An Agency + MSR Mortgage REIT

Third Quarter 2021 Earnings Call

NOVEMBER 9, 2021

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, 2020, 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.

Readers are cautioned not to place undue reliance upon any forward-looking statements, which speak only as of the date made. Two Harbors does not undertake or accept any obligation to release publicly any updates or revisions to any forward-looking statement to reflect any change in its expectations or any change in events, conditions or circumstances on which any such statement is based. Additional information concerning these and other risk factors is contained in Two Harbors' most recent filings with the Securities and Exchange Commission (SEC). All subsequent written and oral forward-looking statements concerning Two Harbors or matters attributable to Two Harbors or any person acting on its behalf are expressly qualified in their entirety by the cautionary statements above.

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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

Performance Supported By Spread Tightening in High Coupon RMBS

Quarterly Summary

- Reported book value of $6.40 per common share, representing a 2.3% quarterly return on book value[1]
- Generated Comprehensive Income of $45.2 million, representing an annualized return on average common equity of 9.1%
- Reported Earnings Available for Distribution, or EAD (formerly Core Earnings), of $73.6 million, or $0.24 per weighted average basic common share[2]
- Declared a third quarter common stock dividend of $0.17 per share
- Continued to grow mortgage servicing rights (MSR) portfolio
    - Settled on $14.0 billion unpaid principal balance (UPB) generated through flow-sale program
    - Closed on $15.3 billion UPB through bulk transactions
- Issued 40 million shares of common stock through an underwritten offering for net proceeds of approximately $256.5 million

Post-Quarter End Update

- Issued 30 million shares of common stock through an underwritten offering for net proceeds of approximately $193.7 million
- Expect to settle on outstanding commitments of $21 billion UPB of MSR through bulk transactions in upcoming quarters

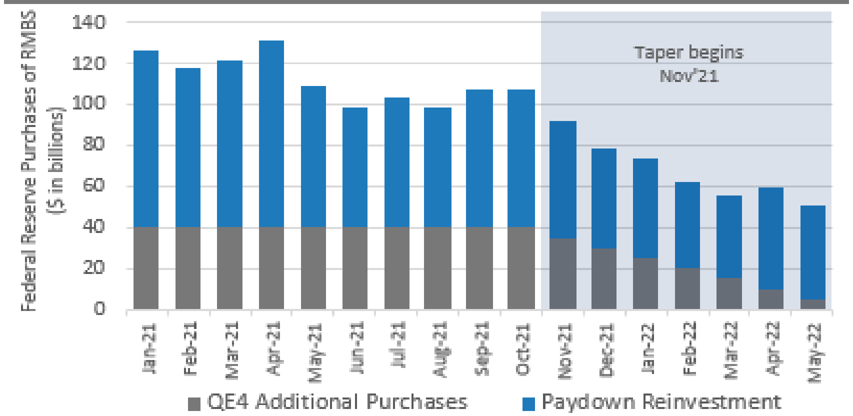
Note: Financial data throughout this presentation is as of or for the quarter ended September 30, 2021, unless otherwise noted.
Note: The End Notes are an integral part of this presentation. See slides 24 through 27 at the back of this presentation for information related to certain financial metrics and defined terms herein.

Key Market Highlights

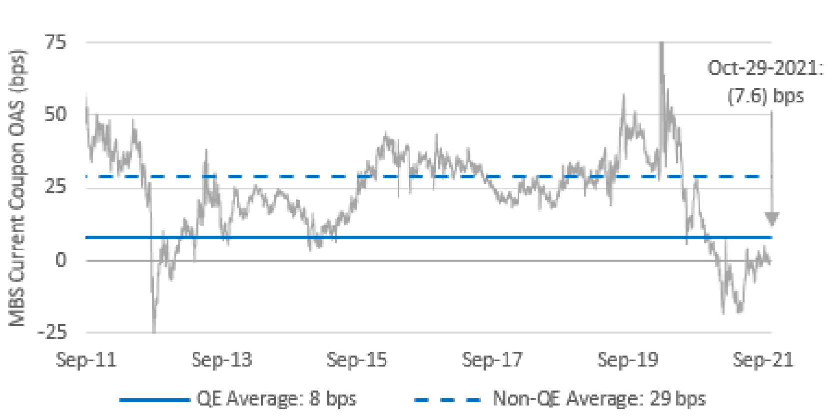
HEADING INTO A WELL-ANTICIPATED FEDERAL RESERVE TAPER

- Federal Reserve will reduce its monthly purchases of U.S. Treasury securities by $10 billion and Agency RMBS by $5 billion beginning in November and expects to complete the process by mid-2022
- Demand for RMBS from banks is expected to continue given tepid loan growth and ample deposit balances
- Current coupon spreads have widened but remain below historical average
- Combination of higher mortgage rates and fewer number of refinanceable mortgages point to lower prepayment speeds ahead

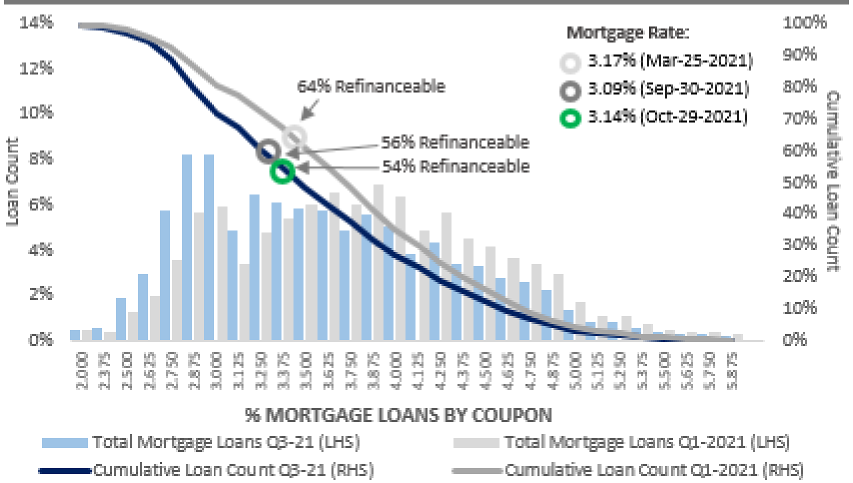
I. FEDERAL RESERVE WILL BUY LESS RMBS[1]



II. CURRENT COUPON SPREADS[2]



III. FEWER REFINANCEABLE MORTGAGES[3]



Book Value Summary

(Dollars in millions, except per share data)	Q3-2021 Book Value	Q3-2021 Book Value per share	YTD-2021 Book Value	YTD-2021 Book Value per share
Beginning common stockholders' equity	**$ 1,757.8**	**$ 6.42**	**$ 2,087.7**	**$ 7.63**
Earnings Available for Distribution, net of tax[1]	87.4		215.6	
Dividend declaration - preferred	(13.8)		(44.7)	
Earnings Available for Distribution to common stockholders, net of tax[1]	73.6		170.9	
Realized and unrealized gains and losses, net of tax	(21.0)		(27.1)	
Other comprehensive loss, net of tax	(7.4)		(341.7)	
Comprehensive income (loss)	45.2		(197.9)	
Common stock dividends declared	(53.6)		(146.9)	
Other	2.6		8.9	
Issuance of common stock, net of offering costs	256.6		256.8	
Ending common stockholders' equity	$ 2,008.6	**$ 6.40**	$ 2,008.6	**$ 6.40**
Total preferred stock liquidation preference	726.3		$ 726.3	
Ending total equity	**$ 2,734.9**		**$ 2,734.9**	

