

Valuation and Analysis of Collateralized Mortgage Obligations

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Abstract

This study develops a model for the valuation of Collateralized Mortgage Obligations (CMOs). The model is based on a two-factor model of the term structure of interest rates and embeds an empirically estimated mortgage prepayment function. The model is used to analyze various CMO tranches, including standard sequential pay fixed-rate tranches, Planned Amortization Class (PAC) tranches, Targeted Amortization Class (TAC) tranches, floating-rate tranches, Interest Only (IO) and Principal Only (PO) tranches, Z-bonds and Residuals. The results of this analysis illustrate the sensitivity of the various tranches to differences in CMO structure, changes in interest rates, the characteristics of the underlying collateral, and mortgage prepayments.

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