An Agency + MSR Mortgage REIT

First Quarter 2022 Earnings Call

MAY 5, 2022

TWO HARBORS
Investment Corp.

Safe Harbor Statement

FORWARD-LOOKING STATEMENTS

This presentation includes "forward-looking statements" within the meaning of the safe harbor provisions of the United States Private Securities Litigation Reform Act of 1995. Actual results may differ from expectations, estimates and projections and, consequently, readers should not rely on these forward-looking statements as predictions of future events. Words such as "expect," "target," "assume," "estimate," "project," "budget," "forecast," "anticipate," "intend," "plan," "may," "will," "could," "should," "believe," "predicts," "potential," "continue," and similar expressions are intended to identify such forward-looking statements. These forward-looking statements involve significant risks and uncertainties that could cause actual results to differ materially from expected results, including, among other things, those described in our Annual Report on Form 10-K for the year ended December 31, 2021, and any subsequent Quarterly Reports on Form 10-Q, under the caption "Risk Factors." Factors that could cause actual results to differ include, but are not limited to: the state of credit markets and general economic conditions; the ongoing impact of the COVID-19 pandemic, and the actions taken by federal and state governmental authorities and GSEs in response, on the U.S. economy, financial markets and our target assets; changes in interest rates and the market value of our assets; changes in prepayment rates of mortgages underlying our target assets; the rates of default or decreased recovery on the mortgages underlying our target assets; declines in home prices; our ability to establish, adjust and maintain appropriate hedges for the risks in our portfolio; the availability and cost of our target assets; the availability and cost of financing; changes in the competitive landscape within our industry; our ability to effectively execute and to realize the benefits of strategic transactions and initiatives we have pursued or may in the future pursue; our decision to terminate our management agreement with PRCM Advisers LLC and the ongoing litigation with PRCM Advisers related to such termination; our ability to manage various operational risks and costs associated with our business; interruptions in or impairments to our communications and information technology systems; our ability to acquire mortgage servicing rights (MSR) and successfully operate our seller-servicer subsidiary and oversee our subservicers; the impact of any deficiencies in the servicing or foreclosure practices of third parties and related delays in the foreclosure process; our exposure to legal and regulatory claims; legislative and regulatory actions affecting our business; the impact of new or modified government mortgage refinance or principal reduction programs; our ability to maintain our REIT qualification; and limitations imposed on our business due to our REIT status and our exempt status under the Investment Company Act of 1940.

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Readers are advised that the financial information in this presentation is based on company data available at the time of this presentation and, in certain circumstances, may not have been audited by the company's independent auditors.

Executive Overview

Hedge Benefits of MSR Offset Historic Spread Widening in RMBS During a Volatile Quarter

Quarterly Summary

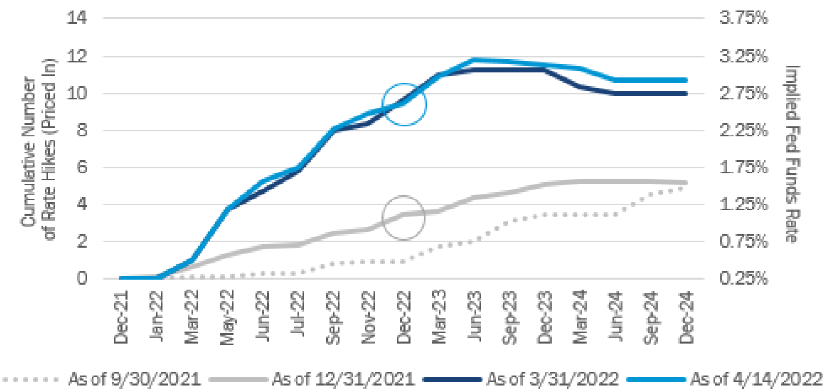
- Reported book value of $5.53 per common share, representing a (2.9)% quarterly return on book value(1)
- Generated Comprehensive Loss of $60.3 million, representing an annualized return on average common equity of (12.2)%
- Reported Earnings Available for Distribution (EAD) of $61.7 million, or $0.18 per weighted average basic common share(2)
- Declared a first quarter common stock dividend of $0.17 per share
- Grew MSR portfolio with the acquisition of $37.2 billion unpaid principal balance (UPB) through the bulk channel and $7.9 billion UPB through the flow channel

Note: Financial data throughout this presentation is as of or for the quarter ended March 31, 2022, unless otherwise noted.
Note: The End Notes are an integral part of this presentation. See slide 27 through 30 at the back of this presentation for information related to certain financial metrics and defined terms herein.

Key Market Highlights

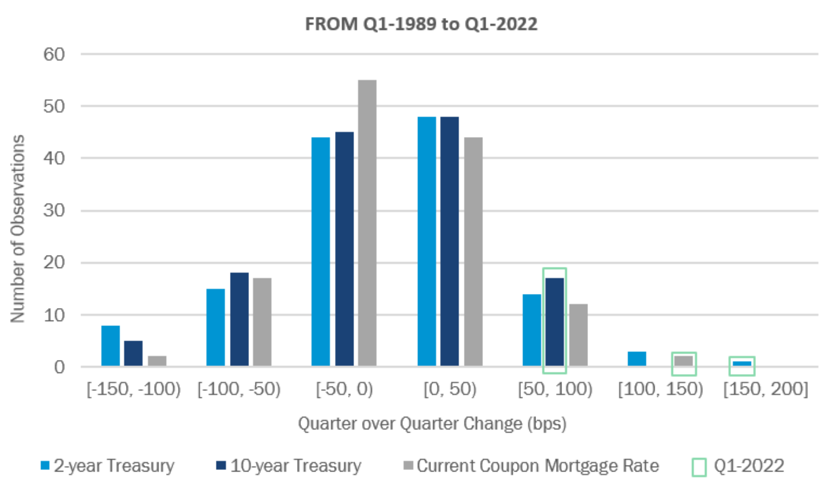
HISTORIC MARKET REPRICING AS FEDERAL RESERVE AMPLIFIES EFFORTS TO TAME INFLATION

I. INCREASING EXPECTATIONS OF RATE HIKES(1)

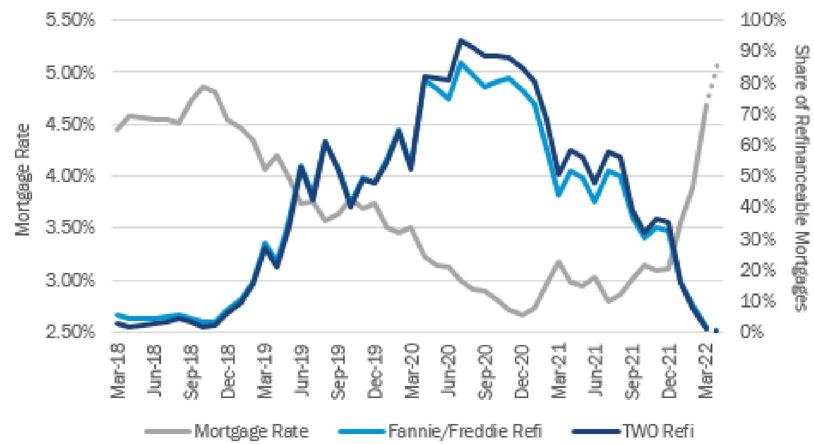


- Market expectations have shifted significantly and rapidly
  - The number of hikes priced in for 2022 rose from 3 to 9, and are expected to rise above neutral before easing
- Quarter-over-quarter changes in the current coupon (+142 bps), 2-year (+160 bps), and 10-year (+83 bps) rates were the largest quarterly movements in over 30 years, respectively
- The refinancing wave is over; rates are high and RMBS prices are low
  - Mortgage rates rose to 4.7% at March 31 and have breached 5% in April, the highest level since 2018

II. RATE INCREASES IN THE QUARTER WERE HISTORIC(2)



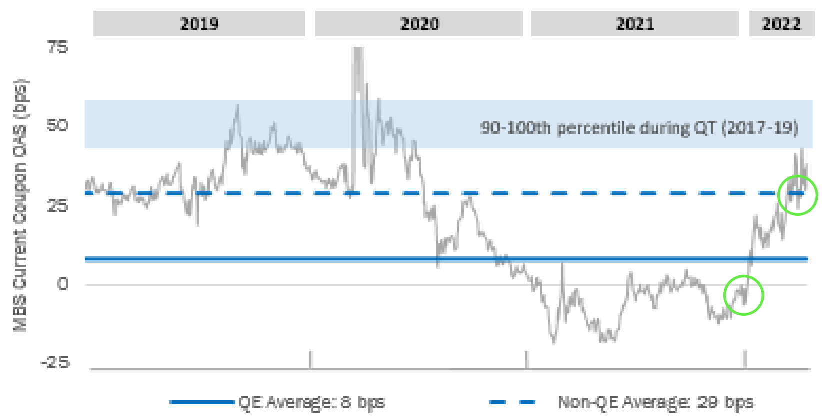
III. HIGHER MORTGAGE RATES CURB REFI ACTIVITY(3)