- Book value of $6.40 per common share, resulting in a 2.3% quarterly return on book value[2]
  - Includes effect of spread tightening in high coupon RMBS offset somewhat by spread widening in lower coupon RMBS
- Generated Comprehensive Income of $45.2 million, representing an annualized return on average common equity of 9.1%

Earnings Available for Distribution[1] and Portfolio Yield

($ in millions, except per share data)	Q2-2021	Q3-2021	Variance ($)
Interest income	$ 43.4	$ 36.0	$ (7.4)
Interest expense	24.4	21.9	2.5
Net interest income	19.0	14.1	(4.9)
Servicing income, net of amortization on MSR	47.4	56.7	9.3
Gain on swaps and swaptions	2.4	4.5	2.1
Gain on other derivatives	26.6	46.3	19.7
Total other income	76.4	107.5	31.1
Expenses	31.0	34.2	(3.2)
Benefit from income taxes	(0.8)	—	(0.8)
Earnings Available for Distribution[1]	**$ 65.2**	**$ 87.4**	**$ 22.2**
Dividends on preferred stock	13.7	13.8	(0.1)
Earnings Available for Distribution available to common stockholders	**$ 51.5**	**$ 73.6**	**$ 22.1**
Earnings Available for Distribution per weighted average basic common share[2]	**$ 0.19**	**$ 0.24**	
Earnings Available for Disribution annualized return on average common equity	**10.8 %**	**14.7 %**	
Operating expenses, excluding non-cash LTIP amortization and nonrecurring expenses, as a percentage of average equity	1.9 %	1.9 %	

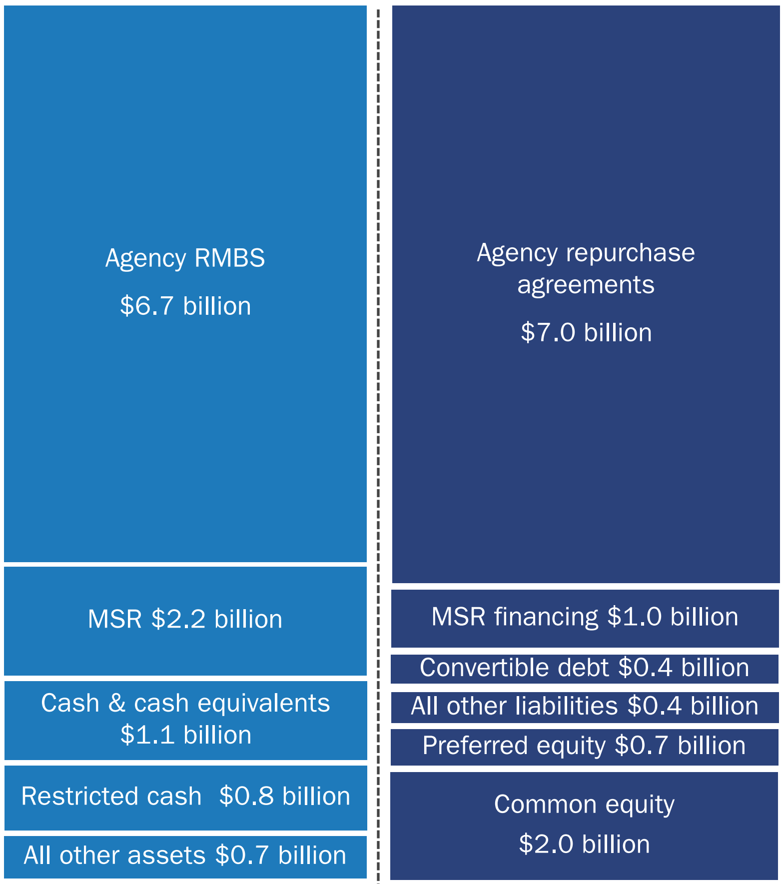
Beginning with the third quarter, Core Earnings will be referred to as Earnings Available for Distribution (EAD). EAD will also include U.S. Treasury futures income, which represents the economic equivalent to holding and financing a relevant cheapest-to-deliver U.S. Treasury note or bond using short-term repurchase agreements.[2]

- Third quarter Earnings Available for Distribution reflects:
  - Lower interest income due to lower RMBS balance
  - Reduction in interest expense due to lower RMBS and MSR borrowing
  - Higher gain on other derivatives due to:
    - Larger TBA dollar roll position and continued roll specialness
    - Inclusion of U.S. Treasury futures income
  - Growth in servicing income resulting from a higher balance, higher collections, and lower prepayment speeds
  - Higher servicing expenses due to one-time items in second quarter
- Annualized portfolio yield increased to 3.33% and net spreads widened by 62 bps, due to higher MSR yields and greater proportion of MSR in the portfolio

PORTFOLIO YIELD	Q2-2021	Q3-2021	As of September 30, 2021[3]
Annualized portfolio yield[4]	2.72 %	3.33 %	3.61 %
Annualized cost of funds[5]	0.79 %	0.78 %	0.84 %
Annualized net spread for aggregate portfolio	1.93 %	2.55 %	2.77 %

Financing Profile

BALANCE SHEET AS OF SEPTEMBER 30, 2021



Total Assets: $11.5 billion

CONSERVATIVE LEVERAGE FOR AGENCY + MSR STRATEGY

- Strong capital and liquidity position
  - Issued 40 million shares of common stock for net proceeds of $256.5 million
- $1.1 billion of unrestricted cash
- Economic debt-to-equity of 6.1x at September 30, 2021, compared to 6.5x at June 30, 2021[1]
- Average economic debt-to-equity of 6.0x in the third quarter, compared to 6.5x in the second quarter[1]

DIVERSE FINANCING PROFILE

AGENCY RMBS

- $7.0 billion of outstanding repurchase agreements with 16 counterparties
- Repo funding remains attractive (flat term structure, low rates)

MORTGAGE SERVICING RIGHTS

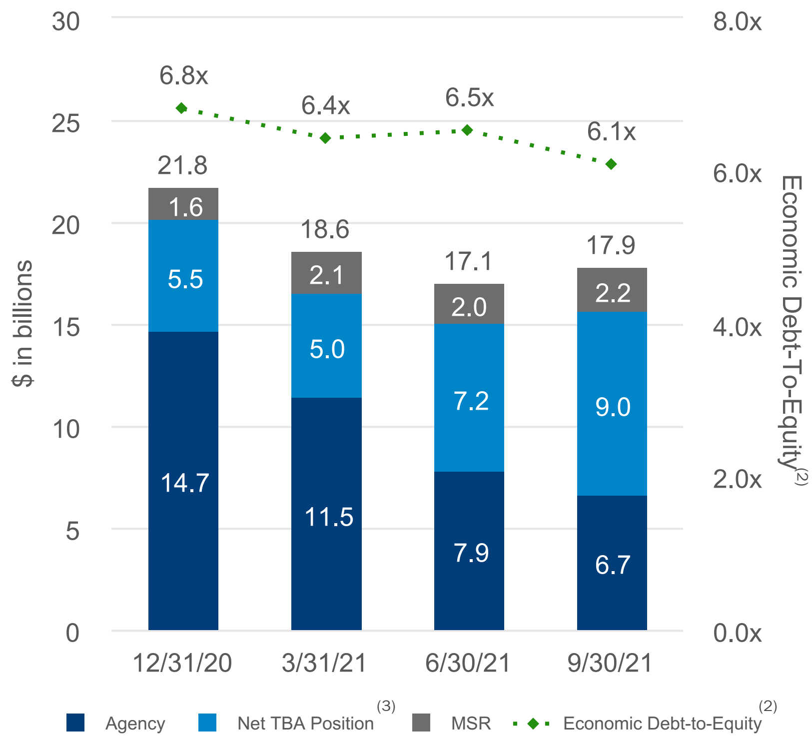
- $527 million of outstanding borrowings under bilateral MSR asset financing facilities
- $400 million of outstanding 5-year MSR term notes[2]
- $413 million of unused, committed MSR asset financing capacity
- $19 million outstanding borrowings and $181 million of unused, committed capacity for servicing advance receivables

