Mortgage Bankers Association of Puerto Rico

BLACK KNIGHT™

MBA of PR Data & Analytics Partnership

Building Transparency in Puerto Rico Housing Market

Discussion Topics

- **Data & Analytics Overview - Trends and Challenges**

  - U.S. Housing Market

  - Puerto Rico Housing Market

- **MBA of PR & Black Knight Reporting Partnership**

- **Sample Metrics & Reports**

  - Market Overview Reporting

  - Roll Rates & Cure Rate Reporting

  - Delinquency Reporting

- **Additional Data & Analytics Opportunities**

Data & Analytics Overview – Trends & Challenges

- ## U.S. Market:

  - "Big Data" initiatives

  - Linking D&A to LOS and Servicing technologies; resource investment & enablement

  - D&A tools to help mitigate risk & drive decision-making

- ## Puerto Rico Market:

  - Building D&A infrastructure

  - Addressing unique challenges: property values, loss mitigation, redefaults & foreclosures

  - Key focus: How to use D&A to increase market transparency

MBA of PR & Black Knight Reporting Partnership

- **MBA of PR and Black Knight are working together to create customized reporting with the following goals:**

  - ✓ Increase transparency in the Puerto Rico mortgage market

  - ✓ Provide valuable and actionable information to members for responding to regulatory, operational and investor inquiries

  - ✓ Establish strategic relationships to create a foundation for further development of analytics to support servicers in Puerto Rico

- **Black Knight working directly with mortgage servicers to create data extracts for reporting and incorporation into the industry leading McDash loan-level database**

- **Sample metrics / reports to include: Delinquencies, Foreclosures, Roll & Cure Rates**

- **Reporting and data boarding are provided <u>free of charge</u> to MBA of PR members**

MONTHLY PRODUCT OVERVIEW REPORT - April 2016

DATA & ANALYTICS

Loan Selection: All Mortgages

DELINQUENCY RATES (based on UPB)

	1 Month	2 Month	3+ Month	Total Delinq	Factor vs. All Loans	Change vs. Prev Month	Change vs. Year Ago
TOTAL - ALL LOANS							
Current Month	2.04%	0.71%	1.70%	4.44%		3.35%	(8.55%)
Last Month	1.89%	0.69%	1.71%	4.29%			
Last Year	2.05%	0.75%	2.06%	4.85%			

BY ORIGINAL LOAN AMOUNT

	1 Month	2 Month	3+ Month	Total Delinq	Factor vs. All Loans	Change vs. Prev Month	Change vs. Year Ago
All Loans	2.04%	0.71%	1.70%	4.44%		3.35%	(8.55%)
74,999 and Under	3.38%	1.11%	2.49%	6.99%	158%	4.21%	(3.51%)
75,000 - 124,999	2.91%	0.96%	1.93%	5.80%	131%	4.92%	(3.87%)
125,000 - 174,999	2.53%	0.85%	1.76%	5.14%	116%	4.54%	(5.51%)
175,000 - 224,999	2.16%	0.72%	1.60%	4.48%	101%	4.09%	(7.70%)
225,000 - 274,999	1.97%	0.67%	1.57%	4.20%	95%	3.57%	(9.46%)
275,000 - 324,999	1.88%	0.64%	1.60%	4.13%	93%	3.78%	(9.99%)
325,000 - 374,999	1.84%	0.65%	1.68%	4.18%	94%	3.21%	(10.61%)
375,000 - 424,999	1.44%	0.50%	1.29%	3.23%	73%	3.25%	(9.67%)
425,000 - 524,999	2.02%	0.84%	2.41%	5.28%	118%	1.00%	(8.18%)
525,000 and Greater	1.14%	0.46%	1.52%	3.11%	70%	(0.01%)	(12.07%)

