Third Quarter 2018
Earnings Call

NOVEMBER 7, 2018

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, 2017, 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 acquisition of CYS and our ability to realize the benefits related thereto; 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

COMPLETED CYS ACQUISITION AND GENERATED STRONG QUARTERLY CORE EARNINGS

- Completed the acquisition of CYS Investments, Inc. (CYS) on July 31, 2018, increasing the company's total capital to approximately $4.7 billion.
- Reported book value of $14.81 per common share, representing a (2.6%) total quarterly return on book value.(1)
- Incurred a Comprehensive Loss of ($102.8) million, or ($0.46) per weighted average basic common share.
- Reported Core Earnings, including dollar roll income, of $107.0 million, or $0.48 per weighted average basic common share, representing a return on average common equity of 12.4%.(2)
- Added $15.7 billion unpaid principal balance (UPB) of MSR through bulk acquisitions and monthly flow-sale arrangements, bringing total holdings to $131.1 billion UPB.

(1) Return on book value for the quarter ended September 30, 2018 is defined as the decrease in book value per common share from June 30, 2018 to September 30, 2018 of $0.88, plus dividends declared amounting to $0.47 per common share, divided by June 30, 2018 book value of $15.69 per common share.

(2) Core Earnings and Core Earnings, including dollar roll income, are non-GAAP measures. Please see Appendix slide 20 of this presentation for a definition of Core Earnings and Core Earnings including dollar roll income and a reconciliation of GAAP to non-GAAP financial information.

Strategic Overview

A SUPERIOR BUSINESS MODEL

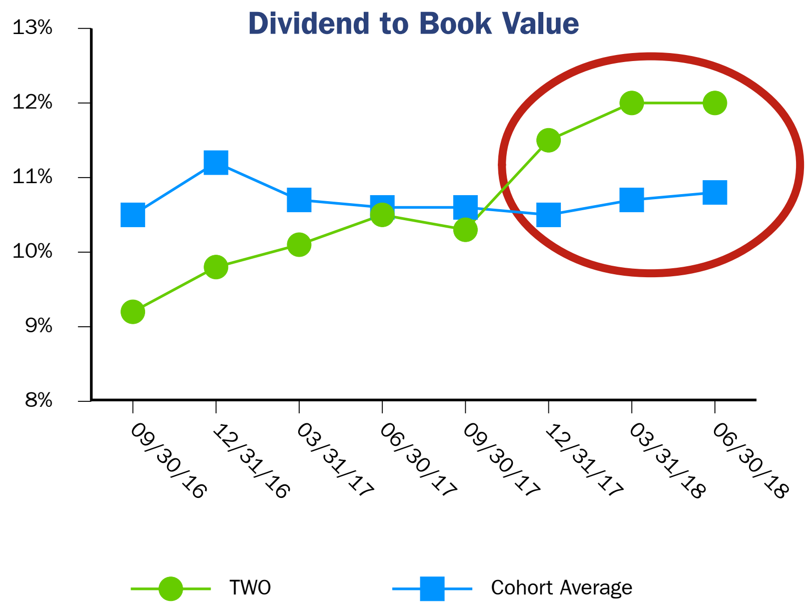
- Diversified Rates[(1)] and Credit[(2)] strategies
  - Leverages competitive advantages in MSR and legacy non-Agency RMBS
- Sophisticated and differentiated approach to risk management
- Balance sheet composition optimizes earnings and stockholder returns

✓ **Deliver strong results and book value stability through a variety of rate environments**

(1) Assets in “Rates” include Agency RMBS, MSR and other interest rate sensitive assets.
(2) Assets in “Credit” include non-Agency securities and other credit sensitive assets.

Driving Stockholder Value

GENERATING INCOME FOR STOCKHOLDERS[1]



Quarter Ended	Two Harbors Dividend to Book Value Ratio	Cohort Average Dividend to Book Value Ratio	Difference
6/30/2018	12.0%	10.8%	1.2 %
3/31/2018	12.0%	10.7%	1.3 %
12/31/2017	11.5%	10.5%	1.0 %
9/30/2017	10.3%	10.6%	(0.3%)
6/30/2017	10.5%	10.6%	(0.1%)
3/31/2017	10.1%	10.7%	(0.6%)
12/31/2016	9.8%	11.2%	(1.4%)
9/30/2016	9.2%	10.5%	(1.3%)

✓ Discontinued mortgage loan conduit in 2016, reducing operating complexity and costs

✓ Formed and spun out Granite Point Mortgage Trust (NYSE: GPMT) in 2017 to better reflect the embedded value of the commercial business that we established in 2015

✓ Acquired CYS Investments, Inc. in 2018, growing market capitalization and equity base, increasing liquidity of stock and driving expense ratio lower

(1) Source: Bloomberg. "Cohort" mortgage REITs include AGNC, ANH, ARR, CIM, CMO, CYS, IVR, MFA, MITT, NLY, NYMT, WMC. Cohort average book value figures are based on publicly reported data and have not been adjusted for the return of capital from dividends, if any, to peer stockholders during the time periods.

