

BLACKROCK®

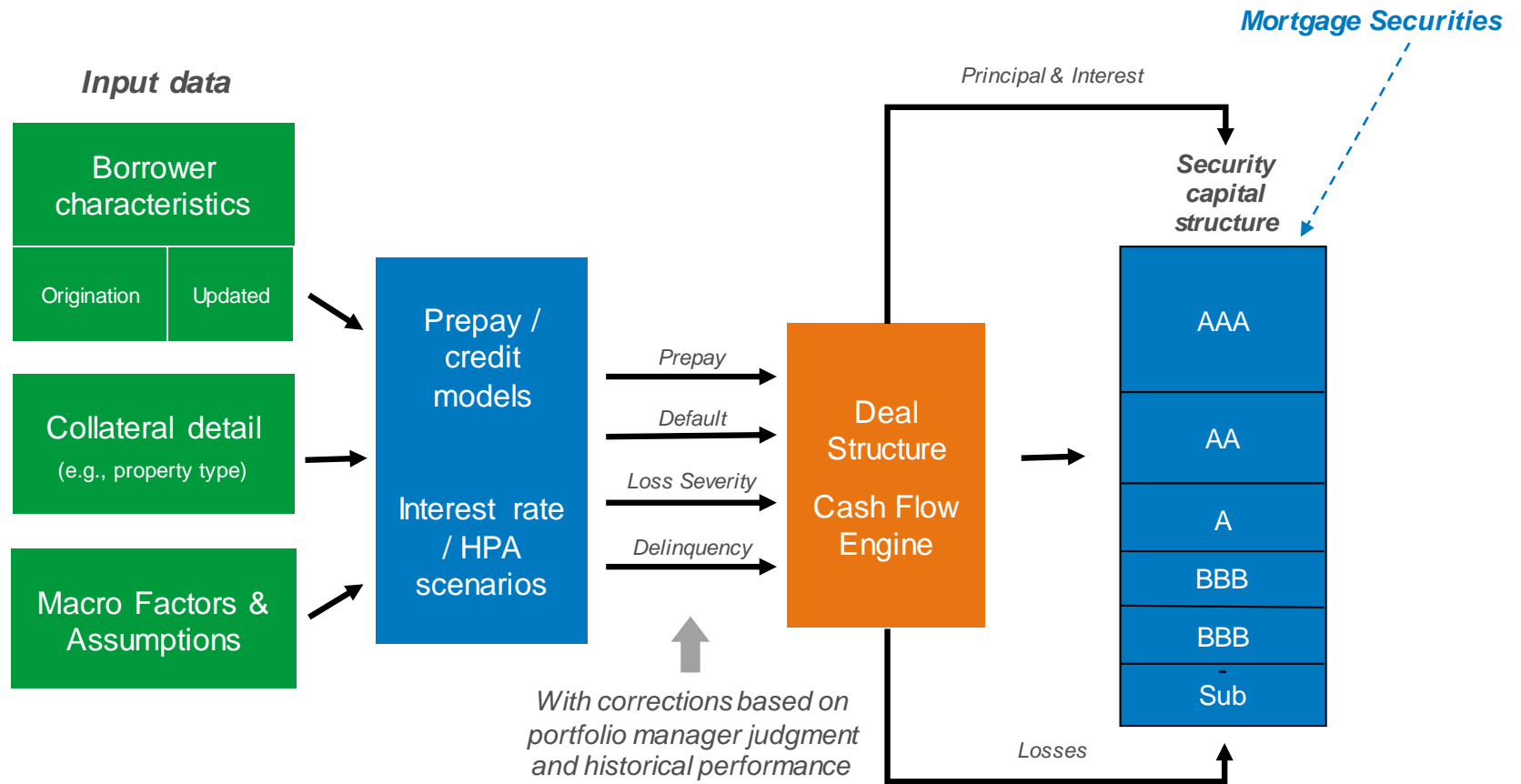
BlackRock Solutions Non-Agency RMBS Methodology

