment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(50.0)</td>
</tr>
<tr>
<td>Interest received</td>
<td>5.50%</td>
<td>5.5</td>
<td>5.5</td>
<td>5.5</td>
<td>5.5</td>
<td>5.5</td>
</tr>
<tr>
<td>Interest paid to bank</td>
<td>2.50%</td>
<td>(1.3)</td>
<td>(1.3)</td>
<td>(1.3)</td>
<td>(1.3)</td>
<td>(1.3)</td>
</tr>
<tr>
<td>Total</td>
<td>(49.0)</td>
<td>4.3</td>
<td>4.3</td>
<td>4.3</td>
<td>4.3</td>
<td>54.3</td>
</tr>
<tr>
<td>IRR</td>
<td>9.0%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Proprietary underwriting by the author

As illustrated, the fund level leverage for a mezzanine debt fund can tilt the return and risk profile in accordance to the fund’s strategy and the investment appetite of the investor:

- A 70% fund level gearing the will essentially give the bank that provide the repo financing a quasi-senior exposure in the capital stack (70% x 80% = 56% LTV), leaving rest of the whole loan, or the 56% to 80% tranche, effectively as a mezzanine piece.
- A 60% fund level gearing will essentially give investors exposure to the 48% to 80% tranche, which is a mezzanine loan + thin-sliced B-Note combo piece;
- And a 50% fund level gearing will essentially give investors exposure to the 40% to 80% tranche, which is a very secure mezzanine loan + thick-sliced B-Note combo piece.

The indicative 9.0% to 12.3% Gross IRR spectrum is a reflection of a range of return profile associated with different levels of risk that investors would like to take. The return of mezzanine debt fund could vary widely depending on a series of factors including the quality of underlying assets, maturity, LTV, thickness of the mezzanine piece, etc.

5.1.3 Risks and Mitigations

Mezzanine loans can be challenging assets if not structured properly. A thin-sliced, stand-alone mezzanine piece is very risky and should be avoided by investors.

For illustration purpose, we can use note-on-note structure to simulate a thin-sliced mezzanine piece. In an extreme case, if the fund level gearing goes up to 87%, the effective exposure to the capital stack for the investors would be approximately the 70% (87% × 80% = 70%) to 80% piece, mimicking a thin-sliced mezzanine loan. The return would look like following:

Exhibit 20. Indicative Fund Level Gross Return for Thin-Sliced Mezzanine Piece Investment

<table>
<thead>
<tr>
<th>87% Fund Level Gearing</th>
<th>Yr 0</th>
<th>Yr 1</th>
<th>Yr 2</th>
<th>Yr 3</th>
<th>Yr 4</th>
<th>Yr 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole Loan drawdown</td>
<td>(100.0)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Whole Loan Repayment</td>
<td>100.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loan Fee Received</td>
<td>1%</td>
<td>1.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Repo Financing drawdown</td>
<td>87.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Repo financing repayment</td>
<td>(87.0)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interest received</td>
<td>5.50%</td>
<td>5.5</td>
<td>5.5</td>
<td>5.5</td>
<td>5.5</td>
<td>5.5</td>
</tr>
<tr>
<td>Interest paid to bank</td>
<td>4.50%</td>
<td>(3.9)</td>
<td>(3.9)</td>
<td>(3.9)</td>
<td>(3.9)</td>
<td>(3.9)</td>
</tr>
<tr>
<td>Total</td>
<td>(12.0)</td>
<td>1.6</td>
<td>1.6</td>
<td>1.6</td>
<td>1.6</td>
<td>14.6</td>
</tr>
<tr>
<td>IRR</td>
<td>14.5%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Proprietary underwriting by the author

Even though the mid-teens return looks attractive, and it is generally on par with return profile of the value added equity strategy, such thin-sliced structure is subject to high possibility of getting wiped out, and high risk of liquidity crunch.

A 10% thin-sliced standalone mezzanine piece can be very sensitive to value degradation of the underlying asset and can be easily wiped out.
A standalone thin-sliced structured mezzanine loan, even if not wiped out, is more risky because the mezzanine lender does not hold any control over the “rights and remedies” on the senior piece. A powerful covenant in favor of the mezzanine lender is the ability to cure or purchase the senior loan. However, even if the mezzanine investor is not wiped out and it can work out a viable legal structure that would allow it to cure, it would need to have the ample liquidity cushion in place, ready to support the senior piece of debt. Otherwise, their control investing strategy cannot be implemented. Without the control over “rights and remedies” of the senior loan, a thin-sliced standalone mezzanine investor is exposed to high liquidity risk of servicing senior debt holder.

Practically, the thin-sliced standalone mezzanine structure puts investors with approximately the same position as equity investors: although mezzanine investors are not holding the first loss piece, but they also do not have the control right. A big question mark need to be put on top of the nominal return, and if investors take all risk factors into consideration, the real risk adjusted return for investing in a thin-sliced standalone mezzanine piece may not be attractive in many cases.

In comparison, the “Whole Loan, Note-on-Note Financing” structure is relatively more resilient to value degradation. From the investors’ standpoint, it is still a whole loan taking the entire 0% to 80% capital stack position. While gaining an effective mezzanine exposure, investors are not subject to the same risk of getting wiped out as stand-alone mezzanine loan investors do. However, a repo “Whole Loan, Note-on-Note” structure could also put the investors at risk if the repo financing is highly leveraged. The possibility of a margin call during market downturns increases, and investors would still need liquidity cushion ready to service the repo financing debt, which is essentially the same as servicing the senior debt.