Book Value

(Dollars in millions, except per share data)	Q3-2018 Book Value	Q3-2018 Book Value per share	YTD-2018 Book Value	YTD-2018 Book Value per share
Beginning common stockholders' equity	**$2,753.9**	**$15.69**	**$2,845.1**	**$16.31**
GAAP Net Income:				
Core Earnings, net of tax[1]	93.1		278.2	
Dividend declaration - preferred	(19.0)		(46.4)	
Core Earnings attributable to common stockholders, net of tax[1]	74.1		231.8	
Dollar roll income	32.9		52.9	
Core Earnings attributable to common stockholders, including dollar roll income, net of tax[1]	107.0		284.7	
Realized and unrealized gains and losses, net of tax	(3.3)		265.8	
Transaction expenses and purchase premium associated with acquisition of CYS Investments, Inc.	(86.7)		(86.7)	
Other comprehensive loss, net of tax	(119.8)		(499.5)	
Dividend declaration - common	(105.1)		(270.0)	
Other	3.4		9.8	
Acquisition of CYS Investments, Inc.	1,125.1		1,125.1	
Issuance of common stock, net of offering costs	0.2		0.4	
Ending common stockholders' equity	**$3,674.7**	**$14.81**	**$3,674.7**	**$14.81**
Total preferred stock liquidation preference	1,001.3		1,001.3	
Ending total equity	**$4,676.0**		**$4,676.0**	

Comprehensive (Loss) Income (GAAP)

Incurred Q3-2018 Comprehensive Loss of $102.8 million.

Transaction expenses and purchase premium related to the acquisition of CYS of $86.7 million.

(1) Please see Appendix slide 20 for a definition of Core Earnings and 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)	Q2-2018	Q3-2018	Variance ($)
Interest income	$187.3	$236.7	$49.4
Interest expense	108.4	152.4	(44.0)
Net interest income	78.9	84.3	5.4
Gain on investment securities	0.7	—	(0.7)
Servicing income, net of amortization on MSR	31.7	37.1	5.4
Gain on swaps, caps and swaptions	13.8	16.2	2.4
Gain (loss) on other derivatives	1.7	(2.7)	(4.4)
Other	0.5	0.6	0.1
Total other income	48.4	51.2	2.8
Expenses	35.1	42.5	(7.4)
Provision for (benefit from) income taxes	1.1	(0.1)	1.2
Core Earnings[1]	**91.1**	**93.1**	**2.0**
Dividends on preferred stock	13.7	19.0	(5.3)
Core Earnings attributable to common stockholders[1]	**77.4**	**74.1**	**(3.3)**
Dollar roll income	16.5	32.9	16.4
Core Earnings, including dollar roll income, attributable to common stockholders[1]	**$93.9**	**$107.0**	**$13.1**
Basic weighted average Core EPS	**$0.44**	**$0.33**	
Basic weighted average Core EPS, including dollar roll income	**$0.53**	**$0.48**	
Core Earnings as a % of average common equity	**11.1%**	**8.6%**	
Core Earnings as a % of average common equity, including dollar roll income	**13.5%**	**12.4%**	

- Core Earnings, including dollar roll income of $0.15, was $0.48 per weighted average basic common share, representing a return on average common equity of 12.4%
- Core Earnings excludes certain expenses incurred in connection with the acquisition of CYS
- Other operating expense ratio, excluding non-cash LTIP amortization, of 1.3% was down slightly from the second quarter

(1) Core Earnings and Core Earnings, including dollar roll income, are non-GAAP measures. Please see Appendix slide 20 for a definition of Core Earnings and Core Earnings, including dollar roll income, and a reconciliation of GAAP to non-GAAP financial information.

Optimizing Financing Profile and Capital Structure

DEBT-TO-EQUITY

- 5.4x debt-to-equity at September 30, 2018(1)
- Economic debt-to-equity, which includes the implied debt on net to-be-announced ("TBA") positions, of 7.3x at September 30, 2018, compared to 6.2x at June 30, 2018(2)
- Maintain sufficient liquidity to opportunistically take advantage of market opportunities

PREFERRED STOCK

- Issued 7.75% Series D and 7.50% Series E preferred shares in connection with the CYS acquisition
- $1.0 billion outstanding across all preferred series with weighted average dividend rate of 7.6%
- Accounts for approximately 21% of capital base

RATES – AGENCY RMBS

- Outstanding repurchase agreements of $21.5 billion with 34 active counterparties
- Outstanding secured FHLB advances of $865.0 million with weighted average borrowing rate of 2.48%
- Repo markets functioning efficiently for RMBS with new counterparties entering market

CREDIT – NON-AGENCY SECURITIES

- Outstanding borrowings of $2.1 billion with 11 active counterparties
- Market for non-Agency securities has seen improvement in both advance rates and spreads; spreads have come down about 20 basis points so far in 2018

