



First Quarter 2019 Earnings Call

MAY 8, 2019



TWO HARBORS
Investment Corp.

A Pine River Capital Managed Company

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, 2018, 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; 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; the occurrence, extent and timing of credit losses within our portfolio; the concentration of credit risks we are exposed to; 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 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.

This presentation may include industry and market data obtained through research, surveys, and studies conducted by third parties and industry publications. We have not independently verified any such market and industry data from third-party sources. This presentation is provided for discussion purposes only and may not be relied upon as legal or investment advice, nor is it intended to be inclusive of all the risks and uncertainties that should be considered. This presentation does not constitute an offer to purchase or sell any securities, nor shall it be construed to be indicative of the terms of an offer that the parties or their respective affiliates would accept.

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.

Quarterly Summary



DELIVERED 9.1% QUARTERLY RETURN ON BOOK VALUE⁽¹⁾

- Grew book value to \$13.83 per common share, representing a 9.1% total quarterly return on book value.⁽¹⁾
- Generated Comprehensive Income of \$311.3 million, or \$1.23 per weighted average basic common share.
- Reported Core Earnings, including dollar roll income, of \$122.7 million, or \$0.49 per weighted average basic common share, representing a return on average common equity of 14.3%.⁽²⁾
- Issued approximately 24.4 million shares of common stock through both an underwritten offering and our at-the-market (ATM) program, for net proceeds to the company of approximately \$335.3 million.
 - Deployed capital from share issuances into Agency RMBS and MSR.
- Added \$16 billion unpaid principal balance (UPB) of MSR through bulk acquisitions and monthly flow-sale arrangements, bringing total holdings to \$174 billion UPB.
- Closed a new \$350 million MSR financing facility, bringing total MSR financing capacity to \$1.1 billion.

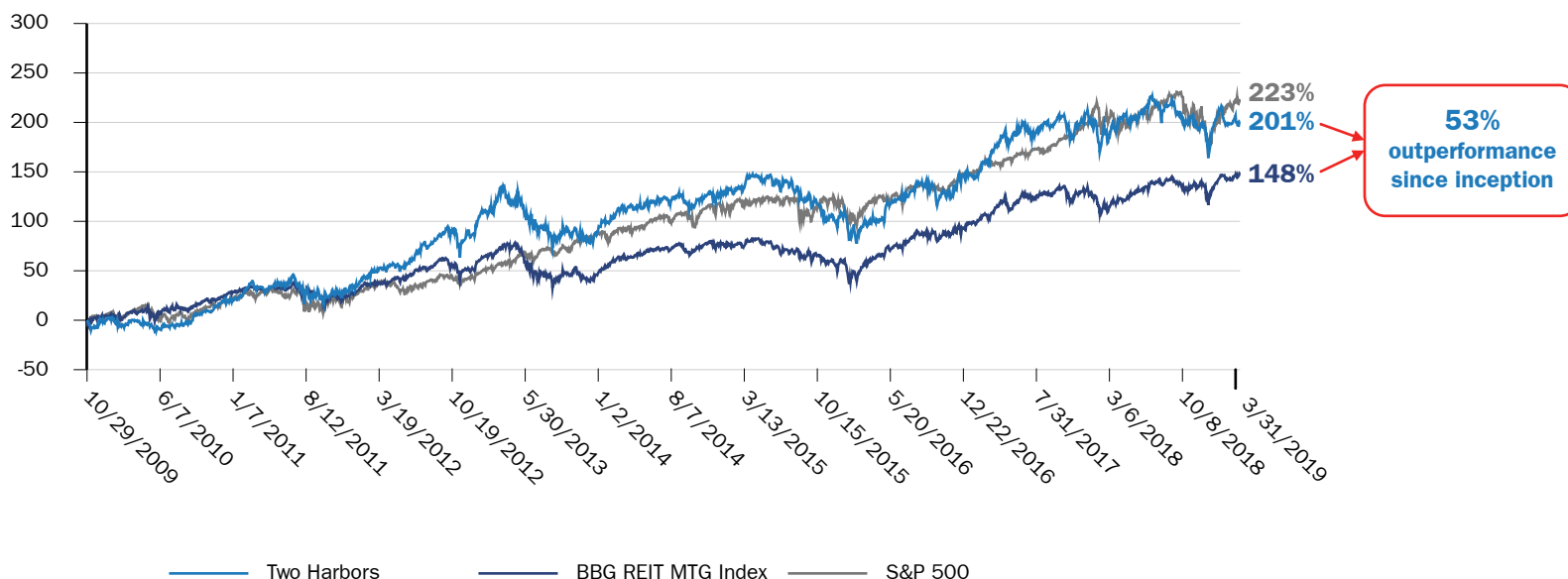
(1) Return on book value for the quarter ended March 31, 2019 is defined as the increase in book value per common share from December 31, 2018 to March 31, 2019 of \$0.72, plus dividends declared amounting to \$0.47 per common share, divided by December 31, 2018 book value of \$13.11 per common share.

(2) Core Earnings, including dollar roll income, is a non-GAAP measure. Please see Appendix slide 18 of this presentation for a definition of Core Earnings, including dollar roll income, and a reconciliation of GAAP to non-GAAP financial information.

