

Mission Index Criteria Attribution (MICA) Overview

Methodology to Estimate
Portfolio-Level Social Impact

MARCH 2025



Disclaimer

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Mission Index Criteria Attribution (MICA)

Fannie Mae developed the Mission Index Criteria Attribution (MICA) disclosure supplement and accompanying MICA Engine and Excel-based tool to provide **impact investors with enhanced insights** into the representation of specific populations of Mission borrowers in their portfolios.

The Mission Index disclosures—the Mission Criteria Share (MCS) and Mission Density Score (MDS)—provide aggregated insight into Mission-oriented lending activities within an MBS pool. They permit **portfolio-level assessment of aggregate impact**, but do not provide granular, criteria-level insight due to borrower privacy considerations.

The MICA methodology provides an accurate assessment of portfolio impact without compromising borrower privacy. It's not a prepayment disclosure, its purpose is to facilitate the **estimation of criteria-specific contribution to a portfolio's impact on Mission-oriented lending**.

We anticipate publishing updates to the MICA disclosure supplement quarterly in the month following quarter end. Versions 1.0/1.1 contain Fannie Mae MBS only; Resecuritizations, i.e., Supers®, Megas®, REMICs are excluded.

The MICA resources empower investors to quantify the estimated impact of their portfolio investments on specific populations of Mission borrowers.



Quantifying Portfolio Impact

MICA enables portfolio managers to provide their clients with insights into the impact of their investments

Based on the calculations facilitated by the cohort-level disclosure supplement, an investor would be able to provide the following insights to clients:

IN 2024, OUR INVESTMENTS SUPPORTED MORTGAGE FINANCING FOR

over 1,350

*low-income borrowers
($\leq 80\%$ of AMI)*

AND

over 5,250

*borrowers in
underserved markets*

AND

over 2,850

*$\leq 100\%$ AMI borrowers in
low-income or minority
census tracts*

AND

over 450

*manufactured housing
loans for $\leq 100\%$ AMI
borrowers.¹*

WE ALSO SUPPORTED

over 250

Affordable rental units

AND

over 150

*$\leq 100\%$ AMI borrowers in
Designated Disaster Areas*

AND

over 7,250

*$\leq 100\%$ AMI first-time
homebuyers.¹*

¹Area Median Income (AMI). Estimates calculated using Fannie Mae cohort-level disclosure supplement and subject to estimation error.

Numbers are illustrative.



Disclosure Supplement Specification

MICA solution design

- MICA contains cohort-level representation of individual Mission criteria based on the actual population of loans collateralizing pools in that cohort. Cohorts are defined as combinates of Issuance Quarter, Prefix, Specified Story, and Mission Density Score (MDS) Bucket. Where necessary, cohorts are merged to protect borrower privacy.
- Investors can determine the average expected pool-level representation of each criterion in the following manner:
 1. Map each MBS pool in their portfolio to a cohort as determined by Issuance Quarter, Prefix, Specified Story, and MDS Bucket.
 2. Calculate the number of Mission loans in each MBS pool (number of loans that qualifies for any of the criteria) as pool MCS multiplied by pool loan count.
 3. Determine the estimated representation of each criterion by multiplying the number of Mission loans by the criteria shares for the pool’s respective cohort as shown below.

To facilitate portfolio-level analysis, we published an Excel-based tool where users can input their holdings. **The tool automatically maps CUSIPs to their respective cohort and calculates the representation of individual criteria.**

Table 1: 2022-Q4 CL NONSPEC [0.00,0.50) MDS Cohort Disclosure Calculation Example									
	All Loans	Mission Loans	Low Income Borrower	First-Time Homebuyer	Low Income Area	High-Needs Rural	Minority Tract	Designated Disaster Area	Manufactured Housing
Loan Count	100,000	20,040	3,910	5,585	2,375	419	2,164	3,910	70
Loan Share		100.0%	19.5%	27.9%	11.9%	2.1%	10.8%	19.5%	0.4%

Numbers are illustrative for a Mission Index v1.0 cohort.

- In this example, the Fannie Mae pools that belong to the 2022-Q4 CL NONSPEC [0.00,0.50) MDS cohort contained roughly 20,000 loans that met one or more of the v1.0 criteria.
- The table illustrates the loan counts and Mission loan shares meeting each of the criteria in that cohort (with the exception of Minority Borrower).



Sample Disclosure File Contents

Mission Index Criteria Attribution (MICA) design

- MICA is designed to preserve borrower privacy, allowing no fewer than 5 pools in a given disclosed cohort and censoring cohorts found to have 100% representation in any criterion.
 - MDS buckets default to widths of 0.25 (e.g., [1.00,1.25)) but may be expanded to censor sparse cohorts.
 - Sparse Prefix or Prefix/Story combinations will not be disclosed separately but will be rolled up to higher-level aggregations when possible.
- The CUSIP mapping file provided on PoolTalk® contains Level 1 securities and identifies the cohort that each CUSIP belongs to and its MCS/MDS. However, that exact cohort and associated MCS/MDS bucket may not appear in the supplement due to this aggregation methodology.
 - The owner of a pool that falls into a sparse cohort can roll up to the cohort of the next level of granularity for a reasonable estimate.
 - Our Excel-based tool automatically accommodates for sparse cohorts by seeking out the most granular cohort with which a pool aligns.

Table 2: Q4-2022 CL NONSPEC Cohort Disclosure

Issuance Quarter	Prefix	Story	MDS Min (Incl)	MDS Max (Exc)	Low Income Borrower	First-Time Homebuyer	Low Income Area	High-Needs Rural	Minority Tract	Designated Disaster Area	Manufactured Housing
2022-Q4	CL	NONSPEC	0.00	0.50	19.5%	27.9%	11.9%	2.1%	10.8%	19.5%	0.4%
2022-Q4	CL	NONSPEC	0.50	0.75	23.9%	33.3%	15.6%	1.0%	23.5%	21.5%	0.5%
2022-Q4	CL	NONSPEC	0.75	1.00	29.3%	36.8%	15.1%	0.9%	23.0%	23.2%	0.5%
2022-Q4	CL	NONSPEC	1.00	1.25	30.7%	39.6%	15.3%	1.4%	22.1%	25.5%	0.8%
2022-Q4	CL	NONSPEC	1.25	1.50	56.1%	43.9%	25.4%	2.1%	29.1%	33.3%	0.5%
2022-Q4	CL	NONSPEC	1.50	1.75	47.4%	69.0%	32.6%	0.7%	40.3%	17.4%	0.0%
2022-Q4	CL	NONSPEC	1.75	2.00	80.6%	41.4%	28.1%	0.0%	38.8%	19.8%	0.4%
2022-Q4	CL	NONSPEC	2.00	2.25	84.9%	60.9%	26.6%	0.5%	34.9%	30.9%	1.0%
2022-Q4	CL	NONSPEC	2.25	2.50	92.6%	79.4%	29.8%	0.8%	40.5%	18.6%	1.5%
2022-Q4	CL	NONSPEC	2.50	2.75	98.4%	90.0%	46.0%	0.5%	61.7%	27.6%	1.4%
2022-Q4	CL	NONSPEC	7.75	8.00	61.1%	56.5%	27.4%	1.4%	33.7%	26.0%	1.2%
2022-Q4	CL	NONSPEC	ALL	ALL	31.0%	37.9%	16.7%	1.0%	24.7%	22.5%	0.6%
2022-Q4	CL	ALL	ALL	ALL	43.5%	38.5%	21.0%	2.0%	27.1%	24.6%	1.4%
2022-Q4	ALL	ALL	ALL	ALL	43.3%	36.8%	20.8%	2.2%	26.8%	24.5%	1.6%

Sample contents of the Q4-2022 disclosure supplement focuses on the CL Non-Spec cohort. Investors in a CL Non-Spec pool issued in Q4-2022 can estimate the criteria-specific representation within their pool.