Quarterly Activity and Portfolio Composition

PORTFOLIO COMPOSITION[1]

At September 30, 2021, $17.9 billion portfolio

Includes $8.9 billion settled positions



PORTFOLIO ACTIVITY

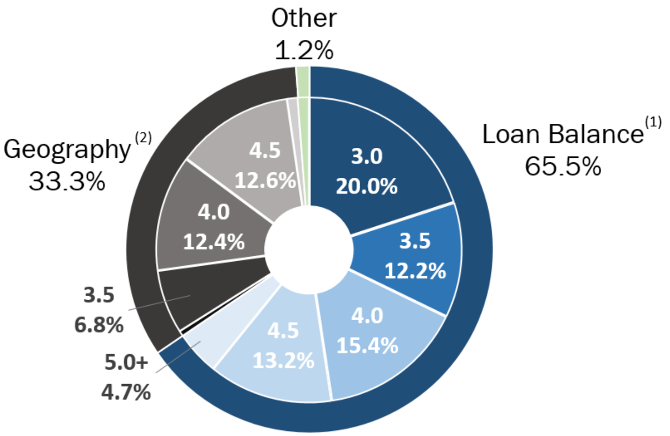
- Maintained cautious positioning in Agency RMBS while growing MSR portfolio hedged with TBA
- Reduced specified pool portfolio to $6.2 billion through a combination of asset sales and paydowns
  - Sold $0.3 billion 4.0% pools and $0.2 billion 4.5% pools
  - Experienced $0.6 billion in runoff, adding $1.9 billion notional of TBA reinvestment
- Increased net TBA position to $9.0 billion by adding current coupon to capture continued roll specialness
- Increased use of options including interest rate and mortgage options
- Grew MSR portfolio by $9.3 billion UPB[4]. Growth combined with increase in prices due to slightly higher rates resulted in an increase in value of $0.2 billion

Specified Pools

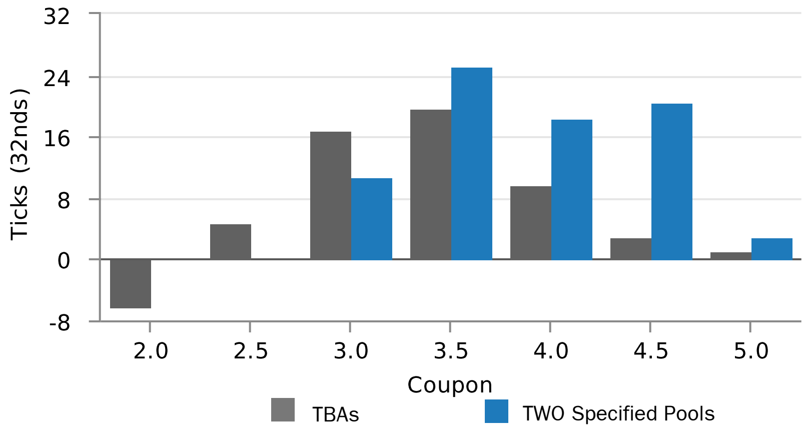
SPECIFIED POOL PERFORMANCE

- High coupon specified pools outperformed during the quarter, recovering some of the spread widening that occurred during the second quarter
- Overall, market prepayment speeds continue to trend lower from the peak at the beginning of the year
  - Our portfolio CPR declined to 30.1% from 32.3% in the second quarter
  - High coupon speeds are showing clear signs of burnout while current coupon speeds moved higher in the third quarter

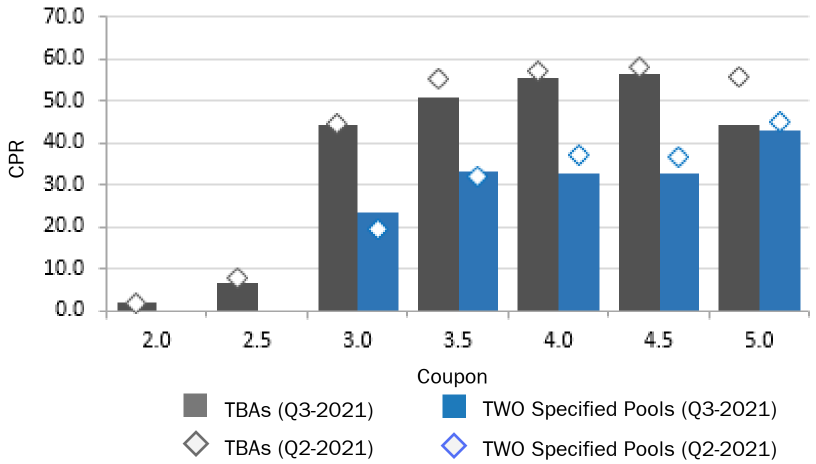
I. SPECIFIED POOL PORTFOLIO



II. QUARTERLY PERFORMANCE[3]



III. SPECIFIED POOL PREPAYMENT SPEEDS[4]



Mortgage Servicing Rights

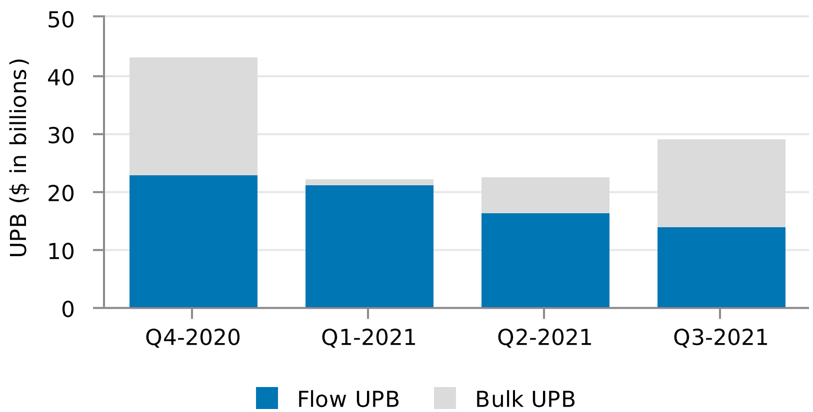
MSR PORTFOLIO PERFORMANCE

- Grew portfolio UPB in an active market
  - Settled on $14.0 billion UPB through flow-sale arrangements and $15.3 billion UPB through bulk purchases
  - Expect to settle on $21 billion UPB from bulk transactions in future quarters
- MSR price multiple increased by 5.0%, reflecting slight increase in rates and additional of low coupon MSR
- Forbearance rate declined to 1.7% of our MSR portfolio by loan count.