BY INTEREST RATE

	1 Month	2 Month	3+ Month	Total Delinq	Factor vs. All Loans	Change vs. Prev Month	Change vs. Year Ago
All Loans	2.04%	0.71%	1.70%	4.44%		3.35%	(8.55%)
less than 4.00	1.50%	0.57%	1.22%	3.29%	74%	2.07%	(9.98%)
4.00 - 4.49	1.63%	0.57%	1.11%	3.31%	75%	6.59%	2.75%
4.50 - 4.99	1.91%	0.61%	1.36%	3.89%	88%	5.51%	1.42%
5.00 - 5.49	2.94%	0.93%	2.30%	6.17%	139%	4.63%	1.32%
5.50 - 5.99	3.44%	1.06%	2.64%	7.15%	161%	4.60%	0.17%
6.00 - 6.49	4.12%	1.31%	3.70%	9.13%	206%	4.11%	(1.57%)
6.50 - 6.99	4.60%	1.53%	4.65%	10.79%	243%	3.72%	(1.54%)
7.00 - 7.49	5.16%	1.67%	6.16%	12.99%	293%	3.48%	(4.18%)
7.50 - 7.99	5.40%	1.87%	7.32%	14.58%	329%	2.36%	(5.77%)
8.00 - 8.49	5.53%	1.97%	8.36%	15.86%	357%	2.02%	(4.23%)
8.50 - 8.99	5.77%	2.14%	8.27%	16.18%	365%	1.17%	(7.28%)
9.00 and up	6.07%	2.24%	9.76%	18.07%	407%	0.91%	(8.92%)

PREPAYMENT RATES (based on UPB)

	1 month CPR	Factor vs. All Loans	Change vs. Prev Month	Change vs. Year Ago
TOTAL - ALL LOANS				
Current Month	14.57%		(1.85%)	(7.15%)
Last Month	14.85%			
Last Year	15.70%			
BY ORIGINAL LOAN AMOUNT				
All Loans	14.57%		(1.85%)	(7.15%)
74,999 and Under	11.28%	77%	1.52%	8.33%
75,000 - 124,999	11.59%	80%	(0.51%)	(2.07%)
125,000 - 174,999	12.84%	88%	(0.82%)	(5.33%)
175,000 - 224,999	13.68%	94%	(1.01%)	(10.52%)
225,000 - 274,999	14.24%	98%	(0.94%)	(11.02%)
275,000 - 324,999	14.54%	100%	(2.78%)	(12.20%)
325,000 - 374,999	14.89%	102%	(3.52%)	(13.19%)
375,000 - 424,999	15.61%	107%	(4.53%)	(11.47%)
425,000 - 524,999	15.51%	106%	(4.49%)	(9.58%)
525,000 and Greater	18.83%	129%	(2.03%)	(3.22%)
BY INTEREST RATE				
All Loans	14.57%		(1.85%)	(7.15%)
less than 4.00	12.25%	84%	0.07%	9.42%
4.00 - 4.49	15.01%	103%	(3.10%)	(9.23%)
4.50 - 4.99	17.36%	119%	(0.75%)	(15.25%)
5.00 - 5.49	18.15%	125%	(1.00%)	(13.83%)
5.50 - 5.99	18.03%	124%	(4.67%)	(14.19%)
6.00 - 6.49	18.20%	125%	(8.31%)	(11.54%)
6.50 - 6.99	17.45%	120%	(6.44%)	(5.78%)
7.00 - 7.49	15.50%	106%	(8.82%)	(2.53%)
7.50 - 7.99	14.96%	103%	(1.39%)	5.93%
8.00 - 8.49	16.25%	111%	12.50%	23.72%
8.50 - 8.99	14.82%	102%	3.08%	13.08%
9.00 and up	14.99%	103%	6.25%	25.37%

COLLATERAL CHARACTERISTICS

	Wtd Avg Interest Rt	Avg Orig Loan Amt	Wtd Avg Credit Sc	Wtd Avg Loan Age
TOTAL - ALL LOANS				
Current Month	4.21	196,180	729	63
Last Month	4.22	195,719	729	63
Last Year	4.30	191,190	727	60
BY ORIGINAL LOAN AMOUNT				
All Loans	4.21	196,180	729	63
74,999 and Under	5.63	52,853	704	99
75,000 - 124,999	4.78	99,800	713	77
125,000 - 174,999	4.45	148,182	719	67
175,000 - 224,999	4.29	197,803	725	62
225,000 - 274,999	4.18	248,004	729	59
275,000 - 324,999	4.11	297,973	731	60
325,000 - 374,999	4.03	348,136	733	58
375,000 - 424,999	3.94	401,515	741	54
425,000 - 524,999	3.94	473,809	730	67
525,000 and Greater	3.66	806,742	748	52
BY INTEREST RATE				
All Loans	4.21	196,180	729	63
less than 4.00	3.33	251,057	740	53
4.00 - 4.49	4.18	207,178	735	44
4.50 - 4.99	4.68	179,956	728	58
5.00 - 5.49	5.16	159,920	711	84
5.50 - 5.99	5.69	148,603	704	118
6.00 - 6.49	6.18	144,280	697	125
6.50 - 6.99	6.67	136,119	685	125
7.00 - 7.49	7.17	109,297	668	137
7.50 - 7.99	7.69	97,839	649	140
8.00 - 8.49	8.19	84,772	639	140
8.50 - 8.99	8.70	78,824	632	138
9.00 and up	10.22	60,903	616	135