RATES – MSR

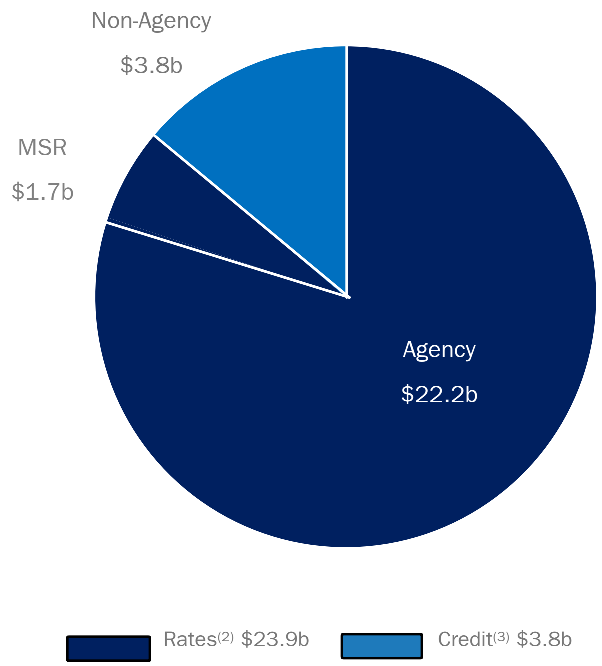
- Outstanding borrowings of $510.0 million under MSR financing facilities; additional available capacity of $260.0 million
- Continue to advance MSR financing discussions with additional counterparties

(1) Defined as total borrowings to fund RMBS, MSR and Agency Derivatives, divided by total equity.
(2) Defined as total borrowings to fund RMBS, MSR and Agency Derivatives, plus the implied debt on net TBA positions, divided by total equity.

Portfolio Composition

PORTFOLIO COMPOSITION(1)

$27.7 BILLION PORTFOLIO AS OF SEPTEMBER 30, 2018



HISTORICAL CAPITAL ALLOCATION

	September 30, 2017	June 30, 2018	September 30, 2018
Rates(2)	55%	68%	76%
Credit(3)	29%	32%	24%
Commercial(4)	16%	—%	—%

(1) For additional detail on the portfolio, see Appendix slides 21-25.
(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) Commercial consists of the consolidated financial results of Granite Point Mortgage Trust Inc. and its subsidiaries, which is now reflected in discontinued operations.

Portfolio Performance

DRIVING SUPERIOR PORTFOLIO PERFORMANCE

Q3-2018 PERFORMANCE SUMMARY

RATES

- Higher rates and variability in spreads during the quarter impacted book value performance
- Positive performance from hedges and MSR in rising rate environment
- Redeployment of capital from Agencies into MSR and Credit should result in better returns, higher net interest margin and lower leverage

CREDIT

- Residential credit continues to benefit from stable spreads and strong underlying credit performance

PORTFOLIO METRICS

Three Months Ended	June 30, 2018	September 30, 2018
Annualized portfolio yield during the quarter	**3.91%**	**3.76%**
Rates		
Agency RMBS, Agency Derivatives and MSR	3.3%	3.3%
Credit		
Non-Agency securities, Legacy[1]	7.8%	7.6%
Non-Agency securities, New issue[1]	9.7%	5.4%
Residential mortgage loans held-for-sale	4.5%	4.6%
Annualized cost of funds on average borrowings during the quarter[2]	**1.98%**	**2.28%**
Annualized interest rate spread for aggregate portfolio during the quarter	**1.93%**	**1.48%**

(1) "Legacy" non-Agency securities includes non-Agency bonds issued up to and including 2009. "New issue" non-Agency securities includes bonds issued after 2009.
(2) Cost of funds includes interest spread income/expense associated with the portfolio's interest rate swaps and caps.

Rates Update

STRATEGY OF PAIRING MSR WITH AGENCY RMBS IS DISTINGUISHING FACTOR

AGENCY RMBS ACTIVITY

- Added $10.0 billion Agency securities to portfolio in connection with the CYS acquisition; primarily reallocated into higher-coupon 30-year Agencies
- Increased exposure to Fannie Mae 4.5’s and 5.0’s, both pools and TBAs, due to attractiveness of these coupons
  - Expect TBA position to fluctuate depending on availability and attractiveness of specified pools and any roll specialness[1]

MSR ACTIVITY

- Increased capital allocated to MSR by adding $15.7 billion UPB of MSR through bulk purchases and ongoing flow-sale arrangements
- Market for MSR bulk packages continues to be active
- Pairing MSR with Agency RMBS results in a portfolio that has higher return potential with lower mortgage spread risk
  - Mitigates adverse impact to book value in spread widening scenario
- Addition of financing for MSR is beneficial to growing portfolio and enhancing returns

(1) Specialness means that implied financing costs are lower than traditional repurchase agreements.

Protecting Book Value and Income

- Active management of risk positioning drives stability through periods of market volatility

HEDGING ACROSS THE CURVE

Book value exposure to changes in rates[1]		Net interest income exposure to changes in rates[2]	
+25 basis points	(1.0%)	**+25 basis points**	3.2%
+50 basis points	(2.9%)	**+50 basis points**	6.4%

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	($303)	$56	($247) / **(5.3%)**
15 basis points increase	($179)	$34	($145) / **(3.1%)**
15 basis points decrease	$169	($38)	$131 / **2.8%**
25 basis points decrease	$273	($64)	$209 / **4.5%**

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 equity 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 book value of instantaneous changes in 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.

