

Mortgage Banking Derivatives, Mortgage Servicing Rights, & SBA 7(a) Gain on Sale Calculations



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TOPICS FOR TODAY'S SESSION

- 1) Mortgage Marketplace
- 2) Mortgage Banking Derivatives (MBDs)
- 3) Mortgage Servicing Marketplace
- 4) Mortgage Servicing Rights (MSRs)
- 5) SBA 7(a) Marketplace
- 6) SBA 7(a) Gain on Sale Calculations



TODAY'S SPEAKERS



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Mortgage Marketplace



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Mortgage Originations

By Product

\$ Billions

Year	Govt	Conf Conv	Nonconf	Total	Jumbo	ARMs	Refi	Purchase
2004	135	1,210	1,245	2,590	515	1,464	1,341	1,248
2005	90	1,090	1,575	2,755	570	1,490	1,390	1,365
2006	80	990	1,480	2,550	480	1,340	1,249	1,301
2007	116	1,151	814	2,081	348	724	1,081	1,000
2008	293	928	163	1,384	98	236	702	682
2009	451	1,201	107	1,759	97	114	1,218	541
2010	377	1,092	112	1,581	104	156	1,063	518
2011	294	963	188	1,445	170	197	945	500
2012	390	1,438	248	2,076	225	213	1,489	587
2013	366	1,174	290	1,830	272	196	1,096	734
2014	277	767	256	1,300	235	220	517	783
2015	416	967	352	1,735	328	199	811	924
2016	502	1,148	415	2,065	383	212	1,028	1,037
2017	444	1,008	358	1,810	320	216	678	1,132
2018	367	937	326	1,630	281	206	479	1,151
2019	516	1,365	444	2,325	392	255	1,069	1,256
2020	765	2,863	472	4,100	435	252	2,627	1,473
2021	736	3,011	692	4,440	644	267	2,596	1,844
2022	429	1,429	467	2,325	416	320	727	1,598
2023	362	858	230	1,450	188	198	216	1,234
2024	447	942	276	1,665	211	206	358	1,307

Source: Inside Mortgage Finance

Mortgage Originations

By Product

Percent

Year	Govt	Conf Conv	Nonconf	Jumbo	ARMs	Refi	Purchase
2004	5%	47%	48%	20%	57%	52%	48%
2005	3%	40%	57%	21%	54%	50%	50%
2006	3%	39%	58%	19%	53%	49%	51%
2007	6%	55%	39%	17%	35%	52%	48%
2008	21%	67%	12%	7%	17%	51%	49%
2009	26%	68%	6%	6%	6%	69%	31%
2010	24%	69%	7%	7%	10%	67%	33%
2011	20%	67%	13%	12%	14%	65%	35%
2012	19%	69%	12%	11%	10%	72%	28%
2013	20%	64%	16%	15%	11%	60%	40%
2014	21%	59%	20%	18%	17%	40%	60%
2015	24%	56%	20%	19%	11%	47%	53%
2016	24%	56%	20%	19%	10%	50%	50%
2017	25%	56%	20%	18%	12%	37%	63%
2018	23%	57%	20%	17%	13%	29%	71%
2019	22%	59%	19%	17%	11%	46%	54%
2020	19%	70%	12%	11%	6%	64%	36%
2021	17%	68%	16%	15%	6%	58%	42%
2022	18%	61%	20%	18%	14%	31%	69%
2022	25%	59%	16%	13%	14%	15%	85%
2022	27%	57%	17%	13%	12%	22%	78%

Source: Inside Mortgage Finance

Mortgage Originations

Mortgage Bankers Association Forecast

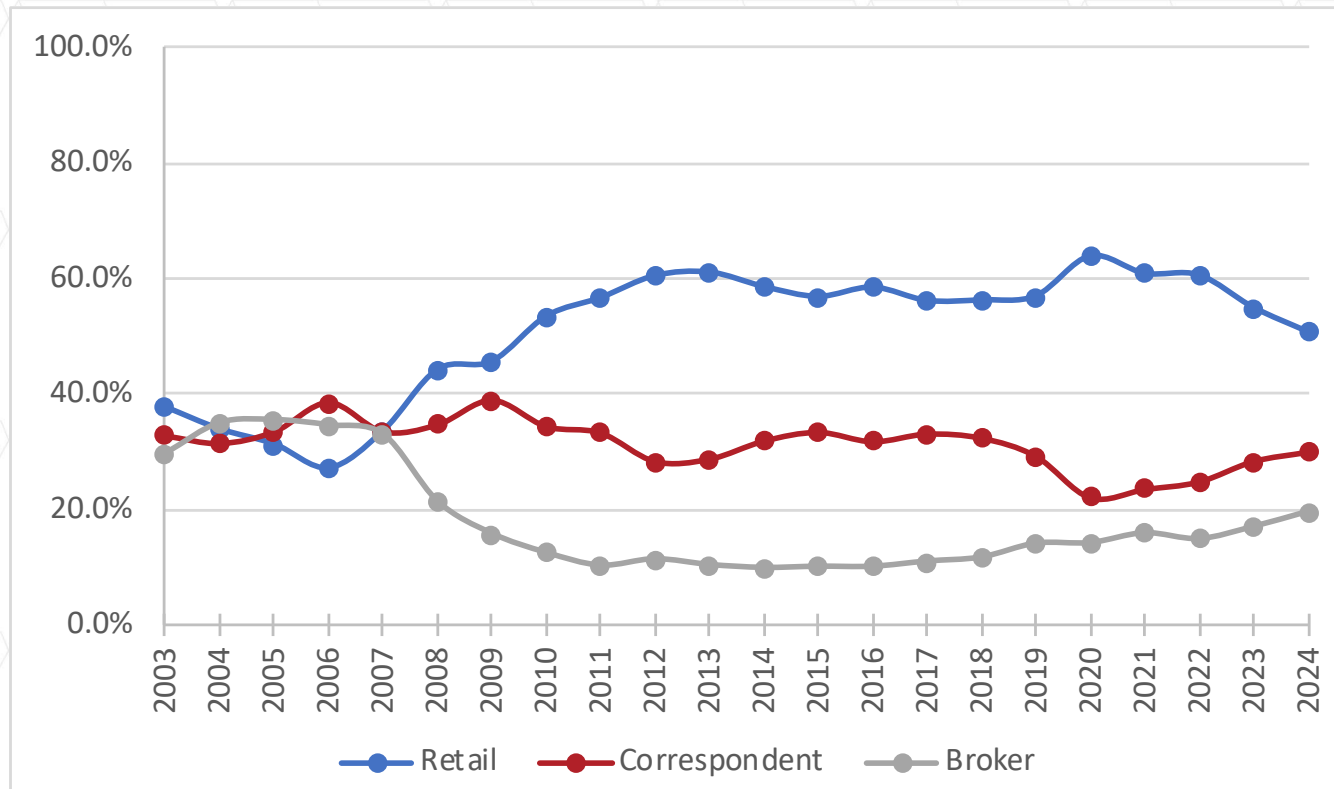
Residential Mortgage Loan Volume

	2020	2021	2022	2023	2024	2025	2026	2027
Total one-to-four (000s loans)								
Purchase	1,483	1,646	1,578	1,325	1,288	1,397	1,589	1,681
Refinance	2,625	2,345	667	314	491	672	797	774
Total	4,108	3,991	2,245	1,639	1,779	2,069	2,386	2,455
Refinance %	64	59	30	19	28	32	33	32
Percent change	NA	-2.8%	-43.7%	-27.0%	8.5%	16.3%	15.3%	2.9%
FHA originations	255	342	158	198	204	211	243	227

Source: MBA

Mortgage Originations

Loan Production by Channel



Source: Inside Mortgage Finance

Mortgage Marketplace

Top 30 Lenders (\$ in Billions)