In the “Whole Loan, Senior Loan Sale” structure, if mezzanine investors can keep the “rights and remedies” of senior loan after they sell it, they are also better protected from getting wiped out during market downturn. However, normally the senior loan buyer would require the control over the “rights and remedies”, leaving the mezzanine loan investor a standalone mezzanine piece as well.
The “Whole Loan, A + B Note” structure is relatively less common. Mezzanine lender and senior lender each have control over the “rights and remedies”. But the level of control held by mezzanine lender is less given the shared control rights with senior lender.

As the market starts to top, a thin-sliced stand-alone mezzanine structure is believed to looks increasingly risky and the investors should take extra caution and be mindful of the contingent liquidity they might need. Whole loan based structures are less risky in terms of more control over the “rights and remedies”, but they do face the credit risk associated with the leverage from the senior lenders, either in forms of financial leverage or structural leverage. Hence, fund level leverage is also worthy to be closed monitored by both investment managers and investors.

In summary, to mitigate the risks associated with mezzanine financing for transitional property, aside from a prudent due diligence on the underlying property, and increasing the subordination of mezzanine debt, investors should also increase the “thickness” of the mezzanine piece while keeping close attention to the fund level leverage.

5.1.4 Who Fits This Strategy?

As mentioned in previous chapters, life insurance companies mainly invest in long term, senior loan with moderate LTV and a safer position in capital stack. Mezzanine loans does not contribute to the duration matching efforts and therefore are done only opportunistically.

Interviewees from life insurance companies generally confirmed that mezzanine loan is a separate category of investments from whole loan mortgages, and they typically don’t have a separate allocation for mezzanine loan lending. Insurance companies also have a higher risk-based capital charges associated with mezzanine debt investments, making mezzanine loan a difficult asset class to put on their balance sheet. It also means that they need higher yield to keep the profitability, making it less attractive to borrowers.73

Not all pension funds interviewed showed interest for mezzanine financing opportunity for transitional property acquisitions and recapitalizations. For those pension funds that have little or no allocation in such strategy, their primary reason is that due to the allocation policy, real estate debt investment is more income focused, and risk tolerance is relatively low. In other words, they

73 Interviews with Michael Medvin, Managing Director/National Head of Originations, Commercial Mortgage Lending of AIG Investments, and Sam Davis, former Senior Managing Director of the Private Asset Investment Group of Allstate Insurance, and another anonymous life insurance company.
are taking a core approach for real estate debt allocation as mentioned in previous chapters. Their real estate debt allocation tend to be first lien mortgages to stable assets.

Pension funds with opportunistic approach for real estate debt investing and sovereign wealth funds, are ideal fit for this strategy. All respondents from these two types described themselves as total return investors in terms of their real estate debt strategy. By investing in commercial real estate mezzanine debt, their sole focus is to gain attractive risk adjusted returns while further diversify their real estate portfolio. These investors are comfortable with providing higher LTV financing, and indifferent about income distribution pattern. They are open for more risky loan terms such as accrual interest, side facility to finance leasing commission and tenant improvement, terms that are occasionally found in transitional properties financing.\(^{74}\)

\(^{74}\) Summarized from interviews with U.S. based pension funds and sovereign wealth funds. See appendix 2 for detailed list of interviewees
5.2 Long Term B-Note and Senior Mezzanine Permanent Financing

5.2.1 Description of Opportunity

Private real estate debt strategies have a wide return spectrum. The total gross return can go from 7% all the way to 15%. Not all investors seek a double-digit return.

Based on fund raising data from Preqin and discussions with four real estate debt investment managers, it appears that in the subordinate debt investing arena, the “low-teen” space, or 10% to 14% return space, is getting more crowded as more debt fund are deploying capital to provide such returns. As the market tops, more investors begin to turn to debt investment strategy. Even some traditional equity investment managers, such as Walton Street Capital, are turning to the debt investment business to exploit the market voids left by regulated lenders. Once a deal lands in the double digit return range, underlying assets tend to be less stable, or higher leveraged, or in secondary market.

In comparison, the market is less crowded in the high single digit return space, within the 7% - 9% return range. These investments are generally B-Notes, and senior mezzanine loans, for more core type of properties. These are generally long term permanent financings for core or core plus strategies. These loans could typically take up the 50% to a maximum of 70% LTV range in the capital stack. In today’s low yielding environment, investors are desperately seeking for yield. A 7% to 9% return delivered by being in a less risky position in the capital stack would be very attractive to yield hungry investors. Debt investors targeting this return are relatively less risk averse and care more about secured recurring income.

The underlying assets for this strategy tend to have higher quality, with secured stable cash flow, and located in primary markets. The risk profile of this strategy is much lower compared to a general mezzanine lending strategy. Borrowers are mostly long term investors investing through core or core-plus strategy.

5.2.2 Return Analysis and Investment Structure

To illustrate the return profile and income distribution pattern, a case study is prepared.