Numbers are illustrative for a subset of Mission Index v1.0 cohorts.



Understanding the Cohort Waterfall

Cohort Selection for a Specific Pool

Table 2: Q4-2022 CL NONSPEC Cohort Disclosure

Issuance Period	Prefix	Story	MDS Min (Incl)	MDS Max (Exc)
2022-Q4	CL	NONSPEC	0.00	0.50
2022-Q4	CL	NONSPEC	0.50	0.75
2022-Q4	CL	NONSPEC	0.75	1.00
2022-Q4	CL	NONSPEC	1.00	1.25
2022-Q4	CL	NONSPEC	1.25	1.50
2022-Q4	CL	NONSPEC	1.50	1.75
2022-Q4	CL	NONSPEC	1.75	2.00
2022-Q4	CL	NONSPEC	2.00	2.25
2022-Q4	CL	NONSPEC	2.25	2.50
2022-Q4	CL	NONSPEC	2.50	2.75
2022-Q4	CL	NONSPEC	7.75 ¹	8.00 ¹
2022-Q4	CL	NONSPEC	ALL	ALL
2022-Q4	CL	ALL	ALL	ALL
2022-Q4	ALL	ALL	ALL	ALL

Dense Cohort Example: FN BW3833 (3140MVHK7)

1. Match Issuance Quarter: 2022-10 → 2022-Q4
2. Match Prefix: CL
3. Match Specified Story: Non-Specified (NONSPEC) pool
4. Find MDS Range: MDS of 1.80 → [1.75,2.00)

To estimate the criteria-specific representation, a MICA user would first match their pool to the most granular cohort with which the pool aligns. Criteria-specific shares for the cohort can be used to estimate each of the criteria.

The CUSIP mapping file maps each CUSIP to a cohort as defined by Issuance Quarter, Prefix, Story, and MDS Bucket. The cohort may be rolled up in the supplement for privacy reasons.

Table 3: Q4-2022 SO Cohort Disclosure

Issuance Period	Prefix	Story	MDS Min [Inc]	MDS Max (Exc)
2022-Q4	SO	NONSPEC	0.00	0.50
2022-Q4	SO	NONSPEC	0.50	0.75
2022-Q4	SO	NONSPEC	0.75	1.00
2022-Q4	SO	NONSPEC	1.00	1.75
2022-Q4	SO	NONSPEC	7.75 ¹	8.00 ¹
2022-Q4	SO	NONSPEC	ALL	ALL
2022-Q4	SO	ALL	ALL	ALL
2022-Q4	ALL	ALL	ALL	ALL

1. The (7.75,8.00] MDS bucket is comprised of pools with fewer than 10 loans that are not scored and disclosed as 7.77 MDS.

Sparse Cohort Example: FN BX4608 (3140N9DN3)

1. Match Issuance Quarter: 2022-12 → 2022-Q4
2. Match Prefix: SO
3. No Specified Story Match: 100% TX pool

Because 2022-Q4 SO 100% TX cohort is sparse (fewer than 5 pools), it is not reported in the supplement. In this case, the “ALL” Story disclosure line should be used as the most relevant cohort.

Note the uneven sizing of the MDS buckets (highlighted in blue above): this MDS bucket has been expanded (from a default width of 0.25) to contain multiple sparse MDS buckets (buckets with less than 5 pools) in a single bucket large enough for disclosure.

Fannie Mae’s Excel-based tool accounts for sparse cohorts when mapping CUSIPs to the appropriate cohort.



Estimating Criteria Count for a Sample Pool

Criteria-Specific Representation for an Individual Pool

TABLE 1

Sample Pool	
Pool ID	BT7259
Issuer	Fannie Mae
Issue Date	8/1/2021
Prefix	CL
Vintage	2021
Quarter	Q3
Coupon	2.0
Orig Amount	13,523,067
Factor (Jan-24)	0.815
Loan Count	85
MCS	97.65
MDS	1.96

Current Mission Index Loans (Estimated)
67.62

Mission Loans
83

TABLE 2

Criteria Share - Q3-21 CL NONSPEC 1.75-2.00	
Dimension: Income Criteria: Low Income Borrower	75.8%
Dimension: Borrower Criteria: First Time Home Buyer	45.9%
Dimension: Property Criteria: Low Income Area	27.5%
Dimension: Property Criteria: High Needs Rural	0.5%
Dimension: Property Criteria: Minority Tract	33.9%
Dimension: Property Criteria: Designated Disaster Area	15.1%
Dimension: Property Criteria: Manufactured Housing	1.5%

TABLE 3

	Estimated	Error
Dimension: Income Criteria: Low Income Borrower	51.3	(8.2)
Dimension: Borrower Criteria: First Time Home Buyer	31.0	27.8
Dimension: Property Criteria: Low Income Area	18.6	(2.6)
Dimension: Property Criteria: High Needs Rural	0.3	(0.5)
Dimension: Property Criteria: Minority Tract	22.9	(4.0)
Dimension: Property Criteria: Designated Disaster Area	10.2	4.5
Dimension: Property Criteria: Manufactured Housing	1.0	1.0

Pool Impact Estimation Process

1. FN BT7259 contained 85 loans at issuance. Multiplying the issuance loan count by the MCS (97.65%) yields 83 loans that met one or more of the Mission Index v1.0 criteria at issuance.
2. To estimate the current Mission loan count, the issuance Mission loan count (83) is multiplied by the security factor (0.815); this simplifying assumption amortizes the Mission loans at the same rate as the security's UPB.
3. This pool is mapped to the appropriate Issuance Quarter/Prefix/Specified Story/MDS Bucket cohort (Table 2). MICA provides the share of Mission Loans in that cohort that met each criterion (Minority Borrower is excluded).
4. The current estimated Mission loan count (67.62) is multiplied by the criteria-specific shares in Table 2 to yield the estimated criteria-specific loan counts in Table 3.

Note: Negative error is an under-estimate.

- If the criteria distribution of the sample pool perfectly matched the distribution of its cohort (Q3-2021 | CL | NONSPEC | MDS [1.75-2.0]), then loan counts meeting the three dimensions and seven criteria would be known with certainty.
- In practice, pool-level estimations contain an anticipated amount of error; the utility/accuracy of the proposed methodology increases when these estimations are consumed as a component of portfolio analysis.

Although pool-level estimations (particularly for low loan count pools) may entail some error, this methodology is increasingly accurate with higher loan counts and especially at the portfolio level.

Fannie Mae's Excel-based tool automatically performs these pool estimation calculations.



