# Mission Index Criteria Attribution (MICA) Overview

Methodology to Estimate Portfolio-Level Social Impact

**MARCH 2025** 





© 2025 Fannie Mae

## Disclaimer

**No Warranties; Opinions Subject to Change; Not Advice**. This document is based upon information and assumptions (including financial, statistical, or historical data and computations based upon such data) that we consider reliable and reasonable, but we do not represent that such information and assumptions are accurate or complete, or appropriate or useful in any particular context, including the context of any investment decision, and it should not be relied upon as such. Opinions and estimates expressed herein constitute Fannie Mae's judgment as of the date indicated and are subject to change without notice. They should not be construed as either projections or predictions of value, performance, or results, nor as legal, tax, financial, or accounting advice. No representation is made that any strategy, performance, or result illustrated herein can or will be achieved or duplicated. The effect of factors other than those assumed, including factors not mentioned, considered or foreseen, by themselves or in conjunction with other factors, could produce dramatically different performance or results. We do not undertake to update any information, data or computations contained in this document, or to communicate any change in the opinions, limits, requirements and estimates expressed herein. Investors considering purchasing a Fannie Mae security should consult their own financial and legal advisors for information about such security, the risks and investment considerations arising from an investment in such security, the appropriate tools to analyze such investment, and the suitability of such investment in each investor's particular circumstances.

## **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 plan to publish the MICA disclosure supplement quarterly, on the 14<sup>th</sup> business day following the end of each quarter. Versions 1.0/1.1 contain Fannie Mae MBS only; Resecuritizations, i.e., Supers<sup>®</sup>, Megas<sup>®</sup>, 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**

AND

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* (≤80% of AMI)

### over 5,250

borrowers in underserved markets

### AND **over 2,850**

AND

≤100% AMI borrowers in low-income or minority census tracts

### **over 450**

manufactured housing loans for ≤100% AMI borrowers.<sup>1</sup>

#### WE ALSO SUPPORTED

OVER 250ANDOVER 150ANDOVER 7,250Affordable rental units≤100% AMI borrowers in<br/>Designated Disaster Areas≤100% AMI first-time<br/>homebuyers.1

<sup>1</sup>Area 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	L: 2022-Q4	<b>CL NONSP</b>	EC [0.00,0.50	) MDS Cohor	t Disclosure	Calculation E	xample		
	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%

- 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).

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

## **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<sup>®</sup> 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: Q	4-2022 CL	NONSPEC Co	hort Disclo	sure							
lssuance 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 criteriaspecific 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 2	NONSPEC	3	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	4 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 <sup>1</sup>	8.00 <sup>1</sup>		
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:  $2022-10 \rightarrow 2022-Q4$
- 2. Match Prefix: CL
- 3. Match Specified Story: Non-Specified (NONSPEC) pool
- 4. Find MDS Range: MDS of  $1.80 \rightarrow [1.75, 2.00)$

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 C	ohort Disclosure			
			MDS	MDS
			Min	Max
Issuance Period	Prefix	Story	[Inc]	(Exc)
2022-Q4	SO	NONSPEC	0.00	0.50
2022-Q4	SO 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 <sup>1</sup>	8.00 <sup>1</sup>
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**

TADIES

Criteria-Specific Representation for an Individual Pool

#### TABLE 1



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%

-		
	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.

