UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-Q

☒ **QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the Quarterly Period Ended: March 31, 2024

OR

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

Commission File Number 001-34506

TWO HARBORS INVESTMENT CORP.

(Exact Name of Registrant as Specified in Its Charter)

Maryland	**27-0312904**
(State or Other Jurisdiction of Incorporation or Organization)	(I.R.S. Employer Identification No.)
1601 Utica Avenue South, Suite 900	
St. Louis Park, Minnesota	**55416**
(Address of Principal Executive Offices)	(Zip Code)

(612) 453-4100
(Registrant's Telephone Number, Including Area Code)

Securities Registered Pursuant to Section 12(b) of the Act:

Title of Each Class:	Trading Symbol(s)	Name of Exchange on Which Registered:
Common Stock, par value $0.01 per share	TWO	New York Stock Exchange
8.125% Series A Cumulative Redeemable Preferred Stock	TWO PRA	New York Stock Exchange
7.625% Series B Cumulative Redeemable Preferred Stock	TWO PRB	New York Stock Exchange
7.25% Series C Cumulative Redeemable Preferred Stock	TWO PRC	New York Stock Exchange

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	☒	Accelerated filer	☐
Non-accelerated filer	☐	Smaller reporting company	☐
		Emerging growth company	☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes ☐ No ☒

As of April 26, 2024, there were 103,494,421 shares of outstanding common stock, par value $0.01 per share, issued and outstanding.

TWO HARBORS INVESTMENT CORP.

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PART I. FINANCIAL INFORMATION

Item 1. Financial Statements

TWO HARBORS INVESTMENT CORP.
CONDENSED CONSOLIDATED BALANCE SHEETS
(in thousands, except share data)

	March 31, 2024	December 31, 2023
ASSETS	(unaudited)	
Available-for-sale securities, at fair value (amortized cost $8,467,938 and $8,509,383, respectively; allowance for credit losses $3,607 and $3,943, respectively)	$ 8,182,544	$ 8,327,149
Mortgage servicing rights, at fair value	3,084,879	3,052,016
Cash and cash equivalents	666,244	729,732
Restricted cash	72,184	65,101
Accrued interest receivable	35,487	35,339
Due from counterparties	545,312	323,224
Derivative assets, at fair value	24,397	85,291
Reverse repurchase agreements	351,843	284,091
Other assets	199,035	236,857
Total Assets (1)	$ 13,161,925	$ 13,138,800
LIABILITIES AND STOCKHOLDERS' EQUITY		
Liabilities:		
Repurchase agreements	$ 8,361,638	$ 8,020,207
Revolving credit facilities	1,357,671	1,329,171
Term notes payable	295,520	295,271
Convertible senior notes	268,953	268,582
Derivative liabilities, at fair value	3,027	21,506
Due to counterparties	330,551	574,735
Dividends payable	58,685	58,731
Accrued interest payable	79,990	141,773
Commitments and contingencies (see Note 16)	—	—
Other liabilities	165,820	225,434
Total Liabilities (1)	10,921,855	10,935,410
Stockholders' Equity:		
Preferred stock, par value $0.01 per share; 100,000,000 shares authorized and 24,870,817 and 25,356,426 shares issued and outstanding, respectively ($621,770 and $633,911 liquidation preference, respectively)	601,467	613,213
Common stock, par value $0.01 per share; 175,000,000 shares authorized and 103,474,944 and 103,206,457 shares issued and outstanding, respectively	1,035	1,032
Additional paid-in capital	5,931,558	5,925,424
Accumulated other comprehensive loss	(279,507)	(176,429)
Cumulative earnings	1,554,205	1,349,973
Cumulative distributions to stockholders	(5,568,688)	(5,509,823)
Total Stockholders' Equity	2,240,070	2,203,390
Total Liabilities and Stockholders' Equity	$ 13,161,925	$ 13,138,800

(1) The condensed consolidated balance sheets include assets and liabilities of consolidated variable interest entities, or VIEs. At March 31, 2024 and December 31, 2023, assets of the VIEs totaled $535,160 and $525,259, and liabilities of the VIEs totaled $500,608 and $479,810, respectively. See Note 4 - *Variable Interest Entities* for additional information.

The accompanying notes are an integral part of these condensed consolidated financial statements.

TWO HARBORS INVESTMENT CORP.
CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (LOSS) (unaudited)
(in thousands, except share data)

	Three Months Ended March 31, 2024	Three Months Ended March 31, 2023
Net interest income (expense):		
Interest income	$ 117,783	$ 116,593
Interest expense	160,000	142,490
Net interest (expense) income	(42,217)	(25,897)
Net servicing income:		
Servicing income	166,333	153,320
Servicing costs	7,119	28,366
Net servicing income	159,214	124,954
Other income (loss):		
(Loss) gain on investment securities	(10,975)	10,798
Gain (loss) on servicing asset	11,012	(28,079)
Gain (loss) on interest rate swap and swaption agreements	98,510	(82,154)
Gain (loss) on other derivative instruments	47,599	(155,771)
Other (loss) income	(3)	—
Total other income (loss)	146,143	(255,206)
Expenses:		
Compensation and benefits	26,529	14,083
Other operating expenses	21,052	10,484
Total expenses	47,581	24,567
Income (loss) before income taxes	215,559	(180,716)
Provision for (benefit from) income taxes	11,971	(3,908)
Net income (loss)	203,588	(176,808)
Dividends on preferred stock	(11,784)	(12,365)
Gain on repurchase and retirement of preferred stock	644	—
Net income (loss) attributable to common stockholders	$ 192,448	$ (189,173)
Basic earnings (loss) per weighted average common share	$ 1.85	$ (2.05)
Diluted earnings (loss) per weighted average common share	$ 1.73	$ (2.05)
Weighted average number of shares of common stock:		
Basic	103,401,940	92,575,840
Diluted	112,973,317	92,575,840
Comprehensive income (loss):		
Net income (loss)	$ 203,588	$ (176,808)
Other comprehensive (loss) income:		
Unrealized (loss) gain on available-for-sale securities	(103,078)	125,931
Other comprehensive (loss) income	(103,078)	125,931
Comprehensive income (loss)	100,510	(50,877)
Dividends on preferred stock	(11,784)	(12,365)
Gain on repurchase and retirement of preferred stock	644	—
Comprehensive income (loss) attributable to common stockholders	$ 89,370	$ (63,242)

The accompanying notes are an integral part of these condensed consolidated financial statements.

TWO HARBORS INVESTMENT CORP.
CONDENSED CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY (unaudited)
(in thousands)

	Preferred Stock	Common Stock Par Value	Additional Paid-in Capital	Accumulated Other Comprehensive Income (Loss)	Cumulative Earnings	Cumulative Distributions to Stockholders	Total Stockholders' Equity
Balance, December 31, 2022	$ 630,999	$ 864	$ 5,645,998	$ (278,711)	$ 1,453,371	$ (5,268,996)	$ 2,183,525
Net loss	—	—	—	—	(176,808)	—	(176,808)
Other comprehensive income before reclassifications	—	—	—	62,709	—	—	62,709
Amounts reclassified from accumulated other comprehensive income	—	—	—	63,222	—	—	63,222
Other comprehensive income	—	—	—	125,931	—	—	125,931
Issuance of common stock, net of offering costs	—	102	177,627	—	—	—	177,729
Preferred dividends declared	—	—	—	—	—	(12,365)	(12,365)
Common dividends declared	—	—	—	—	—	(58,381)	(58,381)
Non-cash equity award compensation	—	1	6,051	—	—	—	6,052
Balance, March 31, 2023	$ 630,999	$ 967	$ 5,829,676	$ (152,780)	$ 1,276,563	$ (5,339,742)	$ 2,245,683
Balance, December 31, 2023	$ 613,213	$ 1,032	$ 5,925,424	$ (176,429)	$ 1,349,973	$ (5,509,823)	$ 2,203,390
Net income	—	—	—	—	203,588	—	203,588
Other comprehensive loss before reclassifications	—	—	—	(109,658)	—	—	(109,658)
Amounts reclassified from accumulated other comprehensive income	—	—	—	6,580	—	—	6,580
Other comprehensive loss	—	—	—	(103,078)	—	—	(103,078)
Repurchase and retirement of preferred stock	(11,746)	—	—	—	644	—	(11,102)
Issuance of common stock, net of offering costs	—	—	54	—	—	—	54
Preferred dividends declared	—	—	—	—	—	(11,784)	(11,784)
Common dividends declared	—	—	—	—	—	(47,081)	(47,081)
Non-cash equity award compensation	—	3	6,080	—	—	—	6,083
Balance, March 31, 2024	$ 601,467	$ 1,035	$ 5,931,558	$ (279,507)	$ 1,554,205	$ (5,568,688)	$ 2,240,070

The accompanying notes are an integral part of these condensed consolidated financial statements.

TWO HARBORS INVESTMENT CORP.
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS (unaudited)
(in thousands)

	Three Months Ended March 31, 2024	Three Months Ended March 31, 2023
Cash Flows From Operating Activities:		
Net income (loss)	$ 203,588	$ (176,808)
Adjustments to reconcile net income (loss) to net cash (used in) provided by operating activities:		
Amortization of premiums and discounts on investment securities, net	3,559	7,978
Amortization of deferred debt issuance costs on term notes payable and convertible senior notes	620	659
Provision for (reversal of) credit losses on investment securities	80	(142)
Realized and unrealized losses (gains) on investment securities	10,895	(10,656)
(Gain) loss on servicing asset	(11,012)	28,079
Realized and unrealized (gain) loss on interest rate swaps and swaptions	(84,216)	85,765
Unrealized (gains) losses on other derivative instruments	(75,520)	67,484
Equity based compensation	6,083	6,052
Net change in assets and liabilities:		
Increase in accrued interest receivable	(148)	(4,808)
Decrease (increase) in deferred income taxes, net	9,868	(5,997)
Decrease in accrued interest payable	(61,783)	(19,118)
Change in other operating assets and liabilities, net	(10,684)	21,627
Net cash (used in) provided by operating activities	(8,670)	115
Cash Flows From Investing Activities:		
Purchases of available-for-sale securities	(442,831)	(2,553,519)
Proceeds from sales of available-for-sale securities	333,082	1,360,742
Principal payments on available-for-sale securities	136,742	139,442
Purchases of mortgage servicing rights, net of purchase price adjustments	(40,072)	(117,441)
Proceeds from sales of mortgage servicing rights	18,221	1,854
Short sales (purchases) of derivative instruments, net	22,170	(227)
Proceeds from sales and settlement (payments for termination and settlement) of derivative instruments, net	179,981	(224,952)
Payments for reverse repurchase agreements	(1,080,847)	(966,485)
Proceeds from reverse repurchase agreements	1,013,095	1,549,504
Acquisition of RoundPoint Mortgage Servicing LLC, net of cash acquired	(20,976)	—
Decrease in due to counterparties, net	(466,272)	(258,903)
Net cash used in investing activities	$ (347,707)	$ (1,069,985)

The accompanying notes are an integral part of these condensed consolidated financial statements.

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TWO HARBORS INVESTMENT CORP.
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS (unaudited), continued
(in thousands)

	Three Months Ended March 31, 2024	Three Months Ended March 31, 2023
Cash Flows From Financing Activities:		
Proceeds from repurchase agreements	$ 12,276,613	$ 11,321,136
Principal payments on repurchase agreements	(11,935,182)	(10,839,435)
Proceeds from revolving credit facilities	58,500	174,000
Principal payments on revolving credit facilities	(30,000)	—
Repurchase and retirement of preferred stock	(11,102)	—
Proceeds from issuance of common stock, net of offering costs	54	177,729
Dividends paid on preferred stock	(12,012)	(12,365)
Dividends paid on common stock	(46,899)	(52,139)
Net cash provided by financing activities	299,972	768,926
Net decrease in cash, cash equivalents and restricted cash	(56,405)	(300,944)
Cash, cash equivalents and restricted cash at beginning of period	794,833	1,126,505
Cash, cash equivalents and restricted cash at end of period	$ 738,428	$ 825,561
Supplemental Disclosure of Cash Flow Information:		
Cash paid for interest	$ 215,337	$ 153,280
Cash paid for taxes, net	$ 103	$ 42
Noncash Activities:		
Dividends declared but not paid at end of period	$ 58,685	$ 70,746

The accompanying notes are an integral part of these condensed consolidated financial statements.

TWO HARBORS INVESTMENT CORP.

Notes to the Condensed Consolidated Financial Statements (unaudited)

Note 1. Organization and Operations

Two Harbors Investment Corp. is a Maryland corporation founded in 2009 that, through its wholly owned subsidiaries (collectively, the Company), invests in, finances and manages mortgage servicing rights, or MSR, Agency residential mortgage-backed securities, or Agency RMBS, and, through its operational platform, RoundPoint Mortgage Servicing LLC, or RoundPoint, is one of the largest servicers of conventional loans in the country. Agency refers to a U.S. government sponsored enterprise, or GSE, such as the Federal National Mortgage Association (or Fannie Mae) or the Federal Home Loan Mortgage Corporation (or Freddie Mac), or a U.S. government agency such as the Government National Mortgage Association (or Ginnie Mae). The Company is structured as an internally-managed real estate investment trust, or REIT, and its common stock is listed on the New York Stock Exchange, or NYSE, under the symbol "TWO".

The Company seeks to leverage its core competencies of understanding and managing interest rate and prepayment risk to invest in its portfolio of MSR and Agency RMBS, with the objective of delivering more stable performance, relative to RMBS portfolios without MSR, across changing market environments. The Company is acutely focused on creating sustainable stockholder value over the long term.

Effective September 30, 2023, one of the Company's wholly owned subsidiaries, Matrix Financial Services Corporation, or Matrix, acquired RoundPoint from Freedom Mortgage Corporation, or Freedom, after the completion of customary closing conditions and receiving the required regulatory and GSE approvals. Upon closing, all servicing and origination licenses and operational capabilities remained with RoundPoint, and RoundPoint became a wholly owned subsidiary of Matrix. Management believes this acquisition will add value for stakeholders of the Company through cost savings achieved by bringing the servicing of its MSR portfolio in-house, greater control over the Company's MSR portfolio and the associated cash flows, and the ability to participate more fully in the mortgage finance space as opportunities arise.

The Company has elected to be treated as a real estate investment trust, or REIT, as defined under the Internal Revenue Code of 1986, as amended, or the Code, for U.S. federal income tax purposes. As long as the Company continues to comply with a number of requirements under federal tax law and maintains its qualification as a REIT, the Company generally will not be subject to U.S. federal income taxes to the extent that the Company distributes its taxable income to its stockholders on an annual basis and does not engage in prohibited transactions. However, certain activities that the Company may perform may cause it to earn income which will not be qualifying income for REIT purposes. The Company has designated certain of its subsidiaries as taxable REIT subsidiaries, or TRSs, as defined in the Code, to engage in such activities.

Note 2. Basis of Presentation and Significant Accounting Policies

Consolidation and Basis of Presentation

The interim unaudited condensed consolidated financial statements of the Company have been prepared in accordance with the rules and regulations of the Securities and Exchange Commission, or the SEC. Certain information and note disclosures normally included in financial statements prepared in accordance with U.S. generally accepted accounting principles, or U.S. GAAP, have been condensed or omitted according to such SEC rules and regulations. However, management believes that the disclosures included in these interim condensed consolidated financial statements are adequate to make the information presented not misleading.

The condensed consolidated financial statements of the Company include the accounts of all subsidiaries; inter-company accounts and transactions have been eliminated. All trust entities in which the Company holds investments that are considered variable interest entities, or VIEs, for financial reporting purposes were reviewed for consolidation under the applicable consolidation guidance. Whenever the Company has both the power to direct the activities of a trust that most significantly impact the entities' performance, and the obligation to absorb losses or the right to receive benefits of the entities that could be significant, the Company consolidates the trust. Certain prior period amounts have been reclassified to conform to the current period presentation. The accompanying condensed consolidated financial statements should be read in conjunction with the financial statements and notes thereto included in the Company's Annual Report on Form 10-K for the year ended December 31, 2023. In the opinion of management, all normal and recurring adjustments necessary to present fairly the financial condition of the Company at March 31, 2024 and results of operations for all periods presented have been made. The results of operations for the three months ended March 31, 2024 should not be construed as indicative of the results to be expected for future periods or the full year.

Use of Estimates

The preparation of financial statements in conformity with U.S. GAAP requires management to make a number of significant estimates. These include estimates of fair value of certain assets and liabilities, amount and timing of credit losses, prepayment rates, the period of time during which the Company anticipates an increase in the fair values of real estate securities sufficient to recover unrealized losses in those securities, and other estimates that affect the reported amounts of certain assets and liabilities as of the date of the condensed consolidated financial statements and the reported amounts of certain revenues and expenses during the reported period. It is likely that changes in these estimates (*e.g.*, valuation changes due to supply and demand in the market, credit performance, prepayments, interest rates, or other reasons) will occur in the near term. The Company's estimates are inherently subjective in nature and actual results could differ from its estimates and the differences may be material.

Significant Accounting Policies

Included in Note 2 to the Consolidated Financial Statements of the Company's 2023 Annual Report on Form 10-K is a summary of the Company's significant accounting policies.

Recently Issued and/or Adopted Accounting Standards

Improvements to Reportable Segment Disclosures

In November 2023, the FASB issued ASU No. 2023-07, which requires public entities to disclose significant segment expenses and other segment items on an annual and interim basis and to provide in interim periods all disclosures about a reportable segment's profit or loss and assets that are currently required annually. Public entities with a single reportable segment are required to provide the new disclosures and all the disclosures required under ASC 280, *Segment Reporting*. The ASU does not change how a public entity identifies its operating segments, aggregates them or applies the quantitative thresholds to determine its reportable segments. The ASU is effective for fiscal years beginning after December 15, 2023, and for interim periods beginning after December 15, 2024, with early adoption permitted. The guidance should be applied retrospectively to all periods presented in the financial statements, unless it is impracticable. The segment expense categories and amounts disclosed in the prior periods should be based on the significant segment expense categories identified and disclosed in the period of adoption. The Company has early adopted this ASU, which did not have a material impact on the Company's financial condition, results of operations or financial statement disclosures.

Improvements to Income Tax Disclosures

In December 2023, the FASB issued ASU No. 2023-09, which requires entities to provide additional information about federal, state and foreign income taxes and reconciling items in the rate reconciliation table, and to disclose further disaggregation of income taxes paid (net of refunds received) by federal (national), state and foreign taxes by jurisdiction. For public business entities, the ASU is effective for annual periods beginning after December 15, 2024, with early adoption permitted. The guidance should be applied prospectively, but entities have the option to apply it retrospectively for each period presented. The Company has determined this ASU will not have a material impact on the Company's financial condition, results of operations or financial statement disclosures.

Enhancement and Standardization of Climate-Related Disclosures

In March 2024, the Securities and Exchange Commission, or the SEC, issued Release No. 33-11275, its final rule on the enhancement and standardization of climate-related disclosures for investors requiring registrants to provide certain climate-related information in their registration statements and annual reports. The rules require information about a registrant's climate-related risks that are reasonably likely to have a material impact on its business, results of operations, or financial condition. The required information about climate-related risks will also include disclosure of a registrant's greenhouse gas emissions. In addition, the rules will require registrants to present certain climate-related financial metrics in their audited financial statements. For large accelerated filers like the Company, the individual requirements will be phased-in with the first phase being effective for the fiscal year beginning January 1, 2025. Disclosures will be required prospectively, with information for prior periods required only to the extent it was previously disclosed in an SEC filing. On April 4, 2024, the SEC voluntarily stayed the final rules pending judicial review. The Company is currently evaluating the impact of these final rules on its consolidated financial statements and disclosure.

Note 3. Acquisition of RoundPoint Mortgage Servicing LLC

Effective September 30, 2023, the Company acquired RoundPoint from Freedom after the completion of customary closing conditions and receiving the required regulatory and GSE approvals. The provisional purchase price recognized was $44.7 million, with $23.6 million paid upon closing and $21.1 million recognized as a payable to Freedom within the other liabilities line item on the Company's condensed consolidated balance sheet as of September 30, 2023. The Company performed a provisional allocation of the consideration of $44.7 million to RoundPoint's assets and liabilities, as set forth below. During the three months ended December 31, 2023, the Company recognized a total of $0.2 million in measurement period adjustments, resulting in a final purchase price of $44.5 million. The remaining payable to Freedom of $20.9 million was paid in January 2024. The allocation of the adjusted purchase price of $44.5 million to RoundPoint's assets and liabilities is also set forth below. The estimate of fair value of assets and liabilities required the use of significant assumptions and estimates. Significant estimates included, but were not limited to, future expected cash flows, including projected revenues and expenses, and discount rates. These estimates were based on assumptions that management believes to be reasonable as well as a third party-prepared valuation analysis; however, actual results may differ from these estimates. The measurement period adjustments made during the three months ended December 31, 2023 are set forth below. No measurement period adjustments were made subsequent to December 31, 2023.

	December 31, 2023		
(in thousands)	**Acquisition Date Amounts Recognized**	**Subsequent Measurement Period Adjustments**	**Acquisition Date Amounts Recognized, as adjusted**
Total Consideration	$ 44,732	$ (188)	$ 44,544
Assets:			
Cash and cash equivalents	$ 50,366	$ —	$ 50,366
Intangible assets	786	13	799
Other assets	29,148	—	29,148
Total Assets Acquired	$ 80,300	$ 13	$ 80,313
Liabilities:			
Accrued expenses	$ 4,483	$ —	$ 4,483
Other liabilities	58,739	—	58,739
Total Liabilities Assumed	$ 63,222	$ —	$ 63,222
Net Assets	$ 17,078	$ 13	$ 17,091
Goodwill	$ 27,654	$ (201)	$ 27,453

As a result of the RoundPoint acquisition, the Company identified intangible assets in the form of mortgage servicing and origination state licenses, insurance state licenses, GSE servicing approvals and trade names. The Company recorded the intangible assets at fair value at the acquisition date and amortizes the value of finite-lived intangibles into expense over the expected useful life. Trade names, with a total acquisition date fair value of $0.2 million, are amortized straight-line over a finite life of six months based on the Company's determination of the time to change a trade name. The Company determined the licenses and approvals, with a total acquisition date fair value of $0.6 million, have indefinite useful lives and are periodically evaluated for impairment given there are no legal, regulatory, contractual, competitive, or economic factors that would limit their useful lives.

The total goodwill of $27.5 million was calculated as the excess of the total consideration transferred over the net assets acquired and primarily includes the existence of an assembled workforce, synergies and benefits expected to result from combining operations with RoundPoint and adding in-house servicing. The full amount of goodwill for tax purposes of $27.5 million is expected to be deductible. The Company will assess the goodwill annually during the fourth quarter and in interim periods whenever events or circumstances make it more likely than not that an impairment may have occurred.

Acquisition-related costs are expensed in the period incurred and included within the other operating expenses line item in the Company's condensed consolidated statements of comprehensive income (loss). During the three months ended March 31, 2023, the Company recognized $42 thousand of acquisition-related costs. The Company did not recognize any further acquisition-related costs in 2024.

As discussed above, the acquisition of RoundPoint closed effective September 30, 2023. Accordingly, RoundPoint's consolidated balance sheet is included within the Company's consolidated balance sheet as of March 31, 2024. Beginning October 1, 2023, RoundPoint's results of operations have been consolidated with the Company's in accordance with U.S. GAAP; inter-company accounts and transactions have been eliminated. The following table presents unaudited pro forma combined revenues and income before income taxes for the three months ended March 31, 2024 and 2023 prepared as if the RoundPoint acquisition had been consummated on January 1, 2023.

	Three Months Ended March 31,	
(in thousands)	**2024**	**2023**
Revenue [(1)]	$ 430,259	$ 22,827
Income (loss) before income taxes	$ 215,559	$ (192,735)

(1) The Company's revenue is defined as the sum of the interest income, servicing income and total other income line items on the condensed consolidated statements of comprehensive income (loss).

The above unaudited supplemental pro forma financial information has not been adjusted for transactions that are now considered inter-company as a result of the acquisition, the conforming of accounting policies, nor the divestiture of RoundPoint's retail origination business and RPX servicing exchange platform, as required by the stock purchase agreement. The unaudited supplemental pro forma financial information also does not include any anticipated synergies or other anticipated benefits of the RoundPoint acquisition and, accordingly, the unaudited supplemental pro forma financial information is not necessarily indicative of either future results of operations or results that might have been achieved had the acquisition been consummated on January 1, 2023.

Additionally, in the third quarter of 2022, Matrix agreed to engage RoundPoint as a subservicer prior to the closing date and began transferring loans to RoundPoint in the fourth quarter of 2022. As such, prior to the acquisition on September 30, 2023, the Company incurred servicing expenses related to RoundPoint's subservicing of the Company's MSR of $5.2 million during the three months ended March 31, 2023. These subservicing expenses are included within the servicing costs line item on the Company's condensed consolidated statements of comprehensive income (loss).

Note 4. Variable Interest Entities

The Company enters into transactions with subsidiary trust entities that are established for limited purposes. One of the Company's subsidiary trust entities, MSR Issuer Trust, was formed for the purpose of financing MSR through securitization, pursuant to which, through two of the Company's wholly owned subsidiaries, MSR is pledged to MSR Issuer Trust and in return, MSR Issuer Trust issues term notes to qualified institutional buyers and a variable funding note, or VFN, to one of the subsidiaries, in each case secured on a pari passu basis. The Company has one repurchase facility that is secured by the VFN, which is collateralized by the Company's MSR.

Another of the Company's subsidiary trust entities, Servicing Advance Receivables Issuer Trust, was formed for the purpose of financing servicing advances through a revolving credit facility, pursuant to which Servicing Advance Receivables Issuer Trust issued a VFN backed by servicing advances pledged to the financing counterparty.

Both MSR Issuer Trust and Servicing Advance Receivables Issuer Trust are considered VIEs for financial reporting purposes and were reviewed for consolidation under the applicable consolidation guidance. As the Company has both the power to direct the activities of the trusts that most significantly impact the entities' performance, and the obligation to absorb losses or the right to receive benefits of the entities that could be significant, the Company is the primary beneficiary and, thus, consolidates the trusts. Additionally, in accordance with arrangements entered into in connection with the securitization transaction and the servicing advance revolving credit facility, the Company has direct financial obligations payable to both MSR Issuer Trust and Servicing Advance Receivables Issuer Trust, which, in turn, support MSR Issuer Trust's obligations to noteholders under the securitization transaction and Servicing Advance Receivables Issuer Trust's obligations to the financing counterparty.

The following table presents a summary of the assets and liabilities of all consolidated trusts as reported on the condensed consolidated balance sheets as of March 31, 2024 and December 31, 2023:

(in thousands)	March 31, 2024	December 31, 2023
Note receivable [(1)]	$ 399,654	$ 399,317
Restricted cash	41,013	45,642
Accrued interest receivable [(1)]	641	551
Other assets	93,852	79,749
Total Assets	$ 535,160	$ 525,259
Term notes payable	$ 399,654	$ 399,317
Revolving credit facilities	59,300	34,300
Accrued interest payable	1,066	816
Other liabilities	40,588	45,377
Total Liabilities	$ 500,608	$ 479,810

(1) Receivables due from a wholly owned subsidiary of the Company to the trusts are eliminated in consolidation in accordance with U.S. GAAP.

Additionally, the Company entered into a definitive stock purchase agreement on August 2, 2022 to acquire RoundPoint whereby the preliminary purchase price was subject to a post-closing adjustment based on RoundPoint's aggregate "earnings" (as defined in the stock purchase agreement) from October 1, 2022 through the closing date, or the Interim Period, in addition to other post-closing adjustments. During the Interim Period, the manner in which the purchase price is calculated represented an implicit guarantee of the value of RoundPoint's net book value, in which the Company held the variable interests. These terms also indicated that RoundPoint met the criteria to be considered a VIE that the Company must review for consolidation. As the Company had the obligation to absorb losses and the right to receive benefits of RoundPoint during the Interim Period that could be significant, but not the power to direct the activities of RoundPoint that most significantly impacted its performance, the Company was not the primary beneficiary and, thus, did not consolidate RoundPoint during the Interim Period. Effective September 30, 2023, the parties had satisfied customary closing conditions and received the required regulatory and GSE approvals to close the transaction. Upon closing, RoundPoint became a consolidated wholly owned subsidiary of the Company and was no longer considered a VIE.

Note 5. Available-for-Sale Securities, at Fair Value

The Company holds both Agency and non-Agency AFS investment securities which are carried at fair value on the condensed consolidated balance sheets. The following table presents the Company's AFS investment securities by collateral type as of March 31, 2024 and December 31, 2023:

(in thousands)	March 31, 2024	December 31, 2023
Agency:		
Federal National Mortgage Association	$ 5,205,459	$ 5,467,684
Federal Home Loan Mortgage Corporation	2,913,167	2,790,662
Government National Mortgage Association	59,965	64,653
Non-Agency	3,953	4,150
Total available-for-sale securities	$ 8,182,544	$ 8,327,149

At March 31, 2024 and December 31, 2023, the Company pledged AFS securities with a carrying value of $8.2 billion and $8.1 billion, respectively, as collateral for repurchase agreements. See Note 12 - *Repurchase Agreements*.

At March 31, 2024 and December 31, 2023, the Company did not have any securities purchased from and financed with the same counterparty that did not meet the conditions of ASC 860, *Transfers and Servicing*, to be considered linked transactions and, therefore, classified as derivatives.

The Company is not required to consolidate VIEs for which it has concluded it does not have both the power to direct the activities of the VIEs that most significantly impact the entities' performance, and the obligation to absorb losses or the right to receive benefits of the entities that could be significant. The Company's investments in these unconsolidated VIEs include all non-Agency securities, which are classified within available-for-sale securities, at fair value on the condensed consolidated balance sheets. As of March 31, 2024 and December 31, 2023, the carrying value, which also represents the maximum exposure to loss, of all non-Agency securities in unconsolidated VIEs was $4.0 million and $4.2 million, respectively.