For professional clients / qualified investors only

BlackRock Solutions Non-Agency RMBS Analytical Framework

Prepayment and credit models provide a consistent and efficient analytical tool for modeling Non-Agency RMBS

Experienced portfolio managers add their views and market insight to the process

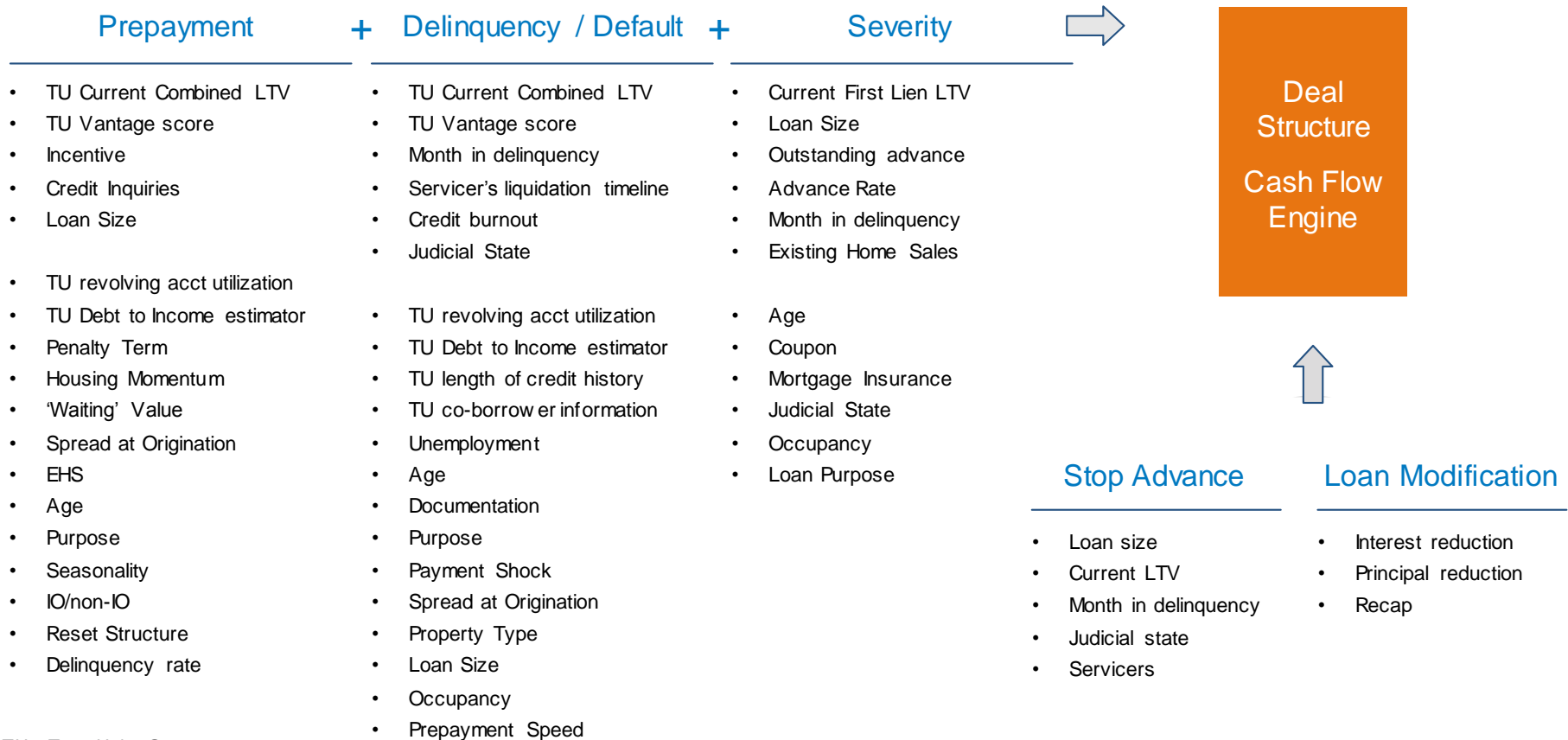


Loan Level Inputs to Performance Projections

Current status is the most important performance indicator

HPA and borrower/collateral credit characteristics continue to provide strong prediction power