Credit Update

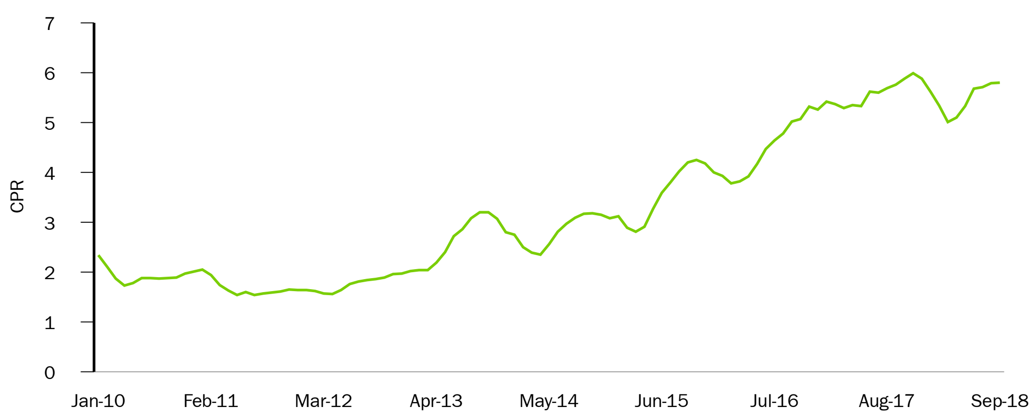
UNIQUE NON-AGENCY PORTFOLIO DRIVES ATTRACTIVE TOTAL RETURNS

- Non-Agency securities holdings of \$3.8 billion; primarily positioned in deeply discounted legacy subprime non-Agency RMBS with LIBOR floating rate coupons
- Continue to see opportunity to add low dollar priced legacy non-Agencies
- Weighted average legacy market price of ~\$74 long average life of holdings creates opportunity to capture additional upside(1)

RESIDENTIAL CREDIT TAILWINDS

- Continued re-equification has potential to result in strong performance for deeply discounted holdings
  - Drives increased prepayments, and lower loan-to-value ratios, delinquencies, defaults and severities

SUBPRIME CPR(2)



(1) Weighted average market price utilized current face for weighting purposes. Please see slide 25 in the Appendix for more information on our legacy non-Agency securities portfolio.
(2) Source: Nomura research, through September 30, 2018.

CYS Portfolio Reallocation Momentum

TREMENDOUS PROGRESS ON DEPLOYING CAPITAL FROM CYS ACQUISITION

- Expect to reallocate capital from Agencies to MSR and non-Agency securities
- Maintaining low level of risk exposures to rates, curve and spread changes
  - Addition of MSR reduces Agency mortgage spread risk

	March 31, 2018	June 30, 2018	July 31, 2018	September 30, 2018	Expected Allocation Trend(1)
Rates	**69%**	**68%**	**77%**	**76%**	↓
Agency	50%	44%	59%	57%	↓
MSR	19%	24%	18%	19%	↑
Credit	**31%**	**32%**	**23%**	**24%**	↑

(1) Expected capital allocation trends are illustrative and reflect the company's current expectations based on a variety of market, economic and regulatory factors. Actual portfolio composition and allocation strategies may differ materially.

Appendix


TWO HARBORS
Investment Corp.
A Pine River Capital Managed Company

Return on Book Value

Return on common book value Q3-2018 (Per common share amounts, except for percentage)	
Book value at June 30, 2018	$15.69
Book value at September 30, 2018	14.81
Decrease in book value	(0.88)
Dividend declared in Q3-2018	0.47
Return on book value Q3-2018	($0.41)
Percent return on book value Q1-2018[(1)]	(2.6)%

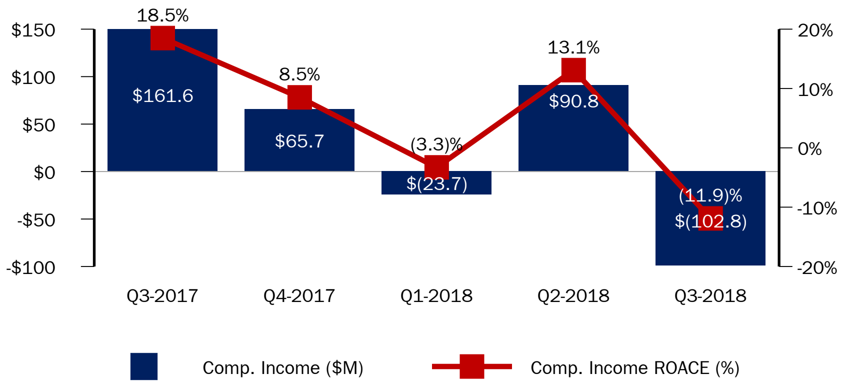
Return on common book value YTD-2018 (Per common share amounts, except for percentage)	
Book value at December 31, 2017	$16.31
Book value at September 30, 2018	14.81
Decrease in book value	(1.50)
Dividends declared YTD-2018	1.41
Return on book value YTD-2018	($0.09)
Percent return on book value YTD-2018[(2)]	(0.6)%

(1) Return on book value for the three-month period ended September 30, 2018 is defined as the decrease in book value per common share from June 30, 2018 to September 30, 2018 of $0.88 per common share, plus dividends declared amounting to $0.47 per common share, divided by June 30, 2018 book value of $15.69 per common share.