Estimating v1.0 Criteria Count for a Sample Portfolio

Analyzing estimation error for a sample portfolio

Portfolio (Analyzed Pools Only)	Pool ACTUAL (At Issuance)	Portfolio ACTUAL (Current)	Mission Score Comparisons		
			MCS	MDS	
Total Pool Count ¹	1,387	1,387	Bloomberg US MBS 30yr Index ² (Mar-23)	49.3	0.75
Total Loan Count ¹	7,107,135	18,346.0	Pools at Issuance ¹	41.6	0.58
Loans w/ Mission Criteria ¹	2,953,703	9,223.7	Portfolio Current Holdings ¹	50.3	0.77

Mission Index Criteria	Pool ESTIMATION (At Issuance)	Pool ERROR (At Issuance)	Portfolio ESTIMATION (Current)	Portfolio ERROR (Current)
Mission Loans	2,953,224	(478.7)	9,223.7	2.9
Dimension: Income Criterion: Low Income Borrower	1,036,666	(2,843.1)	4,309.8	(50.4)
Dimension: Borrower Criterion: First Time Home Buyer	506,393	(9,764.6)	2,084.6	(72.4)
Dimension: Property Criterion: Low Income Area	439,539	(3,520.0)	1,743.8	(4.7)
Dimension: Property Criterion: High Needs Rural	22,798	62.8	145.2	6.3
Dimension: Property Criterion: Minority Tract	632,678	(6,655.0)	2,181.3	17.0
Dimension: Property Criterion: Designated Disaster Area	603,830	1,241.7	1,906.6	(5.7)
Dimension: Property Criterion: Manufactured Housing	11,634	903.0	89.9	10.3

- The portfolio holds portions of 1,387 scored Fannie Mae L1 pools issued in 2010-2023. Using the MCS yields an estimate of 2.95 million loans that met at least one of the v1.0 Mission criteria at issuance.
- Adjusting the Mission loan count by this portfolio's pool ownership shares and each pool's current factor yields an estimate of 9,224 loans meeting at least one v1.0 Mission criterion in the portfolio currently.
- Based on this estimate, the investor could reasonably claim that their portfolio holdings funded loans to roughly **4,300 low-income borrowers** (magenta box at left). This estimate is within 50 loans of the *actual* count of low-income borrowers, a -1.17% criteria-level estimation error rate.³
- Some criteria estimates exhibit a higher error rate. Note the First-time Homebuyer (FTHB) estimate, which is off by **72 loans** (blue box at left). However, this error represents only -3.47% of the portfolios' FTHB loan count estimate.³ Given that FTHB is a disclosed field, an investor could simply leverage that disclosure for precise reporting.

Error levels are generally a function of portfolio size and composition. Larger portfolios with larger pools typically yield more accurate estimates.

¹ Only includes Fannie Mae pools.

² Includes Fannie Mae and Freddie Mac pools.

³ Estimation error is the difference between the actual and MICA-estimated criteria loan count divided by the MICA-estimated criteria loan count (e.g., 10 actual low-income borrowers in pool minus 8 estimated low-income borrowers in pool divided by 8 estimated low-income borrowers in pool).



Assessing Accuracy of Portfolio Estimation

Representative portfolio assessments using the MICA methodology

Mission Index Criteria	Value	Portfolio 1	Portfolio 2	Portfolio 3	Portfolio 4	Portfolio 5
Fund Pools	Total Pools	219	746	563	906	2,483
	Analyzed Pools	107	76	42	111	1,387
	Share Analyzed	48.9%	10.2%	7.5%	12.3%	55.9%
Total Loans	Analyzed	168,723	61,688	11,412	76,609	7,107,135
	Portfolio	382.4	132.9	20.3	96.8	18,346.0
Mission Loans	Analyzed	79,245	29,289	4,621	35,843	2,953,224
	Portfolio	355.3	78.3	9.9	55.4	9,223.7
Mission Index v1.0 Scores	MCS	95.99	58.91	52.27	57.22	50.26
	MDS	2.08	0.98	0.71	0.92	0.77
Dimension: Income Criterion: Low Income Borrower	Portfolio Estimate	295.0	49.5	3.6	31.6	4,309.8
	Portfolio Error	(51.4)	(1.4)	(0.4)	0.4	(50.4)
Dimension: Borrower Criterion: First Time Home Buyer	Portfolio Estimate	204.2	20.4	2.3	10.7	2,084.6
	Portfolio Error	98.2	3.3	0.3	(0.8)	(72.4)
Dimension: Property Criterion: Low Income Area	Portfolio Estimate	109.9	19.3	1.7	11.9	1,743.8
	Portfolio Error	(10.0)	(1.3)	(0.7)	0.1	(4.7)
Dimension: Property Criterion: High Needs Rural	Portfolio Estimate	3.8	1.5	0.1	1.2	145.2
	Portfolio Error	(3.6)	0.1	(0.5)	0.4	6.3
Dimension: Property Criterion: Minority Tract	Portfolio Estimate	134.0	21.7	2.3	14.0	2,181.3
	Portfolio Error	(24.1)	(1.7)	0.2	(0.7)	17.0
Dimension: Property Criterion: Designated Disaster Area	Portfolio Estimate	72.5	15.1	2.0	14.0	1,900.9
	Portfolio Error	(8.7)	0.7	(0.8)	0.7	(5.7)
Dimension: Property Criterion: Manufactured Housing	Portfolio Estimate	3.4	1.2	0.1	1.1	89.9
	Portfolio Error	2.3	0.5	0.1	0.1	10.3

- This table applies the MICA methodology to assess the disclosed holdings of 5 **actual** MBS portfolios of differing sizes (as of Jan-2024).
- Three of the portfolios (Portfolio 1, Portfolio 2, and Portfolio 3) have specific ESG mandates. Portfolios 4 and 5 are broad-based MBS funds.
- The estimates across Mission criteria are remarkably accurate, although there is some variation across portfolios.

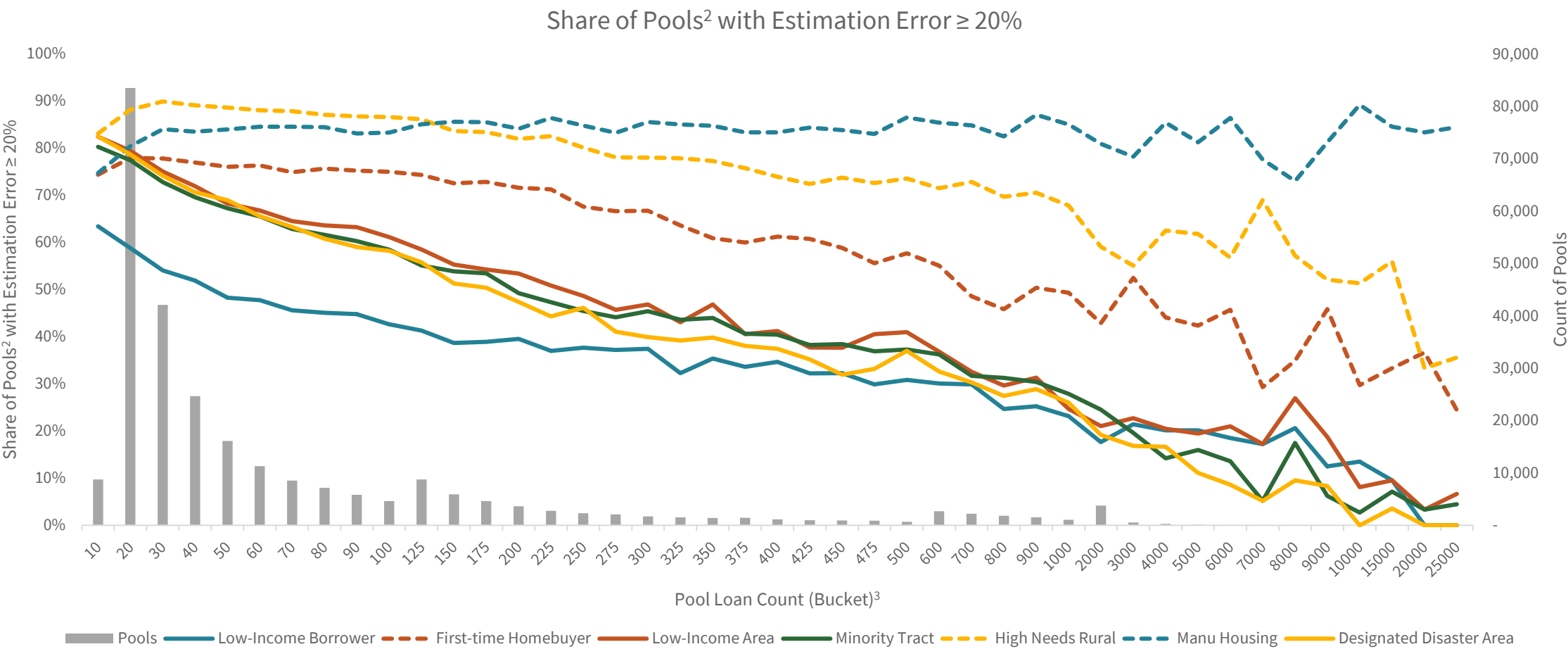
Low-income borrower counts are generally quite accurate, with larger portfolios exhibiting very low error rates.