Key Market Highlights

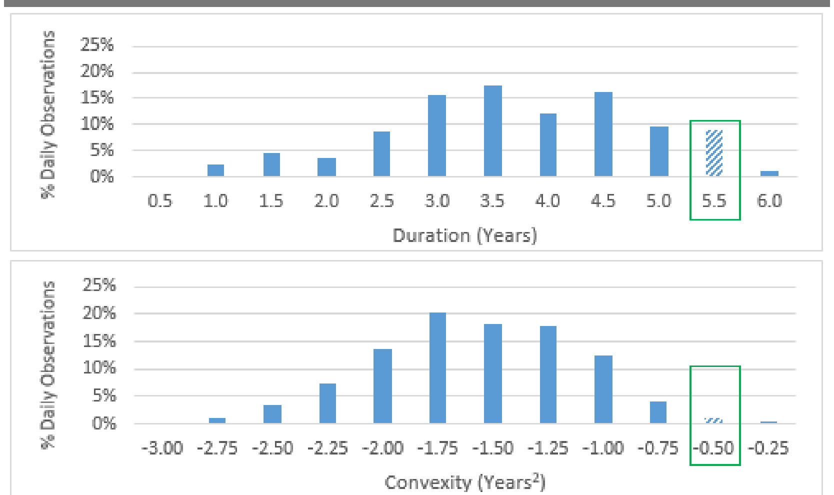
RMBS ARE ATTRACTIVE ON A FUNDAMENTAL BASIS BUT TECHNICALS STILL WARRANT CAUTION

I. CURRENT COUPON SPREADS CONTINUE TO WIDEN[1]

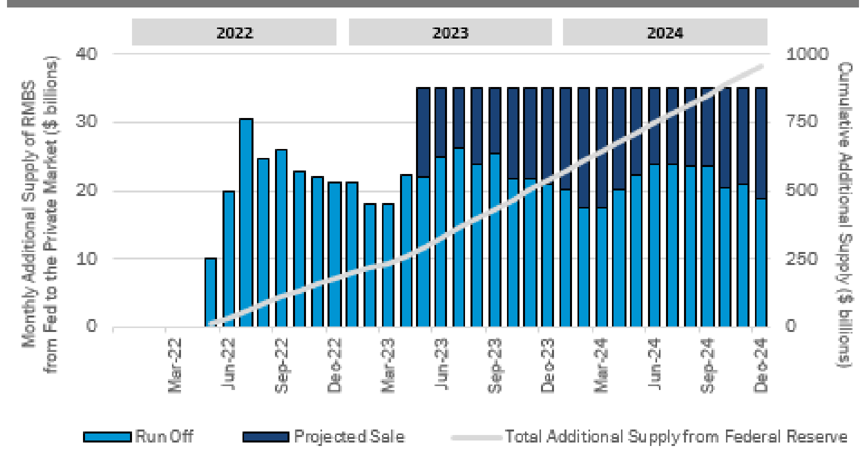


- Current coupon OAS widened over 33 bps to 27 bps. In April, spreads widened another 11 bps and are now past historical averages and near the 90th percentile of the last period of quantitative tightening
- Mortgage market convexity is near historical lows, approximately -0.5, meaning that there is less need for hedging amongst holders; mortgage market durations are fully extended, at approximately 5.5 years
- Impending Federal Reserve balance sheet run-off presents a supply headwind
    - Nearly $180 billion in additional net supply of RMBS expected through the end of 2022
    - Total cumulative supply of RMBS to the private market could reach approximately $1 trillion by end of 2024

II. FULLY EXTENDED DURATION AND LOW CONVEXITY[2]



III. INITIATION OF QUANTITATIVE TIGHTENING[3]



Book Value Summary

($ millions, except per share data)	Q1-2022 Book Value	Q1-2022 Book Value per share
Beginning common stockholders' equity	**$ 2,017.7**	**$ 5.87**
Earnings Available for Distribution, net of tax[1]	75.5	
Dividend declaration - preferred	(13.8)	
Earnings Available for Distribution to common stockholders, net of tax[1]	61.7	
Realized and unrealized gains and losses, net of tax	209.8	
Other comprehensive loss, net of tax	(331.8)	
Comprehensive loss	(60.3)	
Common stock dividends declared	(58.8)	
Other	4.1	
Issuance of common stock, net of offering costs	0.3	
Ending common stockholders' equity	$ 1,903.0	**$ 5.53**
Total preferred stock liquidation preference	726.3	
Ending total equity	**$ 2,629.3**	

- Book value of $5.53 per common share, resulting in a (2.9)% quarterly return on book value[2]
  - Book value decline reflects impact of spread widening in RMBS and increased hedging costs, which were partially offset by MSR spread tightening
- Generated Comprehensive Loss of $60.3 million, representing an annualized return on average common equity of (12.2)%

Earnings Available for Distribution

($ millions, except per share data)	Q4-2021	Q1-2022	Variance
Interest income	$ 33.0	$ 44.8	$ 11.8
Interest expense	20.2	22.3	(2.1)
Net interest income	12.8	22.5	9.7
Servicing income	125.5	136.6	11.1
MSR amortization[1]	(64.6)	(67.2)	(2.6)
Interest spread income on interest rate swaps	5.8	(0.7)	(6.5)
TBA dollar roll income[2]	34.7	22.4	(12.3)
U.S. Treasury futures income[3]	3.7	(0.3)	(4.0)
Other derivatives income	1.1	0.8	(0.3)
Total other income	106.2	91.6	(14.6)
Servicing expenses	21.6	24.1	(2.5)
Operating expenses	9.8	13.9	(4.1)
Total expenses	31.4	38.0	(6.6)
Provision for income taxes	0.6	0.6	—
Earnings Available for Distribution[4]	**$ 87.0**	**$ 75.5**	**$ (11.5)**
Dividends on preferred stock	13.7	13.8	(0.1)
Earnings Available for Distribution available to common stockholders	**$ 73.3**	**$ 61.7**	**$ (11.6)**
Earnings Available for Distribution per weighted average basic common share	**$ 0.22**	**$ 0.18**	
Earnings Available for Disribution annualized return on average common equity	**14.1 %**	**12.5 %**	
Operating expenses, excluding non-cash LTIP amortization and nonrecurring expenses, as a percentage of average equity	1.4 %	2.1 %	

- First quarter EAD reflects:
  - Higher interest income due to lower amortization as prepayment speeds slowed and, to a lesser degree, higher average Agency RMBS balance held
  - Increased interest expense associated with rate increases and higher average RMBS and MSR borrowing balances, partially offset by reduced costs due to the maturity of convertible senior notes due 2022
  - Lower TBA dollar roll income primarily due to lower average notional balances
  - Reduction in U.S. Treasury futures income as a result of net short position
  - Increase in servicing income driven primarily by growth in the MSR portfolio with the settlement of $37.2 billion UPB in bulk acquisitions
  - Higher operating expenses due to compensation accrual adjustment in the fourth quarter

Portfolio Yields and Financing Costs

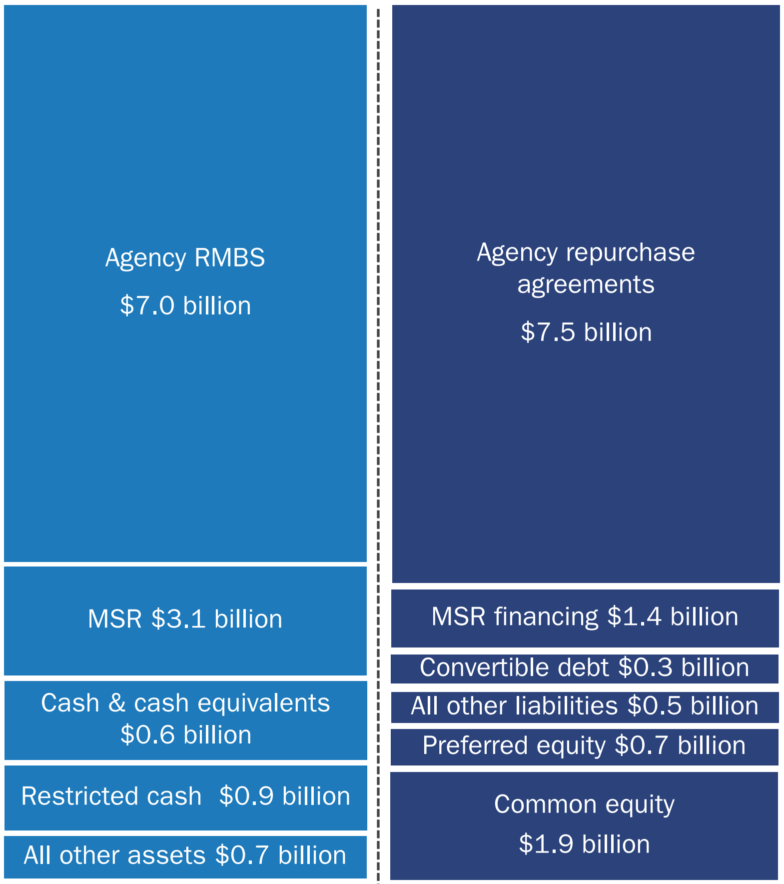
- Portfolio yield increased 18 bps to 3.90% primarily due to lower premium amortization on available-for-sale securities and higher yields on mortgage servicing rights
- Net spread narrowed by (10) bps due to increased cost of financing mainly from added payer swaps and higher rates
- Net spread at March 31, 2022 is estimated at 2.83%[1]

