

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

FORM 10-K

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

For the Fiscal Year Ended: December 31, 2023
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
(State or Other Jurisdiction of
Incorporation or Organization)

27-0312904
(I.R.S. Employer
Identification No.)

1601 Utica Avenue South, Suite 900
St. Louis Park, Minnesota
(Address of Principal Executive Offices)

55416
(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

Securities registered pursuant to Section 12(g) of the Act: **None**

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes No

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, 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	<input checked="" type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input type="checkbox"/>	Smaller reporting company	<input type="checkbox"/>
		Emerging growth company	<input type="checkbox"/>

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 has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report.

If securities are registered pursuant to Section 12(b) of the Act, indicate by check mark whether the financial statements of the registrant included in the filing reflect the correction of an error to previously issued financial statements.

Indicate by check mark whether any of those error corrections are restatements that required a recovery analysis of incentive-based compensation received by any of the registrant's executive officers during the relevant recovery period pursuant to §240.10D-1(b).

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

As of June 30, 2023, the aggregate market value of the registrant's common stock held by non-affiliates of the registrant was approximately \$1.3 billion based on the closing sale price as reported on the NYSE on that date.

As of February 12, 2024, there were 103,427,329 shares of common stock, par value \$0.01 per share, issued and outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's definitive Proxy Statement for the 2024 Annual Meeting of Stockholders, which will be filed with the Securities and Exchange Commission under Regulation 14A within 120 days after the end of registrant's fiscal year covered by this Annual Report, are incorporated by reference into Part III.

**TWO HARBORS INVESTMENT CORP.
2023 ANNUAL REPORT ON FORM 10-K**

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CAUTIONARY NOTE REGARDING FORWARD LOOKING STATEMENTS

This Annual Report on Form 10-K 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 this Annual Report on Form 10-K 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 the 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 consolidated statements of comprehensive 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.

PART I

Item 1. Business

Overview

Two Harbors Investment Corp. is a Maryland corporation founded in 2009 that invests in, finances and manages mortgage servicing rights, or MSR, Agency residential mortgage-backed securities, or Agency RMBS, and, through our operational platform, RoundPoint Mortgage Servicing LLC, or RoundPoint, is one of the largest servicers of conventional loans in the country. We are structured as an internally-managed real estate investment trust, or REIT, and our common stock is listed on the New York Stock Exchange, or NYSE, under the symbol “TWO”. The terms “Two Harbors,” “we,” “our,” “us” and the “company” refer to Two Harbors Investment Corp. and its subsidiaries as a consolidated entity.

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 stable performance 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 Financial Services Corporation, or 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.

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, and we may form additional TRSs in the future. 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.

Our Business

Our Investment Strategy

Our objective is to deliver stable performance across changing market environments, and we are acutely focused on creating sustainable stockholder value over the long term. We intend to achieve this objective by constructing a well-balanced portfolio consisting of MSR, Agency RMBS, and other financial assets, with a focus on managing various associated risks, including interest rate, prepayment, credit, mortgage spread and financing risk. The preservation of book value is of paramount importance to our ability to generate total return on an ongoing basis.

We make investment decisions based on a rigorous asset selection process that takes into consideration a variety of factors, including expected cash yield, risk-adjusted returns, current and projected credit fundamentals, current and projected macroeconomic considerations, current and projected supply and demand, credit and market risk concentration limits, liquidity, cost of financing and financing availability. It is our intention to select our assets in such a way as to maintain our REIT qualification and our exemption from registration under the 1940 Act.

Our Target Assets

Our portfolio includes assets that are primarily sensitive to changes in interest rates, prepayments and mortgage spreads, including but not limited to Agency RMBS, MSR and related hedging transactions. These assets have minimal exposure to the underlying credit performance of the investments. Our portfolio is managed as a whole and our resources are allocated and financial performance is assessed on a consolidated basis. Our target asset classes are as follows:

Agency RMBS	Agency RMBS, meaning RMBS whose principal and interest payments are guaranteed by a U.S. government agency, such as the Government National Mortgage Association (or Ginnie Mae), or 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), collateralized by fixed rate mortgage loans, adjustable-rate mortgage (or ARM) loans or hybrid mortgage loans, or derivatives thereof, including: <ul style="list-style-type: none">• mortgage pass-through certificates;• collateralized mortgage obligations;• uniform mortgage-backed securities;• Freddie Mac gold certificates;• Fannie Mae certificates;• Ginnie Mae certificates;• “to-be-announced” forward contracts, or TBAs, which are pools of mortgages with specific investment terms to be issued by Ginnie Mae, Fannie Mae or Freddie Mac at a future date; and• interest-only and inverse interest-only securities.
MSR	The right to control the servicing of residential mortgage loans, receive the servicing income therefrom and the obligation to service the loans in accordance with applicable laws and requirements.

Other assets may include financial and mortgage-related assets other than our target assets, including non-Agency securities (securities that are not issued or guaranteed by Ginnie Mae, Fannie Mae or Freddie Mac), other Agency securities and certain non-hedging transactions that may produce non-qualifying income for purposes of REIT gross income tests.

Our Investment Activities

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 these securities consist of whole pools in which we own all of the investment interests in the securities.

One of our wholly owned subsidiaries, Matrix Financial Services Corporation, or 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.

In making our capital allocation decisions, we take into consideration a number of factors, including the opportunities available in the marketplace, the cost and availability of financing, and the cost of hedging interest rate, prepayment, credit and other portfolio risks. In the ordinary course of 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. Going forward, we expect our capital to be fully allocated to our strategy of pairing Agency RMBS and MSR. We have expertise in mortgage credit and may choose to invest again in those assets should the opportunity arise.

Our Investment Guidelines

Our board of directors has approved the following investment guidelines:

- no investment shall be made that would cause us to fail to qualify as a REIT for U.S. federal income tax purposes;
- no investment shall be made that would cause us to be regulated as an investment company under the 1940 Act;
- we will primarily invest within our target assets, consisting primarily of Agency RMBS, non-Agency securities, residential mortgage loans, MSR and certain types of commercial real estate assets; approximately 5% to 10% of our portfolio may include other financial assets; and
- until appropriate investments can be identified, we will invest available cash in interest-bearing and short-term investments that are consistent with (i) our intention to qualify as a REIT and (ii) our exemption from investment company status under the 1940 Act.

These investment guidelines may be changed from time to time by our board of directors in its discretion without the approval of our stockholders.

Within the constraints of the foregoing investment guidelines, we have broad authority to select, finance and manage our investment portfolio. As a general matter, our investment strategy is designed to enable us to:

- build an investment portfolio consisting of Agency RMBS, MSR and other financial assets that will generate attractive returns while having a moderate risk profile;
- manage financing, interest, prepayment rate, credit and similar risks;
- capitalize on discrepancies in the relative valuations in the mortgage and housing markets; and
- provide regular quarterly dividend distributions to stockholders.

Within the requirements of the investment guidelines, we make determinations as to the percentage of our assets that will be invested in each of our target assets. Our investment decisions depend on prevailing market conditions and may change over time in response to opportunities available in different interest rate, economic and credit environments. As a result, we cannot predict the percentage of our assets that will be invested in any of our target asset classes at any given time. We believe that the diversification of our portfolio of assets and the flexibility of our strategy, combined with the expertise of our investment team, will enable us to deliver stable performance under a variety of market conditions and economic cycles.

Financing Strategy

We deploy moderate leverage to fund the acquisition of our target assets and increase potential returns to our stockholders. We are not required to maintain any particular leverage ratio. The amount of leverage we deploy for particular investments in our target assets depends upon a variety of factors, including without limitation: general economic, political and financial market conditions; the anticipated liquidity and price volatility of our assets; the gap between the duration of assets and liabilities, including hedges; the availability and cost of financing our assets; our opinion of the credit worthiness of financing counterparties; the health of the U.S. residential mortgage and housing markets; our outlook for the level, slope and volatility of interest rates; the credit quality of the loans underlying our target assets; the rating assigned to securities; and our outlook for asset spreads relative to the Secured Overnight Financing Rate, or SOFR, curve, the Overnight Index Swap Rate, or OIS, the U.S. federal funds rate, and other benchmark rate curves.

Our primary financing sources for Agency RMBS are repurchase agreements. Repurchase agreements are financings pursuant to which one party, the seller/borrower, sells assets to the repurchase agreement counterparty, the buyer/lender, for an agreed price with the obligation to repurchase the assets from the buyer at a future date and at a price different than the original purchase price, with the difference representing the borrowing rate (typically based on an index plus a spread consistent with those demanded in the market). The amount of financing available under a repurchase agreement is limited to a specified percentage of the estimated market value of the assets. The difference between the sale price and repurchase price is the interest expense of financing under a repurchase agreement. Under repurchase agreement financing arrangements, if the value of the collateral decreases, the buyer could require the seller to provide additional cash collateral to re-establish the ratio of value of the collateral to the amount of borrowing (*i.e.*, a margin call). In the current economic climate, lenders under repurchase agreements generally advance approximately 95% to 97% of the market value of the Agency RMBS financed (a discount from market value, generally referred to as a haircut, of 3% to 5%).

To finance MSR assets and related servicing advance obligations, we may enter into repurchase agreements, revolving credit facilities and securitization transactions collateralized by the value of the MSR and/or servicing advances pledged and with borrowing rates typically based on an index plus a spread consistent with those demanded in the market. If the value of our MSR and/or servicing advances pledged as collateral for the agreements decreases, the respective lender could require us to provide additional collateral or cash as collateral to re-establish the ratio of value of the collateral to the amount of the debt outstanding. Due to certain GSE requirements, we may be restricted as to the frequency in which we are able to pledge additional MSR and/or servicing advance collateral to counterparties. As a result, we may choose to over-collateralize certain financing arrangements in order to avoid having to provide cash as additional collateral. Lenders generally advance approximately 60% to 70% of the market value of the MSR financed (*i.e.*, a haircut of 30% to 40%) and 80% to 95% of the value of servicing advances financed (*i.e.*, a haircut of 5% to 20%), depending on the type of advance (*e.g.*, corporate, escrow).

One of our subsidiary trust entities, MSR Issuer Trust, was formed for the purpose of financing MSR through securitization, pursuant to which, through two of our 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. In connection with the transaction, we also entered into a repurchase facility that is secured by the VFN issued in connection with the MSR securitization transaction, which is collateralized by our MSR.

A significant decrease in the advance rate or an increase in the haircut could result in us having to sell assets in order to meet additional margin requirements by the lender. We expect to mitigate our risk of margin calls under financing arrangements by deploying leverage at an amount that is below what could be used under current advance rates.

In order to reduce our exposure to risks associated with lender counterparty concentration, we generally seek to diversify our exposure by entering into repurchase agreements with multiple counterparties. At December 31, 2023, we had \$8.0 billion of outstanding balances under repurchase agreements with 19 counterparties, with a maximum net exposure (the difference between the amount loaned to us, including interest payable, and the value of the assets pledged by us as collateral, including accrued interest receivable on such assets) to any single lender of \$67.2 million, or 3.1% of stockholders' equity.

Interest Rate Hedging and Risk Management Strategy

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 reduce the risk of losses on the value of our investments that may result from changes in interest rates in the broader markets, improve risk-adjusted returns and, where possible, obtain a favorable spread between the yield on our assets and the cost of our financing.

Servicing Operations

As a result of our acquisition of RoundPoint, we began directly servicing a portion of the mortgage loans underlying our MSR assets as well as mortgage loans underlying MSR owned by third parties. These servicing activities consist of collecting loan payments, remitting principal and interest payments to investors, managing escrow funds for the payment of mortgage-related expenses, such as taxes and insurance, performing loss mitigation activities on behalf of investors and otherwise administering our mortgage loan servicing portfolio in compliance with applicable laws and requirements.

Servicing Owned MSR. Where we own the right to service loans, we recognize the MSR assets in our consolidated financial statements. We primarily generate recurring revenue through contractual servicing fees and interest income on custodial deposits. As the MSR owner, we are obligated to make servicing advances to fund scheduled principal, interest, tax and insurance payments when the mortgage loan borrower has failed to make the scheduled payments and to cover foreclosure costs and various other items that are required to preserve the assets being serviced. As the MSR owner, we also generally have the right to solicit our customers for refinance opportunities.

Subservicing. We are a subservicer, which means we service loans on behalf of third party clients who own the underlying MSR. Since we do not own the right to service those loans, we do not recognize an MSR asset for those loans in our consolidated financial statements. We primarily generate servicing revenue based upon a stated fee per loan per month that varies depending upon the loan's delinquency status, and we may earn other fees including late payment, modification, and other ancillary fees. As a subservicer, we may be obligated to make servicing advances; however, advances are generally limited, with recoveries typically following within 30 days. Additionally, our exposure to foreclosure-related costs and losses is generally limited in our subservicing relationships given those risks are retained by the owner of the MSR.

Human Capital

We believe that our people are the foundation of our success. We are dedicated to providing human capital management best practices that evolve with the needs of our business and our people. We are committed to attracting and retaining the industry's top talent by providing competitive wages and benefits and cultivating a workplace environment in which all of our employees can thrive and contribute. As of December 31, 2023, we had 466 full time equivalent employees. We have four office locations in: Minneapolis, Minnesota; Fort Mill, South Carolina; Dallas, Texas; and New York, New York.

Compensation and Benefits. We use market data to benchmark and guide our compensation practices to ensure that our compensation program is industry standard, competitive and rewarding, while at the same time aligning the interests of our employees with those of our stockholders. In addition to competitive wages and salaries, our compensation programs are designed to attract and retain talented professionals with diverse and unique talents. Our overall package includes cash bonus and equity incentive compensation opportunities, a 401(k) plan and profit-sharing contribution, competitive health benefits, health savings accounts, generous paid time off, short- and long-term disability insurance, paid parental leave and various other leave options, life-planning, financial and legal resources, emotional well-being support and other voluntary supplemental benefits.

Employee Development and Talent Management. We believe in attracting, developing and retaining the best talent through leadership development training, talent management, career planning and other development opportunities through our educational programming. Employees receive regular business and compliance training to reinforce our culture of compliance and further enhance their career development. We encourage collaboration and teamwork to ensure mutual understanding of responsibilities, priorities and expectations. Succession planning is also a critical component of our business operations. We have established a talent management program that includes career development and ongoing evaluations of the depth of our leadership, focused on assessing succession planning needs and opportunities.

Health, Safety and Well-being. We sponsor a number of programs and events that emphasize the health and well-being of our employees, including relational, financial, emotional and physical. We promote a culture of health and well-being through employee assistance program services, comprehensive health care benefits and resources for preventative health, such as reduced-fee health club memberships.

Workplace Culture. We strive to foster a workplace culture where every individual on our team brings their unique perspectives, abilities and experiences which contribute to driving our organizational value. We are committed to supporting the engagement and leadership of a diverse workforce, with over 60% in aggregate identifying as either female or racially/ethnically diverse, and providing opportunities for collaboration, development and career growth. We regularly conduct a pulse survey which provides valuable insights from employees on topics involving culture, diversity and inclusion, education, benefits and engagement, and pride ourselves on having a strong participation rate. We also offer a flexible work environment, providing employees the opportunity to balance their professional obligations with that of their personal.

Charitable Partnerships. We are committed to strengthening our local communities through the support of charitable organizations allied with the housing sector, and in particular those that provide housing support to families and children in need. Examples of our support include partnerships with AEON, Simpson Housing and Habitat for Humanity. In addition, we match dollar-for-dollar, up to a cap, the cash donations made by our employees to our charitable partnerships.

Operating and Regulatory Structure

Our business is subject to extensive regulation by U.S. federal and state governmental authorities, and self-regulatory organizations. We are required to comply with numerous federal and state laws, including those described below. The laws, rules and regulations comprising this regulatory framework change frequently, as can the interpretation and enforcement of existing laws, rules and regulations. Some of the laws, rules and regulations to which we are subject are intended primarily to safeguard and protect consumers, rather than stockholders or creditors. On occasion, we may receive requests from U.S. federal and state agencies for records, documents and information regarding our policies, procedures and practices regarding our business activities. We incur significant ongoing costs to comply with these regulations.

REIT Qualification

We elected to be taxed as a REIT under the Code, commencing with our taxable period ended December 31, 2009. Our qualification as a REIT depends upon our ability to meet on a continuing basis, through actual investment and operating results, various complex requirements under the Code relating to, among other things, the sources of our gross income, the composition and value of our assets, our distribution levels and the diversity of ownership of our shares. We believe that we are organized in conformity with the requirements for qualification and taxation as a REIT under the Code, and we conduct our operations in a manner which will enable us to continue to meet the requirements for qualification and taxation as a REIT. Certain activities that we may perform may cause us to earn income that will not be qualifying income for REIT purposes. We have designated certain of our subsidiaries as TRSs to engage in such activities, and we may in the future form additional TRSs.

As long as we continue to qualify as a REIT, we generally will not be subject to U.S. federal income tax on the REIT taxable income we distribute currently to our stockholders. If we fail to qualify as a REIT in any taxable year and do not qualify for certain statutory relief provisions, we will be subject to U.S. federal income tax at regular corporate rates and may be precluded from qualifying as a REIT for the subsequent four taxable years following the year during which we lost our REIT qualification. Even if we qualify for taxation as a REIT, we may be subject to certain U.S. federal, state and local taxes on our income or property.

Investment Company Act of 1940

We conduct our operations so that we are not required to register as an investment company under the 1940 Act. If we were to fall within the definition of an investment company, we would be unable to conduct our business as described in this Annual Report on Form 10-K.

Section 3(a)(1)(A) of the 1940 Act defines an investment company as any issuer that “is or holds itself out as being engaged primarily in the business of investing, reinvesting or trading in securities.” Section 3(a)(1)(C) of the 1940 Act also defines an investment company as any issuer that “is engaged or proposes to engage in the business of investing, reinvesting, owning, holding or trading in securities and owns or proposes to acquire investment securities having a value exceeding 40% of the value of the issuer’s total assets (exclusive of U.S. government securities and cash items) on an unconsolidated basis.” Excluded from the term “investment securities,” among other things, are U.S. government securities and securities issued by majority-owned subsidiaries that are not themselves investment companies and are not relying on the exclusion from the definition of investment company set forth in Section 3(c)(1) or Section 3(c)(7) of the 1940 Act.

We are organized as a holding company that conducts business primarily through our subsidiaries. Any business conducted through our subsidiaries will be conducted in such a manner as to ensure that we do not meet the definition of “investment company” because less than 40% of the value of our total assets on an unconsolidated basis would consist of “investment securities.”

To avoid registration as an investment company, certain of our subsidiaries rely on certain exemptions from the 1940 Act, including Section 3(c)(5)(C), which exempts entities that are “primarily engaged in the business of purchasing or otherwise acquiring mortgages and other liens on and interests in real estate.” Under the SEC staff’s current guidance, to qualify for this exemption, we must maintain (i) at least 55% of our assets in qualifying interests (referred to as the 55% Test) and (ii) at least 80% of our assets in qualifying interests plus other real estate related assets (referred to as the 80% Test). Qualifying interests for this purpose include mortgage loans and other assets, such as whole pool Agency and non-Agency RMBS, which are considered the functional equivalent of mortgage loans for the purposes of the 1940 Act. We expect each of our subsidiaries that may rely on Section 3(c)(5)(C) to invest at least 55% of its assets in qualifying interests in accordance with SEC staff guidance, and an additional 25% of its assets in either qualifying interests or other types of real estate related assets that do not constitute qualifying interests. We believe that we conduct our business so that we are exempt from the 1940 Act under Section 3(c)(5)(C), but rapid changes in the values of our assets could disrupt prior efforts to conduct our business to meet the 55% Test and the 80% Test. Our efforts to comply with the 55% Test and the 80% Test could require us to acquire or dispose of certain assets at unfavorable prices and limit our ability to pursue certain investment opportunities.

Mortgage Industry Regulation

As an owner of MSR and servicer of residential mortgage loans, we must comply with various federal and state laws, rules and regulations. These rules generally focus on consumer protection and include, among others, rules promulgated under the Dodd-Frank Wall Street Reform and Consumer Protection Act, or the Dodd-Frank Act, and the Gramm-Leach-Bliley Financial Modernization Act of 1999, or the Gramm-Leach-Bliley Act. We are also required to maintain qualifications, registrations and licenses in certain states in order to own and service certain of our assets. These requirements can and do change as statutes and regulations are enacted, promulgated or amended, or as regulatory guidance or interpretations evolve or change, and the trend in recent years among federal and state lawmakers and regulators has been toward increasing laws, regulations and investigative proceedings in relation to the mortgage industry generally.

The Dodd-Frank Act significantly changed the regulation of financial institutions and the financial services industry, including the mortgage industry. The Dodd-Frank Act tasked many agencies with issuing a variety of new regulations, including rules related to mortgage origination, mortgage servicing, securitization transactions and derivatives. The Dodd-Frank Act also created the Consumer Financial Protection Bureau, or the CFPB, which has broad rulemaking authority with respect to many of the federal consumer protection laws applicable to the mortgage industry. In addition to its rulemaking authority, the CFPB has supervision, examination and enforcement authority over consumer financial products and services by certain non-depository institutions, including our company. The CFPB has issued a series of rules and related guidance as part of ongoing efforts to enhance consumer protections and create uniform standards for the mortgage lending and servicing industries. These rules include requirements addressing how lenders must evaluate a consumer's ability to repay a mortgage loan, specific disclosures and communications that must be made to consumers at various stages in the mortgage lending and servicing processes, and specific actions servicers must take at various stages in a loan's life cycle, including providing assistance to consumers who encounter financial hardship and struggle to make their mortgage payment. These rules have led to increased costs to originate and service loans across the mortgage industry, greater regulatory scrutiny of originators, servicers and other mortgage industry participants from federal and state regulators and increased litigation and complaints against these participants from both consumers and government officials.

The Gramm-Leach-Bliley Act imposes obligations on us to safeguard the information we maintain on mortgage loan borrowers and imposes restrictions on our ability to share that information with third parties and affiliates. In addition, a growing number of states have passed or enhanced laws to further protect borrower information, including laws that regulate the use and storage of personally identifiable information, require notifications to borrowers if the security of their personal information is breached, or require us to encrypt personal information when it is transmitted and stored electronically. These evolving federal and state laws require the ongoing review of our operations, increase our compliance costs, and affect our ability to use and share information with third parties as part of our business.

We have implemented and will continue to implement policies, procedures and, as applicable, information technology systems in order to ensure ongoing compliance with the laws, rules and regulations applicable to our business. We have incurred and expect to incur significant ongoing operational costs to comply with such laws, rules and regulations.

Competition

Our comprehensive income depends, in large part, on our ability to acquire assets at favorable spreads over our borrowing costs. In acquiring our target assets, we compete with other REITs, specialty finance companies, savings and loan associations, banks, mortgage bankers, insurance companies, mutual funds, institutional investors, investment banking firms, financial institutions, governmental agencies, mortgage loan servicers, asset management firms and other entities. Some of these entities may not be subject to the same regulatory constraints that we are (e.g., REIT compliance or maintaining an exemption under the 1940 Act). Many of our competitors are significantly larger than us, have access to greater capital and other resources and may have other advantages over us. In addition, some of our competitors may have higher risk tolerances or different risk assessments, which could allow them to consider a wider variety of investments and establish different counterparty relationships than us. Further, we may from time-to-time face competition from government agencies, such as the Federal Reserve, in connection with initiatives designed to stimulate the U.S. economy or the mortgage market. Market conditions may from time to time attract more competitors for certain of our target assets, which will not only affect the supply of assets but may also increase the competition for sources of financing for these assets. An increase in the competition for sources of funding could adversely affect the availability and cost of financing, and thereby adversely affect our financial results.

As we grow our subservicing business, we will also compete with bank and non-bank servicers for third-party subservicing clients. The subservicing market in which we operate is highly competitive and we face competition related to the pricing and services we offer. We intend to compete by delivering meaningful value to homeowners through building lasting relationships by treating our customers with respect and professionalism, and through being a single-source solution for our customers to better manage and protect their homes, families and assets. For our MSR third-party subservicing clients, we believe we can successfully compete because we offer experience and expertise in MSR investing, with institutional quality controls and a strong compliance focus, and we are well-capitalized to withstand today's evolving risks and to invest in necessary infrastructure to support our business. Our inability to attract subservicing clients may adversely impact our ability to grow our servicing platform, which could in turn result in an inability to achieve economies of scale, reduce costs and adversely affect our financial results.

Available Information

Our website can be found at www.twoharborsinvestment.com. We make available, free of charge on our website, our annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and any amendments to those reports, as are filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act, as well as our proxy statement with respect to our annual meeting of stockholders, as soon as reasonably practicable after we electronically file such material with, or furnish it to, the SEC. Our Exchange Act reports filed with, or furnished to, the SEC are also available at the SEC's website at www.sec.gov. The content of any website referred to in this Annual Report on Form 10-K is not incorporated by reference into this Form 10-K unless expressly noted.

We also make available, free of charge, the charters for our Audit Committee, Compensation Committee, Nominating and Corporate Governance Committee and Risk Oversight Committee, as well as our Corporate Governance Guidelines, Code of Business Conduct and Ethics, Whistleblowing Procedures and Stockholder Communications Policy. Within the time period required by the SEC and the NYSE, we will post on our website any amendment to the Code of Ethics and any waiver applicable to any executive officer, director or senior officer (as defined in the Code of Ethics).

Our Investor Relations Department can be contacted at:

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Item 1A. Risk Factors

The following is a summary of the significant risk factors known to us that we believe could have a material adverse effect on our business, financial condition and results of operations. In addition to understanding the key risks described below, investors should understand that it is not possible to predict or identify all risk factors and, consequently, the following is not a complete discussion of all potential risks or uncertainties.

Risks Related to Our Business and Operations

Difficult conditions in the residential mortgage and real estate markets, the financial markets and the economy generally may adversely impact our business, results of operations and financial condition.

Our results of operations are materially affected by conditions in the residential mortgage and real estate markets, the financial markets and the economy generally. In past years, concerns about the COVID-19 pandemic, unemployment, the availability and cost of credit, rising government debt levels, inflation, energy costs, global supply chain disruptions, climate change, global economic lethargy, warfare, geopolitical unrest across various regions worldwide, European sovereign debt issues, U.S. budget debates, federal government shutdowns and international trade disputes, have from time to time contributed to increased volatility and uncertainty in the economy and financial markets. Adverse developments with respect to any of these markets may have an impact on new demand for homes and on homeowners' ability to make their mortgage payments, which may compress home ownership rates and weigh heavily on future home price performance. There is a strong correlation between home price growth rates (or losses) and mortgage loan delinquencies. Any stagnation in or deterioration of the residential mortgage or real estate markets may limit our ability to acquire our target assets on attractive terms or cause us to experience losses related to our assets.

Our business model depends in part upon the continuing viability of Fannie Mae and Freddie Mac, or similar institutions, and any changes to their structure or creditworthiness could have an adverse impact on us.

We purchase Agency RMBS that are protected from the risk of default on the underlying mortgages by guarantees from Fannie Mae, Freddie Mac or, in the case of Ginnie Mae securities, the U.S. government. In 2008, the U.S. government and U.S. Treasury undertook a series of actions designed to stabilize these GSEs, including placing them into a federal conservatorship. In December 2009, the U.S. government committed virtually unlimited capital to ensure the continued existence of Fannie Mae and Freddie Mac. There is no assurance that such capital will continue to be available or that the GSEs will honor their guarantees or other obligations. If these GSEs fail to honor their guarantees, the value of any Agency RMBS guaranteed by the GSEs that we hold would decline.

The continued flow of residential mortgage-backed securities from the GSEs is essential to the operation of the mortgage markets in their current form. A number of legislative proposals have been introduced in the past that would phase out or reform the GSEs. It is not possible to predict the scope and nature of the actions that the U.S. government could ultimately take with respect to the GSEs. Although any phase out or reform would likely take several years to implement, if the structure of Fannie Mae or Freddie Mac were altered, or if they were eliminated altogether, the amount and type of Agency RMBS and other mortgage-related assets available for investment would be significantly affected. A reduction in supply of Agency RMBS and other mortgage-related assets would result in increased competition for those assets and likely lead to a significant increase in the price for our target assets. Additionally, market uncertainty with respect to the treatment of the GSEs could have the effect of reducing the actual or perceived quality of, and therefore the market value for, the Agency RMBS that we currently hold in our portfolio.

We operate in a highly regulated environment and may be adversely affected by changes in federal and state laws and regulations.

We operate in a highly regulated environment and are subject to the rules, regulations, approvals, licensing, reporting and examination requirements of various federal, state and local authorities. Any change in applicable federal, state or local laws, rules and regulations, or the interpretation or enforcement thereof, could have a substantial impact on our assets, operating expenses, business strategies and results of operations. Our inability or failure to comply with the rules, regulations or reporting requirements, to obtain or maintain approvals and licenses applicable to our businesses, or to satisfy annual or periodic examinations may impact our ability to do business and expose us to fines, penalties or other claims and, as a result, could harm our business.

Federal and state regulation of the mortgage industry is complex and constantly evolving, and changes to applicable rules, regulations and guidance may adversely impact our business.

As a licensed servicer and owner of MSR, we are required to comply with numerous federal, state and local laws and regulations that control the manner in which we conduct our business and operations. These requirements include, among other things, the Dodd-Frank Act, the Gramm-Leach-Bliley Act and the CARES Act. In addition, given we are not a federally chartered depository institution, we must comply with applicable state licensing and compliance requirements in all jurisdictions in which we operate. These requirements can and do change as statutes and regulations are enacted, promulgated or amended, or as regulatory guidance or interpretations evolve or change.

The Dodd-Frank Act and its implementing regulations, as well as other federal and state rules, regulations and guidance that govern mortgage servicing, combine to create a complex and constantly evolving regulatory environment, and the failure to comply with these requirements may result in fines or the suspension or revocation of the qualifications, registrations and licenses necessary to operate as a servicer and owner of MSR. New or modified regulations at the federal or state level to address concerns on a variety of fronts, including potential impacts from climate change, fair and equitable access to housing and consumer data privacy and security concerns, could increase our operational expenses or otherwise enhance regulatory supervision and enforcement efforts. Ongoing efforts to enhance cooperation between federal and state regulators could also contribute to increased industry scrutiny.

We expect to continue to incur the operational and system costs necessary to maintain the processes that are needed to ensure our compliance with applicable rules and regulations as well as to monitor compliance by our business partners. Additional rules and regulations implemented by the CFPB and state regulators, as well as any changes to existing rules, could lead to changes in the way we conduct our business and increased costs of compliance.

We operate in a highly competitive market and we may not be able to compete successfully.

We operate in a highly competitive market. Our profitability depends, in large part, on our ability to acquire a sufficient supply of our target assets at favorable prices. In acquiring assets, we compete with a variety of investors, including other mortgage REITs, specialty finance companies, public and private investment funds, asset managers, commercial and investment banks, broker-dealers, commercial finance and insurance companies, the GSEs, mortgage servicers and other financial institutions. In addition, the Federal Reserve has in the past committed to purchase unlimited amounts of Agency RMBS and other assets in order to stabilize the financial markets. Many of our competitors are substantially larger and may have greater financial, technical, marketing and other resources than we do. Competition for our target assets may lead to the price of such assets increasing and their availability decreasing, which may limit our ability to generate desired returns, reduce our earnings and, in turn, decrease the cash available for distribution to our stockholders.

In addition, as we seek to grow our subservicing business, we will compete with bank and non-bank servicers for third-party subservicing clients. The subservicing market is highly competitive, and we expect to face competition related to the pricing and services we offer. There can be no assurance that we will be able to attract and retain subservicing clients, which may adversely impact our ability to grow our servicing platform and achieve economies of scale.

Our business could suffer if we fail to attract and retain a skilled management team and workforce.

We operate in a specialized and highly regulated industry and our success is dependent upon the efforts, experience, diligence, skill and deep knowledge of our industry and operations of our executive officers and our employees. Competition for employee talent can be significant, and the companies with which we compete for employees may have greater resources than we do and may be able to offer more attractive terms of employment. The departure of an executive officer, key employee or a significant and sudden turnover of employees in a key operational area of our company could have a material adverse effect on our ability to conduct our operations and to comply with contractual and regulatory obligations, which could adversely impact our business, results of operations and financial condition.

We may change any of our strategies, policies or procedures without stockholder consent.

We may change any of our strategies, policies or procedures with respect to investments, asset allocation, growth, operations, indebtedness, financing strategy and distributions at any time without the consent of stockholders. Changes in strategy could also result in the elimination of certain investments and business activities that we no longer view as attractive or in alignment with our business model. Shifts in strategy may increase our exposure to credit risk, interest rate risk, financing risk, default risk, regulatory risk and real estate market fluctuations. We also cannot assure you that we will be able to effectively execute on or realize the potential benefits of changes in strategy. Any such changes could adversely affect our financial condition, risk profile, results of operations, the market price of our common stock and our ability to make distributions to stockholders.

Our risk management policies and procedures may not be effective.