---

75 Summarized from interviews with four real estate debt investment managers.
Case Study: Long Term B-Notes and Senior Mezzanine Permanent Financing

Key loan terms and current market pricing are as follows:76

- Usage of loan: Permanent financing for stable property
- Whole loan financing leverage: 70% LTV
- Whole loan financing cost: Libor + 400-500bps
- Maturity: long term, 7 to 10 years, for illustration purpose, assume 10 years
- Recourse: Non-recourse financing
- DSCR: Minimum 1.1X
- Loan fees: 1% of total loan amount
- Repo financing cost from banks: Libor + 300-400 bps
- Fund level leverage Repo financing: 50%-85% LTV

The indicative return summary in fund level is showcased in below:

**Exhibit 21. Indicative Gross Return for Long Term Senior Mezzanine (60%-70% LTV)**

<table>
<thead>
<tr>
<th></th>
<th>Yr 0</th>
<th>Yr 1</th>
<th>Yr 2</th>
<th>Yr 3</th>
<th>Yr 4</th>
<th>Yr 5</th>
<th>Yr 6</th>
<th>Yr 7</th>
<th>Yr 8</th>
<th>Yr 9</th>
<th>Yr 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole Loan drawdown</td>
<td>(100.0)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Whole Loan Repayment</td>
<td>100.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loan Fee Received</td>
<td>1%</td>
<td>1.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Repo Financing drawdown</td>
<td>85.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Repo financing repayment</td>
<td>(85.0)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interest received</td>
<td>5.00%</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
</tr>
<tr>
<td>Interest paid to bank</td>
<td>4.50%</td>
<td>(3.8)</td>
<td>(3.8)</td>
<td>(3.8)</td>
<td>(3.8)</td>
<td>(3.8)</td>
<td>(3.8)</td>
<td>(3.8)</td>
<td>(3.8)</td>
<td>(3.8)</td>
<td>(3.8)</td>
</tr>
<tr>
<td>Total</td>
<td>(14.0)</td>
<td>1.2</td>
<td>1.2</td>
<td>1.2</td>
<td>1.2</td>
<td>1.2</td>
<td>1.2</td>
<td>1.2</td>
<td>1.2</td>
<td>1.2</td>
<td>16.2</td>
</tr>
<tr>
<td>IRR</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>8.9%</td>
</tr>
</tbody>
</table>

Source: Proprietary underwriting by the author

**Exhibit 22. Indicative Gross Return for Long Term B-Note + Senior Mezzanine (50%-70% LTV)**

<table>
<thead>
<tr>
<th></th>
<th>Yr 0</th>
<th>Yr 1</th>
<th>Yr 2</th>
<th>Yr 3</th>
<th>Yr 4</th>
<th>Yr 5</th>
<th>Yr 6</th>
<th>Yr 7</th>
<th>Yr 8</th>
<th>Yr 9</th>
<th>Yr 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole Loan drawdown</td>
<td>(100.0)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Whole Loan Repayment</td>
<td>100.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loan Fee Received</td>
<td>1%</td>
<td>1.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Repo Financing drawdown</td>
<td>71.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Repo financing repayment</td>
<td>(71.0)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interest received</td>
<td>5.00%</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
</tr>
<tr>
<td>Interest paid to bank</td>
<td>4.00%</td>
<td>(2.8)</td>
<td>(2.8)</td>
<td>(2.8)</td>
<td>(2.8)</td>
<td>(2.8)</td>
<td>(2.8)</td>
<td>(2.8)</td>
<td>(2.8)</td>
<td>(2.8)</td>
<td>(2.8)</td>
</tr>
<tr>
<td>Total</td>
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<td>2.2</td>
<td>2.2</td>
<td>2.2</td>
<td>2.2</td>
<td>2.2</td>
<td>2.2</td>
<td>2.2</td>
<td>2.2</td>
<td>2.2</td>
<td>31.2</td>
</tr>
<tr>
<td>IRR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>8.0%</td>
</tr>
</tbody>
</table>

Source: Proprietary underwriting by the author

---

76 Underwriting assumptions are based on interviews with four real estate debt investment manager and a mortgage banker.
Exhibit 23. Indicative Fund Level Gross Return for Long Term B-Note (50%-60%)

<table>
<thead>
<tr>
<th>60% LTV, 80% Fund Level Gearing</th>
<th>Yr 0</th>
<th>Yr 1</th>
<th>Yr 2</th>
<th>Yr 3</th>
<th>Yr 4</th>
<th>Yr 5</th>
<th>Yr 6</th>
<th>Yr 7</th>
<th>Yr 8</th>
<th>Yr 9</th>
<th>Yr 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole Loan drawdown</td>
<td>(100.0)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Whole Loan Repayment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>100.0</td>
</tr>
<tr>
<td>Loan Fee Received</td>
<td>1%</td>
<td>1.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Repo Financing drawdown</td>
<td>80.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Repo financing repayment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(80.0)</td>
</tr>
<tr>
<td>Interest received</td>
<td>4.50%</td>
<td>4.5</td>
<td>4.5</td>
<td>4.5</td>
<td>4.5</td>
<td>4.5</td>
<td>4.5</td>
<td>4.5</td>
<td>4.5</td>
<td>4.5</td>
<td>4.5</td>
</tr>
<tr>
<td>Interest paid to bank</td>
<td>4.00%</td>
<td>(3.2)</td>
<td>(3.2)</td>
<td>(3.2)</td>
<td>(3.2)</td>
<td>(3.2)</td>
<td>(3.2)</td>
<td>(3.2)</td>
<td>(3.2)</td>
<td>(3.2)</td>
<td>(3.2)</td>
</tr>
<tr>
<td>Total</td>
<td>(19.0)</td>
<td>1.3</td>
<td>1.3</td>
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<td>1.3</td>
<td>1.3</td>
<td>21.3</td>
</tr>
</tbody>
</table>

| IRR                              | 7.2% |      |      |      |      |      |      |      |      |      |       |

Source: Proprietary underwriting by the author

The return analysis above illustrates the return profiles associated with three positions in the capital stack, namely, senior mezzanine, senior mezzanine + B-Note, and B-Note:

- A 85% fund level gearing on top of a 70% LTV loan will essentially give investors a quasi-senior mezzanine exposure in the capital stack (60%-70% LTV);
- A 71% fund level gearing on top of a 70% LTV loan will give investors exposure to the 50% to 70% tranche, which is a senior mezzanine + B-Note combo piece;
- A 80% fund level gearing on top of a 60% LTV loan will give investors an exposure to the 50% to 60% tranche, which is a B-Note piece.