Note: Portfolio Estimate and Portfolio Error are shown in loan count.



Analyzing Pool-Level Estimation Error

At the pool level, estimation error¹ improves as pool loan count increases



¹ Estimation error is the difference between the actual and MICA-estimated criteria loan count divided by the MICA-estimated criteria loan count (e.g., 10 actual low-income borrowers in pool minus 8 estimated low-income borrowers in pool divided by 8 estimated low-income borrowers in pool).

² Population is limited to Fannie Mae v1.0 pools with at least 10 loans (MDS/MCS disclosures calculated).

³ Pools are binned by loan count at issuance in a quasi-logarithmic fashion to show additional detail for smaller pools.



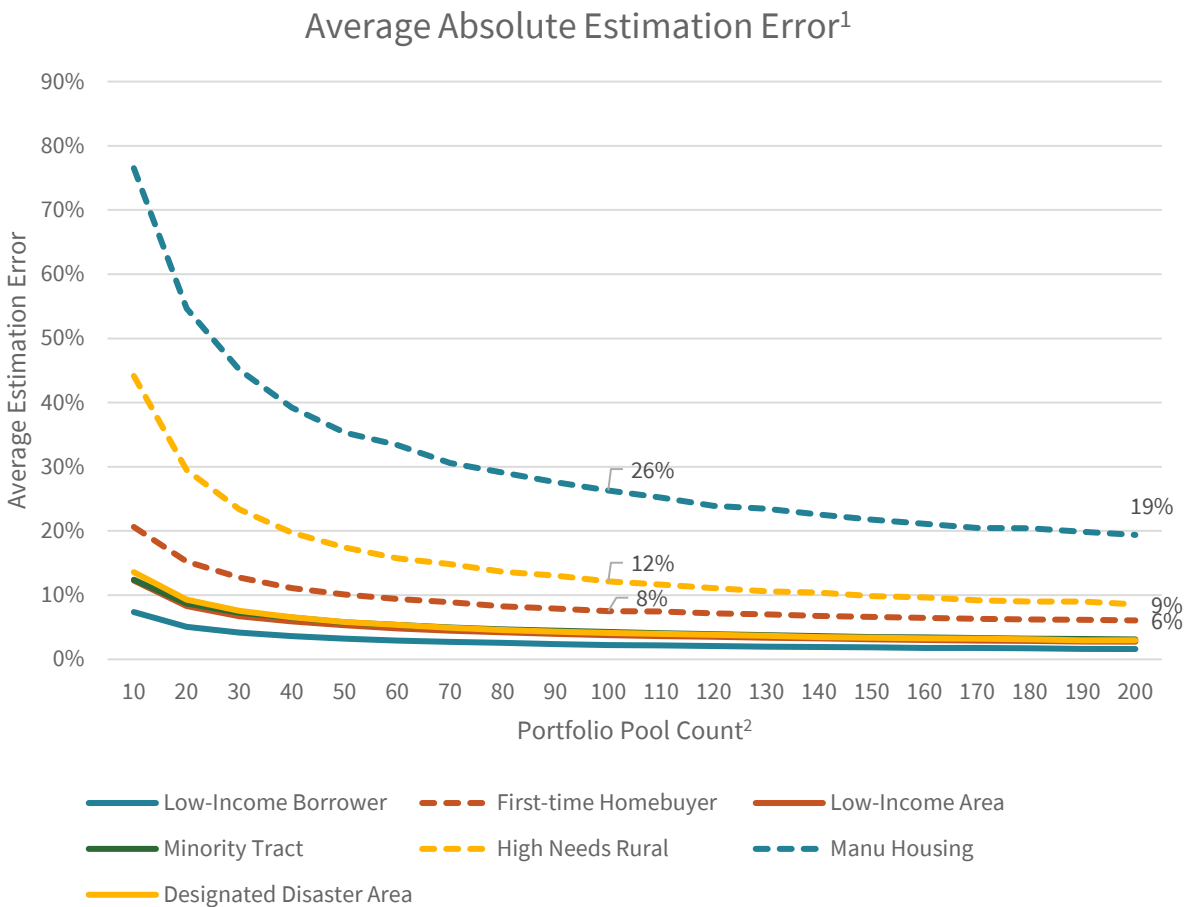
Analyzing Portfolio-Level Estimation Error

The average absolute estimation error¹ of a portfolio improves as portfolio pool count increases

- A portfolio manager can estimate the impact of their portfolio holdings by aggregating the pool-level estimates for a given Mission Index criterion.
- Aggregating the estimates of individual pools up to the portfolio level significantly improves the accuracy of the estimate, as over- and under-estimations of criterion loan counts at the pool level offset each other.
- For this analysis, random portfolios of varying pool counts were generated from the universe of MBS pools ranging between \$1MM and \$100MM issuance UPB. Portfolio construction assumes an equal ownership percentage of all pools in the portfolio.

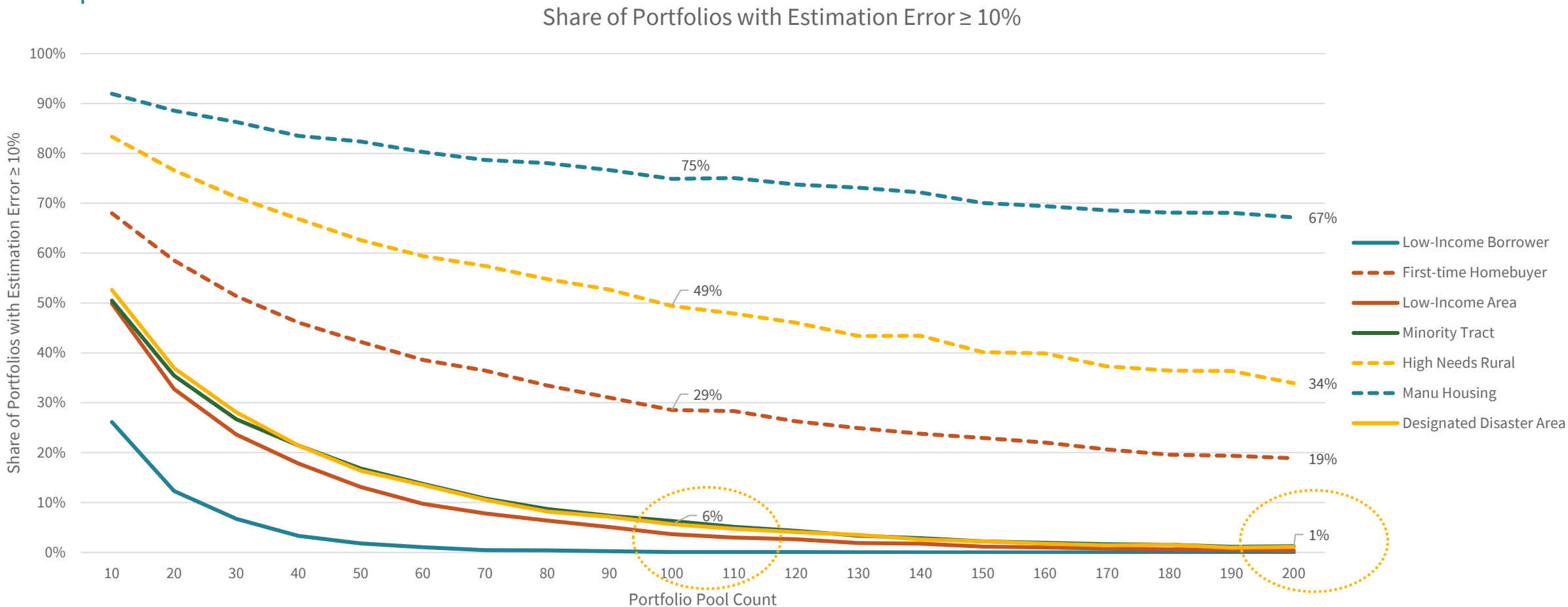
¹ Estimation error is the difference between the actual and MICA-estimated criteria loan count divided by the MICA-estimated criteria loan count (e.g., 10 actual low-income borrowers in portfolio minus 8 estimated low-income borrowers in portfolio divided by 8 estimated low-income borrowers in portfolio).