Different product types, status, and seasoning have different parameters



TU = TransUnion®

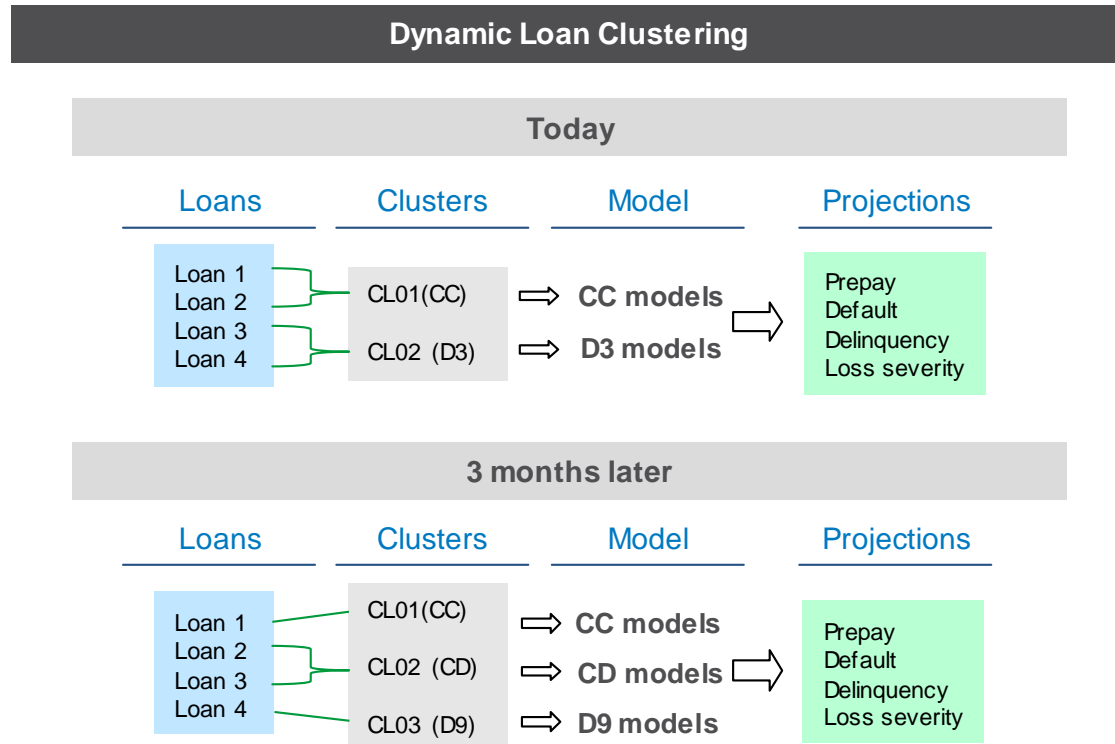
Dynamic Clustering

Individual loans are bucketed into clusters

- ▶ A “smart bucketing” algorithm is developed to balance the cluster size vs cluster homogeneity

Clusters are based on dynamic variables such as seasoning, current status, and HPA, as well as static variables such as State, FICO, LTV, IO, etc.