($ thousands)	Q4-2021			Q1-2022			As of March 31, 2022[1]
Portfolio Asset Type	Average Amortized Cost	Income[2]	Average Yield	Average Amortized Cost	Income[2]	Average Yield	Average Yield
Available-for-sale securities	$ 6,067,568	$ 32,729	2.16%	$ 7,313,318	$ 44,647	2.44%	
Mortgage servicing rights[3]	1,768,159	39,329	8.90%	1,983,600	45,395	9.15%	
Agency derivatives[4]	34,486	1,058	12.27%	31,548	853	10.82%	
Total portfolio	$ 7,870,213	$ 73,116	3.72%	$ 9,328,466	$ 90,895	3.90%	4.23%
Financing Collateral Type	Average Outstanding Balance	Expense[5]	Average Cost	Average Outstanding Balance	Expense[5]	Average Cost	Average Cost
Available-for-sale securities	$ 6,503,608	$ 2,911	0.18%	$ 7,590,560	$ 4,787	0.25%	
Mortgage servicing rights and advances	942,357	9,883	4.20%	1,210,160	12,423	4.11%	
Agency derivatives[4]	38,045	69	0.73%	34,920	65	0.74%	
Other - unsecured[6]	424,641	7,295	6.87%	303,665	5,042	6.64%	
Interest rate swaps[7]		(5,772)	(0.29)%		741	0.03%	
Total financing	$ 7,908,651	$ 14,386	0.73%	$ 9,139,305	$ 23,058	1.01%	1.40%
Net Spread			2.99%			2.89%	2.83%

Financing Profile

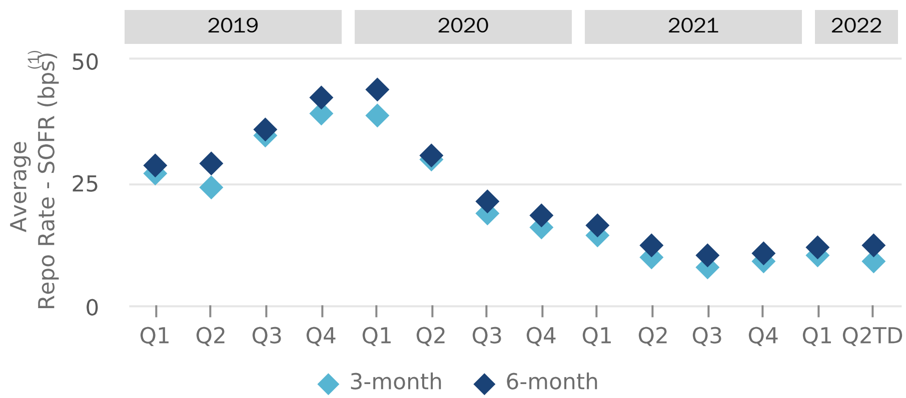
BALANCE SHEET AS OF MARCH 31, 2022

STRONG LIQUIDITY POSITION



AGENCY RMBS

- $7.5 billion of outstanding repurchase agreements with 19 counterparties
- Although repo term rates increased during the quarter in anticipation of rate hikes, spread to SOFR remains low



MORTGAGE SERVICING RIGHTS

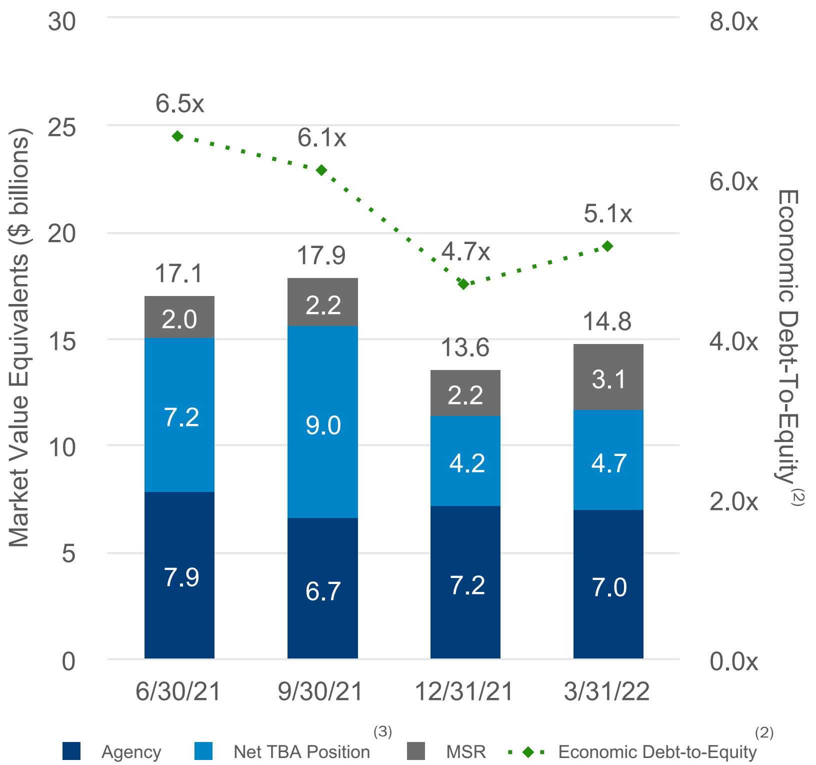
- $952 million of outstanding borrowings under bilateral MSR asset financing facilities
- $400 million of outstanding 5-year MSR term notes[(2)]
- $179 million of unused, committed MSR asset financing capacity
- $19 million outstanding borrowings and $181 million of unused, committed capacity for servicing advance receivables

Quarterly Activity and Portfolio Composition

PORTFOLIO COMPOSITION[1]

At March 31, 2022, $14.8 billion portfolio

Includes $10.1 billion settled positions



LEVERAGE

- Began to increase portfolio leverage in March at attractive spreads
  - Portfolio leverage increased modestly to 5.1x
  - Average economic debt-to-equity of 4.7x in the first quarter, compared to 5.1x in the fourth quarter[2]

PORTFOLIO ACTIVITY

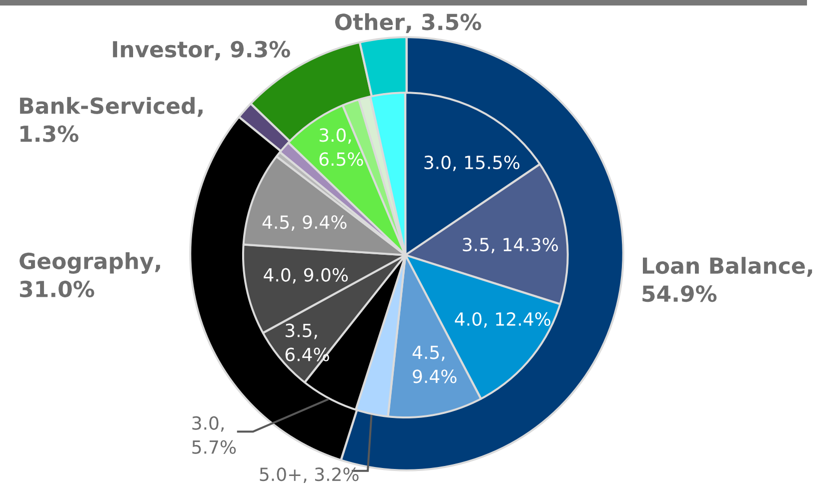
- TBA position increased driven by addition of $3.1 billion 4.0s and $1.6 billion 3.5s, which offered strong income benefit via dollar roll specialness; reduced lower coupon TBA 2.0s – 3.0s by $4.3 billion
- Agency specified pool holding remains largely unchanged: took advantage of widening in higher coupons by adding 3.0 - 3.5s loan balance and geography specified pools and selling $1.2 billion bank-serviced 2.5s specified pools[4]
- Duration of interest rate hedges moved from a long of $1.6 million per basis point to a short of $2.6 million per basis point to hedge the extension of both the MBS and MSR positions
- MSR portfolio value rose to $3.1 billion reflecting the addition of $37 billion UPB through bulk acquisitions and the impact of higher rates and wider mortgage spreads

Specified Pools

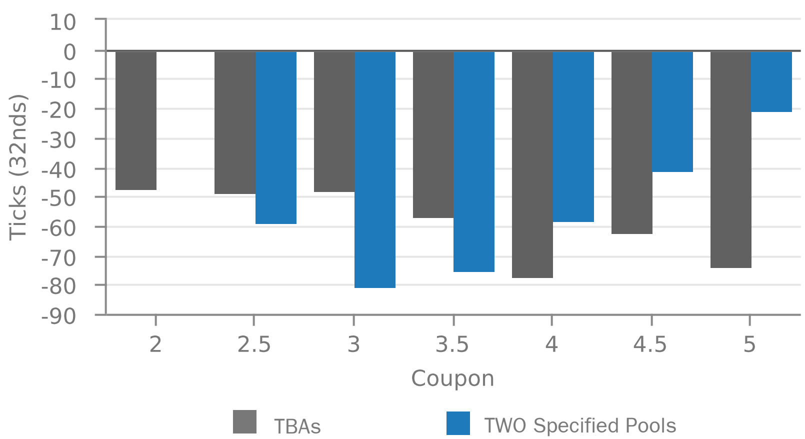
QUARTERLY HIGHLIGHTS

- Specified pools widened materially across the coupon stack
  - Higher coupon 4.5 and 5.0 collateral performed the best given their shorter cash flows and lower spread duration
- Weighted average specified pool portfolio speeds declined 38%, to 17.3%, from 27.7% in the fourth quarter
- Speeds have dropped sharply and are expected to continue to decline given mortgage rates have risen to the highest levels of the last decade