Long-Term Stockholder Value Focus



DELIVERED TOTAL STOCKHOLDER RETURN OF 201% SINCE INCEPTION⁽¹⁾



KEY DIFFERENTIATING FACTORS

1. Strategy of pairing MSR with Agency RMBS
2. Utilize a variety of instruments to hedge interest rate exposure

✓ **Goal is to deliver strong results and book value stability through a variety of market environments**

(1) Two Harbors' total stockholder return is calculated for the period October 29, 2009 through March 31, 2019. Total stockholder return is defined as stock price appreciation including dividends. Source: Bloomberg. Bloomberg REIT Mortgage Index total stockholder return for the period October 29, 2009 through March 31, 2019. The Bloomberg REIT Mortgage Index tracks publicly traded REITs whose principal business consists of originating, servicing or investing in residential mortgage interests. The index uses a modified market capitalization weighted methodology, and components are reviewed quarterly for eligibility. Source: Bloomberg.

Book Value



(Dollars in millions, except per share data)	Q1-2019 Book Value	Q1-2019 Book Value per share
Beginning common stockholders' equity	\$3,253.2	\$13.11
GAAP Net Income:		
Core Earnings, including dollar roll income, net of tax ⁽¹⁾	141.6	
Dividend declaration - preferred	(18.9)	
Core Earnings attributable to common stockholders, including dollar roll income, net of tax ⁽¹⁾	122.7	
Realized and unrealized gains and losses, net of tax	(167.6)	
Other comprehensive loss, net of tax	356.2	
Dividend declaration - common	(128.2)	
Other	1.4	
Issuance of common stock, net of offering costs	335.3	
Ending common stockholders' equity	\$3,773.0	\$13.83
Total preferred stock liquidation preference	1,001.3	
Ending total equity	\$4,774.3	

Comprehensive Income (GAAP)

Incurred Q1-2019
Comprehensive
Income of \$311.3
million.

Raised net
proceeds of
approximately
\$335 million

(1) Core Earnings, including dollar roll income, is a non-GAAP measure. Please see Appendix slide 18 for a definition of Core Earnings, including dollar roll income, and a reconciliation of GAAP to non-GAAP financial information.



Core Earnings Summary⁽¹⁾

(Dollars in millions, except per share data)	Q4-2018	Q1-2019	Variance (\$)
Interest income	\$252.0	\$245.5	(\$6.5)
Interest expense	162.3	163.5	(1.2)
Net interest income	89.7	82.0	(7.7)
Servicing income, net of amortization on MSR	46.9	52.5	5.6
Gain on swaps, caps and swaptions	15.3	23.7	8.4
Gain on other derivatives	29.8	28.7	(1.1)
Other	0.6	0.5	(0.1)
Total other income	92.6	105.4	12.8
Expenses	42.3	45.2	(2.9)
Provision for income taxes	0.3	0.6	(0.3)
Core Earnings, including dollar roll income⁽¹⁾	139.7	141.6	1.9
Dividends on preferred stock	19.0	18.9	0.1
Core Earnings, including dollar roll income attributable to common stockholders⁽¹⁾	120.7	122.7	2.0
Basic weighted average Core EPS, including dollar roll income	\$0.49	\$0.49	
Core Earnings as a % of average common equity, including dollar roll income	13.8%	14.3%	

- Core Earnings, including dollar roll income, was \$0.49 per weighted average basic common share, representing a return on average common equity of 14.3%
- Core Earnings primarily benefitted from MSR portfolio growth
- Other operating expense ratio, excluding non-cash LTIP amortization, of 1.2%; anticipate expenses should be stable in the low 1's in 2019

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Performance Summary



- Net interest margin benefitted from purchases of Agency pools at attractive yields

Three Months Ended	December 31, 2018	March 31, 2019
Annualized portfolio yield during the quarter	4.14%	4.25%
Rates		
Agency RMBS, Agency Derivatives and MSR	3.61%	3.89%
Credit		
Non-Agency securities	7.70%	6.72%
Annualized cost of funds on average borrowings during the quarter⁽¹⁾	2.53%	2.47%
Annualized interest rate spread for aggregate portfolio during the quarter	1.61%	1.78%

(1) Cost of funds includes interest spread income/expense associated with the portfolio's interest rate swaps and caps.



Financing Profile and Capital Structure

DEBT-TO-EQUITY

- Economic debt-to-equity, which includes the implied debt on net to-be-announced (TBA) positions⁽¹⁾
 - 6.5x at March 31, 2019, compared to 7.2x at December 31, 2018
 - Average of 7.0x in both first quarter 2019 and fourth quarter 2018

RATES – AGENCY RMBS

- Outstanding repurchase agreements of \$17.2 billion with 27 counterparties
- Outstanding secured FHLB advances of \$865.0 million
- Repo markets functioning efficiently for RMBS

RATES – MSR

- Closed a new \$350.0 million financing facility, bringing total MSR financing capacity to \$1.1 billion
- Outstanding borrowings of \$675.3 million under MSR financing facilities

CREDIT – NON-AGENCY SECURITIES

- Outstanding borrowings of \$2.2 billion with 13 counterparties
- Consistently seeing haircuts between 20% to 30%, and spreads offered between 90 to 110 basis points over LIBOR