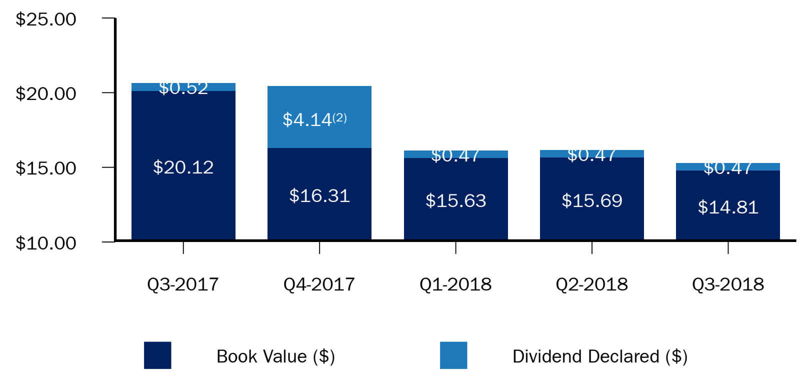
(2) Return on book value for the nine-month period ended September 30, 2018 is defined as the decrease in book value per common share from December 31, 2017 to September 30, 2018 of $1.50 per common share, plus dividends declared of $1.41 per common share, divided by December 31, 2017 book value of $16.31 per common share.

Financial Performance

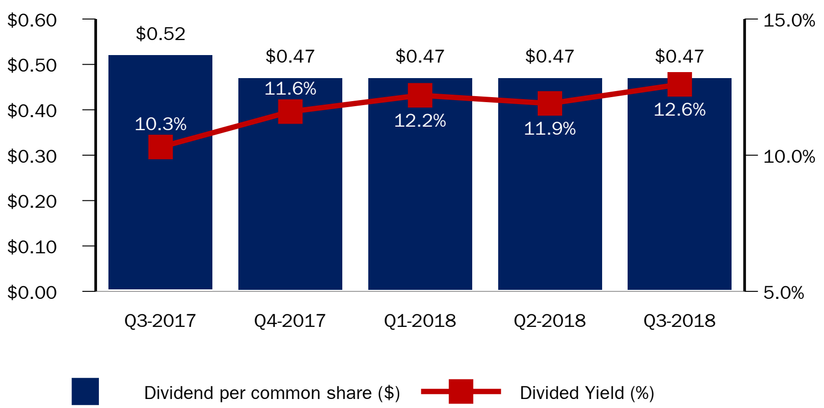
COMPREHENSIVE INCOME (LOSS)



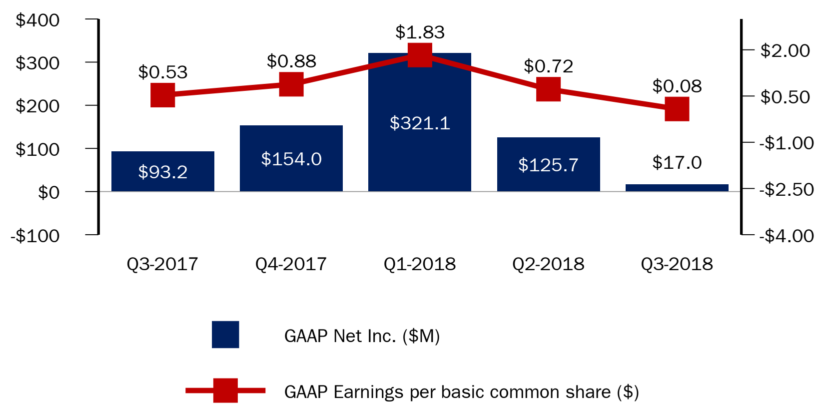
BOOK VALUE AND DIVIDEND PER COMMON SHARE(1)



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.
(2) Includes the special dividend of Granite Point common stock of $3.67 per common share.

Q3-2018 Operating Performance

	Q3-2018			
(In millions, except for per common share data)	Core Earnings, including dollar roll income[1]	Realized Gains (Losses)	Unrealized MTM	Total
Interest income	$236.7	$—	$—	$236.7
Interest expense	152.4	—	—	152.4
Net interest income	84.3	—	—	84.3
Total other-than-temporary impairment losses	—	—	(0.1)	(0.1)
Loss on investment securities	—	(40.9)	(2.1)	(43.0)
Servicing income	89.6	—	—	89.6
(Loss) gain on servicing asset	(52.5)	—	73.1	20.6
Gain (loss) on interest rate swaps, caps and swaptions	16.2	(39.9)	99.5	75.8
Gain (loss) on other derivative instruments	30.2	(23.3)	(38.3)	(31.4)
Other income	0.6	0.2	0.1	0.9
Total other income (loss)	84.1	(103.9)	132.3	112.5
Management fees & other expenses	42.5	80.8	—	123.3
Net income (loss) before income taxes	125.9	(184.7)	132.2	73.4
Income tax (benefit) expense	(0.1)	3.9	33.6	37.4
Net income (loss)	**126.0**	**(188.6)**	**98.6**	**36.0**
Dividends on preferred stock	19.0	—	—	19.0
Net income (loss) attributable to common stockholders	**$107.0**	**($188.6)**	**$98.6**	**$17.0**
Weighted average earnings (loss) per basic common share	$0.48	($0.84)	$0.44	$0.08

(1) Core Earnings, including dollar roll income, is a non-GAAP measure. Please see Appendix slide 20 of this presentation for a definition of Core Earnings, including dollar roll income, and a reconciliation of GAAP to non-GAAP financial information.