² Portfolios are constructed from Fannie Mae v1.0 pools containing at least 10 loans (MDS/MCS disclosures calculated) and ranging from \$1MM to \$100MM issuance UPB.



Analyzing Portfolio-Level Estimation Error

For most Mission Index criteria, the share of portfolios with estimation error¹ $\geq 10\%$ falls to just 1% with as few as 200 pools

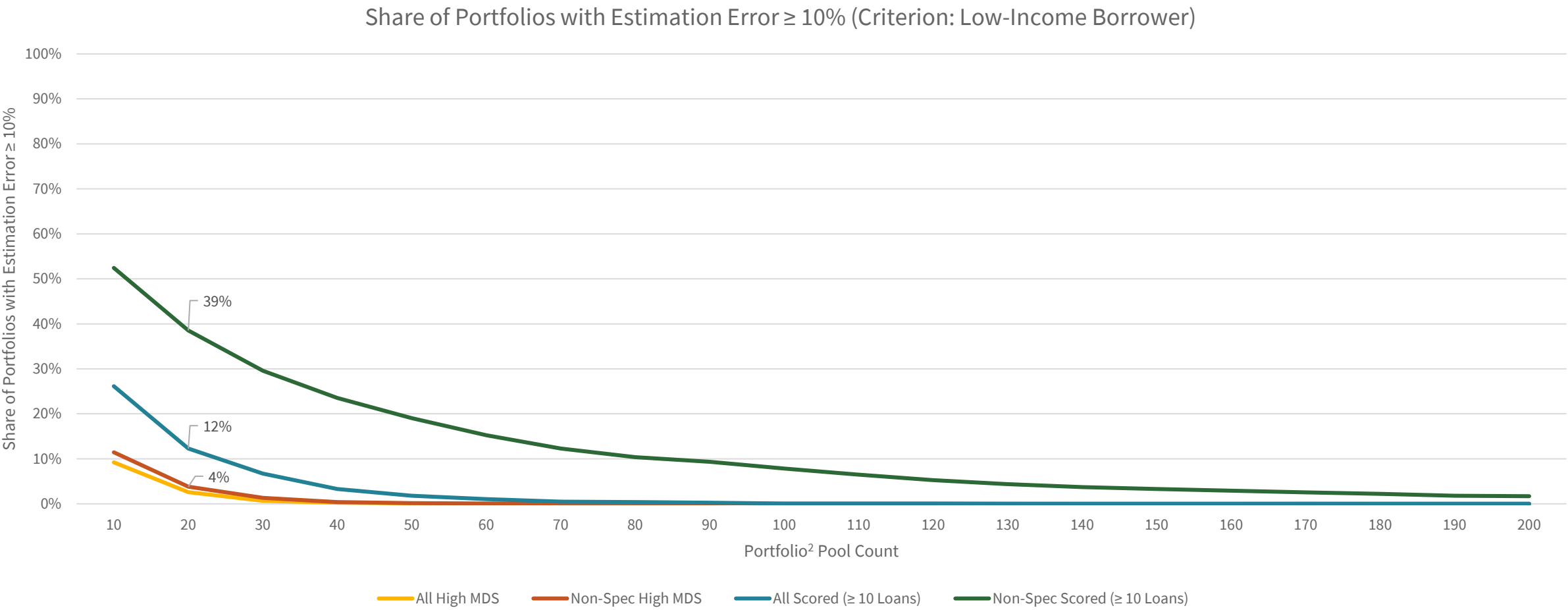


¹ Estimation error is the difference between the actual and MICA-estimated criteria loan count divided by the MICA-estimated criteria loan count (e.g., 10 actual low-income borrowers in portfolio minus 8 estimated low-income borrowers in portfolio divided by 8 estimated low-income borrowers in portfolio).
² Portfolios are constructed from Fannie Mae v1.0 pools containing at least 10 loans (MDS/MCS disclosures calculated).



Analyzing Portfolio-Level Estimation Error

Portfolios comprised of high MDS pools outperform portfolios comprised of generic pools on estimation error¹



¹ Estimation error is the difference between the actual and MICA-estimated criteria loan count divided by the MICA-estimated criteria loan count (e.g., 10 actual low-income borrowers in portfolio minus 8 estimated low-income borrowers in portfolio divided by 8 estimated low-income borrowers in portfolio).

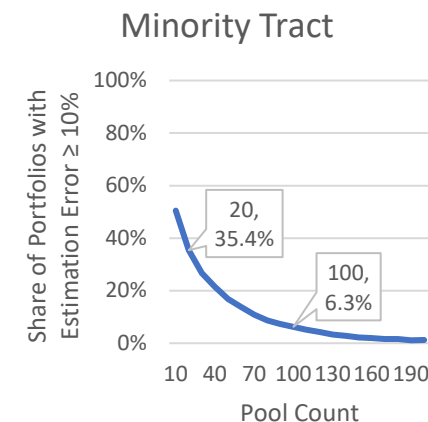
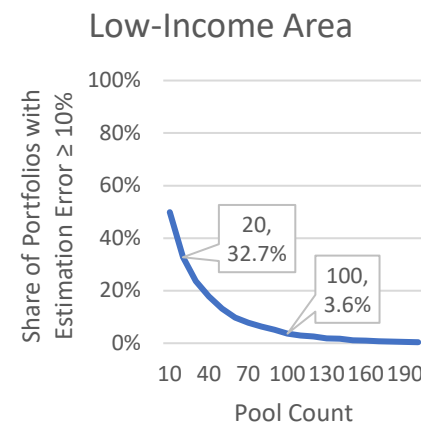
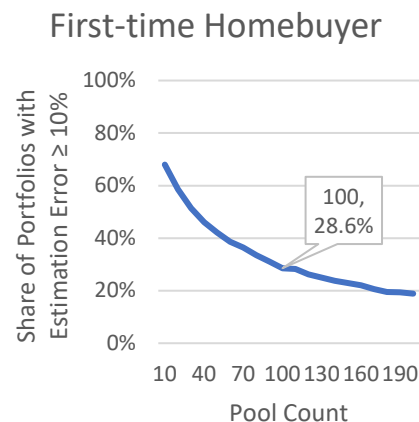
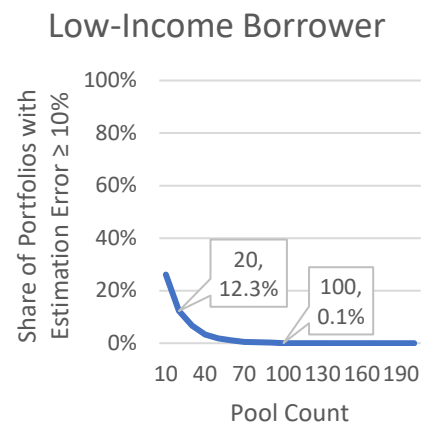
² Portfolios are constructed from Fannie Mae v1.0 pools containing at least 10 loans (MDS/MCS disclosures calculated).