We have established and maintain various risk management policies and procedures designed to identify, monitor and mitigate financial risks, such as credit risk, interest rate risk, prepayment risk and liquidity risk, as well as operational and compliance risks related to our business, assets and liabilities. These policies and procedures may not sufficiently identify all of the risks to which we are or may become exposed or mitigate the risks we have identified. Any expansion of our business activities, such as our recent acquisition of RoundPoint, may result in our being exposed to risks to which we have not previously been exposed or may increase our exposure to certain types of risks. Alternatively, any narrowing of our business activities may increase the concentration of our exposure to certain types of risk. Any failure to effectively identify and mitigate the risks to which we are exposed could have an adverse effect on our business, results of operations and financial condition.

Maintaining our exemptions from registration as an investment company under the 1940 Act imposes limits on our operations.

We intend to conduct our operations so as not to become required to register as an investment company under the 1940 Act. Section 3(a)(1)(A) of the 1940 Act defines an investment company as any issuer that is or holds itself out as being engaged primarily in the business of investing, reinvesting or trading in securities. We are organized as a holding company that conducts its businesses primarily through our subsidiaries. We intend to conduct the operations of Two Harbors and its subsidiaries so that they do not come within the definition of an investment company, either because less than 40% of the value of their total assets on an unconsolidated basis will consist of “investment securities” or because they meet certain other exceptions or exemptions set forth in the 1940 Act based on the nature of their business purpose and activities.

Certain of our subsidiaries may rely upon the exemption set forth in Section 3(c)(5)(C) of the 1940 Act, which is available for entities “primarily engaged in the business of purchasing or otherwise acquiring mortgages and other liens on and interests in real estate.” This exemption generally means that at least 55% of each such subsidiary’s portfolio must be comprised of qualifying assets and at least 80% of its portfolio must be comprised of qualifying assets and real estate-related assets under the 1940 Act. Qualifying assets for this purpose include mortgage loans and other assets, such as whole pool Agency and non-Agency RMBS, which are considered the functional equivalent of mortgage loans for the purposes of the 1940 Act. We expect each of our subsidiaries relying on Section 3(c)(5)(C) to invest at least 55% of its assets in whole pool Agency RMBS and other interests in real estate that constitute qualifying assets in accordance with SEC staff guidance and an additional 25% of its assets in either qualifying assets and other types of real estate related assets that do not constitute qualifying assets.

As a result of the foregoing restrictions, we may be limited in our ability to make or dispose of certain investments. To the extent the SEC publishes new or different guidance with respect to these matters, we may be required to adjust our strategy accordingly. Although we monitor the portfolios of our subsidiaries that may rely on the Section 3(c)(5)(C) exemption periodically, there can be no assurance that such subsidiaries will be able to maintain this exemption.

Loss of our 1940 Act exemptions would adversely affect us, the market price of shares of our common stock and our ability to distribute dividends, and could result in the termination of certain of our financing or other agreements.

As described above, we intend to conduct operations so that we are not required to register as an investment company under the 1940 Act. Although we monitor our portfolio and our activities periodically, there can be no assurance that we will be able to maintain our exemption from investment company registration under the 1940 Act. Furthermore, any modifications to the 1940 Act exemption rules or interpretations may require us to change our business and operations in order for us to continue to rely on such exemption. If we were no longer able to qualify for exemptions from registration under the 1940 Act, we could be required to restructure our activities or the activities of our subsidiaries, including effecting sales of assets in a manner that, or at a time when, we would not otherwise choose, which could negatively affect the value of our common stock, the sustainability of our business model, and our ability to make distributions. Such sales could occur during adverse market conditions, and we could be forced to accept prices below that which we believe are appropriate. The loss of our 1940 Act exemptions may also result in a default under or permit certain of our counterparties to terminate the many repurchase agreements, financing facilities or other agreements we have in place.

The lack of liquidity of our assets may adversely affect our business, including our ability to value, finance and sell our assets.

We have and may in the future acquire assets or other instruments with limited or no liquidity, including securities, MSR and other instruments that are not publicly traded. Market conditions could also significantly and negatively affect the liquidity of our assets. It may be difficult or impossible to obtain third-party pricing on such illiquid assets and validating third-party pricing for illiquid assets may be more subjective than more liquid assets. Illiquid assets typically experience greater price volatility, as a ready market may not exist for such assets, and such assets can be more difficult to value.

Any illiquidity in our assets may make it difficult for us to sell such assets if the need or desire arises. The ability to quickly sell certain of our target assets, such as certain securities and MSR, may be constrained by a number of factors, including a small number of willing buyers, lack of transparency as to current market terms and price, and time delays resulting from the buyer's desire to conduct due diligence on the assets, negotiation of a purchase and sale agreement, compliance with any applicable contractual or regulatory requirements, and for certain assets like MSR, operational and compliance considerations. Consequently, even if we identify a buyer for certain of our securities and MSR, there is no assurance that we would be able to sell such assets in a timely manner if the need or desire arises.

Assets that are illiquid are typically more difficult and costly to finance. As a result, we may be required to finance the assets at unattractive rates or hold them on our balance sheet without the use of leverage. Assets tend to become less liquid during times of financial stress, which is often the time that liquidity is most needed. To the extent that we use leverage to finance assets that later become illiquid, we may lose that leverage if the financing counterparty determines that the collateral is no longer sufficient to secure the financing, or the counterparty could reduce the amount of money that it is willing to lend against the asset.

We use leverage in executing our business strategy, which may adversely affect the return on our assets and may reduce cash available for distribution to our stockholders, as well as increase losses when economic conditions are unfavorable.

We use leverage to finance many of our investments and to enhance our financial returns. Through the use of leverage, we may acquire positions with market exposure significantly greater than the amount of capital committed to the transaction. It is not uncommon for investors in Agency RMBS to obtain leverage equal to ten or more times equity through the use of repurchase agreement financing. Subject to market conditions, we anticipate that we may deploy, on a debt-to-equity basis, up to ten times leverage on our Agency RMBS; however, there is no specific limit on the amount of leverage that we may use.

Leverage will magnify both the gains and the losses of our positions. Leverage will increase our returns as long as we earn a greater return on investments purchased with borrowed funds than our cost of borrowing such funds. However, if we use leverage to acquire an asset and the value of the asset decreases, the leverage will increase our losses. Even if the asset increases in value, if the asset fails to earn a return that equals or exceeds our cost of borrowing, leverage will decrease our returns.

We may be required to post large amounts of cash as collateral or margin to secure our leveraged positions, including on our MSR financing facilities. In the event of a sudden, precipitous drop in value of our financed assets, we might not be able to liquidate assets quickly enough to repay our borrowings, further magnifying losses. Even a small decrease in the value of a leveraged asset may require us to post additional margin or cash collateral. This may adversely affect our financial condition and results of operations and decrease the cash available to us for distributions to stockholders.

We depend on repurchase agreements and other credit facilities to execute our business plan and any limitation on our ability to access funding through these sources could have a material adverse effect on our business, results of operations and financial condition.

Our ability to purchase and hold assets is affected by our ability to secure repurchase agreements and other credit facilities on acceptable terms. We currently have repurchase agreements, revolving credit facilities and other credit facilities in place with numerous counterparties, but we can provide no assurance that lenders will continue to provide us with sufficient financing through the repurchase markets or otherwise. In addition, with respect to MSR financing, there can be no assurance that the GSEs will consent to such transactions or consent on terms consistent with prior MSR financing transactions. Because repurchase agreements and similar credit facilities are generally short-term commitments of capital, changing conditions in the financing markets may make it more difficult for us to secure continued financing during times of market stress.

Our ability to efficiently access financing through our repurchase agreements or otherwise may be adversely impacted by counterparty requirements regarding the type of assets that may be sold and the timing and process for such sales. Counterparty review and approval processes may delay the timing in which funding may be provided, or preclude funding altogether. For MSR, delays may also occur due to the need to obtain GSE approval of the collateral to be posted or the need for third-party valuations of the MSR collateral. Our lenders also may revise their eligibility requirements for the types of assets they are willing to finance or the terms of such financings, based on, among other factors, the regulatory environment and their management of perceived risk.

Changes in the financing markets could adversely affect the marketability of the assets in which we invest, and this could negatively affect the value of our assets. If our lenders are unwilling or unable to provide us with financing, or if the financing is only available on terms that are uneconomical or otherwise not satisfactory to us, we could be forced to sell assets when prices are depressed. The amount of financing we receive under our repurchase agreements, revolving credit facilities or other credit facilities will be directly related to the lenders' valuation of the assets that secure the outstanding borrowings. If a lender determines that the value of the assets has decreased, it typically has the right to initiate a margin call, requiring us to transfer additional assets to such lender, or repay a portion of the outstanding borrowings. We may be forced to sell assets at significantly depressed prices to meet margin calls and to maintain liquidity at levels satisfactory to the counterparty, which could cause us to incur losses. Moreover, to the extent that we are forced to sell assets because of the availability of financing or changes in market conditions, other market participants may face similar pressures, which could exacerbate a difficult market environment and result in significantly greater losses on the sale of such assets. In an extreme case of market duress, a market may not exist for certain of our assets at any price.

Although we generally seek to reduce our exposure to lender concentration-related risk by entering into financing relationships with multiple counterparties, we are not required to observe specific diversification criteria, except as may be set forth in the investment guidelines adopted by our board of directors. To the extent that the number of or net exposure under our lending arrangements may become concentrated with one or more lenders, the adverse impacts of defaults or terminations by such lenders may be significantly greater.

Our inability to meet certain financial covenants related to our repurchase agreements, revolving credit facilities or other credit facilities could adversely affect our financial condition, results of operations and cash flows.

In connection with certain of our repurchase agreements, revolving credit facilities and other credit facilities, we are required to comply with certain financial covenants, the most restrictive of which are disclosed within Item 7, "Management's Discussion and Analysis of Financial Conditions and Results of Operations" of this Annual Report on Form 10-K. Compliance with these financial covenants will depend on market factors and the strength of our business and operating results. Failure to comply with our financial covenants could result in an event of default, termination of the lending facility, acceleration of all amounts owing under the lending facility, and may give the counterparty the right to exercise certain other remedies under the lending agreement, including without limitation the sale of the asset subject to repurchase at the time of default, unless the counterparty granted a waiver. In addition, we may be subject to cross-default provisions under certain financing facilities that could cause an event of default under such financing facilities to be triggered by events of default under other financing arrangements.

If a counterparty to a repurchase agreement defaults on its obligation to resell the underlying security back to us at the end of the repurchase agreement term, or if we default on our obligations under the repurchase agreement, we may incur losses.

When we enter into repurchase agreements, we sell the assets to lenders and receive cash from the lenders. The lenders are obligated to resell the same assets back to us at the end of the term of the repurchase agreement. Because the cash that we receive from the lender when we initially sell the assets to the lender is less than the value of those assets (the difference being the "haircut"), if the lender defaults on its obligation to resell the same assets back to us, we would incur a loss on the repurchase agreement equal to the amount of the haircut (assuming there was no change in the value of the securities). Further, if we default on our obligations under a repurchase agreement, the lender will be able to terminate the repurchase agreement and may cease entering into any other repurchase agreements with us. If a default occurs under any of our repurchase agreements and a lender terminates one or more of its repurchase agreements, we may need to enter into replacement repurchase agreements with different lenders. There can be no assurance that we will be successful in entering into such replacement repurchase agreements on the same terms as the repurchase agreements that were terminated or at all.

Our rights under our repurchase agreements are subject to the effects of bankruptcy laws in the event of the bankruptcy or insolvency of us or our lenders under the repurchase agreements.

In the event of our insolvency or bankruptcy, certain repurchase agreements may qualify for special treatment under the U.S. Bankruptcy Code, the effect of which, among other things, would be to allow the lender under the applicable repurchase agreement to avoid the automatic stay provisions of the U.S. Bankruptcy Code and to foreclose on the collateral agreement without delay. In the event of the insolvency or bankruptcy of a lender during the term of a repurchase agreement, the lender may be permitted, under applicable insolvency laws, to repudiate the contract, and our claim against the lender for damages may be treated simply as an unsecured creditor claim. In addition, if the lender is a broker or dealer subject to the Securities Investor Protection Act of 1970, or an insured depository institution subject to the Federal Deposit Insurance Act, our ability to exercise our rights to recover our assets under a repurchase agreement or to be compensated for any damages resulting from the lender's insolvency may be further limited by those statutes. These claims would be subject to significant delay and, if and when received, may be substantially less than the damages we actually incur.

The impairment or negative performance of other financial institutions could adversely affect us.

We have exposure to and routinely execute transactions with numerous counterparties in the financial services industry, including broker-dealers, commercial banks, investment banks, investment funds and other institutions. The operations of U.S. and global financial services institutions are highly interconnected and a decline in the financial condition of one or more financial services institutions may expose us to credit losses or defaults, limit our access to liquidity or otherwise disrupt the operation of our businesses. While we regularly assess our exposure to different counterparties, the performance and financial strength of specific institutions are subject to rapid change, the timing and extent of which cannot be known.

We may not have the ability to raise funds necessary to pay principal amounts owed upon maturity of our outstanding convertible senior notes or to purchase such notes upon a fundamental change.

We have issued and outstanding \$271.9 million aggregate principal amount of 6.25% convertible senior notes due January 2026. To the extent these notes are not converted into common stock by the noteholders prior to their maturity date, we will be obligated to repay the principal amount of all outstanding notes upon maturity. In addition, if a fundamental change occurs (as described in the supplemental indenture governing the notes), noteholders have the right to require us to purchase for cash any or all of their notes. We may not have sufficient funds available at the time we are required to repay principal amounts or to purchase the notes upon a fundamental change, and we may not be able to raise additional capital or arrange necessary financing in order to make such payments on terms that are acceptable to us, if at all.

An increase in our borrowing costs relative to the interest that we receive on our leveraged assets may adversely affect our profitability.

As our repurchase agreements and other short-term borrowings mature, we must enter into new borrowings, find other sources of liquidity or sell assets. An increase in short-term interest rates at the time that we seek to enter into new borrowings would reduce the spread between the returns on our assets and the cost of our borrowings. This would adversely affect the returns on our assets, which might reduce earnings and, in turn, cash available for distribution to stockholders.

We are highly dependent on information technology, and system failures or security breaches could disrupt our business.

Our business is highly dependent on information technology and our ability to process, record and monitor many complex transactions and large amounts of data efficiently and accurately. In the ordinary course of our business, we store sensitive data, including our proprietary business information and that of our business partners, and non-public personally identifiable information of mortgage borrowers, on our networks. The secure maintenance and transmission of this information is critical to our operations. Computer malware, viruses, ransomware and phishing attacks remain widespread and are increasingly sophisticated. We are from time to time the target of attempted cyber threats. We continuously monitor and develop our information technology networks and infrastructure to prevent, detect, address and mitigate the risk of unauthorized access, misuse, computer viruses and other events that could have a security impact. Despite these security measures, our information technology and infrastructure may be vulnerable to attacks by hackers or breached due to employee or service provider error, malfeasance or other disruptions. Any such breach could compromise our networks and the information stored there could be accessed, publicly disclosed, lost or stolen. Any such access, disclosure or other loss of information could result in legal claims or proceedings, liability under laws that protect the privacy of personal information, regulatory penalties, disruption to our operations, or disruption to our trading activities or damage our reputation, which could have a material adverse effect on our financial results and negatively affect the market price of our common stock and our ability to pay dividends to stockholders.

The resources required to protect our information technology and infrastructure, and to comply with the laws and regulations related to data and privacy protection, are continuously evolving. Even in circumstances where we are able to successfully protect such technology and infrastructure from attacks, we may incur significant expenses in connection with our responses to such attacks. Government and regulatory scrutiny of the measures taken by companies to protect against cybersecurity attacks has resulted in heightened cybersecurity requirements and additional regulatory oversight. Any of the foregoing issues may adversely impact our results of operations and financial condition.

We enter into hedging transactions that expose us to contingent liabilities in the future, which may adversely affect our financial results or cash available for distribution to stockholders.

We engage in transactions intended to hedge against various risks to our portfolio, including the exposure to changes in interest rates. The extent of our hedging activity varies in scope based on, among other things, the level and volatility of interest rates, the type of assets held and other market conditions. Although these transactions are intended to reduce our exposure to various risks, hedging may fail to adequately protect or could adversely affect us because, among other things: available hedges may not correspond directly with the risks for which protection is sought; the duration of the hedge may not match the duration of the related liability; the amount of income that a REIT may earn from certain hedging transactions is limited by U.S. federal income tax provisions; the credit quality of a hedging counterparty may be downgraded to such an extent that it impairs our ability to sell or assign our side of the hedging transaction; and the hedging counterparty may default on its obligations.

Subject to maintaining our qualification as a REIT and satisfying the criteria for no-action relief from the Commodity Futures Trading Commission's commodity pool operator registration rules, there are no current limitations on the hedging transactions that we may undertake. Our hedging transactions could require us to fund large cash payments in certain circumstances (e.g., the early termination of the hedging instrument caused by an event of default or other early termination event, or a demand by a counterparty that we make increased margin payments). Our ability to fund these obligations will depend on the liquidity of our assets and our access to capital at the time. The need to fund these obligations could adversely affect our financial condition. Further, hedging transactions, which are intended to limit losses, may actually result in losses, which would adversely affect our earnings and could in turn reduce cash available for distribution to stockholders.

Our financial results may experience greater fluctuations due to our decision not to elect hedge accounting treatment on our derivative instruments.

We have elected to not qualify for hedge accounting treatment under Accounting Standards Codification (ASC) 815, *Derivatives and Hedging*, or ASC 815, for our current derivative instruments. The economics of our derivative hedging transactions are not affected by this election; however, our earnings (losses) for U.S. generally accepted accounting principles, or U.S. GAAP, purposes may be subject to greater fluctuations from period to period as a result of this accounting treatment for changes in fair value of derivative instruments or for the accounting of the underlying hedged assets or liabilities in our financial statements, as it does not necessarily align with the accounting used for derivative instruments.

The acquisition of RoundPoint directly exposes us to risks associated with mortgage servicing and any new services or business activities we may pursue could result in our exposure to new or increased risks.

As a result of our acquisition of RoundPoint, we began directly servicing a portion of the mortgage loans underlying our MSR assets as well as mortgage loans underlying MSR owned by third parties. The ownership of an entity that is directly engaged in mortgage loan servicing operations exposes us to risks inherent in mortgage loan servicing more directly than engaging third-party mortgage loan servicers. Such risks include but are not limited to: legal or regulatory actions resulting from a failure to comply with applicable laws, rules and regulations; adverse impacts resulting from a failure to comply with rules and guidelines established by the GSEs, which could limit our ability to conduct business with them; impacts of payment delinquencies and mortgage defaults, including any additional servicing costs or servicing advance obligations we may incur; information technology system failures or data security breaches; failure to maintain the size and scale of our MSR and servicing portfolios; the termination of subservicing relationships if we fail to meet our servicing obligations to our clients; and any downgrade in our servicer ratings. Any of the foregoing risks could have a material adverse effect on our business, financial condition, results of operations and liquidity.

We believe the operation and integration of RoundPoint as a part of our business will result in incremental pre-tax earnings, greater control over our MSR portfolio and long-term opportunities to expand upon and leverage RoundPoint's operational capabilities to pursue additional business opportunities. However, it is possible that the full benefits of the acquisition of RoundPoint may not be realized as expected or may not be achieved within our anticipated time frame, or at all.

We are subject to risks associated with the use of third-party service providers.

We have engaged numerous third parties to provide us with financial, technology and other services to support our servicing operations, as well as for general corporate purposes. If a service provider's activities do not comply with the applicable legal, regulatory or contractual requirements, we could be exposed to liability as the servicer, which could negatively impact our relationships with our servicing customers or regulators, among others. In addition, if our current service providers were to stop providing services to us on acceptable terms, including as a result of one or more bankruptcies due to poor economic conditions, we may be unable to procure alternative services from other service providers in a timely and efficient manner and on acceptable terms, or at all. If a service provider fails to comply with applicable legal or regulatory requirements on our behalf, or provide to us the services we are contractually owed, we may incur significant costs to resolve any such disruptions in service and this could adversely affect our business, financial condition and results of operations.

In addition, in connection with our servicing activities and ownership of MSR, we possess non-public personally identifiable information that is shared with third-party service providers as required or permitted by law. In the event the information technology networks and infrastructure of a third-party service provider is breached, we may be liable for losses suffered by individuals whose personal information is stolen as a result of such breach and any such liability could be material. Even if we are not liable for such losses, any breach of these third-party systems could expose us to material costs related to notifying affected individuals or other parties and providing credit monitoring services, as well as to regulatory fines or penalties.

Our ability to own and manage MSR and service mortgage loans is subject to terms and conditions established by the GSEs, which are subject to change.

Our subsidiaries' continued approval from the GSEs to own and manage MSR and service mortgage loans is subject to compliance with each of their respective selling and servicing guidelines, minimum capital requirements and other conditions they may impose from time to time at their discretion. Failure to meet such guidelines and conditions could result in the unilateral termination of our subsidiaries' approved status by one or more GSEs or result in the acceleration and termination of our MSR financing facilities. In addition, the implementation of more restrictive or operationally intensive guidance may increase the costs associated with owning and managing MSR, our ability to finance MSR and our ability to generate revenue from servicing mortgage loans.

We are subject to risks related to previous mortgage loan servicers.

We service mortgage loans under requirements set forth by regulatory agencies and GSEs. Failure to meet these applicable requirements can result in the assessment of fines and loss of reimbursement of loan related advances, expenses, interest and servicing fees. When the servicing of a portfolio is assumed either through the purchase of servicing rights or through a subservicing arrangement, various loans in the acquired portfolio may have been previously serviced in a manner that could interfere with our ability to meet certain applicable requirements. If not remediated by a prior servicer, such events may lead to the eventual realization of a loss to us. The recovery process against a prior servicer can be prolonged and amounts ultimately recovered from prior servicers may differ from our estimated recoveries recorded based on the prior servicer's interpretation of responsibility for loss, which could lead to our realization of additional losses.

Our securitization activities expose us to risk of litigation, which may materially and adversely affect our business and financial condition.

In connection with our securitization transactions, we prepare disclosure documentation, including term sheets and offering memorandums, which contain disclosures regarding the securitization transactions and the assets securitized. If our disclosure documentation is alleged or found to contain inaccuracies or omissions, we may be liable under federal securities laws, state securities laws or other applicable laws for damages to third parties that invest in these securitization transactions, including in circumstances in which we relied on a third party in preparing accurate disclosures, or we may incur other expenses and costs in connection with disputing these allegations or settling claims.

We may be subject to representation and warranty risk in our capacity as an owner of MSR as well as in connection with our prior securitization transactions and our sales of MSR and other assets.

The MSR we acquire may be subject to existing representations and warranties made to the applicable investor (including, without limitation, the GSEs) regarding, among other things, the origination and prior servicing of those mortgage loans, as well as future servicing practices following our acquisition of such MSR. If such representations and warranties are inaccurate, we may be obligated to repurchase certain mortgage loans or indemnify the applicable investor for any losses suffered as a result of the origination or prior servicing of the mortgage loans. As such, the applicable investor will have direct recourse to us for such origination and/or prior servicing issues.

In connection with our prior securitization transactions and with the sales of our MSR and other assets from time to time, we may have been or may be required to make representations and warranties to the purchasers of the assets regarding certain characteristics of those assets. If our representations and warranties are inaccurate, we may be obligated to repurchase the assets or indemnify the applicable purchaser, which may result in a loss. Even if we obtain representations and warranties from the parties from whom we acquired the asset, as applicable, they may not correspond with the representations and warranties we make or may otherwise not protect us from losses. Additionally, the loan originator or other parties from whom we acquired the MSR may be insolvent or otherwise unable to honor their respective indemnification or repurchase obligations for breaches of representation and warranties.

Legal matters related to the termination of our Management Agreement with PRCM Advisers may adversely affect our business, results of operations, and/or financial condition.

On August 14, 2020, our Management Agreement with PRCM Advisers terminated and we thereafter became a self-managed company. In connection with the termination of our Management Agreement, PRCM Advisers filed a complaint in federal court that 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 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 PRCM Advisers in pursuing the action. Our board of directors believes the complaint is without merit and that the company has complied with the terms of the Management Agreement. However, the results of litigation are inherently uncertain. It is possible that a court could enjoin us from using certain intellectual property. In addition, any damages or costs and fees that may be awarded to PRCM Advisers related to the litigation may be significant. While we dispute and intend to vigorously defend against the claims set forth in the complaint, it is possible that the results of the litigation with PRCM Advisers may adversely affect our business, results of operations and financial condition.

Risks Related To Our Assets

Declines in the market values of our assets may adversely affect our results of operations and financial condition.

A substantial portion of our assets are classified for accounting purposes as "available-for-sale." Changes in the market values of those assets will be directly charged or credited to stockholders' equity. As a result, a decline in values may result in connection with factors that are out of our control and adversely affect our book value. Moreover, if the decline in value of an available-for-sale security is other than temporary, such decline will reduce our earnings.

In addition, some of the assets in our portfolio are not publicly traded. The fair value of securities and other assets that are not publicly traded may not be readily determinable. We value these assets quarterly at fair value, as determined in accordance with ASC 820, *Fair Value Measurements and Disclosures*, which may include unobservable inputs. Because such valuations are subjective, the fair value of certain of our assets may fluctuate over short periods of time and our determinations of fair value may differ materially from the values that would have been used if a ready market for these securities existed. We may be adversely affected if our determinations regarding the fair value of these assets are materially higher than the values that we ultimately realize upon their disposal.

Changes in mortgage prepayment rates may adversely affect the value of our assets.

The value of our assets is affected by prepayment rates on mortgage loans, and our investment strategy includes making investments based on our expectations regarding prepayment rates. A prepayment rate is the measurement of how quickly borrowers pay down the unpaid principal balance of their loans or how quickly loans are otherwise brought current, modified, liquidated or charged off. With respect to our securities portfolio, typically the value of a mortgage-backed security includes market assumptions regarding the speed at which the underlying mortgages will be prepaid. Faster than expected prepayments could adversely affect our profitability, including in the following ways:

- We may purchase securities that have a higher interest rate than the market interest rate at the time. In exchange for this higher interest rate, we may pay a premium over the par value to acquire the security. In accordance with U.S. GAAP, we may amortize this premium over the estimated term of the security. If the security is prepaid in whole or in part prior to its maturity date, however, we may be required to expense the premium that was prepaid at the time of the prepayment.
- A substantial portion of our adjustable-rate Agency RMBS may bear interest rates that are lower than their fully indexed rates, which are equivalent to the applicable index rate plus a margin. If an adjustable-rate security is prepaid prior to or soon after the time of adjustment to a fully-indexed rate, we will have held that security while it was least profitable and lost the opportunity to receive interest at the fully indexed rate over the remainder of its expected life.
- If we are unable to acquire new Agency RMBS similar to the prepaid security, our financial condition, results of operations and cash flows could suffer.

Changes in prepayment rates also significantly affect the value of MSR because such rights are priced on an assumption of a stable repayment rate. If the prepayment rate is significantly greater than expected, the fair value of the MSR could decline and we may be required to record a non-cash charge, which would have a negative impact on our financial results. Furthermore, a significant increase in the prepayment rate could materially reduce the ultimate cash flows we receive from MSR, and we could ultimately receive substantially less than what we paid for such assets.

Prepayment rates may be affected by a number of factors including mortgage rates, the availability of mortgage credit, the relative economic vitality of the area in which the related properties are located, the remaining life of the loans, the size of the remaining loans, the servicing of mortgage loans, changes in tax laws, other opportunities for investment, homeowner mobility and other economic, social, geographic, demographic and legal factors. Consequently, prepayment rates cannot be predicted with certainty. If we make erroneous assumptions regarding prepayment rates in connection with our investment decisions, we may experience significant losses.

Our delayed delivery transactions, including TBAs, subject us to certain risks, including price risks and counterparty risks.

We may purchase Agency RMBS through delayed delivery transactions, including TBAs. In a delayed delivery transaction, we enter into a forward purchase agreement with a counterparty to purchase either (i) an identified Agency RMBS, or (ii) a to-be-issued (or “to-be-announced”) Agency RMBS with certain terms. As with any forward purchase contract, the value of the underlying Agency RMBS may decrease between the contract date and the settlement date. Furthermore, a transaction counterparty may fail to deliver the underlying Agency RMBS at the settlement date.

It may be uneconomical to roll our TBA dollar roll transactions or we may be unable to meet margin calls on our TBA contracts, which could negatively affect our financial condition and results of operations.

We utilize TBA dollar roll transactions as a means of investing in and financing Agency RMBS. TBA contracts enable us to purchase or sell, for future delivery, Agency RMBS with certain principal and interest terms and certain types of collateral, but the specific securities to be delivered are not identified until shortly before the TBA settlement date. Prior to settlement of the TBA contract we may choose to move the settlement of the securities to a later date by entering into an offsetting position (referred to as a “pair off”), net settling the paired off positions for cash, and simultaneously purchasing a similar TBA contract for a later settlement date, collectively referred to as a “dollar roll.” The Agency RMBS purchased for a forward settlement date under the TBA contracts are typically priced at a discount to Agency RMBS for settlement in the current month. This difference (or discount) is referred to as the “price drop.” The price drop is the economic equivalent of net interest carry income on the underlying Agency RMBS over the roll period (interest income less implied financing cost) and is commonly referred to as a “dollar roll income.” Consequently, dollar roll transactions and such forward purchase of Agency RMBS represent a form of financing and increase our “at-risk” leverage.

Under certain market conditions, TBA dollar roll transactions may result in negative carry income whereby the Agency RMBS purchased for a forward settlement date under TBA contract are priced at a premium to Agency RMBS for settlement in the current month. Under such conditions, it may be uneconomical to roll our TBA positions prior to the settlement date, and we may have to take physical delivery of the underlying securities and settle our obligations for cash. We may not have sufficient funds or alternative financing sources available to settle such obligations. In addition, pursuant to the margin provisions established by the Mortgage-Backed Securities Division, or MBSD, of the Fixed Income Clearing Corporation, or FICC, we are subject to margin calls on our TBA contracts. Further, our prime brokerage agreements may require us to post additional margin above the levels established by the MBSD. Any failure to procure adequate financing to settle our obligations or meet margin calls under our TBA contracts could result in defaults or force us to sell assets under adverse market conditions or through foreclosure and adversely affect our results of operations and financial condition.

Increases in interest rates could adversely affect the value of our assets and cause our interest expense to increase.

Our operating results depend in large part on the difference between the income from our assets and financing costs. We anticipate that, in many cases, the income from our assets will respond more slowly to interest rate fluctuations than the cost of our borrowings. Consequently, changes in interest rates, particularly short-term interest rates, may significantly influence our financial results.

Interest rates are highly sensitive to many factors, including governmental monetary and tax policies, domestic and international economic and political considerations and other factors beyond our control. We cannot predict the impact that any future actions or non-actions by the Federal Reserve with respect to the federal funds rate or otherwise may have on the markets or the economy. Interest rate fluctuations present a variety of risks, including the risk of a narrowing of the difference between asset yields and borrowing rates, flattening or inversion of the yield curve and fluctuating prepayment rates. We endeavor to hedge our exposure to changes in interest rates, but there can be no assurances that our hedges will be successful, or that we will be able to enter into or maintain such hedges.

An increase in interest rates may cause a decrease in the availability of certain of our target assets, which could adversely affect our ability to acquire target assets that satisfy our investment objectives and to generate income and pay dividends.

Rising interest rates generally reduce the demand for mortgage loans due to the higher cost of borrowing. A reduction in the volume of mortgage loans originated may affect the volume of certain target assets available to us, which could adversely affect our ability to acquire assets that satisfy our investment and business objectives. Rising interest rates may also cause certain target assets that were issued prior to an interest rate increase to provide yields that are below prevailing market interest rates. If rising interest rates cause us to be unable to acquire a sufficient volume of our target assets with a yield that is above our borrowing cost, our ability to satisfy our investment objectives and to generate income and pay dividends may be materially and adversely affected.

The value of our Agency RMBS and MSR may be adversely affected by deficiencies in servicing and foreclosure practices, as well as related delays in the foreclosure process.

Deficiencies in servicing and foreclosure practices among servicers of residential mortgage loans have raised and may in the future raise concerns relating to such practices. The integrity of servicing and foreclosure processes is critical to the value of our Agency RMBS and MSR, and our financial results could be adversely affected by deficiencies in the conduct of those processes. For example, delays in the foreclosure process that may result from improper servicing practices may adversely affect the values of, and our losses on, our mortgage-related assets. Foreclosure delays may also result in the curtailment of payments to the GSEs, thereby resulting in additional expense and reducing the amount of funds available for distribution to investors. We continue to monitor and review the issues raised by improper servicing practices. While we cannot predict exactly how servicing, loss mitigation and foreclosure matters or any resulting litigation, regulatory actions or settlement agreements will affect our business, there can be no assurance that these matters will not have an adverse impact on our results of operations and financial condition.

We are required to make servicing advances that can be subject to delays in recovery or may not be recoverable.