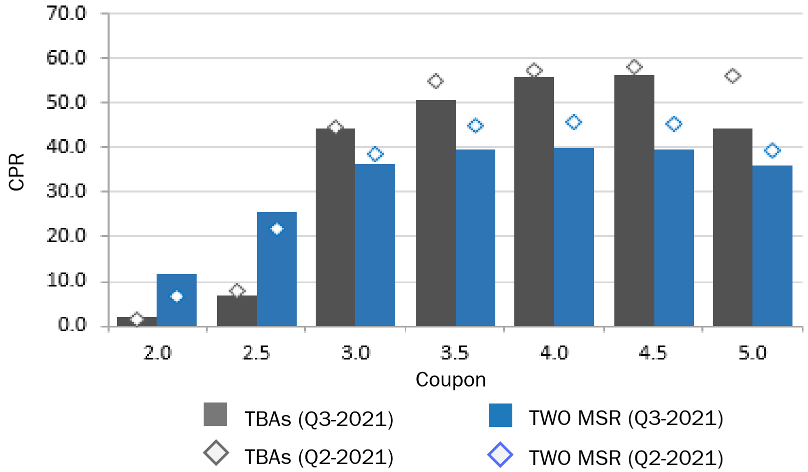
I. MSR PORTFOLIO[1]

	6/30/2021	9/30/2021
Fair value ($ millions)	$ 2,020	$ 2,213
Price Multiple	4.0x	4.2x
UPB ($ millions)	$ 190,620	$ 199,931
Weighted average gross coupon rate	3.5%	3.4%
Weighted average loan size[2] ($ thousands)	$ 312	$ 322
Weighted average original FICO[3]	758	758
Weighted average original LTV	72%	72%
60+ day delinquencies	2.3%	1.8%
Net servicing fee (basis points)	26.5	26.4
Weighted average loan age (months)	28	27
Weighted average CPR	29%	27%

II. MSR SETTLEMENT ACTIVITY



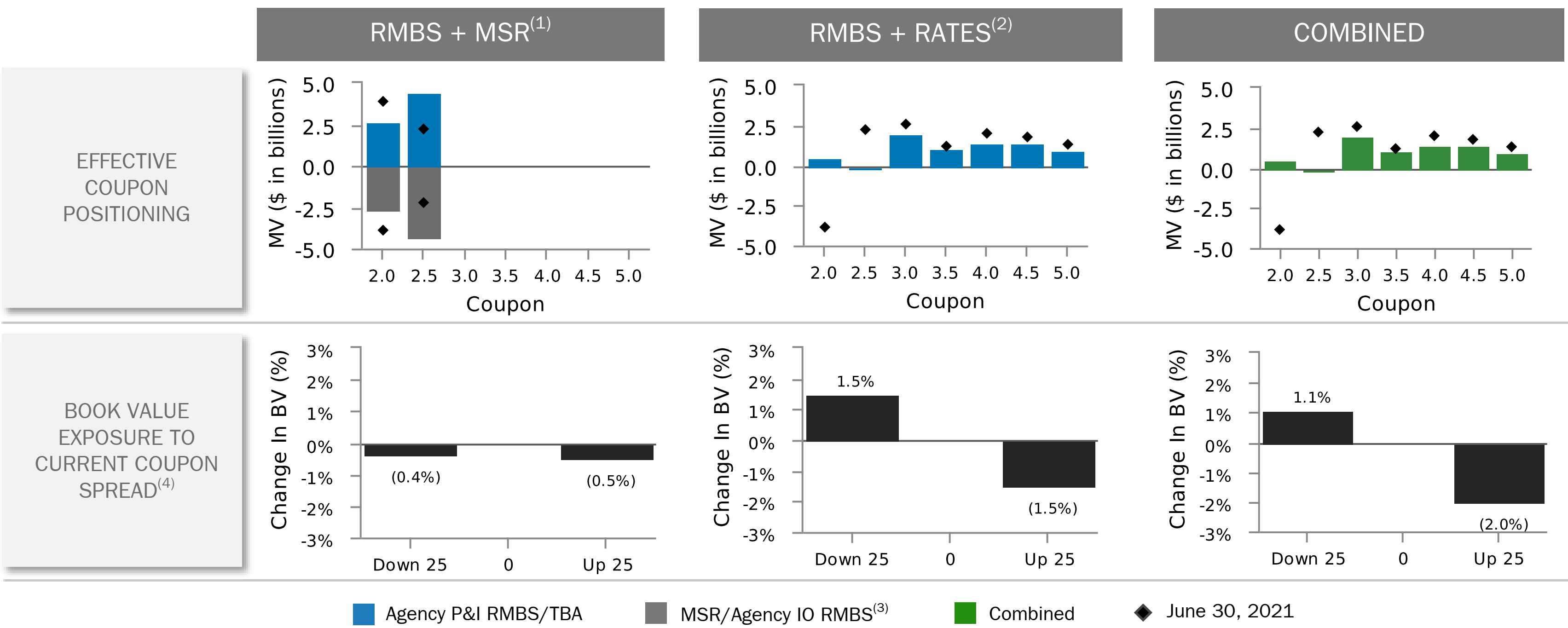
III. MSR PREPAYMENT SPEEDS[4]



Agency + MSR Advantage

LOW EXPOSURE TO CURRENT COUPON SPREAD

- The charts below illustrate a point-in-time view of our 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[1]: Exposure shifted towards the 2.5% coupon as rates rose somewhat. Book value exposure to current coupon spreads is low, at -0.5% for a 25 bps widening
  - RMBS + RATES[2]: Exposure remains concentrated in higher coupons, having flattened out the 2% and 2.5% coupon exposure. Book value exposure to current coupon spreads is low at -1.5% for a 25 bps widening but higher compared to RMBS + MSR[1]



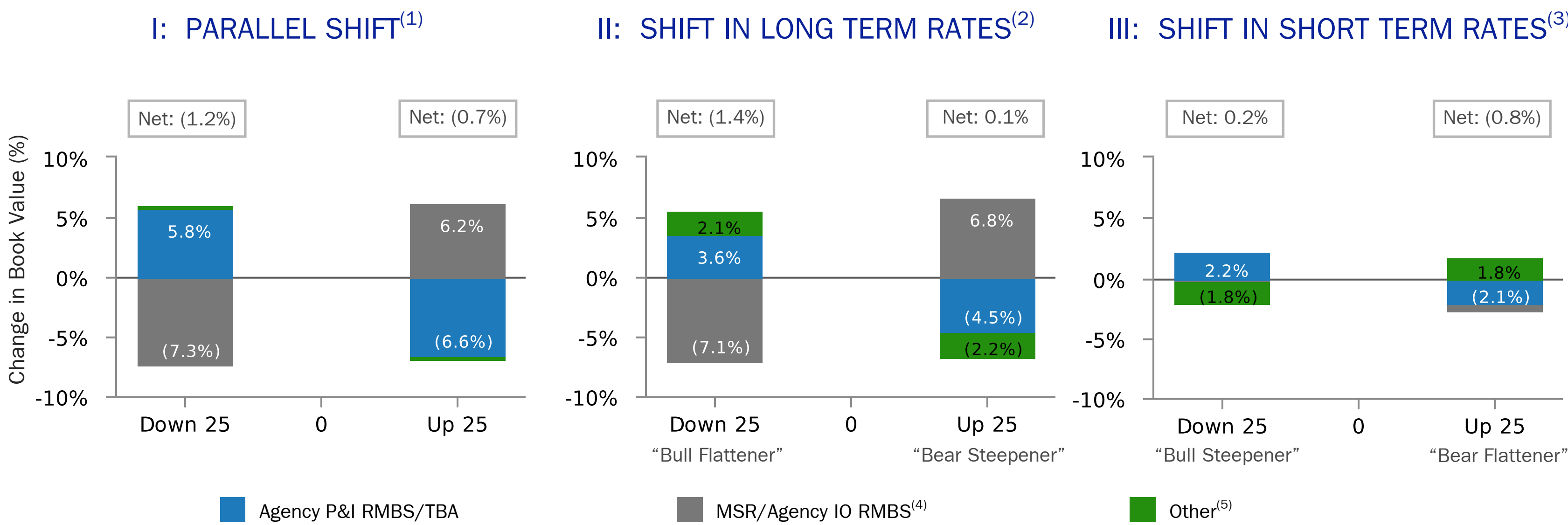
Note: Sensitivity data as of September 30, 2021. The above spread scenario is provided for illustration purposes only and is not necessarily indicative of Two Harbors' financial condition and operating results, nor is it necessarily indicative of the financial condition or results of operations that may be expected for any future period or date.