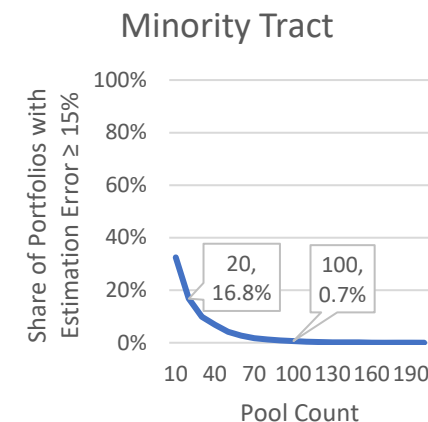
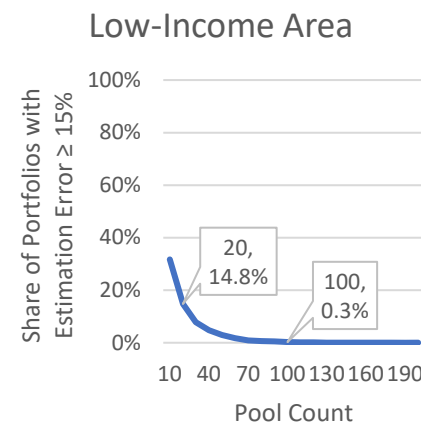
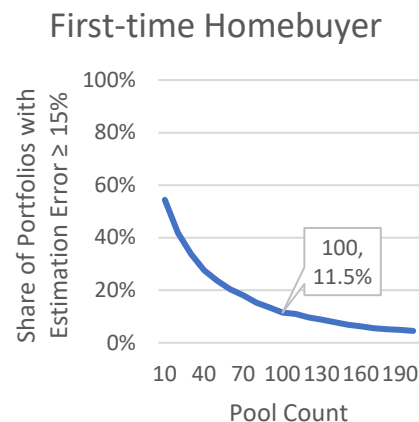
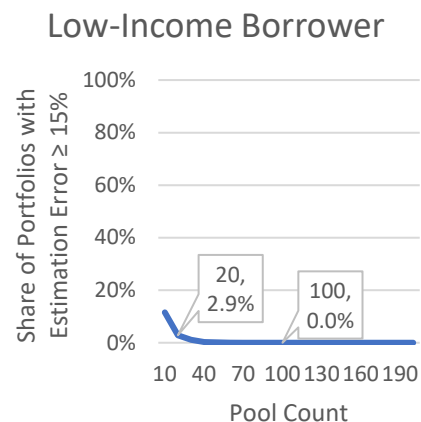
Sensitivity of Criteria-Specific Estimation Errors

Share of portfolios with criteria-specific estimation errors by portfolio pool count

10% Error Threshold



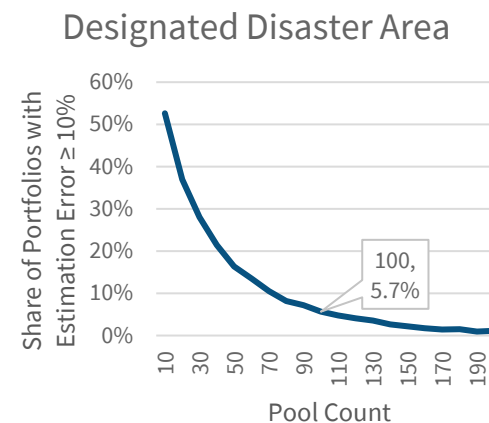
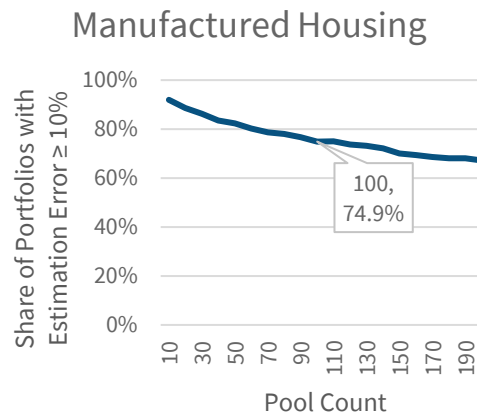
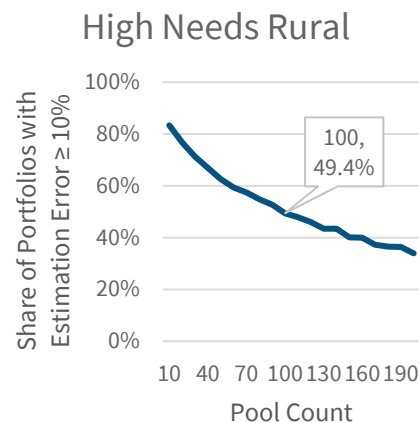
15% Error Threshold



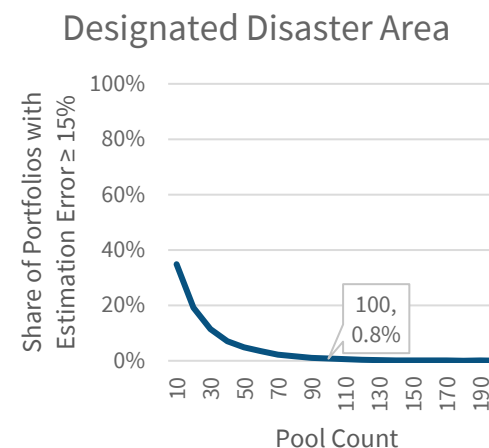
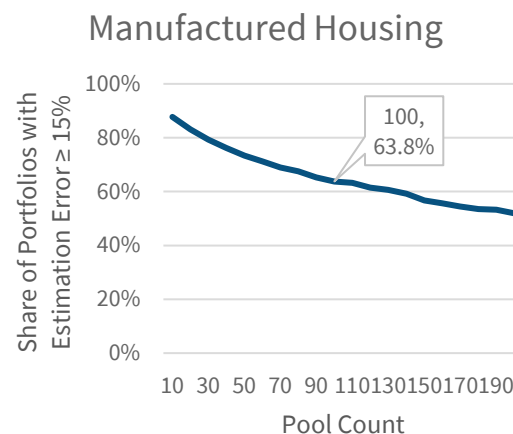
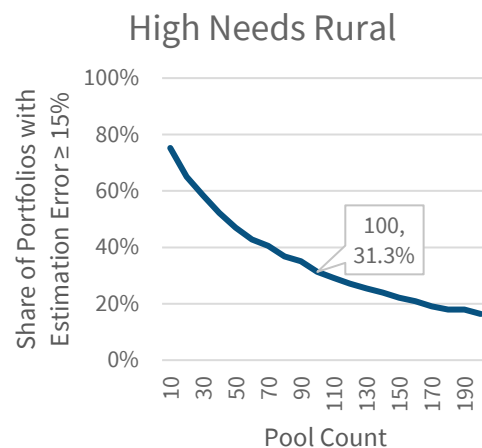
Sensitivity of Criteria-Specific Estimation Errors

Share of portfolios with criteria-specific estimation errors by portfolio pool count

10% Error Threshold




15% Error Threshold



Access the MICA Engine in Data Dynamics

The MICA Engine automates the MICA calculation methodology for portfolios of eligible Fannie Mae and Freddie Mac CUSIPs. Interested users can log in or create a free account in [Data Dynamics](#).