The following tables present the amortized cost and carrying value of AFS securities by collateral type as of March 31, 2024 and December 31, 2023:

	March 31, 2024							
(in thousands)	Principal/ Current Face	Un-amortized Premium	Accretable Purchase Discount	Amortized Cost	Allowance for Credit Losses	Unrealized Gain	Unrealized Loss	Carrying Value
Agency:								
Principal and interest	$ 8,380,115	$ 151,096	$ (123,837)	$ 8,407,374	$ —	$ 6,079	$ (283,136)	$ 8,130,317
Interest-only	787,501	55,875	—	55,875	(3,217)	620	(5,004)	48,274
Total Agency	9,167,616	206,971	(123,837)	8,463,249	(3,217)	6,699	(288,140)	8,178,591
Non-Agency	551,699	4,082	(19)	4,689	(390)	164	(510)	3,953
Total	$ 9,719,315	$ 211,053	$ (123,856)	$ 8,467,938	$ (3,607)	$ 6,863	$ (288,650)	$ 8,182,544

	December 31, 2023							
(in thousands)	Principal/ Current Face	Un-amortized Premium	Accretable Purchase Discount	Amortized Cost	Allowance for Credit Losses	Unrealized Gain	Unrealized Loss	Carrying Value
Agency:								
Principal and interest	$ 8,421,733	$ 155,171	$ (130,932)	$ 8,445,972	$ —	$ 22,677	$ (196,748)	$ 8,271,901
Interest-only	840,723	58,567	—	58,567	(3,619)	907	(4,757)	51,098
Total Agency	9,262,456	213,738	(130,932)	8,504,539	(3,619)	23,584	(201,505)	8,322,999
Non-Agency	569,897	4,199	(19)	4,844	(324)	173	(543)	4,150
Total	$ 9,832,353	$ 217,937	$ (130,951)	$ 8,509,383	$ (3,943)	$ 23,757	$ (202,048)	$ 8,327,149

The following table presents the Company's AFS securities according to their estimated weighted average life classifications as of March 31, 2024:

	March 31, 2024		
(in thousands)	Agency	Non-Agency	Total
< 1 year	$ 282	$ —	$ 282
≥ 1 and < 3 years	16,243	—	16,243
≥ 3 and < 5 years	177,196	—	177,196
≥ 5 and < 10 years	7,984,870	3,631	7,988,501
≥ 10 years	—	322	322
Total	$ 8,178,591	$ 3,953	$ 8,182,544

Measurement of Allowances for Credit Losses on AFS Securities

The Company uses a discounted cash flow method to estimate and recognize an allowance for credit losses on both Agency and non-Agency AFS securities that are not accounted for under the fair value option. The following table presents the changes for the three months ended March 31, 2024 and 2023 in the allowance for credit losses on Agency and non-Agency AFS securities:

	Three Months Ended March 31, 2024			Three Months Ended March 31, 2023		
(in thousands)	Agency	Non-Agency	Total	Agency	Non-Agency	Total
Allowance for credit losses at beginning of period	$ (3,619)	$ (324)	$ (3,943)	$ (6,785)	$ (173)	$ (6,958)
Additions on securities for which credit losses were not previously recorded	(37)	(17)	(54)	—	(318)	(318)
Decrease (increase) on securities with previously recorded credit losses	24	(50)	(26)	827	(367)	460
Write-offs	415	1	416	684	210	894
Allowance for credit losses at end of period	$ (3,217)	$ (390)	$ (3,607)	$ (5,274)	$ (648)	$ (5,922)

The following tables present the components comprising the carrying value of AFS securities for which an allowance for credit losses has not been recorded by length of time that the securities had an unrealized loss position as of March 31, 2024 and December 31, 2023. At March 31, 2024 and December 31, 2023, the Company held 647 and 646 AFS securities, respectively; of the securities for which an allowance for credit losses has not been recorded, 530 and 477 were in an unrealized loss position for less than twelve consecutive months. At both March 31, 2024 and December 31, 2023, none of the Company's AFS securities were in an unrealized loss position for more than twelve months without an allowance for credit losses recorded.

	March 31, 2024					
	Unrealized Loss Position for					
	Less than 12 Months		12 Months or More		Total	
(in thousands)	Estimated Fair Value	Gross Unrealized Losses	Estimated Fair Value	Gross Unrealized Losses	Estimated Fair Value	Gross Unrealized Losses
Agency	$ 7,023,251	$ (285,881)	$ —	$ —	$ 7,023,251	$ (285,881)
Non-Agency	249	(73)	—	—	249	(73)
Total	$ 7,023,500	$ (285,954)	$ —	$ —	$ 7,023,500	$ (285,954)

	December 31, 2023					
	Unrealized Loss Position for					
	Less than 12 Months		12 Months or More		Total	
(in thousands)	Estimated Fair Value	Gross Unrealized Losses	Estimated Fair Value	Gross Unrealized Losses	Estimated Fair Value	Gross Unrealized Losses
Agency	$ 6,269,848	$ (199,276)	$ —	$ —	$ 6,269,848	$ (199,276)
Non-Agency	883	(173)	—	—	883	(173)
Total	$ 6,270,731	$ (199,449)	$ —	$ —	$ 6,270,731	$ (199,449)

Gross Realized Gains and Losses

Gains and losses from the sale of AFS securities are recorded as realized gains (losses) within (loss) gain on investment securities in the Company’s condensed consolidated statements of comprehensive income (loss). The following table presents details around sales of AFS securities during the three months ended March 31, 2024 and 2023:

	Three Months Ended March 31,	
(in thousands)	**2024**	**2023**
Proceeds from sales of available-for-sale securities	$ 333,082	$ 1,360,742
Amortized cost of available-for-sale securities sold	(343,245)	(1,393,484)
Total realized losses on sales, net	$ (10,163)	$ (32,742)
Gross realized gains	$ —	$ 14,070
Gross realized losses	(10,163)	(46,812)
Total realized losses on sales, net	$ (10,163)	$ (32,742)

Note 6. Servicing Activities

Mortgage Servicing Rights, at Fair Value

One of the Company’s wholly owned subsidiaries, Matrix, has approvals from Fannie Mae and Freddie Mac to own and manage MSR, which represent the right to control the servicing of residential mortgage loans. Matrix acquires MSR from third-party originators through flow and bulk purchases but does not directly service mortgage loans; instead, it contracts with appropriately licensed subservicers to handle substantially all servicing functions in the name of the subservicer for the mortgage loans underlying the Company’s MSR. On October 1, 2023, the Company, through its newly acquired subsidiary RoundPoint, began directly servicing a portion of the mortgage loans underlying the Company’s MSR portfolio as well as servicing mortgage loans underlying MSR owned by third parties. RoundPoint has approvals from Fannie Mae and Freddie Mac to service residential mortgage loans.

The following table summarizes activity related to the Company’s MSR portfolio for the three months ended March 31, 2024 and 2023.

	Three Months Ended March 31,	
(in thousands)	**2024**	**2023**
Balance at beginning of period	$ 3,052,016	$ 2,984,937
Purchases of mortgage servicing rights	40,335	118,341
Sales of mortgage servicing rights	(12,871)	(2,693)
Changes in fair value due to:		
Changes in valuation inputs or assumptions used in the valuation model (1)	54,430	20,421
Other changes in fair value (2)	(48,768)	(47,661)
Other changes (3)	(263)	(900)
Balance at end of period (4)	$ 3,084,879	$ 3,072,445

(1) Includes the impact of acquiring MSR at a cost different from fair value.
(2) Primarily represents changes due to the realization of cash flows.
(3) Includes purchase price adjustments, contractual prepayment protection, and changes due to the Company’s purchase of the underlying collateral.
(4) Based on the principal balance of the loans underlying the MSR reported by servicers on a month lag, adjusted for current month purchases.

At March 31, 2024 and December 31, 2023, the Company pledged MSR with a carrying value of $3.0 billion and $3.0 billion, respectively, as collateral for repurchase agreements, revolving credit facilities and term notes payable. See Note 12 - *Repurchase Agreements*, Note 13 - *Revolving Credit Facilities* and Note 14 - *Term Notes Payable*.

As of March 31, 2024 and December 31, 2023, the key economic assumptions and sensitivity of the fair value of MSR to immediate 10% and 20% adverse changes in these assumptions were as follows:

(dollars in thousands, except per loan data)	March 31, 2024	December 31, 2023
Weighted average prepayment speed:	6.2 %	6.2 %
Impact on fair value of 10% adverse change	$ (78,387)	$ (74,042)
Impact on fair value of 20% adverse change	$ (154,074)	$ (146,237)
Weighted average delinquency:	1.0 %	0.9 %
Impact on fair value of 10% adverse change	$ (5,445)	$ (4,654)
Impact on fair value of 20% adverse change	$ (13,974)	$ (12,376)
Weighted average option-adjusted spread:	5.4 %	5.3 %
Impact on fair value of 10% adverse change	$ (71,353)	$ (59,285)
Impact on fair value of 20% adverse change	$ (138,989)	$ (119,776)
Weighted average per loan annual cost to service:	$ 68.47	$ 68.27
Impact on fair value of 10% adverse change	$ (27,471)	$ (24,111)
Impact on fair value of 20% adverse change	$ (55,188)	$ (48,985)

These assumptions and sensitivities are hypothetical and should be considered with caution. Changes in fair value based on 10% and 20% variations in assumptions generally cannot be extrapolated because the relationship of the change in assumptions to the change in fair value may not be linear. Also, the effect of a variation in a particular assumption on the fair value of MSR is calculated without changing any other assumptions. In reality, changes in one factor may result in changes in another (*e.g.*, increased market interest rates may result in lower prepayments and increased credit losses) that could magnify or counteract the sensitivities. Further, these sensitivities show only the change in the asset balances and do not show any expected change in the fair value of the instruments used to manage the interest rates and prepayment risks associated with these assets.

Risk Mitigation Activities

The primary risks associated with the Company's MSR are changes in interest rates, mortgage spreads and prepayments. The Company economically hedges interest rate and mortgage spread risk primarily with its Agency RMBS portfolio. Prepayment risk is carefully monitored and partially mitigated through the Company's ability to retain the MSR, in certain circumstances, through recapture agreements with its subservicers if the underlying loan is refinanced.

Mortgage Servicing Income

The following table presents the components of servicing income recorded on the Company's condensed consolidated statements of comprehensive income (loss) for the three months ended March 31, 2024 and 2023:

	Three Months Ended March 31,	
(in thousands)	2024	2023
Servicing fee income	$ 134,320	$ 129,237
Ancillary and other fee income	3,857	369
Float income	28,156	23,714
Total	$ 166,333	$ 153,320

Mortgage Servicing Advances

As the servicer of record for the MSR assets, the Company may be required to advance principal and interest payments to security holders, and intermittent tax and insurance payments to local authorities and insurance companies on mortgage loans that are in forbearance, delinquency or default. The Company is responsible for funding these advances, potentially for an extended period of time, before receiving reimbursement from Fannie Mae and Freddie Mac. Servicing advances are priority cash flows in the event of a loan principal reduction or foreclosure and ultimate liquidation of the real estate-owned property, thus making their collection reasonably assured. These servicing advances totaled $103.3 million and $143.2 million and were included in other assets on the condensed consolidated balance sheets as of March 31, 2024 and December 31, 2023, respectively. At March 31, 2024 and December 31, 2023, mortgage loans in 60+ day delinquent status (whether or not subject to forbearance) accounted for approximately 0.7% and 0.7%, respectively, of the aggregate principal balance of loans for which the Company had servicing advance funding obligations.

The Company has one revolving credit facility to finance its servicing advance obligations. At March 31, 2024 and December 31, 2023, the Company had pledged servicing advances with a carrying value of $93.9 million and $79.7 million, respectively, as collateral for this revolving credit facility. See Note 13 - *Revolving Credit Facilities*.

Note 7. Cash, Cash Equivalents and Restricted Cash

Cash and cash equivalents include cash held in bank accounts and cash held in money market funds on an overnight basis.

The Company is required to maintain certain cash balances with counterparties for securities and derivatives trading activity, servicing activities and collateral for the Company's borrowings in restricted accounts. The Company has also placed cash in a restricted account pursuant to a letter of credit on an office space lease.

The following table presents the Company's restricted cash balances as of March 31, 2024 and December 31, 2023:

(in thousands)	March 31, 2024	December 31, 2023
Restricted cash balances held by trading counterparties:		
For securities trading activity	$ 450	$ 450
For derivatives trading activity	—	1,669
For servicing activities	45,099	50,345
As restricted collateral for borrowings	26,572	12,575
Total restricted cash balances held by trading counterparties	72,121	65,039
Restricted cash balance pursuant to letter of credit on office lease	63	62
Total	$ 72,184	$ 65,101

The following table provides a reconciliation of cash, cash equivalents, and restricted cash reported on the Company's condensed consolidated balance sheets as of March 31, 2024 and December 31, 2023 that sum to the total of the same such amounts shown in the statements of cash flows:

(in thousands)	March 31, 2024	December 31, 2023
Cash and cash equivalents	$ 666,244	$ 729,732
Restricted cash	72,184	65,101
Total cash, cash equivalents and restricted cash	$ 738,428	$ 794,833

Note 8. Derivative Instruments and Hedging Activities

The Company enters into a variety of derivative and non-derivative instruments in connection with its risk management activities. The primary objective for executing these derivative and non-derivative instruments is to mitigate the Company's economic exposure to future events that are outside its control, principally cash flow volatility associated with interest rate risk (including associated prepayment risk). Specifically, the Company enters into derivative and non-derivative instruments to economically hedge interest rate risk or "duration mismatch (or gap)" by adjusting the duration of its floating-rate borrowings into fixed-rate borrowings to more closely match the duration of its assets. This particularly applies to floating-rate borrowing agreements with maturities or interest rate resets of less than six months. Typically, the interest receivable terms (*e.g.*, Overnight Index Swap Rate, or OIS, or SOFR) of certain derivatives match the terms of the underlying debt, resulting in an effective conversion of the rate of the related borrowing agreement from floating to fixed. The objective is to manage the cash flows associated with current and anticipated interest payments on borrowings, as well as the ability to roll or refinance borrowings at the desired amount by adjusting the duration.

To help manage the adverse impact of interest rate changes on the value of the Company's portfolio as well as its cash flows, the Company may, at times, enter into various forward contracts, including short securities, Agency to-be-announced securities, or TBAs, options, futures, swaps, caps and total return swaps. In executing on the Company's current risk management strategy, the Company has entered into TBAs, interest rate swap and swaption agreements, futures and options on futures. The Company has also entered into a number of non-derivative instruments to manage interest rate risk, principally MSR and interest-only securities (see discussion below).

The following summarizes the Company's significant asset and liability classes, the risk exposure for these classes, and the Company's risk management activities used to mitigate these risks. The discussion includes both derivative and non-derivative instruments used as part of these risk management activities. Any of the Company's derivative and non-derivative instruments may be entered into in conjunction with one another in order to mitigate risks. As a result, the following discussions of each type of instrument should be read as a collective representation of the Company's risk mitigation efforts and should not be considered independent of one another. While the Company uses derivative and non-derivative instruments to achieve the Company's risk management activities, it is possible that these instruments will not effectively mitigate all or a substantial portion of the Company's market rate risk. In addition, the Company might elect, at times, not to enter into certain hedging arrangements in order to maintain compliance with REIT requirements.

Balance Sheet Presentation

In accordance with ASC 815, the Company records derivative financial instruments on its condensed consolidated balance sheets as assets or liabilities at fair value. Changes in fair value are accounted for depending on the use of the derivative instruments and whether they are designated or qualifying as hedge instruments. Due to the volatility of the interest rate and credit markets and difficulty in effectively matching pricing or cash flows, the Company has not designated any current derivatives as hedging instruments.

The following tables present the gross fair value and notional amounts of the Company's derivative financial instruments treated as trading derivatives as of March 31, 2024 and December 31, 2023:

	March 31, 2024			
	Derivative Assets		Derivative Liabilities	
(in thousands)	Fair Value	Notional	Fair Value	Notional
Inverse interest-only securities	$ 9,885	$ 156,527	$ —	$ —
Interest rate swap agreements	—	9,822,112	—	—
Swaptions, net	—	—	—	—
TBAs	14,512	3,968,000	(3,027)	(518,000)
Futures, net	—	(5,638,800)	—	—
Total	$ 24,397	$ 8,307,839	$ (3,027)	$ (518,000)

	December 31, 2023			
	Derivative Assets		Derivative Liabilities	
(in thousands)	Fair Value	Notional	Fair Value	Notional
Inverse interest-only securities	$ 12,292	$ 163,735	$ —	$ —
Interest rate swap agreements	—	—	—	17,788,114
Swaptions, net	19	(200,000)	—	—
TBAs	72,980	2,979,000	(21,506)	518,000
Futures, net	—	—	—	(6,203,050)
Total	$ 85,291	$ 2,942,735	$ (21,506)	$ 12,103,064

Comprehensive Income (Loss) Statement Presentation

The Company has not applied hedge accounting to its current derivative portfolio held to mitigate interest rate risk and credit risk. As a result, the Company is subject to volatility in its earnings due to movement in the unrealized gains and losses associated with its derivative instruments.

The following table summarizes the location and amount of gains and losses on derivative instruments reported in the condensed consolidated statements of comprehensive income (loss):

Derivative Instruments	Location of Gain (Loss) Recognized in Income	Amount of Gain (Loss) Recognized in Income	
(in thousands)		Three Months Ended March 31,	
		2024	2023
Interest rate risk management:			
TBAs	Gain (loss) on other derivative instruments	$ (59,180)	$ (17,164)
Futures	Gain (loss) on other derivative instruments	108,936	(140,087)
Options on futures	Gain (loss) on other derivative instruments	(127)	—
Interest rate swaps - Payers	Gain (loss) on interest rate swap and swaption agreements	194,430	(71,760)
Interest rate swaps - Receivers	Gain (loss) on interest rate swap and swaption agreements	(95,951)	(10,368)
Swaptions	Gain (loss) on interest rate swap and swaption agreements	31	(26)
Non-risk management:			
Inverse interest-only securities	Gain (loss) on other derivative instruments	(2,030)	1,480
Total		$ 146,109	$ (237,925)

For the three months ended March 31, 2024 and 2023, the Company recognized $14.3 million and $3.6 million of income, respectively, for the accrual and/or settlement of the net interest spread associated with its interest rate swaps. The income resulted from paying either a fixed interest rate or a floating interest rate (OIS or SOFR) and receiving either a floating interest rate (OIS or SOFR) or a fixed interest rate on an average $15.1 billion and $3.2 billion notional, respectively.

The following tables present information with respect to the volume of activity in the Company's derivative instruments during the three months ended March 31, 2024 and 2023:

	Three Months Ended March 31, 2024					
(in thousands)	Beginning of Period Notional Amount	Additions	Settlement, Termination, Expiration or Exercise	End of Period Notional Amount	Average Notional Amount	Realized Gain (Loss), net (1)
Inverse interest-only securities	$ 163,735	$ —	$ (7,208)	$ 156,527	$ 160,491	$ —
Interest rate swap agreements	17,788,114	6,567,062	(14,533,064)	9,822,112	15,136,445	13,988
Swaptions, net	(200,000)	(500,000)	700,000	—	(232,967)	(98)
TBAs, net	3,497,000	12,173,000	(12,220,000)	3,450,000	3,037,747	(19,190)
Futures, net	(6,203,050)	(7,738,100)	8,302,350	(5,638,800)	(6,576,900)	(8,714)
Options on futures, net	—	—	—	—	—	(127)
Total	$ 15,045,799	$ 10,501,962	$ (17,757,922)	$ 7,789,839	$ 11,524,816	$ (14,141)

	Three Months Ended March 31, 2023					
(in thousands)	Beginning of Period Notional Amount	Additions	Settlement, Termination, Expiration or Exercise	End of Period Notional Amount	Average Notional Amount	Realized Gain (Loss), net (1)
Inverse interest-only securities	$ 196,456	$ —	$ (8,371)	$ 188,085	$ 192,729	$ —
Interest rate swap agreements	—	9,992,941	(1,588,069)	8,404,872	3,196,969	(18,580)
Swaptions, net	—	(200,000)	—	(200,000)	(57,778)	—
TBAs, net	3,826,000	14,666,000	(14,774,000)	3,718,000	4,073,467	(88,483)
Futures, net	(18,285,452)	(13,034,050)	24,373,952	(6,945,550)	(15,622,322)	131
Total	$ (14,262,996)	$ 11,424,891	$ 8,003,512	$ 5,165,407	$ (8,216,935)	$ (106,932)

(1) Excludes net interest paid or received in full settlement of the net interest spread liability.

Cash flow activity related to derivative instruments is reflected within the operating activities and investing activities sections of the condensed consolidated statements of cash flows. Realized gains and losses and derivative fair value adjustments are reflected within the realized and unrealized (gain) loss on interest rate swaps and swaptions and unrealized (gains) losses on other derivative instruments line items within the operating activities section of the condensed consolidated statements of cash flows. The remaining cash flow activity related to derivative instruments is reflected within the short sales (purchases) of derivative instruments, net; proceeds from sales and settlement (payments for termination and settlement) of derivative instruments, net; and decrease in due to counterparties, net line items within the investing activities section of the condensed consolidated statements of cash flows.

Interest Rate Sensitive Assets/Liabilities

The Company's Agency RMBS portfolio is generally subject to change in value when interest rates or prepayment speeds decrease or increase, depending on the type of investment. Periods of rising interest rates with corresponding decreasing prepayment speeds generally result in a decline in the value of the Company's fixed-rate Agency principal and interest (P&I) RMBS. The impact of this effect on the Company's fixed-rate Agency P&I RMBS portfolio is partially mitigated by the presence of fixed-rate interest-only Agency RMBS, which generally increase in value when prepayment speeds decrease and MSR, which generally increase in value when prepayment speeds decrease and interest rates increase. As of March 31, 2024 and December 31, 2023, the Company had $40.6 million and $41.9 million, respectively, of interest-only securities, and $3.1 billion and $3.1 billion, respectively, of MSR. Interest-only securities are included in AFS securities, at fair value, in the condensed consolidated balance sheets.

TWO HARBORS INVESTMENT CORP.

Notes to the Condensed Consolidated Financial Statements (unaudited)

The Company monitors its borrowings under repurchase agreements and revolving credit facilities, which are generally floating-rate debt, in relation to the rate profile of its portfolio. In connection with its risk management activities, the Company enters into a variety of derivative and non-derivative instruments to economically hedge interest rate risk or duration mismatch (or gap) by adjusting the duration of its floating-rate borrowings into fixed-rate borrowings to more closely match the duration of its assets. This particularly applies to borrowing agreements with maturities or interest rate resets of less than six months. Typically, the interest receivable terms (*e.g.*, OIS or SOFR) of certain derivatives match the terms of the underlying debt, resulting in an effective conversion of the rate of the related borrowing agreement from floating to fixed. The objective is to manage the cash flows associated with current and anticipated interest payments on borrowings, as well as the ability to roll or refinance borrowings at the desired amount by adjusting the duration. To help manage the adverse impact of interest rate changes on the value of the Company's portfolio as well as its cash flows, the Company may, at times, enter into various forward contracts, including short securities, TBAs, options, futures, swaps, caps, credit default swaps and total return swaps. In executing on the Company's current interest rate risk management strategy, the Company has entered into TBAs, interest rate swap and swaption agreements, futures and options on futures.

TBAs. The Company may use TBAs as a means of deploying capital until targeted investments are available or to take advantage of temporary displacements, funding advantages or valuation differentials in the marketplace. Additionally, the Company may use TBAs independently, or in conjunction with other derivative and non-derivative instruments, in order to mitigate risks. TBAs are forward contracts for the purchase (long notional positions) or sale (short notional positions) of Agency RMBS. The issuer, coupon and stated maturity of the Agency RMBS are predetermined as well as the trade price, face amount and future settle date (published each month by the Securities Industry and Financial Markets Association). However, the specific Agency RMBS to be delivered upon settlement is not known at the time of the TBA transaction. As a result, and because physical delivery of the Agency RMBS upon settlement cannot be assured, the Company accounts for TBAs as derivative instruments.

The Company may hold both long and short notional TBA positions, which are disclosed on a gross basis according to the unrealized gain or loss position of each TBA contract regardless of long or short notional position. The following tables present the notional amount, cost basis, market value and carrying value (which approximates fair value) of the Company's TBA positions as of March 31, 2024 and December 31, 2023:

	March 31, 2024				
				Net Carrying Value (4)	
(in thousands)	Notional Amount (1)	Cost Basis (2)	Market Value (3)	Derivative Assets	Derivative Liabilities
Purchase contracts	$ 4,193,000	$ 4,129,470	$ 4,143,411	$ 14,512	$ (571)
Sale contracts	(743,000)	(707,538)	(709,994)	—	(2,456)
TBAs, net	$ 3,450,000	$ 3,421,932	$ 3,433,417	$ 14,512	$ (3,027)

	December 31, 2023				
				Net Carrying Value (4)	
(in thousands)	Notional Amount (1)	Cost Basis (2)	Market Value (3)	Derivative Assets	Derivative Liabilities
Purchase contracts	$ 4,194,000	$ 3,827,271	$ 3,898,874	$ 72,980	$ (1,377)
Sale contracts	(697,000)	(656,723)	(676,852)	—	(20,129)
TBAs, net	$ 3,497,000	$ 3,170,548	$ 3,222,022	$ 72,980	$ (21,506)

(1) Notional amount represents the face amount of the underlying Agency RMBS.
(2) Cost basis represents the forward price to be paid (received) for the underlying Agency RMBS.
(3) Market value represents the current market value of the TBA (or of the underlying Agency RMBS) as of period end.
(4) Net carrying value represents the difference between the market value of the TBA as of period end and its cost basis, and is reported in derivative assets / (liabilities), at fair value, in the condensed consolidated balance sheets.

Futures. The Company may use a variety of types of futures independently, or in conjunction with other derivative and non-derivative instruments, in order to mitigate risks. The following table summarizes certain characteristics of the Company's futures as of March 31, 2024 and December 31, 2023:

(dollars in thousands)	March 31, 2024			December 31, 2023		
Type & Maturity	Notional Amount	Carrying Value	Weighted Average Months to Expiration	Notional Amount	Carrying Value	Weighted Average Months to Expiration
U.S. Treasury futures - 2 year	$ (497,400)	$ —	2.93	$ (549,600)	$ —	2.89
U.S. Treasury futures - 5 year	(1,354,200)	—	2.93	(1,876,700)	—	2.89
U.S. Treasury futures - 10 year	(1,925,500)	—	2.60	(983,300)	—	2.60
U.S. Treasury futures - 20 year	(40,700)	—	2.60	(388,200)	—	2.89
Eris SOFR swap futures - 10 year	(30,000)	—	122.73	—	—	—
SOFR futures						
≤ 1 year	(1,416,000)	—	5.68	(1,842,750)	—	6.05
> 1 and ≤ 2 years	(375,000)	—	16.06	(562,500)	—	17.56
Total futures	$ (5,638,800)	$ —	5.01	$ (6,203,050)	$ —	5.10

Interest Rate Swap Agreements. The Company may use interest rate swaps independently, or in conjunction with other derivative and non-derivative instruments, in order to mitigate risks. As of March 31, 2024 and December 31, 2023, the Company held the following interest rate swaps that were utilized as economic hedges of interest rate exposure (or duration) whereby the Company receives interest at a floating interest rate (OIS or SOFR):

(notional in thousands)	March 31, 2024			
Swaps Maturities	Notional Amount [(1)]	Weighted Average Fixed Pay Rate [(2)]	Weighted Average Receive Rate	Weighted Average Maturity (Years)
≤ 1 year	$ 2,647,671	4.730 %	5.340 %	0.96
> 1 and ≤ 3 years	1,968,891	4.087 %	5.340 %	1.76
> 3 and ≤ 5 years	1,784,642	3.546 %	5.340 %	3.78
> 5 and ≤ 7 years	—	— %	— %	0.00
> 7 and ≤ 10 years	1,005,904	3.577 %	5.340 %	9.00
> 10 years	466,637	3.753 %	5.340 %	14.32
Total	$ 7,873,745	4.180 %	5.340 %	3.38

(notional in thousands)

December 31, 2023				
Swaps Maturities	**Notional Amount (1)**	**Weighted Average Fixed Pay Rate (2)**	**Weighted Average Receive Rate**	**Weighted Average Maturity (Years)**
≤ 1 year	$ —	— %	— %	0.00
> 1 and ≤ 3 years	6,796,772	4.551 %	5.380 %	1.44
> 3 and ≤ 5 years	2,040,444	3.800 %	5.380 %	4.07
> 5 and ≤ 7 years	697,800	4.282 %	5.380 %	6.67
> 7 and ≤ 10 years	2,125,830	3.606 %	5.380 %	9.32
> 10 years	466,637	3.753 %	5.380 %	14.57
Total	$ 12,127,483	4.245 %	5.380 %	3.87

(1) Notional amount includes $1.1 billion and $1.1 billion in forward starting interest rate swaps as of March 31, 2024 and December 31, 2023, respectively.
(2) Weighted averages exclude forward starting interest rate swaps. As of March 31, 2024 and December 31, 2023, the weighted average fixed pay rate on forward starting interest rate swaps was 4.0% and 4.0%, respectively.

