

PREPAYMENT MODEL

COMPREHENSIVE PREPAYMENT MODELING SET FOR MORTGAGE PRODUCTS



Model Methodology

The Beyondbond Prepayment Model is a dynamic econometric model that applies economic theory to analyze mortgagor's prepayment behaviors and then fits them using historical US residential prepayment information. In order to develop the model, essential mortgage characteristics such as amortization term, age, contract rate, and principal factor, as well as crucial economic variables, such as housing turnover rate, prevailing market mortgage rate, and yield curve information over time were selected to determine the fixed rate prepayment factors.

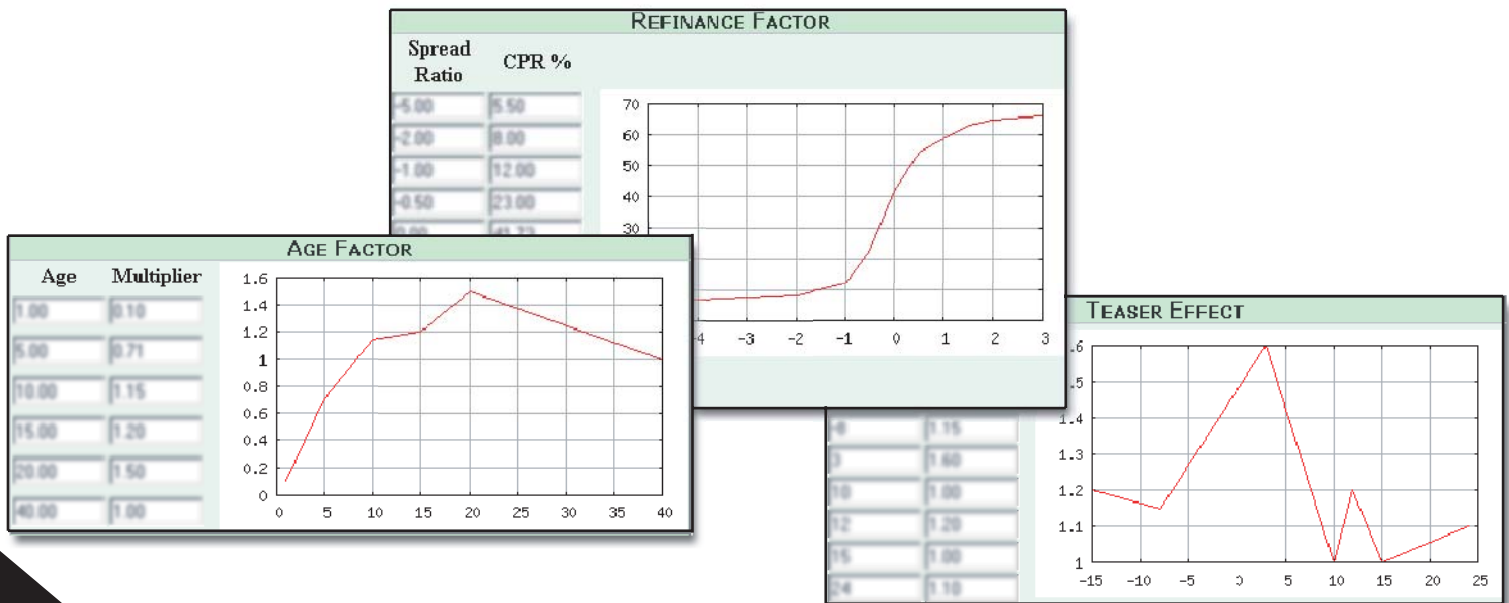
For Hybrid Adjustable-Rate Mortgages (ARM), teaser and interest only characteristics are factored into calibration. The applications of the model can be used not only for prepayment forecast but also for pricing, options adjusted spread evaluation, and scenario analysis for mortgages and mortgage-backed securities. The model specification employs cubic spline functions over a wide range of variables.

Model Factors and Economic Variables

- Refinance
- Age
- Seasonality
- Burnout
- Yield Curve
- Housing Turnover Rate
- Cash-out
- Equity
- Credit
- Issue Year Component
- Financing Expense Component
- Issurer Agency
- Amortization Type

Tuning Parameters

- Refinance
- Age
- Burnout
- Teaser
- Seasonality
- Equity
- Credit



Empirical Fitting

- **Agency fixed-rate:** 30year, 15year, and 7year Balloon
- **Adjustable rate mortgage (ARM):** 3-1, 5-1 Hybrid ARM
- **Hybrid ARM:** 3/1, 5/1, 7/1, 10/1 LIBOR- and Treasury-indexed
- **Whole loan:** High LTV, Sub-prime, and Second-lien

Model Inputs

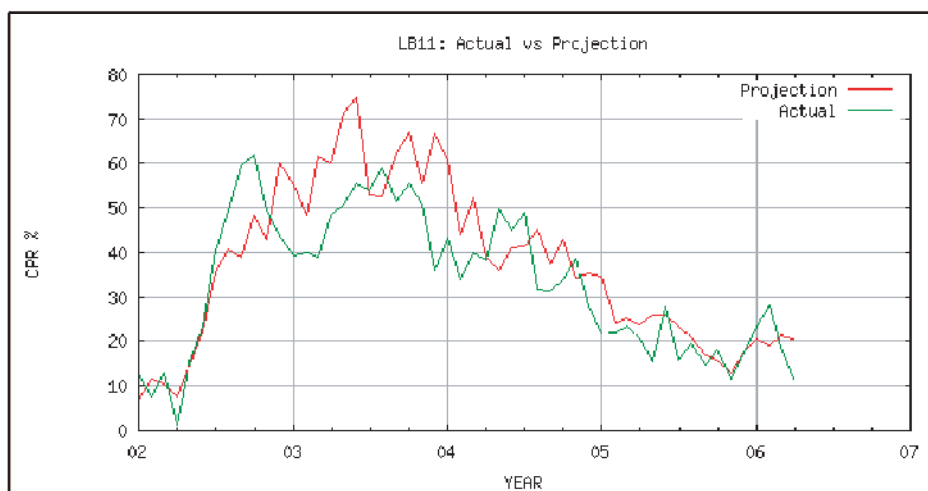
Loan Type, Term to Maturity, Gross Coupon Rate, Principal Factor, Loan Age, and Settlement Month.

ARM inputs: teaser factor, rate cap, reset cap, reset frequency

Optional inputs: Issue Year, Finance Expense, Loan Balance, LTV, DTI, and FICO Score

Model Flexibility

The prepayment model is used in conjunction with an in-house OAS or pricing model. Beyondbond has created an easy to use C function API for users who wish to use the prepayment model. Model delivery can be either subroutine in C library or Microsoft Excel. In addition, the model is customized in a user-friendly way such that users can customize and fine-tune it via any web browser.



Customer Flexibility

Customer support is provided as part of your software license agreement without cost or limitation. Training is also available for technical and system implementation. Unlike most models, Beyondbond offers a solution that can be completely integrated into your existing system's structure. We provide a library of deliverable analytics to be incorporated into your trading or valuation system. Company specific development requests are often directly incorporated into the system. Updates to system information are provided to all clients on a monthly basis.

- Highly trained and responsible staff
- Complete user documentation
- Help desk available
- Rapid development response cycle
- Monthly data updates.