Q2-2018 Operating Performance

	Q2-2018			
(In millions, except for per common share data)	Core Earnings, including dollar roll income(1)	Realized Gains (Losses)	Unrealized MTM	Total
Interest income	$187.3	$—	$—	$187.3
Interest expense	108.4	—	—	108.4
Net interest income	78.9	—	—	78.9
Total other-than-temporary impairment losses	—	—	(0.2)	(0.2)
Gain (loss) on investment securities	0.7	(39.0)	6.4	(31.9)
Servicing income	77.7	—	—	77.7
(Loss) gain on servicing asset	(46.0)	0.1	55.7	9.8
Gain (loss) on interest rate swaps and swaptions	13.8	(20.5)	35.8	29.1
Gain (loss) on other derivative instruments	18.2	(13.6)	3.1	7.7
Other income	0.5	—	0.3	0.8
Total other income (loss)	64.9	(73.0)	101.3	93.2
Management fees & other expenses	35.1	3.4	—	38.5
Net income (loss) before income taxes	108.7	(76.4)	101.1	133.4
Income tax expense (benefit)	1.1	(9.1)	2.0	(6.0)
Net income (loss)	**107.6**	**(67.3)**	**99.1**	**139.4**
Dividends on preferred stock	13.7	—	—	13.7
Net income (loss) attributable to common stockholders	**$93.9**	**($67.3)**	**$99.1**	**$125.7**
Weighted average earnings (loss) per basic common share	$0.53	($0.38)	$0.56	$0.72

(1) Core Earnings, including dollar roll income, is a non-GAAP measure. Please see Appendix slide 20 of this presentation for a definition of Core Earnings, including dollar roll income, and a reconciliation of GAAP to non-GAAP financial information.

GAAP to Core Earnings Reconciliation[1]

Reconciliation of GAAP to non-GAAP Information (In thousands, except for per common share data)	Three Months Ended June 30, 2018	Three Months Ended September 30, 2018
Reconciliation of Comprehensive income (loss) to Core Earnings:		
Comprehensive income (loss) attributable to common stockholders	**$90,856**	**($102,801)**
Adjustment for other comprehensive loss attributable to common stockholders:		
Unrealized loss on available-for-sale securities attributable to common stockholders	34,887	119,796
Net income attributable to common stockholders	**$125,743**	**$16,995**
Adjustments for non-core earnings:		
Realized losses on securities and residential mortgage loans	39,040	40,758
Unrealized (gain) loss on securities and residential mortgage loans held-for-sale	(6,735)	1,965
Other-than-temporary impairment loss	174	95
Unrealized gains on interest rate swaps, caps and swaptions hedging interest rate exposure (or duration)	(35,743)	(99,486)
Realized losses on termination or expiration of swaps, caps and swaptions	20,450	39,866
(Gain) loss on other derivative instruments	(6,047)	28,697
Realized and unrealized gains on mortgage servicing rights	(55,793)	(73,104)
Change in servicing reserves	(154)	141
Non-cash equity compensation expense	3,530	3,211
Management fee reduction associated with CYS acquisition	—	(17,484)
Transaction expenses and purchase premium associated with CYS acquisition	—	86,703
Restructuring charges	—	8,238
Net (benefit from) provision for income taxes on non-Core Earnings	(7,139)	37,504
Core Earnings attributable to common stockholders[1]	**77,326**	**74,099**
Dollar roll income	16,539	32,922
Core Earnings attributable to common stockholders, including dollar roll income[1]	**$93,865**	**$107,021**
Weighted average basic common shares outstanding	175,451,989	224,399,436
Core Earnings per weighted average basic common share outstanding	$0.44	$0.33
Dollar roll income per weighted average basic common share outstanding	0.09	0.15
Core Earnings, including dollar roll income, per weighted average basic common share outstanding	$0.53	$0.48

(1) Core Earnings is a non-U.S. GAAP measure that we define as comprehensive (loss) income 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.