The 7.2% to 8.9% return range reflects the current market pricing of the difference in positions in the capital stack.

A closed end private equity debt fund structure would not necessarily be an optimal structure for this strategy. A debt fund usually runs a 3-5 years fund life, while this investment opportunity tend to be longer termed.

One possible structure to invest in such opportunity might be a mortgage REIT sponsored by a long term alternative asset manager whose vehicle is more evergreen structured without a limited fund life, and suitable to investors with lower risk appetite. Senior mezzanine and B-Notes investors can find a senior lender as capital partner to syndicate a whole loan, then take the B-Notes and/or senior mezzanine loan. Depending on investors risk appetite, a repo financing can be placed on top of the B-Notes and senior mezzanine loan to enhance returns.
5.2.3 Risks and Mitigations

Compared to a thin-sliced junior mezzanine tranche that typical could be found from the 70% to 80% or even 85% range in the capital stack, a senior mezzanine piece or a B-Note is in a much safer position with more subordination. Investors for such pieces need less liquidity cushion due to less risk and thus contingent interest payment to the A-Note holders in senior loans.

The risk on the B-Notes and senior mezzanine loan is relatively smaller given the high quality stable underlying assets. Main concerns center on the heated competition for such layer of debt. In general, traditional regulated lenders currently are less interested in this area due to their constraints in investing in mezzanine loans, especially for larger deal. But for smaller loans, competition can come from banks and CMBS lenders because a majority of them can still finance the whole loan up to 65% to 70% if the loan size is limited and risk exposure is well contained. That would leave senior mezzanine loan and B-Notes investors in an awkward position when competing for such financing opportunities.

Traditional regulated lenders’ cost of capital is much lower that private debt investors investing through a pooled investment vehicle. For smaller loans, to compete with regulated lenders, managers may be forced to push the underwriting standard, be more aggressive, and subject to adverse selection in deal sourcing. Hence for this strategy, larger size loans are believed to be more viable investment target for investors.

5.2.4 Who Fits This Strategy?

Investors suitable for this strategy are typically more risk averse.

Life insurance companies will be interested to compete for senior mezzanine loan and B-Notes deal with lower risk profile for a 7% - 9% coupon. Life insurance companies will also like the long duration nature of these long term B-Notes and senior mezzanine loans. Unlike typical short to medium termed mezzanine loan, long term B-Notes and senior mezzanine loans used in core and core plus strategy acquisitions are long dated assets that help match the duration on the liability side of life insurers’ balance sheets.

Pensions with a core approach for real estate debt investing would also most likely find this strategy attractive given the more secured coupon income and relatively high cash on cash yield.
The return target fits the return range of high yield bond and could be a diversification to their fixed income portfolio.

Foreign investors from European countries, Korea, and Japan might also be potential investors for this strategy. The home countries for these foreign investors are experiencing close-to-zero, or even negative interest rate environments. They are desperately seeking high yielding assets but not every one of such investors are willing to take on more risky investments such as mezzanine financing. Long term B-Notes and senior mezzanine loans secured by quality core assets are ideal for the more conservative foreign investors given their return and risk appetites.
5.3 Large Sized Permanent Financing with Higher Leverage Secured by Quality Assets

5.3.1 Description of Opportunity

Large loans in today’s sense generally refers to loan above $200 million. Opportunities in this area are twofold:

1) “One stop shop” jumbo senior loan permanent financing
2) Long term mezzanine loan permanent financing

5.3.1.1 “One Stop Shop” Jumbo Senior Loan Permanent Financing

Traditional lenders such as commercial banks are no longer comfortable to provide a “one stop shop” swift financing solution for large size acquisitions. They would often times provide a syndication loan, with a lead banker and other participants. A syndicate loan takes time and is generally less flexible in loan terms. Borrowers also face more uncertainty in terms of the security of funding.

CMBS lending used to be a viable source for jumbo loan lending. However as the industry faces uncertainty and experiences high volatility, questions remains for the security and adequacy of this funding source as well. It is also harder to originate a jumbo loan under the CMBS structure because of the diversification requirement.

Therefore, opportunity holds for an alternative capital source to provide a “one stop shop”’. Such lender will also be well compensated by the current market pricing for jumbo loan. Nowadays, larger loans tend to be priced a little wider than the smaller loans. The wider spreads enjoyed by the lender is a form of compensation for the swiftness of origination and certainty of funding. If a debt provider can provide a whole loan without the need for loan syndication, which takes substantial amount of time and tend to be less flexible in loan term, borrowers would like to pay a premium in spreads.