Risk Positioning

AGENCY + MSR DELIVERS BOOK VALUE STABILITY

- Our 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 -1.2% for a 25 bps decline, and -0.7% 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 -0.8%

BOOK VALUE EXPOSURE TO CHANGES IN RATES



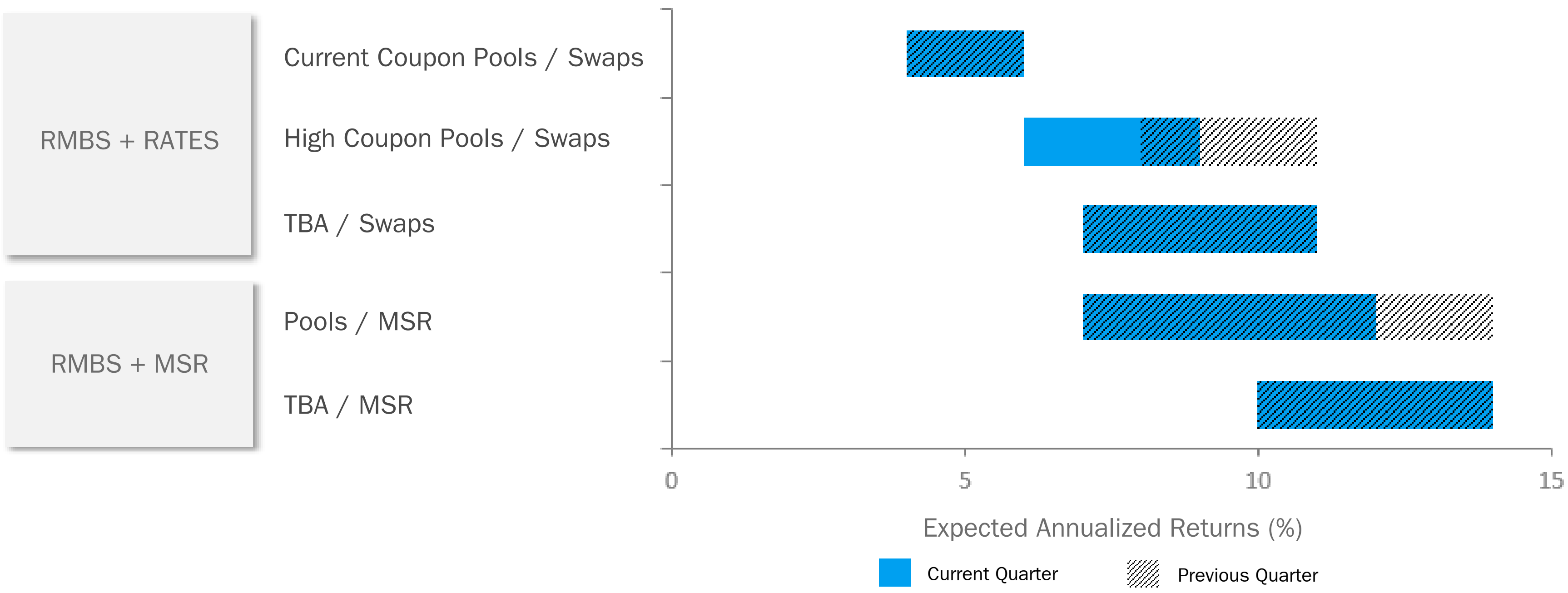
Note: Sensitivity data as of September 30, 2021. The above scenarios are provided for illustration purposes only and is not necessarily indicative of Two Harbors’ financial condition and operating results, nor are they necessarily indicative of the financial condition or results of operations that may be expected for any future period or date.

Two Harbors Outlook

OPPORTUNITY SET IN OUR TARGET ASSETS REMAINS ATTRACTIVE TODAY

- MSR paired with TBA continues to offer low- to mid-teen returns and remains our primary focus for deploying capital
- High coupon specified pool spreads tightened in the quarter, bringing expected returns to mid- to high-single digits

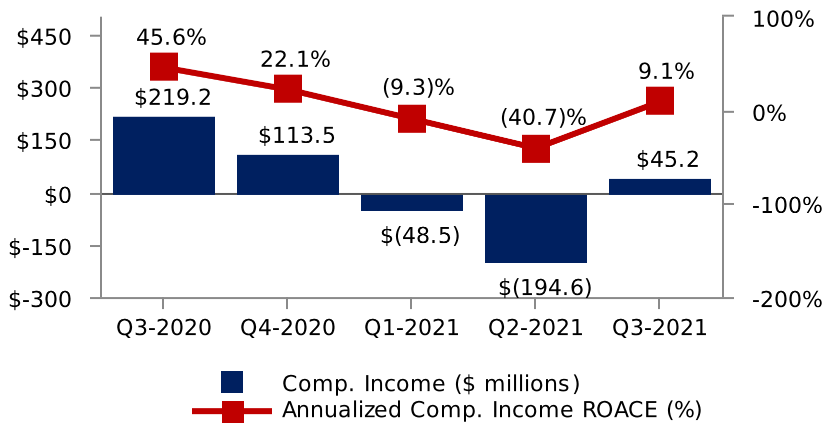
STATIC RETURN OUTLOOK FOR TARGET ASSETS(1)



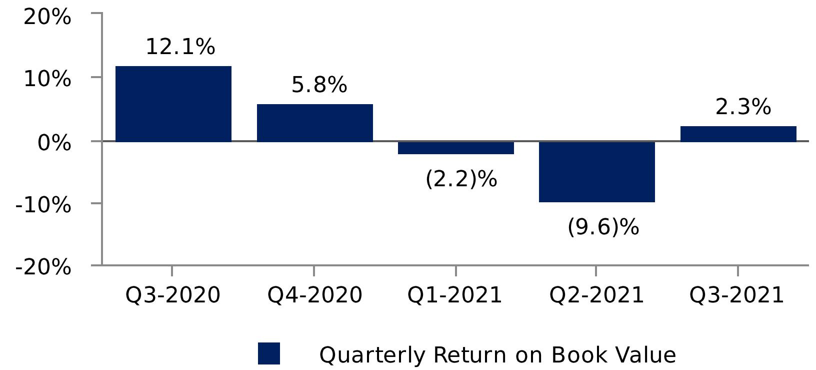
Appendix

Financial Performance

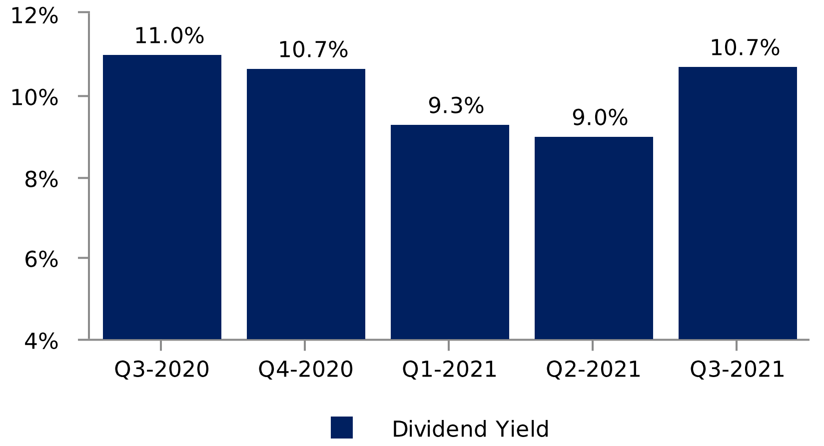
COMPREHENSIVE INCOME (LOSS)