Additionally, as of March 31, 2024 and December 31, 2023, the Company held the following interest rate swaps that were utilized as economic hedges of interest rate exposure (or duration) risk whereby the Company pays interest at a floating interest rate (OIS or SOFR):

(notional in thousands)

March 31, 2024				
Swaps Maturities	**Notional Amount (1)**	**Weighted Average Pay Rate (2)**	**Weighted Average Fixed Receive Rate (2)**	**Weighted Average Maturity (Years) (2)**
≤ 1 year	$ 786,641	5.340 %	4.025 %	0.97
> 1 and ≤ 3 years	641,100	— %	— %	0.00
> 3 and ≤ 5 years	260,000	5.340 %	3.328 %	3.50
> 5 and ≤ 7 years	—	— %	— %	0.00
> 7 and ≤ 10 years	—	— %	— %	0.00
> 10 years	260,626	5.340 %	3.444 %	19.76
Total	$ 1,948,367	5.340 %	3.770 %	5.22

(notional in thousands)

December 31, 2023				
Swaps Maturities	**Notional Amount (1)**	**Weighted Average Pay Rate (2)**	**Weighted Average Fixed Receive Rate (2)**	**Weighted Average Maturity (Years) (2)**
≤ 1 year	$ —	— %	— %	0.00
> 1 and ≤ 3 years	2,470,819	5.380 %	4.204 %	1.36
> 3 and ≤ 5 years	780,000	5.380 %	3.845 %	1.36
> 5 and ≤ 7 years	988,026	5.380 %	4.023 %	4.03
> 7 and ≤ 10 years	1,161,160	5.380 %	4.013 %	9.57
> 10 years	260,626	5.380 %	3.444 %	20.01
Total	$ 5,660,631	5.380 %	4.052 %	5.00

(1) Notional amount includes $641.1 million and $645.2 million in forward starting interest rate swaps as of March 31, 2024 and December 31, 2023, respectively.
(2) Weighted averages exclude forward starting interest rate swaps. As of March 31, 2024 and December 31, 2023, the weighted average fixed receive rate on forward starting interest rate swaps was 4.3% and 4.4%, respectively.

Interest Rate Swaptions. The Company may use interest rate swaptions (which provide the option to enter into interest rate swap agreements for a predetermined notional amount, stated term and pay and receive interest rates in the future) independently, or in conjunction with other derivative and non-derivative instruments, in order to mitigate risks. The Company did not hold any interest rate swaptions as of March 31, 2024. As of December 31, 2023, the Company had the following outstanding interest rate swaptions:

(notional and dollars in thousands)	December 31, 2023						
	Option				Underlying Swap		
Swaption	Expiration	Cost	Fair Value	Average Months to Expiration	Notional Amount	Average Fixed Rate	Average Term (Years)
Purchase contracts:							
Payer	< 6 Months	$ 480	$ 22	2.40	$ 200,000	5.13 %	1.0
Sale contracts:							
Payer	< 6 Months	$ (332)	$ (3)	2.40	$ (400,000)	5.61 %	1.0

Credit Risk

The Company's exposure to credit losses on its Agency RMBS portfolio is limited due to implicit or explicit backing from either a GSE or a U.S. government agency. The payment of principal and interest on the Freddie Mac and Fannie Mae mortgage-backed securities are guaranteed by those respective agencies, and the payment of principal and interest on the Ginnie Mae mortgage-backed securities are backed by the full faith and credit of the U.S. government.

In future periods, the Company could enhance its credit risk protection, enter into further paired derivative positions, including both long and short credit default swaps, and/or seek opportunistic trades in the event of a market disruption (see discussion under "*Non-Risk Management Activities*" below). The Company also has processes and controls in place to monitor, analyze, manage and mitigate its credit risk with respect to non-Agency securities.

Derivative financial instruments contain an element of credit risk if counterparties are unable to meet the terms of the agreements. Credit risk associated with derivative financial instruments is measured as the net replacement cost should the counterparties that owe the Company under such contracts completely fail to perform under the terms of these contracts, assuming there are no recoveries of underlying collateral, as measured by the market value of the derivative financial instruments. As of March 31, 2024, the fair value of derivative financial instruments as an asset and liability position was $24.4 million and $3.0 million, respectively.

The Company attempts to mitigate its credit risk exposure on derivative financial instruments by limiting its counterparties to banks and financial institutions that meet established internal credit guidelines. The Company also seeks to spread its credit risk exposure across multiple counterparties in order to reduce its exposure to any single counterparty. Additionally, the Company reduces credit risk on the majority of its derivative instruments by entering into agreements that permit the closeout and netting of transactions with the same counterparty or clearing agency upon the occurrence of certain events. To further mitigate the risk of counterparty default, the Company maintains collateral agreements with certain of its counterparties and clearing agencies, which require both parties to maintain cash deposits in the event the fair values of the derivative financial instruments exceed established thresholds. The Company's centrally cleared interest rate swaps and exchange-traded futures and options on futures require the Company to post an "initial margin" amount determined by the clearing exchange, which is generally intended to be set at a level sufficient to protect the exchange from the derivative instrument's maximum estimated single-day price movement. The Company also exchanges "variation margin" based upon daily changes in fair value, as measured by the exchange. The exchange of variation margin is considered a settlement of the derivative instrument, as opposed to pledged collateral. Accordingly, the Company accounts for the receipt or payment of variation margin as a direct reduction to the carrying value of the centrally cleared or exchange-traded derivative asset or liability.

Note 9. Reverse Repurchase Agreements

As of March 31, 2024 and December 31, 2023, the Company had $295.8 million and $286.1 million in amounts due to counterparties as collateral for reverse repurchase agreements that could be pledged, delivered or otherwise used, with a fair value of $351.8 million and $284.1 million, respectively.

Note 10. Offsetting Assets and Liabilities

Certain of the Company's repurchase agreements are governed by underlying agreements that provide for a right of setoff in the event of default by either party to the agreement. The Company also has netting arrangements in place with all derivative counterparties pursuant to standard documentation developed by the International Swap and Derivatives Association, or ISDA, or central clearing exchange agreements. The Company and the counterparty or clearing agency are required to post cash collateral based upon the net underlying market value of the Company's open positions with the counterparty. Additionally, the Company's centrally cleared interest rate swaps and exchange-traded futures and options on futures require the Company to post an initial margin amount determined by the clearing exchange, which is generally intended to be set at a level sufficient to protect the exchange from the derivative instrument's maximum estimated single-day price movement. The Company also exchanges variation margin based upon daily changes in fair value, as measured by the exchange.

Under U.S. GAAP, if the Company has a valid right of setoff, it may offset the related asset and liability and report the net amount. Based on rules governing certain central clearing and exchange-trading activities, the exchange of variation margin is considered a settlement of the derivative instrument, as opposed to pledged collateral. Accordingly, the Company accounts for the receipt or payment of variation margin on Chicago Mercantile Exchange, or CME, and London Clearing House, or LCH, cleared positions as a direct reduction to the carrying value of the centrally cleared or exchange-traded derivative asset or liability. The receipt or payment of initial margin is accounted for separate from the derivative asset or liability.

Reverse repurchase agreements and repurchase agreements with the same counterparty and the same maturity are presented net in the Company's condensed consolidated balance sheets when the terms of the agreements meet the criteria to permit netting. The Company reports cash flows on repurchase agreements as financing activities and cash flows on reverse repurchase agreements as investing activities in the condensed consolidated statements of cash flows. The Company presents derivative assets and liabilities (other than centrally cleared or exchange-traded derivative instruments) subject to master netting arrangements or similar agreements on a net basis, based on derivative type and counterparty, in its condensed consolidated balance sheets. Separately, the Company presents cash collateral subject to such arrangements (other than variation margin on centrally cleared or exchange-traded derivative instruments) on a net basis, based on counterparty, in its condensed consolidated balance sheets. However, the Company does not offset repurchase agreements, reverse repurchase agreements or derivative assets and liabilities (other than centrally cleared or exchange-traded derivative instruments) with the associated cash collateral on its condensed consolidated balance sheets.

The following tables present information about the Company's assets and liabilities that are subject to master netting arrangements or similar agreements and can potentially be offset on the Company's condensed consolidated balance sheets as of March 31, 2024 and December 31, 2023:

	March 31, 2024					
				Gross Amounts Not Offset with Financial Assets (Liabilities) in the Balance Sheets [(1)]		
(in thousands)	Gross Amounts of Recognized Assets (Liabilities)	Gross Amounts Offset in the Balance Sheets	Net Amounts of Assets (Liabilities) Presented in the Balance Sheets	Financial Instruments	Cash Collateral (Received) Pledged	Net Amount
Assets:						
Derivative assets	$ 126,128	$ (101,731)	$ 24,397	$ (3,027)	$ —	$ 21,370
Reverse repurchase agreements	351,843	—	351,843	—	(295,774)	56,069
Total Assets	$ 477,971	$ (101,731)	$ 376,240	$ (3,027)	$ (295,774)	$ 77,439
Liabilities:						
Repurchase agreements	$ (8,361,638)	$ —	$ (8,361,638)	$ 8,361,638	$ —	$ —
Derivative liabilities	(104,758)	101,731	(3,027)	3,027	—	—
Total Liabilities	$ (8,466,396)	$ 101,731	$ (8,364,665)	$ 8,364,665	$ —	$ —

(in thousands)	December 31, 2023					
				Gross Amounts Not Offset with Financial Assets (Liabilities) in the Balance Sheets (1)		
	Gross Amounts of Recognized Assets (Liabilities)	Gross Amounts Offset in the Balance Sheets	Net Amounts of Assets (Liabilities) Presented in the Balance Sheets	Financial Instruments	Cash Collateral (Received) Pledged	Net Amount
Assets:						
Derivative assets	$ 228,227	$ (142,936)	$ 85,291	$ (21,506)	$ —	$ 63,785
Reverse repurchase agreements	284,091	—	284,091	—	(284,091)	—
Total Assets	$ 512,318	$ (142,936)	$ 369,382	$ (21,506)	$ (284,091)	$ 63,785
Liabilities:						
Repurchase agreements	$ (8,020,207)	$ —	$ (8,020,207)	$ 8,020,207	$ —	$ —
Derivative liabilities	(164,442)	142,936	(21,506)	21,506	—	—
Total Liabilities	$ (8,184,649)	$ 142,936	$ (8,041,713)	$ 8,041,713	$ —	$ —

(1) Amounts presented are limited in total to the net amount of assets or liabilities presented in the condensed consolidated balance sheets by instrument. Excess cash collateral or financial assets that are pledged to counterparties may exceed the financial liabilities subject to a master netting arrangement or similar agreement, or counterparties may have pledged excess cash collateral to the Company that exceed the corresponding financial assets. These excess amounts are excluded from the table above, although separately reported within restricted cash, due from counterparties, or due to counterparties in the Company's condensed consolidated balance sheets.

Note 11. Fair Value

Fair Value Measurements

ASC 820 defines fair value as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. ASC 820 clarifies that fair value should be based on the assumptions market participants would use when pricing an asset or liability and establishes a fair value hierarchy that prioritizes the information used to develop those assumptions. The fair value hierarchy gives the highest priority to quoted prices available in active markets (*i.e.*, observable inputs) and the lowest priority to data lacking transparency (*i.e.*, unobservable inputs). Additionally, ASC 820 requires an entity to consider all aspects of nonperformance risk, including the entity's own credit standing, when measuring fair value of a liability.

ASC 820 establishes a three-level hierarchy to be used when measuring and disclosing fair value. An instrument's categorization within the fair value hierarchy is based on the lowest level of significant input to its valuation. The following is a description of the three levels:

Level 1 Inputs are quoted prices in active markets for identical assets or liabilities as of the measurement date under current market conditions. Additionally, the entity must have the ability to access the active market and the quoted prices cannot be adjusted by the entity.

Level 2 Inputs include quoted prices in active markets for similar assets or liabilities; quoted prices in inactive markets for identical or similar assets or liabilities; or inputs that are observable or can be corroborated by observable market data by correlation or other means for substantially the full-term of the assets or liabilities.

Level 3 Unobservable inputs are supported by little or no market activity. The unobservable inputs represent the assumptions that market participants would use to price the assets and liabilities, including risk. Generally, Level 3 assets and liabilities are valued using pricing models, discounted cash flow methodologies, or similar techniques that require significant judgment or estimation.

The following are descriptions of the valuation methodologies used to measure material assets and liabilities at fair value and details of the valuation models, key inputs to those models and significant assumptions utilized.

Available-for-sale securities. The Company holds a portfolio of AFS securities that are carried at fair value in the condensed consolidated balance sheets and primarily comprised of Agency and non-Agency investment securities. The Company determines the fair value of its Agency RMBS based upon prices obtained from third-party brokers and pricing vendors received using bid price, which are deemed indicative of market activity. The third-party pricing vendors use pricing models that generally incorporate such factors as coupons, primary and secondary mortgage rates, rate reset period, issuer, prepayment speeds, credit enhancements and expected life of the security. In determining the fair value of its non-Agency securities, management judgment may be used to arrive at fair value that considers prices obtained from third-party pricing vendors and other applicable market data. If observable market prices are not available or insufficient to determine fair value due principally to illiquidity in the marketplace, then fair value is based upon models that are primarily based on observable market-based inputs but also include unobservable market data inputs (including prepayment speeds, delinquency levels, and credit losses).

The Company classified 99.95% and 0.05% of its AFS securities as Level 2 and Level 3 fair value assets, respectively, at March 31, 2024.

Mortgage servicing rights. The Company holds a portfolio of MSR that are carried at fair value on the condensed consolidated balance sheets. The Company determines fair value of its MSR based on prices obtained from third-party pricing vendors. Although MSR transactions may be observable in the marketplace, the details of those transactions are not necessarily reflective of the value of the Company’s MSR portfolio. Third-party vendors use both observable market data and unobservable market data (including forecasted prepayment speeds, OAS and cost to service) as inputs into models, which help to inform their best estimates of fair value market price. As a result, the Company classified 100% of its MSR as Level 3 fair value assets at March 31, 2024.

Derivative instruments. The Company may enter into a variety of derivative financial instruments as part of its hedging strategies. The Company principally executes over-the-counter, or OTC, derivative contracts, such as interest rate swaps and swaptions. The Company utilizes third-party brokers to value its financial derivative instruments. The Company classified 100% of its interest rate swaps reported at fair value as Level 2 at March 31, 2024. The Company did not hold any interest rate swaptions at March 31, 2024.

The Company may also enter into certain other derivative financial instruments, such as inverse interest-only securities, TBAs, futures and options on futures. The Company utilizes third-party pricing vendors to value inverse interest-only securities, as these instruments are similar in form to the Company’s AFS securities. The Company classified 100% of its inverse interest-only securities at fair value as Level 2 at March 31, 2024. TBAs, futures and options on futures are considered to be active markets such that participants transact with sufficient frequency and volume to provide transparent pricing information for identical instruments. The Company utilizes third-party pricing vendors to value TBAs, futures and options on futures. The Company reported 100% of its TBAs and futures as Level 1 as of March 31, 2024. The Company did not hold any options on futures at March 31, 2024.

The Company’s policy is to minimize credit exposure related to financial derivatives used for hedging by limiting the hedge counterparties to major banks, financial institutions, exchanges, and private investors who meet established capital and credit guidelines as well as by limiting the amount of exposure to any individual counterparty.

The Company has netting arrangements in place with all derivative counterparties pursuant to standard documentation developed by ISDA or central clearing exchange agreements. Additionally, both the Company and the counterparty or clearing agency are required to post cash margin based upon the net underlying market value of the Company’s open positions with the counterparty. Posting of cash margin typically occurs daily, subject to certain dollar thresholds. Due to the existence of netting arrangements, as well as frequent cash margin posting at low posting thresholds, credit exposure to the Company and/or to the counterparty or clearing agency is considered materially mitigated. Based on the Company’s assessment, there is no requirement for any additional adjustment to derivative valuations specifically for credit.

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The following tables display the Company’s assets and liabilities measured at fair value on a recurring basis. The Company often economically hedges the fair value change of its assets or liabilities with derivatives and other financial instruments. The tables below display the hedges separately from the hedged items, and therefore do not directly display the impact of the Company’s risk management activities:

	Recurring Fair Value Measurements March 31, 2024			
(in thousands)	**Level 1**	**Level 2**	**Level 3**	**Total**
Assets:				
Available-for-sale securities	$ —	$ 8,178,591	$ 3,953	$ 8,182,544
Mortgage servicing rights	—	—	3,084,879	3,084,879
Derivative assets	14,512	9,885	—	24,397
Total assets	$ 14,512	$ 8,188,476	$ 3,088,832	$ 11,291,820
Liabilities:				
Derivative liabilities	$ 3,027	$ —	$ —	$ 3,027
Total liabilities	$ 3,027	$ —	$ —	$ 3,027

	Recurring Fair Value Measurements December 31, 2023			
(in thousands)	**Level 1**	**Level 2**	**Level 3**	**Total**
Assets:				
Available-for-sale securities	$ —	$ 8,322,999	$ 4,150	$ 8,327,149
Mortgage servicing rights	—	—	3,052,016	3,052,016
Derivative assets	72,980	12,311	—	85,291
Total assets	$ 72,980	$ 8,335,310	$ 3,056,166	$ 11,464,456
Liabilities:				
Derivative liabilities	$ 21,506	$ —	$ —	$ 21,506
Total liabilities	$ 21,506	$ —	$ —	$ 21,506

The Company may be required to measure certain assets or liabilities at fair value from time to time. These periodic fair value measures typically result from application of certain impairment measures under U.S. GAAP. These items would constitute nonrecurring fair value measures under ASC 820. As of March 31, 2024, the Company did not have any assets or liabilities measured at fair value on a nonrecurring basis in the periods presented.

The valuation of Level 3 instruments requires significant judgment by the third-party pricing vendors and/or management. The third-party pricing vendors and/or management rely on inputs such as market price quotations from market makers (either market or indicative levels), original transaction price, recent transactions in the same or similar instruments, and changes in financial ratios or cash flows to determine fair value. Level 3 instruments may also be discounted to reflect illiquidity and/or non-transferability, with the amount of such discount estimated by the third-party pricing vendors in the absence of market information. Assumptions used by the third-party pricing vendors due to lack of observable inputs may significantly impact the resulting fair value and therefore the Company’s condensed consolidated financial statements.

The Company’s valuation committee reviews all valuations that are based on pricing information received from third-party pricing vendors. As part of this review, prices are compared against other pricing or input data points in the marketplace, along with internal valuation expertise, to ensure the pricing is reasonable. In addition, the Company performs back-testing of pricing information to validate price information and identify any pricing trends of a third-party pricing vendors.

In determining fair value, third-party pricing vendors use various valuation approaches, including market and income approaches. Inputs that are used in determining fair value of an instrument may include pricing information, credit data, volatility statistics, and other factors. In addition, inputs can be either observable or unobservable.

The availability of observable inputs can vary by instrument and is affected by a wide variety of factors, including the type of instrument, whether the instrument is new and not yet established in the marketplace and other characteristics particular to the instrument. The third-party pricing vendor uses prices and inputs that are current as of the measurement date, including during periods of market dislocations. In periods of market dislocation, the availability of prices and inputs may be reduced for many instruments. This condition could cause an instrument to be reclassified to or from various levels within the fair value hierarchy.

Securities that are priced using third-party broker quotations are valued at the bid price (in the case of long positions) or the ask price (in the case of short positions) at the close of trading on the date as of which value is determined. Exchange-traded securities for which no bid or ask price is available are valued at the last traded price. OTC derivative contracts, including interest rate swap and swaption agreements, are valued by the Company using observable inputs, specifically quotations received from third-party brokers. Exchange-traded derivative instruments, including futures and options on futures, are valued based on quoted prices for identical instruments in active markets.

The following table presents the reconciliation for the Company's Level 3 assets measured at fair value on a recurring basis:

	Three Months Ended March 31, 2024	
(in thousands)	**Available-For-Sale Securities**	**Mortgage Servicing Rights**
Beginning of period level 3 fair value	$ 4,150	$ 3,052,016
Gains (losses) included in net income (loss):		
Realized	(155)	(43,418)
Unrealized	— (1)	54,430 (2)
Reversal of provision for credit losses	(65)	—
Net gains (losses) included in net income (loss)	(220)	11,012
Other comprehensive income	23	—
Purchases	—	40,335
Sales	—	(18,221)
Settlements	—	(263)
Gross transfers into level 3	—	—
Gross transfers out of level 3	—	—
End of period level 3 fair value	$ 3,953	$ 3,084,879
Change in unrealized gains or losses for the period included in earnings for assets held at the end of the reporting period	$ — (3)	$ 61,247 (4)
Change in unrealized gains or losses for the period included in other comprehensive (loss) income for assets held at the end of the reporting period	$ 23	$ —

(1) The change in unrealized gains or losses on available-for-sale securities accounted for under the fair value option was recorded in (loss) gain on investment securities on the condensed consolidated statements of comprehensive income (loss).
(2) The change in unrealized gains or losses on MSR was recorded in gain (loss) on servicing asset on the condensed consolidated statements of comprehensive income (loss).
(3) The change in unrealized gains or losses on available-for-sale securities accounted for under the fair value option that were held at the end of the reporting period was recorded in (loss) gain on investment securities on the condensed consolidated statements of comprehensive income (loss).
(4) The change in unrealized gains or losses on MSR that were held at the end of the reporting period was recorded in gain (loss) on servicing asset on the condensed consolidated statements of comprehensive income (loss).

No transfers between Level 1, Level 2 or Level 3 were made during the three months ended March 31, 2024 and 2023. Transfers between Levels are deemed to take place on the first day of the reporting period in which the transfer has taken place.

The Company used multiple third-party pricing vendors in the fair value measurement of its Level 3 AFS securities. The significant unobservable inputs used by the third-party pricing vendors included expected default, severity and discount rate. Significant increases (decreases) in any of the inputs in isolation may result in significantly lower (higher) fair value measurement.

The Company also used multiple third-party pricing vendors in the fair value measurement of its Level 3 MSR. The tables below present information about the significant unobservable market data used by the third-party pricing vendors as inputs into models utilized to inform their best estimates of the fair value measurement of the Company's MSR classified as Level 3 fair value assets at March 31, 2024 and December 31, 2023:

March 31, 2024					
Valuation Technique	Unobservable Input	Range			Weighted Average [(1)]
Discounted cash flow	Constant prepayment speed	5.6%	-	6.8%	6.2%
	Option-adjusted spread	5.2%	-	8.7%	5.4%
	Per loan annual cost to service	$67.90	-	$81.54	$68.47

December 31, 2023					
Valuation Technique	Unobservable Input	Range			Weighted Average [(1)]
Discounted cash flow	Constant prepayment speed	5.0%	-	6.9%	6.2%
	Option-adjusted spread	4.8%	-	8.6%	5.3%
	Per loan annual cost to service	$66.31	-	$81.30	$68.27

(1) Calculated by averaging the weighted average significant unobservable inputs used by the multiple third-party pricing vendors in the fair value measurement of MSR.

Certain assets are measured at fair value on a nonrecurring basis; that is, they are not measured at fair value on an ongoing basis but are subject to fair value adjustments only in certain circumstances, such as when there is evidence of impairment. Upon the occurrence of certain events, the Company re-measures the fair value of long-lived assets, including property, plant and equipment, operating lease right of use assets, intangible assets and goodwill if an impairment or observable price adjustment is recognized in the current period. No instances requiring re-measurement of assets measured at fair value on a nonrecurring basis occurred during the three months ended March 31, 2024 and 2023.

Fair Value of Financial Instruments

In accordance with ASC 820, the Company is required to disclose the fair value of financial instruments, both assets and liabilities recognized and not recognized in the condensed consolidated balance sheets, for which fair value can be estimated.

The following describes the Company's methods for estimating the fair value for financial instruments.

- AFS securities, MSR, and derivative assets and liabilities are recurring fair value measurements; carrying value equals fair value. See discussion of valuation methods and assumptions within the *Fair Value Measurements* section of this Note 11.
- Cash and cash equivalents and restricted cash have a carrying value which approximates fair value because of the short maturities of these instruments. The Company categorizes the fair value measurement of these assets as Level 1.
- Reverse repurchase agreements have a carrying value which approximates fair value due to their short-term nature. The Company categorizes the fair value measurement of these assets as Level 2.
- The carrying value of repurchase agreements and revolving credit facilities that mature in less than one year generally approximates fair value due to the short maturities. As of March 31, 2024, the Company had outstanding borrowings of $1.0 billion under revolving credit facilities that are considered long-term. The Company's long-term revolving credit facilities have floating rates based on an index plus a spread and the credit spread is typically consistent with those demanded in the market. Accordingly, the interest rates on these borrowings are at market and thus carrying value approximates fair value. The Company categorizes the fair value measurement of these liabilities as Level 2.

- Term notes payable are recorded at outstanding principal balance, net of any unamortized deferred debt issuance costs. In determining the fair value of term notes payable, management judgment may be used to arrive at fair value that considers prices obtained from third-party pricing vendors, broker quotes received and other applicable market data. If observable market prices are not available or insufficient to determine fair value due principally to illiquidity in the marketplace, then fair value is based upon internally developed models that are primarily based on observable market-based inputs but also include unobservable market data inputs (including prepayment speeds, delinquency levels, and credit losses). The Company categorizes the fair value measurement of these liabilities as Level 2.
- Convertible senior notes are carried at their unpaid principal balance, net of any unamortized deferred issuance costs. The Company estimates the fair value of its convertible senior notes using the market transaction price nearest to March 31, 2024. The Company categorizes the fair value measurement of these assets as Level 2.

The following table presents the carrying values and estimated fair values of assets and liabilities that are required to be recorded or disclosed at fair value at March 31, 2024 and December 31, 2023:

	March 31, 2024		December 31, 2023	
(in thousands)	Carrying Value	Fair Value	Carrying Value	Fair Value
Assets:				
Available-for-sale securities	$ 8,182,544	$ 8,182,544	$ 8,327,149	$ 8,327,149
Mortgage servicing rights	$ 3,084,879	$ 3,084,879	$ 3,052,016	$ 3,052,016
Cash and cash equivalents	$ 666,244	$ 666,244	$ 729,732	$ 729,732
Restricted cash	$ 72,184	$ 72,184	$ 65,101	$ 65,101
Derivative assets	$ 24,397	$ 24,397	$ 85,291	$ 85,291
Reverse repurchase agreements	$ 351,843	$ 351,843	$ 284,091	$ 284,091
Other assets	$ 31,562	$ 31,562	$ 31,704	$ 31,704
Liabilities:				
Repurchase agreements	$ 8,361,638	$ 8,361,638	$ 8,020,207	$ 8,020,207
Revolving credit facilities	$ 1,357,671	$ 1,357,671	$ 1,329,171	$ 1,329,171
Term notes payable	$ 295,520	$ 292,552	$ 295,271	$ 289,653
Convertible senior notes	$ 268,953	$ 259,507	$ 268,582	$ 254,232
Derivative liabilities	$ 3,027	$ 3,027	$ 21,506	$ 21,506

Note 12. Repurchase Agreements

As of March 31, 2024 and December 31, 2023, the Company had outstanding $8.4 billion and $8.0 billion, respectively, of repurchase agreements. Excluding the effect of the Company’s interest rate swaps, the repurchase agreements had a weighted average borrowing rate of 5.61% and 5.74% and weighted average remaining maturities of 91 and 55 days as of March 31, 2024 and December 31, 2023, respectively.

TWO HARBORS INVESTMENT CORP.

Notes to the Condensed Consolidated Financial Statements (unaudited)

At March 31, 2024 and December 31, 2023, the Company's repurchase agreements had the following characteristics and remaining maturities:

	March 31, 2024				
	Collateral Type				
(in thousands)	Agency RMBS	Non-Agency Securities	Agency Derivatives	Mortgage Servicing Rights	Total Amount Outstanding
Within 30 days	$ 2,262,318	$ —	$ 7,752	$ 58,977	$ 2,329,047
30 to 59 days	1,367,028	—	—	—	1,367,028
60 to 89 days	1,022,997	—	—	—	1,022,997
90 to 119 days	702,452	—	—	—	702,452
120 to 364 days	2,739,235	217	662	200,000	2,940,114
Total	$ 8,094,030	$ 217	$ 8,414	$ 258,977	$ 8,361,638
Weighted average borrowing rate	5.51 %	6.13 %	6.10 %	6.92 %	5.61 %

	December 31, 2023				
	Collateral Type				
(in thousands)	Agency RMBS	Non-Agency Securities	Agency Derivatives	Mortgage Servicing Rights	Total Amount Outstanding
Within 30 days	$ 2,772,975	$ —	$ 1,615	$ 58,572	$ 2,833,162
30 to 59 days	1,918,818	—	—	—	1,918,818
60 to 89 days	2,058,518	233	687	—	2,059,438
90 to 119 days	989,045	—	5,744	—	994,789
120 to 364 days	—	—	—	214,000	214,000
Total	$ 7,739,356	$ 233	$ 8,046	$ 272,572	$ 8,020,207
Weighted average borrowing rate	5.64 %	6.36 %	6.14 %	7.08 %	5.74 %

The following table summarizes assets at carrying values that are pledged or restricted as collateral for the future payment obligations of the Company's repurchase agreements:

(in thousands)	March 31, 2024	December 31, 2023
Available-for-sale securities, at fair value	$ 8,178,289	$ 8,126,028
Mortgage servicing rights, at fair value (1)	468,610	463,529
Restricted cash	24,871	12,375
Due from counterparties	237,711	36,420
Derivative assets, at fair value	9,546	11,877
Total	$ 8,919,027	$ 8,650,229

(1) As of March 31, 2024 and December 31, 2023, MSR repurchase agreements of $200.0 million and $214.0 million, respectively, were secured by a VFN issued in connection with the Company's securitization of MSR and MSR repurchase agreements of $59.0 million and $58.6 million, respectively, were secured by a portion of the term notes issued in connection with the Company's securitization of MSR and repurchased by the Company. The VFN and the term notes are both collateralized by the Company's MSR.

Although the transactions under repurchase agreements represent committed borrowings until maturity, the respective lender retains the right to mark the underlying collateral to fair value. A reduction in the value of pledged assets would require the Company to provide additional collateral or fund margin calls.

As of both March 31, 2024 and December 31, 2023, the net carrying value of assets sold under agreements to repurchase, including accrued interest plus any cash or assets on deposit to secure the repurchase obligation, less the amount of the repurchase liability, including accrued interest, with any individual counterparty or group of related counterparties did not exceed 10% of total stockholders' equity. The Company does not anticipate any defaults by its repurchase agreement counterparties. There can be no assurance, however, that any such default or defaults will not occur.

Note 13. Revolving Credit Facilities

To finance MSR assets and related servicing advance obligations, the Company has entered into revolving credit facilities collateralized by the value of the MSR and/or servicing advances pledged. As of March 31, 2024 and December 31, 2023, the Company had outstanding short- and long-term borrowings under revolving credit facilities of $1.4 billion and $1.3 billion with a weighted average borrowing rate of 8.56% and 8.66% and weighted average remaining maturities of 1.3 and 1.1 years, respectively.