Residential Mortgage Loan Volume

2024 Rank	Lender	2024		2023		Change 2024 vs. 2023		
		Total	Share	Total	Share	Total	Share	Type*
1	United Wholesale Mortgage, MI	139.72	8.3%	102.89	6.9%	36.83	1.4%	PNB
2	Rocket Mortgage, MI	97.56	5.8%	76.26	5.1%	21.30	0.7%	PNB
3	JPMorgan Chase, NJ	50.65	3.0%	29.51	2.0%	21.15	1.0%	
4	CrossCountry Mortgage, LA	39.44	2.3%	27.91	1.9%	11.53	0.5%	NB
5	Wells Fargo & Company, IA	38.38	2.3%	24.88	1.7%	13.50	0.6%	
6	U.S. Bank Home Mortgage, MN	30.03	1.8%	24.41	1.6%	5.62	0.1%	
7	Bank of America Home Loans, NC	29.97	1.8%	26.96	1.8%	3.01	0.0%	
8	Guaranteed Rate Inc., IL	24.65	1.5%	19.47	1.3%	5.19	0.2%	NB
9	DHI Mortgage, TX	24.00	1.4%	21.01	1.4%	2.99	0.0%	PNB
10	loanDepot.com, CA	23.84	1.4%	20.73	1.4%	3.11	0.0%	PNB
11	Fairway Independent Mortgage Corp., WI	23.70	1.4%	26.02	1.7%	(2.32)	-0.3%	NB
12	Veterans United/Mortgage Research, MO	23.24	1.4%	18.62	1.2%	4.62	0.1%	NB
13	Guild Mortgage Co., CA	23.16	1.4%	14.03	0.9%	9.13	0.4%	PNB
14	PennyMac Financial, CA	22.67	1.3%	12.45	0.8%	10.23	0.5%	PNB
15	CMG Mortgage, CA	21.79	1.3%	15.12	1.0%	6.67	0.3%	NB
16	Movement Mortgage, SC	20.73	1.2%	19.33	1.3%	1.41	-0.1%	NB
17	Lennar Mortgage, FL	20.03	1.2%	17.44	1.2%	2.59	0.0%	PNB
18	Freedom Mortgage Corp., NJ	19.47	1.2%	7.00	0.5%	12.47	0.7%	NB
19	Navy Federal Credit Union, VA	17.70	1.0%	14.70	1.0%	3.00	0.1%	
20	PNC Bank, PA	17.58	1.0%	14.74	1.0%	2.84	0.1%	

*Type: PNB = Publicly Traded Non-Bank NB = Non-Bank Blank = Bank or Credit Union

Source: National Mortgage News, Housing Wire, & Lending Tree

Mortgage Marketplace

Mortgage Held on Bank Balance Sheets

	2017	2018	2019	2020	2021	2022	2023	2024	Q1 2025
Total Bank Assets	17,424.1	17,953.4	18,656.2	21,880.3	23,733.3	23,610.0	23,685.9	24,117.9	24,555.6
Total 1-4 Family	2,474.4	2,494.7	2,543.5	2,510.9	2,523.8	2,752.1	2,836.2	2,884.4	2,883.5
Total MBS	2,141.9	2,209.6	2,377.9	2,992.3	3,560.8	3,322.5	3,058.2	3,096.7	3,105.1
Total Mortgages	4,616.3	4,704.3	4,921.4	5,503.2	6,084.6	6,074.6	5,894.4	5,981.1	5,988.6
Mortgages as % of Assets	26.5%	26.2%	26.4%	25.2%	25.6%	25.7%	24.9%	24.8%	24.4%
Unrealized Losses	(41.0)	(68.4)	(21.0)	39.3	(31.1)	(326.5)	(253.7)	(233.3)	(200.1)

Source: S&P Capital IQ

Mortgage Banking Derivatives



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Guidance

- Interagency advisory on mortgage banking – February 2003
- Interagency advisory on accounting and reporting for commitments to originate and sell mortgage loans – May 2005
- OCC Comptroller's Handbook Mortgage Banking – February 2014

Interagency Advisory on Accounting and Reporting for Commitments to Originate and Sell Mortgage Loans

Provides guidance on accounting and reporting for commitments to:

- Originate mortgage loans that will be held for resale; and
- Sell mortgage loans under mandatory and best-efforts sales contracts

Interest Rate Lock Commitments

- Interest rate lock in commitments on mortgage loans that will be held for resale are derivatives
- Commitments to originate mortgage loans to be held for investment and other types of loans are generally not derivatives

Types of IRLCs

- Lock ins for fixed rate loans
- Lock ins for adjustable-rate loans
- Commitments with floating rates

IRLC Valuation Components

- Loan amount
- Interest rate
- Price of the loan at valuation date
- Value of servicing
- Discount points
- Direct origination fees and costs

IRLC Valuation Example

Loan Amount	\$250,000
Price to the borrower at lock-in:	Par or 100
Locked Interest Rate	6.750%
Market Interest Rate	6.375%
Sales Price (locked with investor)	101.50
Value of Servicing	0.993% or \$2,482
Projected Origination Costs	1.000% or \$2,500

Mortgage Banking Derivatives

IRLC Valuation Example

		Inception	Rates Increase 50 bp	Loan Has Been Processed	Rates Drop 100 bp	Loan Has Been Approved	Loan at Close
Loan Amount	(A)	\$ 250,000	\$ 250,000	\$ 250,000	\$ 250,000	\$ 250,000	\$ 250,000
Lock In Interest Rate		6.750%	6.750%	6.750%	6.750%	6.750%	6.750%
Market Interest Rate		6.375%	6.875%	6.875%	5.875%	5.875%	5.875%
Market Value	(B)	101.50%	99.50%	99.50%	103.50%	103.50%	103.50%
Servicing Value	(C)	0.993%	0.993%	0.993%	0.993%	0.993%	0.993%
Origination Costs	(D)	1.00%	1.00%	0.50%	0.50%	0.25%	0.00%
Borrower Price	(E)	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Value as a Percent of Loan (B) + (C) - (D) - (E)	(F)	1.49%	-0.51%	-0.01%	3.99%	4.24%	4.49%
Dollar Value (A) * (F)	(G)	\$ 3,732	\$ (1,268)	\$ (18)	\$ 9,982	\$ 10,607	\$ 11,232
Pull-through Percentage	(H)	30.00%	30.00%	60.00%	60.00%	80.00%	100.00%
Net Value (G) * (H)	(I)	\$ 1,120	\$ (380)	\$ (11)	\$ 5,989	\$ 8,486	\$ 11,232
Value Recorded		\$ 1,120	\$ (1,500)	\$ 370	\$ 6,000	\$ 2,496	\$ 2,746

Other Valuation Considerations

- Changes in interest rates can also affect the value of the servicing asset
- Pull-through assumptions in the marketplace are more complex than the simplified example

Factors Affecting Pull-through and the Hedge

- Market interest rates
- Type of origination – retail or wholesale
- Length of lock
- Purpose of loan – purchase or refinance
- Type of loan – fixed or variable
- Processing status of loan

Types of Sales Commitments

- Mandatory delivery
- Best efforts delivery
- Master agreements

Mandatory Delivery Commitment

An institution commits to deliver a certain amount of loans to an investor at a specified price on or before a specified date

Requires a pair-off fee based on then current market prices to compensate investor for any shortfall

Examples:

- FNMA/FHLMC cash window
- MBS TBAs
- MBS Assignment of Trade (AOTs)

Cash vs. MBS Pricing Components

Cash Price Components

- Commitment price
- Interest rate
- Type of loan
- Loan term
- Loan level price adjustors
- Servicing