During any period in which a borrower is not making payments on a loan underlying our MSR, we may be required under our servicing agreements with the GSEs to advance our own funds to meet some combination of contractual principal and interest remittance requirements, property taxes and insurance premiums, legal expenses and other protective advances. We may also be required under these agreements to advance funds to maintain, repair and market real estate properties. In certain situations, our contractual obligations may require us to make certain advances for which we may not be reimbursed. In addition, in the event a loan underlying our MSR defaults or becomes delinquent, or the mortgagor is allowed to enter into a forbearance, the repayment of advances may be delayed, which may adversely affect our liquidity. Any significant increase in required servicing advances, material delays in our receipt of advance reimbursements or the ineligibility of advances for reimbursement could have an adverse impact on our financial condition and cash flows.

Risks Related to Our Organization and Structure

Certain provisions of Maryland law could inhibit changes in control.

Certain provisions of the Maryland General Corporation Law, or MGCL, may have the effect of deterring a third party from making a proposal to acquire us or of impeding a change in control under circumstances that otherwise could provide the holders of shares of our common stock with the opportunity to realize a premium over the then-prevailing market price of such shares. We are subject to the “business combination” provisions of the MGCL that, subject to limitations, prohibit certain business combinations between our company and an “interested stockholder” (as defined under the MGCL) or an affiliate thereof for five years after the most recent date on which the stockholder becomes an interested stockholder. In addition, the “unsolicited takeover” provisions of the MGCL (Title 3, Subtitle 8 of the MGCL) permit our board of directors, without stockholder approval and regardless of what is currently provided in our charter or bylaws, to implement takeover defenses, some of which we do not currently have. These provisions may have the effect of inhibiting a third party from making an acquisition proposal for our company or of delaying, deferring or preventing a change in control of our company.

Our authorized but unissued shares of common and preferred stock and the ownership limitations contained in our charter may prevent a change in control.

Our charter authorizes Two Harbors to issue additional authorized but unissued shares of common or preferred stock. In addition, our board of directors may, without stockholder approval, amend our charter to increase or decrease the aggregate number of shares of our stock or the number of shares of stock of any class or series that Two Harbors has the authority to issue and classify or reclassify any unissued shares of common or preferred stock and set the terms of the classified or reclassified shares. As a result, our board may establish a series of shares of common or preferred stock that could delay or prevent a transaction or a change in control that might be in the best interests of stockholders.

In addition, our charter contains restrictions limiting the ownership and transfer of shares of our common stock and other outstanding shares of capital stock. The relevant sections of our charter provide that, subject to certain exceptions, ownership of shares of our common stock by any person is limited to 9.8% by value or by number of shares, whichever is more restrictive, of our outstanding shares of common stock (the common share ownership limit), and no more than 9.8% by value or number of shares, whichever is more restrictive, of our outstanding capital stock (the aggregate share ownership limit). The common share ownership limit and the aggregate share ownership limit are collectively referred to herein as the “ownership limits.” These charter provisions will restrict the ability of persons to purchase shares in excess of the relevant ownership limits.

Our charter contains provisions that make removal of our directors difficult, which could make it difficult for stockholders to effect changes in management.

Our charter provides that, subject to the rights of any series of preferred stock, a director may be removed only by the affirmative vote of at least two-thirds of all the votes entitled to be cast generally in the election of directors. Our charter and bylaws provide that vacancies generally may be filled only by a majority of the remaining directors in office, even if less than a quorum. These requirements make it more difficult to change management by removing and replacing directors and may prevent a change in control that is in the best interests of stockholders.

Our rights and stockholders' rights to take action against directors and officers are limited, which could limit recourse in the event of actions not in the best interests of stockholders.

As permitted by Maryland law, our charter eliminates the liability of its directors and officers to Two Harbors and its stockholders for money damages, except for liability resulting from: actual receipt of an improper benefit or profit in money, property or services; or a final judgment based upon a finding of active and deliberate dishonesty by the director or officer that was material to the cause of action adjudicated.

In addition, pursuant to our charter we have agreed contractually to indemnify our present and former directors and officers for actions taken by them in those capacities to the maximum extent permitted by Maryland law. Further, our bylaws require us to indemnify each present or former director or officer, to the maximum extent permitted by Maryland law, who is made, or threatened to be made, a party to any proceeding because of his or her service to Two Harbors. As part of these indemnification obligations, we may be obligated to fund the defense costs incurred by our directors and officers.

Our amended and restated bylaws designate certain Maryland courts as the sole and exclusive forum for certain types of actions and proceedings that may be initiated by our stockholders.

Our amended and restated bylaws provide that, unless we consent in writing to the selection of an alternative forum, the Circuit Court for Baltimore City, Maryland, or, if that Court does not have jurisdiction, the United States District Court for the District of Maryland, Baltimore Division, shall be the sole and exclusive forum for the following: any derivative action or proceeding brought on behalf of the company; any action asserting a claim of breach of any duty owed by any of our directors, officers or other employees to the company or to our stockholders; any action asserting a claim against the company or any of our directors, officers or other employees arising pursuant to any provision of the MGCL or our charter or bylaws; or any action asserting a claim against the company or any of our directors, officers or other employees that is governed by the internal affairs doctrine. This choice of forum provision may limit a stockholder's ability to bring a claim in a judicial forum that the stockholder believes is favorable for disputes with us or our directors, officers or other employees, which may discourage lawsuits against us and our directors, officers and employees.

Risks Related to Our Securities

Future issuances and sales of shares of our common stock may depress the market price of our common stock or have adverse consequences for our stockholders.

We may issue additional shares of our common stock in public offerings, private placements as well as through equity awards to our directors, officers and employees pursuant to our Second Restated 2009 Equity Incentive Plan or our 2021 Equity Incentive Plan. Additionally, shares of our common stock have also been reserved for issuance in connection with the conversion of our 6.25% convertible senior notes due 2026 and our Series A, Series B and Series C preferred stock. We cannot predict the effect, if any, of future issuances or sales of our common stock on the market price of our common stock. We also cannot predict the amounts and timing of equity awards to be issued pursuant to our equity incentive plans, nor can we predict the amount and timing of any conversions of our convertible senior notes due January 2026 or our Series A, Series B and Series C preferred stock into shares of our common stock. Any stock offerings, awards or conversions resulting in the issuance of substantial amounts of common stock, or the perception that such awards or conversions could occur, may adversely affect the market price for our common stock.

Any future offerings of our securities could dilute our existing stockholders and may rank senior for purposes of dividend and liquidating distributions.

We may from time to time issue securities which may rank senior and/or be dilutive to our stockholders. For example, our senior unsecured notes due January 2026 are convertible into shares of our common stock at the election of the noteholder, and our Series A, Series B and Series C preferred shares may be converted into shares of our common stock following the occurrence of certain events, as set forth in the articles supplementary for each series. Any election by noteholders or preferred stockholders to convert their notes or preferred shares into shares of our common stock will dilute the interests of other common stockholders.

In the future, we may again elect to raise capital through the issuance of convertible or non-convertible debt or common or preferred equity securities. Upon liquidation, holders of our debt securities and preferred stock, if any, and lenders with respect to other borrowings will be entitled to our available assets prior to the holders of our common stock. Convertible debt and convertible preferred stock may have anti-dilution provisions which are unfavorable to our common stockholders. Because our decision to issue debt or equity securities in any future offering will depend on market conditions and other factors beyond our control, we cannot predict or estimate the amount, timing or nature of our future offerings. Thus, our stockholders bear the risk of our future offerings reducing the market price of our common stock and diluting the value of their holdings.

We have not established a minimum distribution payment level and we cannot assure you of our ability to pay distributions in the future.

We intend to continue to pay quarterly distributions and to make distributions to our stockholders in an amount such that we distribute all or substantially all of our REIT taxable income in each year. We have not established a minimum distribution payment level and our ability to pay distributions may be adversely affected by a number of factors, including the risk factors described herein. All distributions will be made, subject to Maryland law, at the discretion of our board of directors and will depend on our earnings, our financial condition, any debt covenants, maintenance of our REIT qualification and other factors as our board of directors may deem relevant. We cannot assure you that we will achieve results that will allow us to make a specified level of cash distributions and distributions in future periods may be significantly lower than in prior quarterly periods.

The market price of our common stock could fluctuate and could cause you to lose a significant part of your investment.

The market price of our common stock may be highly volatile. In addition, the trading volume in our common stock may fluctuate and cause significant price variations to occur. If the market price of our common stock declines significantly, you may be unable to resell your shares of our common stock at a gain. We cannot assure you that the market price of our common stock will not fluctuate or decline significantly in the future.

The market price of our common stock may be influenced by many factors, including without limitation: changes in financial estimates by analysts; fluctuations in our results of operations or financial condition or the results of operations or financial condition of companies perceived to be similar to us; general economic and financial and real estate market conditions; changes in market valuations of similar companies; monetary policy and regulatory developments in the U.S.; and additions or departures of key personnel.

Tax Risks

Our failure to qualify as a REIT would subject us to U.S. federal income tax and potentially increased state and local taxes, which would reduce the amount of our income available for distribution to our stockholders.

We operate in a manner that will enable us to qualify as a REIT and have elected to be taxed as a REIT for U.S. federal income tax purposes commencing with our taxable year ended December 31, 2009. We have not requested and do not intend to request a ruling from the Internal Revenue Service, or IRS, that we qualify as a REIT. The U.S. federal income tax laws governing REITs and the assets they hold are complex, and judicial and administrative interpretations of the U.S. federal income tax laws governing REIT qualification are limited. To continue to qualify as a REIT, we must meet, on an ongoing basis, various tests regarding the nature of our assets and income, the ownership of our outstanding shares, and the amount of our distributions. Moreover, new legislation, court decisions, administrative guidance or actions by federal agencies or others to modify or re-characterize our assets may make it more difficult or impossible for us to qualify as a REIT. Thus, while we intend to operate so that we qualify as a REIT, no assurance can be given that we will so qualify for any particular year.

If we fail to qualify as a REIT in any taxable year, and do not qualify for certain statutory relief provisions, we would be required to pay U.S. federal income tax on our taxable income, and distributions to our stockholders would not be deductible by us in determining our taxable income. Furthermore, if we fail to maintain our qualification as a REIT, we no longer would be required to distribute substantially all of our net taxable income to stockholders.

Complying with REIT requirements may cause us to forego otherwise attractive investment opportunities or financing or hedging strategies.

In order to qualify as a REIT for U.S. federal income tax purposes, we must continually satisfy various tests on an annual and quarterly basis regarding the sources of our income, the nature and diversification of our assets, the amounts we distribute to stockholders and the ownership of our stock. To meet these tests, we may be required to forego investments we might otherwise make. We also may be required to make distributions to stockholders at disadvantageous times. Thus, compliance with the REIT requirements may hinder our investment performance.

Complying with REIT requirements may force us to liquidate otherwise profitable assets.

In order to continue to qualify as a REIT, we must ensure that at the end of each calendar quarter, at least 75% of the value of our assets consists of cash, cash items, government securities and designated real estate assets, including certain mortgage loans and shares in other REITs. Subject to certain exceptions, our ownership of securities, other than government securities and securities that constitute real estate assets, generally cannot include more than 10% of the outstanding voting securities of any one issuer or more than 10% of the total value of the outstanding securities of any one issuer. In addition, in general, no more than 5% of the value of our total assets, other than government securities and securities that constitute real estate assets, can consist of the securities of any one issuer, no more than 20% of the value of our total assets can be represented by securities of one or more TRSs, and no more than 25% of the value of our total assets can consist of debt of “publicly offered” REITs that is not secured by real property or interests in real property. If we fail to comply with these requirements at the end of any calendar quarter, we must generally correct such failure within 30 days after the end of such calendar quarter to avoid losing our REIT qualification. As a result, we may be required to liquidate otherwise profitable assets prematurely, which could reduce our return on assets, which could adversely affect our results of operations and financial condition.

Potential characterization of distributions or gain on sale may be treated as unrelated business taxable income to tax exempt investors.

If (i) all or a portion of our assets are subject to the rules relating to taxable mortgage pools, (ii) we are a “pension held REIT,” (iii) a tax exempt stockholder has incurred debt to purchase or hold our common stock, or (iv) we purchase residual REMIC interests that generate “excess inclusion income,” then a portion of the distributions to and, in the case of a stockholder described in clause (iii), gains realized on the sale of common stock by such tax exempt stockholder may be subject to U.S. federal income tax as unrelated business taxable income under the Code.

Complying with REIT requirements may limit our ability to hedge effectively.

The REIT provisions of the Code may limit our ability to hedge our assets and liabilities. Any income from a hedging transaction will not constitute gross income for purposes of the 75% or 95% gross income test if we properly identify the transaction as specified in applicable Treasury Regulations and we enter into such transaction (i) in the normal course of our business primarily to manage risk of interest rate or price changes or currency fluctuations with respect to borrowings made or to be made, or ordinary obligations incurred or to be incurred, to acquire or carry real estate assets or (ii) primarily to manage risk of currency fluctuations with respect to any item of income or gain that would be qualifying income under the 75% or 95% gross income tests. To the extent that we enter into other types of hedging transactions, the income from those transactions is likely to be treated as non-qualifying income for purposes of both of these gross income tests. As a result of these rules, we intend to limit our use of advantageous hedging techniques or implement those hedges through a TRS. This could increase the cost of our hedging activities.

The failure of our Agency RMBS that are subject to a repurchase agreement to qualify as real estate assets would adversely affect our ability to qualify as a REIT.

We may enter into repurchase agreements under which we will nominally sell certain of our Agency RMBS to a counterparty and simultaneously enter into an agreement to repurchase the sold assets. We believe that we will be treated for U.S. federal income tax purposes as the owner of the securities that are the subject of any such agreement notwithstanding that such agreement may transfer record ownership of the assets to the counterparty during the term of the agreement. It is possible, however, that the IRS could assert that we did not own the securities during the term of the repurchase agreement, in which case we could fail to qualify as a REIT.

REIT distribution requirements could adversely affect our ability to execute our business plan and may require us to incur debt, sell assets or take other actions to make such distributions.

In order to continue to qualify as a REIT, we must distribute to stockholders, each calendar year, at least 90% of our REIT taxable income (including certain items of non-cash income), determined without regard to the deduction for dividends paid and excluding net capital gain. To the extent that we satisfy the 90% distribution requirement, but distribute less than 100% of our taxable income, we will be subject to U.S. federal corporate income tax on our undistributed income. In addition, we will incur a 4% nondeductible excise tax on the amount, if any, by which our distributions in any calendar year are less than a minimum amount specified under U.S. federal income tax law.

We intend to distribute our net income to stockholders in a manner intended to satisfy the 90% distribution requirement and to avoid both corporate income tax and the 4% nondeductible excise tax. Our taxable income may substantially exceed our net income as determined by U.S. GAAP or differences in timing between the recognition of taxable income and the actual receipt of cash may occur in which case we may have taxable income in excess of cash flow from our operating activities. In such event, we may generate less cash flow than taxable income in a particular year and find it difficult or impossible to meet the REIT distribution requirements.

Our qualification as a REIT may depend on the accuracy of legal opinions or advice rendered or given or statements by the issuers of assets we acquire, including with respect to the treatment of our TBA securities and transactions for tax purposes.

When purchasing securities, we may rely on opinions or advice of counsel for the issuer of such securities, or statements made in related offering documents, for purposes of determining, among other things, whether such securities represent debt or equity securities for U.S. federal income tax purposes, the value of such securities, and also to what extent those securities constitute qualified real estate assets for purposes of the REIT asset tests and produce qualified income for purposes of the 75% gross income test. In addition, we may from time to time obtain and rely upon opinions of counsel regarding the qualification of certain assets and income as real estate assets. The inaccuracy of any such opinions, advice or statements may adversely affect our ability to qualify as a REIT and result in significant corporate-level tax.

We may utilize TBAs as a means of investing and financing Agency RMBS. There is no direct authority with respect to the qualification of TBAs as real estate assets or U.S. government securities for purposes of the 75% asset test or the qualification of income or gains from dispositions of TBAs as gains from the sale of real property (including interests in real property and interests in mortgages on real property) or other qualifying income for purposes of the 75% gross income test. We intend to 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 TBAs should be treated as ownership of the underlying Agency RMBS, and to 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. Such opinions of counsel are not binding on the IRS, and there can be no assurance that the IRS will not successfully challenge the conclusions set forth therein.

Our ownership of, and relationship with, our TRSs will be restricted and a failure to comply with the restrictions would jeopardize our REIT status and may result in the application of a 100% excise tax.

A REIT may own up to 100% of the stock of one or more TRSs. A TRS may earn income that would not be qualifying REIT income if earned directly by the parent REIT. Both the TRS and the REIT must jointly elect to treat the subsidiary as a TRS. A corporation of which a TRS directly or indirectly owns more than 35% of the voting power or value of the stock will automatically be treated as a TRS. Overall, no more than 20% of the value of a REIT's total assets may consist of stock or securities of one or more TRSs. The value of our interests in and thus the amount of assets held in a TRS may also be restricted by our need to qualify for an exclusion from regulation as an investment company under the Investment Company Act.

Any domestic TRS we own will pay U.S. federal, state and local income tax at regular corporate rates. In addition, the TRS rules limit the deductibility of interest paid or accrued by a TRS to its parent REIT to assure that the TRS is subject to an appropriate level of corporate taxation. The rules also impose a 100% excise tax on certain transactions between a TRS and its parent REIT that are not conducted on an arm's-length basis. Although we monitor our investments in and transactions with TRSs, there can be no assurance that we will be able to comply with the limitation on the value of our TRSs discussed above or to avoid application of the 100% excise tax discussed above.

Dividends payable by REITs generally do not qualify for the reduced tax rates on dividend income from regular corporations, which could adversely affect the value of our shares.

The maximum U.S. federal income tax rate for dividends payable to domestic stockholders that are individuals, trusts and estates is 20%. Dividends payable by REITs, however, are generally not eligible for these reduced rates. Although the reduced U.S. federal income tax rate applicable to dividend income from regular corporate dividends does not adversely affect the taxation of REITs or dividends paid by REITs, the more favorable rates applicable to regular corporate dividends could cause investors who are individuals, trusts and estates to perceive investments in REITs to be relatively less attractive than investments in the stocks of non-REIT corporations that pay dividends, which could adversely affect the value of the shares of REITs, including our shares of common stock.

Item 1B. Unresolved Staff Comments

None.

Item 1C. Cybersecurity

Our business is highly dependent on information technology. In the ordinary course of our business, we store sensitive data, including our proprietary business information and that of our business partners, and non-public personally identifiable information of mortgage borrowers, on our networks. The secure maintenance and transmission of this information is critical to our operations. Computer malware, viruses, ransomware and phishing attacks remain widespread and are increasingly sophisticated. We are frequently the target of attempted cyber threats. We continuously monitor and develop our information technology networks and infrastructure to prevent, detect, address and mitigate the risk of unauthorized access, misuse, computer viruses and other events that could have a security impact. Despite these security measures, our information technology and infrastructure may be vulnerable to attacks by hackers or breached due to employee error, malfeasance or other disruptions. Any such breach could compromise our networks and the information stored there could be accessed, publicly disclosed, lost or stolen. Such access, disclosure or other loss of information could result in legal claims or proceedings, liability under laws that protect the privacy of personal information, regulatory penalties, disruption to our operations or trading activities or damage to our reputation, all of which could have a material adverse effect on our business, results of operations and financial condition.

We recognize the importance of protecting our information and our information technology systems, and assessing, identifying and managing cybersecurity-related risks have been integrated into our risk management processes. We focus on information technology and cybersecurity measures at both an enterprise-wide operational level and an individual employee level. We have in place various methods and levels of information technology and cybersecurity measures which are aimed at protecting our information and information technology systems to help secure long-term value for our stockholders and other stakeholders. By way of example, these measures include the following:

- industry standard targeted controls and security frameworks, including the National Institute of Standards and Technology (NIST), to protect our environment, including antivirus, antimalware, multi-factor authentication, complex and regularly changed passwords, email security and firewalls to protect our assets and our ability to maintain operations;
- use of technologies to help detect, identify and manage risks within our environments, including endpoint detect and response (EDR), security information and event management (SIEM) and vulnerability management;
- a formal cybersecurity incident response plan designed to respond to security incidents in a systematic and complete manner, and involves senior executives, external technical, legal and other resources, including an incident response retainer with our third-party security operations center;
- regularly monitoring and assessing our cybersecurity programs using external parties including a third-party security operations center, cyber maturity assessments, penetration tests and other targeted controls assessments;
- central systems backup processes and associated disaster recovery plans;
- membership in an information sharing and analysis center (FS-ISAC) so that we may stay informed about challenges specific to the financial services industry and contribute to the overall cybersecurity community; and
- employee training and awareness programs addressing cybersecurity and data privacy challenges we face in our industry.

The risk oversight committee of our board of directors is responsible for overseeing matters relating to our information technology and cybersecurity risk exposures and the steps our company takes to monitor and mitigate these risks. The risk oversight committee is briefed semi-annually by senior management and the Chief Information Security Officer, or CISO, on cybersecurity matters, or more frequently as the circumstances require. To assist the risk oversight committee, we also have established a security and privacy steering committee comprised of members of senior management and our CISO to oversee data privacy and cybersecurity matters. Our CISO has extensive information technology and program management experience, has served in the role since 2019 and has supported the company since 2015.

Item 2. Properties

We lease administrative office space in Minnesota, New York, South Carolina and Texas. We do not own, lease or utilize any physical properties that would be considered material to our business and operations.

Item 3. 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 4. Mine Safety Disclosures

None.

PART II

Item 5. Market for Registrant’s Common Equity, Related Stockholder Matters, and Issuer Purchases of Equity Securities

Market Information

Our common stock is listed on the NYSE under the symbol “TWO”. As of February 12, 2024, 103,427,329 shares of common stock were issued and outstanding.

Holders

As of February 12, 2024, there were 492 registered holders and approximately 99,074 beneficial owners of our common stock.

Dividends

We have historically paid dividends on our common stock. All dividend distributions are authorized by our board of directors, in its discretion, and will depend on such items as our REIT taxable income, financial condition, maintenance of REIT status, and other factors that the board of directors may deem relevant from time to time. The holders of our common stock share proportionally on a per share basis in all declared dividends on our common stock. Dividends cannot be paid on our common stock unless we have paid full cumulative dividends on all classes of our preferred stock. We have paid full cumulative dividends on all classes of our preferred stock from the respective dates of issuance through December 31, 2023. We intend to continue to pay quarterly dividends on our common stock and to distribute to our common stockholders as dividends 100% of our REIT taxable income, on an annual basis.

We have not established a minimum dividend distribution level for our common stock. See Item 1A, “*Risk Factors*” and Item 7, “*Management’s Discussion and Analysis of Financial Conditions and Results of Operations*” of this Annual Report on Form 10-K for information regarding the sources of funds used for dividends and for a discussion of factors, if any, which may adversely affect our ability to pay dividends in 2024 and thereafter.

Our stock transfer agent and registrar is Equiniti Trust Company, LLC. Requests for information from Equiniti Trust Company, LLC can be sent to Equiniti Trust Company, LLC, P.O. Box 64856, St. Paul, MN 55164-0856 and their telephone number is 1-800-468-9716.

Securities Authorized for Issuance under Equity Compensation Plans

Our Second Restated 2009 Equity Incentive Plan and our 2021 Equity Incentive Plan, or the Equity Incentive Plans, were adopted by our board of directors and approved by our stockholders for the purpose of enabling us to provide equity compensation to attract and retain qualified directors, officers, advisers, consultants and other personnel. The Equity Incentive Plans are administered by the compensation committee of our board of directors and permit the 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. For a detailed description of the Equity Incentive Plans, see Note 18 - *Equity Incentive Plans* of the consolidated financial statements included under Item 8 of this Annual Report on Form 10-K.

The following table presents certain information about the Equity Incentive Plans as of December 31, 2023:

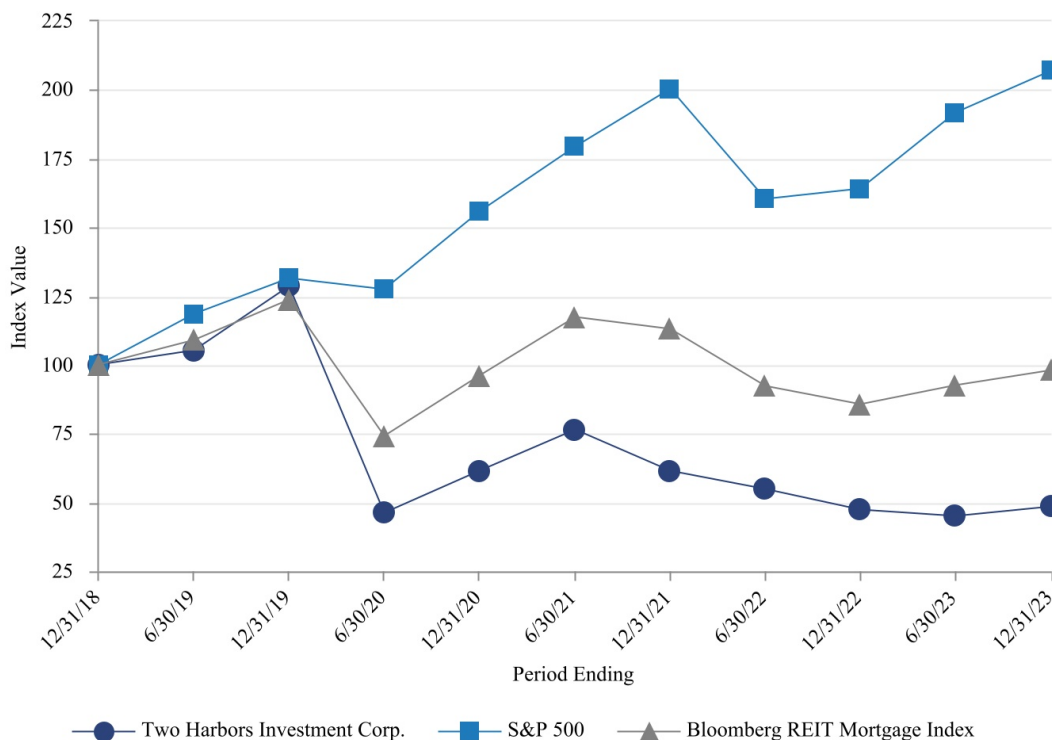
Plan Category	December 31, 2023		
	Number of securities to be issued upon exercise of outstanding options, warrants and rights	Weighted-average exercise price of outstanding options, warrants and rights	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in the first column of this table)
Equity compensation plans approved by stockholders ⁽¹⁾	—	\$ —	4,000,917
Equity compensation plans not approved by stockholders	—	—	—
Total	—	\$ —	4,000,917

(1) For a detailed description of the Equity Incentive Plans, see Note 18 - *Equity Incentive Plans* of the consolidated financial statements included under Item 8 of this Annual Report on Form 10-K.

Performance Graph

The following graph compares a stockholder’s cumulative total return, assuming \$100 invested at December 31, 2018, with all reinvestment of dividends, as if such amounts had been invested in: (i) our common stock; (ii) the stocks included in the Standard and Poor’s 500 Stock Index, or S&P 500; and (iii) the stocks included in the Bloomberg REIT Mortgage Index.

**COMPARISON OF CUMULATIVE TOTAL RETURN
Among Two Harbors Investment Corp.,
S&P 500 and Bloomberg REIT Mortgage Index**



Index	December 31,				
	2023	2022	2021	2020	2019
Two Harbors Investment Corp.	\$ 48.37	\$ 47.20	\$ 61.55	\$ 61.50	\$ 128.66
S&P 500	\$ 207.04	\$ 163.98	\$ 200.29	\$ 155.65	\$ 131.47
Bloomberg REIT Mortgage Index	\$ 97.93	\$ 85.54	\$ 113.11	\$ 96.18	\$ 123.63

Purchases of Equity Securities by the Issuer and Affiliated Purchasers

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 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.

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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 December 31, 2023:

Period	Total Number of Shares Purchased	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Maximum Number of Shares that May Yet Be Purchased Under the Plans or Programs
Series A Preferred Stock:				
October 1, 2023 through October 31, 2023	—	\$ —	—	N/A
November 1, 2023 through November 30, 2023	—	—	—	N/A
December 1, 2023 through December 31, 2023	10,297	22.18	10,297	N/A
Total	10,297	\$ 22.18	10,297	N/A
Series B Preferred Stock:				
October 1, 2023 through October 31, 2023	—	\$ —	—	N/A
November 1, 2023 through November 30, 2023	—	—	—	N/A
December 1, 2023 through December 31, 2023	58,822	21.53	58,822	N/A
Total	58,822	\$ 21.53	58,822	N/A
Series C Preferred Stock:				
October 1, 2023 through October 31, 2023	—	\$ —	—	N/A
November 1, 2023 through November 30, 2023	—	—	—	N/A
December 1, 2023 through December 31, 2023	152,687	21.96	152,687	N/A
Total	152,687	\$ 21.96	152,687	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 December 31, 2023, we had repurchased an aggregate of 3,693,574 preferred shares under the program and had remaining authorization to repurchase up to 1,306,426 of such securities.

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 December 31, 2023, 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 December 31, 2023.

Item 6. [Reserved]

Item 7. 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 Annual Report on Form 10-K. This section of this Form 10-K generally discusses 2023 and 2022 items and year-to-year comparisons between 2023 and 2022. Discussions of 2021 items and year-to-year comparisons between 2022 and 2021 that are not included in this Form 10-K can be found in "Management's Discussion and Analysis of Financial Condition and Results of Operations" in Part II, Item 7 of our Annual Report on Form 10-K for the fiscal year ended December 31, 2022.

General

We are a Maryland corporation that invests in, finances and manages MSR, Agency RMBS, and, through our operational platform, RoundPoint, is 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 stable performance 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.

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 these securities consist of whole pools in which we own all of the investment interests in the securities.

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.

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.

LIBOR transition

The London Interbank Offered Rate, or LIBOR, has been used extensively in the U.S. and globally as a “benchmark” or “reference rate” for various commercial and financial contracts, including corporate and municipal bonds and loans, floating rate mortgages, asset-backed securities, consumer loans, and interest rate swaps and other derivatives. On March 5, 2021, Intercontinental Exchange Inc. announced that ICE Benchmark Administration Limited, the administrator of LIBOR, intended to stop publication of the majority of USD-LIBOR tenors on June 30, 2023. In the U.S., the Alternative Reference Rates Committee, or ARRC, has identified the Secured Overnight Financing Rate, or SOFR, and, in some cases, the forward-looking term rate based on SOFR published by CME Group Benchmark Administration Limited, or Term SOFR, plus, in each case, a recommended spread adjustment, as its preferred alternative rates for U.S. dollar-based LIBOR. SOFR is a measure of the cost of borrowing cash overnight, collateralized by U.S. Treasury securities, and is based on directly observable U.S. Treasury-backed repurchase transactions. Numerous industry wide and company-specific transitions as it relates to derivatives and cash markets exposed to LIBOR were completed in connection with its phase-out on June 30, 2023. Our material contracts that are or were indexed to USD-LIBOR have been amended to transition to an alternative benchmark, where necessary. Any other unmodified agreements that incorporate LIBOR as the referenced rate either (i) already had provisions in place that provide for an alternative to LIBOR upon its phase-out or that are governed by the Adjustable Interest Rate (LIBOR) Act, or the LIBOR Act, (ii) matured or (iii) were terminated prior to June 30, 2023.

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 consolidated balance sheets and statements of comprehensive loss are significantly affected by fluctuations in market prices. At December 31, 2023, approximately 87.3% of our total assets, or \$11.5 billion, consisted of financial instruments recorded at fair value. See Note 11 - *Fair Value* to the consolidated financial statements, included in this Annual Report on Form 10-K, 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 Agency RMBS, and inverse interest-only Agency RMBS and other Agency securities. We also receive multiple vendor quotes for the MSR in our investment portfolio. For Agency securities, 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 securities 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 December 31, 2023, 23.3% 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 this Annual Report on Form 10-K. 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 consolidated financial statements, included under Item 8 of this Annual Report on Form 10-K. 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 consolidated financial statements, included under Item 8 of this Annual Report on Form 10-K.

Market Conditions and Outlook

The fourth quarter of 2023 was marked by continued volatility in rates and spreads. Fueled by a stronger-than-expected September employment report, coupled with the outbreak of war in the Middle East, interest rates moved steadily higher in early October. At its peak, the 10-year treasury yield briefly touched 5%, approximately 40 basis points higher than it was at the beginning of the quarter. An abrupt turn of sentiment followed in early November after Chairman Powell’s optimistic assessment of the efforts of the Federal Reserve, or the Fed, to bring down inflation and engineer a soft landing. Interest rates quickly reversed course and declined 36 basis points over the next three trading sessions. Supportive economic data in November, as well as dovish Fed commentary, drove the market to price in as many as six interest rate cuts in 2024. The entire yield curve responded, as the 10-year treasury rate finished the quarter at a yield of 3.88%, 69 basis points lower than it started at the beginning of the quarter, and the 2-year treasury rate declined 79 basis points to 4.25%, resulting in a net 10 basis points steepening of the yield curve. From peak to trough, the 5-year and 10-year treasury yields moved 120 basis points in the quarter.

