CRT Transition Matrix

Available through the Deal Performance Data dashboards in the CAS and CIRT sections of Data Dynamics

1. **Transparency**
   
   Shows month-over-month transitions between Forbearance, Workout, and Delinquency statuses for loans that are referenced in or collateralize our CRT transactions.

2. **Simplicity**
   
   This report aggregates our monthly loan-level delinquency status, Borrower Assistance Plan (BAP), and Alternative Delinquency Resolution (ADR) type disclosures.

3. **Insights**
   
   The CRT Transition Matrix is intended to provide insight into changes in these balances. Investors may find the report useful for projecting cashflows on CAS securities or CIRT policies.

4. **CRT Focus**
   
   Transition rates are calculated in accordance with CRT policies; as a result, transition rates may not be applicable to our pass-through mortgage-backed securities (MBS).
Using the CRT Transition Matrix

The dashboard includes three matrices that allow investors to analyze month-over-month transitions in Forbearance, Workout, and Delinquency status for loans that are referenced in or collateralize our CRT transactions.

Explanation of updates

1. **View by Loan Count or UPB**
   Toggle between loan count or the UPB in the Beginning month.

2. **Filtering**
   Filter by deal or by a variety of loan attributes including FICO, LTV, and DTI buckets.

3. **Select Remittance Period**
   Corresponds to the x-axis. The activity period corresponding to this remittance period is two months lagged (consisting with reporting convention). The beginning month (y-axis) is the activity period immediately prior to the ending month activity period.

Definitions

Click this symbol for definitions of the classifications used in each table.

Transition Rates

The table illustrates transition rates as a percentage of the beginning population.
## CRT Transition Matrix Tables

Analyze month-over-month transitions in Forbearance, Workout, and Delinquency status for loans that are referenced in or collateralize our CRT transactions.

### (1) Forbearance Status Transitions
- Shows transition rates between forbearance statuses and zero balance activities.
- By filtering to prior periods using the Remittance Period dropdown, users can see the evolution of transition rates. For instance, the rate of loans transitioning from “Never in Forbearance” to “Ever in Forbearance” has declined period over period.

### Interpreting the Forbearance Status*

#### New Loans in Forbearance
Rate at which loans that were never in forbearance as of the Beginning month transition into forbearance the following month.

#### Insight: Transitions over Time
By filtering to prior periods, users can see rate of loans transitioning from “Never in Forbearance” to “Ever in Forbearance” has declined period over period.

#### Analyze Zero Balance Activity**
Compare prepay, loan removal, and credit event rates for loans that were never in forbearance and ever in forbearance.

### CRT Transition Matrix

Click on any cell or header to filter all views to the selected cohort.

<table>
<thead>
<tr>
<th>View toggle</th>
<th>Deal</th>
<th>Orig. Date</th>
<th>FICO</th>
<th>LTV</th>
<th>CLTV</th>
<th>DTI</th>
<th>Risk Layers</th>
<th>Remittance Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>(All)</td>
<td>(All)</td>
<td>(All)</td>
<td>(All)</td>
<td>(All)</td>
<td>(All)</td>
<td>(All)</td>
<td>(All)</td>
<td>Nov 2020</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Product</th>
<th>Purpose</th>
<th>Occupancy</th>
<th>No. of Borrowers</th>
<th>First Time Buyer</th>
<th>HomeReady</th>
<th>State</th>
<th>Zip 2</th>
<th>Regions of Interest</th>
</tr>
</thead>
<tbody>
<tr>
<td>(All)</td>
<td>(All)</td>
<td>(All)</td>
<td>(All)</td>
<td>(All)</td>
<td>(All)</td>
<td>(All)</td>
<td>(All)</td>
<td>(All)</td>
</tr>
</tbody>
</table>