MBS Pricing Components

- Market price
- Guarantee fee
- Buyups and buydowns
- Pooling considerations

Mandatory Delivery Contracts are Derivatives

- Has a “specified underlying” – the specified price
- Requires little or no initial net investment
- Has a “notional amount” – the principal amount of the loan
- Requires or permits net settlement by paying a pair-off fee based on then-current market prices
- Is a derivative

Best Efforts Delivery Commitments

- An institution commits to deliver an individual loan of a specified principal amount and quality to an investor if the loan to the underlying borrower closes
- Generally not considered a derivative until the loan closes because it does not meet the net settlement criteria
- The result is that the change in the value of best-efforts contracts will not offset the change in the value of the IRLCs for accounting purposes unless fair value is elected
- An institution will want to elect fair value if they want a “hedge” against the fluctuation in the value of the IRLC

Mortgage Banking Derivatives

Value of Forward Loan Sales Commitment

		Inception	Rates Increase 50 bp	Loan Has Been Processed	Rates Drop 100 bp	Loan Has Been Approved	Loan at Close
Loan Amount	(A)	\$ 250,000	\$ 250,000	\$ 250,000	\$ 250,000	\$ 250,000	\$ 250,000
Lock In Interest Rate		6.750%	6.750%	6.750%	6.750%	6.750%	6.750%
Market Interest Rate		6.375%	6.875%	6.875%	5.875%	5.875%	5.875%
Market Value	(B)	101.50%	99.50%	99.50%	103.50%	103.50%	103.50%
Servicing Value	(C)	0.993%	0.993%	0.993%	0.993%	0.993%	0.993%
Sales Price including SRP	(D)	102.49%	102.49%	102.49%	102.49%	102.49%	102.49%
Value as a Percent of Loan (D) - (B) - (C)	(E)	0.00%	2.00%	2.00%	-2.00%	-2.00%	-2.00%
Dollar Value (A) * (E)	(F)	\$ -	\$ 5,000	\$ 5,000	\$ (5,000)	\$ (5,000)	\$ (5,000)
Pull-through Percentage	(G)	30.00%	30.00%	60.00%	60.00%	80.00%	100.00%
Net Value (F) * (G)	(H)	\$ -	\$ 1,500	\$ 3,000	\$ (3,000)	\$ (4,000)	\$ (5,000)
Value Recorded		\$ -	\$ 1,500	\$ 1,500	\$ (6,000)	\$ (1,000)	\$ (1,000)

Netting of Derivatives for Reporting Purposes

- May net gains and losses of individual derivative commitments only under certain conditions, generally only under the legal right of offset
- The value of sales commitments covering the pipeline may not be netted against the value of the IRLCs, they must be reported separately
- The value of sales commitments covering the warehouse may not be netted against the value of the warehouse loans, they must be reported separately

Closed Loans Held for Sale

- Loans Held for Sale (“LHFS”) are reported at lower of cost or market unless fair value is elected
- An institution will want to elect fair value if they want a “hedge” against the fluctuation in the value of the mandatory commitment

Mortgage Banking Derivatives

Value of Loans Held for Sale

		Loan at Close	Rates Increase 50 bp	Rates Drop 100 bp	Loan at Sale
Loan Amount	(A)	\$ 250,000	\$ 250,000	\$ 250,000	\$ 250,000
Lock In Interest Rate		6.750%	6.750%	6.750%	6.750%
Market Interest Rate		6.625%	7.125%	6.125%	6.125%
Market Value	(B)	103.50%	101.50%	105.50%	101.50%
Servicing Value	(C)	0.993%	0.993%	0.993%	0.993%
Borrower Price	(D)	100.00%	100.00%	100.00%	100.00%
Value as a Percent of Loan (B) + (C) - (D)	(E)	4.49%	2.49%	6.49%	2.49%
Dollar Value (A) * (E)	(F)	\$ 11,232	\$ 6,232	\$ 16,232	\$ 6,232
Pull-through Percentage	(G)	100.00%	100.00%	100.00%	100.00%
Net Value (F) * (G)	(H)	\$ 11,232	\$ 6,232	\$ 16,232	\$ 6,232
Value Recorded		\$ 11,232	\$ (5,000)	\$ 10,000	\$ (10,000)

Secondary Marketing Position Report Example

1	DYNAMIC RISK POSITION LIMITS
2	POSITION SUMMARY
3	POSITION RECONCILIATION
4	DYNAMIC HEDGE RECOMMENDATION
5	DYNAMIC HEDGE RECOMMENDATION BREAKDOWN
6	PIPELINE STATS
7	COVERAGE DETAIL
8	COVERAGE RECONCILIATION
9	DEALER SUMMARY REPORT
10	OPTIONS
11	RATE PROTECTION PLAN
12	OAS POSITION REVIEW
13	OAS POSITION RECONCILIATION
14	POSITION GRAPHS
15	PIE CHARTS
16	LOCK EXPIRATION ANALYSIS GRAPH
17	DETAILED RISK POSITION
18	OAS DETAILED RISK POSITION
19	MARKET DATA TABLE
20	MARKET DATA RECONCILIATION
21	POSITION SUMMARY SHOCK ANALYSIS
22	SHOCK CLOSE PERCENTS
23	FALLOUT BY STATUS
24	YIELD GRAPHS
25	NEW LOCKED LOAN ANALYSIS
26	LOCK DIFFERENTIALS
27	LOCK EXPIRATION ANALYSIS
28	NEW CLOSED LOAN ANALYSIS
29	TOTAL CLOSED LOAN ANALYSIS
30	AGED LOAN ANALYSIS
31	LOCKS BY STATUS REPORTS
32	LOCKS BY PURPOSE REPORTS
33	SUPPLEMENTAL LOCKS REPORTS
34	LOCKED WEIGHTED AVERAGES
35	MANAGEMENT GRAPHS

PRODUCTION MIX

% REFINANCE	58.85%
% PURCHASE	41.15%

POSITION	GROSS	NET OAS	MK-TO-MKT	MGN
LOCKED PIPELINE	705,830,677	542,235,560	16,347,984	2.81%
CLOSED PIPELINE	63,937,637	55,219,011	2,027,875	3.17%
TOTAL PIPELINE	769,768,314	597,454,571		
TRADES	630,085,943	585,796,814	(2,463,802)	-0.41%
NET POSITION	139,682,371	11,657,757	15,912,058	2.47%
COVERAGE %	81.85%	98.05%		
LOCKED PDELTA	0	1,417,293	713,292	0.12%
CLOSED PDELTA	0	407,327	111,019	0.17%
TRADES PDELTA	2,000,000	1,494,059	(863,899)	-0.15%
NET PDELTA	(2,000,000)	330,561	(39,588)	-0.05%
NEW LOCKS	25,445,041	18,662,031	514,656	2.58%
FALLIN	2,270,883	1,971,073	67,320	2.96%
FALLOUT	1,956,330	1,167,933	51,075	2.61%
NET FALL	314,553	803,140	16,246	5.16%
FNMA 30 YR 2.0	103.67	0.00		
DYNAMIC POS	77,303			

Questions?

Mortgage Banking Derivatives Questions?