Market Landscape and Outlook

EXPECT STABILITY IN RATES AND FLATTER CURVE TO PERSIST

RATES MARKET

- More balanced Fed outlook; market shift from expecting rate increases to projecting stable-to-lower rates
- Agency spreads tightened modestly; higher coupon Agencies and specified pools outperformed
- Outlook for continued rate stability and relatively flat curve
- Robust transactional activity for MSR; continues to be driven by difficult origination margins and consolidation of originators

CREDIT MARKET

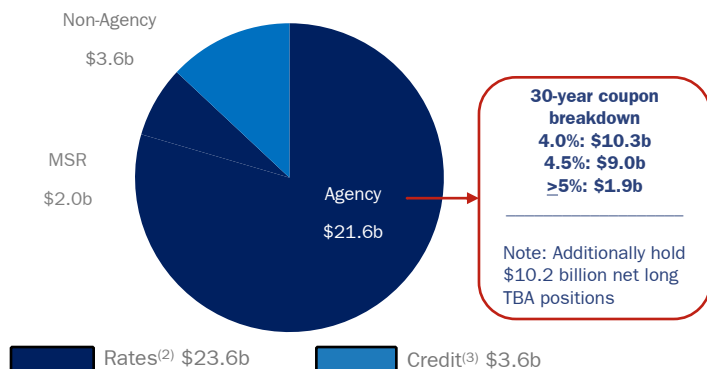
- Legacy non-Agency spreads retraced widening from fourth quarter
- Strong tailwinds to housing; solid investor demand for residential credit exposure



Portfolio Composition and Quarterly Activity

PORTFOLIO COMPOSITION⁽¹⁾

\$27.2 BILLION PORTFOLIO AS OF MARCH 31, 2019



PORTFOLIO ACTIVITY

- Deployed capital raised in the quarter to MSR and Agencies, both in pool and TBA form
- Expect TBA position to decrease in favor of Agency pools
- Added \$16 billion UPB of new issue, conventional MSR, bringing total holdings to \$174 billion UPB
- Sold \$266 million legacy non-Agency securities
 - Expect to continue to sell legacy non-Agencies that have realized their upside potential, and recycle capital into best available market opportunities

CAPITAL ALLOCATION⁽⁴⁾

	March 31, 2018	December 31, 2018	March 31, 2019
Rates⁽²⁾	69%	74%	77%
Agency	50%	50%	58%
MSR	19%	24%	19%
Credit⁽³⁾	31%	26%	23%

Note: reduction in capital allocation to MSR driven by quarterly decline in MSR market value

(1) For additional detail on the portfolio, see Appendix slides 19-23.

(2) Assets in "Rates" include Agency RMBS, MSR and other interest rate sensitive assets.

(3) Assets in "Credit" include non-Agency securities and other credit sensitive assets.

(4) Capital allocation percentages reflect management's assessment regarding the extent to which each asset class contributes to total portfolio risk. Does not represent funding allocation or balance sheet financing of such assets. Please refer to Appendix slide 24 for more information on financing.

Risk Profile



HEDGING ACROSS THE CURVE

Common book value exposure to changes in rates ⁽¹⁾		Net interest income exposure to changes in rates ⁽²⁾	
+25 basis points	(1.9%)	+25 basis points	2.3%
+50 basis points	(5.1%)	+50 basis points	4.7%
-50 basis points	—%	-50 basis points	(4.7%)
-25 basis points	(0.7%)	-25 basis points	(2.4%)

COMMON BOOK VALUE SENSITIVITY TO MORTGAGE SPREADS⁽³⁾

Mortgage spreads	Change in Agency RMBS and mortgage derivatives	Change in MSR	Total overall Rates strategy change
25 basis points increase	(\$203)	\$120	(\$83) / (2.2%)
15 basis points increase	(\$117)	\$72	(\$45) / (1.2%)
15 basis points decrease	\$103	(\$79)	\$24 / 0.6%
25 basis points decrease	\$165	(\$132)	\$33 / 0.9%

Note: The above 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.

(1) Represents estimated change in common book value for theoretical parallel shift in interest rates.

(2) Represents estimated percentage change in net interest income for theoretical parallel shifts in interest rates. Amounts include the effect of interest spread from our interest rate swaps and caps and float income from custodial accounts associated with our MSR, but do not reflect any potential changes to dollar roll income associated with our TBA positions, which are accounted for as derivative instruments in accordance with GAAP

(3) Dollars in millions. The information presented in this table projects the potential impact on common book value of instantaneous changes in current coupon mortgage spreads. Spread sensitivity is based on results from third party models in conjunction with inputs from our internal investment professionals. Actual results could differ materially from these estimates.