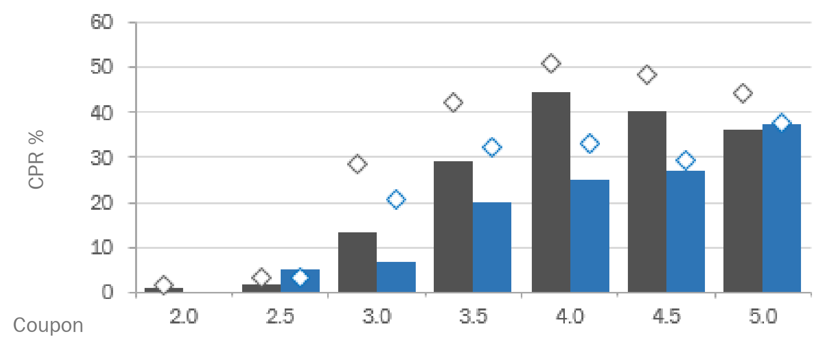
I. SPECIFIED POOL PORTFOLIO[1]



II. MBS QUARTERLY PERFORMANCE



III. SPECIFIED POOL PREPAYMENT SPEEDS



Market Value[2] ($ billions)	$—	$—	$1.9	$1.8	$1.5	$1.3	$0.3

TBAs (Q1-2022)[3]
TWO Specified Pools (Q1-2022)
TBAs (Q4-2021)[3]
TWO Specified Pools (Q4-2021)

Mortgage Servicing Rights

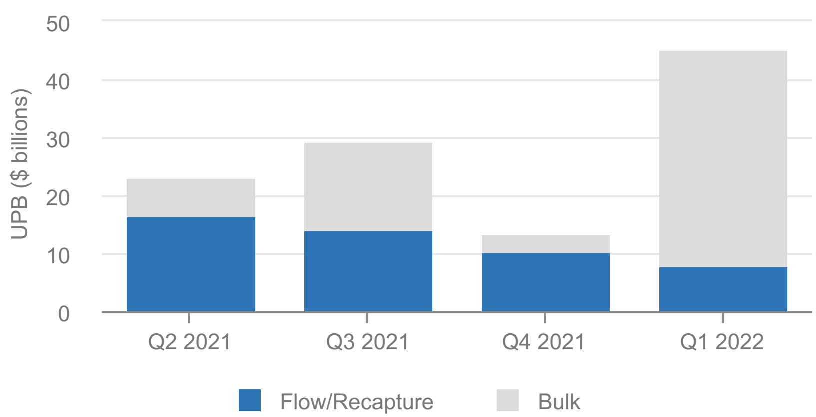
QUARTERLY HIGHLIGHTS

- Portfolio grew by $35.1 billion UPB
  - Buying opportunistically as bulk market activity remains robust
  - Settled on two bulk transactions totaling $37.2 billion
  - Flow channel purchases and recaptured MSR of $7.9 billion largely offset portfolio run-off
- MSR price multiple increased to 5.1x as rates increased and mortgage spreads widened
- MSR speeds declined 36%, from 22.1%, to 14.2%, during the quarter and approximately another 20% in April

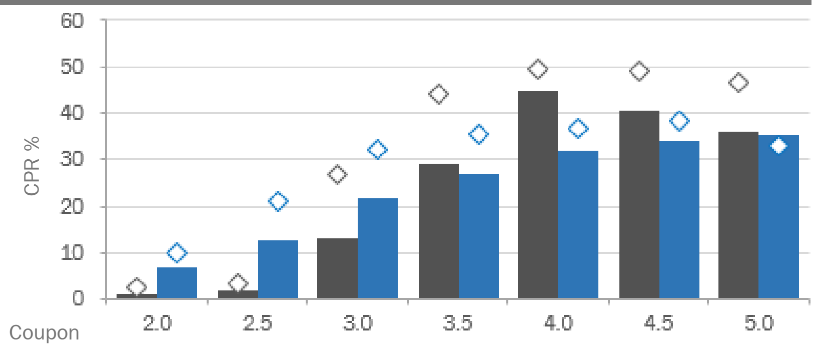
I. MSR PORTFOLIO[1]

	12/31/2021	3/31/2022
Fair value ($ millions)	$ 2,192	$ 3,090
Price multiple	4.2x	5.1x
UPB ($ millions)	$ 197,782	$ 232,864
Gross coupon rate	3.32%	3.20%
Current loan size ($ thousands)	$ 323	$ 330
Original FICO[2]	758	760
Original LTV	72%	71%
60+ day delinquencies	1.4%	1.1%
Net servicing fee (bps)	26.3	26.3
Loan age (months)	28	26
CPR	22.1%	14.2%

II. MSR SETTLEMENT ACTIVITY



III. 30-YEAR MSR PREPAYMENT SPEEDS



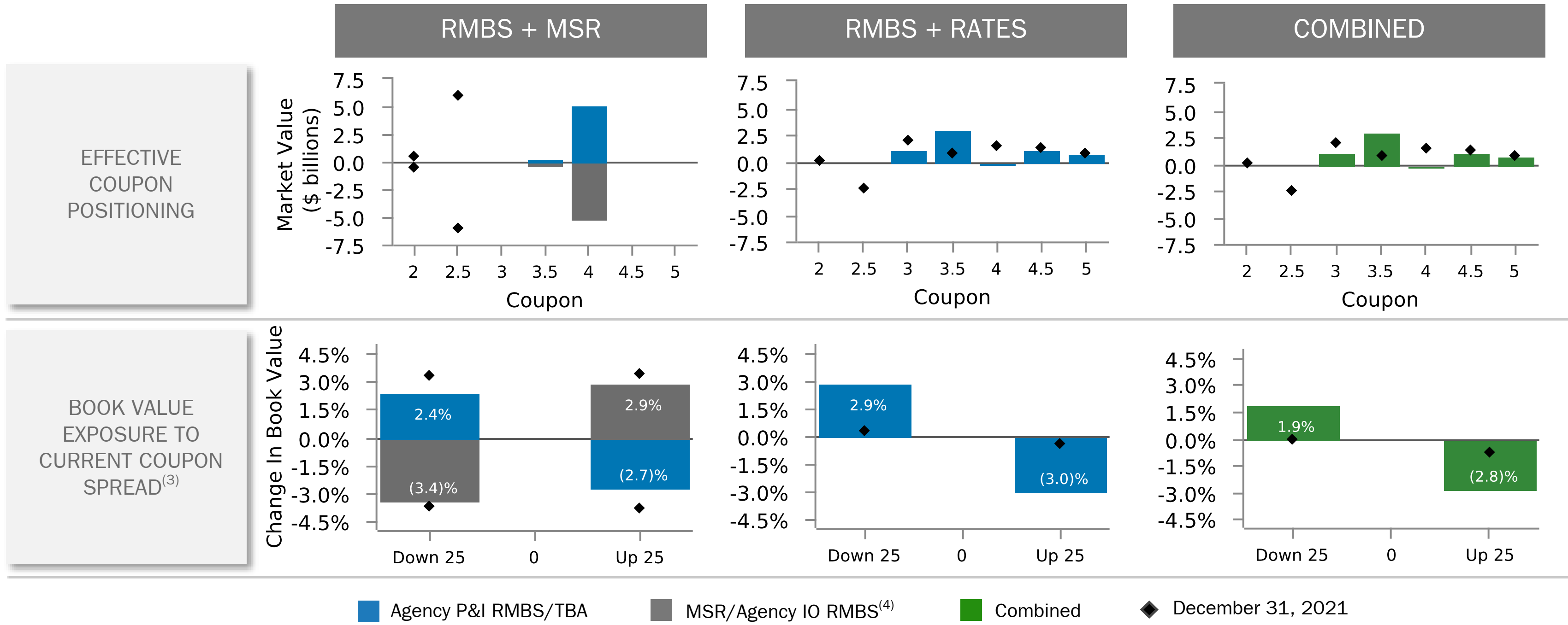
UPB[1] ($ billions)	$84.7	$43.5	$29.7	$17.0	$8.7	$2.6	$0.5

TBAs (Q1-2022)[3] TWO MSR (Q1-2022)
TBAs (Q4-2021)[3] TWO MSR (Q4-2021)

Agency + MSR Advantage

LOW EXPOSURE TO CURRENT COUPON SPREAD

- The charts below illustrate a point-in-time view of risk exposure through the lens of: Agency RMBS paired with MSR (RMBS + MSR[1]) and Agency RMBS hedged with Rates (RMBS + RATES[2])
  - RMBS + MSR: The rates sell-off moved the effective short RMBS positions from 2.5s all the way to 4.0s; book value exposure to current coupon spreads is low, at 0.2% for a 25 bps widening
  - RMBS + RATES: Overall exposure to mortgage spread widening remains low at -3.0% for a 25 basis point widening



Note: Sensitivity data as of March 31, 2022. The above spread scenario is provided for illustration purposes only and is not necessarily indicative of Two Harbors' financial condition and operating results, nor is it necessarily indicative of the financial condition or results of operations that may be expected for any future period or date.