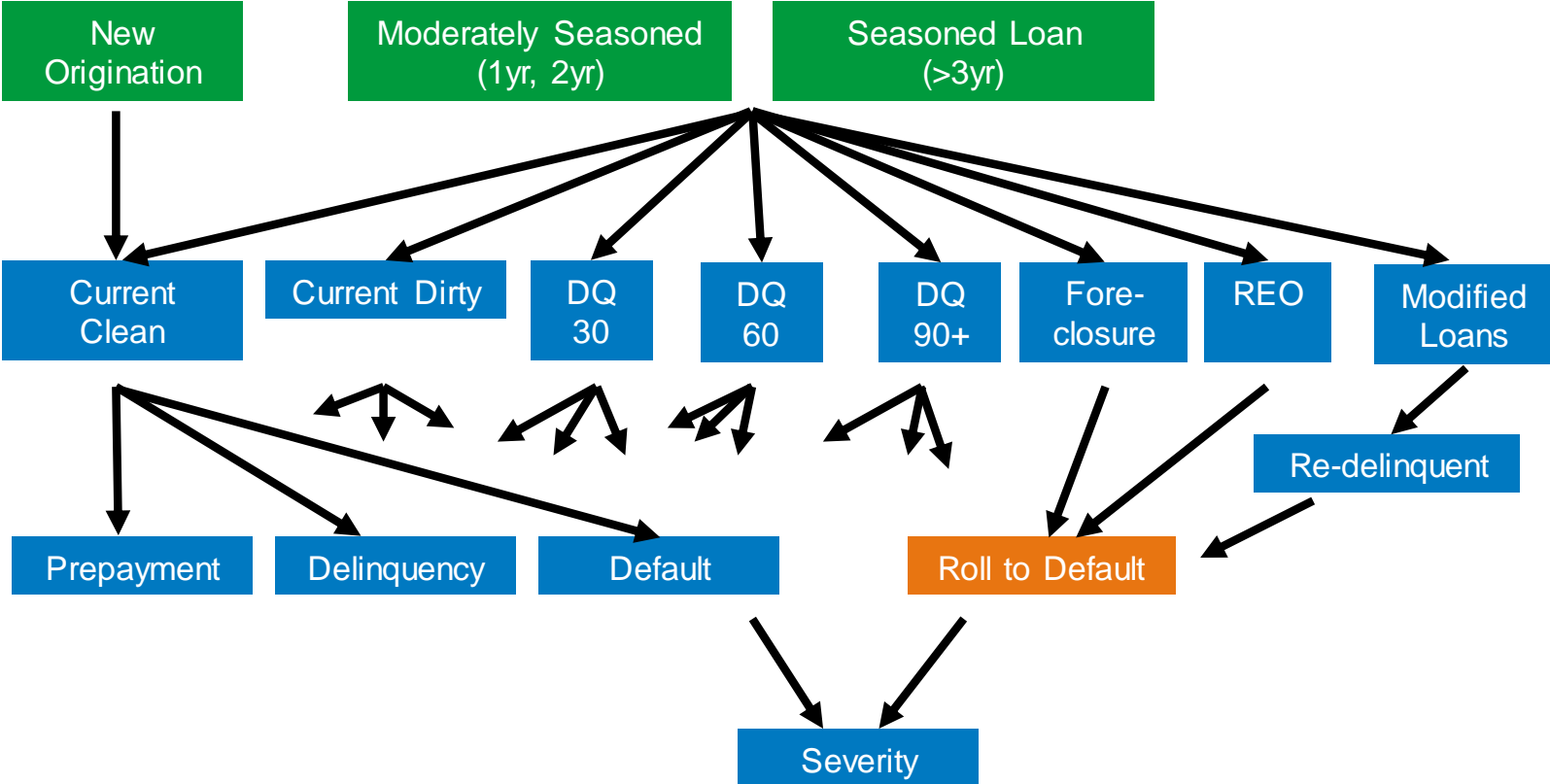
Different clusters run through different models



Non-Agency Model Structure

Clusters with different seasoning/delinquency status map to different prepay and credit models

All share the same severity model which projects the probability of short-sales vs REO liquidations



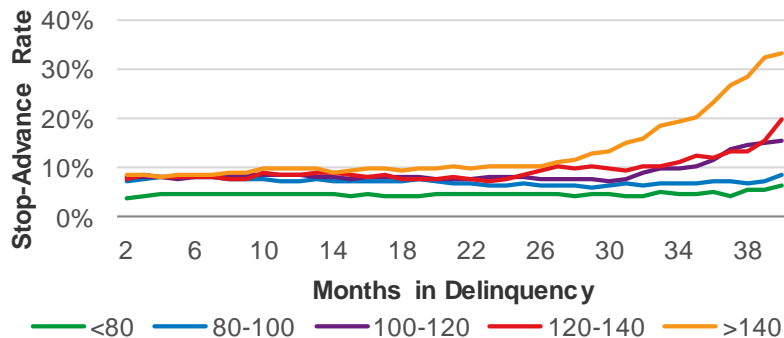
Servicer Stop-Advance Rate Model

Based on the empirical stop-advance rate by collateral types, the key drivers of the stop-advance model are:

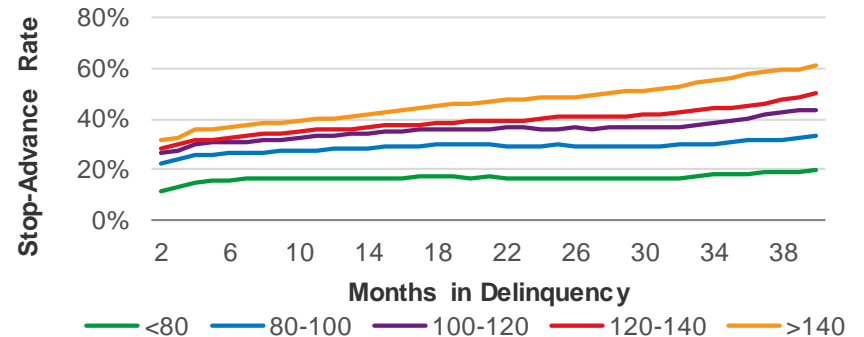
- ▶ Current LTV
- ▶ Months in delinquency
- ▶ Loan size
- ▶ Servicers

Assumption is that stop-advance rates for IO loans are the same as amortizing loans, as the stop-advance rate for IO loans cannot be easily measured

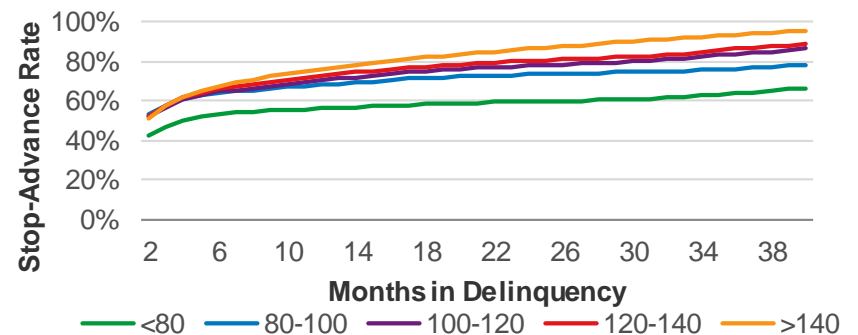
Prime Jumbo Stop-Advance Rate by CLTV and Months in Delinquency