Strategic Overview

ATTRACTIVE SCALABLE INVESTMENT OPPORTUNITY IN PAIRING AGENCY RMBS WITH MSR

RATES STRATEGY - Combination of Agency RMBS and MSR

- Expect returns in mid-double digits for Agency RMBS paired with MSR
- Believe the combination of these two assets results in a higher return with a lower risk quotient
- Long runway to this strategy, due to robust transfer market for MSR

CREDIT STRATEGY - Legacy non-Agency securities

- Discounted legacy non-Agencies continue to benefit from residential tailwinds that support strong total returns
- Baseline returns to lower priced bonds in high single digits; upside price appreciation can drive total returns in low-to-mid double digits
- As deeply discounted legacy non-Agency securities realize their upside potential, expect to recycle capital into the best market opportunities available at the time



Appendix



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Return on Book Value



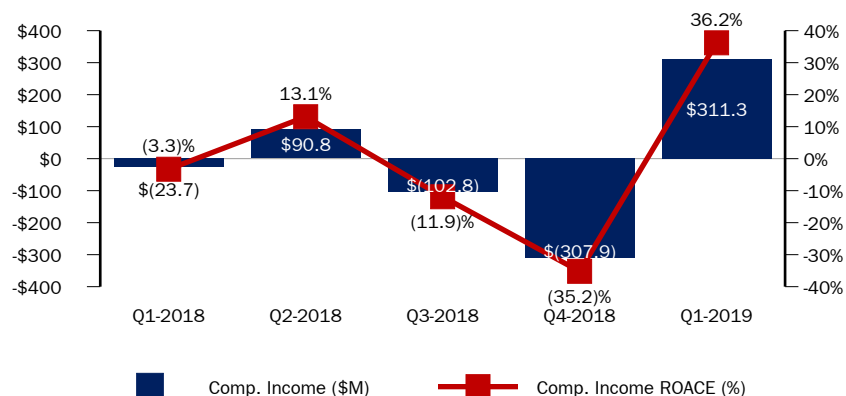
Return on common book value Q1-2019 (Per common share amounts, except for percentage)	
Book value at December 31, 2018	\$13.11
Book value at March 31, 2019	13.83
Increase in book value	0.72
Dividend declared in Q1-2019	0.47
Return on book value Q1-2019	\$1.19
Percent return on book value Q1-2019 ⁽¹⁾	9.1%

(1) Return on book value for the three-month period ended March 31, 2019 is defined as the increase in book value per common share from December 31, 2018 to March 31, 2019 of \$0.72 per common share, plus dividends declared amounting to \$0.47 per common share, divided by December 31, 2018 book value of \$13.11 per common share.

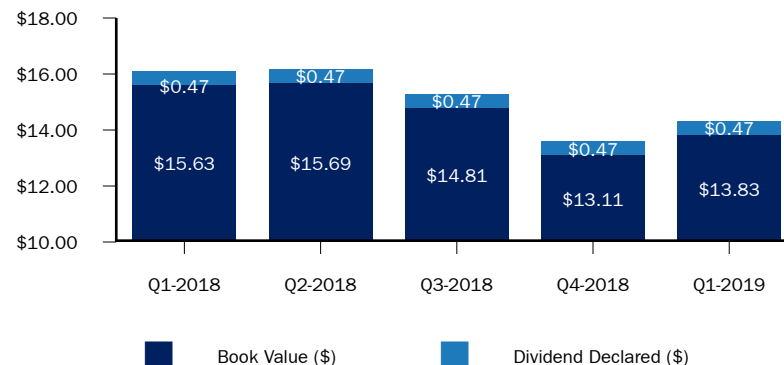
Financial Performance



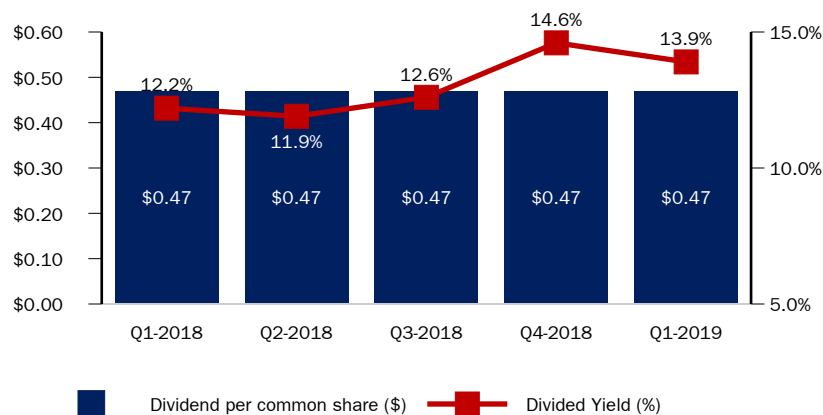
COMPREHENSIVE INCOME (LOSS)



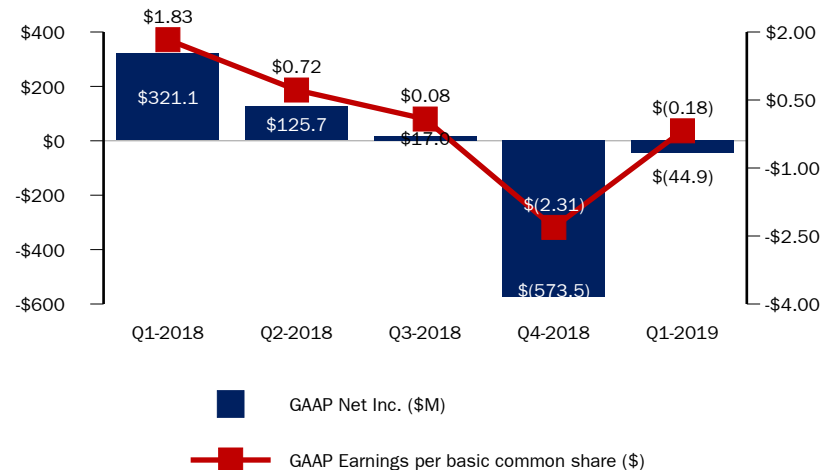
BOOK VALUE AND DIVIDEND PER COMMON SHARE⁽¹⁾



DIVIDENDS⁽¹⁾



GAAP NET INCOME



(1) 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.

