Mortgage Backed Securities: The US Approach

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International Housing Finance Services
Today’s Session...

Overview of MBS in the United States

Investor Considerations for MBS

Fannie Mae’s MBS Business
A home buyer goes to a mortgage lender for a loan to purchase a home. The lender may:
- Hold the loan in their portfolio
- Sell it to the Secondary Market to replenish funds
- Package it with other loans and exchange the package for MBS

Selling loans for MBS gives lenders new funds to make more loans. The cycle begins again as mortgage lenders make other loans to home buyers. Fannie Mae purchases the loans by the sale of debt securities. These are sold to domestic and international markets.
Definition of Mortgage Backed Securities

- Fixed income investment instrument that represents ownership of an undivided interest in a group of mortgages
- Principal and interest from the individual mortgages are used to pay principal and interest on the MBS
- Several types of mortgage securities are issued within the U.S. marketplace -- including non-derivative and derivative products
MBS Derivative Products

- Multi-class bond issue that derives cash flows from underlying mortgages -- either pass-through securities (MBS) or pools of whole loans

- Cash flows are carved up and distributed based upon principal and interest payment rules to various tranches of the transaction structure
MBS Products

Non-Derivative Products

• Mortgage-Backed Bonds (MBB)
• Mortgage-Backed Securities (MBS)
  (also referred to as Pass-Through Securities)

Derivative Products

• Collateralized Mortgage Obligations (CMO)
• Real Estate Mortgage Investment Conduit (REMIC)
• Stripped Mortgage-Backed Securities (SMBS)
## Comparison of MBS and MBB

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Mortgage-Backed Bond</th>
<th>Mortgage-Backed Security</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Balance Sheet Treatment</strong></td>
<td>On-balance sheet treatment</td>
<td>Off-balance sheet treatment</td>
</tr>
<tr>
<td><strong>Source of Payment</strong></td>
<td>Transformed collateral cashflow</td>
<td>Collateral cashflow</td>
</tr>
<tr>
<td><strong>Collateral</strong></td>
<td>Secured by pool of mortgages that are substitutable</td>
<td>Secured by pool of mortgages that are typically not substitutable</td>
</tr>
<tr>
<td><strong>Pool Structure</strong></td>
<td>Typically heterogeneous</td>
<td>Typically homogenous</td>
</tr>
<tr>
<td><strong>Rating</strong></td>
<td>Dependent on rating of the issuer and mortgage assets</td>
<td>Dependent on quality of mortgages and/or guarantor</td>
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<tr>
<td><strong>Cashflow Schedule</strong></td>
<td>Interest typically payable on a sometimes semi-annual basis -- principal repaid at maturity</td>
<td>Principal and interest payable on a monthly basis</td>
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</tbody>
</table>
## Private vs. Conduit
### Model Comparison

<table>
<thead>
<tr>
<th>Model I: <strong>Private Market</strong></th>
<th>Model II: <strong>Conduit Market</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Sporadic and independent issuances</td>
<td>• Expectation of coming to market regularly</td>
</tr>
<tr>
<td>• Less liquid transactions -- minimal resale market for securities</td>
<td>• Highly liquid market</td>
</tr>
<tr>
<td>• Heterogeneous transactions</td>
<td>• Investor expectation of similar transactions</td>
</tr>
<tr>
<td>• Custom transaction approach - lots of flexibility in structuring deals</td>
<td>• Homogenous transactions:</td>
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<tr>
<td>• Structured transactions only</td>
<td>– documentation</td>
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<tr>
<td>• Guaranty by credit enhancement</td>
<td>– underwriting criteria</td>
</tr>
<tr>
<td></td>
<td>– processes</td>
</tr>
<tr>
<td></td>
<td>– data</td>
</tr>
<tr>
<td></td>
<td>• Passthrough and structured transactions</td>
</tr>
<tr>
<td></td>
<td>• Guaranty by conduit</td>
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<td></td>
<td>• Bundled services provided by conduit</td>
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</table>
Government Financing
- FHA Loans
- VA Loans