At March 31, 2024 and December 31, 2023, borrowings under revolving credit facilities had the following remaining maturities:

(in thousands)	March 31, 2024	December 31, 2023
Within 30 days	$ —	$ —
30 to 59 days	—	—
60 to 89 days	—	—
90 to 119 days	—	—
120 to 364 days	381,800	324,300
One year and over	975,871	1,004,871
Total	$ 1,357,671	$ 1,329,171

Although the transactions under revolving credit facilities represent committed borrowings from the time of funding until maturity, the respective lender retains the right to mark the underlying collateral to fair value. A reduction in the value of pledged assets below a designated threshold would require the Company to provide additional collateral or pay down the facility. As of March 31, 2024 and December 31, 2023, MSR with a carrying value of $2.2 billion and $2.2 billion, respectively, was pledged as collateral for the Company's future payment obligations under its MSR revolving credit facilities. As of March 31, 2024 and December 31, 2023, servicing advances with a carrying value of $93.9 million and $79.7 million, respectively, were pledged as collateral for the Company's future payment obligations under its servicing advance revolving credit facility. Additionally, as of March 31, 2024, $1.5 million of cash was held in restricted accounts as collateral for the future payment obligations of outstanding revolving credit facility balances. The Company does not anticipate any defaults by its revolving credit facility counterparties, although there can be no assurance that any such default or defaults will not occur.

Note 14. Term Notes Payable

The debt issued in connection with the Company's on-balance sheet MSR securitization is classified as term notes payable and carried at outstanding principal balance, which was $295.8 million as of both March 31, 2024 and December 31, 2023, net of unamortized deferred debt issuance costs, on the Company's condensed consolidated balance sheets. During the three months ended September 30, 2023, the Company repurchased $104.2 million principal amount of its MSR term notes in open market transactions for an aggregate cost of $101.0 million, resulting in a gain, net of unamortized deferred issuance costs, of $2.9 million recorded within the other (loss) income line item on the condensed consolidated statements of comprehensive income (loss). No notes were repurchased during the three months ended March 31, 2024 or 2023. As of March 31, 2024 and December 31, 2023, the outstanding amount due on term notes payable was $295.5 million and $295.3 million, net of deferred debt issuance costs, with a weighted average interest rate of 8.24% and 8.27% and weighted average remaining maturities of 0.2 years and 0.5 years.

At March 31, 2024 and December 31, 2023, the Company pledged MSR with a carrying value of $394.8 million and $397.9 million and weighted average underlying loan coupon of 3.31% and 3.32%, respectively, as collateral for term notes payable. Additionally, as of March 31, 2024 and December 31, 2023, $0.2 million and $0.2 million of cash was held in restricted accounts as collateral for the future payment obligations of outstanding term notes payable, respectively.

Note 15. Convertible Senior Notes

The Company's convertible senior notes are unsecured, pay interest semiannually at a rate of 6.25% per annum and are convertible at the option of the holder into shares of the Company's common stock. As of March 31, 2024 and December 31, 2023, the notes had a conversion rate of 33.8752 and 33.8752 shares of common stock per $1,000 principal amount of the notes, respectively. The notes will mature in January 2026, unless earlier converted or repurchased in accordance with their terms.

The Company does not have the right to redeem its convertible senior notes prior to maturity, but may repurchase the notes in open market or privately negotiated transactions at the same or differing price without giving prior notice to or obtaining any consent of the holders. The Company may also be required to repurchase the notes from holders under certain circumstances. During the three months ended June 30, 2023, the Company repurchased $15.6 million principal amount of its convertible senior notes in open market transactions for an aggregate cost of $13.2 million, resulting in a gain, net of unamortized deferred issuance costs, of $2.2 million recorded within the other (loss) income line item on the condensed consolidated statements of comprehensive income (loss). No notes were repurchased during the three months ended March 31, 2024 or 2023.

As of both March 31, 2024 and December 31, 2023, $271.9 million principal amount of convertible senior notes remained outstanding. The outstanding amount due on the notes as of March 31, 2024 and December 31, 2023 was $269.0 million and $268.6 million, respectively, net of unamortized deferred issuance costs.

Note 16. Commitments and Contingencies

The following represent the material commitments and contingencies of the Company as of March 31, 2024:

Legal and regulatory. The Company and its subsidiaries are routinely involved in numerous legal and regulatory proceedings, including but not limited to judicial, arbitration, regulatory and governmental proceedings related to matters that arise in connection with the conduct of the Company's business. These legal proceedings are at varying stages of adjudication, arbitration or investigation and may consist of a variety of claims, including common law tort and contract claims, consumer protection-related claims and claims under other laws and regulations. Any legal proceedings or actions brought against the Company may result in judgments, settlements, fines, penalties, injunctions, business improvement orders, consent orders, supervisory agreements, restrictions on business activities, or other results adverse to the Company, which could materially and negatively affect its business. The Company seeks to resolve all litigation and regulatory matters in the manner management believes is in the best interest of the Company and contests liability, allegations of wrongdoing, and, where applicable, the amount of damages or scope of any penalties or other relief sought as appropriate in each pending matter. Under ASC 450, *Contingencies*, or ASC 450, liabilities are established for legal claims when payments associated with the claims become probable and the costs can be reasonably estimated. The actual costs of resolving legal claims may be substantially higher or lower than the amounts established or the range of reasonably possible loss disclosed for those claims.

As previously disclosed, on July 15, 2020, the Company provided PRCM Advisers with a notice of termination of the Management Agreement for "cause" in accordance with Section 15(a) of the Management Agreement. The Company terminated the Management Agreement for "cause" on the basis of certain material breaches and certain events of gross negligence on the part of PRCM Advisers in the performance of its duties under the Management Agreement. On July 21, 2020, PRCM Advisers filed a complaint against the Company in the United States District Court for the Southern District of New York, or the Court. Subsequently, Pine River Domestic Management L.P. and Pine River Capital Management L.P. were added as plaintiffs to the matter. As amended, the complaint, or the Federal Complaint, alleges, among other things, the misappropriation of trade secrets in violation of both the Defend Trade Secrets Act and New York common law, breach of contract, breach of the implied covenant of good faith and fair dealing, unfair competition and business practices, unjust enrichment, conversion, and tortious interference with contract. The Federal Complaint seeks, among other things, an order enjoining the Company from making any use of or disclosing PRCM Advisers' trade secret, proprietary, or confidential information; damages in an amount to be determined at a hearing and/or trial; disgorgement of the Company's wrongfully obtained profits; and fees and costs incurred by the plaintiffs in pursuing the action. The Company has filed its answer to the Federal Complaint and made counterclaims against PRCM Advisers and Pine River Capital Management L.P. On May 5, 2022, the plaintiffs filed a motion for judgment on the pleadings, seeking judgment in their favor on all but one of the Company's counterclaims and on one of the Company's affirmative defenses. The Company opposed the motion for judgment on the pleadings. On August 10, 2023, the motion for judgment on the pleadings was granted in part and denied in part. The discovery period has ended. On November 8, 2023, the Company and the plaintiffs filed motions for summary judgment, seeking judgment in their favor on the pending claims and counterclaims. Each party opposed the other party's motion for summary judgment. The motions for summary judgment are fully briefed. The Company's board of directors believes the Federal Complaint is without merit and that the Company has fully complied with the terms of the Management Agreement.

As of March 31, 2024, the Company's condensed consolidated financial statements do not recognize a contingency liability or disclose a range of reasonably possible loss under ASC 450 because management does not believe that a loss or expense related to the Federal Complaint is probable or reasonably estimable. The specific factors that limit the Company's ability to reasonably estimate a loss or expense related to the Federal Complaint are that the matter is not sufficiently advanced and the outcome of litigation is uncertain. If and when management believes losses associated with the Federal Complaint are a probable future event that may result in a loss or expense to the Company and the loss or expense is reasonably estimable, the Company will recognize a contingency liability and resulting loss in such period.

Based on information currently available, management is not aware of any other legal or regulatory claims that would have a material effect on the Company's condensed consolidated financial statements and therefore no accrual is required as of March 31, 2024.

Note 17. Stockholders' Equity

Redeemable Preferred Stock

The following is a summary of the Company's series of cumulative redeemable preferred stock issued and outstanding as of March 31, 2024. In the event of a voluntary or involuntary liquidation, dissolution or winding up of the Company, each series of preferred stock will rank on parity with one another and rank senior to the Company's common stock with respect to the payment of the dividends and the distribution of assets.

(dollars in thousands)

Class of Stock	Issuance Date	Shares Issued and Outstanding	Carrying Value	Contractual Rate	Redemption Eligible Date [(1)]	Fixed to Floating Rate Conversion Date [(2)]	Floating Annual Rate [(3)]
Series A	March 14, 2017	5,050,221	$ 121,971	8.125 %	April 27, 2027	April 27, 2027	3M Rate + 5.660%
Series B	July 19, 2017	10,159,200	245,670	7.625 %	July 27, 2027	July 27, 2027	3M Rate + 5.352%
Series C	November 27, 2017	9,661,396	233,826	7.250 %	January 27, 2025	January 27, 2025	3M Rate + 5.011%
Total		24,870,817	$ 601,467				

(1) Subject to the Company's right under limited circumstances to redeem the preferred stock earlier than the redemption eligible date disclosed in order to preserve its qualification as a REIT or following a change in control of the Company.

(2) The dividend rate on the fixed-to-floating rate redeemable preferred stock will remain at an annual fixed rate of the $25.00 per share liquidation preference from the issuance date up to but not including the transition date disclosed within. Effective as of the fixed-to-floating rate conversion date and onward, dividends will accumulate on a floating rate basis according to the terms disclosed in footnote (3) below.

(3) On and after the fixed-to-floating rate conversion date, dividends will accumulate and be payable quarterly at a percentage of the $25.00 per share liquidation preference equal to a floating base rate plus the spread indicated with respect to each series of preferred stock. The original floating base rate applicable to each preferred series was three-month USD-LIBOR, which ceased to be published on June 30, 2023. Under the Adjustable Interest Rate (LIBOR) Act, and the regulations promulgated thereunder, the replacement reference rate for three-month USD-LIBOR is three-month CME Term SOFR plus a tenor spread adjustment of 0.26161%. As a result, based on the terms of the LIBOR Act, the Company expects that the floating base rate with respect to each series of preferred stock, following the applicable conversion date, will be three-month CME SOFR plus a tenor spread of 0.26161%.

For each series of preferred stock, the Company may redeem the stock on or after the redemption date in whole or in part, at any time or from time to time. The Company may also purchase shares of preferred stock from time to time in the open market by tender or in privately negotiated transactions. Each series of preferred stock has a par value of $0.01 per share and a liquidation and redemption price of $25.00, plus any accumulated and unpaid dividends thereon up to, but excluding, the redemption date. Through March 31, 2024, the Company had declared and paid all required quarterly dividends on the Company's preferred stock.

Preferred Share Repurchase Program

In June 2022, the Company's board of directors authorized the repurchase of up to an aggregate of 5,000,000 shares of the Company's preferred stock, which includes each series shown in the table above under the heading Redeemable Preferred Stock. Preferred shares may be repurchased from time to time through privately negotiated transactions or open market transactions, pursuant to trading plans in accordance with Rule 10b5-1 under the Securities Exchange Act of 1934, as amended, or the Exchange Act, or by any combination of such methods. The manner, price, number and timing of preferred share repurchases are subject to a variety of factors, including market conditions and applicable SEC rules. The preferred share repurchase program does not require the purchase of any minimum number of shares, and, subject to SEC rules, purchases may be commenced or suspended at any time without prior notice. The preferred share repurchase program does not have an expiration date. As of March 31, 2024, a total of 699,779 shares of the Company's 8.125% Series A Cumulative Redeemable Preferred Stock, 1,340,800 shares of the Company's 7.625% Series B Cumulative Redeemable Preferred Stock and 2,138,604 shares of the Company's 7.25% Series C Cumulative Redeemable Preferred Stock had been repurchased by the Company under the program for an aggregate cost of $13.3 million, $25.5 million and $38.5 million, respectively, of which 35,047, 280,060 and 170,502 shares were repurchased for a total cost of $0.8 million, $6.4 million and $3.9 million, respectively, during the three months ended March 31, 2024. The difference between the consideration transferred and the carrying value of the preferred stock repurchased resulted in a gain attributable to common stockholders of $0.6 million for the three months ended March 31, 2024. No preferred shares were repurchased during the three months ended March 31, 2023.

Common Stock

Public Offerings

On February 6, 2023, the Company completed a public offering of 10,000,000 shares of its common stock. The underwriters purchased the shares from the Company at a price of $17.59 per share, for net proceeds to the Company of approximately $175.6 million after deducting offering expenses. The underwriters did not exercise any portion of their 30-day overallotment option to purchase up to 1,500,000 additional shares.

As of March 31, 2024, the Company had 103,474,944 shares of common stock outstanding. The following table presents a reconciliation of the common shares outstanding for the three months ended March 31, 2024 and 2023:

	Number of common shares
Common shares outstanding, December 31, 2022	86,428,845
Issuance of common stock	10,121,107
Non-cash equity award compensation [(1)]	114,366
Common shares outstanding, March 31, 2023	96,664,318
Common shares outstanding, December 31, 2023	103,206,457
Issuance of common stock	4,058
Non-cash equity award compensation [(1)]	264,429
Common shares outstanding, March 31, 2024	103,474,944

(1) See Note 18 - *Equity Incentive Plans* for further details regarding the Company's equity incentive plans.

Distributions to Stockholders

The following table presents cash dividends declared by the Company on its preferred and common stock during the three months ended March 31, 2024 and 2023:

(dollars in thousands)	Three Months Ended March 31,			
	2024		2023	
Class of Stock	**Amount**	**Per Share**	**Amount**	**Per Share**
Series A Preferred Stock	$ 2,565	$ 0.51	$ 2,702	$ 0.51
Series B Preferred Stock	$ 4,841	$ 0.48	$ 5,106	$ 0.48
Series C Preferred Stock	$ 4,378	$ 0.45	$ 4,557	$ 0.45
Common Stock	$ 47,081	$ 0.45	$ 58,381	$ 0.60

Dividend Reinvestment and Direct Stock Purchase Plan

The Company sponsors a dividend reinvestment and direct stock purchase plan through which stockholders may purchase additional shares of the Company's common stock by reinvesting some or all of the cash dividends received on shares of the Company's common stock. Stockholders may also make optional cash purchases of shares of the Company's common stock subject to certain limitations detailed in the plan prospectus. The plan allows for the issuance of up to an aggregate of 937,500 shares of the Company's common stock. As of March 31, 2024, 134,688 shares have been issued under the plan for total proceeds of approximately $6.3 million, of which 4,058 and 3,680 shares were issued for total proceeds of $0.1 million and $0.1 million during the three months ended March 31, 2024 and 2023, respectively.

Common Share Repurchase Program

The Company's common share repurchase program allows for the repurchase of up to an aggregate of 9,375,000 shares of the Company's common stock. Common shares may be repurchased from time to time through privately negotiated transactions or open market transactions, pursuant to a trading plan in accordance with Rules 10b5-1 and 10b-18 under the Exchange Act, or by any combination of such methods. The manner, price, number and timing of common share repurchases are subject to a variety of factors, including market conditions and applicable SEC rules. The common share repurchase program does not require the purchase of any minimum number of shares, and, subject to SEC rules, purchases may be commenced or suspended at any time without prior notice. The common share repurchase program does not have an expiration date. As of March 31, 2024, a total of 3,637,028 shares of common stock had been repurchased by the Company under the program for an aggregate cost of $208.5 million. No shares of common stock were repurchased during the three months ended March 31, 2024 or 2023.

At-the-Market Offerings

The Company is party to an equity distribution agreement under which the Company is authorized to sell up to an aggregate of 11,000,000 shares of its common stock, of which 3,819,406 shares remain available for issuance, from time to time in any method permitted by law deemed to be an "at the market" offering as defined in Rule 415 under the Securities Act of 1933, as amended, or the Securities Act. As of March 31, 2024, 9,315,703 shares of common stock had been sold under the current or prior equity distribution agreements for total accumulated net proceeds of approximately $234.6 million, of which 117,427 shares were sold for net proceeds of $2.1 million during the three months ended March 31, 2023. No shares were sold under the "at the market" equity distribution agreements during the three months ended March 31, 2024.

Accumulated Other Comprehensive Loss

Accumulated other comprehensive loss at March 31, 2024 and December 31, 2023 was as follows:

(in thousands)	March 31, 2024	December 31, 2023
Available-for-sale securities:		
Unrealized gains	$ 6,654	$ 23,305
Unrealized losses	(286,161)	(199,734)
Accumulated other comprehensive loss	$ (279,507)	$ (176,429)

Reclassifications out of Accumulated Other Comprehensive Loss

The Company reclassifies unrealized gains and losses on AFS securities in accumulated other comprehensive loss to net income (loss) upon the recognition of any realized gains and losses on sales as individual securities are sold. For the three months ended March 31, 2024 and 2023, the Company reclassified $6.6 million in unrealized losses and $63.2 million in unrealized losses, respectively, on sold AFS securities from accumulated other comprehensive loss to (loss) gain on investment securities on the condensed consolidated statements of comprehensive income (loss).

Note 18. Equity Incentive Plans

The Company's 2021 Equity Incentive Plan, or the Equity Incentive Plan, provides incentive compensation to attract and retain qualified directors, officers, personnel and other parties who may provide significant services to the Company. The Equity Incentive Plan is administered by the compensation committee of the Company's board of directors. The compensation committee has the full authority to administer and interpret the Equity Incentive Plan, to authorize the granting of awards, to determine the eligibility of potential recipients to receive an award, to determine the number of shares of common stock to be covered by each award (subject to the individual participant limitations provided in the Equity Incentive Plan), to determine the terms, provisions and conditions of each award (which may not be inconsistent with the terms of the Equity Incentive Plan), to prescribe the form of instruments evidencing awards and to take any other actions and make all other determinations that it deems necessary or appropriate in connection with the Equity Incentive Plan or the administration or interpretation thereof. In connection with this authority, the compensation committee may, among other things, establish performance goals that must be met in order for awards to be granted or to vest, or for the restrictions on any such awards to lapse.

The Equity Incentive Plan provides for grants of restricted common stock, restricted stock units, or RSUs, performance-based awards (including performance share units, or PSUs), phantom shares, dividend equivalent rights and other equity-based awards. The Equity Incentive Plan is subject to a ceiling of 4,250,000 shares of the Company's common stock. The Company's Second Restated 2009 Equity Incentive Plan, or the Prior Plan, was subject to a ceiling of 1,625,000 shares of the Company's common stock; however, following stockholder approval of the Equity Incentive Plan in May 2021, no new awards will be granted under the Prior Plan. All awards previously granted under the Prior Plan, which remained outstanding and valid in accordance with their terms, have since vested or been forfeited.

The Equity Incentive Plan allows for the Company's board of directors to expand the types of awards available under the Equity Incentive Plan to include long-term incentive plan units in the future. If an award granted under the Equity Incentive Plan expires or terminates, the shares subject to any portion of the award that expires or terminates without having been exercised or paid, as the case may be, will again become available for the issuance of additional awards. Unless earlier terminated by the Company's board of directors, no new award may be granted under the Equity Incentive Plan after the tenth anniversary of the date that the Equity Incentive Plan was approved by the Company's board of directors. No award may be granted under the Equity Incentive Plan to any person who, assuming payment of all awards held by such person, would own or be deemed to own more than 9.8% of the outstanding shares of the Company's common stock.

Restricted Stock Units

The following table summarizes the activity related to RSUs for the three months ended March 31, 2024 and 2023:

	Three Months Ended March 31,			
	2024		2023	
	Units	Weighted Average Grant Date Fair Market Value	Units	Weighted Average Grant Date Fair Market Value
Outstanding at Beginning of Period	613,699	$ 19.11	468,632	$ 23.54
Granted	340,376	14.17	282,090	17.43
Vested	(203,652)	(21.07)	(114,366)	(24.14)
Forfeited	—	—	—	—
Outstanding at End of Period	750,423	$ 16.34	636,356	$ 20.72

TWO HARBORS INVESTMENT CORP.

Notes to the Condensed Consolidated Financial Statements (unaudited)

The estimated fair value of RSUs on grant date is based on the closing market price of the Company's common stock on the NYSE on such date. The shares underlying RSUs granted to independent directors are subject to a one-year vesting period. RSUs granted to certain eligible employees vest in three equal annual installments commencing on the first anniversary of the grant date, as long as such grantee complies with the terms and conditions of the applicable RSU agreement. All RSUs entitle the grantee to receive dividend equivalent rights, or DERs, during the vesting period. A DER represents the right to receive a payment equal to the amount of cash dividends declared and payable on the grantee's unvested and outstanding equity incentive awards. In the case of RSUs, DERs are paid in cash within 60 days of the quarterly dividend payment date based on the number of unvested and outstanding RSUs held by the grantee on the applicable dividend record date. In the event that an RSU is forfeited, the related DERs which have not yet been paid shall be forfeited.

Performance Share Units

The following table summarizes the activity related to PSUs for the three months ended March 31, 2024 and 2023:

	Three Months Ended March 31,			
	2024		2023	
	Target Units	Weighted Average Grant Date Fair Market Value	Target Units	Weighted Average Grant Date Fair Market Value
Outstanding at Beginning of Period	485,822	$ 24.89	265,261	$ 26.93
Granted	292,000	16.19	222,208	22.47
Vested	(60,777)	(34.68)	—	—
Forfeited	(43,959)	(34.68)	—	—
Outstanding at End of Period	673,086	$ 19.60	487,469	$ 24.90

The estimated fair value of PSUs on grant date is determined using a Monte Carlo simulation. PSUs vest promptly following the completion of a three year performance period, as long as such grantee complies with the terms and conditions of the applicable PSU award agreement. The number of underlying shares of common stock that vest and that the grantee becomes entitled to receive at the time of vesting will be determined based on the level of achievement of certain Company performance goals during the performance period and will generally range from 0% to 200% of the target number of PSUs granted. All PSUs entitle the grantee to DERs during the vesting period, which accrue in the form of additional PSUs reflecting the value of any dividends declared on the Company's common stock during the vesting period. In the event that a PSU is forfeited, the related accrued DERs shall be forfeited.

Restricted Common Stock

The following table summarizes the activity related to restricted common stock for the three months ended March 31, 2024 and 2023:

	Three Months Ended March 31,			
	2024		2023	
	Shares	Weighted Average Grant Date Fair Market Value	Shares	Weighted Average Grant Date Fair Market Value
Outstanding at Beginning of Period	—	$ —	42,884	$ 60.91
Granted	—	—	—	—
Vested	—	—	(42,884)	(60.91)
Forfeited	—	—	—	—
Outstanding at End of Period	—	$ —	—	$ —

The estimated fair value of restricted common stock on grant date is based on the closing market price of the Company's common stock on the NYSE on such date. The shares underlying restricted common stock grants to the Company's executive officers and other eligible individuals vested in three equal annual installments commencing on the first anniversary of the grant date, as long as such grantee complied with the terms and conditions of the applicable restricted stock award agreement.

Non-Cash Equity Compensation Expense

For the three months ended March 31, 2024 and 2023, the Company recognized compensation related to RSUs, PSUs and restricted common stock granted pursuant to the Equity Incentive Plan and/or the Prior Plan of $6.1 million and $6.1 million, respectively. As of March 31, 2024, the Company had $8.0 million of total unrecognized compensation cost related to unvested share-based compensation arrangements. This cost is expected to be recognized over a weighted average period of 1.7 years.

Note 19. Interest Income and Interest Expense

The following table presents the components of the Company's interest income and interest expense for the three months ended March 31, 2024 and 2023.

	Three Months Ended March 31,	
	2024	2023
Interest income:		
Available-for-sale securities	$ 100,605	$ 97,038
Other	17,178	19,555
Total interest income	117,783	116,593
Interest expense:		
Repurchase agreements	118,716	104,355
Revolving credit facilities	30,247	25,656
Term notes payable	6,418	7,643
Convertible senior notes	4,619	4,836
Total interest expense	160,000	142,490
Net interest (expense) income	$ (42,217)	$ (25,897)

Note 20. Income Taxes

For the three months ended March 31, 2024 and 2023, the Company qualified to be taxed as a REIT under the Code for U.S. federal income tax purposes. As long as the Company qualifies as a REIT, the Company generally will not be subject to U.S. federal income taxes on its taxable income to the extent it annually distributes its net taxable income to stockholders, and does not engage in prohibited transactions. The Company intends to distribute 100% of its REIT taxable income and comply with all requirements to continue to qualify as a REIT. The majority of states also recognize the Company's REIT status. The Company's TRSs file separate tax returns and are fully taxed as standalone U.S. C corporations. It is assumed that the Company will retain its REIT status and will incur no REIT level taxation as it intends to comply with the REIT regulations and annual distribution requirements.

During the three months ended March 31, 2024, the Company recognized a provision for income taxes of $12.0 million, which was primarily due to net income from MSR servicing activity and net gains recognized on MSR, offset by operating expenses incurred in the Company's TRSs. During the three months ended March 31, 2023, the Company recognized a benefit from income taxes of $3.9 million, which was primarily due to net losses recognized on MSR and operating expenses incurred, offset by net income from MSR servicing activity in the Company's TRSs.

Based on the Company's evaluation, it has been concluded that there are no significant uncertain tax positions requiring recognition in the Company's condensed consolidated financial statements of a contingent tax liability for uncertain tax positions. Additionally, there were no amounts accrued for penalties or interest as of or during the periods presented in these condensed consolidated financial statements.

Note 21. Earnings Per Share

The following table presents a reconciliation of the earnings (loss) and shares used in calculating basic and diluted earnings (loss) per share for the three months ended March 31, 2024 and 2023.

(in thousands, except share data)	Three Months Ended March 31, 2024	Three Months Ended March 31, 2023
Basic Earnings (Loss) Per Share:		
Net income (loss)	$ 203,588	$ (176,808)
Dividends on preferred stock	(11,784)	(12,365)
Gain on repurchase and retirement of preferred stock	644	—
Dividends and undistributed earnings allocated to participating restricted stock units	(1,441)	(382)
Net income (loss) attributable to common stockholders, basic	$ 191,007	$ (189,555)
Basic weighted average common shares	103,401,940	92,575,840
Basic earnings (loss) per weighted average common share	$ 1.85	$ (2.05)
Diluted Earnings (Loss) Per Share:		
Net income (loss) attributable to common stockholders, basic	$ 191,007	$ (189,555)
Reallocation impact of undistributed earnings to participating restricted stock units	61	—
Interest expense attributable to convertible notes	4,619	—
Net income (loss) attributable to common stockholders, diluted	$ 195,687	$ (189,555)
Basic weighted average common shares	103,401,940	92,575,840
Effect of dilutive shares issued in an assumed vesting of performance share units	361,286	—
Effect of dilutive shares issued in an assumed conversion	9,210,091	—
Diluted weighted average common shares	112,973,317	92,575,840
Diluted earnings (loss) per weighted average common share	$ 1.73	$ (2.05)

For the three months ended March 31, 2024, participating RSUs were included in the calculations of basic and diluted earnings per share under the two-class method, as it was more dilutive than the alternative treasury stock method. For the three months ended March 31, 2023, excluded from the calculation of diluted earnings per share was the effect of adding undistributed earnings reallocated to 655,137 weighted average participating RSUs, respectively, as their inclusion would have been antidilutive.

For the three months ended March 31, 2024, the assumed vesting of outstanding PSUs was included in the calculation of diluted earnings per share under the two-class method, as it was more dilutive than the alternative treasury stock method. For the three months ended March 31, 2023, excluded from the calculation of diluted earnings per share was the effect of adding 304,739 weighted average common share equivalents, related to the assumed vesting of outstanding PSUs, as their inclusion would have been antidilutive.

For the three months ended March 31, 2024, the assumed conversion of the Company’s convertible senior notes was included in the calculation of diluted earnings per share under the if-converted method. For the three months ended March 31, 2023, excluded from the calculation of diluted earnings per share was the effect of adding back $4.8 million of interest expense and 9,739,120 weighted average common share equivalents, respectively, related to the assumed conversion of the Company’s convertible senior notes, as their inclusion would have been antidilutive.

Note 22. Segment Reporting

The Company generally derives its revenues from its investment portfolio of MSR and Agency RMBS, which includes servicing fee income, float income, ancillary and other fee income, and interest income, net of premium amortization and discount accretion. The Company's investment portfolio is subject to market risks, primarily interest rate risk, basis risk and prepayment risk. Management seeks to offset a portion of its Agency pool market value exposure through its investment in MSR and interest-only Agency RMBS. The Company's strategy of pairing Agency RMBS with MSR, with a focus on managing various associated risks, including interest rate, basis, prepayment, and credit and financing risk, is intended to generate more stable performance relative to an investment portfolio of RMBS without MSR, across changing market environments.

The Company's investment portfolio is managed as a whole and resources are allocated and financial performance is assessed by the Company's chief operating decision maker, or the CODM, based on total assets reported on the consolidated balance sheet and comprehensive income (loss) reported on the consolidated statement of comprehensive income (loss). The Company's CODM views consolidated expense information related to interest expenses, compensation and benefits, other operating expenses and tax expenses to be significant. Consolidated comprehensive income (loss) is also used by the CODM to monitor actual results and benchmarking to that of its peers, the results of which are used to establish management's compensation. Investment and hedging decisions are assessed collectively by the CODM, based on the inputs discussed above. Accordingly, the Company consists of a single operating and reportable segment and the condensed consolidated financial statements and notes thereto are presented as a single reportable segment.

Note 23. Subsequent Events

Events subsequent to March 31, 2024 were evaluated through the date these condensed consolidated financial statements were issued and no other additional events were identified requiring further disclosure in these condensed consolidated financial statements.

Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations

The following discussion and analysis should be read in conjunction with the consolidated financial statements and accompanying notes included elsewhere in this Quarterly Report on Form 10-Q as well as our Annual Report on Form 10-K for the year ended December 31, 2023.