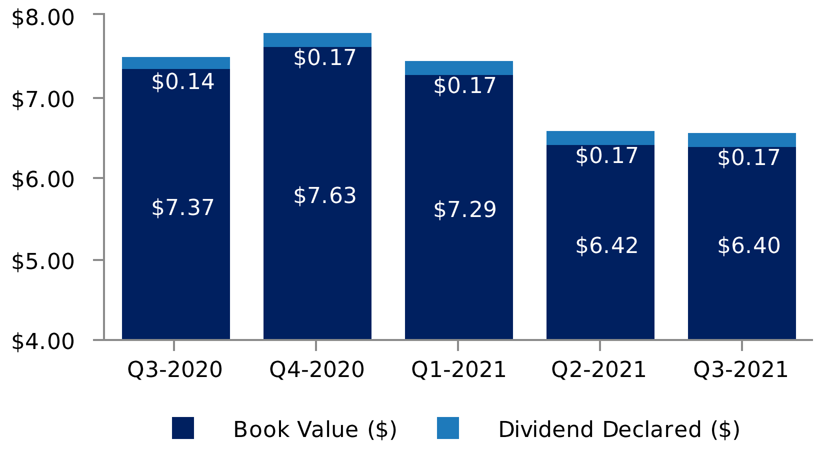
QUARTERLY RETURN ON BOOK VALUE[1]



DIVIDEND YIELD[2]



BOOK VALUE AND DIVIDEND PER COMMON SHARE[2]



Q3-2021 Operating Performance

	Q3-2021			
(In millions, except for per common share data)	Earnings Available for Distribution[1]	Realized Gains (Losses)	Unrealized MTM	Total
Interest income	$ 36.0	$ —	$ —	$ 36.0
Interest expense	21.9	—	—	21.9
Net interest income	14.1	—	—	14.1
Gain on investment securities	—	20.9	7.7	28.6
Servicing income	123.0	—	—	123.0
(Loss) gain on servicing asset	(66.3)	(11.0)	34.8	(42.5)
Gain (loss) on interest rate swap and swaption agreements	4.5	5.2	(13.6)	(3.9)
Gain (loss) on other derivative instruments	46.3	60.6	(121.9)	(15.0)
Other income	—	—	—	—
Total other income (loss)	107.5	75.7	(93.0)	90.2
Expenses	34.2	3.4	—	37.6
Income (loss) before income taxes	87.4	72.3	(93.0)	66.7
(Benefit from) provision for income taxes	—	(1.5)	1.8	0.3
Net income (loss)	**87.4**	**73.8**	**(94.8)**	**66.4**
Dividends on preferred stock	13.8	—	—	13.8
Net income (loss) attributable to common stockholders	**$ 73.6**	**$ 73.8**	**$ (94.8)**	**$ 52.6**
Earnings (loss) per weighted average basic common share	$ 0.24	$ 0.24	$ (0.31)	$ 0.17

Q2-2021 Operating Performance

	Q2-2021			
(In millions, except for per common share data)	Earnings Available for Distribution[1]	Realized Gains (Losses)	Unrealized MTM	Total
Interest income	$ 43.4	$ —	$ —	$ 43.4
Interest expense	24.4	—	—	24.4
Net interest income	19.0	—	—	19.0
Gain (loss) on investment securities	—	8.1	(49.6)	(41.5)
Servicing income	112.8	—	—	112.8
Loss on servicing asset	(65.4)	—	(202.6)	(268.0)
Gain on interest rate swap and swaption agreements	2.4	8.7	13.6	24.7
Gain (loss) on other derivative instruments	26.6	33.6	(8.9)	51.3
Other income	—	—	—	—
Total other income (loss)	76.4	50.4	(247.5)	(120.7)
Expenses	31.0	6.2	—	37.2
Income (loss) before income taxes	64.4	44.2	(247.5)	(138.9)
(Benefit from) provision for income taxes	(0.8)	1.6	(21.7)	(20.9)
Net income (loss)	**65.2**	**42.6**	**(225.8)**	**(118.0)**
Dividends on preferred stock	13.7	—	—	13.7
Net income (loss) attributable to common stockholders	**$ 51.5**	**$ 42.6**	**$ (225.8)**	**$ (131.7)**
Earnings (loss) per weighted average basic common share	$ 0.19	$ 0.15	$ (0.82)	$ (0.48)

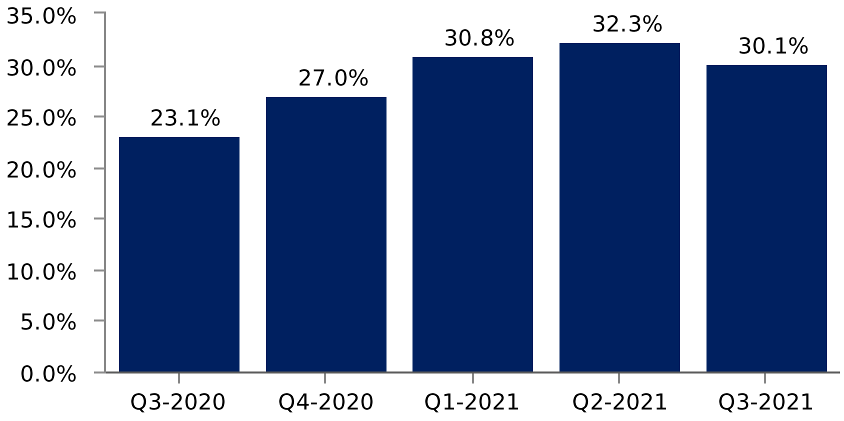
GAAP to EAD Reconciliation

Reconciliation of GAAP to non-GAAP Information (In thousands, except for per common share data)	Three Months Ended June 30, 2021	Three Months Ended September 30, 2021
Comprehensive (loss) income attributable to common stockholders	**$ (194,606)**	**$ 45,226**
Adjustment for other comprehensive loss attributable to common stockholders:		
Unrealized loss on available-for-sale securities	62,899	7,350
Net (loss) income attributable to common stockholders	**$ (131,707)**	**$ 52,576**
Adjustments for non-EAD:		
Realized gain on securities	(15,493)	(21,087)
Unrealized loss (gain) on securities	49,620	(7,714)
Provision for credit losses	7,392	159
Realized and unrealized loss (gain) on mortgage servicing rights	202,651	(23,749)
Realized gain on termination or expiration of interest rate swaps and swaptions	(8,642)	(5,220)
Unrealized (gain) loss on interest rate swaps and swaptions	(13,607)	13,608
(Gain) loss on other derivative instruments	(24,721)	61,355
Change in servicing reserves	163	(378)
Non-cash equity compensation expense	4,611	2,559
Other nonrecurring expenses	1,397	1,187
Net (benefit from) provision for income taxes on non-EAD	(20,145)	311
Earnings available for distribution to common stockholders	$ 51,519	$ 73,607
Weighted average basic common shares	273,718,561	307,773,420
Earnings available for distribution to common stockholders per weighted average basic common share	$ 0.19	$ 0.24