5.3.1.2 Long Term Mezzanine Loan Permanent Financing
Another challenge in large sized acquisitions is the leverage required for such transaction. Large sized acquisitions also tend to need higher LTV financing. For instance, in a smaller deal such as a sub-$50 million conduit loan, the borrower can easily obtain a CMBS financing up to 70%-75% LTV in the capital stack, without the need to seek for a subordinated debt. However, for large size loans, there tend to be good chance that there is additional leverage the borrowers may ask for.

Due to the large deal size, equity owners typically would find it hard to provide around 40% of total acquisition price. Hence their choice will be to increase the leverage or find an equity partner. Since equity join venture deals could be tricky when it comes to the drag-along and tag-along provisions and other issues related to dealing with equity partners, many core investors would still prefer to take on a higher leverage.

Therefore, a mezzanine piece can be needed to stack above the equity piece in the capital stack. Such specific mezzanine financing is different from the transitional property mezzanine financing mentioned in above sections. It is typical a long term, fixed rate mezzanine piece that can fill in the gap between the senior loan and equity, and tend to be co-terminus with senior loans.

5.3.2 Investment Strategy
To combine the above mentioned two strategy, there lies an opportunity to provide higher leveraged, large sized jumbo loans secure by quality stable assets, with leverage ratio that regulated lenders such as banks and CMBS are not comfortable to provide, and an above $200 million ticket size. If an investor can provide such large sized equity check without the need to go to different banks for a process of syndication, and provide flexible loan terms that are not commonly found in both syndication loans CMBS loans, that could be very attractive for borrowers.

A viable strategy is for a debt investment manager to form a joint venture with a “one stop shop” lender and provide a whole loan for large sized acquisitions. An A+B notes structure in above sections will be viable, where mezzanine lender and senior lender take respective piece behind the scene. For borrower, it would be presented as a whole loan.
5.3.3 Risks and Mitigation

1) For “one stop shop” jumbo senior loan investors:

For the senior piece investors, major concern over such strategy could be the concentration risk. If the senior loan investors runs a direct lending program and be the single investor to finance the senior piece, it could put the senior loan investors at risk.

To mitigate such risk for senior lenders, senior piece investors could alternatively commit capital to a debt vehicle sponsored by a seasoned debt investment manager. The challenge is that the spreads between a jumbo whole loan and syndication loan can be thin. The financing cost may not be attractive if managers are to add some points of fee onto the coupon. And from managers’ point of view, given the limited size of the fund, a jumbo loan pose concentration risk for the fund as well. Therefore, direct lending from a balance sheet lender will still be the best possible option.

2) For long term mezzanine loan investor:

For mezzanine piece investors, since the equity check is too large, it would not be possible to adopt the “Whole Loan” investment strategy and gain a mezzanine exposure later by either a repo financing at the fund level or a sale of the senior piece. Therefore they would very likely be stand-alone mezzanine piece investors, without the control over the “rights and remedy” for the senior loan.

Large size jumbo loan often times are secured by high quality trophy assets and the leverage tend to be moderate (70% at most). The investors are usually holding a “senior mezzanine piece”, with a 50% to 70% position in the stack. The risk for such senior mezzanine piece should be manageable.

To mitigate the risk for mezzanine lenders, investors should try for a Whole Loan, A+B Note structure in which both senior and mezzanine investors have the first lien. If such structure, which is less common and hard to get, is not obtainable, mezzanine piece investors should be mindful of the thickness of the mezzanine piece as well the as the fund level leverage.

3) A side note for both investors for large sized loans
The default risk associated with such trophy assets should actually be lower than average. Concentration risk is also not an issue for mezzanine investors because they invest in a pooled debt investment vehicle, whether it is be a debt fund or a mortgage REIT.

Rather than the worrying about the idiosyncratic risk associated with the underlying property, which theoretically should be the safest underlying assets in any point of the cycle, investors should focus more on the vintage risk and keep a close watch on where we are in the cycle. Since the default risk during normal times is manageable and supposed to very low, only during market crisis, can large loan investors be subject to severe losses. During times of financial turbulence, liquidity crunch tend to have the high impact on the refinancing of large size loans: the credit market simply cannot provide that much liquidity for one single large transaction.

Although such risk is somewhat similar to market risk, which is non-diversifiable. Investors can still adopt an allocation strategy that phase out the capital commitment, and achieve a vintage year diversification. This could be the most important mitigation measure for such large loan investing strategy.

5.3.4 Who Fits This Strategy?

Due to the way today’s rating agencies size a deal, CMBS lender might find it difficult to securitize a large loan. Even if they managed to do so, it might be so big that lenders may have to cut off at 55% to 60% LTV level of the capital stack, and sell the 60% LTV and above tranche that needs longer term financing. Banks as mentioned, are also unable to originate a whole loan without going for a round of syndication. Therefore, banks and CMBS are no longer viable sources for jumbo loan financing.