Mortgage Servicing Marketplace



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Mortgage Servicing Marketplace

GSE MBS by Servicer Type

	Q1 2025	Q4 2024	Q4 2023
Depositories			
Mega banks	16.2%	16.4%	17.3%
Large banks	12.5%	12.6%	13.0%
Mid-sized banks	3.1%	3.1%	4.5%
Community banks	4.5%	4.6%	5.0%
Credit Unions	2.9%	2.8%	2.9%
Depositories total	39.2%	39.5%	42.7%
Non-banks			
Housing finance agencies	0.7%	0.7%	0.7%
Large Ind Mrtg Bankers	41.0%	41.0%	36.9%
Small/Midsize Ind Mrtg Bankers	18.9%	18.4%	19.4%
Nonbanks Total	60.6%	60.1%	57.0%
Total	99.8%	99.6%	99.7%
Concentration			
Top 5	35.00%	35.30%	32.60%
Ranked 6 - 25	43.40%	42.90%	42.80%
Top 50	86.60%	86.40%	84.90%
Top 100	91.10%	91.10%	90.00%
Beyond 100	8.90%	8.90%	10.00%

Total Asset Size

Mega Banks => \$1 trillion

Large Banks => \$100 billion - \$1 trillion

Mid-Sized Banks => \$10 billion - \$100 billion

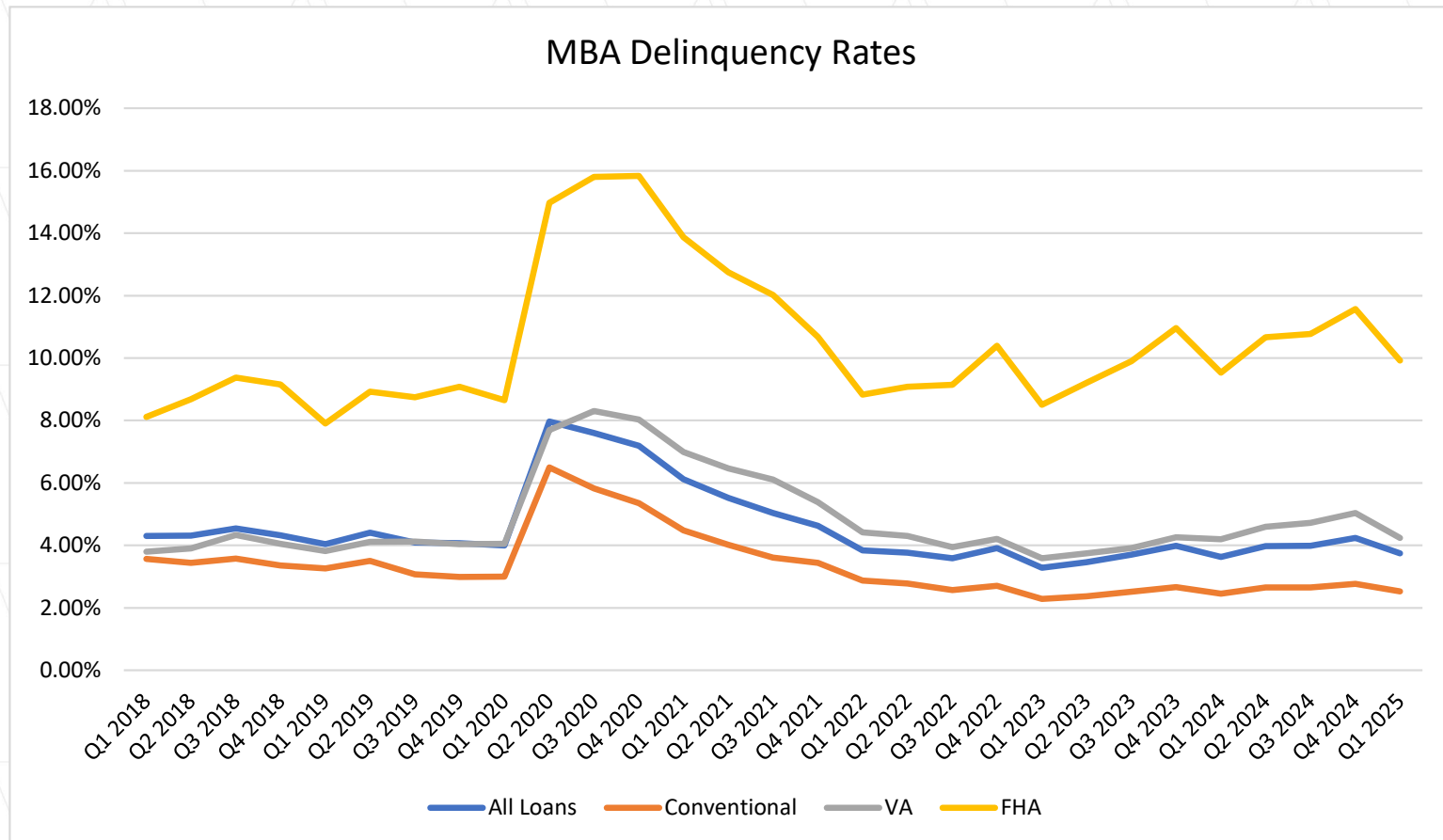
Community Banks < \$10 billion

Mortgage Servicing Marketplace

Top Servicers (\$ in Billions)

2025 Rank	Lender	Q1 2025		Q4 2024		Q1 2024		Change Q-o-Q		Change Y-o-Y	
		Total	Share	Total	Share	Total	Share	Total	Share	Total	Share
1	Chase, NJ	987.08	6.90%	978.56	6.83%	965.00	6.89%	8.52	0.07%	22.08	0.01%
2	Lakeview Loan Servicing (Bayview), FL	770.28	5.40%	750.93	5.24%	697.98	4.99%	19.35	0.16%	72.30	0.41%
3	Mr. Cooper Group, TX	733.75	5.10%	736.07	5.14%	630.73	4.51%	(2.32)	-0.04%	103.02	0.59%
4	Wells Fargo & Company, IA	720.06	5.00%	738.81	5.16%	786.63	5.62%	(18.75)	-0.16%	(66.57)	-0.62%
5	PennyMac, CA	679.05	4.70%	664.96	4.64%	617.42	4.41%	14.09	0.06%	61.63	0.29%
6	Freedom Mortgage Corp., NJ	642.00	4.50%	626.17	4.37%	506.78	3.62%	15.83	0.13%	135.22	0.88%
7	Newrez (Rithm), PA	591.00	4.10%	590.00	4.12%	527.00	3.77%	1.00	-0.02%	64.00	0.33%
8	Rocket Mortgage, MI	523.42	3.60%	525.52	3.67%	468.55	3.35%	(2.10)	-0.07%	54.87	0.25%
9	US Bank Home Mortgage, MN	341.22	2.40%	341.87	2.39%	347.72	2.48%	(0.65)	0.01%	(6.50)	-0.08%
10	Bank of America, NC	316.99	2.20%	319.66	2.23%	328.18	2.34%	(2.67)	-0.03%	(11.19)	-0.14%
11	Truist, NC	272.67	1.90%	274.72	1.92%	266.13	1.90%	(2.05)	-0.02%	6.54	0.00%
12	PNC Mortgage, PA	239.88	1.70%	243.95	1.70%	254.41	1.82%	(4.07)	0.00%	(14.53)	-0.12%
13	Onslow Bay Financial (Annaly), NY	219.88	1.50%	196.90	1.37%	185.92	1.33%	22.98	0.13%	33.96	0.17%
14	United Wholesale Mortgage, MI	214.62	1.50%	242.41	1.69%	229.71	1.64%	(27.79)	-0.19%	(15.09)	-0.14%
15	Two Harbors Investment Corp., MN	196.77	1.40%	200.32	1.40%	213.60	1.53%	(3.55)	0.00%	(16.83)	-0.13%
16	Citi, MO	166.80	1.20%	166.40	1.16%	158.70	1.13%	0.40	0.04%	8.10	0.07%
17	Carrington Mortgage Services, CA	166.25	1.20%	165.18	1.15%	155.98	1.11%	1.07	0.05%	10.27	0.09%
18	Onity Group/PHH Mortgage, FL	138.70	1.00%	130.60	0.91%	125.30	0.90%	8.10	0.09%	13.40	0.10%
19	Citizens Bank, RI	128.35	0.90%	128.03	0.89%	127.74	0.91%	0.32	0.01%	0.61	-0.01%
20	loanDepot, CA	119.02	0.80%	115.02	0.80%	141.89	1.01%	4.00	0.00%	(22.87)	-0.21%
21	Planet Home Lending, CT	111.75	0.80%	106.39	0.74%	94.46	0.67%	5.36	0.06%	17.29	0.13%
22	Fifth Third Bank, OH	110.43	0.80%	112.18	0.78%	116.50	0.83%	(1.75)	0.02%	(6.07)	-0.03%
23	CrossCountry Mortgage, OH	99.34	0.70%	96.79	0.68%	86.78	0.62%	2.55	0.02%	12.56	0.08%
24	Navy Federal Credit Union, VA	94.34	0.70%	93.63	0.65%	88.97	0.64%	0.71	0.05%	5.37	0.06%