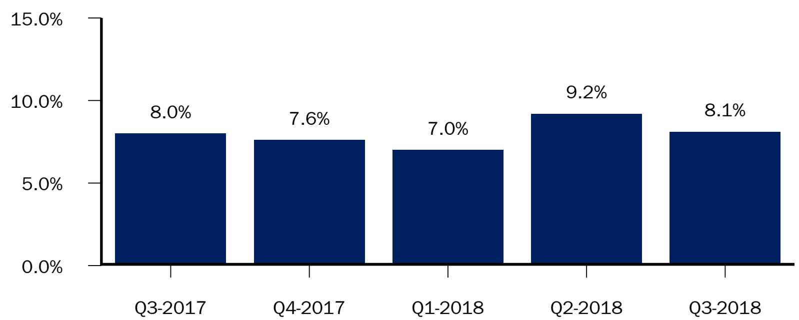
Rates: Agency RMBS Metrics

AGENCY PORTFOLIO YIELDS AND METRICS

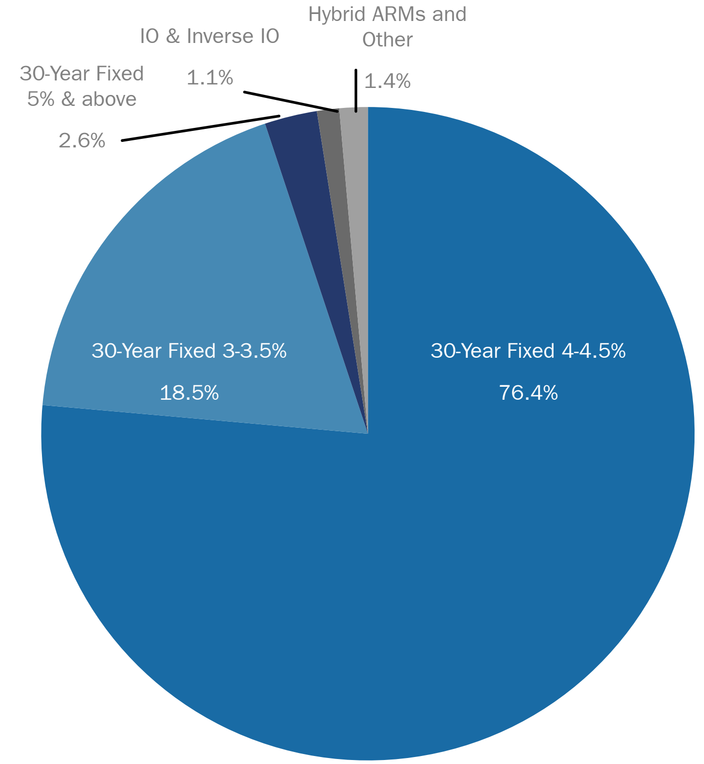
Portfolio Yield	Realized Q2-2018	At June 30, 2018	Realized Q3-2018	At September 30, 2018
Agency yield	3.0%	3.1%	3.1%	3.4%
Repo and FHLB costs	(2.0%)	(2.1%)	(2.3%)	(2.3%)
Swap and cap income	0.3%	0.3%	0.3%	0.4%
Net interest spread	1.3%	1.3%	1.1%	1.5%

Portfolio Metrics	Q2-2018	Q3-2018
Weighted average 3-month CPR(1)	9.2%	8.1%
Weighted average cost basis(2)	$106.7	$105.2

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 September 30, 2018	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%	$4,164	$4,108	72.1%	$4,270	3.5%	21
4.0-4.5%	16,559	16,954	84.4%	17,445	4.2%	21
≥ 5.0%	531	570	100.0%	570	5.3%	58
	21,254	21,632	82.5%	22,285	4.1%	22
Hybrid ARMs	18	20	—%	19	5.2%	175
Other	294	283	0.3%	290	4.7%	146
IOs and IIOs	3,728	251 (2)	—%	292	2.6%	111
Total Agency holdings	**$25,294**	**$22,186**	**80.4%**	**$22,886**		
Net TBA notional	9,324					
Total	**$34,618**					

(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) Represents market value of $183.6 million of IOs and $67.0 million of Agency Derivatives.

Rates: Mortgage Servicing Rights[1]

	As of June 30, 2018	As of September 30, 2018
Fair value ($M)	$1,450.3	$1,664.0
Unpaid principal balance ($M)	$119,531.6	$131,114.5
Weighted average coupon	4.0%	4.1%
Original FICO score[2]	752	751
Original LTV	74%	74%
60+ day delinquencies	0.4%	0.4%
Net servicing spread	25.5 basis points	25.7 basis points
Vintage:		
Pre-2013	10.6%	9.4%
2013-2016	22.4%	20.1%
Post-2016	67.0%	70.5%

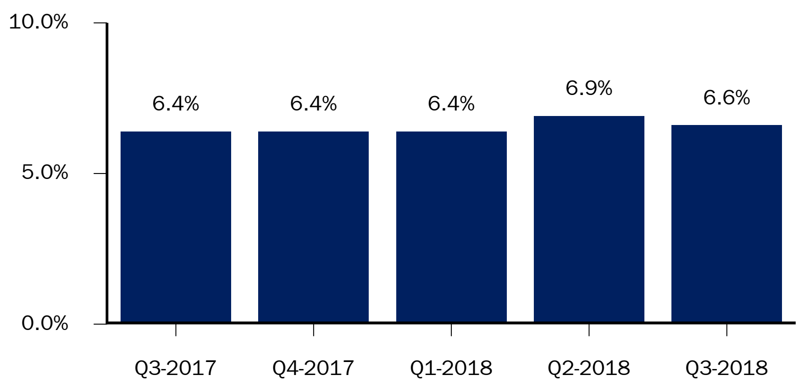
(1) Excludes residential mortgage loans for which the company is the named servicing administrator.
(2) FICO represents a mortgage industry accepted credit score of a borrower.