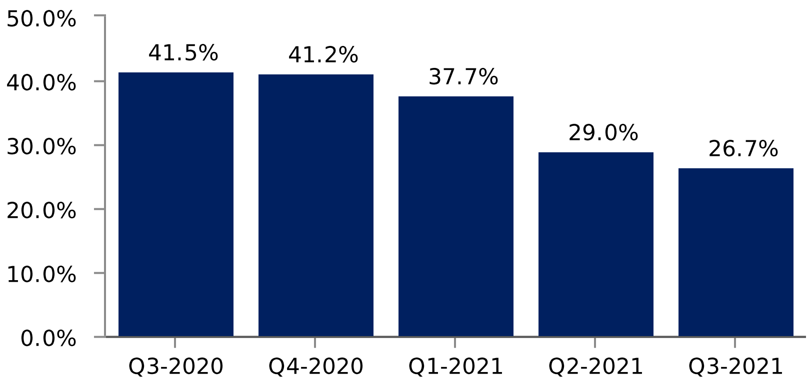
Note: Earnings Available for Distribution, or EAD, is a non-GAAP measure that we define as comprehensive income (loss) attributable to common stockholders, excluding "realized and unrealized gains and losses" (impairment losses, provision for (reversal of) credit losses, realized and unrealized gains and losses on the aggregate portfolio, reserve expense for representation and warranty obligations on MSR, non-cash compensation expense related to restricted common stock, other nonrecurring expenses and restructuring charges). 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, management fees and recurring cash related operating expenses. Dollar roll income is the economic equivalent to holding and financing Agency RMBS using short-term repurchase agreements. 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. 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. EAD includes U.S. Treasury futures income of $0.03 per basic common share for the three months ended September 30, 2021. Had U.S. Treasury futures income been included for the three months ended June 30, 2021, EAD would have been $0.02 higher, or $0.21 per basic common share.

Portfolio Metrics

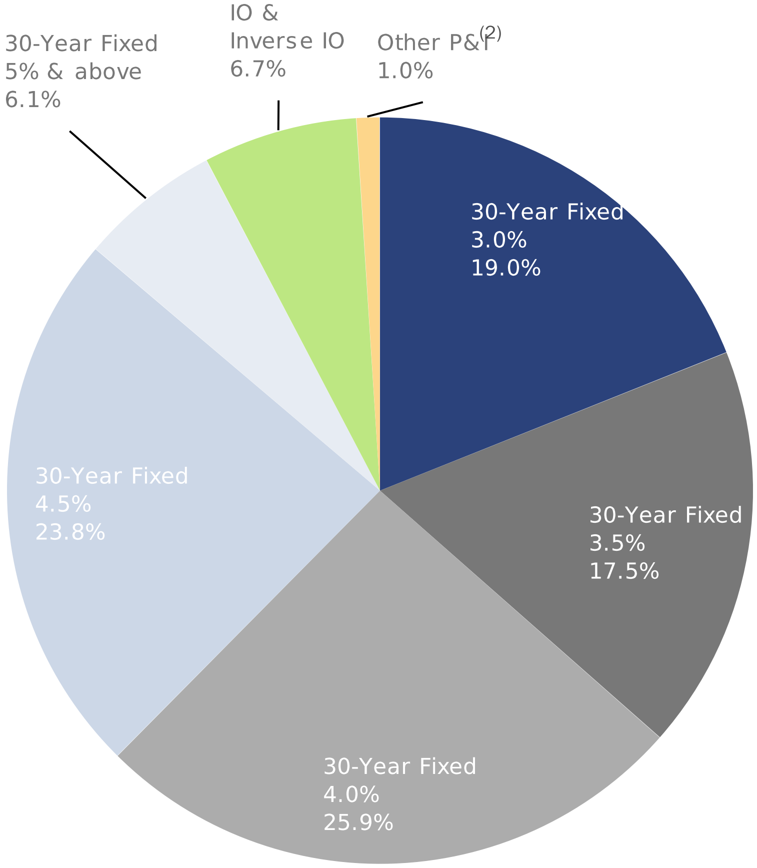
AGENCY RMBS CPR[1]



MSR CPR



AGENCY PORTFOLIO COMPOSITION



Agency RMBS Portfolio

	Par Value ($ millions)	Market Value ($ millions)	Weighted Average CPR	% Prepay Protected[1]	Amortized Cost Basis ($ millions)	Gross Weighted Average Coupon	Weighted Average Age (Months)
30-Year fixed							
2.5% & below	$ —	$ —	— %	— %	$ —	— %	—
3.0%	1,196	1,271	23.3 %	100.0 %	1,231	3.7 %	23
3.5%	1,084	1,175	32.8 %	100.0 %	1,134	4.3 %	27
4.0%	1,583	1,738	32.1 %	100.0 %	1,647	4.6 %	46
4.5%	1,435	1,593	33.0 %	100.0 %	1,507	5.0 %	44
≥ 5.0%	363	409	36.3 %	98.1 %	384	5.9 %	79
	5,661	6,186	31.0 %	99.9 %	5,903	4.5 %	39
Other P&I[2]	60	67	16.0 %	— %	66	6.5 %	221
IOs and IIOs[3]	4,194	449	19.1 %	— %	423	3.9 %	56
Total Agency RMBS	$ 9,915	$ 6,702		92.2 %	$ 6,392		

	Notional Amount ($ millions)	Bond Equivalent Value ($ millions)[4]	Through-the-Box Speeds[5]
TBA Positions			
2.5% & below	$ 7,330	$ 7,460	6.7 %
3.0%	784	820	44.2 %
3.5%	—	—	50.7 %
4.0%	(100)	(107)	55.7 %
4.5%	—	—	56.4 %
5.0%	728	800	44.4 %
Net TBA position	$ 8,742	$ 8,973	

Mortgage Servicing Rights Portfolio[1]

	Number of Loans	Unpaid Principal Balance ($ in millions)	Gross Weighted Average Coupon Rate	Weighted Average Loan Size[2] ($ in thousands)	Weighted Average Loan Age (months)	Weighted Average Original FICO[3]	Weighted Average Original LTV	60+ Day Delinquencies	3-Month CPR	Net Servicing Fee (bps)
30-Year Fixed										
≤ 3.25%	199,260	$ 67,419	2.8%	$ 398	9	767	71%	0.3%	12.6%	25.7
3.25% - 3.75%	166,584	43,706	3.4%	322	27	756	74%	1.0%	28.6%	26.4
3.75% - 4.25%	135,217	28,665	3.9%	267	52	753	76%	2.9%	38.2%	27.5
4.25% - 4.75%	86,569	15,940	4.4%	242	55	738	78%	5.5%	40.0%	26.4
4.75% - 5.25%	42,535	7,059	4.9%	234	49	723	79%	7.7%	40.1%	27.5
> 5.25%	17,333	2,445	5.5%	215	48	706	79%	10.3%	39.2%	30.6
	647,498	165,234	3.5%	330	28	756	74%	1.9%	27.2%	26.4
15-Year Fixed										
≤ 2.25%	14,823	4,955	2.0%	378	6	778	57%	0.1%	11.3%	25.3
2.25% - 2.75%	38,748	9,630	2.4%	302	11	775	58%	0.2%	21.1%	25.7
2.75% - 3.25%	47,217	7,924	2.9%	225	38	769	61%	0.6%	26.2%	26.2
3.25% - 3.75%	29,622	3,802	3.4%	178	53	758	64%	1.4%	28.6%	27.4
3.75% - 4.25%	13,508	1,436	3.9%	157	53	742	65%	2.6%	29.1%	28.8
> 4.25%	6,364	565	4.5%	133	44	728	66%	3.7%	33.6%	31.3
	150,282	28,312	2.7%	266	26	769	60%	0.6%	23.1%	26.3
Total ARMs	3,459	848	3.0%	316	52	762	68%	3.7%	37.2%	25.3
Total Portfolio	801,239	$ 194,394	3.4%	$ 321	28	758	72%	1.7%	26.7%	26.4