Q1-2019 Operating Performance



	Q1-2019			
(In millions, except for per common share data)	Core Earnings, including dollar roll income ⁽¹⁾	Realized Gains (Losses)	Unrealized MTM	Total
Interest income	\$245.5	\$—	\$—	\$245.5
Interest expense	163.5	—	—	163.5
Net interest income	82.0	—	—	82.0
Total other-than-temporary impairment losses	—	—	(0.2)	(0.2)
Loss on investment securities	—	(17.5)	(1.8)	(19.3)
Servicing income	116.9	—	—	116.9
(Loss) gain on servicing asset	(64.4)	0.3	(124.9)	(189.0)
Gain (loss) on interest rate swaps, caps and swaptions	23.7	(34.5)	(72.4)	(83.2)
Gain on other derivative instruments	28.7	14.0	61.6	104.3
Other income (loss)	0.5	0.2	(0.6)	0.1
Total other income (loss)	105.4	(37.5)	(138.1)	(70.2)
Management fees & other expenses	45.2	2.4	—	47.6
Net income (loss) before income taxes	142.2	(39.9)	(138.3)	(36.0)
Income tax expense (benefit)	0.6	—	(10.6)	(10.0)
Net income (loss)	141.6	(39.9)	(127.7)	(26.0)
Dividends on preferred stock	18.9	—	—	18.9
Net income (loss) attributable to common stockholders	\$122.7	(\$39.9)	(\$127.7)	(\$44.9)
Weighted average earnings (loss) per basic common share	\$0.49	(\$0.16)	(\$0.51)	(\$0.18)

(1) Core Earnings, including dollar roll income, is a non-GAAP measure. Please see Appendix slide 18 of this presentation for a definition of Core Earnings, including dollar roll income, and a reconciliation of GAAP to non-GAAP financial information.

Q4-2018 Operating Performance



	Q4-2018			
(In millions, except for per common share data)	Core Earnings, including dollar roll income ⁽¹⁾	Realized Gains (Losses)	Unrealized MTM	Total
Interest income	\$252.0	\$—	\$—	\$252.0
Interest expense	162.3	—	—	162.3
Net interest income	89.7	—	—	89.7
Total other-than-temporary impairment losses	—	—	(0.1)	(0.1)
(Loss) gain on investment securities	—	(248.8)	3.1	(245.7)
Servicing income	104.6	—	—	104.6
(Loss) gain on servicing asset	(57.7)	0.2	(113.8)	(171.3)
Gain (loss) on interest rate swaps, caps and swaptions	15.3	(35.7)	(219.1)	(239.5)
Gain (loss) on other derivative instruments	29.8	(38.9)	(30.0)	(39.1)
Other income (loss)	0.6	(0.1)	(0.2)	0.3
Total other income (loss)	92.6	(323.3)	(360.1)	(590.8)
Management fees & other expenses	42.3	4.4	—	46.7
Net income (loss) before income taxes	140.0	(327.7)	(360.1)	(547.8)
Income tax expense (benefit)	0.3	(0.2)	6.6	6.7
Net income (loss)	139.7	(327.5)	(366.7)	(554.5)
Dividends on preferred stock	19.0	—	—	19.0
Net income (loss) attributable to common stockholders	\$120.7	(\$327.5)	(\$366.7)	(\$573.5)
Weighted average earnings (loss) per basic common share	\$0.49	(\$1.32)	(\$1.48)	(\$2.31)

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GAAP to Core Earnings Reconciliation⁽¹⁾

Reconciliation of GAAP to non-GAAP Information (In thousands, except for per common share data)	Three Months Ended December 31, 2018	Three Months Ended March 31, 2019
Reconciliation of Comprehensive (loss) income to Core Earnings:		
Comprehensive (loss) income attributable to common stockholders	(\$307,939)	\$311,267
Adjustment for other comprehensive income attributable to common stockholders:		
Unrealized gains on available-for-sale securities attributable to common stockholders	(265,546)	(356,152)
Net loss attributable to common stockholders	(\$573,485)	(\$44,885)
Adjustments for non-core earnings:		
Other-than-temporary impairment loss	107	206
Realized losses on securities	248,844	17,457
Unrealized (gain) loss on securities	(3,081)	1,835
Realized and unrealized losses on mortgage servicing rights	113,523	124,569
Realized losses on termination or expiration of swaps, caps and swaptions	35,757	34,499
Unrealized loss on interest rate swaps, caps and swaptions	219,066	72,469
Loss (gain) on other derivative instruments	68,928	(75,605)
Other losses	259	439
Change in servicing reserves	1,200	481
Non-cash equity compensation expense	3,211	1,861
Net provision for (benefit from) income taxes on non-Core Earnings	6,390	(10,643)
Core Earnings attributable to common stockholders, including dollar roll income⁽¹⁾	120,719	122,683
Weighted average basic common shares	248,081,168	252,357,878
Core Earnings, including dollar roll income, per weighted average basic common share	\$0.49	\$0.49