Following the rise in interest rates in October, mortgage spreads underperformed, widening by about 20 basis points. Rates reversed course in November, and spreads tightened back by about 35 basis points. This tightening trend continued in December with the Fed strongly signaling that the period of rate hikes was over. Ultimately, current coupon mortgage spreads on a nominal basis finished the quarter at 118 basis points, tighter by 33 basis points. This was at the tighter end of the 2023 range of 100 to 167 basis points. Though the current coupon spread is still much wider than the longer-term “non-QE” average of 80 basis points, it reflects an environment of high realized rate volatility and tepid demand from depository institutions. Being at the tighter end of the range is likely the result of the market’s expectation for more than five Fed rate cuts in 2024, a steeper forward curve and lower forward implied volatility.

As yields for Treasuries declined, 30-year mortgage rates fell by 70 basis points, to 6.42%, during the quarter. Even with this decline, prepayments are almost entirely dependent on housing turnover as only 4% of the mortgage universe was rate refinancable at year end. As anticipated, reported prepayment rates broadly declined by 16% in the fourth quarter. This decline reflected a seasonal slowdown and an effective mortgage rates of over 7%, the highest in 20 years. Despite 30-year mortgage rates falling by 70 basis points over the quarter, 96% of mortgages remained outside the refinance window.

As is typical, the pace of MSR sales slowed in the fourth quarter with \$53 billion offered in the bulk market. This brought the total MSR offered for the year to just under \$500 billion. 2023 finished as the second most active year in the MSR market, falling just behind 2022’s total of \$525 billion. Lower supply in the fourth quarter did little to affect the traded spreads of MSR, which have been stable over the past several quarters, further supported by a benign prepayment environment. Bids remain well supported, as evidenced by sellers typically receiving a high single digit number of bids.

RMBS funding markets remained stable and liquid throughout the quarter with ample balance sheet available even over quarter ends. Spreads on repurchase agreements widened slightly into the fourth quarter and year end with financing for RMBS between SOFR plus 23 to 25 basis points.

Looking forward, our MSR portfolio, with a weighted average mortgage rate of only 3.45%, still has less than 1% of its balances with 50 basis points or more of rate incentive to refinance. If mortgage rates remain at year-end levels for the first quarter of 2024, we expect prepayment rates for our MSR to increase only by about 5 to 10%. Even with this increase, prepayment speeds are at historically low levels and continue to provide a tailwind for this component of our strategy. As mentioned previously, nominal spreads for RMBS also remain at historically attractive levels, though at the tighter end of recent ranges. If the Fed is indeed done hiking rates, with the next policy action being a rate cut in 2024, we would expect a narrower range for spreads this year, though volatility can remain high until the path forward becomes more clear. Given the levered returns available in the market for our combined strategies, we remain optimistic about the return potential of our portfolio of investments.

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

(dollars in thousands)	December 31, 2023		December 31, 2022	
Agency RMBS	\$ 8,335,245	73.2 %	\$ 7,668,752	71.1 %
Mortgage servicing rights	3,052,016	26.8 %	2,984,937	27.7 %
Other	4,150	— %	125,158	1.2 %
Total	\$ 11,391,411		\$ 10,778,847	

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 portfolio decreased from the prior quarter due to mortgage rates and weaker 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 Agency RMBS with MSR, with a focus on managing various associated risks, including interest rate, prepayment, credit, mortgage spread and financing risk, is intended to generate stable performance 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 December 31, 2023, and the four immediately preceding quarters:

	Three Months Ended				
	December 31, 2023	September 30, 2023	June 30, 2023	March 31, 2023	December 31, 2022
Agency RMBS	5.2 %	6.5 %	6.5 %	5.3 %	5.9 %
Mortgage servicing rights	3.8 %	4.9 %	5.5 %	4.1 %	4.6 %

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:

	December 31, 2023							Weighted Average Loan Age (months)
	Principal/ Current Face	Carrying Value	Weighted Average CPR ⁽¹⁾	% Prepayment Protected	Gross Weighted Average Coupon Rate	Amortized Cost	Allowance for Credit Losses	
(dollars in thousands)								
Agency RMBS AFS:								
30-Year Fixed:								
≤ 2.5%	\$ 420,720	\$ 359,801	3.6 %	— %	3.3 %	\$ 359,188	\$ —	30
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	<u>\$ 9,426,191</u>	<u>\$ 8,335,245</u>		<u>87.5 %</u>		<u>\$ 8,522,353</u>	<u>\$ (3,619)</u>	

December 31, 2022										
(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%	\$ —	\$ —	— %	— %	— %	\$ —	\$ —	—		—
3.0%	—	—	— %	— %	— %	—	—	—		—
3.5%	—	—	— %	— %	— %	—	—	—		—
4.0%	1,459,733	1,382,120	3.9 %	100.0 %	4.6 %	1,474,169	—	—		20
4.5%	3,087,310	3,006,356	5.9 %	100.0 %	5.2 %	3,152,567	—	—		25
5.0%	2,439,709	2,430,470	6.5 %	100.0 %	5.7 %	2,506,339	—	—		10
5.5%	206,504	209,351	2.0 %	98.4 %	6.2 %	211,992	—	—		41
6.0%	194,834	199,467	5.3 %	99.2 %	6.7 %	200,776	—	—		18
≥ 6.5%	10,561	11,138	13.1 %	97.7 %	7.8 %	11,431	—	—		243
	7,398,651	7,238,902	5.6 %	99.9 %	5.3 %	7,557,274	—	—		19
Other P&I	382,626	378,558	1.3 %	88.5 %	5.4 %	379,837	—	—		30
Interest-only	963,865	36,116	8.1 %	— %	4.9 %	45,882	(6,785)	—		143
Agency Derivatives	196,457	15,176	8.4 %	— %	6.7 %	20,696	—	—		216
Total Agency RMBS	<u>\$ 8,941,599</u>	<u>\$ 7,668,752</u>		<u>98.7 %</u>		<u>\$ 8,003,689</u>	<u>\$ (6,785)</u>			

(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 December 31, 2023, and the four immediately preceding quarters:

(in thousands)	Three Months Ended				
	December 31, 2023	September 30, 2023	June 30, 2023	March 31, 2023	December 31, 2022
UPB at beginning of period	\$ 218,662,270	\$ 222,622,177	\$ 212,444,503	\$ 204,876,693	\$ 206,613,560
Purchases of mortgage servicing rights	829,133	472,154	14,773,601	11,381,496	2,677,674
Sales of mortgage servicing rights	(61,612)	—	—	(142,598)	—
Scheduled payments	(1,639,884)	(1,639,871)	(1,594,693)	(1,527,309)	(1,538,046)
Prepaid	(2,127,341)	(2,786,904)	(2,993,493)	(2,119,541)	(2,439,936)
Other changes	(15,394)	(5,286)	(7,741)	(24,238)	(436,559)
UPB at end of period	<u>\$ 215,647,172</u>	<u>\$ 218,662,270</u>	<u>\$ 222,622,177</u>	<u>\$ 212,444,503</u>	<u>\$ 204,876,693</u>

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 December 31, 2023, 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 December 31, 2023, 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 4.5:1.0.

As of December 31, 2023, we held \$729.7 million in cash and cash equivalents, approximately \$1.1 million of unpledged Agency securities and \$3.8 million of unpledged non-Agency securities. As a result, we had an overall estimated unused borrowing capacity on our unpledged securities of approximately \$3.2 million. As of December 31, 2023, we held approximately \$4.1 million of unpledged MSR and \$63.5 million of unpledged servicing advances. Overall, on December 31, 2023, we had \$167.9 million unused committed and \$423.3 million unused uncommitted borrowing capacity on MSR financing facilities, and \$165.7 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

All per share amounts, common shares outstanding and common equity-based awards for all periods presented have been adjusted on a retroactive basis to reflect the one-for-four reverse stock split effected on November 1, 2022.

Our book value per common share for U.S. GAAP purposes was \$15.21 at December 31, 2023, a decrease from \$15.36 per common share at September 30, 2023, and a decrease from \$17.72 per common share at December 31, 2022. The decline in book value for both the three and twelve months ended December 31, 2023 was primarily driven by net widening of mortgage spreads and dividends declared, offset by net unrealized gains recognized on AFS securities.

Our GAAP net loss attributable to common stockholders was \$444.7 million and \$152.0 million (\$4.56) and \$(1.60) per diluted weighted average share) for the three and twelve months ended December 31, 2023, respectively, as compared to GAAP net loss attributable to common stockholders of \$262.4 million and GAAP net income attributable to common stockholders of \$186.8 million (\$3.04) and \$2.13 per diluted weighted average share) for the three and twelve months ended December 31, 2022, respectively.

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 and securities with an allowance for credit losses, do not impact our GAAP net (loss) income or taxable income but are recognized on our consolidated balance sheets as a change in stockholders' equity under "accumulated other comprehensive loss." For the three and twelve months ended December 31, 2023, net unrealized gains on AFS securities recognized as other comprehensive income were \$405.9 million and net unrealized losses on AFS securities recognized as other comprehensive loss were \$38.6 million, respectively. Additionally, we reclassify unrealized gains and losses on AFS securities in accumulated other comprehensive loss to net (loss) income upon the recognition of any realized gains and losses on sales as individual securities are sold. For the three and twelve months ended December 31, 2023, we reclassified \$77.6 million and \$140.9 million, respectively, in unrealized losses on sold AFS securities from accumulated other comprehensive loss to (loss) gain on investment securities on the consolidated statements of comprehensive loss.

The following table presents the components of our comprehensive income (loss) for the three and twelve months ended December 31, 2023 and 2022:

(in thousands, except share data)

Income Statement Data:	Three Months Ended December 31,		Year Ended December 31,	
	2023	2022	2023	2022
	(unaudited)			
Net interest income (expense):				
Interest income	\$ 122,401	\$ 99,303	\$ 480,364	\$ 295,540
Interest expense	168,080	115,627	643,225	258,395
Net interest (expense) income	(45,679)	(16,324)	(162,861)	37,145
Net servicing income:				
Servicing income	178,609	160,926	685,777	603,911
Servicing costs	12,029	25,272	95,488	94,119
Net servicing income	166,580	135,654	590,289	509,792
Other income (loss):				
Loss on investment securities	(82,469)	(347,450)	(69,970)	(603,937)
(Loss) gain on servicing asset	(172,589)	(64,085)	(111,620)	425,376
(Loss) gain on interest rate swap and swaption agreements	(139,234)	—	(52,946)	29,499
(Loss) gain on other derivative instruments	(143,812)	53,301	(166,210)	9,310
Other income (loss)	—	112	5,103	(5)
Total other loss	(538,104)	(358,122)	(395,643)	(139,757)
Expenses:				
Compensation and benefits	21,297	7,411	52,865	40,723
Other operating expenses	23,959	15,540	62,313	42,005
Total expenses	45,256	22,951	115,178	82,728
(Loss) income before income taxes	(462,459)	(261,743)	(83,393)	324,452
(Benefit from) provision for income taxes	(29,259)	8,480	22,978	104,213
Net (loss) income	(433,200)	(270,223)	(106,371)	220,239
Dividends on preferred stock	(12,012)	(12,365)	(48,607)	(53,607)
Gain on repurchase and retirement of preferred stock	519	20,149	2,973	20,149
Net (loss) income attributable to common stockholders	\$ (444,693)	\$ (262,439)	\$ (152,005)	\$ 186,781
Basic (loss) earnings per weighted average common share	\$ (4.56)	\$ (3.04)	\$ (1.60)	\$ 2.15
Diluted (loss) earnings per weighted average common share	\$ (4.56)	\$ (3.04)	\$ (1.60)	\$ 2.13
Dividends declared per common share	\$ 0.45	\$ 0.60	\$ 1.95	\$ 2.64
Weighted average number of shares of common stock:				
Basic	97,489,039	86,391,405	95,672,143	86,179,418
Diluted	97,489,039	86,391,405	95,672,143	96,076,175
Comprehensive income (loss):				
Net (loss) income	\$ (433,200)	\$ (270,223)	\$ (106,371)	\$ 220,239
Other comprehensive income (loss):				
Unrealized gain (loss) on available-for-sale securities	483,579	422,672	102,282	(465,057)
Other comprehensive income (loss)	483,579	422,672	102,282	(465,057)
Comprehensive income (loss)	50,379	152,449	(4,089)	(244,818)
Dividends on preferred stock	(12,012)	(12,365)	(48,607)	(53,607)
Gain on repurchase and retirement of preferred stock	519	20,149	2,973	20,149
Comprehensive income (loss) attributable to common stockholders	\$ 38,886	\$ 160,233	\$ (49,723)	\$ (278,276)

(in thousands)

Balance Sheet Data:	December 31, 2023	December 31, 2022
Available-for-sale securities	\$ 8,327,149	\$ 7,778,734
Mortgage servicing rights	\$ 3,052,016	\$ 2,984,937
Total assets	\$ 13,138,800	\$ 13,466,160
Repurchase agreements	\$ 8,020,207	\$ 8,603,011
Revolving credit facilities	\$ 1,329,171	\$ 1,118,831
Term notes payable	\$ 295,271	\$ 398,011
Convertible senior notes	\$ 268,582	\$ 282,496
Total stockholders' equity	\$ 2,203,390	\$ 2,183,525

Results of Operations

The following analysis focuses on financial results during the three and twelve months ended December 31, 2023 and 2022.

Interest Income

Interest income increased from \$99.3 million and \$295.5 million for the three and twelve months ended December 31, 2022, respectively, to \$122.4 million and \$480.4 million for the same periods in 2023 due to an increase in Agency RMBS portfolio size, lower amortization recognized on Agency RMBS due to lower unamortized premium, and higher interest on cash balances as a result of the higher interest rate environment.

Interest Expense

Interest expense increased from \$115.6 million and \$258.4 million for the three and twelve months ended December 31, 2022, respectively, to \$168.1 million and \$643.2 million for the same periods in 2023. The increase in interest expense for the three and twelve months ended December 31, 2023, as compared to the same periods in 2022, was primarily due to increases in interest rates and higher borrowing balances on both AFS securities and MSR, offset by lower borrowing balances on convertible senior notes.

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 and twelve months ended December 31, 2023 and 2022:

(dollars in thousands)	Three Months Ended December 31, 2023			Year Ended December 31, 2023		
	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	\$ 8,822,467	\$ 103,250	4.7 %	\$ 8,926,898	\$ 412,310	4.6 %
Reverse repurchase agreements	282,522	3,839	5.4 %	419,188	19,889	4.7 %
Other		15,312			48,165	
Total interest income/net asset yield	\$ 9,104,989	\$ 122,401	5.4 %	\$ 9,346,086	\$ 480,364	5.1 %
Interest-bearing liabilities:						
Borrowings collateralized by:						
Available-for-sale securities	\$ 8,157,185	\$ 117,021	5.7 %	\$ 8,407,394	\$ 442,880	5.3 %
Agency Derivatives (2)	8,694	135	6.2 %	11,283	642	5.7 %
Mortgage servicing rights and advances (3)	2,014,734	46,267	9.2 %	1,979,403	174,253	8.8 %
U.S. Treasuries (4)	—	—	— %	144,045	6,629	4.6 %
Unsecured borrowings:						
Convertible senior notes	268,447	4,651	6.9 %	272,993	18,815	6.9 %
Other		6			6	
Total interest expense/cost of funds	\$ 10,449,060	\$ 168,080	6.4 %	\$ 10,815,118	\$ 643,225	5.9 %
Net interest expense/spread		\$ (45,679)	(1.0)%		\$ (162,861)	(0.8)%

(dollars in thousands)	Three Months Ended December 31, 2022			Year Ended December 31, 2022		
	Average Balance	Interest Income/Expense	Net Yield/Cost of Funds	Average Balance	Interest Income/Expense	Net Yield/Cost of Funds
Interest-earning assets:						
Available-for-sale securities	\$ 8,118,269	\$ 83,712	4.1 %	\$ 7,997,618	\$ 272,230	3.4 %
Reverse repurchase agreements	743,925	7,109	3.8 %	311,844	8,469	2.7 %
Other		8,482			14,841	
Total interest income/net asset yield	\$ 8,862,194	\$ 99,303	4.5 %	\$ 8,309,462	\$ 295,540	3.6 %
Interest-bearing liabilities:						
Borrowings collateralized by:						
Available-for-sale securities	\$ 7,664,204	\$ 68,627	3.6 %	\$ 7,804,563	\$ 138,138	1.8 %
Agency Derivatives ⁽²⁾	14,618	155	4.2 %	24,553	438	1.8 %
Mortgage servicing rights and advances ⁽³⁾	1,917,069	36,938	7.7 %	1,620,847	95,192	5.9 %
U.S. Treasuries ⁽⁴⁾	493,872	5,015	4.1 %	123,468	5,015	5.4 %
Unsecured borrowings:						
Convertible senior notes	282,363	4,892	6.9 %	287,399	19,612	6.8 %
Other		—			—	
Total interest expense/cost of funds	\$ 10,372,126	\$ 115,627	4.5 %	\$ 9,860,830	\$ 258,395	2.6 %
Net interest income/spread		\$ (16,324)	— %		\$ 37,145	1.0 %

(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 (loss) gain on other derivative instruments in the consolidated statements of comprehensive 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 and twelve months ended December 31, 2023, as compared to the same periods in 2022 was driven by net purchases of higher coupon AFS securities with lower unamortized premiums. The increase in cost of funds associated with the financing of AFS securities for the three and twelve months ended December 31, 2023, as compared to the same periods in 2022, was due to rising interest rates.

The increase in yields on reverse repurchase agreements for the three and twelve months ended December 31, 2023, as compared to the same periods in 2022, was the result of rising interest rates. However, for the year ended December 31, 2023 and the three and twelve months ended December 31, 2022, 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 December 31, 2023.

The increase in cost of funds associated with the financing of Agency Derivatives for the three and twelve months ended December 31, 2023, as compared to the same periods in 2022, 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 and twelve months ended December 31, 2023, as compared to the same periods in 2022, 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 year ended December 31, 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 consolidated balance sheets.

The slight increase in cost of funds associated with our convertible senior notes for the three and twelve months ended December 31, 2023, as compared to the same periods in 2022, was due to lower amortization of deferred debt issuance costs during the year ended December 31, 2022 as a result of the maturity of our convertible senior notes due 2022 in January 2022.

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 and twelve months ended December 31, 2023 and 2022:

(in thousands)	Three Months Ended December 31,		Year Ended December 31,	
	2023	2022	2023	2022
Gross yield/stated coupon	4.8 %	4.6 %	4.9 %	4.4 %
Net (premium amortization) discount accretion	(0.1)%	(0.5)%	(0.3)%	(1.0)%
Net yield	4.7 %	4.1 %	4.6 %	3.4 %

Net Servicing Income

The following table presents the components of net servicing income for the three and twelve months ended December 31, 2023 and 2022:

(in thousands)	Three Months Ended December 31,		Year Ended December 31,	
	2023	2022	2023	2022
Servicing fee income	\$ 139,798	\$ 137,949	\$ 555,221	\$ 564,923
Ancillary and other fee income	2,913	418	5,149	1,932
Float income	35,898	22,559	125,407	37,056
Total servicing income	178,609	160,926	685,777	603,911
Total servicing costs	12,029	25,272	95,488	94,119
Net servicing income	\$ 166,580	\$ 135,654	\$ 590,289	\$ 509,792

The increase in servicing income for the three and twelve months ended December 31, 2023, as compared to the same periods in 2022, was primarily due to higher float income as a result of the higher interest rate environment and lower compensating interest as a result of lower prepayment rates.

The decrease in servicing expenses during the three months ended December 31, 2023, as compared to the same period in 2022, was the result of lower third-party subservicing fees due to the acquisition of RoundPoint. The slight increase in servicing expenses during the year ended December 31, 2023, as compared to the same period in 2022, was driven by higher deboarding expenses as we transition our MSR portfolio to RoundPoint from other subservicers and overall higher cost to service, offset by lower third-party subservicing fees during the three months ended December 31, 2023 due to the acquisition of RoundPoint.

Loss On Investment Securities

The following table presents the components of loss on investment securities for the three and twelve months ended December 31, 2023 and 2022:

(in thousands)	Three Months Ended December 31,		Year Ended December 31,	
	2023	2022	2023	2022
Proceeds from sales	\$ 978,936	\$ 2,770,811	\$ 2,673,827	\$ 7,793,705
Amortized cost of securities sold	(1,061,837)	(3,113,102)	(2,792,703)	(8,359,967)
Total realized losses on sales	(82,901)	(342,291)	(118,876)	(566,262)
Reversal of (provision for) credit losses	328	318	545	(2,730)
Other	104	(5,477)	48,361	(34,945)
Loss on investment securities	\$ (82,469)	\$ (347,450)	\$ (69,970)	\$ (603,937)

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 on investment securities).

The majority of the “other” component of loss 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.

(Loss) Gain On Servicing Asset

The following table presents the components of (loss) gain on servicing asset for the three and twelve months ended December 31, 2023 and 2022:

(in thousands)	Three Months Ended December 31,		Year Ended December 31,	
	2023	2022	2023	2022
Changes in fair value due to changes in valuation inputs or assumptions used in the valuation model	\$ (115,944)	\$ (6,441)	\$ 97,859	\$ 793,631
Changes in fair value due to realization of cash flows (runoff)	(55,486)	(60,908)	(227,663)	(371,023)
(Losses) gains on sales ⁽¹⁾	(1,159)	3,264	18,184	2,768
(Loss) gain on servicing asset	<u>\$ (172,589)</u>	<u>\$ (64,085)</u>	<u>\$ (111,620)</u>	<u>\$ 425,376</u>

(1) During the year ended December 31, 2023, excess MSR was transferred to Agency-sponsored trusts in exchange for stripped mortgage backed securities, or SMBS. In each transaction, a portion of the SMBS was acquired by third parties, and we acquired the remaining balance of those SMBS, which are included within Agency AFS securities unless sold prior to December 31, 2023.

The increase in loss on servicing asset for the three months ended December 31, 2023, as compared to the same period in 2022, was driven by higher unfavorable change in valuation assumptions used in the fair valuation of MSR and losses realized on sales of MSR, offset by lower portfolio runoff. The increase in loss (decrease in gain) on servicing asset for the year ended December 31, 2023, as compared to the same period in 2022, was driven by lower favorable change in valuation assumptions used in the fair valuation of MSR, offset by lower portfolio runoff and gains on sales of excess MSR.

(Loss) Gain 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 and twelve months ended December 31, 2023 and 2022:

(in thousands)	Three Months Ended December 31,		Year Ended December 31,	
	2023	2022	2023	2022
Net interest spread	\$ 7,444	\$ —	\$ 21,358	\$ (4,830)
Early termination, agreement maturation and option expiration (losses) gains	(12,438)	—	(36,194)	43,197
Change in unrealized loss on interest rate swap and swaption agreements, at fair value	(134,240)	—	(38,110)	(8,868)
(Loss) gain on interest rate swap and swaption agreements	<u>\$ (139,234)</u>	<u>\$ —</u>	<u>\$ (52,946)</u>	<u>\$ 29,499</u>

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 and twelve months ended December 31, 2023 and 2022 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 income (loss) or to loss on investment securities, in the case of certain AFS securities for which we have elected the fair value option.

(Loss) Gain 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 and twelve months ended December 31, 2023 and 2022:

(in thousands)	Three Months Ended		Year Ended	
	December 31,		December 31,	
	2023	2022	2023	2022
TBAs	\$ 28,967	\$ 48,233	\$ (155,942)	\$ (487,713)
Futures	(175,506)	5,016	(8,973)	514,467
Options on futures	—	—	(779)	(2,224)
Inverse interest-only securities	2,727	52	(516)	(15,220)
(Loss) gain on other derivative instruments	\$ (143,812)	\$ 53,301	\$ (166,210)	\$ 9,310

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

Expenses

The following table presents the components of expenses for the three and twelve months ended December 31, 2023 and 2022:

(dollars in thousands)	Three Months Ended		Year Ended	
	December 31,		December 31,	
	2023	2022	2023	2022
Compensation and benefits:				
Non-cash equity compensation expenses	\$ 1,613	\$ 1,653	\$ 10,976	\$ 11,630
All other compensation and benefits	19,684	5,758	41,889	29,093
Total compensation and benefits	\$ 21,297	\$ 7,411	\$ 52,865	\$ 40,723
Other operating expenses:				
Certain operating expenses ⁽¹⁾	\$ 3,408	\$ 10,836	\$ 26,356	\$ 18,982
All other operating expenses	20,551	4,704	35,957	23,023
Total other operating expenses	\$ 23,959	\$ 15,540	\$ 62,313	\$ 42,005
Annualized operating expense ratio	8.6 %	4.2 %	5.2 %	3.3 %
Annualized operating expense ratio, excluding non-cash equity compensation and certain operating expenses ⁽¹⁾	7.6 %	1.9 %	3.5 %	2.1 %

(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 consolidated financial statements, included under Item 1 of this Annual Report on Form 10-K. 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 December 31, 2023, as compared to the same period in 2022, 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. The increase in total operating expenses during the year ended December 31, 2023, as compared to the same period in 2022, was driven by the addition of RoundPoint's compensation, benefits, operating and loan level expenses, as well as higher expenses incurred in connection with the Company's ongoing litigation with PRCM Advisers LLC.

Income Taxes

During the three months ended December 31, 2023, we recognized a benefit from income taxes of \$29.3 million, which was primarily due to net losses recognized on MSR and operating expenses, offset by net income from MSR servicing activities in our TRSs. During the year ended December 31, 2023, we recognized a provision for income taxes of \$23.0 million, which was primarily due to net income from MSR servicing activities, offset by net losses recognized on MSR and operating expenses in our TRSs. During the three and twelve months ended December 31, 2022, we recognized a provision for income taxes of \$8.5 million and \$104.2 million, respectively. The provision recognized for the three months ended December 31, 2022 was primarily due to income from MSR servicing activities and net gains recognized on derivative instruments, offset by net losses recognized on MSR and operating expenses in our TRSs. The provision recognized for the year ended December 31, 2022 was primarily due to income from MSR servicing activities and net gains recognized on MSR, offset by net losses recognized on derivative instruments and operating expenses 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 \$4.2 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 these securities consist of whole pools in which we own all of the investment interests in the securities.

The tables below summarize certain characteristics of our Agency RMBS AFS at December 31, 2023 and December 31, 2022:

December 31, 2023									
(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	\$ 8,421,733	\$ 24,239	\$ 8,445,972	\$ —	\$ 22,677	\$ (196,748)	\$ 8,271,901	4.65 %	\$ 100.65
Interest-only securities	840,723	58,567	58,567	(3,619)	907	(4,757)	51,098	2.08 %	\$ 17.25
Total	\$ 9,262,456	\$ 82,806	\$ 8,504,539	\$ (3,619)	\$ 23,584	\$ (201,505)	\$ 8,322,999		

December 31, 2022									
(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	\$ 7,781,277	\$ 155,833	\$ 7,937,110	\$ —	\$ 6,310	\$ (325,960)	\$ 7,617,460	4.64 %	\$ 102.2
Interest-only securities	963,866	45,882	45,882	(6,785)	1,890	(4,871)	36,116	1.98 %	\$ 19.5
Total	\$ 8,745,143	\$ 201,715	\$ 7,982,992	\$ (6,785)	\$ 8,200	\$ (330,831)	\$ 7,653,576		

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 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, we, through our newly acquired subsidiary RoundPoint, began directly servicing a portion of the mortgage loans underlying our 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. As of December 31, 2023 and December 31, 2022, our MSR had a fair market value of \$3.1 billion and \$3.0 billion, respectively.

As of December 31, 2023 and December 31, 2022, our MSR portfolio included MSR on 848,264 and 809,025 loans with an unpaid principal balance of approximately \$215.6 billion and \$204.9 billion, respectively. The following tables summarize certain characteristics of the loans underlying our MSR by gross weighted average coupon rate types and ranges at December 31, 2023 and December 31, 2022:

December 31, 2023										
(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%	300,020	\$ 94,894,696	2.8 %	\$ 374	35	768	70.9 %	0.4 %	2.9 %	25.1
> 3.25 - 3.75%	146,125	37,950,849	3.4 %	329	48	753	74.1 %	0.8 %	3.9 %	25.2
> 3.75 - 4.25%	106,188	22,115,548	3.9 %	274	70	751	75.7 %	1.1 %	4.8 %	25.5
> 4.25 - 4.75%	59,731	10,989,253	4.4 %	262	69	739	77.3 %	2.0 %	5.4 %	25.3
> 4.75 - 5.25%	41,155	9,621,267	4.9 %	355	38	746	78.7 %	1.6 %	4.4 %	25.2
> 5.25%	62,101	17,412,054	6.0 %	382	19	745	80.2 %	1.3 %	5.0 %	26.4
	715,320	192,983,667	3.5 %	347	42	758	73.7 %	0.8 %	3.7 %	25.3
15-Year Fixed:										
≤ 2.25%	22,725	5,921,063	2.0 %	307	32	777	59.1 %	0.2 %	2.9 %	25.0
> 2.25 - 2.75%	38,338	8,012,105	2.4 %	258	36	772	58.8 %	0.2 %	3.6 %	25.0
> 2.75 - 3.25%	34,192	4,585,258	2.9 %	190	62	766	61.8 %	0.3 %	5.7 %	25.3
> 3.25 - 3.75%	19,514	1,915,441	3.4 %	149	75	756	64.0 %	0.6 %	7.0 %	25.4
> 3.75 - 4.25%	9,125	761,588	3.9 %	139	71	741	65.2 %	1.0 %	8.1 %	25.3
> 4.25%	6,546	793,853	5.0 %	227	32	742	65.3 %	0.9 %	8.5 %	27.9
	130,440	21,989,308	2.6 %	242	45	769	60.3 %	0.3 %	4.5 %	25.2
Total ARMs	2,504	674,197	4.5 %	358	56	761	70.6 %	0.9 %	12.8 %	25.4
Total	848,264	\$ 215,647,172	3.5 %	\$ 336	42	759	72.3 %	0.7 %	3.8 %	25.3

December 31, 2022										
(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%	299,221	\$ 96,929,358	2.8 %	\$ 382	23	768	71.0 %	0.4 %	3.3 %	25.
> 3.25 - 3.75%	140,499	36,531,127	3.4 %	327	38	754	74.2 %	0.8 %	5.0 %	26.
> 3.75 - 4.25%	108,214	22,603,005	3.9 %	272	61	751	75.7 %	1.3 %	6.3 %	27.
> 4.25 - 4.75%	60,343	10,752,661	4.4 %	249	63	736	77.4 %	2.4 %	7.8 %	26.
> 4.75 - 5.25%	31,694	5,735,770	4.9 %	285	44	732	78.5 %	2.9 %	7.0 %	28.
> 5.25%	31,046	7,270,132	5.9 %	343	15	736	80.8 %	1.4 %	6.4 %	33.
	671,017	179,822,053	3.4 %	344	34	758	73.3 %	0.8 %	4.5 %	26.
15-Year Fixed:										
≤ 2.25%	23,157	6,521,890	2.0 %	330	20	777	59.1 %	0.1 %	3.0 %	25.
> 2.25 - 2.75%	38,830	8,781,681	2.4 %	277	24	772	58.9 %	0.2 %	4.2 %	25.
> 2.75 - 3.25%	36,300	5,297,231	2.9 %	202	53	766	61.5 %	0.3 %	6.6 %	26.
> 3.25 - 3.75%	21,402	2,307,332	3.4 %	159	65	757	63.8 %	0.6 %	8.3 %	26.
> 3.75 - 4.25%	10,044	909,909	3.9 %	146	61	742	65.1 %	0.8 %	9.0 %	28.
> 4.25%	5,648	575,114	4.7 %	193	34	734	65.7 %	1.3 %	10.0 %	33.
	135,381	24,393,157	2.6 %	257	35	769	60.4 %	0.3 %	5.1 %	26.
Total ARMs	2,627	661,483	3.6 %	330	56	761	67.7 %	1.0 %	13.6 %	25.
Total	809,025	\$ 204,876,693	3.3 %	\$ 334	34	760	71.7 %	0.8 %	4.6 %	26.

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 securities are currently pledged as collateral, and the majority of our non-Agency securities have been 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.

Our term notes previously incorporated LIBOR as the referenced rate, which was replaced with Term SOFR, plus a spread adjustment, during the three months ended June 30, 2023. See Item 7, “*Management’s Discussion and Analysis of Financial Condition and Results of Operations - Market Conditions and Outlook - LIBOR transition*” in this Annual Report on Form 10-K for further discussion.