 Data Dynamics

MBS

REPORTS

MESSAGES 5


DOWNLOAD DATA

RESOURCES

Mortgage-Backed Securities (MBS)


Single-Family

Multifamily




Prepayment Snapshot

A tool showing cohort-level prepayment speeds with filters and history




Benchmark CPR® Dashboard

A tool allowing market participants to view Fannie Mae's proprietary prepayment metric, the Benchmark CPR®, for sellers and servicers.




MBS Cohort Analyzer

Analyze historical prepayments for user-defined agency MBS collateral cohorts




MBS Pool Details

This dashboard provides enhanced reporting of MBS pool-level characteristics.




MBS Float Dashboard

A dashboard providing insight into the outstanding float of MBS by coupon/vintage cohort, including balance, characteristics, and prepayment speeds.




Forbearance and Delinquency Dashboard

MBS pool-level reporting on the share of loans in forbearance and the share of loans in delinquency



Structured Transactions Issuance Analytics

The purpose of this tableau report is to provide market participants with comprehensive daily volumes and analytics for Structured Transactions products (SUPERs, Megs, Remics)



Mission Index Criteria Attribution® (MICA) Engine




This application estimates the representation of specific populations of Mission borrowers in a portfolio using the MICA methodology.



Upload Portfolio Detail to the Interface

- Upload your portfolio detail to the interface in .csv format.
- The file must contain a header row with columns in the following order:
 - CUSIP
 - Owned original face
 - Portfolio ID/name (optional)
- Maximum of 10,000 CUSIPs and 100 unique portfolio IDs (1MB size limit).
- **Any** CUSIPs can be uploaded, but only **eligible** CUSIPs will be processed by the MICA Engine.
- The audit log provides detail on CUSIP-level eligibility.
- Users have the option to upload a new input file or proceed to the portfolio summary based on the existing input file.

	A	B	C
1	CUSIP	Owned Original Face	Portfolio ID
2	3140QUD37	143,882,525	Fannie Mae Portfolio A
3	3140QUD60	99,125,541	Fannie Mae Portfolio A
4	3140QUD78	99,496,567	Fannie Mae Portfolio A
5	3140QUEA0	45,663,354	Fannie Mae Portfolio A
6	3140QUDZ6	80,829,152	Fannie Mae Portfolio A
7	3140QUJ56	126,948,223	Fannie Mae Portfolio A
8	3140QUJ72	103,050,031	Fannie Mae Portfolio A
9	3140QUJ98	36,947,133	Fannie Mae Portfolio A
10	3140QUPN0	91,403,946	Fannie Mae Portfolio A
11	3140QUPY6	127,573,127	Fannie Mae Portfolio A

Name	Status	Date modified	Type
 Fannie Mae Portfolio A	 	3/16/2025 4:27 PM	Microsoft Excel Comma Separated Values File

Fannie Mae Portfolio A.csv 03/16/2025 04:46 PM			Audit Log Run New Data Calculate Summary
Portfolio Name	Total CUSIPs	Not Scored	
Fannie Mae Portfolio A	50	6	

CUSIPs that are not Fannie Mae MBS, Supers, and Megs or Freddie Mac MBS and Supers issued in or after January 2010 or if they are issued after the end of the most recent quarterly disclosure are ineligible. The audit log will provide additional guidance if the inputs provided do not conform to expectations.



View combined results or select a specific portfolio

Review aggregated portfolio-level MICA calculations

Total Pools Uploaded: Total portfolio-level CUSIP count
Total Pools Scored: Total eligible CUSIPs in portfolio

Pool Count: Total scored pools by Mission Index version

Scored Current UPB: The owned UPB of CUSIPs that was successfully scored

Scored Current Holdings Loan: The estimated current count of loans that was successfully scored

Pool Count: Total scored pools by Mission Index version

Scored Current UPB: The owned UPB of CUSIPs that was successfully scored

Scored Current Holdings Loan: The estimated current count of loans that was successfully scored

Loans by Criteria
Distribution: The estimated current loan count in the portfolio and percentage of scored loans in the portfolio meeting each criterion by Mission Index version

Loans by Criteria
Distribution: The estimated current loan count in the portfolio and percentage of scored loans in the portfolio meeting each criterion by Mission Index version

Download portfolio-level graphics or CUSIP-level detail

Download portfolio-level graphics or CUSIP-level detail

Visualize portfolio-level MICA calculations

Summary of uploaded pools by Mission Index version (including unscored pools)

Summary of Mission loans by Mission Index version as a share of all loans in the portfolio

Summary of criteria-level loan estimates by Mission Index version

19



Access the MICA Excel-based Tool

The [MICA Excel-based tool](#) is designed to be downloaded to the user's machine, performs all calculations locally, and needs to be updated quarterly with the most recent disclosure supplement. It can only accommodate Fannie Mae MBS.

Mission Index Criteria Attribution (MICA) Resources

The MICA disclosure supplement empowers investors to quantify the estimated impact of their portfolio investments on specific populations of Mission borrowers. The **MICA Engine**, available through Data Dynamics®, offers a simple solution to upload your portfolio for instant results.

Use the MICA Engine for Fannie Mae MBS, Supers and Megs and Freddie Mac MBS and Supers.

- MICA v1.0/v1.1 Disclosure Supplements (available in **PoolTalk®** under Data Collections > Social Disclosures)
- **Methodology** 
- **User guide** 
- **MICA Engine**
- **Excel-based tool**



Update Portfolio Detail for Estimation

To update portfolio detail:

1. Select the **portfolio** tab.
2. Delete the contents of the yellow cells.
3. For each security in the portfolio, **paste the following attributes** in the yellow cells:

- 1 CUSIP
- 2 Owned original face amount in dollars
- 3 Current security factor of the security in decimals

4. Confirm that the count in cell E1 equals the expected number of portfolio securities.

- Owned original face amount and current security factor must be populated for all securities.
- The spreadsheet can support a portfolio with up to 2,500 securities.
- Although any type of security can be included, only Fannie Mae pools will be analyzed. The spreadsheet will automatically ignore ineligible securities.