Credit: Non-Agency Securities Metrics

NON-AGENCY PORTFOLIO YIELDS AND METRICS

Portfolio Yield	Realized Q2-2018	At June 30, 2018	Realized Q3-2018	At September 30, 2018
Non-Agency yield	8.1%	7.5%	7.4%	7.2%
Repo and FHLB costs	(3.5%)	(3.6%)	(3.6%)	(3.6%)
Swap and cap income	0.1%	0.3%	0.1%	0.1%
Net interest spread	4.7%	4.2%	3.9%	3.7%

LEGACY NON-AGENCY CPR



LEGACY NON-AGENCY PORTFOLIO COMPOSITION

Non-Agency: Loan Type	June 30, 2018	September 30, 2018
Sub-prime	75%	75%
Option-ARM	11%	11%
Prime	1%	1%
Alt-A	13%	13%
Portfolio Metrics	**Q2-2018**	**Q3-2018**
Weighted average 3-month CPR	6.9%	6.6%
Weighted average cost basis[1]	$61.2	$61.7

(1) Weighted average cost basis includes legacy 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 legacy non-Agency securities excluding the company's non-Agency interest-only portfolio would have been $58.95 at September 30, 2018.

Credit: Legacy Non-Agency Securities

As of September 30, 2018	Senior Bonds	Mezzanine Bonds	Total P&I
Portfolio characteristics:			
Carrying value ($M)	$2,719.6	$844.9	$3,564.5
% of non-Agency portfolio	76.3%	23.7%	100.0%
Average purchase price[(1)]	$60.53	$65.35	$61.68
Average coupon	3.1%	2.9%	3.1%
Weighted average market price[(2)]	$70.50	$83.99	$73.29
Collateral attributes:			
Average loan age (months)	145	154	147
Average loan size ($K)	$378	$381	$378
Average original Loan-to-Value	67.8%	67.3%	67.7%
Average original FICO[(3)]	618	576	608
Current performance:			
60+ day delinquencies	20.2%	17.8%	19.6%
Average credit enhancement[(4)]	5.4%	16.4%	8.0%
3-Month CPR[(5)]	6.2%	8.0%	6.6%

(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 legacy non-Agency securities, excluding our non-Agency interest-only portfolio, would have been $57.96, $62.77 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 legacy 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	$ 6,910.6	$ —	$ —	$ —	$ 6,910.6	27.3%
30 to 59 days	2,465.3	—	—	—	2,465.3	9.8%
60 to 89 days	5.0	—	20.0	—	25.0	0.1%
90 to 119 days	5,536.0	—	—	—	5,536.0	21.9%
120 to 364 days	8,689.7	815.0	—	—	9,504.7	37.6%
One to three years	200.0	—	—	—	200.0	0.8%
Three to five years	—	—	290.0	283.6	573.6	2.3%
Five to ten years	—	—	—	—	—	—%
Ten years and over[2]	—	50.0	—	—	50.0	0.2%
	$ 23,806.6	$ 865.0	$ 310.0	$ 283.6	$ 25,265.2	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[5]	$ 24,779.7	$ 913.6	$ —	n/a	$ 25,693.3	95.2%
Derivative assets, at fair value	67.0	—	—	n/a	67.0	0.3%
Mortgage servicing rights, at fair value	733.2	—	488.5	n/a	1,221.7	4.5%
	$ 25,579.9	$ 913.6	$ 488.5	n/a	$ 26,982.0	100.0%

(1) Weighted average of 4.6 months to maturity.
(2) Includes FHLB advances of $50 million with original maturities of 20 years.
(3) Excludes FHLB membership and activity stock totaling $40.8 million.
(4) Repurchase agreements and/or revolving credit facilities secured by MSR may be over-collateralized due to operational considerations.
(5) Includes unsettled sales of AFS securities included in due from counterparties on the condensed consolidated balance sheet.

Interest Rate Swaps and Caps

INTEREST RATE SWAPS

Maturities	Notional Amounts ($B)(1)	Average Fixed Pay Rate(2)	Average Receive Rate(2)	Average Maturity Years(2)
Payers				
2018	$1.0	1.008%	2.336%	0.0
2019	4.3	1.769%	2.336%	1.0
2020	5.2	1.705%	2.334%	2.1
2021	4.1	1.550%	2.362%	2.9
2022 and after	8.8	2.309%	2.343%	7.1
	$23.4	1.876%	2.343%	3.8

Maturities	Notional Amounts ($B)	Average Pay Rate	Average Fixed Receive Rate	Average Maturity (Years)
Receivers				
2020	$0.2	2.347%	2.258%	1.3
2021	2.5	2.338%	2.736%	2.5
2022 and after	4.4	2.333%	2.696%	7.3
	$7.1	2.335%	2.694%	5.4

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%	2.339%	0.8
2020	1.7	1.250%	2.364%	1.5
Total	$2.5	1.280%	2.356%	1.3

(1) Notional amount includes $0.6 billion in forward starting interest rate swaps as of September 30, 2018.
(2) Weighted averages exclude forward starting interest rate swaps. As of September 30, 2018, the weighted average fixed pay rate on interest rate swaps was 2.8%.

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	$9.4	$30.6	3.6	$5,225	3.20%	3M LIBOR	7.6
Sale Contracts:								
Receiver	<6 Months	($9.7)	($5.7)	3.9	($5,061)	3M LIBOR	2.70%	7.7


TWO HARBORS
Investment Corp.
A Pine River Capital Managed Company