### Ending month: September 2020 (Nov 2020 Remit)

<table>
<thead>
<tr>
<th>Forbearance status</th>
<th>Ever in Forbearance</th>
<th>Never in Forbearance</th>
<th>Prepay</th>
<th>Removal</th>
<th>Credit Event</th>
<th>Grand Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ever in Forbearance</td>
<td>95.33%</td>
<td>4.67%</td>
<td>0.03%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>100.00%</td>
</tr>
<tr>
<td>Never in Forbearance</td>
<td>0.15%</td>
<td>95.12%</td>
<td>4.55%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>100.00%</td>
</tr>
<tr>
<td>Grand Total</td>
<td>9.08%</td>
<td>86.29%</td>
<td>4.89%</td>
<td>0.00%</td>
<td>0.19%</td>
<td>100.00%</td>
</tr>
</tbody>
</table>

### CRT Transition Matrix

In September 2020, a higher share of loans that were “Never in Forbearance” in August 2020 paid off in September than loans that were “Ever in Forbearance” in August 2020.

Conversely, a higher share of the “Ever in Forbearance” population transitioned to a credit event in September 2020. This is primarily due to loans in CAS Fixed Severity deals (CAS 2013-C01 through CAS 2015-C03) converting to a credit event automatically upon reaching 180 days of delinquency.

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**Prepay = Zero Balance Code 01; Removal = Zero Balance Codes 06 or 96; Credit Event = Zero Balance Codes 02, 03, 09, 97, 98.
**CRT Transition Matrix Tables**

Analyze month-over-month transitions in Forbearance, Workout, and Delinquency status for loans that are referenced in or collateralize our CRT transactions.

(2) **Workout Status Transitions**

- Shows transition rates between workout status and zero balance activities.
- Derive insights into the rate at which loans that were in a forbearance plan as of the Beginning month transition into a workout such as a repayment plan, payment deferral, or trial modification.
- In cases where a loan is reported to be in multiple workout options, such as a payment deferral and active forbearance plan, the most recently received workout option will take precedence.

<table>
<thead>
<tr>
<th>Workout status</th>
<th>Active Forbearance</th>
<th>Payment Deferral</th>
<th>Repayment Plan</th>
<th>Trial Mod</th>
<th>Ever in Forbearance - No Workout</th>
<th>Never in Forbearance - No Workout</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active Forbearance</td>
<td>82.43%</td>
<td>17.57%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>7.12%</td>
<td>0.68%</td>
</tr>
<tr>
<td>Payment Deferral</td>
<td>1.98%</td>
<td>96.14%</td>
<td>0.01%</td>
<td>0.03%</td>
<td>0.09%</td>
<td>0.01%</td>
</tr>
<tr>
<td>Repayment Plan</td>
<td>2.57%</td>
<td>2.15%</td>
<td>81.79%</td>
<td>0.42%</td>
<td>8.16%</td>
<td>3.23%</td>
</tr>
<tr>
<td>Trial Mod</td>
<td>2.22%</td>
<td>0.25%</td>
<td>0.03%</td>
<td>76.90%</td>
<td>6.57%</td>
<td>12.04%</td>
</tr>
<tr>
<td>Ever in Forbearance - No Workout</td>
<td>1.97%</td>
<td>4.06%</td>
<td>0.05%</td>
<td>0.23%</td>
<td>88.18%</td>
<td>4.96%</td>
</tr>
<tr>
<td>Never in Forbearance - No Workout</td>
<td>0.21%</td>
<td>0.01%</td>
<td>0.00%</td>
<td>0.01%</td>
<td>95.06%</td>
<td>4.94%</td>
</tr>
<tr>
<td>Grand Total</td>
<td>5.53%</td>
<td>1.35%</td>
<td>0.08%</td>
<td>0.10%</td>
<td>2.66%</td>
<td>0.59%</td>
</tr>
</tbody>
</table>

**Forbearance Transitions**

Rate at which loans that were in a forbearance plan transition into a workout. For example, almost 5% of loans in “Active Forbearance” in August 2020 transitioned to a “Payment Deferral” in September 2020.

**Exiting Forbearance without a Workout**

Rate at which loans exit an active forbearance plan with no workout, either via reinstatement, because none of the workout options were appropriate, or a workout has not yet been completed.

**Zero Balance Activities for Loan Workout Options**

Compare the rates of zero balance activities for loans in loan workout options.