General

We are a Maryland corporation that invests in, finances and manages MSR, Agency RMBS, and, through our operational platform, RoundPoint, we are one of the largest servicers of conventional loans in the country. We are structured as an internally-managed REIT and our common stock is listed on the NYSE under the symbol "TWO".

We seek to leverage our core competencies of understanding and managing interest rate and prepayment risk to invest in our portfolio of MSR and Agency RMBS. Our objective is to deliver more stable performance, relative to RMBS portfolios without MSR, across changing market environments, and we are acutely focused on creating sustainable stockholder value over the long term.

Effective September 30, 2023, one of our wholly owned subsidiaries, Matrix, acquired RoundPoint from Freedom Mortgage Corporation after the completion of customary closing conditions and receiving the required regulatory and GSE approvals. Upon closing, all servicing and origination licenses and operational capabilities remained with RoundPoint, and RoundPoint became a wholly owned subsidiary of Matrix. Management believes this acquisition will add value for stakeholders of Two Harbors through cost savings achieved by bringing the servicing of our MSR portfolio in-house, greater control over our MSR portfolio and the associated cash flows, and the ability to participate more fully in the mortgage finance space as opportunities arise.

Matrix holds the requisite approvals from Fannie Mae and Freddie Mac to own and manage MSR, which represent a contractual right to control the servicing of a mortgage loan, the obligation to service the loan in accordance with applicable laws and requirements and the right to collect a fee for the performance of servicing activities, such as collecting principal and interest from a borrower and distributing those payments to the owner of the loan. We acquire MSR from high-quality originators through flow and bulk purchases. On October 1, 2023, we began directly servicing the majority of the mortgage loans underlying our MSR through our newly acquired subsidiary, RoundPoint. We also contract with appropriately licensed third-party subservicers to handle servicing functions in the name of the subservicer for a portion of the loans underlying our MSR, although we expect our use of third-party subservicers will decline to minimal levels in 2024 as we continue to transfer the servicing of our MSR portfolio to RoundPoint. As the servicer of record on our MSR portfolio, we remain accountable to the GSEs for all servicing matters and, accordingly, provide substantial oversight of each of our subservicers. We believe MSR are a natural fit for our portfolio over the long term. Our MSR business leverages our core competencies in prepayment and interest rate risk analytics and the MSR assets may provide offsetting risks to our Agency RMBS, hedging both interest rate and mortgage spread risk.

Our Agency RMBS portfolio is comprised primarily of fixed rate mortgage-backed securities backed by single-family and multi-family mortgage loans. All of our principal and interest Agency RMBS are Fannie Mae or Freddie Mac mortgage pass-through certificates or collateralized mortgage obligations, or Ginnie Mae mortgage pass-through certificates, which are backed by the guarantee of the U.S. government. The majority of our Agency RMBS portfolio is comprised of whole pool certificates.

We seek to deploy moderate leverage as part of our investment strategy. We generally finance our Agency RMBS through short- and long-term borrowings structured as repurchase agreements. We also finance our MSR through revolving credit facilities, repurchase agreements, term notes payable and convertible senior notes.

We have elected to be treated as a REIT for U.S. federal income tax purposes. To qualify as a REIT we are required to meet certain investment and operating tests and annual distribution requirements. We generally will not be subject to U.S. federal income taxes on our taxable income to the extent that we annually distribute all of our net taxable income to stockholders, do not participate in prohibited transactions and maintain our intended qualification as a REIT. However, certain activities that we may perform may cause us to earn income which will not be qualifying income for REIT purposes. We have designated certain of our subsidiaries as taxable REIT subsidiaries, or TRSs, as defined in the Code, to engage in such activities. We also operate our business in a manner that will permit us to maintain our exemption from registration under the Investment Company Act of 1940, as amended, or the 1940 Act. Certain of our subsidiaries have obtained the requisite licenses and approvals to own and manage MSR and to originate and directly service residential mortgage loans.

Forward-Looking Statements

This Quarterly Report on Form 10-Q contains, or incorporates by reference, not only historical information, but also forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, or the Securities Act, and Section 21E of the Securities Exchange Act of 1934, or the Exchange Act, and that are subject to the safe harbors created by such sections. Forward-looking statements involve numerous risks and uncertainties. Our actual results may differ from our beliefs, expectations, estimates, and projections and, consequently, you should not rely on these forward-looking statements as predictions of future events. Forward-looking statements are not historical in nature and can be identified by words such as “anticipate,” “estimate,” “will,” “should,” “expect,” “target,” “believe,” “intend,” “seek,” “plan,” “goals,” “future,” “likely,” “may” and similar expressions or their negative forms, or by references to strategy, plans, or intentions. These forward-looking statements are subject to risks and uncertainties, including, among other things, those described in our Annual Report on Form 10-K for the year ended December 31, 2023, under the caption “Risk Factors.” Other risks, uncertainties and factors that could cause actual results to differ materially from those projected are described below and may be described from time to time in reports we file with the Securities and Exchange Commission, or SEC, including our Quarterly Reports on Form 10-Q and Current Reports on Form 8-K. Forward-looking statements speak only as of the date they are made, and we undertake no obligation to update or revise any such forward-looking statements, whether as a result of new information, future events, or otherwise.

Important factors, among others, that may affect our actual results include:

- changes in interest rates and the market value of our target assets;
- changes in prepayment rates of mortgages underlying our target assets;
- the state of the credit markets and other general economic conditions, particularly as they affect the price of earning assets, the credit status of borrowers and home prices;
- legislative and regulatory actions affecting our business;
- the availability and cost of our target assets;
- the availability and cost of financing for our target assets, including repurchase agreement financing, revolving credit facilities, term notes and convertible notes;
- the impact of any increases in payment delinquencies and defaults on the mortgages comprising and underlying our target assets, including additional servicing costs and servicing advance obligations on the MSR assets we own;
- changes in liquidity in the market for real estate securities, the re-pricing of credit risk in the capital markets, inaccurate ratings of securities by rating agencies, rating agency downgrades of securities, and increases in the supply of real estate securities available-for-sale;
- changes in the values of securities we own and the impact of adjustments reflecting those changes on our condensed consolidated statements of comprehensive income (loss) and balance sheets, including our stockholders’ equity;
- our ability to generate cash flow from our target assets;
- our ability to effectively execute and realize the benefits of strategic transactions and initiatives we have pursued or may in the future pursue;
- our ability to recognize the benefits of our acquisition of RoundPoint Mortgage Servicing LLC and to manage the risks associated with operating a mortgage loan servicer;
- our decision to terminate our Management Agreement with PRCM Advisers LLC and the ongoing litigation related to such termination;
- changes in the competitive landscape within our industry, including changes that may affect our ability to attract and retain personnel;
- our exposure to legal and regulatory claims, penalties or enforcement activities, including those arising from our ownership and management of MSR and prior securitization transactions;
- our exposure to counterparties involved in our MSR business and prior securitization transactions and our ability to enforce representations and warranties made by them;
- our ability to acquire MSR and successfully operate our seller-servicer subsidiaries and oversee the activities of our subservicers;
- our ability to manage various operational and regulatory risks associated with our business;
- interruptions in or impairments to our communications and information technology systems;
- our ability to maintain appropriate internal controls over financial reporting;
- our ability to establish, adjust and maintain appropriate hedges for the risks in our portfolio;
- our ability to maintain our REIT qualification for U.S. federal income tax purposes; and

- limitations imposed on our business due to our REIT status and our status as exempt from registration under the 1940 Act.

This Quarterly Report on Form 10-Q may contain statistics and other data that, in some cases, have been obtained or compiled from information made available by mortgage loan servicers and other third-party service providers.

Factors Affecting our Operating Results

Our net interest income includes income from our securities portfolio, including the amortization of purchase premiums and accretion of purchase discounts. Net interest income, as well as our servicing income, net of servicing costs, will fluctuate primarily as a result of changes in market interest rates, our financing costs and prepayment speeds on our assets. Interest rates, financing costs and prepayment rates vary according to the type of investment, conditions in the financial markets, competition and other factors, none of which can be predicted with any certainty.

Fair Value Measurement

A significant portion of our assets and liabilities are reported at fair value and, therefore, our condensed consolidated balance sheets and statements of comprehensive income (loss) are significantly affected by fluctuations in market prices. At March 31, 2024, approximately 85.8% of our total assets, or $11.3 billion, consisted of financial instruments recorded at fair value. See Note 11 - *Fair Value* to the condensed consolidated financial statements, included in this Quarterly Report on Form 10-Q, for descriptions of valuation methodologies used to measure material assets and liabilities at fair value and details of the valuation models, key inputs to those models and significant assumptions utilized. Although we execute various hedging strategies to mitigate our exposure to changes in fair value, we cannot fully eliminate our exposure to volatility caused by fluctuations in market prices.

Any temporary change in the fair value of our AFS securities, excluding certain AFS securities for which we have elected the fair value option, is recorded as a component of accumulated other comprehensive loss and does not impact our reported income (loss) for U.S. GAAP purposes, or GAAP net income (loss). However, changes in the provision for credit losses on AFS securities are recognized immediately in GAAP net income (loss). Our GAAP net income (loss) is also affected by fluctuations in market prices on the remainder of our financial assets and liabilities recorded at fair value, including interest rate swap, cap and swaption agreements and certain other derivative instruments (*i.e.*, Agency to-be-announced securities, or TBAs, options on TBAs, futures, options on futures, and inverse interest-only securities), which are accounted for as derivative trading instruments under U.S. GAAP, fair value option elected AFS securities and MSR.

We have numerous internal controls in place to help ensure the appropriateness of fair value measurements. Significant fair value measures are subject to detailed analytics and management review and approval. Our entire investment portfolio reported at fair value is priced by third-party brokers and/or by independent pricing vendors. We generally receive three or more broker and vendor quotes on pass-through Agency P&I RMBS, and generally receive multiple broker or vendor quotes on all other securities, including interest-only and inverse interest-only Agency RMBS. We also receive multiple vendor quotes for the MSR in our investment portfolio. For Agency RMBS, the third-party pricing vendors and brokers use pricing models that commonly incorporate such factors as coupons, primary and secondary mortgage rates, rate reset periods, issuer, prepayment speeds, credit enhancements and expected life of the security. For MSR, vendors use pricing models that generally incorporate observable inputs such as principal balance, note rate, geographical location, loan-to-value (LTV) ratios, FICO, appraised value and other loan characteristics, along with observed market yields and trading levels. Pricing vendors will customarily incorporate servicing fee, ancillary income, and earnings rate on escrow as observable inputs. Unobservable or model-driven inputs include forecast per loan annual cost to service, forecast cumulative defaults, default curve, forecast loss severity and forecast voluntary prepayment.

We evaluate the prices we receive from both third-party brokers and pricing vendors by comparing those prices to actual purchase and sale transactions, our internally modeled prices calculated based on market observable rates and credit spreads, and to each other both in current and prior periods. We review and may challenge valuations from third-party brokers and pricing vendors to ensure that such quotes and valuations are indicative of fair value as a result of this analysis. We then estimate the fair value of each security based upon the median of the final broker quotes received, and we estimate the fair value of MSR based upon the average of prices received from third-party vendors, subject to internally-established hierarchy and override procedures.

We utilize “bid side” pricing for our Agency RMBS and, as a result, certain assets, especially the most recent purchases, may realize a markdown due to the “bid-offer” spread. To the extent that this occurs on available-for-sale securities not accounted for under the fair value option, any economic effect of this would be reflected in accumulated other comprehensive loss.

Considerable judgment is used in forming conclusions and estimating inputs to our Level 3 fair value measurements. Level 3 inputs such as interest rate movements, prepayments speeds, credit losses and discount rates are inherently difficult to estimate. Changes to these inputs can have a significant effect on fair value measurements. Accordingly, there is no assurance that our estimates of fair value are indicative of the amounts that would be realized on the ultimate sale or exchange of these assets. At March 31, 2024, 23.5% of our total assets were classified as Level 3 fair value assets.

Critical Accounting Estimates

The preparation of financial statements in accordance with U.S. GAAP requires us to make certain judgments and assumptions, based on information available at the time of our preparation of the financial statements, in determining accounting estimates used in preparation of the statements. Accounting estimates are considered critical if the estimate requires us to make assumptions about matters that were highly uncertain at the time the accounting estimate was made and if different estimates reasonably could have been used in the reporting period or changes in the accounting estimate are reasonably likely to occur from period to period that would have a material impact on our financial condition, results of operations or cash flows. Our significant accounting policies are described in Note 2 to the consolidated financial statements, included under Item 8 of our Annual Report on Form 10-K for the year ended December 31, 2023. Our most critical accounting policies involve our fair valuation of AFS securities, MSR and derivative instruments.

The methods used by us to estimate fair value for AFS securities, MSR and derivative instruments may produce a fair value calculation that may not be indicative of net realizable value or reflective of future fair values. Furthermore, while we believe that our valuation methods are appropriate and consistent with other market participants, the use of different methodologies, or assumptions, to determine the fair value of certain financial instruments could result in a different estimate of fair value at the reporting date. We use prices obtained from third-party pricing vendors or broker quotes deemed indicative of market activity and current as of the measurement date, which in periods of market dislocation, may have reduced transparency. For more information on our fair value measurements, see Note 11 to the condensed consolidated financial statements, included under Item 1 of this Quarterly Report on Form 10-Q. Additionally, the key economic assumptions and sensitivity of the fair value of MSR to immediate adverse changes in these assumptions are presented in Note 6 to the condensed consolidated financial statements, included under Item 1 of this Quarterly Report on Form 10-Q.

Market Conditions and Outlook

Stronger than expected economic data and sticky inflation readings pushed interest rates higher in the first quarter of 2024, tempering the market’s expectations for interest rate cuts by the Federal Reserve, or the Fed, this year. The employment report in each month of the quarter came in stronger than expected, averaging gains of 281,000 new jobs per month, robust results even after taking elevated immigration and seasonal distortions into account. Similarly, both consumer and producer price indices surprised higher, with 3-month annualized core CPI, a metric closely watched by the market and the Fed, reaching 4.5%, its highest level since June 2023. At the start of the year, Fed Funds futures implied more than six rate cuts in 2024, though by quarter-end the number had fallen to just under three, converging to the Fed’s Summary of Economic Projections released in December. The Fed reaffirmed their expectations for three rate cuts for the year at their March meeting but raised the median estimate for the Fed Funds target range in 2025 by 25 basis points.

With Fed Chair Powell preaching patience and not being overly reactive to any single data release, the consensus view remained that a soft landing was the most likely outcome this year. Further guidance by the Fed that they are soon to announce a significant cut in the runoff of their Treasury portfolio - it is expected they will slash the $60 billion monthly cap in half - limited tail scenarios of higher rates and dampened volatility. Ultimately, the 10-year Treasury finished the quarter at a yield of 4.20%, 32 basis points above its starting level, with the 2-year rising by 37 basis points to finish at 4.62%, a net 5 basis point flattening of the yield curve. Though still high by historical standards, realized volatility across the yield curve fell from the prior quarter as did implied volatility for swaptions. Our preferred volatility gauge, 2-year options on 10-year rate, declined to about 97 basis points, close to the bottom end of its range since the beginning of 2023.

With volatility on the decline, the overall performance of the RMBS sector was positive in the first quarter, though performance varied widely. Higher coupons outperformed lower coupons and specified pools outperformed TBAs. The nominal spread for the current coupon finished at +119 basis points, essentially unchanged over the quarter. Specified pools outperformed same coupon TBAs owing to investor concerns regarding potential fast prepayment speeds and elevated demand typical of the beginning of year period. Spreads for current coupons were further aided by lower than expected supply, strong fixed-income fund inflows, and tame prepayment rates. Lower coupons, like 30-year 2s and 2.5s, widened by 5 to 10 basis points on concerns of bank portfolio reallocations.

Mortgage rates drifted higher over the quarter, with 30-year rates averaging around 6.75%. Overall prepayment rates for 30-year Fannie Mae RMBS increased to 5.3% CPR in the April report (March speeds) from 4.3% at the beginning of the quarter. This increase is largely related to seasonal factors and the lag in response to the fall in mortgage rates in the fourth quarter of 2023. Prepayments on loans originated in 2023 were slower than expected in the first quarter, alleviating some concern about how responsive these loans would be to lower rates, and providing lift to higher coupon performance. On the other hand, partial prepayments (otherwise known as curtailments) on higher rate purchase loans are the one area where prepayments have surprised on the fast side. As mortgage rates have now been above 6% for over 18 months, evidence is building that the housing market has begun to normalize to this environment. Existing home sales so far in 2024 have tracked in line with last spring, while listings are up 5-10% year-over-year, which suggests the market may pick up into the second quarter.

For the entire quarter, speeds for our MSR holdings paid 3.87% CPR, which was slower than projections. Activity in the MSR market remained brisk, with bid wanted activity totaling $160 billion. Although a sizeable number, this is down from $223 billion in the first quarter of 2023 and $190 billion in the first quarter of 2022. We expect MSR supply to be lower compared to prior years given low origination volume and the large amount of low coupon servicing that has already traded hands. This lower supply combined with a growing investor base should keep MSR values well supported, as evidenced by the strong traded levels of servicing so far this year.

RMBS funding markets remained stable and liquid throughout the quarter with ample balance sheet available. Spreads on repurchase agreements tightened after year end with financing for RMBS between SOFR plus 18 to 24 basis points.

Given the levered returns available in the market, we remain optimistic about the return potential of our investments. While the market remains subject to periods of high realized rate volatility, which can negatively impact returns, nominal spreads for current coupon Agency RMBS continue to be wide on an historical basis and provide attractive levered returns when paired with MSR or simply hedged with interest rate products like futures or swaps. Assuming unchanged mortgage rates, we expect prepayment rates to rise modestly in the second quarter, reflecting turnover seasonality. Even so, less than 1% of the mortgage loans that back our MSR are likely to refinance at current rates and over 80% of balances are at least 250 basis points below current mortgage rates. Overall, we expect our low duration and low convexity MSR portfolio to continue to generate attractive cashflows with low spread volatility.

The following table provides the carrying value of our investment portfolio by asset type:

(dollars in thousands)	March 31, 2024		December 31, 2023	
Agency RMBS	$ 8,188,432	72.6 %	$ 8,335,245	73.2 %
Mortgage servicing rights	3,084,879	27.4 %	3,052,016	26.8 %
Other	3,953	— %	4,150	— %
Total	$ 11,277,264		$ 11,391,411	

Prepayment speeds and volatility due to interest rates

Our portfolio is subject to market risks, primarily interest rate risk and prepayment risk. We seek to offset a portion of our Agency pool market value exposure through our MSR and interest-only Agency RMBS portfolios. During periods of decreasing interest rates with rising prepayment speeds, the market value of our Agency pools generally increases and the market value of our interest-only securities and MSR generally decreases. The inverse relationship occurs when interest rates rise and prepayments fall. Average prepayment speeds for our overall portfolio decreased from the prior quarter due to mortgage rates and seasonal factors. In addition to changes in interest rates, changes in home price performance, key employment metrics and government programs, among other macroeconomic factors, can affect prepayment speeds. We believe our active portfolio management approach, including our asset selection process, positions us to respond to a variety of market scenarios. Although we are unable to predict future interest rate movements, our strategy of pairing MSR with Agency RMBS, with a focus on managing various associated risks, including interest rate, prepayment, credit, mortgage spread and financing risk, is intended to generate stable performance, relative to RMBS portfolios without MSR, with a low level of sensitivity to changes in the yield curve, prepayments and interest rate cycles.

The following table provides the three-month average CPR experienced by our Agency RMBS and MSR during the three months ended March 31, 2024, and the four immediately preceding quarters:

	Three Months Ended				
	March 31, 2024	December 31, 2023	September 30, 2023	June 30, 2023	March 31, 2023
Agency RMBS	4.8 %	5.2 %	6.5 %	6.5 %	5.3 %
Mortgage servicing rights	3.9 %	3.8 %	4.9 %	5.5 %	4.1 %

Our Agency RMBS are primarily collateralized by pools of fixed-rate mortgage loans. Our Agency portfolio also includes securities with implicit prepayment protection, including lower loan balances (securities collateralized by loans of less than $300,000 in initial principal balance), higher LTVs (securities collateralized by loans with LTVs greater than or equal to 80%), certain geographic concentrations, loans secured by investor-owned properties and lower FICO scores. Our overall allocation of Agency RMBS and holdings of pools with specific characteristics are viewed in the context of our aggregate portfolio strategy, including MSR and related derivative hedging instruments. Additionally, the selection of securities with certain attributes is driven by the perceived relative value of the securities, which factors in the opportunities in the marketplace, the cost of financing and the cost of hedging interest rate, prepayment, credit and other portfolio risks. Accordingly, our Agency RMBS capital allocation reflects management's flexible approach to investing in the marketplace.

The following tables provide the carrying value of our Agency RMBS portfolio by underlying mortgage loan rate type:

	March 31, 2024							
(dollars in thousands)	Principal/ Current Face	Carrying Value	Weighted Average CPR [(1)]	% Prepayment Protected	Gross Weighted Average Coupon Rate	Amortized Cost	Allowance for Credit Losses	Weighted Average Loan Age (months)
Agency RMBS AFS:								
30-Year Fixed:								
≤ 2.5%	$ 414,571	$ 344,394	— %	— %	3.3 %	$ 354,355	$ —	33
3.0%	233,996	202,852	4.7 %	85.4 %	3.7 %	207,592	—	29
3.5%	65,663	58,990	5.5 %	71.8 %	4.3 %	57,698	—	26
4.0%	494,994	463,123	3.8 %	100.0 %	4.6 %	499,676	—	52
4.5%	2,288,051	2,201,698	6.4 %	100.0 %	5.1 %	2,339,802	—	43
5.0%	1,889,257	1,859,602	6.6 %	100.0 %	5.8 %	1,925,202	—	24
5.5%	1,217,622	1,218,396	6.3 %	99.8 %	6.4 %	1,228,376	—	21
6.0%	1,147,679	1,165,531	8.5 %	95.9 %	6.9 %	1,173,316	—	17
≥ 6.5%	7,915	8,243	— %	97.8 %	7.8 %	8,498	—	251
	7,759,748	7,522,829	6.4 %	94.1 %	5.6 %	7,794,515	—	31
Other P&I	620,367	607,488	4.8 %	— %	5.3 %	612,859	—	11
Interest-only	787,501	48,274	6.6 %	— %	4.3 %	55,875	(3,217)	101
Agency Derivatives	156,527	9,841	9.3 %	— %	6.6 %	16,562	—	228
Total Agency RMBS	$ 9,324,143	$ 8,188,432		86.5 %		$ 8,479,811	$ (3,217)	

(dollars in thousands)	December 31, 2023 Principal/ Current Face	Carrying Value	Weighted Average CPR [1]	% Prepayment Protected	Gross Weighted Average Coupon Rate	Amortized Cost	Allowance for Credit Losses	Weighted Average Loan Age (months)
Agency RMBS AFS:								
30-Year Fixed:								
≤ 2.5%	$ 420,720	$ 359,801	3.6 %	— %	3.3 %	$ 359,188	$ —	—
3.0%	237,874	211,852	2.6 %	85.4 %	3.7 %	210,850	—	26
3.5%	125,647	115,675	2.0 %	84.9 %	4.3 %	113,092	—	22
4.0%	503,451	479,715	5.2 %	100.0 %	4.6 %	508,294	—	49
4.5%	2,331,021	2,281,535	5.2 %	100.0 %	5.1 %	2,384,460	—	40
5.0%	2,084,422	2,078,510	3.6 %	100.0 %	5.8 %	2,125,950	—	21
5.5%	1,358,288	1,370,920	5.4 %	99.8 %	6.4 %	1,371,534	—	18
6.0%	779,560	795,963	6.1 %	99.8 %	6.9 %	799,184	—	17
≥ 6.5%	8,448	8,853	7.4 %	97.8 %	7.8 %	9,084	—	249
	7,849,431	7,702,824	4.7 %	94.7 %	5.5 %	7,881,636	—	28
Other P&I	572,302	569,077	0.8 %	— %	5.3 %	564,336	—	9
Interest-only	840,723	51,098	5.3 %	— %	4.3 %	58,567	(3,619)	100
Agency Derivatives	163,735	12,246	8.0 %	— %	6.7 %	17,814	—	225
Total Agency RMBS	$ 9,426,191	$ 8,335,245		87.5 %		$ 8,522,353	$ (3,619)	

(1) Weighted average actual one-month CPR released at the beginning of the following month based on RMBS held as of the preceding month-end.

Our MSR portfolio offers attractive spreads and has many risk reducing characteristics when paired with our Agency RMBS portfolio. The following table summarizes activity related to the unpaid principal balance, or UPB, of loans underlying our MSR portfolio for the three months ended March 31, 2024, and the four immediately preceding quarters:

(in thousands)	Three Months Ended March 31, 2024	December 31, 2023	September 30, 2023	June 30, 2023	March 31, 2023
UPB at beginning of period	$ 215,647,172	$ 218,662,270	$ 222,622,177	$ 212,444,503	$ 204,876,693
Purchases of mortgage servicing rights	3,116,814	829,133	472,154	14,773,601	11,381,496
Sales of mortgage servicing rights	(1,430,294)	(61,612)	—	—	(142,598)
Scheduled payments	(1,645,501)	(1,639,884)	(1,639,871)	(1,594,693)	(1,527,309)
Prepaid	(2,110,763)	(2,127,341)	(2,786,904)	(2,993,493)	(2,119,541)
Other changes	19,452	(15,394)	(5,286)	(7,741)	(24,238)
UPB at end of period	$ 213,596,880	$ 215,647,172	$ 218,662,270	$ 222,622,177	$ 212,444,503

Counterparty exposure and leverage ratio

We monitor counterparty exposure amongst our broker, banking and lending counterparties on a daily basis. We believe our broker and banking counterparties are well-capitalized organizations, and we attempt to manage our cash balances across these organizations to reduce our exposure to any single counterparty.

As of March 31, 2024, we had entered into repurchase agreements with 37 counterparties, 19 of which had outstanding balances. In addition, we held short- and long-term borrowings under revolving credit facilities, term notes payable and unsecured convertible senior notes. As of March 31, 2024, the debt-to-equity ratio funding our Agency and non-Agency investment securities, MSR and servicing advances, which includes unsecured borrowings under convertible senior notes, was 4.6:1.0.

As of March 31, 2024, we held $666.2 million in cash and cash equivalents, approximately $1.0 million of unpledged Agency RMBS and $3.6 million of unpledged non-Agency securities. As a result, we had an overall estimated unused borrowing capacity on our unpledged securities of approximately $3.0 million. As of March 31, 2024, we held approximately $42.5 million of unpledged MSR and $9.5 million of unpledged servicing advances. Overall, on March 31, 2024, we had $135.4 million unused committed and $466.3 million unused uncommitted borrowing capacity on MSR financing facilities, and $140.7 million in unused committed borrowing capacity on servicing advance financing facilities. Generally, unused borrowing capacity may be the result of our election not to utilize certain financing, as well as delays in the timing in which funding is provided, insufficient collateral or the inability to meet lenders' eligibility requirements for specific types of asset classes.

We also monitor exposure to our MSR counterparties. We may be required to make representations and warranties to investors in the loans underlying the MSR we own; however, some of our MSR were purchased on a bifurcated basis, meaning the representation and warranty obligations remain with the seller. If the representations and warranties we make prove to be inaccurate, we may be obligated to repurchase certain mortgage loans, which may impact the profitability of our portfolio. Although we obtain similar representations and warranties from the counterparty from which we acquired the relevant asset, if those representations and warranties do not directly mirror those we make to the investor, or if we are unable to enforce the representations and warranties against the counterparty for a variety of reasons, including the financial condition or insolvency of the counterparty, we may not be able to seek indemnification from our counterparties for any losses attributable to the breach.

Summary of Results of Operations and Financial Condition

Our book value per common share for U.S. GAAP purposes was $15.64 at March 31, 2024, an increase from $15.21 per common share at December 31, 2023. The rise in book value for the three months ended March 31, 2024 was primarily driven by net servicing and derivative income, offset by net unrealized losses recognized on AFS securities and dividends declared.

Our GAAP net income attributable to common stockholders was $192.4 million, or $1.73 per diluted weighted average share, for the three months ended March 31, 2024, as compared to GAAP net loss attributable to common stockholders of $189.2 million, or $(2.05) per diluted weighted average share, for the three months ended March 31, 2023.

With our accounting treatment for AFS securities, unrealized fluctuations in the market values of AFS securities, excluding certain AFS securities for which we have elected the fair value option, do not impact our GAAP net income (loss) or taxable income but are recognized on our condensed consolidated balance sheets as a change in stockholders' equity under "accumulated other comprehensive loss." For the three months ended March 31, 2024 and 2023, net unrealized losses on AFS securities recognized as other comprehensive loss were $103.1 million and net unrealized gains on AFS securities recognized as other comprehensive income were $125.9 million, respectively. This, combined with GAAP net income attributable to common stockholders of $192.4 million and GAAP net loss attributable to common stockholders of $189.2 million for the three months ended March 31, 2024 and 2023, respectively, resulted in comprehensive income attributable to common stockholders of $89.4 million and comprehensive loss attributable to common stockholders of $63.2 million for the three months ended March 31, 2024 and 2023, respectively.