For senior piece of the jumbo loan, taking advantage of banks and CMBS’ growing reluctance to extend riskier and larger loans, insurance companies are well positioned to take such opportunity. Insurance companies generally have the capability to write large equity check. Companies such as AIG can write a ticket of $300 million, while banks under current regulations are more reluctant to do so. Pension funds that follows a core approach to the real estate debt allocation will also be interested to such strategy. However, due to the above mentioned dilemma faced by managers and thin profit room for jumbo loan, a debt fund structure will not be viable. Therefore, it is hard for pension funds to participate for this opportunity.
One possible leeway may be for pension fund investors to invest in real estate investing vehicles sponsored by insurance companies. Such side vehicle can co-invest with insurance companies’ own general account capital, which can take up the majority share of the loan ticket. Such side vehicle can only most effectively run by insurance companies themselves to guarantee the swiftness and security of funding. Third party managers sponsored vehicle would be subject to the issue of time consuming deal sourcing process and co-investment structuring procedure.
5.4 CMBS Credit Risk Retention Tranche Financing

5.4.1 Description of Opportunity

Under the credit risk retention rule, CMBS issuers can pass off all or part of the retention responsibility to B-piece buyers, which must hold a horizontal strip. By carving out the credit retention tranche, the CMBS originator can shred off the liability to hold this tranche on its balance sheet for 5 to 10 years, and maintain their original business model. This creates an opportunity to invest in the bottom 5% credit risk retention tranche of the CMBS bond.

Such investment essentially gives investors an exposure to a quasi B-piece, or unrated position in the capital stack. Below chart shows the Y-o-Y issuance comparison for B-piece buyer:

Exhibit 24. Key CMBS B-Piece Buyers in First Half of 2016

<table>
<thead>
<tr>
<th>Buyers of CMBS B-Pieces in the First Half</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>1. Realty Capital</td>
</tr>
<tr>
<td>2. Eighfield Real Estate Capital</td>
</tr>
<tr>
<td>3. Torchlight Investors</td>
</tr>
<tr>
<td>4. Seer Capital</td>
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<tr>
<td>5. KKR</td>
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<tr>
<td>6. C-III Capital</td>
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<tr>
<td>7. BlackRock</td>
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<tr>
<td>8. Raruh Capital</td>
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<tr>
<td>9. Prime Group</td>
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<tr>
<td>10. LN Partners</td>
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<tr>
<td>11. Ellington Management</td>
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<tr>
<td>12. Lone Star Funds</td>
</tr>
<tr>
<td>Others</td>
</tr>
<tr>
<td></td>
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<tr>
<td>1H-16 Issuance (SMil.)</td>
</tr>
<tr>
<td>------------------------</td>
</tr>
<tr>
<td>36.004</td>
</tr>
<tr>
<td>3,600.6</td>
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<tr>
<td>1,518.1</td>
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<tr>
<td>1,509.7</td>
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<tr>
<td>1,026.8</td>
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<td>955.6</td>
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<td>892.8</td>
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<td>743.8</td>
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<td>714.7</td>
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<tr>
<td>666.6</td>
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<tr>
<td>506.3</td>
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<tr>
<td>0.0</td>
</tr>
<tr>
<td>Total (with unrated classes) 19,805.5</td>
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<table>
<thead>
<tr>
<th>1H-15 Issuance (SMil.)</th>
<th>No. of Deals</th>
<th>Market Share (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>57,457.0</td>
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<td>24.8</td>
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<tr>
<td>3,503.7</td>
<td>3</td>
<td>11.6</td>
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<td>1,866.1</td>
<td>2</td>
<td>6.2</td>
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<tr>
<td>4,531.3</td>
<td>6</td>
<td>15.0</td>
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<tr>
<td>2,486.6</td>
<td>2</td>
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<tr>
<td>984.5</td>
<td>1</td>
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<tr>
<td>606.8</td>
<td>1</td>
<td>2.0</td>
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<tr>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
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<tr>
<td>1,912.1</td>
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<tr>
<td>1,763.7</td>
<td>3</td>
<td>5.9</td>
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<tr>
<td>5,014.8</td>
<td>5</td>
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<tr>
<td>5,014.8</td>
<td>5</td>
<td>16.6</td>
</tr>
<tr>
<td>Total (with unrated classes) 30,126.5</td>
<td>27</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: Commercial Mortgage Alert

As is shown, the year-to-date B-piece issuance in first half of 2016 decreased by 37% compared to 2015 figure. This is slightly moderate than the drop of 48% in total U.S. CMBS issuance. This may reflect the more resilient investment demand in the market for B-Piece, given its current attractive return.

5.4.2 Investment Strategy and Return Analysis

The current market offers attractive returns for such investment. According to the interviews with two of the major investors in the above chart, the current pricing for the credit risk

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77 The two real estate debt investment managers required not to be identified
retention tranche is found to be very attractive, at a range from 15% to 20% on an unleveraged basis, depending on the collateral that underlies CMBS bonds.\textsuperscript{78}

Regulations rule that credit risk retention tranche investors cannot reply on any leverage to finance the purchase of risk retention piece. Therefore, transaction would be all equity funded. Additionally, investors most likely will have to hold such investment to maturity.

Given the high risk nature of this strategy, it would be not hard to raise a designated mandate specifically targeting this opportunity only. It is more suitable as a part of debt program that can investment in CMBS bonds at large, and the credit risk retention tranche investment can juice up the return for the entire mandate.

Given the maturity of CMBS debt, a long term strategy is most likely the case.

\textbf{5.4.3 Risks and Mitigations}

Such investment is highly risky. The bottom 5% tranche of CMBS bonds is the first loss piece and has only 5% thickness with little subordination if the CMBS loan also has high LTV ratio. Such thin-sliced structure can be easily wiped out of there is any degradation in property value.

Therefore, LTV ratio is key, so is the quality of underlying asset. Investors for such strategy should focus on CMBS bonds backed by quality asset located in strong submarket. Market either still see weak fundamentals or already overheated are too risky for this investment strategy.