- (1) Core Earnings, including dollar roll income, is a non-U.S. GAAP measure that we define as comprehensive income (loss) attributable to common stockholders, excluding “realized and unrealized gains and losses” (impairment 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 and restructuring charges) and transaction costs and purchase premium associated with the acquisition of CYS. As defined, Core Earnings includes interest income or expense and premium income or loss on derivative instruments and servicing income, net of estimated amortization on MSR. Dollar roll income is the economic equivalent to holding and financing Agency RMBS using short-term repurchase agreements. We believe the presentation of Core Earnings, including dollar roll income, provides investors greater transparency into our period-over-period financial performance and facilitates comparisons to peer REITs.



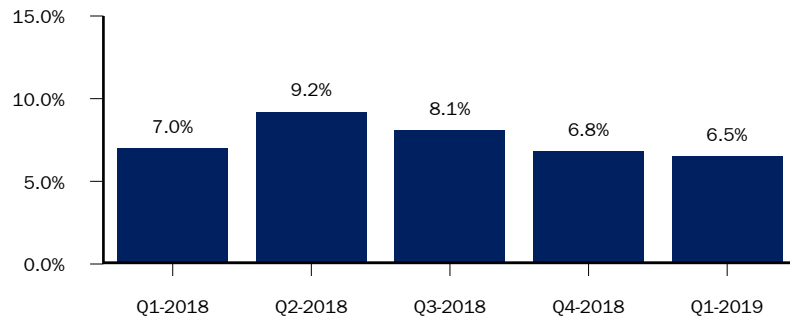
Rates: Agency RMBS Metrics

AGENCY PORTFOLIO YIELDS AND METRICS

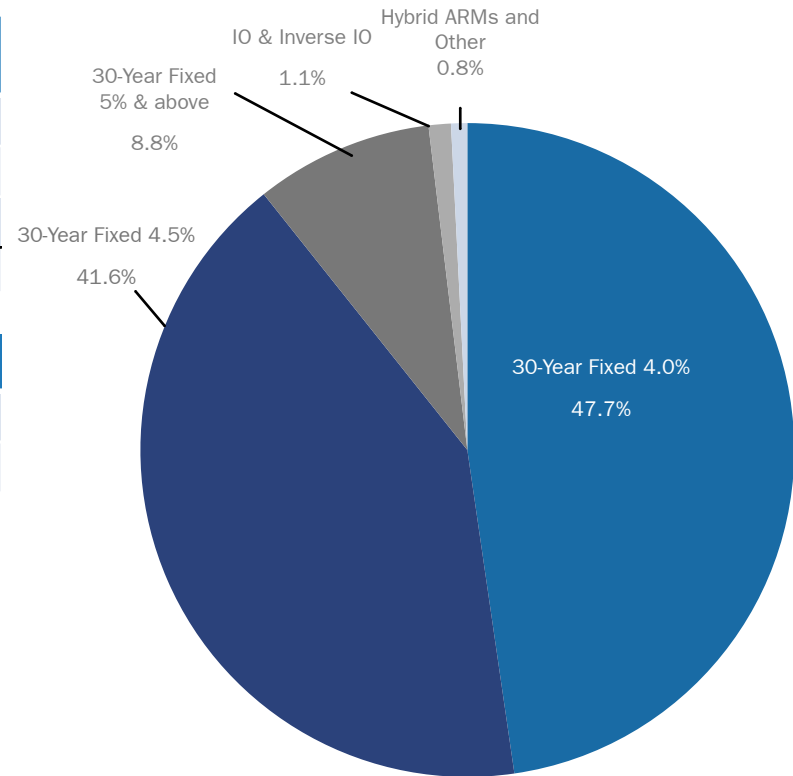
Portfolio Yield	Realized Q4-2018	At December 31, 2018	Realized Q1-2019	At March 31, 2019
Agency yield	3.3%	3.5%	3.6%	3.4%
Repo and FHLB costs	(2.5%)	(2.5%)	(2.6%)	(2.7%)
Swap and cap income	0.3%	0.6%	0.5%	0.8%
Net interest spread	1.1%	1.6%	1.5%	1.5%

Portfolio Metrics	Q4-2018	Q1-2019
Weighted average 3-month CPR ⁽¹⁾	6.8%	6.5%
Weighted average cost basis ⁽²⁾	\$105.2	\$104.9

AGENCY RMBS CPR⁽¹⁾



AGENCY PORTFOLIO COMPOSITION



(1) Agency weighted average 3-month Constant Prepayment Rate (CPR) includes IIOs (or Agency Derivatives).

(2) Weighted average cost basis includes RMBS principal and interest securities only. Average purchase price utilized carrying value for weighting purposes.