The following table presents the components of our comprehensive income (loss) for the three months ended March 31, 2024 and 2023:

(in thousands, except share data) **Income Statement Data:**	**Three Months Ended March 31, 2024**	**Three Months Ended March 31, 2023**
	(unaudited)	
Net interest income (expense):		
Interest income	$ 117,783	$ 116,593
Interest expense	160,000	142,490
Net interest expense	(42,217)	(25,897)
Net servicing income:		
Servicing income	166,333	153,320
Servicing costs	7,119	28,366
Net servicing income	159,214	124,954
Other income (loss):		
(Loss) gain on investment securities	(10,975)	10,798
Gain (loss) on servicing asset	11,012	(28,079)
Gain (loss) on interest rate swap and swaption agreements	98,510	(82,154)
Gain (loss) on other derivative instruments	47,599	(155,771)
Other (loss) income	(3)	—
Total other income (loss)	146,143	(255,206)
Expenses:		
Compensation and benefits	26,529	14,083
Other operating expenses	21,052	10,484
Total expenses	47,581	24,567
Income (loss) before income taxes	215,559	(180,716)
Provision for (benefit from) income taxes	11,971	(3,908)
Net income (loss)	203,588	(176,808)
Dividends on preferred stock	(11,784)	(12,365)
Gain on repurchase and retirement of preferred stock	644	—
Net income (loss) attributable to common stockholders	$ 192,448	$ (189,173)
Basic earnings (loss) per weighted average common share	$ 1.85	$ (2.05)
Diluted earnings (loss) per weighted average common share	$ 1.73	$ (2.05)
Dividends declared per common share	$ 0.45	$ 0.60
Weighted average number of shares of common stock:		
Basic	103,401,940	92,575,840
Diluted	112,973,317	92,575,840
Comprehensive income (loss):		
Net income (loss)	$ 203,588	$ (176,808)
Other comprehensive (loss) income:		
Unrealized (loss) gain on available-for-sale securities	(103,078)	125,931
Other comprehensive (loss) income	(103,078)	125,931
Comprehensive income (loss)	100,510	(50,877)
Dividends on preferred stock	(11,784)	(12,365)
Gain on repurchase and retirement of preferred stock	644	—
Comprehensive income (loss) attributable to common stockholders	$ 89,370	$ (63,242)

(in thousands) Balance Sheet Data:		March 31, 2024		December 31, 2023
Available-for-sale securities	$	8,182,544	$	8,327,149
Mortgage servicing rights	$	3,084,879	$	3,052,016
Total assets	$	13,161,925	$	13,138,800
Repurchase agreements	$	8,361,638	$	8,020,207
Revolving credit facilities	$	1,357,671	$	1,329,171
Term notes payable	$	295,520	$	295,271
Convertible senior notes	$	268,953	$	268,582
Total stockholders' equity	$	2,240,070	$	2,203,390

Results of Operations

The following analysis focuses on financial results during the three months ended March 31, 2024 and 2023.

Interest Income

Interest income increased slightly from $116.6 million for the three months ended March 31, 2023 to $117.8 million for the same period in 2024 due to lower amortization recognized on Agency RMBS from lower unamortized premium and higher interest on cash balances as a result of the higher interest rate environment, offset by a decrease in the use of reverse repurchase agreements.

Interest Expense

Interest expense increased from $142.5 million for the three months ended March 31, 2023 to $160.0 million for the same period in 2024 due to increases in interest rates and higher borrowing balances on MSR, offset by lower borrowing balances on AFS securities.

Net Interest Income

The following tables present the components of interest income and average net asset yield earned by asset type, the components of interest expense and average cost of funds on borrowings incurred by collateral type, and net interest income and average net interest spread for the three months ended March 31, 2024 and 2023:

	Three Months Ended March 31, 2024			Three Months Ended March 31, 2023		
(dollars in thousands)	Average Balance (1)	Interest Income/Expense	Net Yield/Cost of Funds	Average Balance (1)	Interest Income/Expense	Net Yield/Cost of Funds
Interest-earning assets:						
Available-for-sale securities	$ 8,569,566	$ 100,605	4.7 %	$ 8,649,865	$ 97,038	4.5 %
Reverse repurchase agreements	345,997	4,659	5.4 %	816,780	8,562	4.2 %
Other		12,519			10,993	
Total interest income/net asset yield	$ 8,915,563	$ 117,783	5.3 %	$ 9,466,645	$ 116,593	4.9 %
Interest-bearing liabilities:						
Borrowings collateralized by:						
Available-for-sale securities	$ 7,986,939	$ 112,353	5.6 %	$ 8,181,110	$ 92,023	4.5 %
Agency Derivatives (2)	8,393	130	6.2 %	12,463	159	5.1 %
Mortgage servicing rights and advances (3)	1,889,112	42,892	9.1 %	1,878,322	38,895	8.3 %
U.S. Treasuries (4)	—	—	— %	571,768	6,577	4.6 %
Unsecured borrowings:						
Convertible senior notes	268,831	4,619	6.9 %	282,729	4,836	6.8 %
Other		6			—	
Total interest expense/cost of funds	$ 10,153,275	$ 160,000	6.3 %	$ 10,926,392	142,490	5.2 %
Net interest expense/spread		$ (42,217)	(1.0)%		$ (25,897)	(0.3)%

(1) Average asset balance represents average amortized cost on AFS securities and average unpaid principal balance on other assets.
(2) Yields on Agency Derivatives not shown as interest income is included in gain (loss) on other derivative instruments in the condensed consolidated statements of comprehensive income (loss).
(3) Yields on mortgage servicing rights and advances not shown as these assets do not earn interest.
(4) U.S. Treasury securities effectively borrowed under reverse repurchase agreements.

The increase in yields on AFS securities for the three months ended March 31, 2024, as compared to the same period in 2023 was driven by lower amortization recognized on Agency RMBS from lower unamortized premium. The increase in cost of funds associated with the financing of AFS securities for the three months ended March 31, 2024, as compared to the same period in 2023, was the result of rising interest rates.

The increase in yields on reverse repurchase agreements for the three months ended March 31, 2024, as compared to the same period in 2023, was the result of rising interest rates. However, for the three months ended March 31, 2023, these yields were offset by the cost of financing the associated repurchase agreements collateralized by U.S. Treasury securities. We did not hold any repurchase agreements collateralized by U.S. Treasury securities during the three months ended March 31, 2024.

The increase in cost of funds associated with the financing of Agency Derivatives for the three months ended March 31, 2024, as compared to the same period in 2023, was the result of rising interest rates.

The increase in cost of funds associated with the financing of MSR assets and related servicing advance obligations for the three months ended March 31, 2024, as compared to the same period in 2023, was due to rising interest rates and an increase in the use of revolving credit facilities and repurchase agreement financing, which on average carry higher floating rate spreads than term notes. Additionally, during the three months ended September 30, 2023, we repurchased $104.2 million principal amount of our outstanding MSR term notes in open market transactions. These repurchased MSR term note bonds were then financed via existing master repurchase agreements. We have one revolving credit facility in place to finance our servicing advance obligations, which are included in other assets on our condensed consolidated balance sheets.

The slight increase in cost of funds associated with our convertible senior notes for the three months ended March 31, 2024, as compared to the same period in 2023, was due to an increase in amortization of deferred debt issuance costs.

The following tables present the components of the yield earned on our AFS securities portfolio as a percentage of our average amortized cost of securities for the three months ended March 31, 2024 and 2023:

	Three Months Ended March 31,	
(in thousands)	**2024**	**2023**
Gross yield/stated coupon	4.9 %	4.9 %
Net (premium amortization) discount accretion	(0.2)%	(0.4)%
Net yield	4.7 %	4.5 %

Net Servicing Income

The following table presents the components of net servicing income for the three months ended March 31, 2024 and 2023:

	Three Months Ended March 31,	
(in thousands)	**2024**	**2023**
Servicing fee income	$ 134,320	$ 129,237
Ancillary and other fee income	3,857	369
Float income	28,156	23,714
Total servicing income	166,333	153,320
Total servicing costs	7,119	28,366
Net servicing income	$ 159,214	$ 124,954

The increase in total servicing income for the three months ended March 31, 2024, as compared to the same period in 2023, was due to the acquisition of RoundPoint, as well as higher servicing fee income on a larger MSR portfolio and higher float income as a result of the higher interest rate environment. The decrease in servicing costs during the three months ended March 31, 2024, as compared to the same period in 2023, was the result of lower third-party subservicing fees due to the acquisition of RoundPoint.

(Loss) Gain On Investment Securities

The following table presents the components of (loss) gain on investment securities for the three months ended March 31, 2024 and 2023:

	Three Months Ended March 31,	
(in thousands)	**2024**	**2023**
Proceeds from sales	$ 333,082	$ 1,360,742
Amortized cost of securities sold	(343,245)	(1,393,484)
Total realized losses on sales	(10,163)	(32,742)
(Provision for) reversal of provision for credit losses	(80)	142
Other	(732)	43,398
(Loss) gain on investment securities	$ (10,975)	$ 10,798

In the ordinary course of our business, we make investment decisions and allocate capital in accordance with our views on the changing risk/reward dynamics in the market and in our portfolio. We do not expect to sell assets on a frequent basis, but may sell assets to reallocate capital into new assets that we believe have higher risk-adjusted returns.

We use a discounted cash flow method to estimate and recognize an allowance for credit losses on AFS securities. Subsequent adverse or favorable changes in expected cash flows are recognized immediately in earnings as a provision for or reversal of provision for credit losses (within (loss) gain on investment securities).

The majority of the “other” component of (loss) gain on investment securities is related to changes in unrealized gains (losses) on certain AFS securities for which we have elected the fair value option. Fluctuations in this line item are primarily driven by the reclassification of unrealized gains and losses to realized gains and losses upon sale, as well as changes in fair value assumptions.

Gain (Loss) On Servicing Asset

The following table presents the components of gain (loss) on servicing asset for the three months ended March 31, 2024 and 2023:

	Three Months Ended March 31,	
(in thousands)	**2024**	**2023**
Changes in fair value due to changes in valuation inputs or assumptions used in the valuation model	$ 54,430	$ 20,421
Changes in fair value due to realization of cash flows (runoff)	(48,768)	(47,661)
Gains (losses) on sales	5,350	(839)
Gain (loss) on servicing asset	$ 11,012	$ (28,079)

The increase in gain (decrease in loss) on servicing asset for the three months ended March 31, 2024, as compared to the same period in 2023, was driven by higher favorable change in valuation assumptions used in the fair valuation of MSR and gains realized on sales of MSR, offset by slightly higher runoff on a larger MSR portfolio during the three months ended March 31, 2024.

Gain (Loss) On Interest Rate Swap And Swaption Agreements

The following table summarizes the net interest spread and gains and losses associated with our interest rate swap and swaption positions recognized during the three months ended March 31, 2024 and 2023:

	Three Months Ended March 31,	
(in thousands)	**2024**	**2023**
Net interest spread	$ 14,295	$ 3,611
Early termination, agreement maturation and option expiration gains (losses)	13,890	(18,580)
Change in unrealized gain (loss) on interest rate swap and swaption agreements, at fair value	70,325	(67,185)
Gain (loss) on interest rate swap and swaption agreements	$ 98,510	$ (82,154)

Net interest spread recognized for the accrual and/or settlement of the net interest expense associated with our interest rate swaps results from receiving either a floating interest rate (OIS or SOFR) or a fixed interest rate and paying either a fixed interest rate or a floating interest rate (OIS or SOFR) on positions held to economically hedge/mitigate portfolio interest rate exposure (or duration) risk. We may elect to terminate certain swaps and swaptions to align with our investment portfolio, agreements may mature or options may expire resulting in full settlement of our net interest spread asset/liability and the recognition of realized gains and losses, including early termination penalties. The change in fair value of interest rate swaps and swaptions during the three months ended March 31, 2024 and 2023 was a result of changes to floating interest rates (OIS or SOFR), the swap curve and corresponding counterparty borrowing rates. Since swaps and swaptions are used for purposes of hedging our interest rate exposure, their unrealized valuation gains and losses (excluding the reversal of unrealized gains and losses to realized gains and losses upon termination, maturation or option expiration) are generally offset by unrealized losses and gains in our Agency RMBS AFS portfolio, which are recorded either directly to stockholders' equity through other comprehensive (loss) income or to (loss) gain on investment securities, in the case of certain AFS securities for which we have elected the fair value option.

Gain (Loss) On Other Derivative Instruments

The following table provides a summary of the total net gains (losses) recognized on other derivative instruments we hold for purposes of both hedging and non-hedging activities, principally TBAs, futures, options on futures, and inverse interest-only securities during the three months ended March 31, 2024 and 2023:

(in thousands)	Three Months Ended March 31,	
	2024	**2023**
TBAs	$ (59,180)	$ (17,164)
Futures	108,936	(140,087)
Options on futures	(127)	—
Inverse interest-only securities	(2,030)	1,480
Gain (loss) on other derivative instruments	$ 47,599	$ (155,771)

For further details regarding our use of derivative instruments and related activity, refer to Note 8 - *Derivative Instruments and Hedging Activities* to the condensed consolidated financial statements, included in this Quarterly Report on Form 10-Q.

Expenses

The following table presents the components of expenses for the three months ended March 31, 2024 and 2023:

(dollars in thousands)	Three Months Ended March 31, 2024	Three Months Ended March 31, 2023
Compensation and benefits:		
Non-cash equity compensation expenses	$ 6,083	$ 6,052
All other compensation and benefits	20,446	8,031
Total compensation and benefits	$ 26,529	$ 14,083
Other operating expenses:		
Certain operating expenses (1)	$ 1,198	$ 5,418
All other operating expenses	19,854	5,066
Total other operating expenses	$ 21,052	$ 10,484
Annualized operating expense ratio	8.5 %	4.3 %
Annualized operating expense ratio, excluding non-cash equity compensation and certain operating expenses (1)	7.2 %	2.3 %

(1) Certain operating expenses predominantly consists of expenses incurred in connection with the Company's ongoing litigation with PRCM Advisers LLC, as discussed within Note 16 to the condensed consolidated financial statements, included under Item 1 of this Quarterly Report on Form 10-Q. It also includes certain transaction expenses incurred in connection with the Company's acquisition of RoundPoint.

The increase in total operating expenses during the three months ended March 31, 2024, as compared to the same period in 2023, was driven by the addition of RoundPoint's compensation, benefits, operating and loan level expenses, offset by lower expenses incurred in connection with the Company's ongoing litigation with PRCM Advisers LLC.

Income Taxes

During the three months ended March 31, 2024, we recognized a provision for income taxes of $12.0 million, which was primarily due to net income from MSR servicing activity and net gains recognized on MSR, offset by operating expenses incurred in our TRSs. During the three months ended March 31, 2023, we recognized a benefit from income taxes of $3.9 million, which was primarily due to net losses recognized on MSR and operating expenses incurred, offset by net income from MSR servicing activity in our TRSs.

Financial Condition

Available-for-Sale Securities, at Fair Value

The majority of our AFS investment securities portfolio is comprised of fixed rate Agency mortgage-backed securities backed by single-family and multi-family mortgage loans. We also hold $4.0 million in tranches of mortgage-backed and asset-backed P&I and interest-only non-Agency securities. All of our P&I Agency RMBS AFS are Fannie Mae or Freddie Mac mortgage pass-through certificates or collateralized mortgage obligations, or Ginnie Mae mortgage pass-through certificates, which are backed by the guarantee of the U.S. government. The majority of our Agency RMBS portfolio is comprised of whole pool certificates.

The tables below summarizes certain characteristics of our Agency RMBS AFS at March 31, 2024:

	March 31, 2024								
(dollars in thousands, except purchase price)	Principal/ Current Face	Net (Discount) Premium	Amortized Cost	Allowance for Credit Losses	Unrealized Gain	Unrealized Loss	Carrying Value	Weighted Average Coupon Rate	Weighted Average Purchase Price
P&I securities	$ 8,380,115	$ 27,259	$ 8,407,374	$ —	$ 6,079	$ (283,136)	$ 8,130,317	4.82 %	$ 100.70
Interest-only securities	787,501	55,875	55,875	(3,217)	620	(5,004)	48,274	2.11 %	$ 17.03
Total	$ 9,167,616	$ 83,134	$ 8,463,249	$ (3,217)	$ 6,699	$ (288,140)	$ 8,178,591		

Mortgage Servicing Rights, at Fair Value

One of our wholly owned subsidiaries, Matrix, has approvals from Fannie Mae and Freddie Mac to own and manage MSR, which represent the right to control the servicing of residential mortgage loans. Matrix acquires MSR from third-party originators through flow and bulk purchases as well as through the recapture of MSR on loans in our MSR portfolio that refinance. As of March 31, 2024, our MSR had a fair market value of $3.1 billion.

As of March 31, 2024, our MSR portfolio included MSR on 844,869 loans with an unpaid principal balance of approximately $213.6 billion. The following table summarizes certain characteristics of the loans underlying our MSR by gross weighted average coupon rate types and ranges at March 31, 2024:

	March 31, 2024									
(dollars in thousands)	Number of Loans	Unpaid Principal Balance	Weighted Average Gross Coupon Rate	Weighted Average Current Loan Size	Weighted Average Loan Age (months)	Weighted Average Original FICO	Weighted Average Original LTV	60+ Day Delinquencies	3-Month CPR	Net Servicing Fee (bps)
30-Year Fixed:										
≤ 3.25%	299,570	$ 94,020,759	2.8 %	$ 371	38	768	71.0 %	0.4 %	2.9 %	25.1
> 3.25 - 3.75%	145,100	37,407,578	3.4 %	327	51	753	74.1 %	0.8 %	4.0 %	25.2
> 3.75 - 4.25%	104,829	21,665,686	3.9 %	272	73	752	75.7 %	1.0 %	4.7 %	25.5
> 4.25 - 4.75%	58,640	10,710,595	4.4 %	261	72	739	77.3 %	1.9 %	5.2 %	25.3
> 4.75 - 5.25%	40,852	9,577,376	4.9 %	355	41	746	78.8 %	1.5 %	4.5 %	25.2
> 5.25%	64,614	18,252,578	6.0 %	384	21	746	80.3 %	1.3 %	5.4 %	26.5
	713,605	191,634,572	3.6 %	345	45	758	73.7 %	0.7 %	3.7 %	25.3
15-Year Fixed:										
≤ 2.25%	22,588	5,765,007	2.0 %	301	35	777	59.1 %	0.1 %	2.8 %	25.0
> 2.25 - 2.75%	38,118	7,796,755	2.4 %	253	39	772	58.8 %	0.2 %	4.1 %	25.0
> 2.75 - 3.25%	33,658	4,398,261	2.9 %	186	64	765	61.4 %	0.2 %	5.4 %	25.0
> 3.25 - 3.75%	19,008	1,815,588	3.4 %	146	77	756	64.0 %	0.4 %	7.6 %	25.3
> 3.75 - 4.25%	8,872	725,040	3.9 %	137	73	742	65.3 %	0.9 %	8.4 %	25.4
> 4.25%	6,579	795,133	5.0 %	225	34	742	65.2 %	0.8 %	9.3 %	28.0
	128,823	21,295,784	2.6 %	238	47	769	60.3 %	0.2 %	4.7 %	25.2
Total ARMs	2,441	666,524	4.6 %	364	56	760	71.0 %	1.0 %	12.9 %	25.4
Total	844,869	$ 213,596,880	3.5 %	$ 335	45	759	72.4 %	0.7 %	3.9 %	25.3

Financing

Our borrowings consist primarily of repurchase agreements, revolving credit facilities, term notes payable and convertible senior notes. Repurchase agreements, revolving credit facilities and term notes payable are collateralized by our pledge of AFS securities, derivative instruments, MSR, servicing advances and certain cash balances. Substantially all of our Agency RMBS are currently pledged as collateral for repurchase agreements. Additionally, a substantial portion of our MSR is currently pledged as collateral for repurchase agreements, revolving credit facilities and term notes payable, and a portion of our servicing advances have been pledged as collateral for revolving credit facilities. In connection with our securitization of MSR and issuance of term notes payable, a variable funding note, or VFN, was issued to one of our subsidiaries. We have one repurchase facility that is secured by the VFN, which is collateralized by our MSR. Finally, our convertible senior notes due 2026 are unsecured and pay interest semiannually at a rate of 6.25% per annum.

At March 31, 2024, borrowings under repurchase agreements, revolving credit facilities, term notes payable and convertible senior notes had the following characteristics:

(dollars in thousands)	March 31, 2024		
Borrowing Type	Amount Outstanding	Weighted Average Borrowing Rate	Weighted Average Years to Maturity
Repurchase agreements	$ 8,361,638	5.61 %	0.2
Revolving credit facilities	1,357,671	8.56 %	1.3
Term notes payable	295,520	8.24 %	0.2
Convertible senior notes [1]	268,953	6.25 %	1.8
Total	$ 10,283,782	6.09 %	0.4

(dollars in thousands)	March 31, 2024		
Collateral Type	Amount Outstanding	Weighted Average Borrowing Rate	Weighted Average Haircut on Collateral Value
Agency RMBS	$ 8,094,030	5.51 %	3.7 %
Non-Agency securities	217	6.13 %	44.2 %
Agency Derivatives	8,414	6.10 %	18.5 %
Mortgage servicing rights	1,852,868	8.50 %	32.1 %
Mortgage servicing advances	59,300	8.49 %	12.9 %
Other [1]	268,953	6.25 %	N/A
Total	$ 10,283,782	6.09 %	8.8 %

(1) Includes unsecured convertible senior notes due 2026 paying interest semiannually at a rate of 6.25% per annum on the aggregate principal amount of $287.5 million.

As of March 31, 2024, the debt-to-equity ratio funding our AFS securities, MSR, servicing advances and Agency Derivatives, which includes unsecured borrowings under convertible senior notes, was 4.6:1.0. Our Agency RMBS, given their liquidity and high credit quality, are eligible for higher levels of leverage, while MSR, with less liquidity and/or more exposure to prepayment risk, utilize lower levels of leverage. Generally, our debt-to-equity ratio is directly correlated to the composition of our portfolio; typically, the higher the percentage of Agency RMBS we hold, the higher our debt-to-equity ratio will be. However, in addition to portfolio mix, our debt-to-equity ratio is a function of many other factors, including the liquidity of our portfolio, the availability and price of our financing, the diversification of our counterparties and their available capacity to finance our assets, and anticipated regulatory developments. We may alter the percentage allocation of our portfolio among our target assets depending on the relative value of the assets that are available to purchase from time to time, including at times when we are deploying proceeds from offerings we conduct. We believe the current degree of leverage within our portfolio helps ensure that we have access to unused borrowing capacity, thus supporting our liquidity and the strength of our balance sheet.

The following table provides a summary of our borrowings under repurchase agreements (excluding those collateralized by U.S. Treasuries), revolving credit facilities, term notes payable and convertible senior notes and our debt-to-equity ratios for the three months ended March 31, 2024, and the four immediately preceding quarters:

(dollars in thousands)

For the Three Months Ended	Quarterly Average	End of Period Balance	Maximum Balance of Any Month-End	End of Period Total Borrowings to Equity Ratio	End of Period Net Long (Short) TBA Cost Basis	End of Period Net Payable (Receivable) for Unsettled RMBS	End of Period Economic Debt-to-Equity Ratio (1)
March 31, 2024	$ 10,153,275	$ 10,283,782	$ 10,352,896	4.6:1.0	$ 3,421,932	$ (213,264)	6.0:1.0
December 31, 2023	$ 10,449,060	$ 9,913,231	$ 10,984,022	4.5:1.0	$ 3,170,548	$ 196,644	6.0:1.0
September 30, 2023	$ 11,058,648	$ 11,087,145	$ 11,138,859	5.2:1.0	$ 2,147,540	$ —	6.3:1.0
June 30, 2023	$ 10,820,230	$ 11,189,689	$ 11,189,689	5.0:1.0	$ 2,905,852	$ 54,739	6.4:1.0
March 31, 2023	$ 10,354,624	$ 11,058,709	$ 11,162,257	4.8:1.0	$ 3,644,540	$ —	6.5:1.0

(1) Defined as total borrowings under repurchase agreements (excluding those collateralized by U.S. Treasuries), revolving credit facilities, term notes payable and convertible senior notes, plus implied debt on net TBA cost basis and net payable (receivable) for unsettled RMBS, divided by total equity.

Equity

The following table provides details of our changes in stockholders' equity from December 31, 2023 to March 31, 2024.

(in millions, except per share amounts)	Book Value	Common Shares Outstanding	Common Book Value Per Share
Common stockholders' equity at December 31, 2023	$ 1,569.5	103.2	$ 15.21
Net income	203.6		
Other comprehensive loss	(103.0)		
Comprehensive income	100.6		
Dividends on preferred stock	(11.8)		
Gain on repurchase and retirement of preferred stock	0.6		
Comprehensive income attributable to common stockholders	89.4		
Dividends on common stock	(47.1)		
Other	6.1	0.3	
Balance before capital transactions	1,617.9	103.5	
Repurchase and retirement of preferred stock	0.4		
Common stockholders' equity at March 31, 2024	$ 1,618.3	103.5	$ 15.64
Total preferred stock liquidation preference	621.8		
Total stockholders' equity at March 31, 2024	$ 2,240.1		

Liquidity and Capital Resources

Our liquidity and capital resources are managed and forecasted on a daily basis. We believe this ensures that we have sufficient liquidity to absorb market events that could negatively impact collateral valuations and result in margin calls. We also believe that it gives us the flexibility to manage our portfolio to take advantage of market opportunities.

Our principal sources of cash consist of borrowings under repurchase agreements, revolving credit facilities, term notes payable, payments of principal and interest we receive on our target assets, cash generated from our operating results, and proceeds from capital market transactions. We typically use cash to repay principal and interest on our borrowings, to purchase our target assets, to make dividend payments on our capital stock, and to fund our operations. To the extent that we raise additional equity capital through capital market transactions, we anticipate using cash proceeds from such transactions to purchase our target assets and for other general corporate purposes. Such general corporate purposes may include the refinancing or repayment of debt, the repurchase or redemption of common and preferred equity securities, and other capital expenditures.

As of March 31, 2024, we held $666.2 million in cash and cash equivalents available to support our operations; $11.3 billion of AFS securities, MSR, and derivative assets held at fair value; and $10.3 billion of outstanding debt in the form of repurchase agreements, borrowings under revolving credit facilities, term notes payable and convertible senior notes. During the three months ended March 31, 2024, the debt-to-equity ratio funding our Agency and non-Agency investment securities, MSR and servicing advances, which includes unsecured borrowings under convertible senior notes, increased from 4.5:1.0 to 4.6:1.0, which was driven by a slight increase in financing on Agency RMBS. During the three months ended March 31, 2024, our economic debt-to-equity ratio funding our Agency and non-Agency investment securities, MSR and servicing advances, which includes unsecured borrowings under convertible senior notes, implied debt on net TBA cost basis and net payable (receivable) for unsettled RMBS, remained consistent at 6.0:1.0.

As of March 31, 2024, we held approximately $1.0 million of unpledged Agency RMBS and $3.6 million of unpledged non-Agency securities. As a result, we had an overall estimated unused borrowing capacity on unpledged securities of approximately $3.0 million. As of March 31, 2024, we held approximately $42.5 million of unpledged MSR and $9.5 million of unpledged servicing advances. Overall, on March 31, 2024, we had $135.4 million unused committed and $466.3 million unused uncommitted borrowing capacity on MSR financing facilities, and $140.7 million in unused committed borrowing capacity on servicing advance financing facilities. Generally, unused borrowing capacity may be the result of our election not to utilize certain financing, as well as delays in the timing in which funding is provided, insufficient collateral or the inability to meet lenders' eligibility requirements for specific types of asset classes. On a daily basis, we monitor and forecast our available, or excess, liquidity. Additionally, we frequently perform shock analyses against various market events to monitor the adequacy of our excess liquidity.

During the three months ended March 31, 2024, we did not experience any material issues accessing our funding sources. We expect ongoing sources of financing to be primarily repurchase agreements, revolving credit facilities, term notes payable, convertible notes and similar financing arrangements. We plan to finance our assets with a moderate amount of leverage, the level of which may vary based upon the particular characteristics of our portfolio and market conditions.

As of March 31, 2024, we had master repurchase agreements in place with 37 counterparties (lenders), the majority of which are U.S. domiciled financial institutions, and we continue to evaluate additional counterparties to manage and optimize counterparty risk. Under our repurchase agreements, we are required to pledge additional assets as collateral to our lenders when the estimated fair value of the existing pledged collateral under such agreements declines and such lenders, through a margin call, demand additional collateral. Lenders generally make margin calls because of a perceived decline in the value of our assets collateralizing the repurchase agreements. This may occur following the monthly principal reduction of assets due to scheduled amortization and prepayments on the underlying mortgages, or may be caused by changes in market interest rates, a perceived decline in the market value of the investments and other market factors. To cover a margin call, we may pledge additional assets or cash. At maturity, any cash on deposit as collateral is generally applied against the repurchase agreement balance, thereby reducing the amount borrowed. Should the value of our assets suddenly decrease, significant margin calls on our repurchase agreements could result, causing an adverse change in our liquidity position.

In addition to our master repurchase agreements that fund our Agency and non-Agency securities as well as any repurchased MSR term note bonds (originally issued by our subsidiaries), we have one repurchase facility and three revolving credit facilities that provide short- and long-term financing for our MSR portfolio. We also have one revolving credit facility that provides long-term financing for our servicing advances. A summary of our MSR and servicing advance facilities is provided in the table below:

(dollars in thousands)

	March 31, 2024				
Expiration Date [(1)]	**Amount Outstanding**	**Unused Committed Capacity [(2)]**	**Unused Uncommitted Capacity**	**Total Capacity**	**Eligible Collateral**
March 31, 2025	$ 683,731	$ —	$ 216,269	$ 900,000	Mortgage servicing rights
March 8, 2027	$ 292,140	$ 57,860	$ 150,000	$ 500,000	Mortgage servicing rights [(3)]
September 30, 2024	$ 322,500	$ 77,500	$ —	$ 400,000	Mortgage servicing rights
October 25, 2024	$ 200,000	$ —	$ 100,000	$ 300,000	Mortgage servicing rights [(4)]
September 28, 2024	$ 59,300	$ 140,700	$ —	$ 200,000	Mortgage servicing advances

(1) The facilities are set to mature on the stated expiration date, unless extended pursuant to their terms.
(2) Represents unused capacity amounts to which commitment fees are charged.
(3) The revolving period of this facility ceases on March 8, 2026, at which time the facility starts a 12-month amortization period.
(4) This repurchase facility is secured by a VFN issued in connection with our securitization of MSR, which is collateralized by our MSR.