MBA Delinquency Rates



Mortgage Servicing Rights (MSRs)



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Interagency Advisory on MSRs

- Requiring comprehensive documentation of valuation process
- Valuation must be based on reasonable and supportable market assumptions and major changes to assumptions must be approved
- Compare assumptions to actual results - backtesting
- Use appropriate amortization and recognize impairment timely

Retained Mortgage Servicing Rights – Valuation Considerations

- MSR's are a modified interest-only strip
- Many types of underlying loans
- Value varies significantly by type of MSR

MSR Valuation Inputs

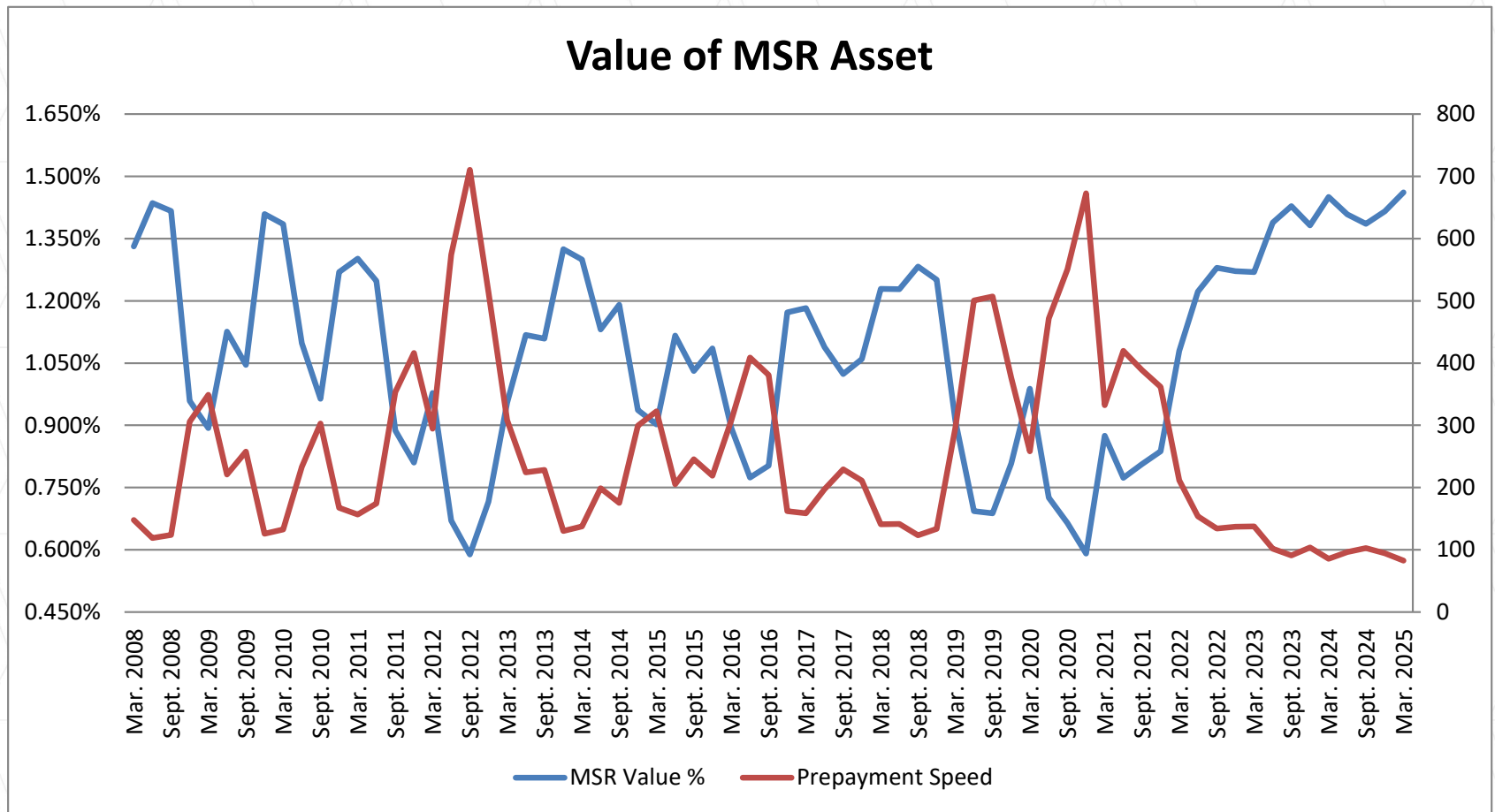
- Loan amount
- Servicing fee percentage – varies by investor and type of loan
- Costs to service – market costs
- Expected loan life – prepayment and loan term
- Delinquency rate and foreclosure losses – recourse versus non-recourse
- Ancillary income
- Float Income on P&I payments and escrow payments
- Discount rate

Input Considerations

- Servicing fees are earned monthly based on remaining principal balance
- Servicing costs should be calculated in dollars per loan not in basis points
- Ancillary income includes late fees, insurance income and other fees earned
- Float and escrows (impounds) add value

Mortgage Servicing Rights

MSR Values and Prepayment Input



Mortgage Servicing Rights

Range of Valuation Inputs

Ancillary Income	Low	High	Average	Median
FNMA / FHLMC				
Fixed	9.07	42.28	22.97	24.54
ARM	5.39	42.28	24.49	25.61
GNMA				
Fixed	14.80	67.99	34.14	35.51
ARM		Data Not Received		
Discount Rate				
FNMA / FHLMC				
Fixed	9.25%	10.16%	9.69%	9.63%
ARM	9.43%	12.21%	10.70%	10.31%
GNMA				
Fixed	10.00%	12.70%	11.31%	11.00%
ARM		Data Not Received		
Servicing Costs				
FNMA / FHLMC				
Fixed	34.22	125.40	67.92	65.00
ARM	37.25	125.40	71.27	72.15
GNMA				
Fixed	38.86	125.40	79.37	75.48
ARM		Data Not Received		