At December 31, 2023 and December 31, 2022, borrowings under repurchase agreements, revolving credit facilities, term notes payable and convertible senior notes had the following characteristics:

Borrowing Type	December 31, 2023			December 31, 2022		
	Amount Outstanding	Weighted Average Borrowing Rate	Weighted Average Years to Maturity	Amount Outstanding	Weighted Average Borrowing Rate	Weighted Average Years to Maturity
Repurchase agreements	\$ 8,020,207	5.74 %	0.2	\$ 8,603,011	3.95 %	0.2
Revolving credit facilities	1,329,171	8.66 %	1.1	1,118,831	7.68 %	1.1
Term notes payable	295,271	8.27 %	0.5	398,011	7.19 %	1.5
Convertible senior notes ⁽¹⁾	268,582	6.25 %	2.0	282,496	6.25 %	3.0
Total	\$ 9,913,231	6.22 %	0.3	\$ 10,402,349	4.54 %	1.7

Collateral Type	December 31, 2023			December 31, 2022		
	Amount Outstanding	Weighted Average Borrowing Rate	Weighted Average Haircut on Collateral Value	Amount Outstanding	Weighted Average Borrowing Rate	Weighted Average Haircut on Collateral Value
Agency RMBS	\$ 7,739,356	5.64 %	3.8 %	\$ 7,321,834	3.70 %	4.0 %
Non-Agency securities	233	6.36 %	44.2 %	70,809	5.73 %	40.0 %
Agency Derivatives	8,046	6.14 %	18.5 %	13,073	4.83 %	18.9 %
Mortgage servicing rights	1,862,714	8.59 %	32.4 %	1,801,992	7.61 %	30.6 %
Mortgage servicing advances	34,300	8.68 %	12.4 %	23,850	7.75 %	12.9 %
U.S. Treasuries ⁽²⁾	—	— %	— %	888,295	4.49 %	— %
Other ⁽¹⁾	268,582	6.25 %	N/A	282,496	6.25 %	N/A
Total	\$ 9,913,231	6.22 %	9.1 %	\$ 10,402,349	4.54 %	8.4 %

(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 \$271.9 million.

(2) U.S. Treasury securities effectively borrowed under reverse repurchase agreements.

As of December 31, 2023, the debt-to-equity ratio funding our AFS securities, MSR, servicing advances and Agency Derivatives, which includes unsecured borrowings under convertible senior notes, was 4.5:1.0. 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 December 31, 2023, 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⁾
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
December 31, 2022	\$ 9,878,254	\$ 10,402,349	\$ 10,672,731	4.4:1.0	\$ 3,923,298	\$ 342,964	6.3:1.0

(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, 2022 to December 31, 2023.

(in millions, except per share amounts)	Book Value	Common Shares Outstanding	Common Book Value Per Share
Common stockholders' equity at December 31, 2022	\$ 1,531.2	86.4	\$ 17.72
Net loss	(106.4)		
Other comprehensive income	102.3		
Comprehensive loss	(4.1)		
Dividends on preferred stock	(48.6)		
Gain on repurchase and retirement of preferred stock	3.0		
Comprehensive loss attributable to common stockholders	(49.7)		
Dividends on common stock	(192.2)		
Other	11.0	0.2	
Balance before capital transactions	1,300.3	86.6	
Repurchase and retirement of preferred stock	0.6		
Repurchase of common stock	(7.0)	(0.6)	
Issuance of common stock, net of offering costs	275.6	17.2	
Common stockholders' equity at December 31, 2023	\$ 1,569.5	103.2	\$ 15.21
Total preferred stock liquidation preference	633.9		
Total stockholders' equity at December 31, 2023	\$ 2,203.4		

U.S. GAAP to Estimated Taxable Income

The following tables provide reconciliations of our GAAP net income (loss) to our estimated taxable income (loss) split between our REIT and TRSs for the years ended December 31, 2023 and 2022:

(in millions)	Year Ended December 31, 2023		
	TRS	REIT	Consolidated
GAAP net income (loss), pre-tax	\$ 99.0	\$ (182.4)	\$ (83.4)
State taxes	(2.5)	(0.4)	(2.9)
Adjusted GAAP net income (loss), pre-tax	96.5	(182.8)	(86.3)
<i>Permanent differences</i>			
Dividends from TRSs	—	65.0	65.0
State deferred tax benefit	(2.1)	—	(2.1)
Other permanent differences	(0.8)	4.0	3.2
<i>Temporary differences</i>			
Net accretion of OID and market discount	(67.7)	33.5	(34.2)
Net unrealized gains and losses	53.2	48.6	101.8
Net realized gains and losses on sales of RMBS	—	(1.1)	(1.1)
Net realized gains and losses on sales of MSR	0.2	(27.3)	(27.1)
Credit loss impairment	—	(0.5)	(0.5)
Other temporary differences	4.0	26.3	30.3
Capital loss carryforward deferral	—	331.2	331.2
Net operating loss carryforward utilization	(66.6)	(51.5)	(118.1)
Estimated taxable income	16.7	245.4	262.1
Dividend paid deduction	—	(245.4)	(245.4)
Estimated taxable income post-dividend paid deduction	\$ 16.7	\$ —	\$ 16.7

(in millions)	Year Ended December 31, 2022		
	TRS	REIT	Consolidated
GAAP net income (loss), pre-tax	\$ 445.5	\$ (121.0)	\$ 324.5
State taxes	(13.4)	0.1	(13.3)
Adjusted GAAP net income (loss), pre-tax	432.1	(120.9)	311.2
<i>Permanent differences</i>			
State deferred tax expense	14.3	—	14.3
Other permanent differences	0.9	(1.3)	(0.4)
<i>Temporary differences</i>			
Net accretion of OID and market discount	(61.7)	2.8	(58.9)
Net unrealized gains and losses	(416.8)	(206.7)	(623.5)
Net realized gains and losses on sales of RMBS	—	18.9	18.9
Net realized gains and losses on sales of MSR	15.9	(124.0)	(108.1)
Credit loss impairment	—	2.7	2.7
Other temporary differences	(0.5)	24.9	24.4
Capital loss carryforward deferral	—	1,029.3	1,029.3
Net operating loss carryforward utilization	—	(336.6)	(336.6)
Estimated taxable (loss) income	(15.8)	289.1	273.3
Dividend paid deduction	—	(289.1)	(289.1)
Estimated taxable (loss) post-dividend paid deduction	\$ (15.8)	\$ —	\$ (15.8)

The permanent differences recorded in 2023 were primarily due to dividends paid from the Company's TRSs to the REIT. Additionally, the permanent tax differences recorded in 2023 and 2022 included a difference related to officer's compensation deduction limitations, compensation expense related to restricted stock dividends and vesting, the dividends paid deduction for tax, amortization of goodwill for tax, and state taxes, net of federal benefit in the Company's TRSs. The temporary tax differences recorded in 2023 and 2022 were principally timing differences between U.S. GAAP and tax accounting related to unrealized gains and losses from derivative instruments, realized and unrealized gains and losses from MSR and RMBS, accretion and amortization from RMBS, litigation expenses, changes in reserves related to servicing advances and allowance for credit losses on certain RMBS, deferral of net capital losses and utilization of net operating losses.

Change in Accumulated Other Comprehensive Loss

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 (loss) income or taxable income but are recognized on our consolidated balance sheets as a change in stockholders' equity under "accumulated other comprehensive loss." As a result of this fair value accounting through stockholders' equity, we expect our net income to have less significant fluctuations and result in less U.S. GAAP to taxable income timing differences than if the portfolio were accounted for as trading instruments.

Dividends

For the year ended December 31, 2023, we declared cash dividends totaling \$1.95 per common share. As a REIT, we are required to distribute at least 90% of our taxable income to stockholders, subject to certain distribution requirements. For the year ended December 31, 2023, our board of directors elected to distribute all of our REIT taxable income for the year. Temporary differences between GAAP net income (loss) and taxable income can generate deterioration in book value on a permanent and temporary basis as taxable income is distributed that has not been earned for U.S. GAAP purposes.

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 December 31, 2023, we held \$729.7 million in cash and cash equivalents available to support our operations; \$11.5 billion of AFS securities, MSR, and derivative assets held at fair value; and \$9.9 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 and twelve months ended December 31, 2023, 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, decreased from 5.2:1.0 to 4.5:1.0 and increased from 4.4:1.0 to 4.5:1.0, respectively. The decrease for the three months ended December 31, 2023 was predominantly driven by a decrease in financing on Agency RMBS as a result of sales of the corresponding assets. The increase for the year ended December 31, 2023 was predominantly driven by an increase in financing on Agency RMBS purchases and MSR. During the three and twelve months ended December 31, 2023, 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, decreased from 6.3:1.0 to 6.0:1.0 and 6.3:1.0 to 6.0:1.0, respectively.

As of December 31, 2023, we held approximately \$1.1 million of unpledged Agency securities and \$3.8 million of unpledged non-Agency securities. As a result, we had an overall estimated unused borrowing capacity on unpledged securities of approximately \$3.2 million. As of December 31, 2023, we held approximately \$4.1 million of unpledged MSR and \$63.5 million of unpledged servicing advances. Overall, on December 31, 2023, we had \$167.9 million unused committed and \$423.3 million unused uncommitted borrowing capacity on MSR financing facilities, and \$165.7 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 year ended December 31, 2023, 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 December 31, 2023, 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)

December 31, 2023						
Expiration Date ⁽¹⁾	Amount Outstanding	Unused Committed Capacity ⁽²⁾	Unused Uncommitted Capacity	Total Capacity	Eligible Collateral	
March 31, 2025	\$ 712,731	\$ —	\$ 187,269	\$ 900,000	Mortgage servicing rights	
March 17, 2025	\$ 292,140	\$ 57,860	\$ 150,000	\$ 500,000	Mortgage servicing rights ⁽³⁾	
September 30, 2024	\$ 290,000	\$ 110,000	\$ —	\$ 400,000	Mortgage servicing rights	
October 25, 2024	\$ 214,000	\$ —	\$ 86,000	\$ 300,000	Mortgage servicing rights ⁽⁴⁾	
September 28, 2024	\$ 34,300	\$ 165,700	\$ —	\$ 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 September 17, 2024, at which time the facility starts a 6-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 December 31, 2023:

- Total indebtedness to tangible net worth must be less than 8.0:1.0. As of December 31, 2023, our total indebtedness to tangible net worth, as defined, was 4.9:1.0.
- Cash liquidity must be greater than \$200.0 million. As of December 31, 2023, our liquidity, as defined, was \$729.7 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 December 31, 2023, 50% of the highest net worth during the 24 calendar months prior, as defined, was \$1.4 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 December 31, 2023 and December 31, 2022:

(in thousands)	December 31, 2023	December 31, 2022
Available-for-sale securities, at fair value	\$ 8,126,028	\$ 7,426,953
Mortgage servicing rights, at fair value	3,047,890	2,958,057
Restricted cash	12,575	324,854
Due from counterparties	36,420	22,055
Derivative assets, at fair value	11,877	14,738
Other assets	79,749	67,819
U.S. Treasuries ⁽¹⁾	—	877,632
Total	<u>\$ 11,314,539</u>	<u>\$ 11,692,108</u>

(1) U.S. Treasury securities effectively borrowed under reverse repurchase agreements.

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 December 31, 2023 and December 31, 2022:

(in thousands)	December 31, 2023	December 31, 2022
Within 30 days	\$ 2,833,162	\$ 2,691,195
30 to 59 days	1,918,818	2,160,737
60 to 89 days	2,059,438	2,536,636
90 to 119 days	994,789	905,443
120 to 364 days	833,571	509,000
One to three years	1,273,453	1,316,842
Three to five years	—	282,496
Total	<u>\$ 9,913,231</u>	<u>\$ 10,402,349</u>

For the year ended December 31, 2023, our restricted and unrestricted cash balance decreased approximately \$331.7 million to \$794.8 million at December 31, 2023. The cash movements can be summarized by the following:

- *Cash flows from operating activities.* For the year ended December 31, 2023, operating activities increased our cash balances by approximately \$343.5 million, primarily driven by our financial results for the year.
- *Cash flows from investing activities.* For the year ended December 31, 2023, investing activities decreased our cash balances by approximately \$195.8 million, primarily driven by purchases of Agency RMBS, MSR and derivative instruments, offset by sales of and principal payments on Agency RMBS, sales of MSR and net proceeds from reverse repurchase agreements.
- *Cash flows from financing activities.* For the year ended December 31, 2023, financing activities decreased our cash balance by approximately \$479.4 million, primarily driven by the repayment of U.S. Treasury securities effectively borrowed under reverse repurchase agreements, repurchases of term notes payable, convertible senior notes and preferred stock and the payment of dividends, offset by an increase in financing on Agency RMBS and MSR and the issuance of common stock.

Recently Issued Accounting Standards

Refer to Note 2 - *Basis of Presentation and Significant Accounting Policies* of the notes to the consolidated financial statements included in Item 8 of this Form 10-K.

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.

Other Matters

We intend to conduct our business so as to maintain our exempt status under, and not to become regulated as, an investment company for purposes of the 1940 Act. If we failed to maintain our exempt status under the 1940 Act and became regulated as an investment company, our ability to, among other things, use leverage would be substantially reduced and, as a result, we would be unable to conduct our business as described in Item 1, “*Business - Other Business - Regulation*” of this Annual Report on Form 10-K. Accordingly, we monitor our compliance with both the 55% Test and the 80% Tests of the 1940 Act in order to maintain our exempt status. As of December 31, 2023, we determined that we maintained compliance with both the 55% Test and the 80% Test requirements.

We calculate that at least 75% of our assets were qualified REIT assets, as defined in the Code for the year ended December 31, 2023. We also calculate that our revenue qualified for the 75% source of income test and for the 95% source of income test rules for the year ended December 31, 2023. Consequently, we met the REIT income and asset tests. We also met all REIT requirements regarding the ownership of our common stock and the distribution of our net income. Therefore, for the year ended December 31, 2023, we believe that we qualified as a REIT under the Code.

Item 7A. 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.

LIBOR and other indices which had been deemed “benchmarks” for various commercial and financial contracts have been the subject of recent national, international, and other regulatory guidance and proposals for reform, and LIBOR was phased out on June 30, 2023. Our material contracts that are or were indexed to USD-LIBOR have been amended to transition to an alternative benchmark, where necessary. Any other unmodified agreements that incorporate LIBOR as the referenced rate either (i) already had provisions in place that provide for an alternative to LIBOR upon its phase-out or that are governed by the LIBOR Act, (ii) matured or (iii) were terminated prior to June 30, 2023. See Item 7, “*Management’s Discussion and Analysis of Financial Condition and Results of Operations - Market Conditions and Outlook - LIBOR transition*” for further discussion.

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 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 TRSSs, 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 December 31, 2023 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 December 31, 2023. 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.

(dollars in thousands)	Changes in Interest Rates			
	-50 bps	-25 bps	+25 bps	+50 bps
Change in annualized net interest income ⁽¹⁾:	\$ (2,585)	\$ (1,311)	\$ 1,290	\$ 2,584
<i>% change in net interest income ⁽¹⁾</i>	<i>(1.7)%</i>	<i>(0.8)%</i>	<i>0.8 %</i>	<i>1.7 %</i>
Change in value of financial position:				
Available-for-sale securities	\$ 205,542	\$ 105,263	\$ (109,484)	\$ (222,774)
<i>As a % of common equity</i>	<i>13.1 %</i>	<i>6.7 %</i>	<i>(7.0)%</i>	<i>(14.2)%</i>
Mortgage servicing rights ⁽²⁾	\$ (79,718)	\$ (40,134)	\$ 34,050	\$ 67,215
<i>As a % of common equity ⁽²⁾</i>	<i>(5.1)%</i>	<i>(2.5)%</i>	<i>2.2 %</i>	<i>4.3 %</i>
Derivatives, net	\$ (137,110)	\$ (67,169)	\$ 64,771	\$ 127,402
<i>As a % of common equity</i>	<i>(8.8)%</i>	<i>(4.3)%</i>	<i>4.1 %</i>	<i>8.1 %</i>
Reverse repurchase agreements	\$ 59	\$ 30	\$ (30)	\$ (59)
<i>As a % of common equity</i>	<i>— %</i>	<i>— %</i>	<i>— %</i>	<i>— %</i>
Repurchase agreements	\$ (4,926)	\$ (2,463)	\$ 2,463	\$ 4,926
<i>As a % of common equity</i>	<i>(0.3)%</i>	<i>(0.2)%</i>	<i>0.2 %</i>	<i>0.3 %</i>
Revolving credit facilities	\$ (371)	\$ (185)	\$ 185	\$ 370
<i>As a % of common equity</i>	<i>— %</i>	<i>— %</i>	<i>— %</i>	<i>— %</i>
Term notes payable	\$ (556)	\$ (278)	\$ 278	\$ 555
<i>As a % of common equity</i>	<i>— %</i>	<i>— %</i>	<i>— %</i>	<i>— %</i>
Convertible senior notes	\$ (1,044)	\$ (520)	\$ 517	\$ 1,031
<i>As a % of common equity</i>	<i>(0.1)%</i>	<i>— %</i>	<i>— %</i>	<i>0.1 %</i>
Total Net Assets	\$ (18,124)	\$ (5,456)	\$ (7,250)	\$ (21,334)
<i>As a % of total assets</i>	<i>(0.1)%</i>	<i>— %</i>	<i>(0.1)%</i>	<i>(0.2)%</i>
<i>As a % of common equity</i>	<i>(1.2)%</i>	<i>(0.3)%</i>	<i>(0.5)%</i>	<i>(1.4)%</i>

(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 December 31, 2023. 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 7, “*Management’s Discussion and Analysis of Financial Condition and Results of Operations - Liquidity and Capital Resources*” in this Annual Report on Form 10-K 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 8. Financial Statements and Supplementary Data

**TWO HARBORS INVESTMENT CORP.
INDEX TO CONSOLIDATED FINANCIAL STATEMENTS**

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Report of Independent Registered Public Accounting Firm

To the Stockholders and the Board of Directors
of Two Harbors Investment Corp.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Two Harbors Investment Corp. (the Company) as of December 31, 2023 and 2022, the related consolidated statements of comprehensive loss, stockholders' equity and cash flows for each of the three years in the period ended December 31, 2023, and the related notes (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company at December 31, 2023 and 2022, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2023, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2023, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) and our report dated February 20, 2024 expressed an unqualified opinion thereon.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matter

The critical audit matter communicated below is a matter arising from the current period audit of the financial statements that was communicated or required to be communicated to the audit committee and that: (1) relates to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective or complex judgments. The communication of the critical audit matter does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the account or disclosure to which it relates.

Valuation of Mortgage Servicing Rights

Description of the Matter At December 31, 2023, the Company held \$3.1 billion of mortgage servicing rights (MSR) which are reported at fair value. As more fully described in Note 11 to the consolidated financial statements, the Company utilizes third-party pricing vendors in the fair value measurement of its MSR portfolio. Significant unobservable market data inputs inherent in the prices determined by the third-party pricing vendors include prepayment speeds, option-adjusted spread, and cost to service. Significant increases or decreases in these inputs in isolation may result in significantly lower or higher fair value measurements.

Auditing the Company's valuation of the MSR portfolio was especially challenging because the valuation involved significant judgment due to the unobservable inputs used in the valuation of this portfolio. These subjective assumptions consider a number of factors that are affected by market, economic, and asset-specific conditions.

How We Addressed the Matter in Our Audit

Our audit procedures related to the fair value of the MSR portfolio included the following procedures, among others. We obtained an understanding of the MSR fair value measurements process, evaluated the design, and tested the operating effectiveness of internal controls. This included testing controls over management's review of the third-party pricing vendors' qualifications and methodologies applied. We also tested controls over management's evaluation of pricing information obtained from third-party pricing vendors, including the consideration of applicable market data.

To test the fair value of the Company's MSR fair value measurements, our audit procedures included, among others, testing the completeness and accuracy of data used in the fair value measurement process and involving our internal valuation specialists to independently develop a fair value estimate for the MSR portfolio using independently developed cash flow models and assumptions including consideration of market transactions. We compared our independently developed fair value estimate to the Company's valuation.

/s/ Ernst & Young LLP

We have served as the Company's auditor since 2009.

Minneapolis, Minnesota

February 20, 2024

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

	December 31, 2023	December 31, 2022
ASSETS		
Available-for-sale securities, at fair value (amortized cost \$8,509,383 and \$8,114,627, respectively; allowance for credit losses \$3,943 and \$6,958, respectively)	\$ 8,327,149	\$ 7,778,734
Mortgage servicing rights, at fair value	3,052,016	2,984,937
Cash and cash equivalents	729,732	683,479
Restricted cash	65,101	443,026
Accrued interest receivable	35,339	36,018
Due from counterparties	323,224	253,374
Derivative assets, at fair value	85,291	26,438
Reverse repurchase agreements	284,091	1,066,935
Other assets	236,857	193,219
Total Assets ⁽¹⁾	\$ 13,138,800	\$ 13,466,160
LIABILITIES AND STOCKHOLDERS' EQUITY		
Liabilities:		
Repurchase agreements	\$ 8,020,207	\$ 8,603,011
Revolving credit facilities	1,329,171	1,118,831
Term notes payable	295,271	398,011
Convertible senior notes	268,582	282,496
Derivative liabilities, at fair value	21,506	34,048
Due to counterparties	574,735	541,709
Dividends payable	58,731	64,504
Accrued interest payable	141,773	94,034
Commitments and contingencies (see Note 16)	—	—
Other liabilities	225,434	145,991
Total Liabilities ⁽¹⁾	10,935,410	11,282,635
Stockholders' Equity:		
Preferred stock, par value \$0.01 per share; 100,000,000 shares authorized and 25,356,426 and 26,092,050 shares issued and outstanding, respectively (\$633,911 and \$652,301 liquidation preference, respectively)	613,213	630,999
Common stock, par value \$0.01 per share; 175,000,000 shares authorized and 103,206,457 and 86,428,845 shares issued and outstanding, respectively	1,032	864
Additional paid-in capital	5,925,424	5,645,998
Accumulated other comprehensive loss	(176,429)	(278,711)
Cumulative earnings	1,349,973	1,453,371
Cumulative distributions to stockholders	(5,509,823)	(5,268,996)
Total Stockholders' Equity	2,203,390	2,183,525
Total Liabilities and Stockholders' Equity	\$ 13,138,800	\$ 13,466,160

(1) The consolidated balance sheets include assets and liabilities of consolidated variable interest entities, or VIEs. At December 31, 2023 and December 31, 2022, assets of the VIEs totaled \$525,259 and \$497,921, and liabilities of the VIEs totaled \$479,810 and \$453,952, respectively. See Note 4 - *Variable Interest Entities* for additional information.

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

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

	Year Ended December 31,		
	2023	2022	2021
Net interest income (expense):			
Interest income	\$ 480,364	\$ 295,540	\$ 168,597
Interest expense	643,225	258,395	89,173
Net interest (expense) income	(162,861)	37,145	79,424
Net servicing income:			
Servicing income	685,777	603,911	468,406
Servicing costs	95,488	94,119	86,250
Net servicing income	590,289	509,792	382,156
Other income (loss):			
(Loss) gain on investment securities	(69,970)	(603,937)	121,617
(Loss) gain on servicing asset	(111,620)	425,376	(114,941)
(Loss) gain on interest rate swap, cap and swaption agreements	(52,946)	29,499	42,091
(Loss) gain on other derivative instruments	(166,210)	9,310	(251,283)
Other income (loss)	5,103	(5)	(3,845)
Total other loss	(395,643)	(139,757)	(206,361)
Expenses:			
Compensation and benefits	52,865	40,723	35,041
Other operating expenses	62,313	42,005	28,759
Total expenses	115,178	82,728	63,800
(Loss) income before income taxes	(83,393)	324,452	191,419
Provision for income taxes	22,978	104,213	4,192
Net (loss) income	(106,371)	220,239	187,227
Dividends on preferred stock	(48,607)	(53,607)	(58,458)
Gain on repurchase and retirement of preferred stock	2,973	20,149	—
Net (loss) income attributable to common stockholders	\$ (152,005)	\$ 186,781	\$ 128,769
Basic (loss) earnings per weighted average common share	\$ (1.60)	\$ 2.15	\$ 1.72
Diluted (loss) earnings per weighted average common share	\$ (1.60)	\$ 2.13	\$ 1.72
Weighted average number of shares of common stock:			
Basic	95,672,143	86,179,418	74,443,000
Diluted	95,672,143	96,076,175	74,510,884
Comprehensive loss:			
Net (loss) income	\$ (106,371)	\$ 220,239	\$ 187,227
Other comprehensive income (loss):			
Unrealized gain (loss) on available-for-sale securities	102,282	(465,057)	(455,255)
Other comprehensive income (loss)	102,282	(465,057)	(455,255)
Comprehensive loss	(4,089)	(244,818)	(268,028)
Dividends on preferred stock	(48,607)	(53,607)	(58,458)
Gain on repurchase and retirement of preferred stock	2,973	20,149	—
Comprehensive loss attributable to common stockholders	\$ (49,723)	\$ (278,276)	\$ (326,486)

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

TWO HARBORS INVESTMENT CORP.
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(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, 2020	\$ 977,501	\$ 684	\$ 5,165,847	\$ 641,601	\$ 1,025,756	\$ (4,722,463)	\$ 3,088,926
Net income	—	—	—	—	187,227	—	187,227
Other comprehensive loss before reclassifications	—	—	—	(319,694)	—	—	(319,694)
Amounts reclassified from accumulated other comprehensive income	—	—	—	(135,561)	—	—	(135,561)
Other comprehensive loss	—	—	—	(455,255)	—	—	(455,255)
Redemption of preferred stock	(274,951)	—	—	—	—	—	(274,951)
Issuance of common stock, net of offering costs	—	175	450,427	—	—	—	450,602
Preferred dividends declared	—	—	—	—	—	(58,458)	(58,458)
Common dividends declared	—	—	—	—	—	(205,623)	(205,623)
Non-cash equity award compensation	—	1	11,484	—	—	—	11,485
Balance, December 31, 2021	\$ 702,550	\$ 860	\$ 5,627,758	\$ 186,346	\$ 1,212,983	\$ (4,986,544)	\$ 2,743,953
Net income	—	—	—	—	220,239	—	220,239
Other comprehensive loss before reclassifications	—	—	—	(893,589)	—	—	(893,589)
Amounts reclassified from accumulated other comprehensive income	—	—	—	428,532	—	—	428,532
Other comprehensive loss	—	—	—	(465,057)	—	—	(465,057)
Repurchase and retirement of preferred stock	(71,551)	—	—	—	20,149	—	(51,402)
Issuance of common stock, net of offering costs	—	3	6,611	—	—	—	6,614
Preferred dividends declared	—	—	—	—	—	(53,607)	(53,607)
Common dividends declared	—	—	—	—	—	(228,845)	(228,845)
Non-cash equity award compensation	—	1	11,629	—	—	—	11,630
Balance, December 31, 2022	\$ 630,999	\$ 864	\$ 5,645,998	\$ (278,711)	\$ 1,453,371	\$ (5,268,996)	\$ 2,183,525
Net loss	—	—	—	—	(106,371)	—	(106,371)
Other comprehensive loss before reclassifications	—	—	—	(38,584)	—	—	(38,584)
Amounts reclassified from accumulated other comprehensive income	—	—	—	140,866	—	—	140,866
Other comprehensive income	—	—	—	102,282	—	—	102,282
Repurchase and retirement of preferred stock	(17,786)	—	—	—	2,973	—	(14,813)
Issuance of common stock, net of offering costs	—	172	275,502	—	—	—	275,674
Repurchase of common stock	—	(6)	(7,050)	—	—	—	(7,056)
Preferred dividends declared	—	—	—	—	—	(48,607)	(48,607)
Common dividends declared	—	—	—	—	—	(192,220)	(192,220)
Non-cash equity award compensation	—	2	10,974	—	—	—	10,976
Balance, December 31, 2023	\$ 613,213	\$ 1,032	\$ 5,925,424	\$ (176,429)	\$ 1,349,973	\$ (5,509,823)	\$ 2,203,390

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

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

	Year Ended December 31,		
	2023	2022	2021
Cash Flows From Operating Activities:			
Net (loss) income	\$ (106,371)	\$ 220,239	\$ 187,227
Adjustments to reconcile net (loss) income to net cash provided by operating activities:			
Amortization of premiums and discounts on investment securities, net	25,406	79,794	228,344
Amortization of deferred debt issuance costs on term notes payable and convertible senior notes	2,589	2,678	2,999
(Reversal of) provision for credit losses on investment securities	(545)	2,730	9,763
Realized and unrealized losses (gains) on investment securities	70,515	601,207	(131,380)
Loss (gain) on servicing asset	111,620	(425,376)	114,941
Realized and unrealized losses (gains) on interest rate swaps, caps and swaptions	74,304	(34,328)	(27,830)
Unrealized losses (gains) on other derivative instruments	102,694	13,797	(5,217)
Gains on mortgage loans held-for-sale	—	(9)	(1,812)
Gain on repurchase of term notes payable and convertible senior notes	(5,104)	—	—
Equity based compensation	10,976	11,630	11,485
Purchases of mortgage loans held-for-sale	(80)	(264)	(64,008)
Proceeds from sales of mortgage loans held-for-sale	—	—	65,772
Proceeds from repayment of mortgage loans held-for-sale	31	30	8
Net change in assets and liabilities:			
Decrease (increase) in accrued interest receivable	679	(9,752)	20,908
Decrease in deferred income taxes, net	14,504	105,241	5,960
Increase (decrease) in accrued interest payable	47,739	75,652	(3,284)
Change in other operating assets and liabilities, net	(5,448)	(19,867)	9,634
Net cash provided by operating activities	343,509	623,402	423,510
Cash Flows From Investing Activities:			
Purchases of available-for-sale securities	(3,877,805)	(10,662,518)	(2,494,603)
Proceeds from sales of available-for-sale securities	2,673,827	7,793,705	6,274,193
Principal payments on available-for-sale securities	662,469	1,102,994	3,147,647
Purchases of mortgage servicing rights, net of purchase price adjustments	(312,637)	(629,810)	(742,153)
Proceeds from sales of mortgage servicing rights	133,938	261,827	31,787
(Purchases) short sales of derivative instruments, net	(4,029)	(71,291)	51,438
(Payments for termination and settlement) proceeds from sales and settlement of derivative instruments, net	(244,364)	125,908	40,012
Payments for reverse repurchase agreements	(2,487,516)	(3,241,834)	(1,174,883)
Proceeds from reverse repurchase agreements	3,270,360	2,309,581	1,131,726
Acquisition of RoundPoint Mortgage Servicing LLC, net of cash acquired	26,798	—	—
(Decrease) increase in due to counterparties, net	(36,824)	260,157	38,773
Change in other investing assets and liabilities, net	—	—	10,000
Net cash (used in) provided by investing activities	\$ (195,783)	\$ (2,751,281)	\$ 6,313,937

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

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

	Year Ended December 31,		
	2023	2022	2021
Cash Flows From Financing Activities:			
Proceeds from repurchase agreements	\$ 37,045,726	\$ 35,927,488	\$ 29,934,379
Principal payments on repurchase agreements	(37,628,530)	(34,980,922)	(37,421,832)
Proceeds from revolving credit facilities	404,000	720,000	296,500
Principal payments on revolving credit facilities	(193,660)	(21,930)	(159,569)
Repurchase of term notes payable	(100,970)	—	—
Proceeds from issuance of convertible senior notes	—	—	279,930
Repurchase/repayment of convertible senior notes	(13,169)	(143,774)	(143,118)
Redemption/repurchase and retirement of preferred stock	(14,813)	(51,402)	(274,951)
Proceeds from issuance of common stock, net of offering costs	275,674	6,614	450,602
Repurchase of common stock	(7,056)	—	—
Dividends paid on preferred stock	(48,960)	(54,989)	(63,661)
Dividends paid on common stock	(197,640)	(235,371)	(193,488)
Net cash (used in) provided by financing activities	(479,398)	1,165,714	(7,295,208)
Net decrease in cash, cash equivalents and restricted cash	(331,672)	(962,165)	(557,761)
Cash, cash equivalents and restricted cash at beginning of period	1,126,505	2,088,670	2,646,431
Cash, cash equivalents and restricted cash at end of period	\$ 794,833	\$ 1,126,505	\$ 2,088,670
Supplemental Disclosure of Cash Flow Information:			
Cash paid for interest	\$ 565,834	\$ 153,181	\$ 81,248
Cash paid (received) for taxes, net	\$ 7,380	\$ (1,575)	\$ (23,322)
Noncash Activities:			
Dividends declared but not paid at end of period	\$ 58,731	\$ 64,504	\$ 72,412

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

TWO HARBORS INVESTMENT CORP.
Notes to the Consolidated Financial Statements

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 stable performance 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 accompanying consolidated financial statements 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. The accounting and reporting policies of the Company conform to U.S. generally accepted accounting principles, or U.S. GAAP. The Company consists of a single operating and reportable segment; the investment portfolio is managed as a whole and resources are allocated and financial performance is assessed by the chief operating decision maker on a consolidated basis. Accordingly, the consolidated financial statements and notes thereto are presented as a single reportable segment. Certain prior period amounts have been reclassified to conform to the current period presentation. All per share amounts, common shares outstanding and common equity-based awards for all prior periods reflect the Company’s one-for-four reverse stock split effected on November 1, 2022 at 5:01 p.m. Eastern Time (refer to Note 17 - *Stockholders’ Equity* for additional information).

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 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.