1	CUSIP	Owned Original Face	Current Factor		100
2	3140K25X8	\$ 1,074,453.02	0.93070612		
3	3140LNYM3	\$ 1,062,481.33	0.94119301		
4	3138WK2T1	\$ 3,947,151.59	0.25334725		
5	3138MJY6	\$ 2,386,795.71	0.41897176		
6	3138YNDH7	\$ 11,497,969.23	0.08697188		
7	3140M5BK0	\$ 1,084,815.94	0.92181536		
8	3140QBGY8	\$ 2,366,440.63	0.42257557		
9	3138A8RA6	\$ 4,456,786.77	0.2243769		
10	3138WW4R7	\$ 3,345,254.59	0.29893091		
11	3140QKPW2	\$ 1,187,598.98	0.84203508		
12	3138AN2C6	\$ 16,831,421.03	0.05941269		
13	3140LQZB9	\$ 1,545,274.80	0.64713409		
14	3140L8MP2	\$ 1,182,842.98	0.84542075		
15	3140QPPJ0	\$ 1,051,380.48	0.95113046		
16	3140LQZ60	\$ 1,254,524.65	0.79711467		
17	3140N6U67	\$ 1,003,119.17	0.99689053		
18	3140MSW50	\$ 1,014,572.38	0.98563692		
19	3140KKHM9	\$ 1,701,911.55	0.5875746		
20	3140JPCB9	\$ 7,738,817.99	0.1292187		
21	3140F5C92	\$ 3,939,525.91	0.25383765		
22	31418EDC1	\$ 1,041,343.28	0.96029813		
23	3140K32H4	\$ 1,456,009.13	0.68680888		
24	3138LXXZ7	\$ 3,995,929.27	0.25025468		
25	3138Y2QN6	\$ 2,269,139.09	0.44069577		
26	3138XUZ21	\$ 3,302,627.59	0.30278921		
27	3138MJYJ2	\$ 14,008,262.63	0.07138644		
28	3140MNY75	\$ 1,010,214.88	0.98988841		
29	3140HALH1	\$ 2,089,914.95	0.47848837		
30	3140LPNB4	\$ 1,163,987.10	0.85911605		
31	3138YKXZ1	\$ 3,081,745.49	0.32449143		
32	3140KMWH9	\$ 1,335,689.95	0.74867674		
33	31417GAX4	\$ 3,414,781.33	0.29284452		
34	3138AG2Y3	\$ 4,882,764.10	0.20480203		
35	3140F86W2	\$ 5,748,118.81	0.17396996		
36	3140KSU39	\$ 1,188,753.77	0.8412171		
37	3140LWKH9	\$ 1,094,028.81	0.91405271		
38	3140KLHX3	\$ 1,903,220.26	0.52542526		
39	3138LUF60	\$ 4,610,267.57	0.21690715		
40	3140E0LE3	\$ 9,612,756.82	0.10402843		
41	3138YYL92	\$ 2,654,885.70	0.37666405		
42	31417GE69	\$ 5,417,748.79	0.18457851		
instructions		summary	portfolio	v1.0DSCL	v1.0CUSIPs



Portfolio Estimation Summary

The summary tab provides the portfolio impact estimates for both v1.0 and v1.1 pools.

A	Mission Index - Version 1.0	
	Waterfall Validation	PASS
B	Scoring Analysis	
	Total Pool Count	100
	Scored Pool Count	100
	Scored Percent (By Pool Count)	100.0%
	Total Current UPB (Owned)	\$ 100,000,000
	Scored Current UPB (Owned)	\$ 100,000,000
	Scored Percent (By Owned Current UPB)	100.0%
	Scored Issuance Loan Count	23,389
	Scored Current Holdings Loan Count (Est)	554.2
C	Estimated Loan Counts (Issuance, Full Ownership)	
	Mission Loans	13,287.0
	Income	
	Income: Low Income Borrower (≤80 AMI)	6,570.6
	Borrower	
	Borrower: FTHB (≤120 AMI)	3,728.4
	Property	
	Property: Low Income Area (≤120 AMI)	2,619.6
	Property: Minority Tract (≤120 AMI)	3,265.4
	Property: Manufactured Housing (≤120 AMI)	112.6
	Property: High Needs Rural (≤120 AMI)	227.2
	Property: Designated Disaster Area (≤120 AMI)	3,155.3
D	Estimated Loan Counts (Current, Portfolio Ownership)	
	Mission Loans	339.5
	Income	
	Income: Low Income Borrower (≤80 AMI)	212.2
	Borrower	
	Borrower: FTHB (≤120 AMI)	85.0
	Property	
	Property: Low Income Area (≤120 AMI)	75.8
	Property: Minority Tract (≤120 AMI)	85.9
	Property: Manufactured Housing (≤120 AMI)	4.0
	Property: High Needs Rural (≤120 AMI)	8.0
	Property: Designated Disaster Area (≤120 AMI)	82.0
E	Mission Index - Version 1.1	
	Waterfall Validation	NONE
B	Scoring Analysis	
	Total Pool Count	100
	Scored Pool Count	-
	Scored Percent (By Pool Count)	0.0%
	Total Current UPB (Owned)	\$ 100,000,000
	Scored Current UPB (Owned)	\$ -
	Scored Percent (By Owned Current UPB)	0.0%
	Scored Issuance Loan Count	-
	Scored Current Holdings Loan Count (Est)	-
C	Estimated Loan Counts (Issuance, Full Ownership)	
	Mission Loans	-
	Income	
	Income: Low Income Borrower (≤80 AMI)	-
	Income: Affordable Rental	-
	Borrower	
	Borrower: FTHB (≤100 AMI)	-
	Borrower: Underserved Markets	-
	Borrower: Special Purpose Credit Program	-
	Property	
	Property: Low Income Area (≤100 AMI)	-
	Property: Minority Tract (≤100 AMI)	-
	Property: Manufactured Housing (≤100 AMI)	-
	Property: High Needs Rural	-
	Property: Designated Disaster Area (≤100 AMI)	-
D	Estimated Loan Counts (Current, Portfolio Ownership)	
	Mission Loans	-
	Income	
	Income: Low Income Borrower (≤80 AMI)	-
	Income: Affordable Rental	-
	Borrower	
	Borrower: FTHB (≤100 AMI)	-
	Borrower: Underserved Markets	-
	Borrower: Special Purpose Credit Program	-
	Property	
	Property: Low Income Area (≤100 AMI)	-
	Property: Minority Tract (≤100 AMI)	-
	Property: Manufactured Housing (≤100 AMI)	-
	Property: High Needs Rural	-
	Property: Designated Disaster Area (≤100 AMI)	-

- A Waterfall Validation** in cell C3 will show **PASS** in green to confirm that each pool was mapped to one cohort and that the output is valid.
- B Scoring Analysis** is a summary of the pools analyzed in each version of the Mission Index.
- Total Pool Count:** total number of pools in the portfolio
 - Scored Pool Count:** total number of v1.0 pools in the portfolio
 - Scored Percent (By Pool Count):** v1.0 pools as a percentage of all portfolio pools
 - Total Current UPB (Owned):** total current UPB of all portfolio pools adjusted for ownership percentage
 - Scored Current UPB (Owned):** total current UPB of v1.0 portfolio pools adjusted for ownership percentage
 - Scored Percent (By Owned Current UPB):** total current UPB of v1.0 portfolio pools adjusted for ownership percentage as a percent of the current UPB of all portfolio pools adjusted for ownership percentage
 - Scored Issuance Loan Count:** total loan count at issuance of v1.0 portfolio pools
 - Scored Current Holdings Loan Count (Est):** total loan count of v1.0 portfolio pools adjusted for current factor and ownership percentage
- C Estimated Loan Counts (Issuance, Full Ownership)** is a summary of the estimated representation of Mission Criteria in the portfolio pools **at issuance and assuming 100% ownership of the pool**.
- This sample portfolio of 100 pools is estimated to contain 13,287.0 Mission loans at issuance. At issuance, the portfolio pools contained approx. 6,570.6 loans to low-income borrowers and approx. 3,728.4 loans to first-time homebuyers with incomes ≤ 120 AMI. The portfolio pools also contained approx. 112.6 loans for manufactured housing.
- D Estimated Loan Counts (Current, Portfolio Ownership)** is a summary of the **current** estimated representation of Mission Criteria in the portfolio pools **assuming actual portfolio ownership percentage of the pool**.
- This sample portfolio of 100 pools is estimated to contain 339.5 Mission loans as of the most recent disclosure, adjusted for ownership percentage. Adjusted for ownership, the portfolio currently supports approx. 212.2 low-income borrowers and approx. 85.0 first-time homebuyers with incomes ≤ 120 AMI. The portfolio supports approx. 4.0 loans for manufactured housing.
- E Mission Index - Version 1.1** summary provides estimation output for the portion of the portfolio pools issued under Mission Index v1.1.





Fannie Mae®

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