Source: Big 4 accounting firm MSR Assumptions Survey as of November 30, 2024

Mortgage Servicing Rights

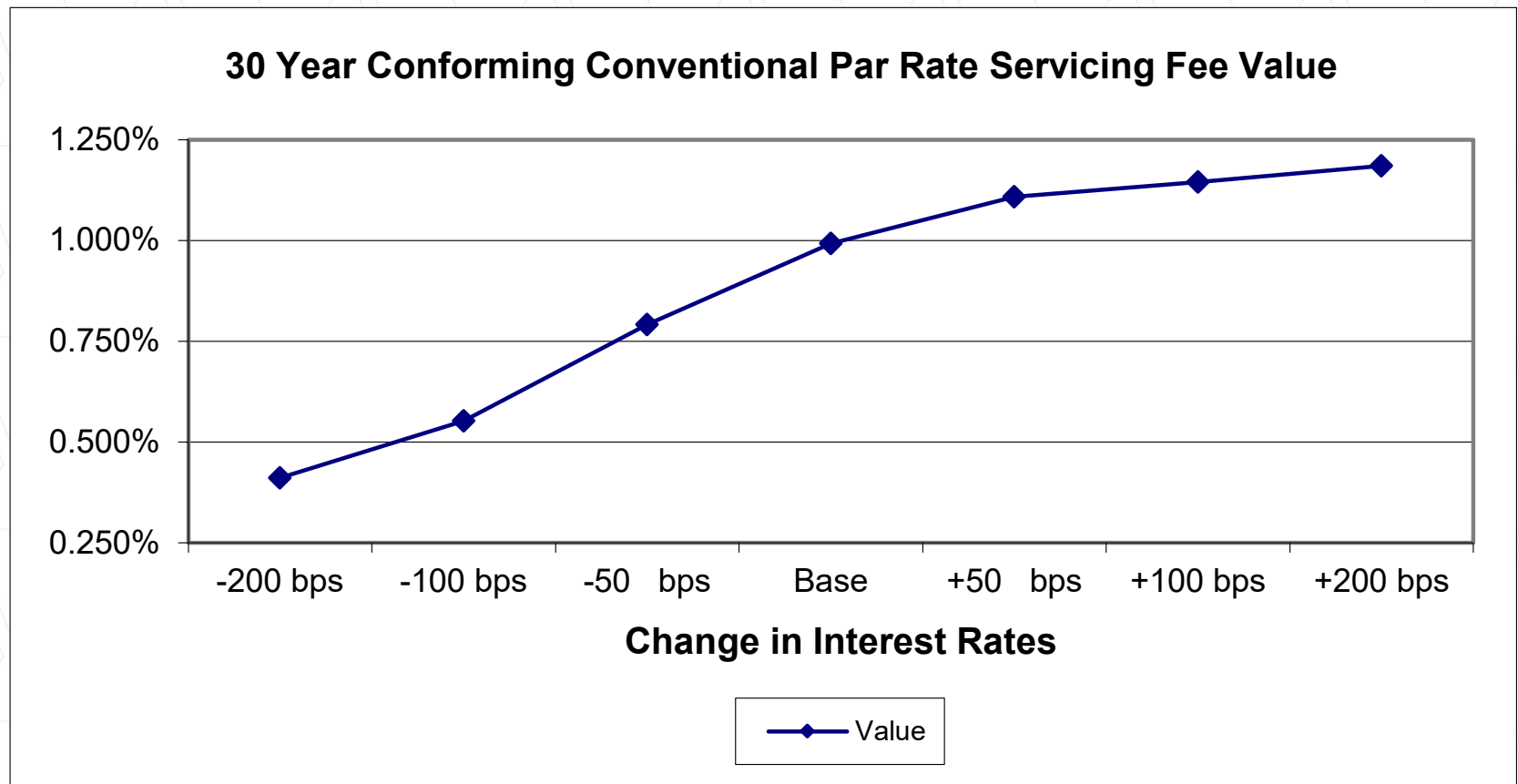
Input Sensitivity

	<u>Value</u>	<u>Change</u>	<u>% Change</u>
Base	0.993%		
Prepayments increase 30%	0.879%	-0.114%	-11.477%
Servicing costs increase 30%	0.951%	-0.042%	-4.214%
Delinquencies increase 30%	0.990%	-0.003%	-0.262%
Discount rate increases 30%	0.896%	-0.096%	-9.714%

Source: Wilary Winn, May 15, 2025

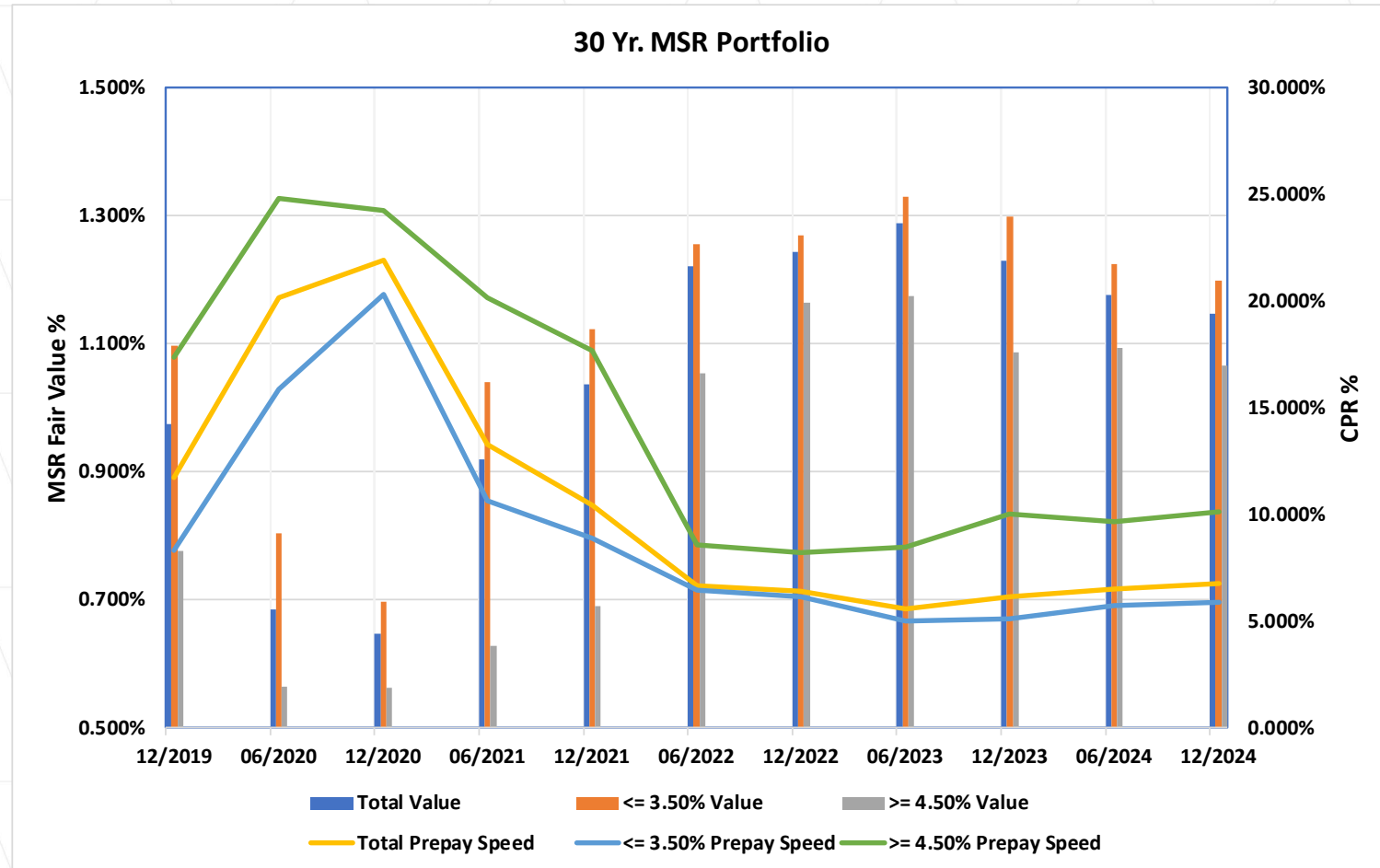
Mortgage Servicing Rights

MSR Yield Curve and Convexity



Mortgage Servicing Rights

Prepayment Impact on MSR Values



MSR Accounting – Fair Value Method

- The fair value is determined at each reporting period
- The asset is adjusted to equal its fair value
- The difference is taken into income or expense for that reporting period
- Institutions that hedge their servicing rights portfolios can benefit from the fair value method because the accounting is less complex than under FAS ASC Topic 815 – Derivatives and Hedging. Institutions that do not hedge their portfolios and that elect the fair value method could experience earnings volatility.