\textbf{5.4.4 Who Fits This Strategy}

Regulated buyers such as banks or life insurance companies will be restricted for such investment due to their limits in investment criteria. However, unregulated private debt funds or alternative asset managers will be well positioned to go-in and purchase this credit retention tranche.

Most pension investors interviewed indicated a deep concern about the risk of this strategy, and some of them had unpleasant memory about the previous investments in un-rate tranche of CMBS during pre-crisis period. Pension funds generally think that such strategy is beyond their risk appetite. And even those that seemed somewhat interested to learn more about the strategy, indicated that they would like commit very limited capital to such strategy.

\textsuperscript{78} Interviews with two anonymous real estate debt investment managers
Endowments and sovereign wealth funds, given their longer investment horizon, higher risk appetite, and opportunistic nature of capital, make them potentially good candidate for investment managers to approach.
5.5 Construction Lending

5.5.1 Description of Opportunity

Construction lending in current market is severely dislocated. Traditionally the majority of construction loans were originated by banks in the pre-crisis period. During the previous financial crisis, over 20% of the construction loan went delinquent by 2009, with high loss severity. Consequently banking regulators tightened regulations on this field. Now with all the regulatory burden, banks find it not in a comfortable position to make construction lending both due to lowered profitability, and higher requirement for capital.

Construction loans originated from banks have decreased sharply after the financial crisis and never came back to the original level of issuance volume, even though the new construction starts rebounded nationwide.

Exhibit 25. Banks Seeing Significant Pullback from Construction Lending\(^{79}\)

![Quarterly Change in Construction Loans Held on Bank Balance Sheets](chart)

Source: CREFC

Some other forms of capital have stepped in, but they have not been close to replace the volume and scale of construction loan previously made by banks.

For new construction loans, it is likely to see changes in underwriting practices. These changes may include:

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\(^{79}\) Direct citation from “The Impact of Regulation on Commercial Real Estate Finance”, December 2015, Sameer Chandan, Christina Zausner, CREFC
- Lower LTV
- Shorter durations
- Increased upfront cash equity contribution from developers
- Stricter financial covenants on developer’s minimum equity in the project during the loan term
- Enhanced scrutiny on construction deadline and lease-up thresholds to ensure the certainty of take-out financing

5.5.2 Investment Strategy
Construction lending is a specialized business that needs labor intensive underwriting and servicing teams. Most likely option for investors is to commit capital to a specialized investment managers with local knowledge and operational expertise.

In essence, construction loans are bridge financing for development projects. Investors will have to obtain the first lien therefore a whole loan structure is the only option, it is neither feasible nor prudent to work with a senior lender such as smaller sized regional banks, which issue significant percentage of construction loans.

As Basel III is eventually going to roll out to cover these regional banks, tougher capital requirement for construction loans may be enforced in the future as well. The pricing for construction loan may be even more attractive if these regional banks pullback from construction lending.

5.5.3 Risks and Mitigations
From the investment managers’ perspective, it is a challenging business due to the need for experience and manpower to deal with the complexity of this business. Many private debt fund managers is marching into this field but they generally holds a bifurcated view on whether they have the capability to underwrite construction loans, manage the drawdown process, and come in if the project owner default.

For instance, one of the real estate debt investment managers I interview with voiced out the concerns over the construction lending business. The manager currently just closed a $400 million debt fund. There is a no-fly zone in the fund’s mandate: Construction loan. The manager
explained that this constrain is mainly due to business and operational concerns they have towards construction loan.

Construction loan business needs a whole servicing department to monitor the loan drawdown process. Setting up such labor intensive infrastructure might be hard for debt fund, which generally are lean in organization. Additionally, construction lending business requires the capability to carry the construction forward should the developer default. A private equity debt fund with a lean organization structure simply are not set up with this kind of capability to handle such investment that requires detailed oriented due diligence, market expertise, and project management experience.

In contrast, some small and more specialized debt fund managers are confident to provide such strategy to their investor. They are generally regional focused, with capability and manpower to tackle the “messy business” as described by many investors and fund managers.

5.5.4 Who Fits This Strategy?
Life insurance companies nowadays do some construction lending but not on a broad basis, and they are generally very cautious. Construction loan is short termed, making them not suitable for life insurance companies, which focus more on matching their long dated duration. They also face pressure from rating agencies, who see construction lending as something insurance company should not do on a large scales basis. Additionally, insurance companies don’t have the capability to supervise the construction process, which requires specialized knowledge and experience.

Pension Funds’ appetite on construction loan is more mixed. All pension funds I interviewed shared the view that there is a market void in the construction lending arena. But not all of them are currently allocating capital to a manager to invest in this field. From my observation, their appetite on construction lending really depend on how their risk appetite, and how they view the role of their real estate debt investments in the portfolio.

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80 Interview with Michael Medvin, Managing Director/National Head of Originations, Commercial Mortgage Lending of AIG Investments
81 Interview with Sam Davis, former Senior Managing Director, Private Asset Investment Group of Allstate Insurance
For pension funds that have an opportunistic approach in real estate debt investment, some are interested in or currently sponsoring managers to invest in construction loans. Their real estate debt investment strategies are “total return focused”. Therefore real estate debt investment for them is purely opportunistic and they can bear the risk associated with construction lending. One of the interviewees said they are already well allocated in this area with an investment manager that specialized in such investment. For pension funds with a core approach, None of these type of pension funds interviewed are interested in construction lending.