**Insight: Highest Payoff Rates**

For example, the population of loans that was “Ever in Forbearance – No Workout” had the highest payoff rate in September 2020.

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CRT Transition Matrix Tables

Analyze month-over-month transitions in Forbearance, Workout, and Delinquency status for loans that are referenced in or collateralize our CRT transactions.

(3) Delinquency Status Transitions

- Shows transition rates between delinquency status and zero balance activities.
- Derive insights into the rate at which loans move into deeper delinquency, as well as the rate at which they cure.

Delinquency status

<table>
<thead>
<tr>
<th>Delinquency status</th>
<th>Current</th>
<th>30-59d DLQ</th>
<th>60-89d DLQ</th>
<th>90-119d DLQ</th>
<th>120-149d DLQ</th>
<th>150-179d DLQ</th>
<th>180+ DLQ</th>
<th>Prepay</th>
<th>Removal</th>
<th>Credit Event</th>
<th>Grand Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>30-59d DLQ</td>
<td>24.72%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>4.39%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>100.00%</td>
</tr>
<tr>
<td>60-89d DLQ</td>
<td>35.61%</td>
<td>32.66%</td>
<td>30.48%</td>
<td>0.06%</td>
<td>0.06%</td>
<td>0.06%</td>
<td>0.06%</td>
<td>3.03%</td>
<td>0.03%</td>
<td>100.00%</td>
<td></td>
</tr>
<tr>
<td>90-119d DLQ</td>
<td>14.33%</td>
<td>6.77%</td>
<td>26.95%</td>
<td>50.78%</td>
<td>0.23%</td>
<td>0.11%</td>
<td>0.00%</td>
<td>1.33%</td>
<td>100.00%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>120-149d DLQ</td>
<td>14.24%</td>
<td>1.26%</td>
<td>9.12%</td>
<td>20.89%</td>
<td>69.62%</td>
<td>0.24%</td>
<td>0.02%</td>
<td>1.29%</td>
<td>100.00%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>150-179d DLQ</td>
<td>11.00%</td>
<td>0.55%</td>
<td>6.18%</td>
<td>11.12%</td>
<td>6.76%</td>
<td>78.59%</td>
<td>0.12%</td>
<td>0.02%</td>
<td>100.00%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>180+ DLQ</td>
<td>11.11%</td>
<td>0.25%</td>
<td>0.24%</td>
<td>0.19%</td>
<td>0.36%</td>
<td>3.23%</td>
<td>33.50%</td>
<td>73.00%</td>
<td>0.76%</td>
<td>100.00%</td>
<td></td>
</tr>
<tr>
<td>Grand Total</td>
<td>89.80%</td>
<td>0.98%</td>
<td>0.53%</td>
<td>0.62%</td>
<td>0.63%</td>
<td>1.14%</td>
<td>1.79%</td>
<td>4.14%</td>
<td>0.00%</td>
<td>0.19%</td>
<td>100.00%</td>
</tr>
</tbody>
</table>

Interpreting the Delinquency Status*

Delinquency Roll Rates
As an example, for loans 30d DLQ in beginning Month (e.g., August), track the DLQ status in the ending month (e.g., September).

Insight: Elevated Credit Events at D180*
For CAS Fixed Severity deals (CAS 2013-C01 through CAS 2015-C03), a credit event automatically occurs when a loan reaches 180 days of delinquency. For actual loss deals (CAS 2015-C04 and thereafter), loans may transition from 150-179d DLQ to deeper states of delinquency.

Insight: Voluntary Prepays Even for Delinquent Loans
We observe healthy rates of prepayment even among delinquent loans, suggesting that borrowers facing financial hardship may be able to sell their homes and repay the loan in full rather than default.

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Resources

- **Access Data Dynamics:**
  www.fanniemae.com/datadynamics

- **Sign up for Fannie Mae communications:**
  www.fanniemae.com/CMsignup

- **Learn about our Credit Risk Transfer programs:**
  www.fanniemae.com/SFCRT

- **Contact us with questions:**
  1-800-232-6643, Option 3 or by e-mail