Rates: Agency RMBS

As of March 31, 2019	Par Value (\$M)	Market Value (\$M)	% Prepay Protected ⁽¹⁾	Amortized Cost Basis (\$M)	Weighted Average Coupon	Weighted Average Age (Months)
30-Year fixed						
3.0-3.5%	\$3	\$3	100.0%	\$3	3.0%	50
4.0%	9,911	10,305	87.3%	10,317	4.0%	21
4.5%	8,499	8,998	100.0%	8,907	4.5%	16
≥ 5.0%	1,770	1,897	77.5%	1,873	5.1%	21
	20,183	21,203	91.8%	21,100	4.3%	19
Other Agencies⁽²⁾	147	163	0.5%	164	6.3%	198
IOs and IIOs	3,468	239 ⁽³⁾	—%	267	2.6%	119
Total Agency holdings	\$23,798	\$21,605	90.1%	\$21,531		
Net TBA notional	10,168					
Total	\$33,966					

(1) Includes securities with implicit or explicit protection including lower loan balances (securities collateralized by loans less than or equal to \$175K 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) Includes 15-year fixed, Hybrid ARMs, CMO and DUS pools.

(3) Represents market value of \$167.0 million of IOs and \$71.8 million of Agency Derivatives.



Rates: Mortgage Servicing Rights⁽¹⁾

	As of December 31, 2018	As of March 31, 2019
Fair value (\$M)	\$1,993.4	\$2,014.4
Unpaid principal balance (\$M)	\$163,102.3	\$174,147.3
Weighted average coupon	4.1%	4.1%
Average original FICO score⁽²⁾	752	751
Average original LTV	75%	75%
60+ day delinquencies	0.3%	0.3%
Net servicing spread	25.9 basis points	26.1 basis points
Vintage:		
Pre-2013	7.4%	6.7%
2013-2016	19.7%	18.5%
Post-2016	72.9%	74.8%

(1) Excludes residential mortgage loans for which the company is the named servicing administrator.

(2) FICO represents a mortgage industry accepted credit score of a borrower.

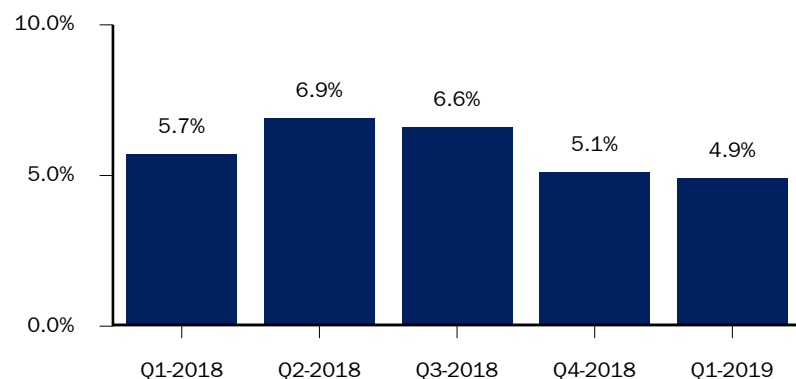


Credit: Non-Agency Securities Metrics

NON-AGENCY PORTFOLIO YIELDS AND METRICS

Portfolio Yield	Realized Q4-2018	At December 31, 2018	Realized Q1-2019	At March 31, 2019
Non-Agency yield	7.7%	7.0%	6.7%	6.6%
Repo and FHLB costs	(3.7%)	(3.7%)	(3.7%)	(3.7%)
Swap and cap income	0.1%	0.1%	—%	0.1%
Net interest spread	4.1%	3.4%	3.0%	3.0%

NON-AGENCY CPR



NON-AGENCY PORTFOLIO COMPOSITION

Non-Agency: Loan Type	December 31, 2018	March 31, 2019
Sub-prime	73%	75%
Option-ARM	10%	11%
Prime	1%	1%
Alt-A	12%	13%
Other	4%	—%

Portfolio Metrics	Q4-2018	Q1-2019
Weighted average 3-month CPR	5.1%	4.9%
Weighted average cost basis ⁽¹⁾	\$62.4	\$62.0

(1) Weighted average cost basis includes non-Agency principal and interest securities only. Average purchase price utilized carrying value for weighting purposes. If current face were utilized for weighting purposes, total non-Agency securities excluding the company's non-Agency interest-only portfolio would have been \$58.95 at March 31, 2019 and \$59.59 at December 31, 2018.

Credit: Non-Agency Securities



As of March 31, 2019	Senior Bonds	Mezzanine Bonds	Total P&I
Portfolio characteristics:			
Carrying value (\$M)	\$2,885.5	\$576.1	3,461.6
% of non-Agency portfolio	83.4%	16.6%	100.0%
Average purchase price ⁽¹⁾	\$61.46	\$64.97	\$62.04
Average coupon	3.3%	3.2%	3.3%
Weighted average market price ⁽²⁾	\$67.29	\$78.95	\$68.99
Collateral attributes:			
Average loan age (months)	150	159	152
Average loan size (\$K)	\$371	\$434	\$382
Average original Loan-to-Value	67.1%	65.1%	66.8%
Average original FICO ⁽³⁾	608	600	607
Current performance:			
60+ day delinquencies	19.1%	17.1%	18.7%
Average credit enhancement ⁽⁴⁾	4.2%	10.5%	5.3%
3-Month CPR ⁽⁵⁾	4.7%	6.0%	4.9%

(1) Average purchase price utilized carrying value for weighting purposes. If current face were utilized for weighting purposes, the average purchase price for senior, mezzanine and total non-Agency securities, excluding our non-Agency interest-only portfolio, would have been \$58.53, \$61.41 and \$58.95, respectively.