TWO HARBORS INVESTMENT CORP.
Notes to the Consolidated Financial Statements

Significant Accounting Policies

Business Combinations

Under Accounting Standards Codification (ASC) 805, *Business Combinations*, or ASC 805, an acquisition is considered a business combination when the assets acquired and liabilities assumed constitute a business. The acquisition method prescribed in ASC 805 requires, among other things, that the assets acquired and liabilities assumed be recognized at fair value as of the acquisition date. In a business combination, the initial allocation of the purchase price is considered preliminary and therefore subject to change until the end of the measurement period (up to one year from the acquisition date). Goodwill is calculated as the excess of the consideration transferred over the net assets acquired that meet the criteria for separate recognition and represents the estimated future economic benefits arising from these and other assets acquired that could not be individually identified or do not qualify for recognition as a separate asset. Goodwill is included within the other assets line item on the Company's consolidated balance sheets. Acquisition-related costs are expensed as incurred and included within the other operating expenses line item in the Company's consolidated statements of comprehensive loss. The results of operations of acquired businesses are included from the date of acquisition.

Goodwill and Intangible Assets

On an annual basis, the Company qualitatively assesses its goodwill assigned to each of its reporting units during the fourth quarter of each year. This qualitative assessment evaluates various events and circumstances, such as macro-economic conditions, industry and market conditions, cost factors, relevant events and financial trends, that may impact a reporting unit's fair value. Using this qualitative assessment, the Company determines whether it is more-likely-than-not that the reporting unit's fair value exceeds its carrying value. If it is determined that it is not more-likely-than-not that the reporting unit's fair value exceeds the carrying value, or upon consideration of other factors, including recent acquisition, restructuring or divestiture activity, the Company performs a quantitative, "step one" goodwill impairment analysis. In addition, the Company may test goodwill in between annual test dates if an event occurs or circumstances change that could more-likely-than-not reduce the fair value of a reporting unit below its carrying value. The Company did not recognize any goodwill impairment during the year ended December 31, 2023.

As a result of the RoundPoint acquisition, the Company identified intangible assets in the form of state licenses, GSE approvals and trade names. Intangible assets are included within the other assets line item on the Company's consolidated balance sheets. 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. Amortization of acquired intangible assets is included within the other operating expenses line item in the Company's consolidated statements of comprehensive loss. If impairment events occur, they could accelerate the timing of acquired intangible asset charges. Licenses and approvals acquired are deemed to have an indefinite useful life and are evaluated for impairment annually during the fourth quarter and in interim periods if indicators of impairment exist. The Company did not recognize any impairment on its intangible assets during the year ended December 31, 2023.

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.

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.

TWO HARBORS INVESTMENT CORP.
Notes to the Consolidated Financial Statements

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.

Available-for-Sale Securities, at Fair Value

The Company invests primarily in mortgage pass-through certificates, collateralized mortgage obligations and other residential mortgage-backed securities representing interests in or obligations backed by pools of mortgage loans issued by a Fannie Mae, Freddie Mac or Ginnie Mae. The Company also holds securities that are not issued by a GSE or U.S government agency, or non-Agency securities, other Agency securities, and, from time to time, U.S. Treasuries.

The Company classifies its Agency and non-Agency investment securities, excluding inverse interest-only Agency securities which are classified as derivatives for purposes of U.S. GAAP, as available-for-sale, or AFS, investments. Although the Company generally intends to hold most of its investment securities until maturity, it may, from time to time, sell any of its investment securities as part of its overall management of its portfolio. Accordingly, the Company classifies all of its securities as AFS, including its interest-only strips, which represent the Company's right to receive a specified portion of the contractual interest flows of specific Agency or non-Agency securities. All assets classified as AFS, excluding certain AFS securities for which we have elected the fair value option, are reported at estimated fair value with unrealized gains and losses included in accumulated other comprehensive loss.

On July 1, 2015, the Company elected the fair value option for Agency interest-only securities acquired on or after such date. On July 1, 2021, the Company elected the fair value option for all non-Agency securities acquired on or after such date. On January 1, 2023, the Company elected the fair value option for all other non-RMBS Agency securities acquired on or after such date. All Agency interest-only securities acquired on or after July 1, 2015, all non-Agency securities acquired on or after July 1, 2021, and all other non-RMBS Agency securities acquired on or after January 1, 2023 are carried at estimated fair value with changes in fair value recorded as a component of (loss) gain on investment securities in the consolidated statements of comprehensive loss.

Fair value is determined under the guidance of Accounting Standards Codification (ASC) 820, *Fair Value Measurements and Disclosures*, or ASC 820. The Company determines the fair value of its investment securities that are issued or guaranteed as to principal and/or interest by a GSE or U.S. government agency, based upon prices obtained from third-party pricing vendors or broker quotes received using the bid price, which are both deemed indicative of market activity. In determining the fair value of its non-Agency securities, management judgment is used to arrive at fair value that considers prices obtained from third-party pricing vendors, broker quotes received and other applicable market data. If listed price data is not available or insufficient, 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. See Note 11 - *Fair Value* of these notes to the consolidated financial statements for details on fair value measurement.

Investment securities transactions are recorded on the trade date. The cost basis for realized gains and losses on sales of investment securities are determined on the first-in, first-out, or FIFO, method.

Interest income (*i.e.*, gross yield/stated coupon) on securities is accrued based on the outstanding principal balance and their contractual terms. Premiums and discounts associated with Agency securities and non-Agency securities rated AA and higher at the time of purchase, are amortized and accreted, respectively, as an adjustment to interest income over the life of such securities using the contractual method under ASC 310-20, *Nonrefundable Fees and Other Costs*, which is applied at the individual security level based upon each security's effective interest rate. The Company calculates each security's effective interest rate at the time of purchase by solving for the discount rate that equates the present value of that security's remaining contractual cash flows, assuming no principal prepayments, to its purchase price. When applying the contractual effective interest method, as principal prepayments occur, an amount of the unamortized premium or discount is recognized in interest income such that the contractual effective interest rate on the remaining security balance is unaffected.

TWO HARBORS INVESTMENT CORP.
Notes to the Consolidated Financial Statements

Discounts associated with non-Agency securities that were purchased at a discount to par value and were rated below AA at the time of purchase and Agency and non-Agency interest-only securities that can be contractually prepaid or otherwise settled in such a way that the Company would not recover substantially all of its recorded investment are accreted as an adjustment to interest income over the life of such securities using the prospective method under ASC 325-40, *Investments - Other: Beneficial Interests in Securitized Financial Assets*, which is applied at the individual security level based upon each security's effective interest rate. At the time of acquisition, the security's effective interest rate is calculated by solving for the single discount rate that equates the present value of the Company's best estimate of the amount and timing of the cash flows expected to be collected from the security to its purchase price. On at least a quarterly basis, the Company reviews and, if appropriate, makes adjustments to its cash flow projections based on input and analysis received from external sources, internal models, and its judgment about interest rates, prepayment rates, the timing and amount of credit losses, and other factors. Changes in cash flows from those originally projected, or from those estimated at the last evaluation, may result in a prospective change in the effective interest rate and interest income recognized on such securities.

Actual maturities of the AFS securities are affected by the contractual lives of the associated mortgage collateral, periodic payments of principal, and prepayments of principal. Therefore actual maturities of AFS securities are generally shorter than stated contractual maturities. Stated contractual maturities are generally greater than ten years.

The Company evaluates AFS securities where the fair value option has not been elected for impairment at least quarterly, and more frequently when economic or market conditions warrant such evaluation. When the fair value of an AFS security is less than its amortized cost, the security is considered impaired. For securities that are impaired, the Company determines if it (i) has the intent to sell the security, (ii) is more likely than not that it will be required to sell the security before recovery of its amortized cost basis, or (iii) does not expect to recover the entire amortized cost basis of the security. If the Company determines that it is more likely than not that it will incur a realized loss on the security when it is sold, the difference between the amortized cost and the fair value is recognized in consolidated statements of comprehensive loss as a component of (loss) gain on investment 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 initial estimated allowance for credit losses is equal to the difference between the prepayment adjusted contractual cash flows with no credit losses and the prepayment adjusted expected cash flows with credit losses, discounted at the effective interest rate on the AFS security. The contractual cash flows and expected cash flows are based on management's best estimate and take into consideration current prepayment assumptions, lifetime expected losses based on past loss experience, current market conditions, and reasonable and supportable forecasts of future conditions. The allowance for credit losses on Agency AFS securities relates to prepayment assumption changes on interest-only Agency RMBS. The initial allowance for credit losses causes an increase in the AFS security amortized cost and recognizes an allowance for credit losses in the same amount. Subsequent adverse or favorable changes in the allowance for credit losses are recognized immediately in earnings as a provision for or reduction in credit losses (within (loss) gain on investment securities). Adverse changes are reflected as an increase to the allowance for credit losses and favorable changes are reflected as a decrease to the allowance for credit losses. The allowance for credit losses is limited to the difference between the beneficial interest's fair value and its amortized cost, and any remaining adverse changes in these circumstances are reflected as a prospective adjustment to accretable yield. If the allowance for credit losses has been reduced to zero, the remaining favorable changes are reflected as a prospective adjustment to accretable yield. The Company does not adjust the effective interest rate in subsequent periods for prepayment assumption changes or variable-rate changes. Any changes in the allowance for credit losses due to the time-value-of-money are accounted for in the consolidated statements of comprehensive loss as provision for credit losses rather than a reduction to interest income. Any portion of the AFS securities that is deemed uncollectible results in a write-off of the uncollectible amortized cost with a corresponding reduction to the allowance for credit losses. Recoveries of amounts previously written off results in an increase to the allowance for credit losses.

TWO HARBORS INVESTMENT CORP.
Notes to the Consolidated Financial Statements

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. As an owner and manager of MSR, the Company may be obligated to fund advances of principal and interest payments due to third-party owners of the loans, but not yet received from the individual borrowers. These advances are reported as servicing advances within the other assets line item on the consolidated balance sheets.

MSR are reported at fair value on the consolidated balance sheets. Although MSR transactions are observable in the marketplace, the valuation includes unobservable market data inputs (prepayment speeds; option-adjusted spread, or OAS, which represents the incremental spread added to the risk-free rate to reflect the effects of any embedded options and other risk inherent in MSR; and cost to service). Changes in the fair value of MSR as well as servicing fee income and servicing costs are reported on the consolidated statements of comprehensive loss.

Cash and Cash Equivalents

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

Restricted Cash

Restricted cash represents cash balances the Company is required to maintain with counterparties for securities and derivatives trading activity, servicing activities and collateral for the Company's borrowings. Also included is the cash balance held pursuant to a letter of credit on the New York office lease. Cash balances required to be maintained with counterparties are not available to the Company for general corporate purposes, but may be applied against amounts due to security, derivative, servicing or financing counterparties or returned to the Company when collateral requirements are exceeded, or at the maturity of the derivative or financing arrangement.

Accrued Interest Receivable

Accrued interest receivable represents interest that is due and payable to the Company. Cash interest is generally received within 30 days of recording the receivable.

Due from/to Counterparties, net

Due from counterparties includes cash held by counterparties for payment of principal and interest as well as cash held by counterparties for securities and derivatives trading activity, servicing activities and collateral for the Company's borrowings but represents excess capacity and deemed unrestricted and a receivable from the counterparty as of the balance sheet date. Due from counterparties also includes cash receivable from counterparties for sales of MSR pending final transfer and settlement. Due to counterparties includes cash payable by the Company upon settlement of trade positions as well as cash deposited to and held by the Company for securities and derivatives trading activity, servicing activities and collateral for the Company's borrowings but represents a payable to the counterparty as of the balance sheet date. Due to counterparties also includes purchase price holdbacks on MSR acquisitions for early prepayment or default provisions, collateral exceptions and other contractual terms.

Derivative Financial Instruments, at Fair Value

In accordance with ASC 815, *Derivatives and Hedging*, or ASC 815, all derivative financial instruments, whether designated for hedging relationships or not, are recorded on the consolidated balance sheets as assets or liabilities and carried at fair value.

At the inception of a derivative contract, the Company determines whether the instrument will be part of a qualifying hedge accounting relationship or whether the Company will account for the contract as a trading instrument. Due to the volatility of the interest rate and credit markets and difficulty in effectively matching pricing or cash flows, the Company has elected to treat all current derivative contracts as trading instruments. Changes in fair value as well as the accrual and settlement of interest associated with derivatives accounted for as trading instruments are reported in the consolidated statements of comprehensive loss as (loss) gain on interest rate swap, cap and swaption agreements or (loss) gain on other derivative instruments depending on the type of derivative instrument.

TWO HARBORS INVESTMENT CORP.
Notes to the Consolidated Financial Statements

The Company enters into interest rate derivative contracts for a variety of reasons, including minimizing fluctuations in earnings or market values on certain assets or liabilities that may be caused by changes in interest rates. The Company may, at times, enter into various forward contracts including short securities, Agency to-be-announced securities, or TBAs, options, futures, swaps, and caps. Due to the nature of these instruments, they may be in a receivable/asset position or a payable/liability position at the end of an accounting period. Amounts payable to and receivable from the same party under contracts may be offset as long as the following conditions are met: (i) each of the two parties owes the other determinable amounts; (ii) the reporting party has the right to offset the amount owed with the amount owed by the other party; (iii) the reporting party intends to offset; and (iv) the right of offset is enforceable by law. If the aforementioned conditions are not met, amounts payable to and receivable from are presented by the Company on a gross basis in its consolidated balance sheets. The Company's centrally cleared interest rate swaps and exchange-traded futures and options on futures require that the Company posts 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. The receipt or payment of initial margin is accounted for separate from the derivative asset or liability and is netted on a counterparty basis and classified within restricted cash, due from counterparties, or due to counterparties on the Company's consolidated balance sheets.

The Company has provided specific disclosure regarding the location and amounts of derivative instruments in the consolidated financial statements and how derivative instruments and related hedged items are accounted for. See Note 8 - *Derivative Instruments and Hedging Activities* of these notes to the consolidated financial statements.

Reverse Repurchase Agreements

The Company may enter into reverse repurchase agreements with third-party broker-dealers whereby it purchases U.S. Treasury securities under agreements to resell at an agreed-upon price and date. Generally, the Company may enter into reverse repurchase agreement transactions in order to effectively borrow U.S. Treasury securities that it can then deliver to counterparties to whom it has made short sales of the same securities, earn a yield on excess cash balances, or preserve existing repurchase agreements by substituting collateral. The Company accounts for these reverse repurchase agreements as securities borrowing transactions and records them at their contractual amounts, as specified in the respective agreements.

Repurchase Agreements

The Company may finance certain of its investment securities and MSR through the use of repurchase agreements. These repurchase agreements are generally short-term debt, which expire within one year. At times, certain of the Company's repurchase agreements may have contractual terms of greater than one year, and, thus, would be considered long-term debt. Borrowings under repurchase agreements generally bear interest rates based on an index plus a spread and are generally uncommitted. The repurchase agreements are treated as collateralized financing transactions and are carried at their contractual amounts, as specified in the respective agreements.

Revolving Credit Facilities

To finance MSR assets and related servicing advance obligations, the Company enters into revolving credit facilities collateralized by the value of the MSR and/or servicing advances pledged. Borrowings under these revolving credit facilities that expire within one year are considered short-term debt. As of December 31, 2023, the Company's revolving credit facilities that had contractual terms of greater than one year were considered long-term debt. The Company's revolving credit facilities generally bear interest rates based on an index plus a spread. Borrowings under revolving credit facilities are treated as collateralized financing transactions and are carried at contractual amounts, as specified in the respective agreements.

Term Notes Payable

Term notes payable related to the Company's consolidated securitization are recorded at outstanding principal balance, net of any unamortized deferred debt issuance costs, on the Company's consolidated balance sheets.

Convertible Senior Notes

Convertible senior notes include unsecured convertible debt that are carried at their unpaid principal balance, net of any unamortized deferred issuance costs, on the Company's consolidated balance sheet. Interest on the notes is payable semiannually until such time the notes mature or are converted into shares of the Company's common stock.

Accrued Interest Payable

Accrued interest payable represents interest that is due and payable to third parties. Interest is generally paid within 30 days to three months of recording the payable, based upon the Company's remittance requirements.

TWO HARBORS INVESTMENT CORP.
Notes to the Consolidated Financial Statements

Deferred Tax Assets and Liabilities

Income recognition for U.S. GAAP and tax differ in certain respects. These differences often reflect differing accounting treatments for tax and U.S. GAAP, such as accounting for discount and premium amortization, credit losses, asset impairments, recognition of certain operating expenses and certain valuation estimates. Some of these differences are temporary in nature and create timing mismatches between when taxable income is earned and the tax is paid versus when the earnings (losses) for U.S. GAAP purposes, or GAAP net (loss) income, are recognized and the tax provision is recorded. Some of these differences are permanent since certain income (or expense) may be recorded for tax purposes but not for U.S. GAAP purposes (or vice versa). One such significant permanent difference is the Company's ability as a REIT to deduct dividends paid to stockholders as an expense for tax purposes, but not for U.S. GAAP purposes.

As a result of these temporary differences, the Company's TRSs may recognize taxable income in periods prior or subsequent to when it recognizes income for U.S. GAAP purposes. When this occurs, the TRSs pay or defer the tax liability and establish deferred tax assets or deferred tax liabilities, respectively, for U.S. GAAP purposes.

Deferred tax assets generally represent items that may be used as a tax deduction in a tax return in future years for which the Company has already recognized the tax benefit for U.S. GAAP purposes. The Company estimates, based on existence of sufficient evidence, the ability to realize the remainder of any deferred tax asset its TRSs recognize. Any adjustments to such estimates will be made in the period such determination is made. Deferred tax liabilities generally represent tax expense for which payment has been deferred or expense has already been taken as a deduction on the Company's tax return but has not yet been recognized as an expense for U.S. GAAP purposes. The Company's deferred tax assets and/or liabilities are generated solely by differences in GAAP net (loss) income and taxable income (loss) at our taxable subsidiaries. U.S. GAAP and tax differences in the REIT may create additional deferred tax assets and/or liabilities to the extent the Company does not distribute all of its taxable income.

Income Taxes

The Company has elected to be taxed as a REIT under the Code and the corresponding provisions of state law. To qualify as a REIT, the Company must distribute at least 90% of its annual REIT taxable income to stockholders (not including taxable income retained in its taxable subsidiaries) within the time frame set forth in the tax Code and the Company must also meet certain other requirements. In addition, because certain activities, if performed by the Company, may cause the Company to earn income which is not qualifying for the REIT gross income tests, the Company has formed TRSs, as defined in the Code, to engage in such activities. These TRSs' activities are subject to income taxes as well as any REIT taxable income not distributed to stockholders.

The Company assesses its tax positions for all open tax years and determines whether the Company has any material unrecognized liabilities in accordance with ASC 740, *Income Taxes*. The Company records these liabilities to the extent the Company deems them more likely than not to be incurred. The Company classifies interest and penalties on material uncertain tax positions as interest expense and operating expense, respectively, in its consolidated statements of comprehensive loss.

Other Comprehensive Income (Loss)

Current period net unrealized gains and losses on AFS securities, excluding certain AFS securities for which the Company has elected the fair value option, are reported as components of accumulated other comprehensive loss on its consolidated statements of stockholders' equity and in the consolidated statements of comprehensive loss. Net unrealized gains and losses on securities held by the Company's taxable subsidiaries that are reported in accumulated other comprehensive loss are adjusted for the effects of taxation and may create deferred tax assets or liabilities.

Earnings Per Share

The Company's common stock, par value and shares issued and outstanding, includes issued and unvested shares of restricted common stock, which have full rights to the common stock dividend declarations of the Company. Common shares underlying certain other equity-based awards granted by the Company are not included in common stock until the awards vest. If these awards have non-forfeitable dividend participation rights, they are considered participating securities in the calculations of basic and diluted (loss) earnings per share.

Basic (loss) earnings per share is computed by dividing net (loss) income attributable to common stockholders, less income allocated to participating securities pursuant to the two-class method, by the weighted average number of common shares outstanding during the period. Diluted (loss) earnings per share is computed by dividing basic net (loss) income attributable to common stockholders by the weighted average number of common shares outstanding during the period, further adjusted for the dilutive effect, if any, of share-based payment awards and the assumed conversion of convertible notes into common shares.

TWO HARBORS INVESTMENT CORP.
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Unvested equity-based awards are included in the calculation of diluted (loss) earnings per share under either the two-class method or the treasury stock method, depending upon which method produces the more dilutive result. The two-class method is an earnings allocation formula under which (loss) earnings per share is calculated for common stock and participating securities according to dividends declared and participating rights in undistributed earnings. Under this method, all earnings (distributed and undistributed) are allocated between participating securities and common shares based on their respective rights to receive dividends or dividend equivalents. Under the treasury stock method, common equivalent shares are calculated assuming that any share-based payment awards vest according to their respective agreements and unrecognized compensation cost is used to repurchase shares of the Company's outstanding common stock at the average market price during the reported period. Under the if-converted method, the assumed conversion of each convertible note into common shares is calculated by adding back the respective periodic interest expense (net of any tax effects) associated with dilutive convertible notes to net (loss) income attributable to common stockholders and adding the shares issued in an assumed conversion to the diluted weighted average share count.

Equity Incentive Plans

The Company's Second Restated 2009 Equity Incentive Plan, or the 2009 Plan, and the Company's 2021 Equity Incentive Plan, or the 2021 Plan, or collectively, the Equity Incentive Plans, provide incentive compensation to attract and retain qualified directors, officers, personnel and other parties who may provide significant services to the Company. The Equity Incentive Plans are administered by the compensation committee of the Company's board of directors. The Equity Incentive Plans permit the 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. See Note 18 - *Equity Incentive Plans* for further details regarding the Equity Incentive Plans.

Equity-based compensation costs are initially measured at the estimated fair value of the awards on the grant date. Valuation methods used and subsequent expense recognition is dependent upon each award's service and performance conditions. The Company has elected not to estimate forfeitures when valuing equity-based awards and adjusts compensation costs as actual forfeitures occur. Compensation costs for equity-based awards subject only to service conditions are measured at the closing stock price on the grant date and are recognized as expense on a straight-line basis over the requisite service periods for the awards, adjusted for any forfeitures. Compensation costs for equity-based awards subject to market-based performance metrics are measured at the grant date using Monte Carlo simulations which incorporate assumptions for stock return volatility, dividend yield and risk-free interest rates. These initial valuation amounts are recognized as expense over the requisite performance periods, subject to adjustments only for actual forfeitures. Amortization of equity-based awards (non-cash equity compensation expense) is included within compensation and benefits on the consolidated statements of comprehensive loss.

Recently Issued and/or Adopted Accounting Standards

Facilitation of the Effects of Reference Rate Reform on Financial Reporting

The London Interbank Offered Rate, or LIBOR, has been used extensively in the U.S. and globally as a "benchmark" or "reference rate" for various commercial and financial contracts, including corporate and municipal bonds and loans, floating rate mortgages, asset-backed securities, consumer loans, and interest rate swaps and other derivatives. On March 5, 2021, Intercontinental Exchange Inc. announced that ICE Benchmark Administration Limited, the administrator of LIBOR, intended to stop publication of the majority of USD-LIBOR tenors on June 30, 2023. In the U.S., the Alternative Reference Rates Committee, or ARRC, has identified the Secured Overnight Financing Rate, or SOFR, and, in some cases, the forward-looking term rate based on SOFR published by CME Group Benchmark Administration Limited, or Term SOFR, plus, in each case, a recommended spread adjustment, as its preferred alternative rates for U.S. dollar-based LIBOR. SOFR is a measure of the cost of borrowing cash overnight, collateralized by U.S. Treasury securities, and is based on directly observable U.S. Treasury-backed repurchase transactions. Numerous industry wide and company-specific transitions as it relates to derivatives and cash markets exposed to LIBOR were completed in connection with its phase-out on June 30, 2023.

In March 2020, the FASB issued Accounting Standards Update (ASU) No. 2020-04, which provides temporary optional expedients and exceptions on accounting for contract modifications and hedging relationships for the purpose of the replacement of LIBOR with another reference rate. The guidance also provides a one-time election to sell held-to-maturity debt securities or to transfer such securities to the available-for-sale or trading category. The Company's material contracts that are or were indexed to USD-LIBOR have been amended to transition to an alternative benchmark, where necessary. Any other unmodified agreements that incorporate LIBOR as the referenced rate either (i) already had provisions in place that provide for an alternative to LIBOR upon its phase-out or that are governed by the Adjustable Interest Rate (LIBOR) Act, or the LIBOR Act, (ii) matured or (iii) were terminated prior to June 30, 2023. The ASU was effective immediately for all entities and expires after December 31, 2024. The Company's adoption of this ASU did not have an impact on the Company's financial condition, results of operations or financial statement disclosures.

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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 determined this ASU will 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.

TWO HARBORS INVESTMENT CORP.
Notes to the Consolidated Financial Statements

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 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.

(in thousands)	December 31, 2023		
	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 consolidated statements of comprehensive loss. During the years ended December 31, 2023 and 2022, the Company recognized \$1.3 million and \$0.8 million, respectively, of acquisition-related costs. The Company did not recognize any acquisition-related costs during the year ended December 31, 2021.

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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 December 31, 2023. 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 years ended December 31, 2023 and 2022 prepared as if the RoundPoint acquisition had been consummated on January 1, 2022.

(in thousands)	Year Ended December 31,	
	2023	2022
Revenue ⁽¹⁾	\$ 806,945	\$ 889,186
(Loss) income before income taxes	\$ (104,823)	\$ 260,023

(1) The Company's revenue is defined as the sum of the interest income, servicing income and total other income line items on the consolidated statements of comprehensive 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, 2022.

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 \$23.9 million and \$2.0 million during the years ended December 31, 2023 and 2022. These subservicing expenses are included within the servicing costs line item on the Company's consolidated statements of comprehensive 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.

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Notes to the Consolidated Financial Statements

The following table presents a summary of the assets and liabilities of all consolidated trusts as reported on the consolidated balance sheets as of December 31, 2023 and December 31, 2022:

(in thousands)	December 31, 2023	December 31, 2022
Note receivable ⁽¹⁾	\$ 399,317	\$ 398,011
Restricted cash	45,642	31,691
Accrued interest receivable ⁽¹⁾	551	400
Other assets	79,749	67,819
Total Assets	\$ 525,259	\$ 497,921
Term notes payable	\$ 399,317	\$ 398,011
Revolving credit facilities	34,300	23,850
Accrued interest payable	816	560
Other liabilities	45,377	31,531
Total Liabilities	\$ 479,810	\$ 453,952

(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 consolidated balance sheets. The following table presents the Company's AFS investment securities by collateral type as of December 31, 2023 and December 31, 2022:

(in thousands)	December 31, 2023	December 31, 2022
Agency:		
Federal National Mortgage Association	\$ 5,467,684	\$ 4,112,556
Federal Home Loan Mortgage Corporation	2,790,662	3,332,314
Government National Mortgage Association	64,653	208,706
Non-Agency	4,150	125,158
Total available-for-sale securities	\$ 8,327,149	\$ 7,778,734

At December 31, 2023 and December 31, 2022, the Company pledged AFS securities with a carrying value of \$8.1 billion and \$7.4 billion, respectively, as collateral for repurchase agreements. See Note 12 - *Repurchase Agreements*.

At December 31, 2023 and December 31, 2022, 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.

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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 consolidated balance sheets. As of December 31, 2023 and December 31, 2022, the carrying value, which also represents the maximum exposure to loss, of all non-Agency securities in unconsolidated VIEs was \$4.2 million and \$125.2 million, respectively.

The following tables present the amortized cost and carrying value of AFS securities by collateral type as of December 31, 2023 and December 31, 2022:

		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

		December 31, 2022						
(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	\$ 7,781,277	\$ 189,246	\$ (33,413)	\$ 7,937,110	\$ —	\$ 6,310	\$ (325,960)	\$ 7,617,460
Interest-only	963,866	45,882	—	45,882	(6,785)	1,890	(4,871)	36,116
Total Agency	8,745,143	235,128	(33,413)	7,982,992	(6,785)	8,200	(330,831)	7,653,576
Non-Agency	1,263,789	8,511	(225)	131,635	(173)	545	(6,849)	125,158
Total	\$ 10,008,932	\$ 243,639	\$ (33,638)	\$ 8,114,627	\$ (6,958)	\$ 8,745	\$ (337,680)	\$ 7,778,734

The following table presents the Company's AFS securities according to their estimated weighted average life classifications as of December 31, 2023:

		December 31, 2023		
(in thousands)	Agency	Non-Agency	Total	
< 1 year	\$ 86	\$ —	\$ 86	
≥ 1 and < 3 years	17,577	—	17,577	
≥ 3 and < 5 years	261,625	—	261,625	
≥ 5 and < 10 years	6,844,418	3,818	6,848,236	
≥ 10 years	1,199,293	332	1,199,625	
Total	\$ 8,322,999	\$ 4,150	\$ 8,327,149	

TWO HARBORS INVESTMENT CORP.
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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 tables present the changes for the years ended December 31, 2023, 2022 and 2021 in the allowance for credit losses on Agency and non-Agency AFS securities:

(in thousands)	Year Ended December 31, 2023		
	Agency	Non-Agency	Total
Allowance for credit losses at beginning of period	\$ (6,785)	\$ (173)	\$ (6,958)
Additions on securities for which credit losses were not previously recorded	(55)	(370)	(425)
(Increase) decrease on securities with previously recorded credit losses	965	5	970
Write-offs	2,256	214	2,470
Allowance for credit losses at end of period	\$ (3,619)	\$ (324)	\$ (3,943)

(in thousands)	Year Ended December 31, 2022		
	Agency	Non-Agency	Total
Allowance for credit losses at beginning of period	\$ (12,851)	\$ (1,387)	\$ (14,238)
Additions on securities for which credit losses were not previously recorded	(482)	(501)	(983)
(Increase) decrease on securities with previously recorded credit losses	(3,462)	1,715	(1,747)
Write-offs	10,010	—	10,010
Allowance for credit losses at end of period	\$ (6,785)	\$ (173)	\$ (6,958)

(in thousands)	Year Ended December 31, 2021		
	Agency	Non-Agency	Total
Allowance for credit losses at beginning of period	\$ (17,889)	\$ (4,639)	\$ (22,528)
Additions on securities for which credit losses were not previously recorded	(190)	(4,365)	(4,555)
Increase on securities with previously recorded credit losses	(4,542)	(666)	(5,208)
Write-offs	9,770	8,283	18,053
Allowance for credit losses at end of period	\$ (12,851)	\$ (1,387)	\$ (14,238)

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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 December 31, 2023 and December 31, 2022. At December 31, 2023 and December 31, 2022, the Company held 646 and 704 AFS securities, respectively; of the securities for which an allowance for credit losses has not been recorded, 477 and 553 were in an unrealized loss position for less than twelve consecutive months. At both December 31, 2023 and December 31, 2022, 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.

(in thousands)	December 31, 2023					
	Less than 12 Months		Unrealized Loss Position for 12 Months or More		Total	
	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)

(in thousands)	December 31, 2022					
	Less than 12 Months		Unrealized Loss Position for 12 Months or More		Total	
	Estimated Fair Value	Gross Unrealized Losses	Estimated Fair Value	Gross Unrealized Losses	Estimated Fair Value	Gross Unrealized Losses
Agency	\$ 7,168,694	\$ (328,258)	\$ —	\$ —	\$ 7,168,694	\$ (328,258)
Non-Agency	117,816	(5,933)	—	—	117,816	(5,933)
Total	\$ 7,286,510	\$ (334,191)	\$ —	\$ —	\$ 7,286,510	\$ (334,191)

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 consolidated statements of comprehensive loss. The following table presents details around sales of AFS securities during the years ended December 31, 2023, 2022 and 2021:

(in thousands)	Year Ended December 31,		
	2023	2022	2021
Proceeds from sales of available-for-sale securities	\$ 2,673,827	\$ 7,793,705	\$ 6,274,193
Amortized cost of available-for-sale securities sold	(2,792,703)	(8,359,967)	(6,137,824)
Total realized (losses) gains on sales, net	\$ (118,876)	\$ (566,262)	\$ 136,369
Gross realized gains	\$ 16,285	\$ 40,574	\$ 167,269
Gross realized losses	(135,161)	(606,836)	(30,900)
Total realized (losses) gains on sales, net	\$ (118,876)	\$ (566,262)	\$ 136,369

TWO HARBORS INVESTMENT CORP.
Notes to the Consolidated Financial Statements

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 years ended December 31, 2023, 2022 and 2021.

(in thousands)	Year Ended December 31,		
	2023	2022	2021
Balance at beginning of period	\$ 2,984,937	\$ 2,191,578	\$ 1,596,153
Purchases of mortgage servicing rights	317,194	640,051	777,305
Sales of mortgage servicing rights ⁽¹⁾	(115,754)	(259,059)	(43,411)
Changes in fair value due to:			
Changes in valuation inputs or assumptions used in the valuation model ⁽²⁾	97,859	793,631	562,843
Other changes in fair value ⁽³⁾	(227,663)	(371,023)	(666,160)
Other changes ⁽⁴⁾	(4,557)	(10,241)	(35,152)
Balance at end of period ⁽⁵⁾	\$ 3,052,016	\$ 2,984,937	\$ 2,191,578

(1) During the year ended December 31, 2023, excess MSR was transferred to Agency-sponsored trusts in exchange for stripped mortgage backed securities, or SMBS. In each transaction, a portion of the SMBS was acquired by third parties and the Company acquired the remaining balance of those SMBS, which are included within Agency AFS securities unless sold prior to December 31, 2023.