MSR Accounting – Amortization Method

Amortize the MSR in proportion and over the period of estimated net servicing income (level yield method) and **assess servicing assets for impairment** based on fair value at each reporting date.

Impairment Considerations

- Impairment is best measured at the loan level and is reported at the predominant risk characteristic stratum
- There is a difference between temporary impairment, which is accounted for through an allowance and permanent impairment, which requires a direct write-off

Mortgage Servicing Rights

MSR Impairment

ABC Bank - \$385.5 MM Servicing Portfolio Valuation as of September 30, 2024

		Principal Balance	# of Loans	Avg. Loan Size	WAC	WAM	Age	Avg Life	Service Fee	T&I Total	Prepayment PSA	Lifetime CRR%	Servicing Multiple	Fair Value %	Fair Value \$	Book Value \$	Fair Value - Book Value	Bal. Sheet Impact
30 year	less than 4.000%	177,034,260	1,013	174,762	3.308%	317	43	9.22	0.250%	318,924	92	5.521%	5.9	1.483%	2,625,430	1,437,387	1,188,042	-
	4.000% - 6.000%	64,905,576	421	154,170	4.922%	323	36	8.53	0.250%	115,947	122	7.243%	5.4	1.360%	882,558	532,923	349,635	-
	greater than 6.000%	46,590,734	276	168,807	6.742%	348	12	4.05	0.250%	66,113	424	21.750%	3.2	0.797%	371,381	491,926	(120,545)	(120,545)
	Total 30 year	288,530,570	1,710	168,731	4.225%	324	36	8.23	0.250%	500,984	152	8.529%	5.4	1.345%	3,879,368	2,462,236	1,417,132	(120,545)
20 year	less than 3.625%	23,744,182	155	153,188	3.154%	198	42	6.53	0.250%	42,625	89	5.365%	4.9	1.225%	290,907	157,781	133,126	-
	3.625% - 5.625%	7,416,567	65	114,101	3.955%	184	56	6.13	0.250%	17,404	100	5.984%	4.8	1.193%	88,491	39,325	49,166	-
	greater than 5.625%	720,360	6	120,060	6.488%	228	12	4.61	0.250%	323	341	16.519%	3.2	0.796%	5,731	5,073	659	-
	Total 20 year	31,881,109	226	141,067	3.415%	195	45	6.39	0.250%	60,353	97	5.761%	4.8	1.208%	385,129	202,178	182,951	-
15 year	less than 3.125%	41,896,384	322	130,113	2.708%	138	42	4.67	0.250%	95,066	98	5.888%	4.1	1.026%	429,871	221,797	208,073	-
	3.125% - 5.125%	17,657,094	183	96,487	3.552%	132	48	4.44	0.250%	44,457	107	6.421%	3.7	0.937%	165,477	88,296	77,180	-
	greater than 5.125%	1,488,405	17	87,553	6.087%	165	15	3.66	0.250%	2,625	341	18.006%	2.8	0.707%	10,521	11,685	(1,164)	(1,164)
	Total 15 year	61,041,884	522	116,938	3.034%	137	43	4.58	0.250%	142,148	107	6.338%	4.0	0.993%	605,868	321,778	284,090	(1,164)
10 year	less than 2.875%	1,839,003	21	87,572	2.568%	79	41	2.93	0.250%	3,768	95	5.699%	2.6	0.660%	12,132	5,285	6,848	-
	2.875% - 4.875%	2,033,767	25	81,351	3.259%	76	44	2.75	0.250%	6,104	105	6.270%	2.8	0.699%	14,208	5,304	8,904	-
	greater than 4.875%	191,811	2	95,905	5.639%	102	18	2.21	0.250%	-	288	15.852%	1.7	0.417%	800	1,394	(594)	(594)
	Total 10 year	4,064,581	48	84,679	3.059%	79	41	2.81	0.250%	9,872	109	6.464%	2.7	0.668%	27,140	11,983	15,158	(594)
Grand Total		385,518,144	2,506	153,838	3.957%	281	38	7.44	0.250%	713,356	140	7.932%	5.1	1.270%	4,897,506	2,998,176	1,899,330	(122,303)

Existing Impairment Reserve -

(Additional) / Excess Impairment (122,303)

Managing Runoff Risk

- The operational / macro hedge
- Hedge with positive convexity instruments
- Utilize appropriate amortization methodology

Basis Rollforward

Basis Rollforward Example

FFIEC Call Reporting Requirements

- Book Value of Mortgage Servicing Rights Asset
 - RC-M 2.a.
- Estimated Fair Value of Mortgage Servicing Rights Asset
 - RC-M 2.a.(1)
- Net Servicing Fees
 - RI item 5.f.
- Net Gain or (Loss) on sale of loans or leases
 - RI item 5.i.

Additional Reporting Requirements FFIEC 041

- RC-P – if activities exceed threshold (\$10 million)
- RC-Q – if fair value accounting for the asset has been elected
- Additional reporting requirements for securitized loans and loans sold to the FHLB CE enhanced products (MPF Orig., MPF 125, MPF 35, etc.)
 - CE Income Receivable – Schedule RC-F, item 3
 - CE Recourse Liability – Schedule RC-G, item 3
 - Assets sold with recourse – Schedule RC-S, item 11, column A
 - Maximum amount of credit exposure – Schedule RC-S, item 12, column A
 - Outstanding balance of assets serviced for others – Schedule RC-S, memoranda item 2
 - a. with recourse
 - b. no recourse
 - d. in process of foreclosure at quarter-end
- RC-R, Part II, item 10 – balance sheet exposure

Additional Reporting Requirements FFIEC 051

- Schedule SU
- Item 2 – if activities exceed threshold (\$10 million)
- Item 3 – if fair value accounting for the asset has been elected
 - Amount & gains/losses
- Additional reporting requirements for securitized loans and loans sold to the FHLB CE enhanced products (MPF Orig., MPF 125, MPF 35, etc.)
 - CE Income Receivable – Schedule RC-F, item 3
 - CE Recourse Liability – Schedule RC-G, item 3
 - Assets sold with recourse – Schedule SU, item 5
 - Outstanding balance of loans with recourse – Schedule SU, item 5.a.
 - Mortgage loans serviced for others – Schedule SU, item 6 – “yes”
 - Outstanding prin. bal. of sold loans serviced for others – Item 6.a.
- RC-R, Part II, item 10 – balance sheet exposure

Mortgage Servicing Rights

Questions?

Mortgage Servicing Rights Questions?