Financing

$ in millions						
Outstanding Borrowings and Maturities[1]	Repurchase Agreements	Revolving Credit Facilities	Term Notes Payable	Convertible Notes	Total Outstanding Borrowings	Percent (%)
Within 30 days	$ 1,737.1	$ —	$ —	$ —	$ 1,737.1	20.8 %
30 to 59 days	79.9	—	—	—	79.9	0.9 %
60 to 89 days	—	—	—	—	—	— %
90 to 119 days	1,310.6	—	—	143.6	1,454.2	17.4 %
120 to 364 days	3,996.1	274.5	—	—	4,270.6	51.0 %
One to three years	—	146.2	396.5	—	542.7	6.5 %
Three to five years	—	—	—	280.7	280.7	3.4 %
	$ 7,123.7	$ 420.7	$ 396.5	$ 424.3	$ 8,365.2	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	$ 6,471.6	$ —	$ —	n/a	$ 6,471.6	75.3 %
Derivative assets, at fair value	43.8	—	—	n/a	43.8	0.5 %
Mortgage servicing rights, at fair value	735.8	822.0	500.0	n/a	2,057.8	23.9 %
Other assets (includes servicing advances)	—	28.0	—	n/a	28.0	0.3 %
	$ 7,251.2	$ 850.0	$ 500.0	n/a	$ 8,601.2	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				
2021	$ —	— %	— %	—
2022	7.4	0.042 %	0.060 %	0.9
2023	2.6	0.011 %	0.059 %	1.8
2024	—	— %	— %	—
2025 and Thereafter	2.3	0.474 %	0.058 %	6.0
	$ 12.3	0.137 %	0.059 %	2.0

Maturities	Notional Amounts ($B)	Average Pay Rate	Average Fixed Receive Rate	Average Maturity (Years)
Receivers				
2021	$ —	— %	— %	—
2022	—	— %	— %	—
2023	2.2	0.060 %	0.118 %	1.4
2024	—	— %	— %	—
2025 and Thereafter	$ 2.6	0.059 %	0.812 %	9.2
	$ 4.8	0.059 %	0.489 %	5.6

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	$ 6.7	8.3	$ 886.0	2.26 %	3M LIBOR	10.0
Sale Contracts:								
Payer	<6 Months	$ (4.1)	$ (4.1)	2.2	$ (740.0)	1.77 %	3M LIBOR	10.0
Receiver	≥6 Months	$ (10.6)	$ (8.3)	8.1	$ (1,087.0)	3M LIBOR	1.26 %	10.0

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. Beginning in the third quarter, the Company changed the title of its non-GAAP measure of Core Earnings to Earnings Available for Distribution. Please see Appendix slide 18 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: Citi Research, FTSE Yieldbook, Federal Reserve.
2. J.P. Morgan DataQuery current coupon OAS.
3. Total mortgage loan data from Fannie Mae Loan Level Disclosure data as of March 2021. Mortgage rate data from Freddie Mac Primary Mortgage Market Survey.

PAGE 5 - Book Value Summary

1. Earnings Available for Distribution, or EAD, is a non-GAAP measure. Please see Appendix slide 18 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 6 - Earnings Available for Distribution and Portfolio Yield

1. Earnings Available for Distribution, or EAD, is a non-GAAP measure. Please see Appendix slide 18 for a definition of Earnings Available for Distribution and a reconciliation of GAAP to non-GAAP financial information.
2. EAD includes U.S. Treasury futures income of $0.03 per basic common share for the three months ended September 30, 2021. Had U.S. Treasury futures income been included for the three months ended June 30, 2021, EAD would have been $0.02 higher, or $0.21 per basic common share.
3. Portfolio yields on the portfolio held as of September 30, 2021 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.
4. Annualized portfolio yield includes interest income on RMBS and servicing income net of servicing expenses and estimated amortization on MSR.
5. Annualized cost of funds includes interest spread income/expense associated with the portfolio's interest rate swaps.

PAGE 7 - Financing Profile

1. Average 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.
2. Balance of 5-year MSR term notes excludes deferred debt issuance costs.

End Notes (continued)

PAGE 8 - Quarterly Activity and Portfolio Composition

1. For additional detail on the portfolio, see Appendix slides 19-21.
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. MSR portfolio based on the loans underlying the MSR reported by subservicers on a month lag, adjusted for current month purchases.

PAGE 9 - Specified Pools

1. Securities collateralized by loans less than or equal to $200 thousand of initial principal balance.
2. Securities collateralized by loans from certain geographic concentrations.
3. Source: the company's internal data.
4. Three month prepayment speeds of delivered TBA contracts; average of J.P. Morgan, Credit Suisse, and Citi data.

PAGE 10 - 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.
2. Weighted average loan size represents the current weighted average loan size.
3. FICO represents a mortgage industry accepted credit score of a borrower.
4. Three month prepayment speeds of delivered TBA contracts; average of J.P. Morgan, Credit Suisse, and Citi data.

PAGE 11 - 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. MSR/Agency IO RMBS includes the effect of unsettled MSR.
4. Book value exposure to current coupon represents estimated change in common book value for theoretical parallel shifts in spreads.

PAGE 12 - 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 10 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.

End Notes (continued)

PAGE 13 - Two Harbors Outlook

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

PAGE 15 - 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 16 - Q3-2021 Operating Performance

1. Earnings Available for Distribution, or EAD, is a non-GAAP measure. Please see Appendix slide 18 of this presentation for a definition of Earnings Available for Distribution and a reconciliation of GAAP to non-GAAP financial information.

PAGE 17 - Q2-2021 Operating Performance

1. Earnings Available for Distribution, or EAD, is a non-GAAP measure. Please see Appendix slide 18 of this presentation for a definition of Earnings Available for Distribution and a reconciliation of GAAP to non-GAAP financial information.

PAGE 19 - Portfolio Metrics

1. Agency weighted average 3-month Constant Prepayment Rate (CPR) includes IIOs (or Agency Derivatives).
2. Other P&I includes 15-year fixed, Hybrid ARMs, CMO and DUS pools.

PAGE 20 - Agency RMBS Portfolio

1. Determination of the percentage of prepay protected 30-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 and lower FICO scores.
2. Other P&I includes 15-year fixed, Hybrid ARMs, CMO and DUS pools.
3. IOs and IIOs represent market value of $45.2 million of Agency Derivatives and $403.3 million of IOs.
4. Bond equivalent value is defined as the notional amount multiplied by market price. Accounted for as derivative instruments in accordance with GAAP.
5. Three month prepayment speeds of delivered TBA contracts; average of J.P. Morgan, Credit Suisse, and Citi data.

End Notes (continued)

PAGE 21 - Mortgage Servicing Rights Portfolio

1. MSR portfolio excludes residential mortgage loans for which the company is the named servicing administrator.
2. Weighted average loan size represents the current weighted average loan size.
3. FICO represents a mortgage industry accepted credit score of a borrower.

PAGE 22 - Financing

1. Outstanding borrowings have a weighted average of 6.1 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.