(2) Includes the impact of acquiring MSR at a cost different from fair value.

(3) Primarily represents changes due to the realization of cash flows.

(4) Includes purchase price adjustments, contractual prepayment protection, and changes due to the Company's purchase of the underlying collateral.

(5) Based on the principal balance of the loans underlying the MSR reported by servicers on a month lag, adjusted for current month purchases.

At December 31, 2023 and December 31, 2022, 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*.

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As of December 31, 2023 and December 31, 2022, 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)	December 31, 2023	December 31, 2022
Weighted average prepayment speed:	6.2 %	6.9 %
Impact on fair value of 10% adverse change	\$ (74,042)	\$ (50,192)
Impact on fair value of 20% adverse change	\$ (146,237)	\$ (100,995)
Weighted average delinquency:	0.9 %	0.9 %
Impact on fair value of 10% adverse change	\$ (4,654)	\$ (3,880)
Impact on fair value of 20% adverse change	\$ (12,376)	\$ (7,777)
Weighted average option-adjusted spread:	5.3 %	5.3 %
Impact on fair value of 10% adverse change	\$ (59,285)	\$ (44,431)
Impact on fair value of 20% adverse change	\$ (119,776)	\$ (87,354)
Weighted average per loan annual cost to service:	68.27	67.92
Impact on fair value of 10% adverse change	\$ (24,111)	\$ (20,148)
Impact on fair value of 20% adverse change	\$ (48,985)	\$ (39,401)

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 consolidated statements of comprehensive loss for the years ended December 31, 2023, 2022 and 2021:

(in thousands)	Year Ended December 31,		
	2023	2022	2021
Servicing fee income	\$ 555,221	\$ 564,923	\$ 461,381
Ancillary and other fee income	5,149	1,932	2,436
Float income	125,407	37,056	4,589
Total	<u>\$ 685,777</u>	<u>\$ 603,911</u>	<u>\$ 468,406</u>

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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 \$143.2 million and \$119.0 million and were included in other assets on the consolidated balance sheets as of December 31, 2023 and December 31, 2022, respectively. At December 31, 2023 and December 31, 2022, mortgage loans in 60+ day delinquent status (whether or not subject to forbearance) accounted for approximately 0.7% and 0.8%, 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 December 31, 2023 and December 31, 2022, the Company had pledged servicing advances with a carrying value of \$79.7 million and \$67.8 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 December 31, 2023 and December 31, 2022:

(in thousands)	December 31, 2023	December 31, 2022
Restricted cash balances held by trading counterparties:		
For securities trading activity	\$ 450	\$ 2,202
For derivatives trading activity	1,669	79,220
For servicing activities	50,345	36,690
As restricted collateral for borrowings	12,575	324,854
Total restricted cash balances held by trading counterparties	65,039	442,966
Restricted cash balance pursuant to letter of credit on office lease	62	60
Total	\$ 65,101	\$ 443,026

The following table provides a reconciliation of cash, cash equivalents, and restricted cash reported on the Company's consolidated balance sheets as of December 31, 2023 and December 31, 2022 that sum to the total of the same such amounts shown in the statements of cash flows:

(in thousands)	December 31, 2023	December 31, 2022
Cash and cash equivalents	\$ 729,732	\$ 683,479
Restricted cash	65,101	443,026
Total cash, cash equivalents and restricted cash	\$ 794,833	\$ 1,126,505

TWO HARBORS INVESTMENT CORP.
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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 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 December 31, 2023 and December 31, 2022:

(in thousands)	December 31, 2023			
	Derivative Assets		Derivative Liabilities	
	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

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(in thousands)	December 31, 2022			
	Derivative Assets		Derivative Liabilities	
	Fair Value	Notional	Fair Value	Notional
Inverse interest-only securities	\$ 15,293	\$ 196,456	\$ —	\$ —
Interest rate swap agreements	—	—	—	—
Swaptions, net	—	—	—	—
TBAs	11,145	(650,000)	(34,048)	4,476,000
Futures, net	—	(18,285,452)	—	—
Total	<u>\$ 26,438</u>	<u>\$ (18,738,996)</u>	<u>\$ (34,048)</u>	<u>\$ 4,476,000</u>

Comprehensive 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 consolidated statements of comprehensive loss:

(in thousands)	Derivative Instruments	Location of Gain (Loss) Recognized in Income	Amount of Gain (Loss) Recognized in Income		
			Year Ended		
			December 31,		
			2023	2022	2021
Interest rate risk management:					
	TBAs	(Loss) gain on other derivative instruments	\$ (155,942)	\$ (487,713)	\$ (193,479)
	Futures	(Loss) gain on other derivative instruments	(8,973)	514,467	(49,213)
	Options on TBAs	(Loss) gain on other derivative instruments	—	—	(5,683)
	Options on futures	(Loss) gain on other derivative instruments	(779)	(2,224)	—
	Interest rate swaps - Payers	(Loss) gain on interest rate swap, cap and swaption agreements	(53,263)	772,829	92,317
	Interest rate swaps - Receivers	(Loss) gain on interest rate swap, cap and swaption agreements	526	(756,744)	(66,828)
	Swaptions	(Loss) gain on interest rate swap, cap and swaption agreements	(209)	13,414	16,602
Non-risk management:					
	Inverse interest-only securities	(Loss) gain on other derivative instruments	(516)	(15,220)	(2,908)
	Total		<u>\$ (219,156)</u>	<u>\$ 38,809</u>	<u>\$ (209,192)</u>

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For the years ended December 31, 2023, 2022 and 2021, the Company recognized \$21.4 million of income, \$4.8 million of expense, and \$14.3 million of income, respectively, for the accrual and/or settlement of the net interest expense associated with its interest rate swaps and caps. 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 \$8.0 billion, \$12.4 billion and \$15.9 billion notional, respectively.

The following tables present information with respect to the volume of activity in the Company's derivative instruments during the years ended December 31, 2023 and 2022:

(in thousands)	Year Ended December 31, 2023					
	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	\$ —	\$ (32,721)	\$ 163,735	\$ 180,080	\$ —
Interest rate swap agreements	—	22,600,456	(4,812,342)	17,788,114	7,974,494	(36,114)
Swaptions, net	—	(400,000)	200,000	(200,000)	(161,644)	(80)
TBAs, net	3,826,000	42,018,000	(42,347,000)	3,497,000	3,016,532	(230,319)
Futures, net	(18,285,452)	(35,976,130)	48,058,532	(6,203,050)	(9,085,474)	167,235
Options on futures, net	—	—	—	—	—	(779)
Total	\$ (14,262,996)	\$ 28,242,326	\$ 1,066,469	\$ 15,045,799	\$ 1,923,988	\$ (100,057)

(in thousands)	Year Ended December 31, 2022					
	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	\$ 247,101	\$ —	\$ (50,645)	\$ 196,456	\$ 219,813	\$ —
Interest rate swap agreements	20,387,300	22,398,148	(42,785,448)	—	12,424,320	29,543
Swaptions, net	(1,761,000)	(1,000,000)	2,761,000	—	(1,274,101)	13,654
TBAs, net	4,116,000	69,828,000	(70,118,000)	3,826,000	4,743,504	(463,320)
Futures, net	(5,829,600)	(68,777,002)	56,321,150	(18,285,452)	(13,921,620)	487,267
Options on futures, net	—	2,000	(2,000)	—	416	(2,224)
Total	\$ 17,159,801	\$ 22,451,146	\$ (53,873,943)	\$ (14,262,996)	\$ 2,192,332	\$ 64,920

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

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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 December 31, 2023 and December 31, 2022, the Company had \$41.9 million and \$23.8 million, respectively, of interest-only securities, and \$3.1 billion and \$3.0 billion, respectively, of MSR. Interest-only securities are included in AFS securities, at fair value, in the consolidated balance sheets.

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.

The Company's derivative contracts that were indexed to USD-LIBOR have been amended to transition to an alternative benchmark, where necessary. Any other unmodified agreements that incorporate LIBOR as the referenced rate either (i) already had provisions in place that provide for an alternative to LIBOR upon its phase-out, (ii) matured or (iii) were terminated prior to June 30, 2023. See Note 2 - *Basis of Presentation and Significant Accounting Policies* for further discussion of the transition away from LIBOR.

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 December 31, 2023 and December 31, 2022:

(in thousands)	December 31, 2023			Net Carrying Value ⁽⁴⁾	
	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	<u>\$ 3,497,000</u>	<u>\$ 3,170,548</u>	<u>\$ 3,222,022</u>	<u>\$ 72,980</u>	<u>\$ (21,506)</u>

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(in thousands)	December 31, 2022				
	Notional Amount ⁽¹⁾	Cost Basis ⁽²⁾	Market Value ⁽³⁾	Net Carrying Value ⁽⁴⁾	
				Derivative Assets	Derivative Liabilities
Purchase contracts	\$ 4,826,000	\$ 4,802,009	\$ 4,767,989	\$ 28	\$ (34,048)
Sale contracts	(1,000,000)	(878,711)	(867,594)	11,117	—
TBAs, net	\$ 3,826,000	\$ 3,923,298	\$ 3,900,395	\$ 11,145	\$ (34,048)

(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 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 December 31, 2023 and December 31, 2022:

(dollars in thousands)	December 31, 2023			December 31, 2022		
	Type & Maturity	Notional Amount	Carrying Value	Weighted Average Days to Expiration	Notional Amount	Carrying Value
U.S. Treasury futures - 2 year	\$ (549,600)	\$ —	88	\$ (562,200)	\$ —	95
U.S. Treasury futures - 5 year	(1,876,700)	—	88	(3,855,500)	—	95
U.S. Treasury futures - 10 year	(983,300)	—	79	(2,397,200)	—	90
U.S. Treasury futures - 20 year	(388,200)	—	79	101,000	—	90
Federal Funds futures	—	—	0	(7,948,552)	—	92
SOFR/Eurodollar futures ⁽¹⁾						
≤ 1 year	(1,842,750)	—	184	(2,957,000)	—	184
> 1 and ≤ 2 years	(562,500)	—	534	(666,000)	—	489
Total futures	\$ (6,203,050)	\$ —	155	\$ (18,285,452)	\$ —	122

(1) During the three months ended June 30, 2023, all of the Company's outstanding Eurodollar futures contracts with maturities after June 30, 2023 were converted into three-month SOFR futures contracts with similar characteristics.

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Notes to the Consolidated Financial Statements

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. The Company did not hold any interest rate swaps as of December 31, 2022. As of 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)

December 31, 2023					
Swaps Maturities	Notional Amount ⁽¹⁾	Weighted Average Fixed Pay Rate ⁽²⁾	Weighted Average Receive Rate	Weighted Average Maturity (Years)	
2024	\$ —	— %	— %		0.00
2025	4,827,881	4.741 %	5.380 %		1.21
2026	1,968,891	4.087 %	5.380 %		2.01
2027	—	— %	— %		0.00
2028 and Thereafter	5,330,711	3.748 %	5.380 %		7.79
Total	<u>\$ 12,127,483</u>	4.245 %	5.380 %		3.87

(1) Notional amount includes \$1.1 billion in forward starting interest rate swaps as of December 31, 2023.

(2) Weighted averages exclude forward starting interest rate swaps. As of December 31, 2023, the weighted average fixed pay rate on forward starting interest rate swaps was 4.0%.

Additionally, as of 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)

December 31, 2023					
Swaps Maturities	Notional Amount ⁽¹⁾	Weighted Average Pay Rate ⁽²⁾	Weighted Average Fixed Receive Rate ⁽²⁾	Weighted Average Maturity (Years) ⁽²⁾	
2024	\$ —	— %	— %		0.00
2025	3,116,045	5.380 %	4.204 %		1.36
2026	—	— %	— %		0.00
2027	260,000	5.380 %	3.328 %		3.75
2028 and Thereafter	2,284,586	5.380 %	3.970 %		9.09
Total	<u>\$ 5,660,631</u>	5.380 %	4.052 %		5.00

(1) Notional amount includes \$645.2 million in forward starting interest rate swaps as of December 31, 2023.

(2) Weighted averages exclude forward starting interest rate swaps. As of December 31, 2023, the weighted average fixed receive rate on forward starting interest rate swaps was 4.4%.

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Notes to the Consolidated Financial Statements

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 December 31, 2022. As of December 31, 2023, the Company had the following outstanding interest rate swaptions:

(notional and dollars in thousands)	December 31, 2023						
	Swaption	Option			Average Months to Expiration	Underlying Swap	
Expiration		Cost Basis	Fair Value	Notional Amount		Average Fixed Rate ⁽¹⁾	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

(1) As of December 31, 2023, all underlying swap floating rates were tied to SOFR.

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 December 31, 2023, the fair value of derivative financial instruments as an asset and liability position was \$85.3 million and \$21.5 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.

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Notes to the Consolidated Financial Statements

Note 9. Reverse Repurchase Agreements

As of December 31, 2023 and December 31, 2022, the Company had \$286.1 million and \$189.5 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 \$284.1 million and \$189.3 million, respectively. Additionally, as of December 31, 2022, the Company had entered into \$877.6 million in reverse repurchase agreements in order to effectively borrow U.S. Treasury securities and pledge them as collateral for \$888.3 million of repurchase agreements (see Note 12 - *Repurchase Agreements* for further detail). These reverse repurchase agreements had the same maturities as the corresponding repurchase agreements, which were all short term as of December 31, 2022. As of December 31, 2023, the Company had no reverse repurchase agreements in place to effectively borrow U.S. Treasury securities and pledge them as collateral for repurchase agreements.

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 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 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 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 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 consolidated balance sheets.

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Notes to the Consolidated Financial Statements

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 consolidated balance sheets as of December 31, 2023 and December 31, 2022:

		December 31, 2023					
				Gross Amounts Not Offset with Financial Assets (Liabilities) in the Balance Sheets			
(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	\$ 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	\$ —	\$ —	
		December 31, 2022					
				Gross Amounts Not Offset with Financial Assets (Liabilities) in the Balance Sheets			
(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	\$ 98,609	\$ (72,171)	\$ 26,438	\$ (26,438)	\$ —	\$ —	
Reverse repurchase agreements	1,066,935	—	1,066,935	(888,295)	(178,640)	—	
Total Assets	\$ 1,165,544	\$ (72,171)	\$ 1,093,373	\$ (914,733)	\$ (178,640)	\$ —	
Liabilities:							
Repurchase agreements	\$ (8,603,011)	\$ —	\$ (8,603,011)	\$ 8,603,011	\$ —	\$ —	
Derivative liabilities	(106,219)	72,171	(34,048)	26,438	—	(7,610)	
Total Liabilities	\$ (8,709,230)	\$ 72,171	\$ (8,637,059)	\$ 8,629,449	\$ —	\$ (7,610)	

(1) Amounts presented are limited in total to the net amount of assets or liabilities presented in the 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 consolidated balance sheets.

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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 consolidated balance sheets and primarily comprised of Agency and non-Agency investment securities. The Company determines the fair value of its Agency securities 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 December 31, 2023.

Mortgage servicing rights. The Company holds a portfolio of MSR that are carried at fair value on the 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 December 31, 2023.

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 and swaptions reported at fair value as Level 2 at December 31, 2023.

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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 December 31, 2023. 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 December 31, 2023. The Company did not hold any options on futures at December 31, 2023.

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.

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				
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

Recurring Fair Value Measurements				
December 31, 2022				
(in thousands)	Level 1	Level 2	Level 3	Total
Assets:				
Available-for-sale securities	\$ —	\$ 7,653,576	\$ 125,158	\$ 7,778,734
Mortgage servicing rights	—	—	2,984,937	2,984,937
Derivative assets	11,145	15,293	—	26,438
Total assets	\$ 11,145	\$ 7,668,869	\$ 3,110,095	\$ 10,790,109
Liabilities:				
Derivative liabilities	\$ 34,048	\$ —	\$ —	\$ 34,048
Total liabilities	\$ 34,048	\$ —	\$ —	\$ 34,048

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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 December 31, 2023, 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 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.

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

(in thousands)	Year Ended			
	December 31, 2023		December 31, 2022	
	Available-For-Sale Securities	Mortgage Servicing Rights	Available-For-Sale Securities	Mortgage Servicing Rights
Beginning of period level 3 fair value	\$ 125,158	\$ 2,984,937	\$ 12,304	\$ 2,191,578
Gains (losses) included in net (loss) income:				
Realized	(1,408)	(209,479)	(1,405)	(368,255)
Unrealized	4,817 ⁽¹⁾	97,859 ⁽²⁾	(3,632) ⁽¹⁾	793,631 ⁽²⁾
Reversal of provision for credit losses	(146)	—	1,213	—
Net gains (losses) included in net (loss) income	3,263	(111,620)	(3,824)	425,376
Other comprehensive income	1,112	—	1,023	—
Purchases	—	317,194	122,030	640,051
Sales	(125,383)	(133,938)	(6,375)	(261,827)
Settlements	—	(4,557)	—	(10,241)
Gross transfers into level 3	—	—	—	—
Gross transfers out of level 3	—	—	—	—
End of period level 3 fair value	\$ 4,150	\$ 3,052,016	\$ 125,158	\$ 2,984,937
Change in unrealized gains or losses for the period included in earnings for assets held at the end of the reporting period	\$ 1,112 ⁽³⁾	\$ 119,164 ⁽⁴⁾	\$ (4,535) ⁽³⁾	\$ 696,807 ⁽⁴⁾
Change in unrealized gains or losses for the period included in other comprehensive income (loss) for assets held at the end of the reporting period	\$ —	\$ —	\$ (3,512)	\$ —

(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 consolidated statements of comprehensive loss.

(2) The change in unrealized gains or losses on MSR was recorded in (loss) gain on servicing asset on the consolidated statements of comprehensive 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 consolidated statements of comprehensive loss.

(4) The change in unrealized gains or losses on MSR that were held at the end of the reporting period was recorded in (loss) gain on servicing asset on the consolidated statements of comprehensive loss.

No transfers between Level 1, Level 2 or Level 3 were made during the years ended December 31, 2023 and 2022. 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.

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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 December 31, 2023 and December 31, 2022:

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
December 31, 2022					
Valuation Technique	Unobservable Input	Range			Weighted Average ⁽¹⁾
Discounted cash flow	Constant prepayment speed	6.2%	-	7.6%	6.9%
	Option-adjusted spread	5.1%	-	8.5%	5.3%
	Per loan annual cost to service	\$67.41	-	\$80.96	\$67.92

(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 years ended December 31, 2023, 2022 and 2021.

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 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 December 31, 2023, 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.

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- 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 December 31, 2023. 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 December 31, 2023 and December 31, 2022:

(in thousands)	December 31, 2023		December 31, 2022	
	Carrying Value	Fair Value	Carrying Value	Fair Value
Assets:				
Available-for-sale securities	\$ 8,327,149	\$ 8,327,149	\$ 7,778,734	\$ 7,778,734
Mortgage servicing rights	\$ 3,052,016	\$ 3,052,016	\$ 2,984,937	\$ 2,984,937
Cash and cash equivalents	\$ 729,732	\$ 729,732	\$ 683,479	\$ 683,479
Restricted cash	\$ 65,101	\$ 65,101	\$ 443,026	\$ 443,026
Derivative assets	\$ 85,291	\$ 85,291	\$ 26,438	\$ 26,438
Reverse repurchase agreements	\$ 284,091	\$ 284,091	\$ 1,066,935	\$ 1,066,935
Other assets	\$ 31,704	\$ 31,704	\$ 3,493	\$ 3,493
Liabilities:				
Repurchase agreements	\$ 8,020,207	\$ 8,020,207	\$ 8,603,011	\$ 8,603,011
Revolving credit facilities	\$ 1,329,171	\$ 1,329,171	\$ 1,118,831	\$ 1,118,831
Term notes payable	\$ 295,271	\$ 289,653	\$ 398,011	\$ 361,905
Convertible senior notes	\$ 268,582	\$ 254,232	\$ 282,496	\$ 246,727
Derivative liabilities	\$ 21,506	\$ 21,506	\$ 34,048	\$ 34,048

Note 12. Repurchase Agreements

As of December 31, 2023 and December 31, 2022, the Company had outstanding \$8.0 billion and \$8.6 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 5.74% and 3.95% and weighted average remaining maturities of 55 and 59 days as of December 31, 2023 and December 31, 2022, respectively. The Company's repurchase agreements that were indexed to USD-LIBOR have been amended to transition to an alternative benchmark, where necessary. Any other unmodified agreements that incorporate LIBOR as the referenced rate either (i) already had provisions in place that provide for an alternative to LIBOR upon its phase-out, (ii) matured or (iii) were terminated prior to June 30, 2023. See Note 2 - *Basis of Presentation and Significant Accounting Policies* for further discussion of the transition away from LIBOR.

At December 31, 2023 and December 31, 2022, the Company's repurchase agreements had the following characteristics and remaining maturities:

(in thousands)	December 31, 2023						Total Amount Outstanding
	Collateral Type						
	Agency RMBS	Non-Agency Securities	Agency Derivatives	Mortgage Servicing Rights	U.S. Treasuries ⁽¹⁾		
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 %

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December 31, 2022						
Collateral Type						
(in thousands)	Agency RMBS	Non-Agency Securities	Agency Derivatives	Mortgage Servicing Rights	U.S. Treasuries ⁽¹⁾	Total Amount Outstanding
Within 30 days	\$ 2,570,254	\$ 59,648	\$ 4,177	\$ —	\$ 57,116	\$ 2,691,195
30 to 59 days	1,774,622	10,984	—	—	375,131	2,160,737
60 to 89 days	2,280,675	177	503	—	255,282	2,536,637
90 to 119 days	696,283	—	8,393	—	200,766	905,442
120 to 364 days	—	—	—	309,000	—	309,000
Total	\$ 7,321,834	\$ 70,809	\$ 13,073	\$ 309,000	\$ 888,295	\$ 8,603,011
Weighted average borrowing rate	3.70 %	5.73 %	4.83 %	7.91 %	4.49 %	3.95 %

(1) U.S. Treasury securities effectively borrowed under reverse repurchase agreements.

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)	December 31, 2023	December 31, 2022
Available-for-sale securities, at fair value	\$ 8,126,028	\$ 7,426,953
Mortgage servicing rights, at fair value ⁽¹⁾	463,529	667,238
Restricted cash	12,375	324,654
Due from counterparties	36,420	22,055
Derivative assets, at fair value	11,877	14,738
U.S. Treasuries ⁽²⁾	—	877,632
Total	\$ 8,650,229	\$ 9,333,270

(1) As of December 31, 2023 and December 31, 2022, MSR repurchase agreements of \$214.0 million and \$309.0 million, respectively, were secured by a VFN issued in connection with the Company's securitization of MSR. Additionally, as of December 31, 2023, MSR repurchase agreements of \$58.6 million 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.

(2) U.S. Treasury securities effectively borrowed under reverse repurchase agreements.

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 December 31, 2023 and December 31, 2022, 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.

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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 December 31, 2023 and December 31, 2022, the Company had outstanding short- and long-term borrowings under revolving credit facilities of \$1.3 billion and \$1.1 billion with a weighted average borrowing rate of 8.66% and 7.68% and weighted average remaining maturities of 1.1 and 1.1 years, respectively. The Company's revolving credit facilities that were indexed to USD-LIBOR have been amended to transition to an alternative benchmark, where necessary. Any other unmodified agreements that incorporate LIBOR as the referenced rate either (i) already had provisions in place that provide for an alternative to LIBOR upon its phase-out, (ii) matured or (iii) were terminated prior to June 30, 2023. See Note 2 - *Basis of Presentation and Significant Accounting Policies* for further discussion of the transition away from LIBOR.

At December 31, 2023 and December 31, 2022, borrowings under revolving credit facilities had the following remaining maturities:

(in thousands)	December 31, 2023	December 31, 2022
Within 30 days	\$ —	\$ —
30 to 59 days	—	—
60 to 89 days	—	—
90 to 119 days	—	—
120 to 364 days	324,300	200,000
One year and over	1,004,871	918,831
Total	\$ 1,329,171	\$ 1,118,831

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 December 31, 2023 and December 31, 2022, MSR with a carrying value of \$2.2 billion and \$1.8 billion, respectively, was pledged as collateral for the Company's future payment obligations under its MSR revolving credit facilities. As of December 31, 2023 and December 31, 2022, servicing advances with a carrying value of \$79.7 million and \$67.8 million, respectively, were pledged as collateral for the Company's future payment obligations under its servicing advance revolving credit facility. 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 December 31, 2023 and \$400.0 million as of December 31, 2022, respectively, net of unamortized deferred debt issuance costs, on the Company's consolidated balance sheets. During the year ended December 31, 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 income (loss) line item on the consolidated statements of comprehensive loss. No notes were repurchased during the years ended December 31, 2022 and 2021. As of December 31, 2023 and December 31, 2022, the outstanding amount due on term notes payable was \$295.3 million and \$398.0 million, net of deferred debt issuance costs, with a weighted average interest rate of 8.27% and 7.19% and weighted average remaining maturities of 0.5 years and 1.5 years. The Company's term notes previously incorporated LIBOR as the referenced rate, which was replaced with Term SOFR, plus a spread adjustment, during the three months ended June 30, 2023. See Note 2 - *Basis of Presentation and Significant Accounting Policies* for further discussion of the transition away from LIBOR.

At December 31, 2023 and December 31, 2022, the Company pledged MSR with a carrying value of \$397.9 million and \$500.0 million and weighted average underlying loan coupon of 3.32% and 3.33%, respectively, as collateral for term notes payable. Additionally, as of December 31, 2023 and December 31, 2022, \$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.

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Note 15. Convertible Senior Notes

In February 2021, the Company closed an underwritten public offering of \$287.5 million aggregate principal amount of convertible senior notes due 2026, or the 2026 notes. The net proceeds from the offering were approximately \$279.9 million after deducting underwriting discounts and estimated offering expenses payable by the Company.

The 2026 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 December 31, 2023 and December 31, 2022, the 2026 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 2026 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 the 2026 notes prior to maturity, but may repurchase the 2026 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 year ended December 31, 2023, the Company repurchased \$15.6 million principal amount of its 2026 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 income (loss) line item on the consolidated statements of comprehensive loss. No notes were repurchased during the years ended December 31, 2022 and 2021.

As of December 31, 2023, \$271.9 million principal amount of the 2026 notes remained outstanding. The outstanding amount due on the 2026 notes as of December 31, 2023 and December 31, 2022 was \$268.6 million and \$282.5 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 December 31, 2023:

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.

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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 December 31, 2023, the Company’s 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 consolidated financial statements and therefore no accrual is required as of December 31, 2023.

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Notes to the Consolidated Financial Statements

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 December 31, 2023. 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
Series A	March 14, 2017	5,085,268	\$ 122,818	8.125 %	April 27, 2027	April 27, 2027	3M Rate + 5.660%
Series B	July 19, 2017	10,439,260	252,443	7.625 %	July 27, 2027	July 27, 2027	3M Rate + 5.352%
Series C	November 27, 2017	9,831,898	237,952	7.250 %	January 27, 2025	January 27, 2025	3M Rate + 5.011%
Total		<u>25,356,426</u>	<u>\$ 613,213</u>				

- (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 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 December 31, 2023, the Company had declared and paid all required quarterly dividends on the Company's preferred stock.

On February 4, 2021, the Company announced the redemption of all outstanding shares of the Company's 7.75% Series D Cumulative Redeemable Preferred Stock and 7.5% Series E Cumulative Redeemable Preferred Stock. The redemption date for each series was March 15, 2021 and holders of record as of such date received the redemption payment of \$25.00, plus any accumulated and unpaid dividends thereon up to, but excluding, the redemption date.

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Preferred Share Repurchase Program

On June 22, 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 December 31, 2023, a total of 664,732 shares of the Company's 8.125% Series A Cumulative Redeemable Preferred Stock, 1,060,740 shares of the Company's 7.625% Series B Cumulative Redeemable Preferred Stock and 1,968,102 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 \$12.5 million, \$19.1 million and \$34.6 million, respectively, of which 236,183, 273,894 and 225,547 shares were repurchased for a total cost of \$4.7 million, \$5.3 million and \$4.7 million, respectively, during the year ended December 31, 2023. During the year ended December 31, 2022, the Company repurchased 428,549 shares of Series A preferred stock, 786,846 shares of Series B preferred stock and 1,742,555 shares of Series C preferred stock for a total cost of \$7.8 million, \$13.8 million and \$29.8 million, respectively. The difference between the consideration transferred and the carrying value of the preferred stock repurchased resulted in a gain attributable to common stockholders of \$3.0 million and \$20.1 million for the years ended December 31, 2023 and 2022, respectively.

Common Stock

Reverse Stock Split

On September 21, 2022, the Company's board of directors approved a one-for-four reverse stock split of its outstanding shares of common stock. The reverse stock split was effected on November 1, 2022 at 5:01 p.m. Eastern Time. At the effective time, every four issued and outstanding shares of the Company's common stock were converted into one share of common stock. No fractional shares were issued in connection with the reverse stock split; instead, each stockholder holding fractional shares was entitled to receive, in lieu of such fractional shares, cash in an amount determined on the basis of the volume weighted average price of the Company's common stock on the NYSE on November 1, 2022. In connection with the reverse stock split, the number of authorized shares of the Company's common stock was also reduced on a one-for-four basis, from 700,000,000 to 175,000,000. The par value of each share of common stock remained unchanged. All per share amounts, common shares outstanding and common equity-based awards for all periods presented have been adjusted on a retroactive basis to reflect the reverse stock split.

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.

On October 28, 2021, the Company completed a public offering of 7,500,000 shares of its common stock. The underwriters purchased the shares from the Company at a price of \$25.872 per share, for net proceeds to the Company of approximately \$193.7 million after deducting offering expenses. The underwriters did not exercise any portion of their 30-day overallotment option to purchase up to 1,125,000 additional shares.

On July 14, 2021, 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 \$25.68 per share, for net proceeds to the Company of approximately \$256.5 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.

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As of December 31, 2023, the Company had 103,206,457 shares of common stock outstanding. The following table presents a reconciliation of the common shares outstanding for the years ended December 31, 2023, 2022 and 2021:

	Number of common shares
Common shares outstanding, December 31, 2020	68,425,971
Issuance of common stock	17,516,255
Non-cash equity award compensation ⁽¹⁾	35,606
Common shares outstanding, December 31, 2021	85,977,831
Issuance of common stock	324,896
Non-cash equity award compensation ⁽¹⁾	126,118
Common shares outstanding, December 31, 2022	86,428,845
Issuance of common stock	17,149,490
Repurchase of common stock	(593,453)
Non-cash equity award compensation ⁽¹⁾	221,575
Common shares outstanding, December 31, 2023	103,206,457

(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 years ended December 31, 2023, 2022 and 2021:

(dollars in thousands)	Year Ended					
	December 31,					
	2023		2022		2021	
Class of Stock	Amount	Per Share	Amount	Per Share	Amount	Per Share
Series A Preferred Stock	\$ 10,460	\$ 2.04	\$ 11,462	\$ 2.04	\$ 11,680	\$ 2.04
Series B Preferred Stock	\$ 20,087	\$ 1.92	\$ 21,547	\$ 1.92	\$ 21,921	\$ 1.92
Series C Preferred Stock	\$ 18,060	\$ 1.80	\$ 20,598	\$ 1.80	\$ 21,388	\$ 1.80
Common Stock	\$ 192,220	\$ 1.95	\$ 228,845	\$ 2.64	\$ 205,623	\$ 2.72

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 December 31, 2023, 130,630 shares have been issued under the plan for total proceeds of approximately \$6.3 million, of which 16,965, 17,653 and 13,206 shares were issued for total proceeds of \$0.2 million, \$0.3 million and \$0.4 million during the years ended December 31, 2023, 2022 and 2021, respectively.

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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 December 31, 2023, 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, of which 593,453 shares were repurchased for a total cost of \$7.1 million during the year ended December 31, 2023. No shares of common stock were repurchased during the years ended December 31, 2022 and 2021.

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 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 December 31, 2023, 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 7,132,525, 307,569 and 3,050 shares were sold for net proceeds of \$99.8 million, \$6.1 million and \$0.1 million during the years ended December 31, 2023, 2022 and 2021, respectively.

Accumulated Other Comprehensive Loss

Accumulated other comprehensive loss at December 31, 2023 and December 31, 2022 was as follows:

(in thousands)	December 31, 2023	December 31, 2022
Available-for-sale securities:		
Unrealized gains	\$ 23,305	\$ 47,656
Unrealized losses	(199,734)	(326,367)
Accumulated other comprehensive loss	\$ (176,429)	\$ (278,711)

Reclassifications out of Accumulated Other Comprehensive Loss

The Company reclassifies unrealized gains and losses on AFS securities in accumulated other comprehensive loss to net (loss) income upon the recognition of any realized gains and losses on sales as individual securities are sold. For the years ended December 31, 2023, 2022 and 2021, the Company reclassified \$140.9 million in unrealized losses, \$428.5 million in unrealized losses and \$135.6 million in unrealized gains, respectively, on sold AFS securities from accumulated other comprehensive loss to (loss) gain on investment securities on the consolidated statements of comprehensive loss.