SBA 7(a) Marketplace



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SBA 7(a) Marketplace

Historic SBA 7(a) Originations



Source: U.S. Small Business Administration – Loan Approvals
* 2025 amount = October 1, 2024 - June 2 – annualized through Sept. 30

SBA 7(a) Marketplace

Originations (\$ in Millions)

2025 Rank	Lender	YTD 2025		2024	
		Total	Share	Total	Share
1	Live Oak Bank (NC)	1,953.94	7.6%	1,983.95	6.4%
2	Newtek Bank, NA (FL)	1,664.35	6.5%	2,098.74	6.7%
3	The Huntington National Bank (OH)	1,437.73	5.6%	1,530.06	4.9%
4	Northeast Bank (ME)	1,038.27	4.0%	289.03	0.9%
5	Readycap Lending, LLC (NJ)	972.10	3.8%	1,042.86	3.4%
6	US Bank, NA (OH)	586.98	2.3%	708.23	2.3%
7	First Internet Bank of Indiana (IN)	490.34	1.9%	580.27	1.9%
8	JPMorgan Chase Bank, NA (OH)	449.86	1.7%	626.15	2.0%
9	Bank of America, NA (NC)	403.63	1.6%	609.57	2.0%
10	Wells Fargo Bank, NA (SD)	368.21	1.4%	567.03	1.8%
11	Celtic Bank (UT)	365.90	1.4%	499.44	1.6%
12	Byline Bank (IL)	346.21	1.3%	504.58	1.6%
13	Lendistry SBLC, LLC (CA)	336.51	1.3%	173.88	0.6%
14	TD Bank, NA (DE)	330.16	1.3%	569.70	1.8%
15	Gbank (NV)	309.86	1.2%	474.61	1.5%

Source: U.S. Small Business Administration – Loan Approvals

Data through June 2, 2025

Agency Changes in 2025

- March 21, 2025 – the SBA announced a 43% workforce reduction, eliminating approximately 2,700 positions to return to pre-pandemic staffing levels
- May 1, 2025 – The Senate and House Small Business Committees introduced the Made in America Manufacturing Finance Act (“MAMFA”) which proposes increasing the SBA loan cap to \$10M for U.S. based manufacturers.
- For loans approved after March 27, 2025 through an including September 30, 2025. There have been adjustments to the fees charged for the loans. For specifics, please see the May 5 post in our Insights section of the Wilary Winn website.
 - <https://wilwinn.com/small-business-administration-sba-in-transition/>

SBA 7(a) Gain on Sale Calculation



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SBA 7(a) Gain on Sale Calculations

Components of Gain on Sale Calculation

- Premium on the guaranteed portion
 - Premiums in excess of 10% are split 50 / 50 with the SBA
- Servicing Asset:
 - Discounted cash flow analysis
 - Service Fees, Costs
 - Prepayment speed assumptions
 - Ancillary Income
 - Float
 - Discount rate
- Discount on the retained portion
 - Relative fair value calculation
 - Discounted cash flow methodology
- Release of deferred origination costs and fees

SBA 7(a) Gain on Sale Calculations

Gain on Sale Calculation Examples

	25 Yr.	15 Yr.	10 Yr.
Loan Size	1,000,000	1,000,000	1,000,000
Guarantee %	75.0%	75.0%	75.0%
Guarantee \$	750,000	750,000	750,000
Premium	12.0%	12.0%	12.0%
Gross Premium \$	90,000	90,000	90,000
Amount Shared with SBA	<u>(7,500)</u>	<u>(7,500)</u>	<u>(7,500)</u>
Net Premium	82,500	82,500	82,500
Servicing Asset	18,971	17,456	15,529
Discount on Retained Portion	(23,031)	(22,718)	(22,319)
Gain on Sale	<u><u>78,441</u></u>	<u><u>77,238</u></u>	<u><u>75,710</u></u>

SBA 7(a) Gain on Sale Calculations

Gain on Sale Calculation Examples

	25 Yr.	25 Yr.	25 Yr.
Loan Size	1,000,000	1,000,000	1,000,000
Guarantee %	75.0%	75.0%	75.0%
Guarantee \$	750,000	750,000	750,000
Premium	5.0%	10.0%	15.0%
Gross Premium \$	37,500	75,000	112,500
Amount Shared with SBA	-	-	(18,750)
Net Premium	37,500	75,000	93,750
Servicing Asset	18,971	18,971	18,971
Discount on Retained Portion	(13,363)	(21,475)	(25,326)
Gain on Sale	43,108	72,497	87,396

SBA 7(a) Gain on Sale Calculations

Sample



ABC Bank
SBA 7(a) Gov't Guaranteed Portfolio
Data as of 3/28/2024

Portfolio Stats	Product Category	Total Loan UPB	Guarantee Percentage	Sold Portion UPB	Interest Rate	Service Fee	Loan Sale Price	Wtd. Avg. Life
Loan #1	10 Yr.	4,292,776.57	75.000%	3,219,582.43	10.500%	1.000%	107.650%	3.97
Loan #2	10 Yr.	823,112.40	75.000%	617,334.30	6.000%	1.000%	110.180%	3.99
Loan #3	10 Yr.	1,216,132.28	75.000%	912,099.21	11.250%	1.000%	110.100%	3.96
Loan #4	10 Yr.	1,562,989.07	75.000%	1,172,241.80	11.250%	1.000%	110.440%	3.85
Total	4 Loans	7,895,010.32	75.000%	5,921,257.74	10.295%	1.000%	108.844%	3.95

Gain on Sale of Loans	Dollar Value of loans	Amount Shared with the SBA	Up Front Expenses	Gross Gain to ABC Bank	Release of FAS91 Costs	Release of FAS91 Fees	Net Gain to ABC Bank	Reallocated Gain on Sale
Loan #1	246,298.06	-	-	246,298.06	(885.96)	461.44	245,873.53	237,281.22
Loan #2	62,844.63	(555.60)	-	62,289.03	(3,319.71)	1,080.01	60,049.33	55,545.86
Loan #3	92,122.02	(456.05)	-	91,665.97	(3,303.32)	1,835.18	90,197.82	83,663.08
Loan #4	122,382.04	(2,578.93)	-	119,803.11	(1,425.00)	1,796.36	120,174.47	110,957.43
Total	523,646.75	(3,590.58)	-	520,056.17	(8,933.99)	5,172.98	516,295.16	487,447.59

Discount on Retained Portion of Loan	Basis Point Value of loans	Dollar Value of loans
Loan #1	6.736%	72,288.63
Loan #2	8.385%	17,255.14
Loan #3	8.342%	25,363.71
Loan #4	8.402%	32,830.30
Total	7.485%	147,737.78

Estimate of Mortgage Servicing Rights	Basis Point Value of loans	Dollar Value of loans	Weighted Avg. Life CPR %	Servicing Discount Rate
Loan #1	1.978%	63,696.32	12.491%	14.500%
Loan #2	2.066%	12,751.67	12.339%	14.500%
Loan #3	2.064%	18,828.97	12.560%	14.500%
Loan #4	2.014%	23,613.26	13.041%	14.500%
Total	2.008%	118,890.22	12.595%	14.500%

Accounting Entries			
Sample Journal Entries			
Description	GL#	Debit	Credit
Cash	BS	6,441,313.91	
Servicing Asset	BS	118,890.22	
Release of FAS 91 Deferred Costs	BS		8,933.99
Release of FAS 91 Deferred Costs	IS	8,933.99	
Release of FAS 91 Deferred Fees	BS	5,172.98	
Discount on Retained Loan Portion (Contra Asset)	BS		147,737.78
Loans	BS		5,921,257.74
Gain or Loss on Sale of Loans	IS	-	496,381.59
		6,574,311.10	6,574,311.10

SBA 7(a) Gain on Sale Calculations

Questions?

SBA 7(a) Gain on Sale Questions?

<https://wilwinn.com/resources/>

<https://wilwinn.com/resource-type/mortgage-banking-derivatives/>

<https://wilwinn.com/resource-type/residential-msrs/>

<https://wilwinn.com/resources/mpf-ssfa-calculator-2/>

<https://wilwinn.com/resource-type/sba-7a/>

<https://wilwinn.com/services/valuation-of-loan-servicing/>

Contact Information

For more information about our services, please contact us.

- Valuation of Mortgage Servicing Rights, Mortgage Banking Derivatives, & Other Loan Servicing (Commercial, SBA 7(a), Vehicle, etc.):
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 - Eric Nokken – enokken@wilwinn.com
- Asset Liability Management (ALM), ALM Validations, Concentration Risk, & Capital Stress Testing:
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 - Michael Tessier - mtessier@wilwinn.com
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- Mergers & Acquisitions and Goodwill Impairment Testing:
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Thank you!



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