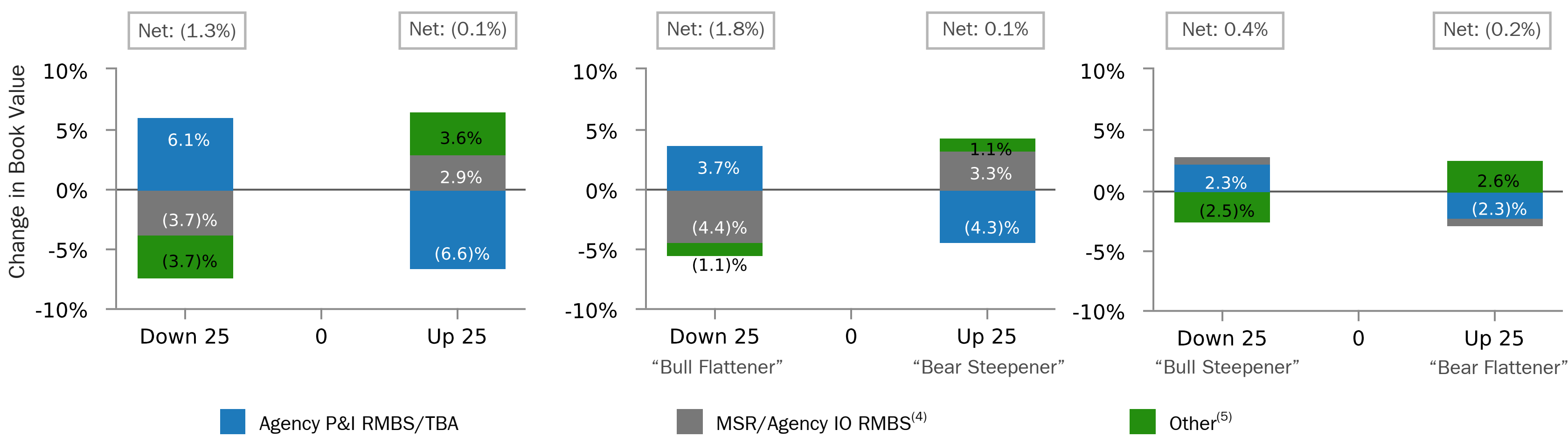
Risk Positioning

AGENCY + MSR DELIVERS BOOK VALUE STABILITY

- Interest rate and curve exposure remains low and in line with historical positioning
  - For an instantaneous parallel shift in rates, the estimated change in book value would be -1.3% for a 25 bps decline and -0.1% for a 25 bps increase
  - In a 25 bps “bear steepener” (Figure II), where rates 10 years and longer increase by 25 bps and 2-year rates and shorter are unchanged, the estimated change in book value would be 0.1%
  - In a 25 bps “bear flattener” (Figure III), where rates 2 years and shorter increase by 25 bps and 10-year rates and longer are unchanged, the estimated change in book value would -0.2%

BOOK VALUE EXPOSURE TO CHANGES IN RATES

I: PARALLEL SHIFT[1] II: SHIFT IN LONG TERM RATES[2] III: SHIFT IN SHORT TERM RATES[3]



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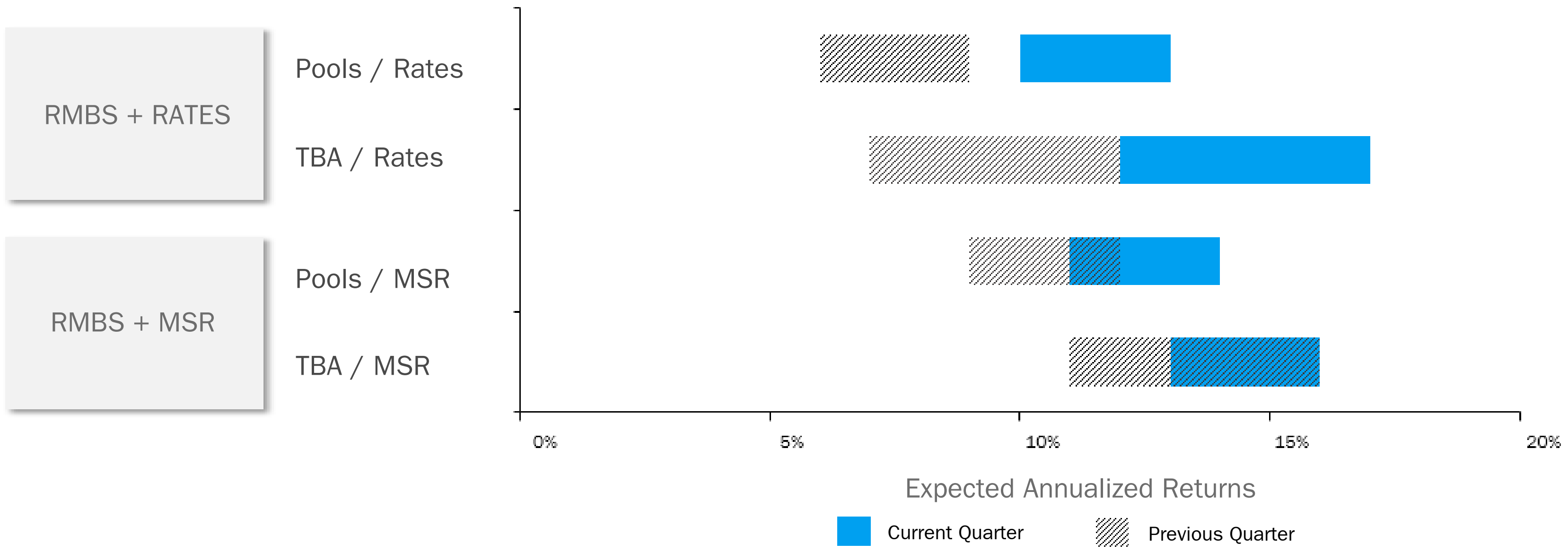
Two Harbors Outlook

OPPORTUNITY SET IN TARGET ASSETS REMAINS ATTRACTIVE TODAY

- Spread widening significantly improved the return profile of pools, and the paired MBS / MSR strategies
- TBA static returns are showing outsized returns from high dollar rolls which are likely to subside later this year

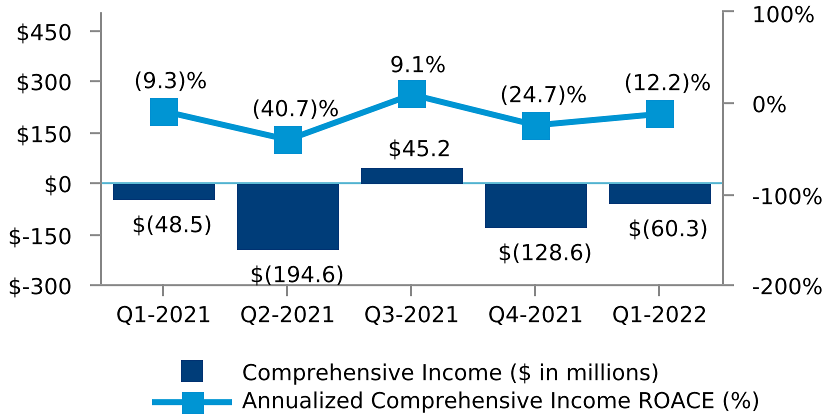
STATIC GROSS LEVERED RETURN OUTLOOK FOR TARGET ASSETS[1]