TABLE 3

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 C	Comparisons	MCS	MDS
Total Pool Count <sup>1</sup>	1.387	1.387	Bloomberg US MBS 30	)yr Index² (Mar-23)	49.3	0.75
Total Loan Count <sup>1</sup>	7,107,135	18,346.0	Pools at Issuance <sup>1</sup>		41.6	0.58
Loans w/ Mission Criteria <sup>1</sup>	2,953,703	9,223.7	Portfolio Current Hole	dings <sup>1</sup>	50.3	0.77
Mission Index Cr	iteria	Pool ESTIMATION (At Issuance)	Pool ERROR (At Issuance)	Portfolio ESTIMATION (Current)	Port ERI (Cur	folio ROR rent)
Mission Loans		2,953,224	(478.7)	9,223.7	2	.9
Dimension: Income Criterion: Low Income Bor	rower	1,036,666	(2,843.1)	4,309.8	(50	).4)
Dimension: Borrower Criterion: First Time Home	e Buyer	506,393	(9,764.6)	2,084.6	(72	2.4)
Dimension: Property Criterion: Low Income Are	а	439,539	(3,520.0)	1,743.8	(4	.7)
Dimension: Property Criterion: High Needs Rura	ગ	22,798	62.8	145.2	6	.3
Dimension: Property Criterion: Minority Tract		632,678	(6,655.0)	2,181.3	17	7.0
Dimension: Property Criterion: Designated Disa	ster Area	603,830	1,241.7	1,906.6	(5	.7)
Dimension: Property Criterion: Manufactured H	ousing	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 ٠ their portfolio holdings funded loans to roughly 4,300 lowincome 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.<sup>3</sup>
- 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.<sup>3</sup> 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.

<sup>1</sup> Only includes Fannie Mae pools.

<sup>2</sup> Includes Fannie Mae and Freddie Mac pools.

<sup>3</sup> 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).

Mission Index Criteria Attribution (MICA) Overview | © 2025 by Fannie Mae

9

## **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
	Total Pools	219	746	563	906	2,483
Fund Pools	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
Total Loans	Portfolio	382.4	132.9	20.3	96.8	18,346.0
Mission Loons	Analyzed	79,245	29,289	4,621	35,843	2,953,224
MISSION LOANS	Portfolio	355.3	78.3	9.9	55.4	9,223.7
Mission Indexed & County	MCS	95.99	58.91	52.27	57.22	50.26
Mission index v1.0 Scores	MDS	2.08	0.98	0.71	0.92	0.77
Dimension: Income	Portfolio Estimate	295.0	49.5	3.6	31.6	4,309.8
Criterion: Low Income Borrower	Portfolio Error	(51.4)	(1.4)	(0.4)	0.4	(50.4)
Dimension: Borrower	Portfolio Estimate	204.2	20.4	2.3	10.7	2,084.6
Criterion: First Time Home Buyer	Portfolio Error	98.2	3.3	0.3	(0.8)	(72.4)
Dimension: Property	Portfolio Estimate	109.9	19.3	1.7	11.9	1,743.8
Criterion: Low Income Area	Portfolio Error	(10.0)	(1.3)	(0.7)	0.1	(4.7)
Dimension: Property	Portfolio Estimate	3.8	1.5	0.1	1.2	145.2
Criterion: High Needs Rural	Portfolio Error	(3.6)	0.1	(0.5)	0.4	6.3
Dimension: Property	Portfolio Estimate	134.0	21.7	2.3	14.0	2,181.3
Criterion: Minority Tract	Portfolio Error	(24.1)	(1.7)	0.2	(0.7)	17.0
Dimension: Property	Portfolio Estimate	72.5	15.1	2.0	14.0	1,900.9
Criterion: Designated Disaster Area	Portfolio Error	(8.7)	0.7	(0.8)	0.7	(5.7)
Dimension: Property	Portfolio Estimate	3.4	1.2	0.1	1.1	89.9
Criterion: Manufactured Housing	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 error<sup>1</sup> improves as pool loan count increases

Share of Pools<sup>2</sup> with Estimation Error  $\ge 20\%$ 



<sup>1</sup> 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).

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

<sup>3</sup> 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 error<sup>1</sup> 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.



<sup>&</sup>lt;sup>1</sup> 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.

<sup>&</sup>lt;sup>2</sup> 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 error<sup>1</sup> ≥ 10% falls to just 1% with as few as 200 pools

Share of Portfolios with Estimation Error  $\geq 10\%$ 

100% 90% 80% 75% Low-Income Borrower 60% First-time Homebuyer 50% Low-Income Area Minority Tract 40% 🗕 🗕 🗕 High Needs Rural Manu Housing 30% **Designated Disaster Area** 20% 10% 60% 1% 0% 80 110 120 10 20 30 40 50 60 70 90 **1**00 130 140 150 160 170 180 190 200 Portfolio Pool Count

<sup>1</sup> 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).

