GNMA Liquidity and Counterparty Risk

GNMA Conference on Managing Value and Liquidity in Mortgage Servicing

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Regulatory Effects on GNMA TBA Volume

Source: SIFMA
Pricing differentials between GNMA and FNMA TBA

Source: Citigroup Yieldbook
GNMA and FNMA OAS Volatility

Source: Citigroup Yieldbook, REFM Calculations
GNMA Foreclosure Elevated Relative to GSEs

GSE Foreclosure
Source: RMS, REFM calculations

GNMA Foreclosure
GNMA Prepayment is Slower Relative to GSEs

GSE Prepayment

Source: RMS, REFM calculations

GNMA Prepayment
Top 100 GNMA Producers are largely non-depositaries

Source: Inside Mortgage Finance
Primary Non-Depository Funding Source: Mortgage Repurchase Agreements

- Strict capital and accounting covenants
- Significant roll over risk (short maturities)
- Often highly concentrated Repo-Buyer counterparty exposure
- Risk of haircuts and dynamic margins
- Exempt from Automatic Stay under BAPCPA 2005
- Reps and warranty risk resides with originator (Repo seller who has little capital)
Pre-crisis New Century Committed MRAs (December 2005)

- **Warehouse Lenders (MRAs)** -- TOTAL $14.35B
  - Bank of America, N.A. - $3B
  - Barclays Bank, PLC - $1B
  - Bear Stearns Mortgage Capital - $800M
  - Citigroup Global Markets Reality Corporation - $1.2B
  - Credit Suisse First Boston Capital, LLC - $1.5B
  - Deutsche Bank - $1B
  - IXIS Real Estate Capital, Inc - $850M
  - Morgan Stanley Mortgage Capital Inc. - $3B
  - UBS Real Estate Securities Inc. - $2B

- **Off-Balance Sheet Borrowing** -- TOTAL $2B
  - Von Karman Funding Trust - $2B

Source: New Century 10Q filing.
Penny Mac Mortgage Investment Trust: Warehouse Lines (74% Liabilities, 8 Month WAM) and Net Capacity, (10Q 2016:Q1)

<table>
<thead>
<tr>
<th>Line</th>
<th>Net</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credit Suisse First Boston Mort. Capt.</td>
<td>$752,000</td>
</tr>
<tr>
<td>Citibank</td>
<td>0</td>
</tr>
<tr>
<td>Bank of America, NA</td>
<td>0</td>
</tr>
<tr>
<td>JPMorgan Chase &amp; Co</td>
<td>$136,000</td>
</tr>
<tr>
<td>Morgan Stanley Bank, NA</td>
<td>$462,000</td>
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<tr>
<td>Daiwa Capital Markets</td>
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<tr>
<td>Barclays Capital</td>
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<tr>
<td>BNP Paribas</td>
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<tr>
<td>Fannie Mae Capital Markets</td>
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<tr>
<td>Deutsche Bank</td>
<td>$784,000</td>
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<tr>
<td>Goldman Sachs</td>
<td>$262,000</td>
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<tr>
<td>Other</td>
<td>$655,000</td>
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<tr>
<td>Unamortized debt issuance costs</td>
<td>($1,081,000)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$3,258,502,000</strong></td>
</tr>
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Source: PennyMac Mortgage Investment Trust, Form 10Q filing.
Conclusions

- GNMA TBA pricing appears to capitalize regulatory capital advantages – **0% risk weight**.
- GNMA MBS producers increasingly non-depository mortgage companies – **71% non-depository**.
- Non-depository pipeline funding is **fragile**:
  - Pre-crisis mortgage origination funding structures are still dominant – especially master repurchase agreements (MRAs).
  - MRA funding structures are vulnerable to: 1) roll-over risk; 2) many other debt covenants (especially accounting triggers) -- this was a very important pre-crisis problem leading to the collapse of lending infrastructure and many firm bankruptcies.
  - MRAs have repo status so they are exempt from automatic stay -- Warehouse lenders (Repo Buyers) will run when market softens.
  - Non-depository warehouse “borrowers” (repo sellers) have no capital, but they bear the rep and warranty risk – is this sensible?