CPR and Delinquency by Balance
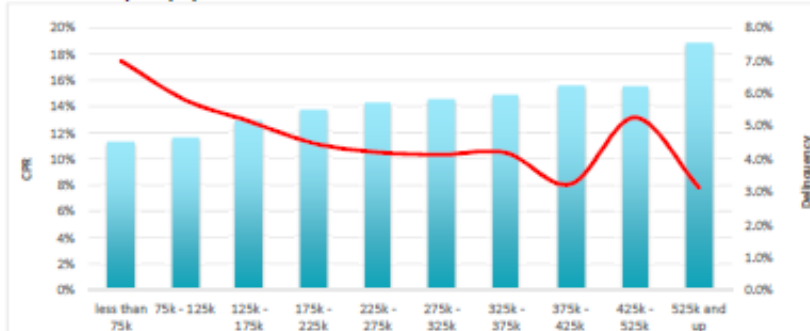
CPR and Delinquency by Interest Rate
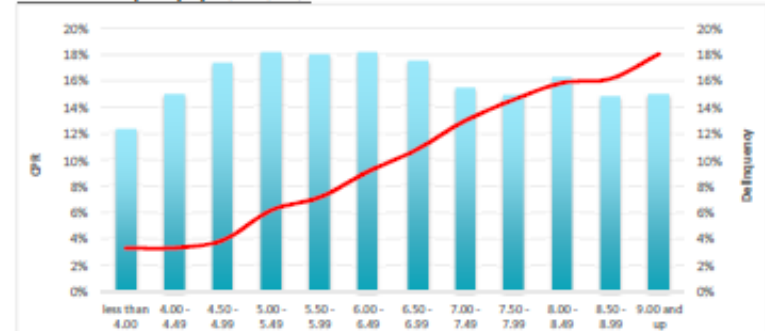
MBA of Puerto Rico: Roll Rate Reporting

MONTHLY DELINQUENCY AND MIGRATION ANALYSIS - March to April, 2016

Origination Channel: All
Loan Selection: All Mortgages

Delinquent Percentages - Delinquent percentages exclude loans in bankruptcy and include only loans with 2 months of history.

	Current Loans	1 mo Delinquent	2 mos Delinquent	3 mos Delinquent	4+ mos Delinquent	F/C Presale	F/C Post/REO	Bankrupt - Current	Bankrupt - Deling.
Percent In Status	92.81%	1.92%	0.59%	0.25%	0.70%	0.96%	0.67%	0.40%	0.51%

Roll Rate Highlights - Column headings represent status as of last month. Figures indicate percent of loans in status last month curing, unchanged or advancing.

	Current Loans	1 mo Delinquent	2 mos Delinquent	3 mos Delinquent	4+ mos Delinquent	F/C Presale	F/C Post/REO	Bankrupt - Current	Bankrupt - Deling.
Cured to Current Status	-	30.7%	9.8%	7.6%	5.8%	2.5%	0.0%	5.3%	0.5%
Improved Status (ex Current)	-	-	16.5%	15.6%	2.6%	3.8%	0.2%	-	-
Status Unchanged	97.8%	51.2%	44.5%	33.2%	77.8%	86.7%	92.8%	89.6%	90.5%
Entered Bankruptcy	0.0%	0.1%	0.2%	0.3%	0.5%	1.6%	0.0%	-	-
Delinquency Advance (ex BK)	1.0%	17.2%	28.4%	42.4%	11.8%	4.2%	-	4.8%	-
Liquidated	1.2%	0.9%	0.6%	0.9%	1.4%	1.3%	6.9%	0.3%	0.3%

Roll Rate Detail - Column headings represent status as of last month. Row titles show status as of this month.