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

Share of Portfolios with Estimation Error > 10%

### **Analyzing Portfolio-Level Estimation Error**

Portfolios comprised of high MDS pools outperform portfolios comprised of generic pools on estimation error<sup>1</sup>



<sup>1</sup> 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).

<sup>2</sup> 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



## **Sensitivity of Criteria-Specific Estimation Errors**

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



## 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 <u>Data Dynamics</u>.



## **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 ٠
  - Portfolio ID/name (optional) ٠
- 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 ٠ 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.

	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		Sta	tus Date modifie	ed Type	
வ Fannie Mae Por	tfolio A	3)	R 3/16/2025 4:	27 PM Microsoft	Excel Comma Separated
Fannie Mae Portfolio A.csv 03/16/2025 04:46 PM			_	🖹 Audi	it Log Run New Data Calcu
Portfolio Name	Total CUSIPs	Not Scored			
Fannie Mae Portfolio A	50	6			

А В С

CUSIPs that are not Fannie Mae MBS, Supers, and Megas 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.

### **Review and Download MICA Portfolio Analytics**



### Access the MICA Excel-based Tool

The <u>MICA Excel-based tool</u> 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<sup>®</sup>, offers a simple solution to upload your portfolio for instant results.

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

- MICA v1.0/v1.1 Disclosure Supplements (available in PoolTalk<sup>®</sup> 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:
  - - Owned original face amount in dollars
    - 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.

21

1	CUSIP	Owr	ned Original Face	Curren	t Factor		100
2	3140K25X8	\$	1,074,453.02	0.93	070612		
3	3140LNYM3	\$	1,062,481.33	0.94	119301		
4	3138WK2T1	\$	3,947,151.59	0.25	334725		
5	3138MJJY6	\$	2,386,795.71	0.41	897176		
6	3138YNDH7	\$	11,497,969.23	0.08	697188		
7	3140M5BK0	\$	1,084,815.94	0.92	181536		
8	3140QBGY8	\$	2,366,440.63	0.42	257557		
9	3138A8RA6	\$	4,456,786.77	0.2	243769		
10	3138WW4R7	\$	3,345,254.59	0.29	893091		
11	3140QKPW2	\$	1,187,598.98	0.84	203508		
12	3138AN2C6	\$	16,831,421.03	0.05	941269		
13	3140LQZB9	\$	1,545,274.80	0.64	713409		
14	3140L8MP2	\$	1,182,842.98	0.84	542075		
15	3140QPPJ0	\$	1,051,380.48	0.95	113046		
16	3140LQZ60	\$	1,254,524.65	0.79	711467		
17	3140N6U67	\$	1,003,119.17	0.99	689053		
18	3140MSW50	\$	1,014,572.38	0.98	563692		
19	3140KKHM9	\$	1,701,911.55	0.5	875746		
20	3140JPCB9	\$	7,738,817.99	0.1	292187		
21	3140F5C92	\$	3,939,525.91	0.25	383765		
22	31418EDC1	\$	1,041,343.28	0.96	029813		
23	3140K32H4	\$	1,456,009.13	0.68	680888		
24	3138LXXZ7	\$	3,995,929.27	0.25	025468		
25	3138Y2QN6	\$	2,269,139.09	0.44	069577		
26	3138XUZ21	\$	3,302,627.59	0.30	278921		
27	3138MJYJ2	\$	14,008,262.63	0.07	138644		
28	3140MNY75	\$	1,010,214.88	0.98	988841		
29	3140HALH1	\$	2,089,914.95	0.47	848837		
30	3140LPNB4	\$	1,163,987.10	0.85	911605		
31	3138YKXZ1	\$	3,081,745.49	0.32	449143		
32	3140KMWH9	\$	1,335,689.95	0.74	867674		
33	31417GAX4	\$	3,414,781.33	0.29	284452		
34	3138AG2Y3	\$	4,882,764.10	0.20	480203		
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	3138LUFE0	\$	4,610,267.57	0.21	690715		
40	3140E0LE3	\$	9,612,756.82	0.10	402843		
41	3138YYL92	\$	2,654,885.70	0.37	666405		
42	31417GE69	\$	5,417,748.79	0.18	457851		
	instructi	ons	summary po	tfolio	v1.0D5	SCL v	1.0CUSIPs