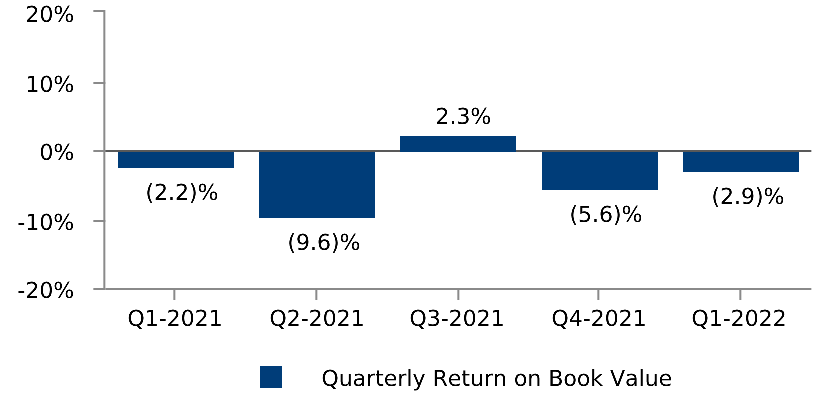
Appendix

Financial Performance

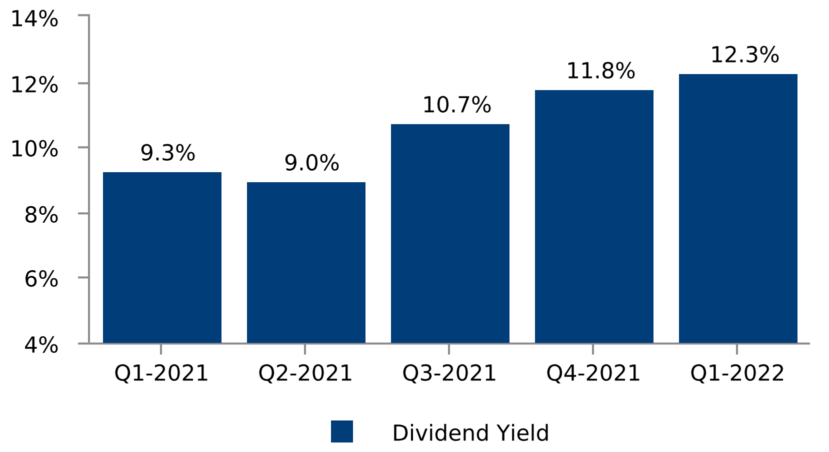
COMPREHENSIVE (LOSS) INCOME



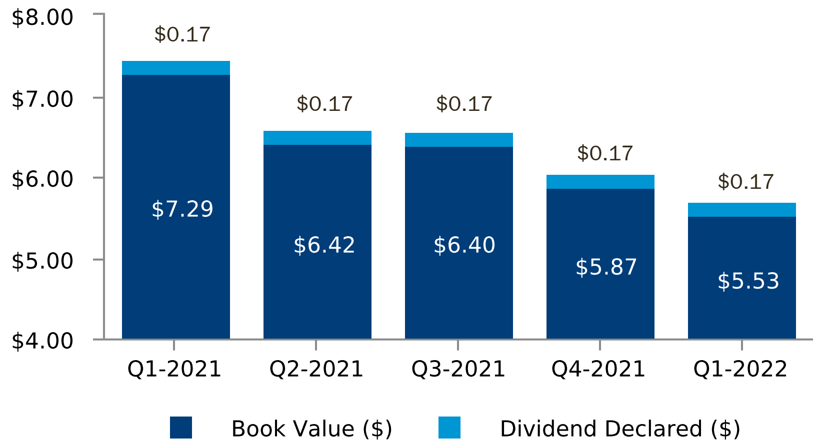
QUARTERLY RETURN ON BOOK VALUE[1]



DIVIDEND YIELD[2]



BOOK VALUE AND DIVIDEND PER COMMON SHARE[2]



Q1-2022 Operating Performance

	Q1-2022			
$ millions, except for per common share data)	Earnings Available for Distribution[1]	Realized Gains (Losses)	Unrealized MTM	Total
Interest income	$ 44.8	$ —	$ —	$ 44.8
Interest expense	22.3	—	—	22.3
Net interest income	22.5	—	—	22.5
(Loss) gain on investment securities	—	(53.5)	1.2	(52.3)
Servicing income	136.6	—	—	136.6
(Loss) gain on servicing asset	(67.2)	—	477.8	410.6
(Loss) gain on interest rate swap and swaption agreements	(0.7)	(56.3)	19.0	(38.0)
Gain (loss) on other derivative instruments	22.9	(194.6)	69.9	(101.8)
Other income	—	—	—	—
Total other income (loss)	91.6	(304.4)	567.9	355.1
Servicing expenses	24.1	0.6	—	24.7
Operating expenses	13.9	4.9	—	18.8
Total expenses	38.0	5.5	—	43.5
Income (loss) before income taxes	76.1	(309.9)	567.9	334.1
Provision for (benefit from) income taxes	0.6	(6.9)	55.1	48.8
Net income (loss)	**75.5**	**(303.0)**	**512.8**	**285.3**
Dividends on preferred stock	13.8	—	—	13.8
Net income (loss) attributable to common stockholders	**$ 61.7**	**$ (303.0)**	**$ 512.8**	**$ 271.5**
Earnings (loss) per weighted average basic common share	$ 0.18	$ (0.88)	$ 1.49	$ 0.79

Q4-2021 Operating Performance

	Q4-2021			
($ millions, except for per common share data)	Earnings Available for Distribution[1]	Realized Gains (Losses)	Unrealized MTM	Total
Interest income	$ 33.0	$ —	$ —	$ 33.0
Interest expense	20.2	—	—	20.2
Net interest income	12.8	—	—	12.8
Gain (loss) on investment securities	—	25.6	(24.0)	1.6
Servicing income	125.5	—	—	125.5
Loss on servicing asset	(64.6)	(0.6)	(66.6)	(131.8)
Gain (loss) on interest rate swap and swaption agreements	5.8	(5.2)	36.4	37.0
Gain (loss) on other derivative instruments	39.5	(122.1)	71.0	(11.6)
Other income	—	1.9	—	1.9
Total other income (loss)	106.2	(100.4)	16.8	22.6
Servicing expenses	21.6	—	—	21.6
Operating expenses	9.8	3.2	—	13.0
Total expenses	31.4	3.2	—	34.6
Income (loss) before income taxes	87.6	(103.6)	16.8	0.8
Provision for (benefit from) income taxes	0.6	(3.9)	5.4	2.1
Net income (loss)	**87.0**	**(99.7)**	**11.4**	**(1.3)**
Dividends on preferred stock	13.7	—	—	13.7
Net income (loss) attributable to common stockholders	**$ 73.3**	**$ (99.7)**	**$ 11.4**	**$ (15.0)**
Earnings (loss) per weighted average basic common share	$ 0.22	$ (0.30)	$ 0.03	$ (0.05)

GAAP to EAD Reconciliation

Reconciliation of GAAP to non-GAAP Information ($ thousands, except for per common share data)	Three Months Ended December 31, 2021	Three Months Ended March 31, 2022
Comprehensive loss attributable to common stockholders	**$ (128,594)**	**$ (60,322)**
Adjustment for other comprehensive loss attributable to common stockholders:		
Unrealized loss on available-for-sale securities	113,553	331,845
Net (loss) income attributable to common stockholders	**$ (15,041)**	**$ 271,523**
Adjustments to exclude reported realized and unrealized (gains) losses:		
Realized (gain) loss on securities	(28,912)	52,394
Unrealized loss (gain) on securities	23,939	(1,166)
Provision for credit losses	3,347	1,114
Realized and unrealized loss (gain) on mortgage servicing rights	131,828	(410,624)
Realized loss on termination or expiration of interest rate swaps and swaptions	5,143	56,264
Unrealized gain on interest rate swaps and swaptions	(36,360)	(18,964)
Realized and unrealized loss on other derivative instruments	12,624	102,615
Other realized and unrealized (gains) losses	(1,856)	44
Other adjustments:		
MSR amortization(1)	(64,631)	(67,179)
TBA dollar roll income(2)	34,781	22,405
U.S. Treasury futures income(3)	3,711	(329)
Change in servicing reserves	(22)	608
Non-cash equity compensation expense	2,525	4,161
Other nonrecurring expenses	665	689
Net provision for income taxes on non-Core Earnings	1,535	48,191
Earnings available for distribution to common stockholders	$ 73,276	$ 61,746
Weighted average basic common shares	335,100,737	343,998,511
Earnings available for distribution to common stockholders per weighted average basic common share	$ 0.22	$ 0.18

Note: Earnings Available for Distribution, or EAD, is a non-GAAP measure that we define as comprehensive loss attributable to common stockholders, excluding realized and unrealized gains and losses on the aggregate portfolio, provision for (reversal of) credit losses, reserve expense for representation and warranty obligations on MSR, non-cash compensation expense related to restricted common stock, and other nonrecurring expenses. As defined, EAD includes net interest income, accrual and settlement of interest on derivatives, dollar roll income on TBAs, U.S. Treasury futures income, servicing income, net of estimated amortization on MSR and recurring cash related operating expenses. EAD provides supplemental information to assist investors in analyzing the Company's results of operations and helps facilitate comparisons to industry peers. EAD is one of several measures our board of directors considers to determine the amount of dividends to declare on our common stock and should not be considered an indication of our taxable income or as a proxy for the amount of dividends we may declare.