Alt-A Stop-Advance Rate by CLTV and Months in Delinquency



Subprime Stop-Advance Rate by CLTV and Months in Delinquency



Source: BlackRock Solutions and Loan Performance

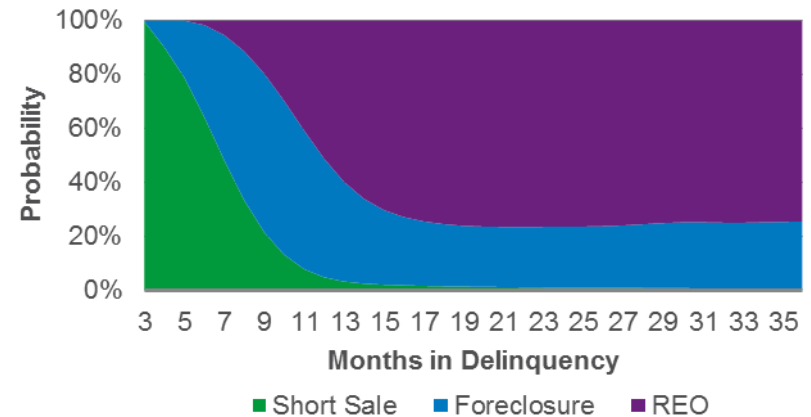
Liquidation Type Assumption

Liquidation type (short sale, FCL, or REO) has a large impact on loss severity

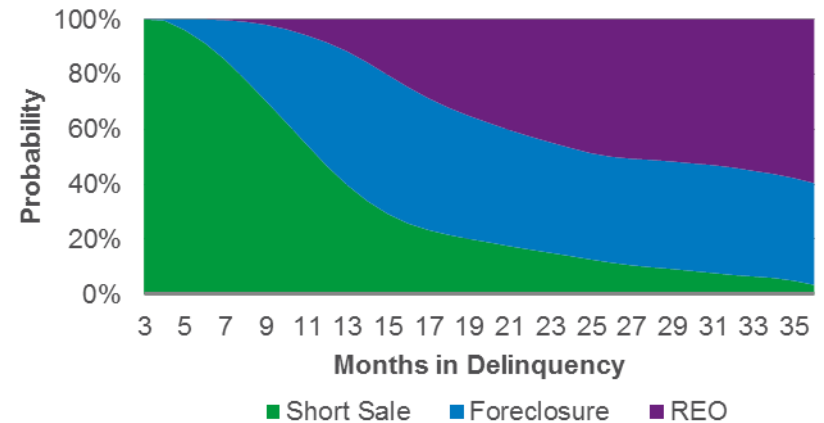
The empirical liquidation distribution and estimated months in delinquency are used to project the loan's probability of each liquidation type

- ▶ The top chart shows the likelihood of liquidation from short sale, foreclosure or REO by months in delinquency for Alt-A loans
- ▶ The bottom chart shows the difference in servicer behaviour
 - Some servicers perform short sales more aggressively than the average among servicers
- ▶ Models use months in delinquency to project the liquidation type probabilities going forward and take servicer differences into consideration

Alt-A Empirical Liquidation Type Distribution by Months in Delinquency



Alt-A Empirical Liquidation Type Distribution by Months in Delinquency for Specific Servicer



Source: BlackRock Solutions and Loan Performance

Loss Severity Model

Loss severity model combines accounting and statistical components

$$\text{Loss Severity} = \frac{(\text{UPB} - \text{Sale Proceeds}) + (\text{P\&I Advance}) + \text{Liquidation Cost} - \text{PMI}}{\text{UPB}} + \text{Statistical Factors}$$

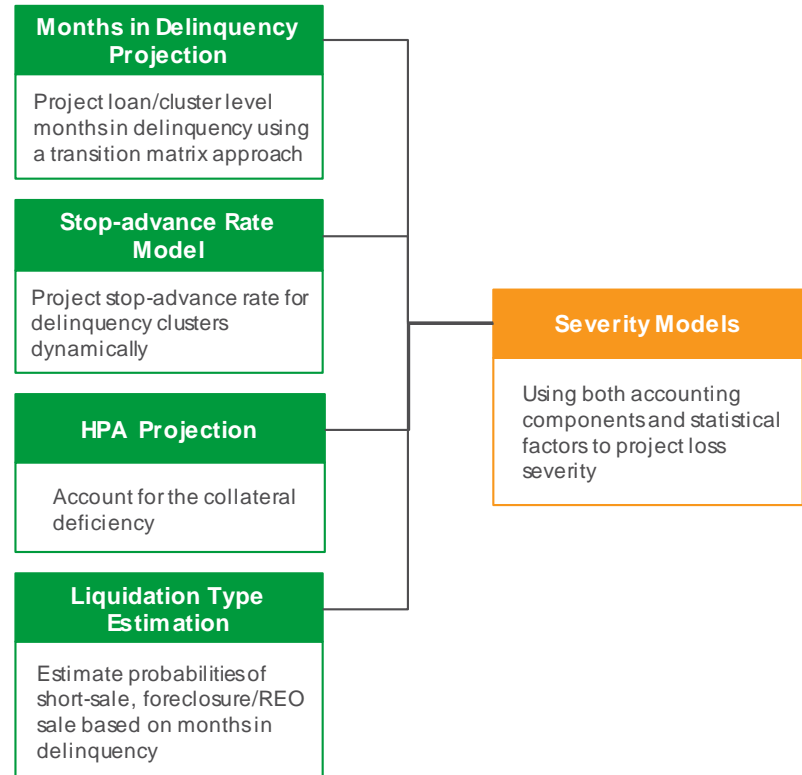
Statistical factors are used to capture variation due to factors outside the accounting model