(2) Weighted average market price utilized current face for weighting purposes.

(3) FICO represents a mortgage industry accepted credit score of a borrower.

(4) Average credit enhancement remaining on our non-Agency portfolio, which is the average amount of protection available to absorb future credit losses due to defaults on the underlying collateral.

(5) 3-Month CPR is reflective of the prepayment speed on the underlying securitization; however, it does not necessarily indicate the proceeds received on our investment tranche. Proceeds received for each security are dependent on the position of the individual security within the structure of each deal.

Financing



\$ in millions						
Outstanding Borrowings and Maturities ⁽¹⁾	Repurchase Agreements	FHLB Advances	Revolving Credit Facilities	Convertible Notes	Total Outstanding Borrowings	Percent (%)
Within 30 days	\$ 4,852.5	\$ —	\$ —	\$ —	\$ 4,852.5	22.8%
30 to 59 days	3,996.9	312.5	—	—	4,309.4	20.3%
60 to 89 days	4,814.1	502.5	—	—	5,316.6	25.0%
90 to 119 days	2,790.7	—	—	—	2,790.7	13.1%
120 to 364 days	2,975.5	—	20.0	—	2,995.5	14.1%
One to three years	300.0	—	—	284.1	584.1	2.8%
Three to five years	—	—	355.3	—	355.3	1.7%
Five to ten years	—	—	—	—	—	—%
Ten years and over ⁽²⁾	—	50.0	—	—	50.0	0.2%
	\$ 19,729.7	\$ 865.0	\$ 375.3	\$ 284.1	\$ 21,254.1	100.0%
Collateral Pledged for Borrowings ⁽³⁾	Repurchase Agreements ⁽⁴⁾	FHLB Advances	Revolving Credit Facilities ⁽⁴⁾	Convertible Notes	Total Collateral Pledged	Percent (%)
Available-for-sale securities, at fair value	\$ 20,925.2	\$ 918.3	\$ —	n/a	\$ 21,843.5	93.0%
Derivative assets, at fair value	71.7	—	—	n/a	71.7	0.3%
Mortgage servicing rights, at fair value	756.6	—	824.3	n/a	1,580.9	6.7%
	\$ 21,753.5	\$ 918.3	\$ 824.3	n/a	\$ 23,496.1	100.0%

(1) Weighted average of 4.0 months to maturity.

(2) Includes FHLB advances of \$50 million with original maturities of 20 years.

(3) Excludes FHLB membership and activity stock totaling \$38.7 million.

(4) Repurchase agreements and/or revolving credit facilities secured by MSR may be over-collateralized due to operational considerations.



Interest Rate Swaps and Caps

INTEREST RATE SWAPS

Maturities	Notional Amounts (\$B)	Average Fixed Pay Rate	Average Receive Rate	Average Maturity Years
Payers				
2019	\$4.2	1.781%	2.716%	0.6
2020	3.6	1.806%	2.674%	1.6
2021	9.2	2.138%	2.683%	2.1
2022	2.5	2.002%	2.654%	3.5
2023 and after	8.4	2.533%	2.716%	6.7
	\$27.9	2.147%	2.694%	3.3
Maturities	Notional Amounts (\$B)	Average Pay Rate	Average Fixed Receive Rate	Average Maturity (Years)
Receivers				
2020	\$0.3	2.776%	2.258%	0.8
2021	2.5	2.755%	2.736%	2.0
2022	0.8	2.663%	2.975%	3.1
2023 and after	7.0	2.692%	2.728%	8.1
	\$10.6	2.707%	2.737%	6.1

INTEREST RATE CAPS

Swaps Maturities	Notional Amount (\$B)	Weighted Average Cap Rate	Weighted Average Receive Rate	Weighted Average Maturity (Years)
2019	\$0.8	1.344%	2.786%	0.3
2020	1.7	1.250%	2.626%	1.0
Total	\$2.5	1.280%	2.677%	0.8

Interest Rate Swaps



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	\$2.1	\$0.6	5.3	\$700	3.09%	3M LIBOR	10.0
Total Payer		\$2.1	\$0.6	5.3	\$700	3.09%	3M LIBOR	10.0
Receiver	<6 Months	\$8.6	\$19.1	5.5	\$4,500	3M LIBOR	2.03%	10.0
Receiver	≥6 Months	11.4	14.7	11.8	1,500	3M LIBOR	2.09%	10.0
Total Receiver		\$20.0	\$33.8	7.9	\$6,000	3M LIBOR	2.04%	10.0
Sale contracts:								
Receiver	<6 Months	(\$4.8)	(\$10.7)	5.3	(\$800)	3M LIBOR	2.41%	10.0
Total Receiver		(\$4.8)	(\$10.7)	5.3	(\$800)	3M LIBOR	2.41%	10.0



TWO HARBORS
Investment Corp.

A Pine River Capital Managed Company