Agency RMBS Portfolio

	Par Value ($ millions)	Market Value ($ millions)	Weighted Average CPR[1]	% Prepay Protected[2]	Amortized Cost Basis ($ millions)	Gross Weighted Average Coupon	Weighted Average Age (Months)
30-Year fixed							
2.5% & below	$ —	$ —	— %	— %	$ —	— %	—
3.0%	1,907	1,874	8.8 %	100.0 %	1,999	3.7 %	8
3.5%	1,738	1,752	11.3 %	95.2 %	1,798	4.1 %	14
4.0%	1,486	1,538	23.5 %	100.0 %	1,543	4.6 %	46
4.5%	1,201	1,268	30.1 %	100.0 %	1,261	5.0 %	50
≥ 5.0%	293	315	38.7 %	97.9 %	309	5.9 %	89
	6,625	6,747	18.5 %	98.7 %	6,910	4.4 %	30
Other P&I[3]	50	54	14.3 %	— %	55	6.5 %	229
IOs and IIOs[4]	2,249	187	17.7 %	— %	188	4.2 %	87
Total Agency RMBS	$ 8,924	$ 6,988		95.3 %	$ 7,153		

	Notional Amount ($ millions)	Bond Equivalent Value ($ millions)[5]	Through-the-Box Speeds[6]
TBA Positions			
2.5% & below	$ —	$ —	1.8 %
3.0%	(821)	(804)	13.2 %
3.5%	1,591	1,591	29.2 %
4.0%	3,325	3,390	44.6 %
4.5%	—	—	40.4 %
5.0%	527	554	36.3 %
Net TBA position	$ 4,622	$ 4,731	

Mortgage Servicing Rights Portfolio[1]

	Number of Loans	Unpaid Principal Balance ($ millions)	Gross Coupon Rate	Current Loan Size ($ thousands)	Loan Age (months)	Original FICO[2]	Original LTV	60+ Day Delinquencies	3-Month CPR	Net Servicing Fee (bps)
30-Year Fixed										
≤ 3.25%	321,221	$ 105,218	2.8%	$ 386	14	768	71%	0.3%	7.3%	25.8
3.25% - 3.75%	169,826	44,352	3.4%	323	29	754	74%	0.8%	14.7%	26.4
3.75% - 4.25%	123,152	25,797	3.9%	267	54	752	76%	1.7%	23.6%	27.4
4.25% - 4.75%	74,789	13,446	4.4%	240	58	737	77%	3.5%	29.5%	26.3
4.75% - 5.25%	36,084	5,777	4.9%	227	54	722	79%	5.5%	32.3%	27.3
> 5.25%	14,308	1,921	5.5%	207	55	706	79%	7.9%	36.1%	30.5
	739,380	196,511	3.3%	340	27	759	73%	1.1%	14.6%	26.3
15-Year Fixed										
≤ 2.25%	26,666	7,978	2.0%	350	11	777	59%	0.1%	4.8%	25.2
2.25% - 2.75%	50,211	11,860	2.4%	289	15	773	59%	0.2%	8.7%	25.8
2.75% - 3.25%	45,731	7,379	2.9%	218	41	767	61%	0.3%	13.9%	26.2
3.25% - 3.75%	26,894	3,275	3.4%	170	57	758	64%	0.9%	20.5%	27.4
3.75% - 4.25%	12,060	1,204	3.9%	148	58	742	65%	1.5%	23.2%	28.8
> 4.25%	5,580	468	4.5%	128	50	727	66%	2.3%	24.7%	31.3
	167,142	32,164	2.6%	268	26	769	60%	0.3%	11.5%	26.1
Total ARMs	3,040	741	2.9%	316	55	762	68%	2.2%	26.5%	25.3
Total Portfolio	909,562	$ 229,416	3.2%	$ 330	27	760	71%	1.0%	14.2%	26.3

Mortgage Servicing Rights UPB Roll-Forward

$ millions	Q1-2021	Q2-2021	Q3-2021	Q4-2021	Q1-2022
UPB at beginning of period	$ 177,861	$ 179,014	$ 185,210	$ 194,394	$ 193,771
Bulk purchases of mortgage servicing rights	1,088	6,548	15,328	3,214	37,197
Flow purchases of mortgage servicing rights	21,302	16,435	14,019	10,349	7,940
Sales of mortgage servicing rights	—	—	(3,634)	9	—
Scheduled payments	(1,233)	(1,283)	(1,408)	(1,442)	(1,573)
Prepaid	(20,338)	(15,119)	(14,564)	(11,967)	(8,250)
Other changes	334	(385)	(557)	(786)	331
UPB at end of period	$ 179,014	$ 185,210	$ 194,394	$ 193,771	$ 229,416

Financing

$ millions

Outstanding Borrowings and Maturities[1]	Repurchase Agreements	Revolving Credit Facilities	Term Notes Payable	Convertible Notes	Total Outstanding Borrowings	Percent (%)
Within 30 days	$ 2,183.2	$ —	$ —	$ —	$ 2,183.2	23.9 %
30 to 59 days	1,083.8	—	—	—	1,083.8	11.9 %
60 to 89 days	1,917.5	—	—	—	1,917.5	21.0 %
90 to 119 days	974.6	—	—	—	974.6	10.7 %
120 to 364 days	1,713.6	424.5	—	—	2,138.1	23.4 %
One to three years	—	146.2	397.1	—	543.3	6.0 %
Three to five years	—	—	—	281.4	281.4	3.1 %
	$ 7,872.7	$ 570.7	$ 397.1	$ 281.4	$ 9,121.9	100.0 %

Collateral Pledged for Borrowings	Repurchase Agreements[2]	Revolving Credit Facilities[2]	Term Notes Payable	Convertible Notes	Total Collateral Pledged	Percent (%)
Available-for-sale securities, at fair value	$ 6,494.9	$ —	$ —	n/a	$ 6,494.9	69.7 %
Derivative assets, at fair value	29.3	—	—	n/a	29.3	0.3 %
Mortgage servicing rights, at fair value	1,178.9	1,072.3	500.0	n/a	2,751.2	29.5 %
Other assets (includes servicing advances)	—	41.8	—	n/a	41.8	0.5 %
	$ 7,703.1	$ 1,114.1	$ 500.0	n/a	$ 9,317.2	100.0 %

Interest Rate Swaps and Swaptions

INTEREST RATE SWAPS

Maturities	Notional Amounts ($B)	Average Fixed Pay Rate	Average Receive Rate	Average Maturity (Years)
Payers				
2022	$ 7.4	0.042 %	0.330 %	0.4
2023	2.6	0.113 %	0.325 %	1.3
2024	0.5	0.948 %	0.290 %	1.8
2025	0.4	1.030 %	0.290 %	3.7
2026 and Thereafter	6.7	1.418 %	0.299 %	6.9
	$ 17.6	0.624 %	0.315 %	3.1

Maturities	Notional Amounts ($B)	Average Pay Rate	Average Fixed Receive Rate	Average Maturity (Years)
Receivers				
2022	$ —	— %	— %	—
2023	2.2	0.330 %	0.118 %	0.9
2024	—	— %	— %	—
2025	—	— %	— %	—
2026 and Thereafter	4.5	0.305 %	1.148 %	8.6
	$ 6.7	0.313 %	0.808 %	6.1

INTEREST RATE SWAPTIONS

Option					Underlying Swap			
Swaption	**Expiration**	**Cost ($M)**	**Fair Value ($M)**	**Average Months to Expiration**	**Notional Amount ($M)**	**Average Pay Rate**	**Average Receive Rate**	**Average Term (Years)**
Purchase Contracts:								
Payer	<6 Months	$ 11.3	$ 21.2	2.3	$ 886.0	2.26 %	3M LIBOR	10.0
Sale Contracts:								
Payer	≥6 Months	$ (48.0)	$ (63.4)	15.5	$ (1,280.0)	1.82 %	3M LIBOR	10.0
Receiver	<6 Months	$ (10.6)	$ (0.2)	2.3	$ (1,087.0)	3M LIBOR	1.26 %	10.0
Receiver	≥6 Months	$ (48.0)	$ (50.6)	20.4	$ (1,280.0)	3M LIBOR	1.82 %	10.0

Futures and Options on Futures

FUTURES

Type & Maturity	Notional Amount ($ thousands)	Carrying Value ($ thousands)	Weighted Average Days to Expiration
U.S. Treasury futures - 10 year	$ (238,400)	$ —	91
Eurodollar futures - 3 month			
< 1 year	(4,707,000)	—	232
> 1 and < 2 years	(2,238,250)	—	550
> 2 and < 3 years	(333,000)	—	809
Total futures	$ (7,516,650)	$ —	327

PUT AND CALL OPTIONS ON FUTURES

Type & Maturity	Notional Amount ($ thousands)	Carrying Value ($ thousands)	Weighted Average Days to Expiration
Call options on U.S. Treasury futures - 10 year	$ 2,000	$ —	50

End Notes

PAGE 3 - Executive Overview

1. Return on book value is defined as the increase (decrease) in book value per common share from the beginning to the end of the given period, plus dividends declared in the period, divided by book value as of the beginning of the period.
2. Earnings Available for Distribution, or EAD, is a non-GAAP measure. Please see Appendix slide 20 for a definition of Earnings Available for Distribution and a reconciliation of GAAP to non-GAAP financial information.

PAGE 4 - Key Market Highlights

1. Source: Bloomberg, Implied Federal Reserve Hikes from OIS Pricing.
2. Source: Bloomberg, Observations of quarter over quarter changes (bps) in 2-year and 10-year treasury yields, and current coupon mortgage rates between Q1 1989 and Q1 2022.
3. Source: eMBS, Inc., Freddie Mac. Mortgage Rate: Freddie Mac Primary Mortgage Market Survey. As of April 22, 2022.

PAGE 5 - Key Market Highlights

1. Source: J.P. Morgan DataQuery current coupon OAS (as of April 14, 2022). 90-100th percentile for October 1, 2017 to December 31, 2019.
2. Source: J.P. Morgan MAX Mortgage Index. Duration: % of daily observations that fall within +/-0.25 of the midpoint of each bin (Years); and Convexity: # of daily observations that fall within +/-0.125 of the midpoint of each bin (Years^2) between April 2002 and April 2022.
3. Source: Federal Reserve. J.P. Morgan Investment Research.