- ▶ Liquidation type, collateral type
- ▶ Occupancy, bankruptcy, loan purpose
- ▶ Geographic factors, property type
- ▶ Current delinquency status

Updates have been made to both accounting and statistical factors

- ▶ Upward adjustment on loss severity for REO loans
- ▶ Increased liquidation costs as a function of projected months in delinquency
- ▶ Advancing history for the loan is used to estimate outstanding advancing

Components of the Loss Severity Model



Modified Loan Models

The modified loan model suite contains:

- ▶ Model to project delinquency and default on previously modified loans
- ▶ Model to project future modifications
- ▶ Adjustments to the prepayment model

The model for existing modifications is fully integrated into the seasoned loan framework

- ▶ Separate delinquency projections for current clean, current dirty, 30-day delinquent, 60-day delinquent, 90+ day delinquent
- ▶ The standard prepayment model is dialed to account for slower prepayments among modified loans

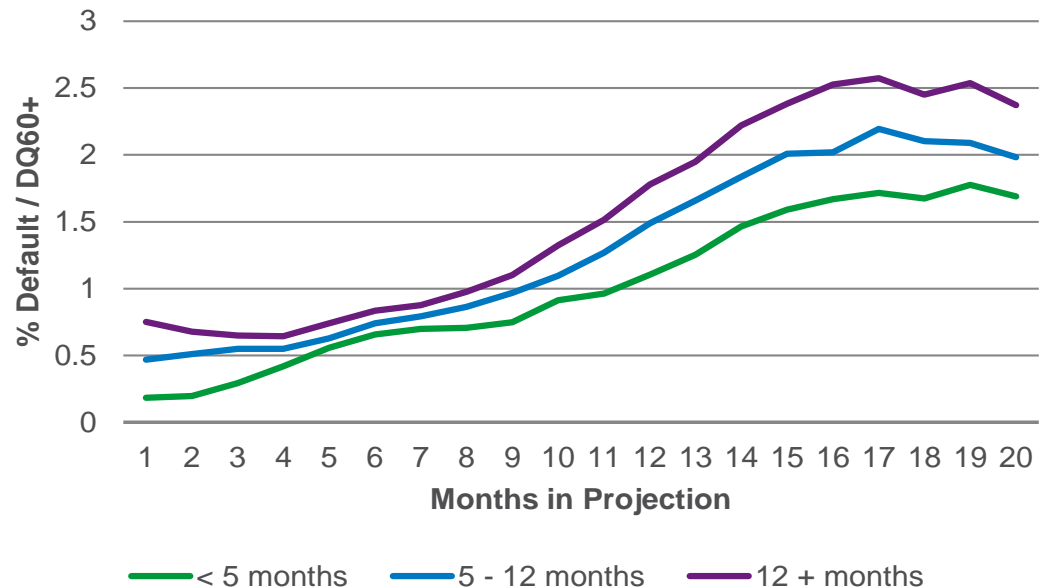
Future modifications are projected based on collateral type and delinquency status

- ▶ Calibrated to recent modification trends
- ▶ Modification rates vary across deals given their delinquency distribution

Major Variables in the Modified Loan Credit Model

Modification Type:	Projection Age
Principal, Rate, Recapitalization	
Pre HAMP / Post HAMP	TransUnion Current Combined LTV
Change in CCLTV due to modification	TransUnion Vantage Score
Delinquency status prior to modification	Time from Modification
Change in Monthly payment due to modification	Months-in-delinquency for default model

% Default for Modified by Re-Delinquent Loans



Source: BlackRock Solutions and CoreLogic

Important Notes

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