Sovereign Wealth Funds, among all institutional investors category, generally shows the highest interest in tapping into the construction loan market opportunity. Although the number of interviews conducted with sovereign wealth funds is limited, the investors that I did get a chance to interview showed unanimous interest in this field.\(^2\)

\(^2\) Interview with Barry Brakey, Head of Property, Australia Future Fund, and one anonymous sovereign wealth fund
Chapter 6. Conclusions and Suggestions

The findings and analyses detailed in the previous chapters reveals a variety of market dislocations in today’s commercial real estate debt capital market. These market dislocations are mainly resulted from the reduced role of regulated lenders, primarily banks and CMBS. The changing regulations have put various restrictions on regulated lenders’ certain lending businesses, and created regulation burdens that threatened the profitability of these businesses.

These market dislocations create appealing opportunities for non-regulated private real estate debt investors. Investors can tap into a variety of lending opportunities that delivers a wide spectrum of returns.

As the equity return continues to compress due to high asset pricing, and the market becomes increasingly volatile, private real estate debt investment, with proper due diligence and structuring, can provide investors a vehicle that delivers attractive risk-adjusted return while having higher resilience to weather the storm.

These opportunities under today's regulation environment, are almost exclusive for non-regulated private real estate investors. As the traditional lenders continue to pullback from these businesses, and the market sees rising funding pressure to finance (and refinance) the maturing debt, new value added and opportunistic acquisitions, and new constructions, it is reasonable to believe that the returns prospect will be optimistic.

While the opportunities look appealing, and the market sentiment for private real estate debt in high, here is a couple of suggestions for investors to consider:

1) The various investment strategies that capitalize on these market dislocations are formulated to tackle different lending submarkets. Specifically, they target different positions in the capital stack, have different subordinations and thickness, and have income distribution pattern; they are secured by different underlying assets, varied in loan size, and different in maturity.

   For instance, the 9.0% return delivered by the strategy of investing in the 5-year whole loan for transitional property, with a net exposure to the 40% to 80% tranche of the capital stack, is approximately the same as the 8.9% return delivered by the strategy of
investing in a 10 year senior mezzanine loan for core property, with a 60% to 70% of the capital stack. However, the income distribution patterns, and risk profiles of the two strategies vary significantly from each other. Investors should pay attention to the distinctive risk profiles described in the analyses above, and have a clear understanding of the risks associated with these investment strategies.

2) Private real estate debt investment is no different than other investments in terms of the tradeoff between return and risk. For example, when investors choose between investing in a mezzanine loan for a transitional property acquisition, and a senior mezzanine loan for a core property acquisition, the question investors should ask is “do I want to pay for the return premium by taking a more risky position in the capital stack and accepting a less stable asset?”

In this research, for instance, the 8.9% senior mezzanine return delivered by a net exposure to the 60% to 70% tranche of the capital stack is higher than the 7.2% return delivered by a net exposure to the 50% to 60% tranche of the capital stack. How much risk is associated with a 10% creep up in the stack, and does a 170bps of return premium compensate this marginal risk? While it may be hard to quantify the risk, it is certainly worth considering this risk-and-return tradeoff.

3) The long term return prospect in debt market is hard to project as the pricing in debt capital market changes fast. Although the regulation changes that resulted in these market dislocations are more likely to be structural, it is not to say that these opportunities will persist in the longer run. Factors from both the demand and supply side of the debt capital market can change the market dynamics and therefore the viability of the investment strategies described in this thesis.

From the demand side, as the market starts to peak, the transaction volume for some property types in some submarkets already stopped growing. The demand for debt capital can be diminished due to the slowdown in transaction activity. From the supply side, as more debt funds are being raised and more investors are looking into the debt investing
arena, spread may tighten across the return spectrum due to a surplus of funding. Foreign capital’s role also need not to be neglected as more yield hungry foreign are flocking into the U.S. commercial real estate debt capital market.

As we march into the later stage of this cycle, private real estate debt investing need to be approached with extra due diligence and risk awareness. Investors should always keep a close attention to the risks associated with the investment strategies that are illustrated in this research. With prudent underwriting and high risk awareness, investors can be well-equipped to navigate through the treacherous waters of U.S. private commercial real estate debt capital market.
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Appendix 1. Real Estate Quarterly Index: Value Added, Opportunistic and Debt Return Index

<table>
<thead>
<tr>
<th>Quarter</th>
<th>Debt</th>
<th>Value Added</th>
<th>Opportunistic</th>
</tr>
</thead>
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<td>100</td>
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<td>3/31/2008</td>
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Source: Prequin
Appendix 2. List of Interviewees

Andrew Steele, Analyst, Mesa West Capital
Barry Brakey, Head of Property, Australia Future Fund
Charles J Spiller, Deputy Chief Investment Officer, Non-Traditional Investments, Public School Employees' Retirement System (PSERS)
Catherin Chen, Principal, Apollo Global Management LLC
Joe Davenport, Vice President, Townsend Group
John Boots, organization kept confidential
Karl Polen, Chief Investment Officer, Arizona State Retirement System
Michael Medvin, Managing Director/National Head of Originations, Commercial Mortgage Lending of AIG Investments
Michael Zanolli, Managing Director – Head of Real Estate Finance Advisory, Natixis New York Branch
Sam Davis, former Senior Managing Director, Private Asset Investment Group of Allstate Insurance
Tom Masthay, Director, Real Assets, Texas Municipal Retirement System
Wilkin Ly, Investment Officer II, Los Angeles City Employees' Retirement System

And 8 other interviewees who did not want to be identified