PAGE 6 - Book Value Summary

1. Earnings Available for Distribution, or EAD, is a non-GAAP measure. Please see Appendix slide 20 for a definition of Earnings Available for Distribution and a reconciliation of GAAP to non-GAAP financial information.
2. Return on book value is defined as the increase (decrease) in book value per common share from the beginning to the end of the given period, plus dividends declared in the period, divided by book value as of the beginning of the period.

PAGE 7 - Earnings Available for Distribution

1. MSR amortization refers to the portion of change in fair value of MSR primarily attributed to the realization of expected cash flows (runoff) of the portfolio, which is deemed a non-GAAP measure due to the company’s decision to account for MSR at fair value.
2. TBA dollar roll income is the economic equivalent to holding and financing Agency RMBS using short-term repurchase agreements.
3. U.S. Treasury futures income is the economic equivalent to holding and financing a relevant cheapest-to-deliver U.S. Treasury note or bond using short-term repurchase agreements.
4. Earnings Available for Distribution, or EAD, is a non-GAAP measure. Please see Appendix slide 20 for a definition of Earnings Available for Distribution and a reconciliation of GAAP to non-GAAP financial information.

End Notes (continued)

PAGE 8 - Portfolio Yields and Financing Costs

1. Portfolio yields on the portfolio held as of March 31, 2022 and projected over the remaining life of the investments. Assumes a static portfolio and, as a result, does not represent a projection of future yields due to excluding portfolio reinvestment.
2. Includes interest income, net of premium amortization/discount accretion, on AFS securities and Agency Derivatives, and servicing income, net of estimated amortization and servicing expenses, on MSR. Amortization on MSR refers to the portion of change in fair value of MSR primarily attributed to the realization of expected cash flows (runoff) of the portfolio, which is deemed a non-GAAP measure due to the company's decision to account for MSR at fair value.
3. Amortized cost on MSR for a given period equals the net present value of the remaining future cash flows (obtained by applying original prepayment assumptions to the actual unpaid principal balance at the start of the period) using a discount rate equal to the original pricing yield. Original pricing yield is the discount rate which makes the net present value of the cash flows projected at purchase equal to the purchase price. MSR amortized cost is deemed a non-GAAP measure due to the company's decision to account for MSR at fair value.
4. Represents inverse interest-only Agency RMBS which are accounted for as derivative instruments in accordance with GAAP.
5. Includes interest expense and amortization of deferred debt issuance costs on borrowings, and interest spread income/expense on interest rate swap agreements.
6. Unsecured convertible senior notes.
7. The cost of financing on interest rate swaps held to mitigate interest rate risk associated with the Company's outstanding borrowings is calculated using average borrowings balance as the denominator.

PAGE 9 - Financing Profile

1. Source: Bloomberg. Represents the average spread between repo rates and the Secured Overnight Financing Rate (SOFR) over trailing 3-month and 6-month periods between Q1 2019 and Q2 2022 (as of April 28).
2. Balance of 5-year MSR term notes excludes deferred debt issuance costs.

PAGE 10 - Quarterly Activity and Portfolio Composition

1. For additional detail on the portfolio, see Appendix slides 21 and 22.
2. Economic debt-to-equity is defined as total borrowings to fund RMBS, MSR and Agency Derivatives, plus the implied debt on net TBA positions, divided by total equity.
3. Net TBA Position represents the bond equivalent value of the company's TBA position. Bond equivalent value is defined as notional amount multiplied by market price. Accounted for as derivative instruments in accordance with GAAP.
4. Specified pools include securities with implicit or explicit protection including lower loan balances (securities collateralized by loans less than or equal to $200K of initial principal balance), higher LTVs (securities collateralized by loans with greater than or equal to 80% LTV), certain geographic concentrations, loans secured by investor-owned properties, and lower FICO scores, as well as securities without such protection, including large bank-serviced and others.

PAGE 11 - Specified Pools

1. Specified pools include securities with implicit or explicit protection including lower loan balances (securities collateralized by loans less than or equal to $200K of initial principal balance), higher LTVs (securities collateralized by loans with greater than or equal to 80% LTV), certain geographic concentrations, loans secured by investor-owned properties, and lower FICO scores, as well as securities without such protection, including large bank-serviced and others.
2. Specified pool market value by coupon as of March 31, 2022.
3. Three month prepayment speeds of delivered TBA contracts; average of J.P. Morgan, Credit Suisse, and Citi data.

End Notes (continued)

PAGE 12 - Mortgage Servicing Rights

1. MSR portfolio based on the loans underlying the MSR reported by subservicers on a month lag, adjusted for current month purchases. Portfolio metrics, other than fair value and UPB, represent averages weighted by UPB.
2. FICO represents a mortgage industry accepted credit score of a borrower.
3. Three month prepayment speeds of delivered TBA contracts; average of J.P. Morgan, Credit Suisse, and Citi data.

PAGE 13 - Agency + MSR Advantage

1. RMBS + MSR represents an internally calculated exposure of a synthetic TBA position and the current coupon equivalents of our MSR and Agency IO RMBS.
2. RMBS + RATES represents our investment portfolio after excluding the internally calculated exposure of a synthetic TBA position and the current coupon equivalents of our MSR / Agency IO RMBS.
3. Book value exposure to current coupon represents estimated change in common book value for theoretical parallel shifts in spreads.
4. MSR/Agency IO RMBS includes the effect of unsettled MSR.

PAGE 14 - Risk Positioning

1. Parallel shift represents estimated change in common book value for theoretical parallel shift in interest rates.
2. Shift in long term rates represents estimated change in common book value for theoretical non-parallel shifts in the yield curve. Analysis uses a +/- 25 basis point shift in 10-year rates while holding short term rates constant.
3. Shift in short term rates represents estimated change in common book value for theoretical non-parallel shifts in the yield curve. Analysis uses a +/- 25 basis point shift in 2-year rates while holding long term rates constant.
4. MSR/Agency IO RMBS includes the effect of unsettled MSR.
5. Other includes all other derivative assets and liabilities and borrowings. Other excludes TBAs, which are included in the Agency P&I RMBS/TBA category.

PAGE 15 - Two Harbors Outlook

1. Source: Company’s indicative estimates based on portfolio assumptions and market conditions, for illustrative purposes only.

PAGE 17 - Financial Performance

1. Return on book value is defined as the increase (decrease) in book value per common share from the beginning to the end of the given period, plus dividends declared in the period, divided by the book value as of the beginning of the period.
2. Historical dividends may not be indicative of future dividend distributions. The company ultimately distributes dividends based on its taxable income per common share, not GAAP earnings. The annualized dividend yield on the company’s common stock is calculated based on the closing price of the last trading day of the relevant quarter.

PAGE 18 - Q1-2022 Operating Performance

1. Earnings Available for Distribution, or EAD, is a non-GAAP measure. Please see Appendix slide 20 for a definition of Earnings Available for Distribution and a reconciliation of GAAP to non-GAAP financial information.

End Notes (continued)

PAGE 19 - Q4-2021 Operating Performance

1. Earnings Available for Distribution, or EAD, is a non-GAAP measure. Please see Appendix slide 20 for a definition of Earnings Available for Distribution and a reconciliation of GAAP to non-GAAP financial information.

PAGE 20 - GAAP to EAD Reconciliation

1. MSR amortization refers to the portion of change in fair value of MSR primarily attributed to the realization of expected cash flows (runoff) of the portfolio, which is deemed a non-GAAP measure due to the company's decision to account for MSR at fair value.
2. TBA dollar roll income is the economic equivalent to holding and financing Agency RMBS using short-term repurchase agreements.
3. U.S. Treasury futures income is the economic equivalent to holding and financing a relevant cheapest-to-deliver U.S. Treasury note or bond using short-term repurchase agreements.

PAGE 21 - Agency RMBS Portfolio

1. Weighted average actual 1 month CPR released at the beginning of the following month based on RMBS held as of the preceding month-end.
2. Determination of the percentage of prepay protected 30-year fixed Agency RMBS includes securities with implicit or explicit protection including lower loan balances (securities collateralized by loans less than or equal to $200K of initial principal balance), higher LTVs (securities collateralized by loans with greater than or equal to 80% LTV), certain geographic concentrations, loans secured by investor-owned properties, and lower FICO scores.
3. Other P&I includes 15-year fixed, Hybrid ARMs, CMO and DUS pools.
4. IOs and IIOs represent market value of $30.2 million of Agency Derivatives and $157.0 million of IOs.
5. Bond equivalent value is defined as the notional amount multiplied by market price. Accounted for as derivative instruments in accordance with GAAP.
6. Three month prepayment speeds of delivered TBA contracts; average of J.P. Morgan, Credit Suisse, and Citi data.

PAGE 22 - Mortgage Servicing Rights Portfolio

1. MSR portfolio excludes residential mortgage loans for which the company is the named servicing administrator. Portfolio metrics, other than fair value and UPB, represent averages weighted by UPB.
2. FICO represents a mortgage industry accepted credit score of a borrower.

PAGE 24 - Financing

1. Outstanding borrowings have a weighted average of 5.5 months to maturity.
2. Repurchase agreements and revolving credit facilities secured by MSR and/or other assets may be over-collateralized due to operational considerations.


TWO HARBORS
Investment Corp.