	Current Loans	1 mo Delinquent	2 mos Delinquent	3 mos Delinquent	4+ mos Delinquent	F/C Presale	F/C Post/REO	Bankrupt - Current	Bankrupt - Deling.
Current Loans	97.8%	30.7%	9.8%	7.6%	5.8%	2.5%	0.0%	5.3%	0.5%
Delinquencies (Excluding BK)									
1 Month	**1.0%**	51.2%	16.5%	3.7%	0.8%	0.3%	0.0%	0.2%	0.4%
2 Months	0.0%	**17.1%**	44.5%	11.8%	0.7%	0.0%	0.0%		0.2%
3 Months	0.0%	0.1%	**27.9%**	33.2%	1.1%	0.0%			0.1%
4+ Months	0.0%	0.0%	0.2%	**41.6%**	77.8%	3.4%	0.2%	0.0%	1.4%
In Foreclosure- Presales	0.0%	0.0%	0.3%	0.8%	**11.1%**	86.7%	0.1%	0.0%	2.6%
Postsales and REOs	0.0%	0.0%	0.0%	0.0%	0.7%	**4.2%**	92.8%	0.0%	0.1%
In Bankruptcy - Current	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		89.6%	3.9%
In Bankruptcy - Delinquent	0.0%	0.1%	0.2%	0.3%	0.5%	1.6%	0.0%	4.6%	90.5%
Paid-In-Full	1.2%	0.9%	0.6%	0.8%	0.7%	0.6%	0.2%	0.3%	0.2%
Foreclosure Completed	0.0%	0.0%	0.0%	0.0%	0.7%	0.7%	**6.7%**	0.0%	0.1%

State Delinquency (MBA) Report - 201604
Loan Selection: Active Loans - All

State, area and census region	Loans serviced	Percent of loans with installments past due					Objective Characteristics		
		Total past due	30 days	60 days	90 days or more	Percent of loans in foreclosure	Wtd Avg Interest Rate	Wtd Avg Credit Score	Avg Original Amount
Connecticut	342,362	5.43%	2.56%	0.88%	1.99%	2.10%	4.14	728	238,828
Maine	94,633	5.66%	2.62%	0.81%	2.23%	2.68%	4.38	722	165,915
Massachusetts	545,933	5.21%	2.46%	0.77%	1.98%	1.72%	4.09	731	252,041
New Hampshire	125,899	4.44%	2.33%	0.81%	1.30%	0.73%	4.32	726	188,715
Rhode Island	80,810	6.42%	2.91%	1.01%	2.50%	2.04%	4.36	718	197,422
Vermont	40,285	4.14%	2.15%	0.65%	1.35%	1.90%	4.38	733	175,002
New England	**1,229,922**	**5.27%**	**2.51%**	**0.82%**	**1.94%**	**1.83%**	**4.18**	**728**	**229,142**
New Jersey	930,681	5.61%	2.39%	0.81%	2.42%	4.72%	4.25	725	244,820
New York	1,421,034	5.36%	2.43%	0.81%	2.12%	3.88%	4.22	728	273,631
Pennsylvania	1,029,161	5.97%	2.94%	1.02%	2.01%	1.65%	4.38	726	157,182
Mid Atlantic	**3,380,876**	**5.62%**	**2.57%**	**0.87%**	**2.17%**	**3.44%**	**4.28**	**727**	**230,252**
Illinois	1,254,953	4.76%	2.23%	0.76%	1.77%	1.52%	4.17	730	186,507
Indiana	560,855	6.21%	3.27%	0.98%	1.95%	1.47%	4.51	714	118,508
Michigan	851,244	4.80%	2.53%	0.85%	1.42%	0.39%	4.40	725	132,375
Ohio	939,511	5.78%	2.82%	0.94%	2.02%	1.60%	4.49	718	123,432
Wisconsin	364,331	4.45%	2.16%	0.68%	1.62%	1.06%	4.30	728	149,618
East North Central	**3,970,894**	**5.18%**	**2.57%**	**0.85%**	**1.77%**	**1.25%**	**4.36**	**723**	**146,990**
Iowa	218,697	3.90%	2.17%	0.65%	1.07%	1.10%	4.27	731	124,648
Kansas	209,358	4.83%	2.61%	0.77%	1.45%	0.96%	4.34	728	132,486
Minnesota	689,470	2.93%	1.63%	0.48%	0.82%	0.37%	4.17	740	176,120
Missouri	548,623	5.39%	2.77%	0.91%	1.72%	0.62%	4.35	727	132,877
Nebraska	161,751	3.75%	1.94%	0.59%	1.22%	0.43%	4.22	733	124,203
North Dakota	41,063	2.03%	1.24%	0.26%	0.52%	0.61%	4.04	740	152,725
South Dakota	57,819	2.64%	1.50%	0.40%	0.74%	0.67%	4.08	740	142,406
West North Central	**1,926,781**	**3.99%**	**2.14%**	**0.66%**	**1.20%**	**0.61%**	**4.25**	**733**	**147,355**