We are subject to a variety of financial covenants under our lending agreements. The following represent the most restrictive financial covenants across our lending agreements as of March 31, 2024:

- Total indebtedness to tangible net worth must be less than 8.0:1.0. As of March 31, 2024, our total indebtedness to tangible net worth, as defined, was 4.8:1.0.
- Cash liquidity must be greater than $200.0 million. As of March 31, 2024, our liquidity, as defined, was $666.2 million.
- Net worth must be greater than the higher of $1.5 billion or 50% of the highest net worth during the 24 calendar months prior. As of March 31, 2024, 50% of the highest net worth during the 24 calendar months prior, as defined, was $1.3 billion and our net worth, as defined, was $2.2 billion.

We are also subject to additional financial covenants in connection with various other agreements we enter into in the normal course of our business. We intend to continue to operate in a manner which complies with all of our financial covenants.

The following table summarizes assets at carrying values that were pledged or restricted as collateral for the future payment obligations of repurchase agreements, revolving credit facilities, term notes payable and derivative instruments at March 31, 2024 and December 31, 2023:

(in thousands)	March 31, 2024	December 31, 2023
Available-for-sale securities, at fair value	$ 8,178,289	$ 8,126,028
Mortgage servicing rights, at fair value	3,042,334	3,047,890
Restricted cash	26,572	12,575
Due from counterparties	237,711	36,420
Derivative assets, at fair value	9,546	11,877
Other assets	93,852	79,749
Total	$ 11,588,304	$ 11,314,539

Although we generally intend to hold our target assets as long-term investments, we may sell certain of our assets in order to manage our interest rate risk and liquidity needs, to meet other operating objectives and to adapt to market conditions. Our Agency RMBS are generally actively traded and thus, in most circumstances, readily liquid. However, certain of our assets, including MSR, are subject to longer trade timelines, and, as a result, market conditions could significantly and adversely affect the liquidity of our assets. Any illiquidity of our assets may make it difficult for us to sell such assets if the need or desire arises. Our ability to quickly sell certain assets, such as MSR, may be limited by delays encountered while obtaining certain Agency approvals required for such dispositions and may be further limited by delays due to the time period needed for negotiating transaction documents, conducting diligence, and complying with Agency requirements regarding the transfer of such assets before settlement may occur. Consequently, even if we identify a buyer for our MSR, there is no assurance that we would be able to quickly sell such assets if the need or desire arises.

In addition, if we are required to liquidate all or a portion of our portfolio quickly, we may realize significantly less than the value at which we previously recorded our assets. Assets that are illiquid are more difficult to finance, and to the extent that we use leverage to finance assets that become illiquid, we may lose that leverage or have it reduced. Assets tend to become less liquid during times of financial stress, which is often the time that liquidity is most needed. As a result, our ability to sell assets or vary our portfolio in response to changes in economic and other conditions may be limited by liquidity constraints, which could adversely affect our results of operations and financial condition.

We cannot predict the timing and impact of future sales of our assets, if any. Because many of our assets are financed with repurchase agreements, revolving credit facilities and term notes payable, a significant portion of the proceeds from sales of our assets (if any), prepayments and scheduled amortization are used to repay balances under these financing sources.

The following table provides the maturities of our repurchase agreements, revolving credit facilities, term notes payable and convertible senior notes as of March 31, 2024 and December 31, 2023:

(in thousands)	March 31, 2024	December 31, 2023
Within 30 days	$ 2,329,047	$ 2,833,162
30 to 59 days	1,367,028	1,918,818
60 to 89 days	1,318,517	2,059,438
90 to 119 days	702,452	994,789
120 to 364 days	3,321,914	833,571
One to three years	1,244,824	1,273,453
Total	$ 10,283,782	$ 9,913,231

For the three months ended March 31, 2024, our restricted and unrestricted cash balance decreased approximately $56.4 million to $738.4 million at March 31, 2024. The cash movements can be summarized by the following:

- *Cash flows from operating activities.* For the three months ended March 31, 2024, operating activities decreased our cash balances by approximately $8.7 million, primarily driven by our financial results for the quarter.
- *Cash flows from investing activities*. For the three months ended March 31, 2024, investing activities decreased our cash balances by approximately $347.7 million, driven by net purchases of AFS securities (including some fourth quarter purchases that settled during the first quarter) and MSR, payments to counterparties for margin calls, net payments for reverse repurchase agreements, and the final payment made to Freedom for our acquisition of RoundPoint, offset by net sales/short sales of derivative instruments.
- *Cash flows from financing activities.* For the three months ended March 31, 2024, financing activities increased our cash balance by approximately $300.0 million, primarily driven by an increase in repurchase agreement and revolving credit facility financing, offset by repurchases of preferred stock and the payment of dividends.

Inflation

Our assets and liabilities are financial in nature. As a result, changes in interest rates and other factors impact our performance far more than does inflation, although inflation rates can often have a meaningful influence over the direction of interest rates. Our financial statements are prepared in accordance with U.S. GAAP and dividends are based upon net ordinary income and capital gains as calculated for tax purposes; in each case, our results of operations and reported assets, liabilities and equity are measured with reference to historical cost or fair value without considering inflation.

Item 3. Quantitative and Qualitative Disclosures about Market Risk

We seek to manage our risks related to the credit quality of our assets, interest rates, liquidity, prepayment speeds and market value while providing an opportunity to stockholders to realize attractive risk-adjusted total return through ownership of our capital stock. Although we do not seek to avoid risk completely, we believe that risk can be quantified from historical experience, and we seek to manage our risk levels in order to earn sufficient compensation to justify the risks we undertake and to maintain capital levels consistent with taking such risks.

To manage the risks to our portfolio, we employ portfolio-wide and asset-specific risk measurement and management processes in our daily operations. Risk management tools include software and services licensed or purchased from third parties as well as proprietary and third-party analytical tools and models. There can be no guarantee that these tools and methods will protect us from market risks.

Interest Rate Risk

Interest rates are highly sensitive to many factors, including fiscal and monetary policies and domestic and international economic and political considerations, as well as other factors beyond our control. We are subject to interest rate risk in connection with our assets and related financing obligations.

Subject to maintaining our qualification as a REIT, we engage in a variety of interest rate risk management techniques that seek to mitigate the influence of interest rate changes on the values of our assets. We may enter into a variety of derivative and non-derivative instruments to economically hedge interest rate risk or "duration mismatch (or gap)" by adjusting the duration of our floating-rate borrowings into fixed-rate borrowings to more closely match the duration of our assets. This particularly applies to borrowing agreements with maturities or interest rate resets of less than six months. Typically, the interest receivable terms (*i.e.*, OIS or SOFR) of certain derivatives match the terms of the underlying debt, resulting in an effective conversion of the rate of the related borrowing agreement from floating to fixed. The objective is to manage the cash flows associated with current and anticipated interest payments on borrowings, as well as the ability to roll or refinance borrowings at the desired amount by adjusting the duration. To help manage the adverse impact of interest rate changes on the value of our portfolio as well as our cash flows, we may, at times, enter into various forward contracts, including short securities, TBAs, options, futures, swaps, caps, credit default swaps and total return swaps. In executing on our current interest rate risk management strategy, we have entered into TBAs, interest rate swap and swaption agreements, futures and options on futures. In addition, because MSR are negative duration assets, they may provide a hedge to interest rate exposure on our Agency RMBS portfolio. In hedging interest rate risk, we seek to mitigate the impact of changing interest rates on the value of our investments, improve risk-adjusted returns and, where possible, obtain a favorable spread between the yield on our assets and the cost of our financing. Our hedging methods are based on many factors, including, but not limited to, our estimates with regard to future interest rates.

REIT income arising from "clearly identified" hedging transactions that are entered into to manage the risk of interest rate or price changes with respect to borrowings, including gain from the disposition of such hedging transactions, to the extent the hedging transactions hedge indebtedness incurred, or to be incurred, by the REIT to acquire or carry real estate assets, will not be treated as gross income for purposes of either the 75% or the 95% gross income tests. In general, for a hedging transaction to be "clearly identified," (i) it must be identified as a hedging transaction before the end of the day on which it is acquired, originated, or entered into, and (ii) the items of risks being hedged must be identified "substantially contemporaneously" with entering into the hedging transaction (generally not more than 35 days after entering into the hedging transaction). We intend to structure any hedging transactions in a manner that does not jeopardize our qualification as a REIT, although this determination depends on an analysis of the facts and circumstances concerning each hedging transaction. We also implement part of our hedging strategy through our TRSs, which are subject to U.S. federal, state and, if applicable, local income tax.

We treat our TBAs as qualifying assets for purposes of the 75% asset test, to the extent set forth in an opinion from Sidley Austin LLP substantially to the effect that, for purposes of the 75% asset test, our ownership of a TBA should be treated as ownership of the underlying Agency RMBS. We also treat income and gains from our TBAs as qualifying income for purposes of the 75% gross income test, to the extent set forth in an opinion from Sidley Austin LLP substantially to the effect that, for purposes of the 75% gross income test, any gain recognized by us in connection with the settlement of our TBAs should be treated as gain from the sale or disposition of the underlying Agency RMBS.

Interest Rate Effect on Net Interest Income

Our operating results depend in large part on differences between the income earned on our assets and our cost of borrowing and hedging activities. The costs associated with our borrowings are generally based on prevailing market interest rates. During a period of rising interest rates, our borrowing costs generally will increase while the coupon interest earned on our existing portfolio of leveraged fixed-rate Agency RMBS will remain static. Both of these factors could result in a decline in our net interest spread and net interest margin. The inverse result may occur during a period of falling interest rates. The severity of any such decline or increase in our net interest spread and net interest margin would depend on our asset/liability composition at the time, as well as the magnitude and duration of the interest rate increase or decrease.

Our hedging techniques are partly based on assumed levels of prepayments of our target assets. If prepayments are slower or faster than assumed, the life of the investment will be longer or shorter, which could reduce the effectiveness of any hedging strategies we may use and may cause losses on such transactions. Hedging strategies involving the use of derivative securities are highly complex and may produce volatile returns.

The following analyses of risks are based on our experience, estimates, models and assumptions. The analysis is based on models which utilize estimates of fair value and interest rate sensitivity. Actual economic conditions or implementation of decisions may produce results that differ significantly from the estimates and assumptions used in our models.

We perform interest rate sensitivity analyses on various measures of our financial results and condition by examining how our assets, financing and hedges will perform in various interest rate "shock" scenarios. Two of these measures are presented below in more detail. The first measure is change in annualized net interest income over the next 12 months, including interest spread from our interest rate swaps and float income from custodial accounts associated with our MSR. The second measure is change in value of financial position, including the value of our derivative assets and liabilities. All changes in value are measured as the change from the March 31, 2024 financial position. All projected changes in annualized net interest income are measured as the change from the projected annualized net interest income based off current performance returns.

Computation of the cash flows for the rate-sensitive assets underpinning change in annualized net interest income are based on assumptions related to, among other things, prepayment speeds, yield on future acquisitions, slope of the yield curve, and size of the portfolio (for example, the assumption for prepayment speeds for Agency RMBS, and MSR is that they do not change in response to changes in interest rates). Assumptions for the interest rate sensitive liabilities relate to, among other things, collateral requirements as a percentage of borrowings and amount/term of borrowing. These assumptions may not hold in practice; realized net interest income results may therefore be significantly different from the net interest income produced in scenario analyses. We also note that the uncertainty associated with the estimate of a change in net interest income is directly related to the size of interest rate move considered.

Computation of results for portfolio value involves a two-step process. The first is the use of models to project how the value of interest rate sensitive instruments will change in the scenarios considered. The second, and equally important, step is the improvement of the model projections based on application of our experience in assessing how current market and macroeconomic conditions will affect the prices of various interest rate sensitive instruments. Judgment is best applied to localized (less than 25 basis points, or bps) interest rate moves. The more an instantaneous interest rate move exceeds 25 bps, the greater the likelihood that accompanying market events are significant enough to warrant reconsideration of interest rate sensitivities. As with net interest income, the uncertainty associated with the estimate of change in portfolio value is therefore directly related to the size of interest rate move considered.

The following interest rate sensitivity table displays the potential impact of instantaneous, parallel changes in interest rates of +/- 25 and +/- 50 bps on annualized net interest income and portfolio value, based on our interest sensitive financial instruments at March 31, 2024. The preceding discussion shows that the results for the 25 bps move scenarios are the best representation of our interest rate exposure, followed by those for the 50 bps move scenarios. This hierarchy reflects our localized approach to managing interest rate risk: monitoring rates and rebalancing our hedges on a day-to-day basis, where rate moves only rarely exceed 25 bps in either direction.

	Changes in Interest Rates			
(dollars in thousands)	**-50 bps**	**-25 bps**	**+25 bps**	**+50 bps**
Change in annualized net interest income [(1)]:	$ (513)	$ (273)	$ 298	$ 637
% change in net interest income [(1)]	*(0.3)%*	*(0.2)%*	*0.2 %*	*0.4 %*
Change in value of financial position:				
Available-for-sale securities	$ 206,592	$ 105,294	$ (108,517)	$ (220,231)
As a % of common equity	*12.8 %*	*6.5 %*	*(6.7)%*	*(13.6)%*
Mortgage servicing rights [(2)]	$ (64,784)	$ (28,797)	$ 28,902	$ 49,661
As a % of common equity [(2)]	*(4.0)%*	*(1.8)%*	*1.8 %*	*3.1 %*
Derivatives, net	$ (161,611)	$ (78,359)	$ 73,581	$ 142,210
As a % of common equity	*(10.0)%*	*(4.8)%*	*4.5 %*	*8.8 %*
Reverse repurchase agreements	$ 73	$ 37	$ (37)	$ (73)
As a % of common equity	*— %*	*— %*	*— %*	*— %*
Repurchase agreements	$ (5,579)	$ (2,790)	$ 2,790	$ 5,579
As a % of common equity	*(0.4)%*	*(0.2)%*	*0.2 %*	*0.3 %*
Revolving credit facilities	$ (378)	$ (189)	$ 189	$ 377
As a % of common equity	*— %*	*— %*	*— %*	*— %*
Term notes payable	$ (150)	$ (75)	$ 75	$ 150
As a % of common equity	*— %*	*— %*	*— %*	*— %*
Convertible senior notes	$ (1,045)	$ (520)	$ 517	$ 1,032
As a % of common equity	*(0.1)%*	*— %*	*— %*	*0.1 %*
Total Net Assets	$ (26,882)	$ (5,399)	$ (2,500)	$ (21,295)
As a % of total assets	*(0.2)%*	*— %*	*— %*	*(0.2)%*
As a % of common equity	*(1.7)%*	*(0.3)%*	*(0.2)%*	*(1.3)%*

(1) Amounts include the effect of interest spread from our interest rate swaps 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 or U.S. Treasury futures income, which are accounted for as derivative instruments in accordance with U.S. GAAP.

(2) Includes the effect of unsettled MSR.

Certain assumptions have been made in connection with the calculation of the information set forth in the foregoing interest rate sensitivity table and, as such, there can be no assurance that assumed events will occur or that other events will not occur that would affect the outcomes. The base interest rate scenario assumes interest rates at March 31, 2024. As discussed, the analysis utilizes assumptions and estimates based on our experience and judgment. Furthermore, future purchases and sales of assets could materially change our interest rate risk profile.

The information set forth in the interest rate sensitivity table above and all related disclosures constitutes forward-looking statements within the meaning of Section 27A of the Securities Act and Section 21E of the Exchange Act. While this table reflects the estimated impact of interest rate changes on the static portfolio, we actively manage our portfolio and continuously make adjustments to the size and composition of our asset and hedge portfolio. Actual results could differ significantly from those estimated in the foregoing interest rate sensitivity table.

Prepayment Risk

Prepayment risk is the risk that the principal amount of a mortgage loan will be repaid at a different rate than anticipated. As we receive prepayments of principal on our Agency RMBS, premiums paid on such assets will be amortized against interest income. In general, an increase in prepayment rates will accelerate the amortization of purchase premiums, thereby reducing the interest income earned on the assets.

We believe that we will be able to reinvest proceeds from scheduled principal payments and prepayments at acceptable yields; however, no assurances can be given that, should significant prepayments occur, market conditions would be such that acceptable investments could be identified and the proceeds timely reinvested.

MSR are also subject to prepayment risk in that, generally, an increase in prepayment rates on the mortgage loans underlying the MSR would result in a decline in value of the MSR as the prepayment acts to cut short the anticipated life of the servicing income stream.

Market Risk

Market Value Risk. Our AFS securities are reflected at their estimated fair value, with the difference between amortized cost net of allowance for credit losses and estimated fair value for all AFS securities except certain AFS securities for which we have elected the fair value option reflected in accumulated other comprehensive loss. The estimated fair value of these securities fluctuates primarily due to changes in interest rates, market valuation of credit risks, and other factors. Generally, in a rising interest rate environment, we would expect the fair value of these securities to decrease; conversely, in a decreasing interest rate environment, we would expect the fair value of these securities to increase. As market volatility increases or liquidity decreases, the fair value of our assets may be adversely impacted.

Our MSR are reflected at their estimated fair value. The estimated fair value fluctuates primarily due to changes in interest rates and other factors. Generally, in a rising interest rate environment, we would expect prepayments to decrease and the fair value of our MSR to increase. Conversely, in a decreasing interest rate environment, we would expect prepayments to increase and the fair value of our MSR to decrease.

Real Estate Risk. Residential property values are subject to volatility and may be affected adversely by a number of factors, including national, regional and local economic conditions; local real estate conditions (such as the supply of housing); changes or continued weakness in specific industry segments; construction quality, age and design; demographic factors; retroactive changes to building or similar codes; and impacts of climate change, natural disasters and other catastrophes. Decreases in property values reduce the value of the collateral for residential mortgage loans and the potential proceeds available to borrowers to repay the loans, which may impact the value of our Agency RMBS due to changes in voluntary and involuntary prepayment speeds, and/or may increase costs to service the residential mortgage loans underlying our MSR.

Liquidity Risk

Our liquidity risk is principally associated with our financing of long-maturity assets with shorter-term borrowings in the form of repurchase agreements and borrowings under revolving credit facilities. Although the interest rate adjustments of these assets and liabilities fall within the guidelines established by our operating policies, maturities are not required to be, nor are they, matched.

Should the value of our assets pledged as collateral suddenly decrease, lender margin calls could increase, causing an adverse change in our liquidity position. Moreover, the portfolio construction of MSR, which generally have negative duration, combined with levered RMBS, which generally have positive duration, may in certain market scenarios lead to variation margin calls, which could negatively impact our excess cash position. Additionally, if one or more of our repurchase agreement or revolving credit facility counterparties chose not to provide ongoing funding, our ability to finance would decline or exist at possibly less favorable terms. As such, we cannot provide assurance that we will always be able to roll over our repurchase agreements and revolving credit facilities. See Item 2, "*Management's Discussion and Analysis of Financial Condition and Results of Operations - Liquidity and Capital Resources*" in this Quarterly Report on Form 10-Q for further information about our liquidity and capital resource management.

Credit Risk

We believe that our investment strategy will generally keep our risk of credit losses low to moderate. However, we retain the risk of potential credit losses on all of the loans underlying our non-Agency securities.

Item 4. Controls and Procedures

A review and evaluation was performed by our management, including our Chief Executive Officer, or CEO, and Chief Financial Officer, or CFO, of the effectiveness of our disclosure controls and procedures (as such term is defined in Rule 13a-15(e) and 15d-15(e) under the Exchange Act) as of the end of the period covered by this Quarterly Report on Form 10-Q. Based on that review and evaluation, the CEO and CFO have concluded that our current disclosure controls and procedures, as designed and implemented, were effective as of March 31, 2024. Although our CEO and CFO have determined our disclosure controls and procedures were effective at the end of the period covered by this Quarterly Report on Form 10-Q, a control system, no matter how well designed and operated, can provide only reasonable, not absolute, assurance that it will detect or uncover failures within the company to disclose material information otherwise required to be set forth in the reports we submit under the Exchange Act.

There was no change in our internal control over financial reporting that occurred during the quarter ended March 31, 2024 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

PART II. OTHER INFORMATION

Item 1. Legal Proceedings

From time to time, we may be involved in various legal and regulatory matters that arise in the ordinary course of business. As previously disclosed, on July 15, 2020, we provided PRCM Advisers with a notice of termination of the Management Agreement for "cause" in accordance with Section 15(a) of the Management Agreement. We terminated the Management Agreement for "cause" on the basis of certain material breaches and certain events of gross negligence on the part of PRCM Advisers in the performance of its duties under the Management Agreement. On July 21, 2020, PRCM Advisers filed a complaint against us in the United States District Court for the Southern District of New York, or the Court. Subsequently, Pine River Domestic Management L.P. and Pine River Capital Management L.P. were added as plaintiffs to the matter. As amended, the complaint, or the Federal Complaint, alleges, among other things, the misappropriation of trade secrets in violation of both the Defend Trade Secrets Act and New York common law, breach of contract, breach of the implied covenant of good faith and fair dealing, unfair competition and business practices, unjust enrichment, conversion, and tortious interference with contract. The Federal Complaint seeks, among other things, an order enjoining us from making any use of or disclosing PRCM Advisers' trade secret, proprietary, or confidential information; damages in an amount to be determined at a hearing and/or trial; disgorgement of our wrongfully obtained profits; and fees and costs incurred by the plaintiffs in pursuing the action. We have filed our answer to the Federal Complaint and made counterclaims against PRCM Advisers and Pine River Capital Management L.P. On May 5, 2022, the plaintiffs filed a motion for judgment on the pleadings, seeking judgment in their favor on all but one of our counterclaims and on one of our affirmative defenses. We opposed the motion for judgment on the pleadings. On August 10, 2023, the motion for judgment on the pleadings was granted in part and denied in part. The discovery period has ended. On November 8, 2023, the Company and the plaintiffs filed motions for summary judgment, seeking judgment in their favor on the pending claims and counterclaims. Each party opposed the other party's motion for summary judgment. The motions for summary judgment are fully briefed. Our board of directors believes the Federal Complaint is without merit and that we fully complied with the terms of the Management Agreement.

Item 1A. Risk Factors

There have been no material changes to the risk factors set forth under the heading "Item 1A. Risk Factors" of our Annual Report on Form 10-K for the year ended December 31, 2023, or the Form 10-K. The materialization of any risks and uncertainties identified in our Forward-Looking Statements contained in this Quarterly Report on Form 10-Q, together with those previously disclosed in the Form 10-K or those that are presently unforeseen could result in significant adverse effects on our financial condition, results of operations, and cash flows. See Item 2, "*Management's Discussion and Analysis of Financial Condition and Results of Operations - Forward-Looking Statements*" in this Quarterly Report on Form 10-Q.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds

(a) None.

(b) None.

(c) Our preferred share repurchase program allows for the repurchase of up to an aggregate of 5,000,000 shares of the company's preferred stock, which includes the 8.125% Series A Fixed-to-Floating Rate Cumulative Redeemable Preferred Stock, 7.625% Series B Fixed-to-Floating Rate Cumulative Redeemable Preferred Stock and 7.25% Series C Fixed-to-Floating Rate Cumulative Redeemable Preferred Stock. Preferred shares may be repurchased from time to time through privately negotiated transactions or open market transactions, pursuant to trading plans in accordance with Rule 10b5-1 under the Securities Exchange Act of 1934, as amended, or the Exchange Act, or by any combination of such methods. The manner, price, number and timing of preferred share repurchases are subject to a variety of factors, including market conditions and applicable SEC rules. The preferred share repurchase program does not require the purchase of any minimum number of shares, and, subject to SEC rules, purchases may be commenced or suspended at any time without prior notice. The preferred share repurchase program does not have an expiration date.

The following table reflects purchases of our 8.125% Series A Fixed-to-Floating Rate Cumulative Redeemable Preferred Stock, 7.625% Series B Fixed-to-Floating Rate Cumulative Redeemable Preferred Stock and 7.25% Series C Fixed-to-Floating Rate Cumulative Redeemable Preferred Stock under the preferred share repurchase program during the three months ended March 31, 2024:

Period	Total Number of Shares Purchased	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans of Programs	Maximum Number of Shares that May Yet Be Purchased Under the Plans or Programs (1)
Series A Preferred Stock:				
January 1, 2024 through Janaury 31, 2024	—	$ —	—	N/A
February 1, 2024 through February 29, 2024	—	—	—	N/A
March 1, 2024 through March 31, 2024	35,047	23.08	35,047	N/A
Total	35,047	$ 23.08	35,047	N/A
Series B Preferred Stock:				
January 1, 2024 through Janaury 31, 2024	—	$ —	—	N/A
February 1, 2024 through February 29, 2024	88,174	22.66	88,174	N/A
March 1, 2024 through March 31, 2024	191,886	22.79	191,886	N/A
Total	280,060	$ 22.75	280,060	N/A
Series C Preferred Stock:				
January 1, 2024 through Janaury 31, 2024	—	$ —	—	N/A
February 1, 2024 through February 29, 2024	116,200	23.07	116,200	N/A
March 1, 2024 through March 31, 2024	54,302	22.87	54,302	N/A
Total	170,502	$ 23.01	170,502	N/A

(1) Our preferred share repurchase program allows for the repurchase of up to an aggregate of 5,000,000 shares of the company's preferred stock, which includes the 8.125% Series A Fixed-to-Floating Rate Cumulative Redeemable Preferred Stock, 7.625% Series B Fixed-to-Floating Rate Cumulative Redeemable Preferred Stock and 7.25% Series C Fixed-to-Floating Rate Cumulative Redeemable Preferred Stock. As of March 31, 2024, we had repurchased an aggregate of 4,179,183 preferred shares under the program and had remaining authorization to repurchase up to 820,817 preferred shares.

Our common share repurchase program allows for the repurchase of up to an aggregate of 9,375,000 shares of the company's common stock. Common shares may be repurchased from time to time through privately negotiated transactions or open market transactions, pursuant to a trading plan in accordance with Rules 10b5-1 and 10b-18 under the Exchange Act or by any combination of such methods. The manner, price, number and timing of common share repurchases are subject to a variety of factors, including market conditions and applicable SEC rules. The common share repurchase program does not require the purchase of any minimum number of shares, and, subject to SEC rules, purchases may be commenced or suspended at any time without prior notice. The common share repurchase program does not have an expiration date. As of March 31, 2024, we had repurchased 3,637,028 common shares under the program for a total cost of $208.5 million. We did not repurchase common shares during the three months ended March 31, 2024.

Item 3. Defaults Upon Senior Securities

None.

Item 4. Mine Safety Disclosures

None.

Item 5. Other Information

(a) None.

(b) None.

(c) During the three months ended March 31, 2024, the following executive officers adopted a written plan intended to satisfy affirmative defense conditions of Rule 10b5–1(c) of the Exchange Act. Each of these written plans relates to the sale of Two Harbors common stock for the purpose of satisfying tax obligations associated with future vestings of equity compensation, as permitted pursuant to the stock ownership guidelines applicable to our executive officers. In addition, each of these written plans was entered into during an open trading window and shall take effect ninety days after adoption. Each of the new plans shall remain in effect until amended or terminated.

On February 6, 2024, Rebecca Sandberg, our Chief Legal Officer and Secretary, adopted a written plan pursuant to which Ms. Sandberg has elected to sell a number of shares sufficient to cover the local, state and federal tax liability associated with each future vesting of equity compensation, subject to the maximum of fifty percent of shares vesting. This plan replaces and supersedes a prior written plan entered into by Ms. Sandberg related to the same.

On February 7, 2024, Nathan Boucher, Executive Vice President, General Counsel and Secretary of RoundPoint, adopted a written plan pursuant to which Mr. Boucher has elected to sell a number of shares sufficient to cover the local, state and federal tax liability associated with each future vesting of equity compensation, subject to the maximum of fifty percent of shares vesting.

On February 8, 2024, David Hughes, Executive Vice President, Servicing Operations at RoundPoint, adopted a written plan pursuant to which Mr. Hughes has elected to sell a number of shares sufficient to cover the local, state and federal tax liability associated with each future vesting of equity compensation, subject to the maximum of fifty percent of shares vesting.

Except as set forth above, no director or officer of the Company adopted, modified or terminated a “Rule 10b5-1 trading arrangement” or “non-Rule 10b5-1 trading arrangement,” as each term is defined in Item 408(a) of Regulation S-K, during the three months ended March 31, 2024.

Item 6. Exhibits

A list of exhibits to this Quarterly Report on Form 10-Q is set forth below.