### **Portfolio Estimation Summary**

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

Mission Index - Version 1.0 Aission Index - Version 1.1 Waterfall Validation PASS Waterfall Validation NONE **Scoring Analysis** Scoring Analysis Total Pool Count 100 **Total Pool Count** 100 Scored Pool Count Scored Pool Count 100 Scored Percent (By Pool Count) 100.0% Scored Percent (By Pool Count) 0.0% \$ 100,000,000 Total Current UPB (Owned) \$ 100,000,000 Total Current UPB (Owned) Scored Current UPB (Owned) \$ 100,000,000 Scored Current UPB (Owned) Ś -0.0% Scored Percent (By Owned Current UPB) 100.0% Scored Percent (By Owned Current UPB) Scored Issuance Loan Count 23.389 Scored Issuance Loan Count Scored Current Holdings Loan Count (Est) Scored Current Holdings Loan Count (Est) 554.2 Estimated Loan Counts (Issuance, Full

ownersnip)		Estimated Loan Counts (Issuance, Full Ownership)
	13,287.0	Mission Loans
		Income
MI)	6,570.6	Income: Low Income Borrower (≤80 AMI) Income: Affordable Rental
		Borrower
	3,728.4	Borrower: FTHB (≤100 AMI)
		Borrower: Underserved Markets
		Borrower: Special Purpose Credit Program
		Property
)	2,619.6	Property: Low Income Area (≤100 AMI)
	3,265.4	Property: Minority Tract (≤100 AMI)
0 AMI)	112.6	Property: Manufactured Housing (≤100 AMI)
)	227.2	Property: High Needs Rural
120 AMI)	3,155.3	Property: Designated Disaster Area (≤100 AMI)

Property: Designated Disaster Area (≤120 A
Estimated Loan Counts (Current, Portfolio

Income: Low Income Borrower (≤80 A

Property: Low Income Area (≤120 AM Property: Minority Tract (≤120 AMI)

Property: Manufactured Housing (≤12

Property: High Needs Rural (≤120 AM

Borrower: FTHB (≤120 AMI)

Mission Loans

Property

Estimated Loan Counts (Current, Portfolio Ownershi	o)	Estimated Loan Counts (Current, Portfolio Ownership)	
Mission Loans	339.5	Mission Loans	-
Income		Income	
Income: Low Income Borrower (≤80 AMI)	212.2	Income: Low Income Borrower (≤80 AMI)	-
		Income: Affordable Rental	-
Borrower		Borrower	
Borrower: FTHB (≤120 AMI)	85.0	Borrower: FTHB (≤100 AMI)	-
		Borrower: Underserved Markets	-
		Borrower: Special Purpose Credit Program	-
Property		Property	
Property: Low Income Area (≤120 AMI)	75.8	Property: Low Income Area (≤100 AMI)	-
Property: Minority Tract (≤120 AMI)	85.9	Property: Minority Tract (≤100 AMI)	-
Property: Manufactured Housing (≤120 AMI)	4.0	Property: Manufactured Housing (≤100 AMI)	-
Property: High Needs Rural (≤120 AMI)	8.0	Property: High Needs Rural	-
Property: Designated Disaster Area (≤120 AMI)	82.0	Property: Designated Disaster Area (≤100 AMI)	-

instructions summary portfolio v1.0DSCL v1.0CUSIPs v1.0Engine v1.1DSCL v1.1CUSIPs v1.1Engine updates

- 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.
- 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
- **Estimated Loan Counts (Issuance, Full Ownership)** is a summary of the estimated representation of Mission Criteria in the portfolio pools **at issuance** <u>and</u> **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.
- **Estimated Loan Counts (Current, Portfolio Ownership)** is a summary of the **current** estimated representation of Mission Criteria in the portfolio pools **assuming** <u>actual</u> **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.
- **Mission Index Version 1.1** summary provides estimation output for the portion of the portfolio pools issued under Mission Index v1.1.





### For a demo, feedback or questions, contact us: <u>fanniemae.com/AskCM</u>

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