MBA of PR Reporting - Data Contribution Process

Standardized Data Submission

Standardized data fields with clear definitions

Coordination with PR servicers, industry groups & government organizations

BKFS support staff available to provide additional guidance and insight

Efficient QC Processes

Edit checks on key data fields ensure highest reporting and analytic integrity

Detailed QC reporting provides actionable feedback and improves overall data quality

Support staff adept at identifying and resolving systemic issues

Production-ready Market Data

Anonymized industry database for reporting and analytics

Puerto Rico housing data included in McDash database – includes millions of loans & relevant history

Access to additional Black Knight's data and analytic products

Black Knight history supporting US housing market

1980s - 2000
McDash established as first of its kind contributory database with info provided and used by the leading mortgage servicers

2007 - 2008
McDash selected as data aggregator for HOPE NOW and OCC Mortgage Metrics

2009 - 2010
McDash selected as data aggregator for HAMP and FRB CCAR

2014
Black Knight Financial Services IPO

2016
Black Knight/ MBA of PR Reporting partnership announced

2000 - 2004
McDash loan count grows to over 20 million loans, use cases from mortgage to investment companies for loan pricing & trading

2008
McDash Acquired by LPS, loan count over 40 million, 80% of the industry

2010 - 2014
McDash release of enhanced data modules: Loss Mitigation, Property & Resolution modules

TODAY
Over 30 contributors, 9 of the top 10 servicers, 160 million total loans & 25 years of historical records

A trusted industry and government partner, staffed with seasoned experts, serving leading clients for over 25 years

McDash Loan Level Data – Reporting Roadmap

Subscription Reporting ✓

- Over 100 standardized reports covering many of the most commonly used metrics
  - *Overview Reports* – traditional & non-traditional product types, key variable bands (interest rate, vintage)
  - *Roll Rate Reports* – loan status transition % month-to-month by product
  - *Delinquency Reports* – state and grouped by region
- Monthly updates delivered automatically in Excel or PDF format

Custom Reporting and Analysis

- Custom solution to meet unique client reporting and analytic requirements
- Expert team of analysts works with clients to design reports that provide the metrics and formats desired
- Company specific design, branding and logos can be incorporated

Data Cubes and Synthetic Securities

- Custom data aggregations provide increased analytic and modeling capability at lower cost and without the technical requirements of loan level data
- Measures and segmentations are defined by the client and can be as granular as desired

McDash Online / Loan Level Data

- **McDash Online** - 100% browser based loan level query application providing access to the McDash Loan Level data for reporting, ad-hoc analysis and modeling.
- **McDash Loan-Level Data** - access to raw data (.txt, .csv) for analytics and input directly into the clients' proprietary models and systems;
- Options allow access to the entire McDash anonymized loan level data, history and additional modules (Loss Mitigation, Credit, Resolution); ability to share data & reports enterprise-wide

MBA of PR – Building Platform for Success

Relying on industry and market-leading data, using powerful analytics and deep industry experience will provide MBA of Puerto Rico members with valuable insight to guide your success across the end-to-end mortgage value chain.

Property, MLS and Mortgage Performance Data

Mortgage and Real Estate Analytics

Loss Mitigation Data and Analytics

Property Valuations (HPIs, AVMs)

Portfolio Analytics and Solutions Consulting

Default Forecasts and Loss Estimates