Observations on Financial Stability Concerns for Monetary Policymakers

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Figure 1: Growth in Real GDP and Real Commercial Real Estate Prices in the United States
1986:Q1 - 2016:Q1

Note: The commercial real estate price index is adjusted for inflation using the GDP deflator.
Source: BEA, Federal Reserve Board, NBER, Haver Analytics
Figure 2: U.S. Commercial Real Estate by Lender Type

2016:Q1

<table>
<thead>
<tr>
<th>Lender Type</th>
<th>Outstanding as of March 31, 2016</th>
<th>Commercial Mortgages</th>
<th>Billion Dollars</th>
<th>%</th>
<th>Multifamily Residential Mortgages</th>
<th>Billion Dollars</th>
<th>%</th>
<th>Total</th>
<th>Billion Dollars</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Banking Institutions</td>
<td></td>
<td>1,494.0</td>
<td>59</td>
<td></td>
<td>388.6</td>
<td>35</td>
<td></td>
<td>1,882.7</td>
<td>52</td>
<td></td>
</tr>
<tr>
<td>Banks with over $50 Billion in Assets</td>
<td></td>
<td>552.7</td>
<td>164.6</td>
<td></td>
<td>717.3</td>
<td></td>
<td></td>
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<tr>
<td>Life Insurers and Other Long-Term Investors</td>
<td></td>
<td>369.7</td>
<td>15</td>
<td></td>
<td>66.4</td>
<td>6</td>
<td></td>
<td>436.1</td>
<td>12</td>
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<tr>
<td>GSEs &amp; Agency CMBS</td>
<td></td>
<td>0.0</td>
<td>0</td>
<td></td>
<td>472.5</td>
<td>43</td>
<td></td>
<td>472.5</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>Non-Agency CMBS</td>
<td></td>
<td>498.1</td>
<td>20</td>
<td></td>
<td>61.2</td>
<td>6</td>
<td></td>
<td>559.3</td>
<td>15</td>
<td></td>
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<tr>
<td>Finance Companies</td>
<td></td>
<td>27.8</td>
<td>1</td>
<td></td>
<td>1.2</td>
<td>0</td>
<td></td>
<td>29.1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Nonfinancial (Other)</td>
<td></td>
<td>133.1</td>
<td>5</td>
<td></td>
<td>121.2</td>
<td>11</td>
<td></td>
<td>254.3</td>
<td>7</td>
<td></td>
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<tr>
<td>Total</td>
<td></td>
<td>2,522.8</td>
<td>100</td>
<td></td>
<td>1,111.1</td>
<td>100</td>
<td></td>
<td>3,633.9</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

1Includes U.S.-chartered depository institutions, foreign banking offices in the U.S. and banks in U.S.-affiliated areas.
2Includes commercial and savings banks and thrifts with assets over $50 billion. Author’s estimates using call report data.
3Includes life and property-casualty insurance companies, private pension funds, and state and local government retirement funds.
4Includes REITs.
5Includes households, nonfinancial corporate and noncorporate businesses and federal and state and local governments.

Source: Federal Reserve Board, Financial Accounts of the United States, Quarterly Call Reports, Haver Analytics.
Figure 3: National Annual Apartment Occupancy

Source: AXIOMetrics/Risk Analysis Unit, FRB Atlanta
Figure 4: National Annual Effective Rent Growth for Apartments

Source: AXIOMetrics/Risk Analysis Unit, FRB Atlanta
Figure 5: U.S. Real Commercial Property Price Indices by Property Type
2000:Q4 - 2016:Q2

Note: Indices are adjusted for inflation using the GDP deflator. Indices are repeat-sales based.

Source: Real Capital Analytics, BEA, NBER, Haver Analytics
Figure 6: U.S. Real Commercial Property Price Indices by Region
2001:Q1 - 2016:Q2

Index, Previous Peak=100

Note: Indices are adjusted for inflation using the GDP deflator. Indices are repeat-sales based.
Source: Real Capital Analytics, BEA, NBER, Risk Analysis Unit/Federal Reserve Bank of Atlanta
Figure 7: Apartments: Boston vs Six Major Markets
Real Commercial Property Price Indices
2001:Q1 - 2016:Q2

Note: Indices are adjusted for inflation using the GDP deflator. Indices are repeat-sales based. The six major markets are Boston, Chicago, DC Metro, LA Metro, NYC Metro, and SF Metro.

Source: Real Capital Analytics, BEA, NBER, Risk Analysis Unit/Federal Reserve Bank of Atlanta
Figure 8: U.S. Capitalization Rates by Property Type
2001:Q1 - 2016:Q2

Note: The capitalization or “cap” rate is the ratio of net operating income produced by a property to the price paid, calculated at the time of a transaction. Thus, aggregate cap rate statistics only include cap rates from recent sales.

Source: Real Capital Analytics, NBER, Haver Analytics
Figure 9: U.S. Apartment Capitalization Rate and Ten-Year Treasury Yield

2001:Q1 - 2016:Q2

Note: The capitalization or “cap” rate is the ratio of net operating income produced by a property to the price paid, calculated at the time of a transaction. Thus, aggregate cap rate statistics only include cap rates from recent sales.

Source: Federal Reserve Board, Real Capital Analytics, NBER, Haver Analytics
Figure 10: Foreign Capital Invested in U.S. Commercial Real Estate
2001:Q1 - 2016:Q2

Note: Latin America is defined as any country in North or South America except Canada and the United States.
Source: Real Capital Analytics
Figure 11: Share of Commercial Real Estate in Banks with CRE Greater than or Equal to 350% of Risk-Based Capital by State for Banks with Assets Under $1 Billion 2016:Q1

Note: Loans secured by owner-occupied nonfarm nonresidential properties are included in the definition of commercial real estate for this analysis.

Source: Quarterly Call Reports
Figure 12: U.S. Civilian Unemployment Rate and the Natural Rate of Long-Term Unemployment

1996:Q1 - 2016:Q2

Source: BLS, CBO, NBER, Haver Analytics