Conventional Financing
- Conforming Loans

Non-Conforming Loans
- Subprime
- Jumbo
- Alt “A”

Agency Conduit
- Fannie Mae
- Freddie Mac
- FHLB

Private Conduits
- Commercial Banks
- Insurance Companies

Government Conduit
- Ginnie Mae

* Fannie Mae and Freddie Mac are also minor players in the government financing market segment

* Private Conduits may also issue securities based on conforming loans
US MBS Market Issuance

Annual MBS Issuance
(in US$ billions)

US MBS Market Share in 2002

- Total MBS Issuance: $1,838 billion
- Total Originations: $2,510 billion
- Total MBS Outstanding: $3,782 billion

2002 Market Share Distribution by Issuer (in US$ billions)

- Fannie Mae: 39%
- Freddie Mac: 29%
- Ginnie Mae: 9%
- Private Conduits: 23%

73% Originations Funded Through MBS

Investor Considerations for MBS

• Pooling of loans via MBS provides an effective vehicle for reducing risk over whole loan purchases:
  – Rather than having full exposure to a few mortgages, investors have a lower exposure to many mortgages
  – Allows investors to significantly decrease the credit risk of their portfolio
  – Resulting securities are very generic in nature with an average life of about 10 years, AAA quality rating, and continuous monthly principal and interest cash flows
  – Provides standardization of mortgages in large volumes
  – Provides greater liquidity at a reduced cost
Investor Considerations for MBS

- Exposed to the full effects of prepayment and interest rate risk
- Unlikely to receive the same cash flow from their investment each month due to the potential for prepayments
Investor Considerations for MBS Derivatives

- Financially engineered to meet specific needs of various investors by redirecting cash flows to minimize certain risks:
  - Prepayment risk redistributed into series of classes with short-, intermediate- and long-maturities
  - Some classes have less interest rate sensitivity but lower yield to investors
  - Other classes have substantially greater cash flow variability but offer investors higher returns
Overview of MBS in the United States

Investor Considerations for MBS

Fannie Mae’s MBS Business
Fannie Mae Issued MBS

- Fannie Mae standard MBS are direct pass-through securities -- there is no special allocation of the cash flow from the underlying mortgages.

- 30 year, fixed rate pass-through security is:
  - Most predominant Fannie Mae MBS product
  - Most predominant product outstanding in capital markets
  - Large volume of product in the market contributes to the ease and liquidity of secondary market trading of MBS
Fannie Mae Issued MBS

- Special features of Fannie Mae MBS include:
  - Can be purchased in unrestricted amounts by national banks, federally chartered credit unions, and federal savings and loan associations
  - Counted as liquid assets by the Office of Thrift Supervision for Federal Savings & Loan institutions
  - Eligible as collateral for Federal Reserve and Federal Home Loan Bank advances
  - Risk-based capital regulations of the bank and thrift regulators offer preferential treatment
Fannie Mae Issued MBS Derivatives

- Structured securities are more costly and time consuming for the originator of the loans -- compared to pass-through securities
  - Must pay an investment bank for the structuring and placement of the deal with investors
  - Must pay to have the deal rated by a rating agency
  - Subject to the market to determine if the deal will sell above or below par

- Complexity of the cash flow distribution necessitates monthly administration to ensure that investors are accurately paid -- process must either be managed by the issuer or outsourced to a service provider at additional cost

- Often unable to sell the subordinated, highest risk tranche, so the originator must keep it on their own balance sheet
Fannie Mae’s Credit Risk Guaranty Business

• Fannie Mae issues mortgage-backed securities on behalf of primary market lenders
• Fannie Mae provides credit enhancement on securities through a “credit guaranty”--guaranteeing the timely payment of principal and interest to investors
• Fannie Mae receives a fee for assuming credit risk while interest rate risk is passed on to the capital market investor