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Exhibit Number	Exhibit Description
3.1	Articles of Amendment and Restatement of Two Harbors Investment Corp. (incorporated by reference to Exhibit 99.1 to Annex B filed with Amendment No. 4 to the Registrant's Registration Statement on Form S-4 filed with the SEC on October 8, 2009).
3.2	Articles of Amendment to the Articles of Amendment and Restatement of Two Harbors Investment Corp. (incorporated by reference to Exhibit 99.1 to the Registrant's Current Report on Form 8-K filed with the SEC on December 19, 2012).
3.3	Articles of Amendment to the Articles of Amendment and Restatement of Two Harbors Investment Corp., effective as of 5:01 PM Eastern Time on November 1, 2017 (incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K filed with the SEC on November 2, 2017).
3.4	Articles of Amendment to the Articles of Amendment and Restatement of Two Harbors Investment Corp., effective as of 5:02 PM Eastern Time on November 1, 2017 (incorporated by reference to Exhibit 3.2 to the Registrant's Current Report on Form 8-K filed with the SEC on November 2, 2017).
3.5	Articles of Amendment to the Articles of Amendment and Restatement of Two Harbors Investment Corp. (incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K filed with the SEC on September 23, 2020).
3.6	Articles of Amendment to the Articles of Amendment and Restatement of Two Harbors Investment Corp., effective as of 5:01 PM Eastern Time on November 1, 2022 (incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K filed with the SEC on November 2, 2022).
3.7	Articles of Amendment to the Articles of Amendment and Restatement of Two Harbors Investment Corp., effective as of 5:02 PM Eastern Time on November 1, 2022 (incorporated by reference to Exhibit 3.2 to the Registrant's Current Report on Form 8-K filed with the SEC on November 2, 2022).
3.8	Articles Supplementary to the Articles of Amendment to the Articles of Amendment and Restatement of Two Harbors Investment Corp. designating the shares of 8.125% Series A Fixed-to-Floating Rate Cumulative Redeemable Preferred Stock, $0.01 par value per share (incorporated by reference to Exhibit 3.3 of the Registrant's Form 8-A filed with the SEC on March 13, 2017).
3.9	Articles Supplementary to the Articles of Amendment to the Articles of Amendment and Restatement of Two Harbors Investment Corp. designating the shares of 7.625% Series B Fixed-to-Floating Rate Cumulative Redeemable Preferred Stock, $0.01 par value per share (incorporated by reference to Exhibit 3.4 of the Registrant's Form 8-A filed with the SEC on July 17, 2017).
3.10	Articles Supplementary to the Articles of Amendment to the Articles of Amendment and Restatement of Two Harbors Investment Corp. designating the shares of 7.25% Series C Fixed-to-Floating Rate Cumulative Redeemable Preferred Stock, $0.01 par value per share (incorporated by reference to Exhibit 3.7 of the Registrant's Form 8-A filed with the SEC on November 22, 2017).
3.11	Articles Supplementary to the Articles of Amendment to the Articles of Amendment and Restatement of Two Harbors Investment Corp. reclassifying and redesignating (i) all 3,000,000 authorized but unissued shares of 7.75% Series D Cumulative Redeemable Preferred Stock, $0.01 par value per share, as shares of undesignated preferred stock, and (ii) all 8,000,000 authorized but unissued shares of 7.50% Series E Cumulative Redeemable Preferred Stock, $0.01 par value per share, as shares of undesignated preferred stock (incorporated by reference to Exhibit 3.1 of the Registrant's Current Report on Form 8-K filed with the SEC on March 19, 2021).
3.12	Amended and Restated Bylaws of Two Harbors Investment Corp. (incorporated by reference to Exhibit 3.2 to the Registrant's Current Report on Form 8-K filed with the SEC on September 23, 2020).
10.1	Form of Officer Performance Share Unit Agreement (as of January 2024) under the Two Harbors Investment Corp. 2021 Equity Incentive Plan (filed herewith).
31.1	Certification of Chief Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002. (filed herewith)
31.2	Certification of Chief Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002. (filed herewith)
32.1	Certification of Chief Executive Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002. (furnished herewith)
32.2	Certification of Chief Financial Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002. (furnished herewith)

Exhibit Number	Exhibit Description
101	Financial statements from the Quarterly Report on Form 10-Q of Two Harbors Investment Corp. for the three months ended March 31, 2024, filed with the SEC on April 30, 2024, formatted in Inline XBRL: (i) the Condensed Consolidated Balance Sheets, (ii) the Condensed Consolidated Statements of Comprehensive Income (Loss), (iii) the Condensed Consolidated Statements of Stockholders' Equity, (iv) the Condensed Consolidated Statements of Cash Flows, and (v) the Notes to the Condensed Consolidated Financial Statements. (filed herewith)
104	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101). (filed herewith)

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

			TWO HARBORS INVESTMENT CORP.
Dated:	April 30, 2024	By:	/s/ William Greenberg
			William Greenberg President and Chief Executive Officer (Principal Executive Officer)
Dated:	April 30, 2024	By:	/s/ Mary Riskey
			Mary Riskey Chief Financial Officer (Principal Financial and Accounting Officer)

Exhibit 10.1

TWO HARBORS INVESTMENT CORP.
2021 EQUITY INCENTIVE PLAN

PERFORMANCE SHARE UNIT AGREEMENT

This PERFORMANCE SHARE UNIT AGREEMENT (this "**Agreement**") is made and entered into by and between Two Harbors Investment Corp., a Maryland corporation (the "**Company**"), and _________ (the "**Grantee**"), as of the _____ day of ______, 20____ (the "**Grant Date**").

WHEREAS, the Company maintains the Two Harbors Investment Corp. 2021 Equity Incentive Plan, as may be amended from time to time (the "**Plan**");

WHEREAS, the Grantee is an employee of the Company;

WHEREAS, in accordance with the Plan, the Committee has determined that it is in the best interests of the Company and its stockholders to grant the award of Performance Share Units to the Grantee, subject to the terms and conditions set forth below; and

WHEREAS, any capitalized terms not otherwise defined in this Agreement shall have the meaning set forth in the Plan.

NOW, THEREFORE, IT IS HEREBY AGREED AS FOLLOWS:

1. **Grant of Performance Share Units.**

(a) Pursuant to Section 4(c) of the Plan, the Company hereby grants to the Grantee on the Grant Date an award consisting of ________ Performance Share Units (the "**Target Award**"). Each Performance Share Unit ("**PSU**") represents the right to receive one share of Common Stock, subject to the terms and conditions set forth in this Agreement and the Plan. The Plan is incorporated herein by reference as though set forth herein in its entirety. To the extent such terms or conditions conflict with any provision of the Plan, the terms and conditions set forth in the Plan shall govern.

(b) For purposes of this Agreement, the term "**Performance Period**" shall be the period commencing on ________ and ending on ________.

(c) The PSUs shall be credited to a separate account maintained for the Grantee on the books and records of the Company (the "**Account**"). All amounts credited to the Account shall continue for all purposes to be part of the general assets of the Company.

(d) The grant of the PSUs is made in consideration of the services to be rendered by the Grantee to the Company.

2. **Performance Goals.**

(a) Subject to the terms of this Agreement, the number of PSUs earned by the Grantee for the Performance Period will be determined at the end of the Performance Period based on the level of achievement of the Performance Goals set forth in Exhibit A. All determinations of whether the Performance Goals have been achieved, the number of PSUs earned by the Grantee, and all other matters related to this Section 2 shall be made by the Committee in its sole discretion.

(b) Promptly following the completion of the Performance Period (the "**Certification Date**"), the Committee will review and certify, in writing, (i) whether, and to what extent, the Performance Goals for the Performance Period have been achieved, and (ii) the number of PSUs that the Grantee has earned, if any, subject to compliance with the requirements of Section 3. Such certification shall be final, conclusive and binding on the Grantee, and on all other interested persons, to the maximum extent permitted by law.

3. Vesting, Restrictions and Conditions.

The PSUs awarded pursuant to this Agreement and the Plan shall be subject to forfeiture until they vest, in accordance with the following restrictions and conditions:

(a) **Vesting of PSUs.** Except as otherwise stated herein, provided that the Grantee is continuously employed by the Company or any of its subsidiaries (or any of their successors) through the first trading day following the last day of the Performance Period, the PSUs will vest subject to the certification by the Committee in accordance with Section 2(b). The number of PSUs that vest and become payable under this Agreement shall be determined by the Committee based on the level of achievement of the Performance Goals set forth in Exhibit A and shall be rounded up to the nearest whole PSU (no partial units shall be vested).

(b) **Termination of Service.** Except as otherwise provided in this Agreement, if the Grantee has a Termination of Service on or before the last day of the Performance Period, the following shall apply:

(i) if the Termination of Service is by the Company for Cause or by the Grantee for any reason (other than his or her death, Disability, Retirement, or for Good Reason), then any PSUs that have not vested as of the date of such Termination of Service shall thereupon, and with no further action, be forfeited by the Grantee and Grantee shall have no further rights or entitlement with respect to such PSUs;

(ii) if the Termination of Service is by the Company without Cause or by the Grantee for Good Reason, then the Grantee shall be entitled to vest, on the last day of the Performance Period, in a pro rata portion of the number of PSUs the Grantee would have received based on the level of achievement of the Performance Goals for the Performance Period, calculated by multiplying the number of PSUs the Grantee would have received if Grantee had remained employed through the end of the Performance Period by a fraction, the numerator of which equals the number of days that the Grantee was employed during the Performance Period and the denominator of which equals the total number of days in the Performance Period.

(c) **Death or Disability.** If during the Performance Period the Grantee incurs a Termination of Service due to the Grantee's death or Disability, then the Grantee will fully vest on such date in a number of PSUs equal to the Target Award for such Performance Period (without regard to the Performance Goals).

(d) **Retirement.** If during the Performance Period the Grantee incurs a Termination of Service on account of the Grantee's Retirement, all of the outstanding PSUs will continue to vest in accordance with Section 3(a) subject to achievement of the Performance Goals as if Grantee remained in service to the Company through the end of the Performance Period.

(e) **Change of Control.** If, during the Performance Period, a Change of Control occurs, then the following shall apply to this Grant of PSUs:

(i) If, at the consummation of the Change of Control, the Resulting Entity has not assumed this Agreement and the outstanding PSUs, then the Grantee will be deemed to have fully vested immediately preceding the Change of Control in a number of PSUs equal to the Target Award for such Performance Period (without regard to the Performance Goals), or, if greater, the number of PSUs the Grantee would receive if measurement of the Performance Goals were determined as if the date of the Change of Control was the last day of the Performance Period;

(ii) If the Resulting Entity has assumed this Agreement and the outstanding PSUs:

(A) Grantee will be deemed to have earned the number of PSUs equal to the Target Award for such Performance Period (without regard to the Performance Goals), or, if greater, the number of PSUs the Grantee would receive if the Performance Goals were determined as if the date of the Change of Control was the last day of the Performance Period (the "Assumed PSUs), with such Assumed PSUs to remain outstanding and subject to forfeiture for the duration of the Performance Period and, if not sooner vested pursuant to Sections 3(b)(ii), 3(c), or (d), upon the last day of the Performance Period, the Assumed PSUs will vest;

(B) If, during the twenty-four (24) month period following the Change of Control the Grantee incurs a Termination of Service without Cause, or due to death or Disability, or by the Grantee for Good Reason, then the Assumed PSUs will fully vest on such date;

(iii) For purposes of this Agreement, the "**Resulting Entity**" in the event of a Change of Control shall mean (A) the Company, in the event of a Change of Control as defined in Section 15(j)(i) or (ii) of the Plan; (B) the entity (which may or may not be the Company) that is the continuing entity in the event of a merger or consolidation, in the event of a Change of Control as defined in Section 15(j)(iii)(A) of the Plan; or (C) the acquirer of the Company's assets, in the event of a Change of Control as defined in Section 15(j)(iii)(B) of the Plan.

(f) **Restrictions and Conditions.**

(i) Grantee shall forfeit such PSUs (or shares of Common Stock issued upon vesting thereof) as are required to be forfeited under (A) Section 954 of the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 and the related rules of the Securities and Exchange Commission or the applicable listing exchange or (B) such clawback or recoupment policy as the Board or Committee may adopt (the "**Compensation Recovery Policy**"). The Company hereby incorporates into this Agreement the terms of the Compensation Recovery Policy; and

(ii) Subject to the provisions of the Plan and this Agreement, during the Vesting Period, the Grantee shall not be permitted voluntarily or involuntarily to sell, transfer, pledge, alienate, encumber or assign the PSUs or any shares of Common Stock that would be issuable upon the vesting thereof, and no other party shall have the right to attach, garnish or otherwise claim an ownership interest in such PSUs or shares of Common Stock; any such attempt in contravention of this Section 3(f)(ii) shall be void and of no effect.

(g) **Good Reason.** For purposes of this Agreement, "**Good Reason**" shall mean "good reason" (or a similar term) as defined in a Grantee's employment agreement or, if no employment agreement exists or if such agreement does not define "good reason" (or a similar term), the occurrence of any of the following events without the Grantee's written consent:

(i) material diminution or reduction of the Grantee's authority, duties or responsibilities, subject to the following conditions:

(A) such material diminution or reduction is not the result of Grantee's unsatisfactory performance as determined in the sole discretion of the Company, Board, or Committee; and

(B) neither a Grantee's change of title, nor a change in the person or entity to whom a Grantee reports, shall constitute a material diminution or reduction of the Grantee's authority, duties or responsibilities;

(ii) the Company's relocation of the Grantee's principal work location to a location that is more than fifty (50) miles from the Grantee's then current principal work location;

(iii) material reduction of the Grantee's base salary or the Grantee's target incentive compensation opportunity, exclusive of any across the board reduction similarly affecting all or substantially all similarly-situated employees; or

(iv) material breach by the Company of any written employment agreement between the Grantee and the Company.

(v) Notwithstanding the foregoing, no Termination of Service by the Grantee shall constitute Good Reason unless:

(A) the Grantee has given written notice of the proposed termination due to Good Reason to the Company, and provides the Company with reasonable details of the circumstances giving rise to the Good Reason event, not later than ninety (90) days following the initial occurrence of such event;

(B) the Company fails to cure the Good Reason event within thirty (30) days of receiving written notice from the Grantee; and

(C) the Grantee terminates his or her employment within thirty (30) days after the conclusion of the cure period.

4. Dividend Equivalent Rights; Other Rights.

(a) **Dividend Equivalent Rights.** Each PSU shall also have Dividend Equivalent Rights (DERs). If, during the Performance Period, the Board declares a cash dividend or other distribution payable to the holders of Common Stock generally, the Company will increase the number of PSUs hereunder (i.e., by increasing the Target Award) by the number of shares that represent an amount equal to the per share cash dividend (or per share cash value of any such other distribution) paid by the Company on its shares of Common Stock (rounded down to the nearest whole number) multiplied by the number of Target Award PSUs (which shall include any unvested PSUs previously credited to the Grantee's account as a result of any preceding DERs) held by the Grantee as of the related dividend payment record date. Any such additional PSUs awarded by virtue of DERs shall be subject to the same vesting, forfeiture, payment, termination and other terms, conditions and restrictions under this Agreement as the original Target Award PSUs to which they relate. No additional PSUs under this Section 4(a) shall be credited with respect to any PSUs which, as of the record date for such dividend or distribution, have been vested and settled or have been forfeited.

(b) **No Rights as Shareholder.** Grantee shall not have any rights of a shareholder with respect to the shares of Common Stock underlying the PSUs, including no right to vote such shares of Common Stock, unless and until the PSUs vest and are settled by the issuance of shares of Common Stock in the name of the Grantee.

5. Settlement of Performance Share Units.

(a) Promptly following the date on which any PSUs vest pursuant to Section 3 hereof (but in no event later than March 15th of the year following the year in which the PSUs vest), the Company shall (i) issue and deliver to the Grantee the number of shares of Common Stock equal to the number of PSUs earned and (ii) cause the name of the Grantee to be entered into the name of the books of the Company as the shareholder of record with respect to the shares of Common Stock delivered to Grantee.

(b) To the extent that Grantee does not vest in any PSUs awarded pursuant to this Agreement, all interest in such PSUs shall be forfeited, and the Grantee shall have no right or interest in any PSUs that are forfeited.

6. Tax Liability and Withholding.

(a) The Grantee shall be required to pay to the Company, and the Company shall be entitled to deduct from any payments or compensation paid to the Grantee, the amount of any required withholding taxes in respect of the PSUs or any DER payable in relation thereto and take all such other action as it determines necessary to satisfy all obligations for the payment of such withholding taxes or otherwise required by law. The Company has the right (but not the obligation) to satisfy the payment of income, employment, social insurance, payroll tax, fringe benefit tax, payment on account or other tax-related items related to the Grantee's participation in the Plan and legally applicable to the Grantee ("**Tax-Related Items**") by (i) withholding from proceeds of the sale of shares of Common Stock acquired upon the settlement of the PSUs and DERs through a sale arranged by the Company (on the Grantee's behalf pursuant to this authorization without further consent), (ii) requiring the Grantee to pay cash, (iii) withholding from any wages or other cash compensation payable to the Grantee by the Company, and/or (iv) reducing the number of shares of Common Stock otherwise deliverable to the Grantee.

(b) Notwithstanding any action the Company takes with respect to any Tax-Related Items, the ultimate liability for all Tax-Related Items is and remains the Grantee's responsibility and the Company (i) makes no representation or undertakings regarding the treatment of any Tax-Related Items in connection with the grant, vesting or settlement of the PSUs or the subsequent issuance or sale of any shares of Common Stock; and (iii) does not commit to structure the PSUs to reduce or eliminate the Grantee's liability for Tax-Related Items.

7. Restrictive Covenants.

(a) Because of the Company's legitimate business interests and in consideration of the good and valuable consideration offered in granting the PSUs to Grantee, during the term of Grantee's employment with the Company and for the Restricted Period (defined below), the Grantee agrees and covenants not to:

(i) directly or indirectly, (A) solicit, recruit or encourage (or attempt to solicit, recruit or encourage), or assist others in soliciting, recruiting or encouraging, any Company employees or former employees with whom Grantee worked, had business contact, or about whom Grantee gained non-public or Confidential Information ("Employees or Former Employees") "); (B) contact or communicate with Employees or Former Employees for the purpose of inducing, assisting, encouraging, and/or facilitating them to terminate their employment with the Company or find employment or work with another person or entity; (C) provide or pass along to any person or entity the name, contact, and/or background information about any Employees or Former Employees or provide references or any other information about them; (D) provide or pass along to Employees or Former Employees any information regarding potential jobs or entities or persons for which to work, including but not limited to job openings, job postings, or the names or contact information of individuals or companies hiring people or accepting job applications; and/or (E) offer employment or work to any Employees or Former Employees. For purposes of this covenant, "Former Employees" shall refer to employees who are not employed by the Company at the time of the attempted recruiting or hiring, but were employed by, or working for the Company in the three (3) months prior to the time of the attempted recruiting or hiring and/or interference;

(ii) directly or indirectly, interfere with the Company's relationships with its vendors or suppliers in any way that would impair the Company's relationship with such vendors or suppliers, including by reducing, diminishing or otherwise restricting the flow of supplies, services or goods from the vendors or suppliers to the Company.

(iii) directly or indirectly, , and in connection with a Competitive Business, (A) solicit or refer (or attempt to solicit or refer) any Customer to a Competitor; and/or (B) induce or encourage (or attempt to induce or encourage) any Customer to terminate a relationship with the Company or otherwise to cease accepting services or products from the Company..

(b) If the Grantee breaches any of the restrictive covenants set forth in Section 7(a):

(i) all unvested Equity Awards (as defined below) made to Grantee pursuant to the Plan shall be immediately forfeited;

(ii) the Grantee shall be required to disgorge to the Company any shares of Common Stock issued to Grantee upon the vesting and settlement of any Equity Awards, or the proceeds of any sales of such shares of Common Stock issued to Grantee upon the vesting and settlement of such Equity Awards, which occurred during the Restricted Period; and

(iii) the Grantee hereby consents and agrees that the Company shall be entitled to seek, in addition to other available remedies, a temporary or permanent injunction or other equitable relief against such breach or threatened breach from any court of competent jurisdiction, without the necessity of showing any actual damages or that money damages would not afford an adequate remedy, and without the necessity of posting any bond or other security. The aforementioned equitable relief shall be in addition to, not in lieu of, legal remedies, money damages or other available forms of relief.

(c) The prohibitions in Section 7(a) do not, in any way, restrict or impede the Grantee from:

(i) Purchasing or owning less than five percent (5%) of the publicly traded securities of any corporation (even if such corporation is engaged in a Competitive Business), provided that such ownership represents a passive investment and that the Grantee is not a controlling person or, or a member of a group that controls, such corporation; or

(ii) Exercising protected rights to the extent that such rights cannot be waived by this Agreement or from complying with any applicable law or regulation or a valid order of a court of competent jurisdiction or an authorized government agency, provided that such compliance does not exceed that required by the law, regulation or order (and, in such event, Grantee shall promptly provide written notice of any such order to the Company's General Counsel).

(d) For the purposes of Section 7, the following terms have the meanings ascribed to them below:

(i) "**Restricted Period**" shall mean the period beginning on the date of Grantee's Termination of Service and ending ________ months[1] thereafter;

---

[1] "Restricted Period" will correspond to the recipient's severance period under the Severance Benefits Plan.

(ii) "**Business**" means any activities, products, processes, systems or services (in existence or under development) of the Company during the twenty-four (24) months prior to the Grantee's Termination of Service. Specifically, the term "Business" includes a residential mortgage real estate trust that focuses on investing in, financing and managing agency residential mortgage-backed securities (Agency RMBS), mortgage servicing rights (MSR), and similar mortgage-related investments and other financial assets. The "Business" also includes the operation of residential mortgage loan servicing and originations businesses.

(iii) "**Competitive Business**" means any product, process, system, service, or investment strategy (in existence or under development) of any person or organization other than the Company that is the same as, similar to, or competes with the Business and upon which Grantee worked or had responsibilities at the Company during the twenty-four (24) months preceding Grantee's Termination of Service;;

(iv) "**Company Employee**" shall mean any individual who is currently employed by the Company or any of its subsidiaries or was employed by the Company or any of its subsidiaries within the ninety (90) day period prior to the time of such solicitation or inducement contemplated by Section 7(a)(ii);

(v) "**Competitor**" means Grantee or any other person or organization engaged in or about to become engaged in a Competitive Business;

(vi) "**Customer**" means (A) any person(s) or entity(ies) to whom or which, within twenty-four (24) months prior to the Grantee's Termination of Service, Grantee, directly or indirectly: (1) provided products or services in connection with the Business; or (2) provided written proposals about products or services in connection with the Business; or (B) any mortgage loan borrower whose mortgage loan (1) is or has been within twenty-four (24) months prior to the Grantee's Termination of Service serviced by the Company or for which the Company owned the MSR, (2) the application for which is, as of the Grantee's Termination of Service, in process of being underwritten, or (3) was originated by the Company within the twenty-four (24) months prior to the Grantee's Termination of Service; and

(vii) "**Equity Awards**" shall mean any equity award (whether in the form of PSUs, restricted stock units, restricted shares or other form of equity) granted to the Grantee under any Company equity incentive plan, including the Second Restated 2009 Equity Incentive Plan, the 2021 Equity Incentive Plan or any other similar plan approved by the Board or Committee in the future.

8. Miscellaneous.

(a) **Governing Law.** THIS AGREEMENT SHALL BE GOVERNED BY THE LAWS OF THE STATE OF MARYLAND, WITHOUT REGARD TO ANY PRINCIPLES OF CONFLICT OF LAWS WHICH COULD CAUSE THE APPLICATION OF THE LAWS OF ANY JURISDICTION OTHER THAN THE STATE OF MARYLAND.

(b) **Captions.** The captions of this Agreement are not part of the provisions hereof and shall have no force or effect.

(c) **Amendments.** This Agreement may not be amended or modified except by a written agreement executed by the parties hereto or their respective successors and legal representatives.

(d) **Severability.** The invalidity or unenforceability of any provision of this Agreement or the Plan shall not affect the validity or enforceability of any other provision of this Agreement, and each provision of the Agreement and the Plan shall be severable and enforceable to the extent permitted by law.

(e) **Interpretation and Administration.** The Committee may make such rules and regulations and establish such procedures for the administration of this Agreement as it deems appropriate. Without limiting the generality of the foregoing, the Committee may interpret the Plan and this Agreement, with such interpretations to be conclusive and binding on all persons and otherwise accorded the maximum deference permitted by law, provided that the Committee's interpretation shall not be entitled to deference on and after a Change of Control except to the extent that such interpretations are made exclusively by members of the Committee who are individuals who served as Committee members before the Change of Control and take any other actions and make any other determinations or decisions that it deems necessary or appropriate in connection with the Plan, this Agreement or the administration or interpretation thereof. In the event of any dispute or disagreement as to interpretation of the Plan or this Agreement or of any rule, regulation or procedure, or as to any question, right or obligation arising from or related to the Plan or this Agreement, the decision of the Committee, except as provided above, shall be final and binding upon all persons.

(f) **Notices.** All notices hereunder shall be in writing and, if to the Company or the Committee, shall be delivered to the Board or mailed to its principal office, addressed to the attention of the Board; and if to the Grantee, shall be delivered personally, sent by facsimile transmission, or mailed to the Grantee at the address appearing in the records of the Company. Such addresses may be changed at any time by written notice to the other party given in accordance with this Section 8(f). Notices may also be given electronically pursuant to such rules and procedures as the Committee may adopt for electronic notice.

(g) **No Waiver.** The failure of the Grantee or the Company to insist upon strict compliance with any provision of this Agreement, or to assert any right the Grantee or the Company, respectively, may have under this Agreement, shall not be deemed to be a waiver of such provision or right or any other provision or right of this Agreement.

(h) **No Right of Employment.** Nothing in this Agreement shall confer on the Grantee any right to continue in the employ or other service of the Company or its Subsidiaries or interfere in any way with the right of the Company or its Subsidiaries and its stockholders to terminate the Grantee's employment or other service at any time.

(i) **Unsecured Obligation.** The obligations of the Company under this Agreement will be merely that of an unfunded and unsecured promise of the Company to deliver shares of Common Stock or pay cash or distributions in the future, and the rights of Grantee will be no greater than that of an unsecured general creditor. No assets of the Company will be held or set aside as security for the obligations of the Company under this Agreement.

(j) **Entire Agreement; Counterparts.** This Agreement, subject to the terms and conditions of the Plan, contains the entire agreement between the parties with respect to the subject matter hereof and supersedes all prior agreements, written or oral, with respect thereto. The Agreement may be executed in counterparts, each of which shall be deemed and original but all of which together will constitute one and the same instrument. Counterpart signature pages transmitted by facsimile transmission, electronic mail or by any other electronic means intended to preserve the original graphic and pictorial appearance of a document will have the same effect as physical delivery of the paper document bearing an original signature.

(k) **Acceptance.** The Grantee hereby acknowledged receipt of a copy of the Plan and this Agreement. The Grantee has read and understands the terms and provisions thereof and accepts the PSUs subject to all the terms and conditions of the Plan and this Agreement. The Grantee acknowledges that there may be adverse tax consequences upon the vesting or settlement of the PSUs, the receipt of any dividend or distribution, or the subsequent disposition of the shares of Common Stock and that the Grantee has been advised to consult a tax advisor prior to such vesting, settlement or disposition.

(l) **Section 409A.**

(i) If any provision of this Agreement could cause the application of an accelerated or additional tax under Section 409A of the Code upon the vesting or settlement of the Restricted Stock Units (or any portion thereof), such provision shall be restructured, to the minimum extent possible, in a manner determined by the Company (and reasonably acceptable to the Grantee) that does not cause such an accelerated or additional tax. It is intended that all provisions of this Agreement other than those relating to payment of vested PSUs on account of a Grantee's Retirement, shall not be subject to Section 409A of the Code by reason of the short-term deferral rule under Treas. Reg. Section 1.409A-1(b)(4), and this Agreement shall be interpreted accordingly.

(ii) With respect to any payment of PSUs under this Agreement that is subject to Section 409A of the Code, and with respect to which a payment or distribution is to be made upon a Termination of Service, if the Grantee is determined by the Company to be a "specified employee" within the meaning of Section 409A(a)(2)(B)(i) of the Code and any of the Company's stock is publicly traded on an established securities market or otherwise, such payment or distribution may not be made before the date which is six months after the date of Termination of Service (to the extent required under Section 409A of the Code). Any payments or distributions delayed in accordance with the prior sentence shall be paid to the Grantee on the first day of the seventh month following the Grantee's Termination of Service.

(iii) The Board and the Committee shall exercise authority and discretion under the Plan and this Agreement, to satisfy the requirements of Section 409A of the Code or any exemption thereto. Provided, however, that neither the Board nor the Committee shall be liable to any Grantee for the failure of any provision of this Agreement to comply with Section 409A of the Code, including, but not limited to, liability for any taxes or penalties associated with the failure to comply with Section 409A of the Code.

IN WITNESS WHEREOF, the Company and the Grantee have executed this Performance Share Unit Agreement effective as of the day and year first above written.

TWO HARBORS INVESTMENT CORP.

By:__
Name:
Title:

__
Grantee:

EXHIBIT A
PERFORMANCE GOALS

[ ]

EXHIBIT 31.1

CHIEF EXECUTIVE OFFICER CERTIFICATION PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, William Greenberg, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Two Harbors Investment Corp.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officers and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officers and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: April 30, 2024

/s/ William Greenberg
William Greenberg
President and Chief Executive Officer

EXHIBIT 31.2

CHIEF FINANCIAL OFFICER CERTIFICATION PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Mary Riskey, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Two Harbors Investment Corp.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant’s other certifying officers and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

c) Evaluated the effectiveness of the registrant’s disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

d) Disclosed in this report any change in the registrant’s internal control over financial reporting that occurred during the registrant’s most recent fiscal quarter (the registrant’s fourth quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant’s internal control over financial reporting; and

5. The registrant’s other certifying officers and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant’s auditors and the audit committee of the registrant’s board of directors (or persons performing the equivalent functions):

a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant’s ability to record, process, summarize and report financial information; and

b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant’s internal control over financial reporting.

Date: April 30, 2024

/s/ Mary Riskey
Mary Riskey
Chief Financial Officer

EXHIBIT 32.1

CERTIFICATION

Pursuant to 18 U.S.C. §1350, the undersigned officer of Two Harbors Investment Corp. (the "Registrant") hereby certifies that the Registrant's Quarterly Report on Form 10-Q for the three months ended March 31, 2024 (the "Quarterly Report") fully complies with the requirements of Section 13(a) or 15(d), as applicable, of the Securities Exchange Act of 1934 and that the information contained in the Quarterly Report fairly presents, in all material respects, the financial condition and results of operations of the Registrant.

Date:	April 30, 2024	/s/ William Greenberg
		William Greenberg
		President and Chief Executive Officer

The foregoing certification is being furnished solely pursuant to 18 U.S.C. §1350 and is not being filed as part of the Quarterly Report or as a separate disclosure document.

EXHIBIT 32.2

CERTIFICATION

Pursuant to 18 U.S.C. §1350, the undersigned officer of Two Harbors Investment Corp. (the "Registrant") hereby certifies that the Registrant's Quarterly Report on Form 10-Q for the three months ended March 31, 2024 (the "Quarterly Report") fully complies with the requirements of Section 13(a) or 15(d), as applicable, of the Securities Exchange Act of 1934 and that the information contained in the Quarterly Report fairly presents, in all material respects, the financial condition and results of operations of the Registrant.

Date:	April 30, 2024	/s/ Mary Riskey
		Mary Riskey
		Chief Financial Officer

The foregoing certification is being furnished solely pursuant to 18 U.S.C. §1350 and is not being filed as part of the Quarterly Report or as a separate disclosure document.