Note 18. Equity Incentive Plans

All per share amounts, common shares outstanding and common equity-based awards for all periods presented have been adjusted on a retroactive basis to reflect the reverse stock split.

The Company's Second Restated 2009 Equity Incentive Plan, or the 2009 Plan, and the Company's 2021 Equity Incentive Plan, or the 2021 Plan, or collectively, the Equity Incentive Plans, provide incentive compensation to attract and retain qualified directors, officers, personnel and other parties who may provide significant services to the Company. The Equity Incentive Plans are 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 Plans, 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 Plans), to determine the terms, provisions and conditions of each award (which may not be inconsistent with the terms of the Equity Incentive Plans), 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 Plans 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.

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The Equity Incentive Plans provide 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 2021 Plan is subject to a ceiling of 4,250,000 shares and the 2009 Plan is subject to a ceiling of 1,625,000 shares of the Company's common stock; however, following stockholder approval of the 2021 Plan in May 2021, no new awards will be granted under the 2009 Plan. Awards previously granted under the 2009 Plan remain outstanding and valid in accordance with their terms. The Equity Incentive Plans allow for the Company's board of directors to expand the types of awards available under the Equity Incentive Plans to include long-term incentive plan units in the future. If an award granted under the Equity Incentive Plans 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 Plans after the tenth anniversary of the date that the Equity Incentive Plans were approved by the Company's board of directors. No award may be granted under the Equity Incentive Plans 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 years ended December 31, 2023 and 2022:

	Year Ended December 31,			
	2023		2022	
	Units	Weighted Average Grant Date Fair Market Value	Units	Weighted Average Grant Date Fair Market Value
Outstanding at Beginning of Period	468,632	\$ 23.54	293,426	\$ 28.39
Granted	371,673	16.19	320,783	20.94
Vested	(221,575)	(23.56)	(127,283)	(28.17)
Forfeited	(5,031)	(20.20)	(18,294)	(23.73)
Outstanding at End of Period	<u>613,699</u>	<u>\$ 19.11</u>	<u>468,632</u>	<u>\$ 23.54</u>

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 years ended December 31, 2023 and 2022:

	Year Ended December 31,			
	2023		2022	
	Target Units	Weighted Average Grant Date Fair Market Value	Target Units	Weighted Average Grant Date Fair Market Value
Outstanding at Beginning of Period	265,261	\$ 26.93	109,356	\$ 34.68
Granted	222,208	22.47	165,820	21.83
Vested	—	—	—	—
Forfeited	(1,647)	(25.21)	(9,915)	(27.21)
Outstanding at End of Period	<u>485,822</u>	<u>\$ 24.89</u>	<u>265,261</u>	<u>\$ 26.93</u>

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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 years ended December 31, 2023 and 2022:

	Year Ended December 31,			
	2023		2022	
	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	113,239	\$ 60.18
Granted	—	—	—	—
Vested	(42,884)	(60.91)	(69,191)	(59.71)
Forfeited	—	—	(1,164)	(60.92)
Outstanding at End of Period	—	\$ —	42,884	\$ 60.91

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 years ended December 31, 2023, 2022 and 2021 the Company recognized compensation related to RSUs, PSUs and restricted common stock granted pursuant to the Equity Incentive Plans of \$11.0 million, \$11.6 million and \$11.5 million, respectively. As of December 31, 2023, the Company had \$4.3 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 1.5 years.

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Note 19. Interest Income and Interest Expense

The following table presents the components of the Company's interest income and interest expense for the years ended December 31, 2023, 2022 and 2021.

	Year Ended December 31,		
	2023	2022	2021
Interest income:			
Available-for-sale securities	\$ 412,310	\$ 272,230	\$ 167,310
Other	68,054	23,310	1,287
Total interest income	480,364	295,540	168,597
Interest expense:			
Repurchase agreements	474,292	167,455	25,774
Revolving credit facilities	121,124	51,814	22,425
Term notes payable	28,994	19,514	12,936
Convertible senior notes	18,815	19,612	28,038
Total interest expense	643,225	258,395	89,173
Net interest (expense) income	<u>\$ (162,861)</u>	<u>\$ 37,145</u>	<u>\$ 79,424</u>

Note 20. Income Taxes

For the years ended December 31, 2023, 2022 and 2021, 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.

Certain activities the Company performs may produce income that will not be qualifying income for REIT purposes. These activities include the designated portion of MSR treated as normal mortgage servicing, residential mortgage loans, certain derivative financial instruments and other risk-management instruments. The Company has designated its TRSs to engage in these activities.

On August 16, 2022, President Biden signed into law the Inflation Reduction Act of 2022, or the IRA, sweeping legislation addressing healthcare, climate change and renewable energy incentives, and inflation, among other priorities. The bill includes numerous tax provisions that impact corporations, including the implementation of a corporate alternative minimum tax as well as a 1% excise tax on certain stock repurchases and economically similar transactions. However, REITs are excluded from the definition of an "applicable corporation" and therefore are not subject to the corporate alternative minimum tax. Additionally, stock repurchases by REITs are specifically excepted from the 1% excise tax. The Company's TRSs operate as standalone corporations and therefore could be adversely affected by the tax law changes. The Company's analysis of the accounting implications of the IRA result in no impact being recorded to its 2023 financial statements. Technical corrections or other amendments to the IRA or administrative guidance interpreting the IRA may be forthcoming at any time. While the Company does not anticipate a material effect on its operations, it will continue to analyze and monitor the application of the IRA to its business.

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The following table summarizes the tax provision (benefit) recorded primarily at the taxable subsidiary level for the years ended December 31, 2023, 2022 and 2021:

(in thousands)	Year Ended December 31,		
	2023	2022	2021
Current tax provision (benefit) :			
Federal	\$ 3,498	\$ —	\$ —
State	4,976	(1,028)	(1,768)
Total current tax provision (benefit)	8,474	(1,028)	(1,768)
Deferred tax provision (benefit):			
Federal	16,602	90,916	14,851
State	(2,098)	14,325	(8,891)
Total deferred tax provision	14,504	105,241	5,960
Total provision for income taxes	\$ 22,978	\$ 104,213	\$ 4,192

During the year ended December 31, 2023, the Company recognized a provision for income taxes of \$23.0 million, which was primarily due to net income from MSR servicing activity, offset by net losses recognized on MSR and operating expenses in the Company's TRSs. During the year ended December 31, 2022, the Company recognized a provision for income taxes of \$104.2 million, which was primarily due to income from MSR servicing activity and net gains recognized on MSR, offset by net losses recognized on derivative instruments and operating expenses in the Company's TRSs. During the year ended December 31, 2021, the Company recognized a provision for income taxes of \$4.2 million, which was primarily due to income from MSR servicing activity and gains recognized on MSR, offset by net losses recognized on derivative instruments and operating expenses in the Company's TRSs.

The Company's taxable income before dividend distributions differs from its pre-tax net income for U.S. GAAP purposes primarily due to unrealized gains and losses, the deferral of capital losses for tax, differences in timing of income recognition due to market discount and original issue discount and the calculations surrounding each, dividends paid from the Company's TRSs to the REIT, the utilization of net operating losses for tax and differences in treatment of compensation expense. These book to tax differences in the REIT are not reflected in the consolidated financial statements as the Company intends to retain its REIT status.

As of December 31, 2023, the Company had \$253.0 million of net operating loss carryforwards for federal income tax purposes at the REIT, which may be utilized to offset future taxable income after consideration for the dividends paid deduction. These federal net operating loss carryforwards do not have an expiration date and can be carried forward indefinitely. As of December 31, 2023, the Company had \$2.5 billion of net capital loss carryforwards for federal income tax purposes at the REIT, which may be utilized to offset future net gains from the sale of capital assets. These federal net capital loss carryforwards have an expiration date of five years of which the majority of these losses will expire between 2025 and 2027. The utilization of the net capital loss carryforwards will depend on the REIT's ability to generate sufficient net capital gains prior to the expiration of the carryforward period.

TWO HARBORS INVESTMENT CORP.
Notes to the Consolidated Financial Statements

The following is a reconciliation of the statutory federal and state rates to the effective rates, for the years ended December 31, 2023, 2022 and 2021:

(dollars in thousands)	Year Ended December 31,					
	2023		2022		2021	
	Amount	Percent	Amount	Percent	Amount	Percent
(Benefit from) provision for income taxes at statutory federal tax rate	\$ (17,513)	21 %	\$ 68,135	21 %	\$ 40,198	21 %
State taxes, net of federal benefit, if applicable	2,358	(3)%	10,478	3 %	(8,420)	(4)%
Permanent differences in taxable income from net income for U.S. GAAP purposes	65,670	(79)%	(93)	— %	15	— %
REIT (loss) income not subject to corporate income tax	(27,537)	33 %	25,693	8 %	(27,601)	(14)%
Provision for (benefit from) income taxes/ effective tax rate ⁽¹⁾	<u>\$ 22,978</u>	<u>(28)%</u>	<u>\$ 104,213</u>	<u>32 %</u>	<u>\$ 4,192</u>	<u>3 %</u>

(1) The provision for income taxes is primarily recorded at the taxable subsidiary level.

The Company's permanent differences in taxable income from net income (loss) for U.S. GAAP purposes in the year ended December 31, 2023 were primarily due to dividends paid from the Company's TRSs to the REIT. Additionally, the Company's recurring permanent differences in taxable income from net income (loss) for U.S. GAAP purposes in the years ended December 31, 2023, 2022 and 2021 were due to state taxes, net of federal benefit in the Company's TRSs, the dividends paid deduction for tax, amortization of goodwill for tax and a difference in the compensation expense related to officer's compensation limitation and restricted stock dividends and vesting.

The Company's consolidated balance sheets, as of December 31, 2023 and December 31, 2022 contain the following current and deferred tax liabilities and assets, which are included in other assets, and are recorded at the taxable subsidiary level:

(in thousands)	December 31, 2023	December 31, 2022
Income taxes receivable (payable):		
Federal income taxes receivable	\$ 52	\$ —
State and local income taxes (payable) receivable	(735)	404
Income taxes (payable) receivable, net	<u>(683)</u>	<u>404</u>
Deferred tax assets (liabilities):		
Deferred tax asset	20,083	33,426
Deferred tax liability	(81,765)	(80,603)
Total net deferred tax assets (liabilities)	<u>(61,682)</u>	<u>(47,177)</u>
Total tax assets (liabilities), net	<u>\$ (62,365)</u>	<u>\$ (46,773)</u>

TWO HARBORS INVESTMENT CORP.
Notes to the Consolidated Financial Statements

Deferred Tax Assets and Liabilities

Deferred income taxes reflect the net tax effect of temporary differences between the carrying amount of assets and liabilities for financial reporting and tax purposes at the TRS level. Components of the Company's deferred tax liabilities and assets as of December 31, 2023 and December 31, 2022 were as follows:

(in thousands)	December 31, 2023	December 31, 2022
Mortgage servicing rights	\$ (81,765)	\$ (80,492)
Net operating loss carryforward	18,224	32,301
Other	1,859	1,014
Total deferred tax assets (liabilities)	(61,682)	(47,177)
Valuation allowance	—	—
Total net deferred tax assets (liabilities)	\$ (61,682)	\$ (47,177)

As of December 31, 2023 and December 31, 2022, the Company had not recorded a valuation allowance for any portion of its deferred tax assets as it did not believe, at a more likely than not level, that any portion of its deferred tax assets would not be realized.

Based on the Company's evaluation, it has been concluded that there are no significant uncertain tax positions requiring recognition in the Company's 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 consolidated financial statements.

TWO HARBORS INVESTMENT CORP.
Notes to the Consolidated Financial Statements

Note 21. Earnings Per Share

The following table presents a reconciliation of the (loss) earnings and shares used in calculating basic and diluted (loss) earnings per share for the years ended December 31, 2023, 2022 and 2021. All per share amounts, common shares outstanding and common equity-based awards for all periods presented have been adjusted on a retroactive basis to reflect the reverse stock split.

(in thousands, except share data)	Year Ended December 31,		
	2023	2022	2021
Basic (Loss) Earnings Per Share:			
Net (loss) income	\$ (106,371)	\$ 220,239	\$ 187,227
Dividends on preferred stock	(48,607)	(53,607)	(58,458)
Gain on repurchase and retirement of preferred stock	2,973	20,149	—
Dividends and undistributed earnings allocated to participating restricted stock units	(1,220)	(1,203)	(731)
Net (loss) income attributable to common stockholders, basic	<u>\$ (153,225)</u>	<u>\$ 185,578</u>	<u>\$ 128,038</u>
Basic weighted average common shares	95,672,143	86,179,418	74,443,000
Basic (loss) earnings per weighted average common share	\$ (1.60)	\$ 2.15	\$ 1.72
Diluted (Loss) Earnings Per Share:			
Net (loss) income attributable to common stockholders, basic	\$ (153,225)	\$ 185,578	\$ 128,038
Reallocation impact of undistributed earnings to participating restricted stock units	—	—	—
Interest expense attributable to convertible notes	—	19,382	—
Net (loss) income attributable to common stockholders, diluted	<u>\$ (153,225)</u>	<u>\$ 204,960</u>	<u>\$ 128,038</u>
Basic weighted average common shares	95,672,143	86,179,418	74,443,000
Effect of dilutive shares issued in an assumed vesting of performance share units	—	157,591	67,884
Effect of dilutive shares issued in an assumed conversion	—	9,739,166	—
Diluted weighted average common shares	<u>95,672,143</u>	<u>96,076,175</u>	<u>74,510,884</u>
Diluted (loss) earnings per weighted average common share	\$ (1.60)	\$ 2.13	\$ 1.72

For the years ended December 31, 2023, 2022 and 2021, 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 year ended December 31, 2023, excluded from the calculation of diluted earnings per share was the effect of adding 331,051 weighted average common share equivalents related to the assumed vesting of outstanding PSUs, as their inclusion would have been antidilutive. For the years ended December 31, 2022 and 2021, 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 years ended December 31, 2023, 2022 and 2021, excluded from the calculation of diluted earnings per share was the effect of adding back \$18.8 million, \$0.2 million and \$28.0 million of interest expense and 9,406,519, 87,137 and 12,555,567 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. For the year ended December 31, 2022, only the Company's convertible senior notes due 2022, which matured in January 2022, were excluded from the calculation of diluted earnings per share, and the assumed conversion of the Company's 2026 notes was included in the calculation of diluted earnings per share under the if-converted method.

Note 22. Subsequent Events

Events subsequent to December 31, 2023 were evaluated through the date these consolidated financial statements were issued and no other additional events were identified requiring further disclosure in these consolidated financial statements.

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosures

None.

Item 9A. 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 Annual Report on Form 10-K. 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 December 31, 2023. Although our CEO and CFO have determined our disclosure controls and procedures were effective at the end of the period covered by this Annual Report on Form 10-K, 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 December 31, 2023 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

Management's Report On Internal Control Over Financial Reporting

Management of the Company is responsible for establishing and maintaining adequate internal control over financial reporting for the Company. Internal control over financial reporting is defined in Rules 13a-15(f) and 15d-15(f) promulgated under the Exchange Act as a process designed by, or under the supervision of, the Company's principal executive and principal financial officers and effected by the Company's Board, management and other personnel to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with U.S. GAAP and includes those policies and procedures that:

- pertain to the maintenance of records that in reasonable detail accurately and fairly reflect the transactions and dispositions of the assets of the Company;
- provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with U.S. GAAP, and that receipts and expenditures of the Company are being made only in accordance with authorizations of management and directors of the Company; and
- provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of the Company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Projections of any evaluation of effectiveness to future periods are subject to the risks that controls may become inadequate because of changes in conditions or that the degree of compliance with the policies or procedures may deteriorate.

The Company's management assessed the effectiveness of the Company's internal control over financial reporting as of December 31, 2023. In making this assessment the Company's management used criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission in Internal Control-Integrated Framework (2013 framework).

Based on its assessment, the Company's management believes that, as of December 31, 2023, the Company's internal control over financial reporting was effective based on those criteria.

The Company's independent auditors, Ernst & Young LLP, have issued an attestation report on the effectiveness of the Company's internal control over financial reporting. This report appears on page [112](#) of this annual report on Form 10-K.

Report of Independent Registered Public Accounting Firm

To the Stockholders and the Board of Directors
of Two Harbors Investment Corp.

Opinion on Internal Control Over Financial Reporting

We have audited Two Harbors Investment Corp.'s internal control over financial reporting as of December 31, 2023, based on criteria established in Internal Control—Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (the COSO criteria). In our opinion, Two Harbors Investment Corp. (the Company) maintained, in all material respects, effective internal control over financial reporting as of December 31, 2023, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of the Company as of December 31, 2023 and 2022, the related consolidated statements of comprehensive loss, stockholders' equity and cash flows for each of the three years in the period ended December 31, 2023, and the related notes and our report dated February 20, 2024 expressed an unqualified opinion thereon.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting included in the accompanying Management's Report On Internal Control Over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects.

Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control Over Financial Reporting

A company's internal control over financial reporting is a process designed 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. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ Ernst & Young LLP

Minneapolis, Minnesota
February 20, 2024

Item 9B. Other Information

(a) None.

(b) During the three months ended December 31, 2023, 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.

Item 9C. Disclosure Regarding Foreign Jurisdictions that Prevent Inspections

None.

PART III**Items 10, 11, 12 and 13.**

The information required by Items 10, 11, 12 and 13 of Part III of this Annual Report is incorporated by reference to information to be set forth in the Company's definitive Proxy Statement for its 2024 Annual Meeting of Stockholders, which will be filed with the SEC, pursuant to Regulation 14A, not later than 120 days after December 31, 2023.

Item 14. Principal Accounting Fees and Services

We retained Ernst & Young LLP, or EY, to audit our consolidated financial statements for the years ended December 31, 2023 and 2022. We also retained EY to provide various other services in during the years ended December 31, 2023 and 2022. The table below presents the aggregate fees billed to us for professional services performed by EY for the years ended December 31, 2023 and 2022:

	Year Ended December 31,	
	2023	2022
Audit fees ⁽¹⁾	\$ 1,715,530	\$ 1,405,530
Audit-related fees ⁽²⁾	51,100	49,100
Tax fees ⁽³⁾	425,370	272,575
Total principal accountant fees	<u>\$ 2,192,000</u>	<u>\$ 1,727,205</u>

(1) Audit fees pertain to the audit of our annual Consolidated Financial Statements, including review of the interim financial statements contained in our Quarterly Reports on Form 10-Q, comfort letters to underwriters in connection with our registration statements and common stock offerings, attest services, consents to the incorporation of the EY audit report in publicly filed documents and assistance with and review of documents filed with the SEC.

(2) Audit-related fees pertain to assurance and related services that are traditionally performed by the principal accountant, including accounting consultations and audits in connection with proposed or consummated acquisitions, internal control reviews and consultation concerning financial accounting and reporting standards.

(3) Tax fees pertain to services performed for tax compliance, including REIT compliance, tax planning and tax advice, including preparation of tax returns and claims for refund and tax-payment planning services. Tax planning and advice also includes assistance with tax audits and appeals, and tax advice related to specific transactions.

The services performed by EY in 2023 were pre-approved by our Audit Committee in accordance with the pre-approval policy set forth in our Audit Committee Charter. This policy requires that all engagement fees and the terms and scope of all auditing and non-auditing services be reviewed and approved by the Audit Committee in advance of their formal initiation.

PART IV

Item 15. Exhibits, Financial Statement Schedules

(a) The following documents are filed as part of this Annual Report on Form 10-K:

(1) Consolidated Financial Statements:

The consolidated financial statements of the Company, together with the independent registered public accounting firm's report thereon, are set forth in Part II, Item 8 on pages [54](#) through [61](#) of this Annual Report on Form 10-K and are incorporated herein by reference.

(2) Schedules to Consolidated Financial Statements:

All consolidated financial statement schedules not included have been omitted because they are either inapplicable or the information required is provided in the Company's Consolidated Financial Statements and Notes thereto, included in Part II, Item 8, of this Annual Report on Form 10-K.

(3) Exhibits:

The exhibits listed on the accompanying Exhibits Index are filed or incorporated by reference as part of this Annual Report on Form 10-K.

Item 16. Form 10-K Summary

None.

Exhibit Number	Exhibit Index
1.1	Equity Distribution Agreement between Two Harbors Investment Corp. and JMP Securities LLC dated November 10, 2022 (incorporated by reference to Exhibit 1.1 to the Registrant's Current Report on Form 8-K filed with the SEC on November 10, 2022).
2.1	Agreement and Plan of Merger, dated as of June 11, 2009, by and among Capitol Acquisition Corp., Two Harbors Investment Corp., Two Harbors Merger Corp. and Pine River Capital Management L.P. (incorporated by reference to Annex A filed with Pre Effective Amendment No. 4 to the Registrant's Registration Statement on Form S-4 (File No. 333-160199) filed with the Securities and Exchange Commission, or SEC, on October 8, 2009, or Amendment No. 4).
2.2	Amendment No. 1 to Agreement and Plan of Merger, dated as of August 17, 2009, by and among Capitol Acquisition Corp., Two Harbors Investment Corp., Two Harbors Merger Corp. and Pine River Capital Management L.P. (incorporated by reference to Annex A-2 filed with Amendment No. 4).
2.3	Amendment No. 2 to Agreement and Plan of Merger, dated as of September 20, 2009, by and among Capitol Acquisition Corp., Two Harbors Investment Corp., Two Harbors Merger Corp. and Pine River Capital Management L.P. (incorporated by reference to Annex A-3 filed with Amendment No. 4).
2.4	Agreement and Plan of Merger, by and among Two Harbors Investment Corp., Eiger Merger Subsidiary LLC and CYS Investments, Inc., dated as of April 25, 2018 (incorporated by reference to Exhibit 2.1 to the Registrant's Current Report on Form 8-K filed with the SEC on April 26, 2018).
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).
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 Company'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 Company'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 Company'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 Company's Current Report on Form 8-K, filed with the SEC on September 23, 2020).

<u>Exhibit Number</u>	<u>Exhibit Index</u>
4.1	Indenture, dated as of January 19, 2017, between Two Harbors Investment Corp. and The Bank of New York Mellon Trust Company, N.A. (incorporated by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K filed with the SEC on January 19, 2017).
4.2	Supplemental Indenture, dated as of February 1, 2021, between Two Harbors Investment Corp. and The Bank of New York Mellon Trust Company, N.A. (incorporated by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K file with the SEC on February 1, 2021).
4.3	Description of Securities. (filed herewith)
10.1*	Second Restated 2009 Equity Incentive Plan (incorporated by reference to Appendix A to the Registrant's Definitive Proxy Statement filed with the SEC on March 26, 2015).
10.2*	Form of Restricted Stock Agreement under the Second Restated 2009 Equity Incentive Plan (incorporated by reference to Exhibit 10.2 to the Registrant's Quarterly Report on Form 10-Q filed with the SEC on August 5, 2015).
10.3*	Two Harbors Investment Corp. 2021 Equity Incentive Plan (incorporated here by reference to Appendix A to the Registrant's Definitive Proxy Statement filed with the SEC on April 6, 2021).
10.4*	Form of Director Restricted Stock Unit Agreement under the Two Harbors Investment Corp. 2021 Equity Incentive Plan (incorporated by reference to Exhibit 10.2 of the Registrant's Registration Statement on Form S-8 filed with the SEC on May 19, 2021).
10.5*	Form of Officer Restricted Stock Unit Agreement under the Two Harbors Investment Corp. 2021 Equity Incentive Plan (incorporated by reference to Exhibit 10.3 of the Registrant's Registration Statement on Form S-8 filed with the SEC on May 19, 2021).
10.6*	Form of Officer Performance Share Unit Agreement under the Two Harbors Investment Corp. 2021 Equity Incentive Plan (incorporated by reference to Exhibit 10.4 of the Registrant's Registration Statement on Form S-8 filed with the SEC on May 19, 2021).
10.7*	Form of Common Stock Award Agreement under the Two Harbors Investment Corp. 2021 Equity Incentive Plan (incorporated by reference to Exhibit 10.5 of the Registrant's Registration Statement on Form S-8 filed with the SEC on May 19, 2021).
10.8	Form of Indemnification Agreement (incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K filed with the SEC on November 19, 2009).
21.1	Subsidiaries of registrant. (filed herewith)
23.1	Consent of Independent Registered Public Accounting Firm of Ernst & Young LLP. (filed herewith)
24.1	Powers of Attorney (included on signature page).
31.1	Certification of the Chief Executive Officer, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002. (filed herewith)
31.2	Certification of the Chief Financial Officer, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002. (filed herewith)
32.1	Certification of the Chief Executive Officer, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002. (filed herewith)
32.2	Certification of the Chief Financial Officer, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002. (filed herewith)
97.1	Two Harbors Investment Corp. Incentive Compensation Recoupment Policy (incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K filed with the SEC on September 21, 2023).
101	Financial statements from the Annual Report on Form 10-K of Two Harbors Investment Corp. for the year ended December 31, 2023, formatted in Inline XBRL: (i) the Consolidated Balance Sheets, (ii) the Consolidated Statements of Comprehensive Loss, (iii) the Consolidated Statements of Stockholders' Equity, (iv) the Consolidated Statements of Cash Flows, and (v) the Notes to the Consolidated Financial Statements. (filed herewith)
104	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101). (filed herewith)

* Management or compensatory agreement

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) 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.

Dated: February 20, 2024

TWO HARBORS INVESTMENT CORP.
 By: /s/ William Greenberg
 William Greenberg
 President and Chief Executive Officer
 (Principal Executive Officer)

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

Each of the undersigned hereby appoints William Greenberg and Mary Risky, and each of them (with full power to act alone), as attorneys and agents for the undersigned, with full power of substitution, for and in the name, place and stead of the undersigned, to sign and file with the Securities and Exchange Commission under the Securities Act of 1934, any and all amendments and exhibits to this annual report on Form 10-K and any and all applications, instruments, and other documents to be filed with the Securities and Exchange Commission pertaining to this annual report on Form 10-K or any amendments thereto, with full power and authority to do and perform any and all acts and things whatsoever requisite and necessary or desirable.

Signature	Title	Date
<u>/s/ William Greenberg</u> William Greenberg	Director, President and Chief Executive Officer (Principal Executive Officer)	February 20, 2024
<u>/s/ Mary Risky</u> Mary Risky	Chief Financial Officer (Principal Financial and Accounting Officer)	February 20, 2024
<u>/s/ Stephen G. Kasnet</u> Stephen G. Kasnet	Chairman of the Board of Directors	February 20, 2024
<u>/s/ E. Spencer Abraham</u> E. Spencer Abraham	Director	February 20, 2024
<u>/s/ James J. Bender</u> James J. Bender	Director	February 20, 2024
<u>/s/ Karen Hammond</u> Karen Hammond	Director	February 20, 2024
<u>/s/ W. Reid Sanders</u> W. Reid Sanders	Director	February 20, 2024
<u>/s/ James A. Stern</u> James A. Stern	Director	February 20, 2024
<u>/s/ Hope B. Woodhouse</u> Hope B. Woodhouse	Director	February 20, 2024

**DESCRIPTION OF THE REGISTRANT'S SECURITIES
REGISTERED PURSUANT TO SECTION 12 OF THE
SECURITIES EXCHANGE ACT OF 1934**

The following is a summary of the rights and preferences of our capital stock. This summary is subject to, and qualified in its entirety by reference to, our charter and bylaws and the applicable provisions of the Maryland General Corporation Law, or the MGCL. While we believe that the following description covers the material terms of our capital stock, the description may not contain all of the information that is important to you. We encourage you to read carefully our charter and bylaws and the other documents we refer to for a more complete understanding of our capital stock.

General

Two Harbors Investment Corp. (the “Company,” “us,” “we” or “our”) is incorporated under the laws of the state of Maryland. The rights of our stockholders, as well as our charter and bylaws, are governed by Maryland law.

Our charter authorizes us to issue up to 175,000,000 shares of common stock, \$0.01 par value per share, and 100,000,000 shares of preferred stock, \$0.01 par value per share. Our charter authorizes our board of directors to amend our charter to increase or decrease the aggregate number of authorized shares of stock or the number of shares of stock of any class or series without stockholder approval. Under Maryland law, stockholders are generally not liable for our debts or obligations.

Our common stock has been approved for listing on the New York Stock Exchange (“NYSE”) under the symbol “TWO.” Each series of our preferred stock has also been approved for listing on the NYSE, as follows:

- Our 8.125% Series A Fixed-to-Floating Rate Cumulative Redeemable Preferred Stock is listed on the NYSE under the symbol “TWO PRA” (the “Series A Preferred Stock”);
- Our 7.625% Series B Fixed-to-Floating Rate Cumulative Redeemable Preferred Stock is listed on the NYSE under the symbol “TWO PRB” (the “Series B Preferred Stock”); and
- Our 7.25% Series C Fixed-to-Floating Rate Cumulative Redeemable Preferred Stock is listed on the NYSE under the symbol “TWO PRC” (the “Series C Preferred Stock”).

We have appointed Equiniti Trust Company as the transfer agent and registrar for our shares of common stock and each series of shares of preferred stock.

Our charter authorizes our board of directors to classify and reclassify any unissued shares of common or preferred stock into other classes or series of shares of stock. Prior to issuance of shares of each other class or series, our board of directors will be required by Maryland law and by our charter to set, subject to our charter restrictions on transfer and ownership of shares of our stock, the terms, preferences, conversion or other rights, voting powers, restrictions, limitations as to dividends or other distributions, qualifications and terms or conditions of redemption for each class or series. Therefore, among other things, our board of directors could authorize the issuance of shares of common or preferred stock with terms and conditions that could have the effect of delaying, deferring or preventing a change in control or other transaction that might involve a premium price for shares of our common stock or otherwise be in the best interest of our stockholders.

Restrictions on Ownership and Transfer

In order for us to qualify as a REIT under the Internal Revenue Code of 1986, as amended, or the Code, shares of our stock must be beneficially owned by 100 or more persons during at least 335 days of a taxable year of 12 months (other than the first year for which an election to be a REIT has been made) or during a proportionate part of a shorter taxable year. Also, not more than 50% of the value of the outstanding shares of stock may be owned,

directly or indirectly, by five or fewer individuals (as defined in the Code to include certain entities) during the last half of a taxable year (other than the first year for which an election to be a REIT has been made).

Our charter contains restrictions limiting the ownership and transfer of shares of our common stock and other outstanding shares of stock. The relevant sections of our charter provide that, subject to the exceptions described below, no person or entity may own, or be deemed to own by virtue of the applicable constructive ownership provisions of the Code, more than 9.8% by value or number of shares, whichever is more restrictive, of our outstanding shares of common stock (the common share ownership limit), or 9.8% by value or number of shares, whichever is more restrictive, of the aggregate of the outstanding shares of our capital stock (the aggregate share ownership limit). The common share ownership limit and the aggregate share ownership limit are collectively referred to herein as the “ownership limits.” A person or entity that becomes subject to the ownership limits by virtue of a violative transfer that results in a transfer to a trust, as set forth below, is referred to as a “purported beneficial transferee” if, had the violative transfer been effective, the person or entity would have been a record owner and beneficial owner or solely a beneficial owner of shares of our stock, or is referred to as a “purported record transferee” if, had the violative transfer been effective, the person or entity would have been solely a record owner of shares of our stock.

The constructive ownership rules under the Code are complex and may cause shares of stock owned actually or constructively by a group of related individuals and/or entities to be owned constructively by one individual or entity. As a result, the acquisition of less than 9.8% by value or number of shares, whichever is more restrictive, of our outstanding shares of common stock, or 9.8% by value or number of shares, whichever is more restrictive, of our outstanding capital stock (or the acquisition of an interest in an entity that owns, actually or constructively, shares of our stock) by an individual or entity, could, nevertheless, cause that individual or entity, or another individual or entity, to own constructively in excess of 9.8% by value or number of shares, whichever is more restrictive, of our outstanding shares of common stock, or 9.8% by value or number of shares, whichever is more restrictive, of our outstanding capital stock and thereby subject the shares of common stock or total shares of stock to the applicable ownership limit.

Our board of directors may, in its sole discretion, exempt a person from the above-referenced ownership limits. However, the board of directors may not exempt any person whose ownership of our outstanding stock would result in our being “closely held” within the meaning of Section 856(h) of the Code or otherwise would result in our failing to qualify as a REIT. In order to be considered by the board of directors for exemption, a person also must not own, directly or indirectly, an interest in any tenant (or a tenant of any entity which we own or control) that would cause us to own, directly or indirectly, more than a 9.9% interest in the tenant. The person seeking an exemption must represent to the satisfaction of our board of directors that such person will not violate these two restrictions. The person also must agree that any violation or attempted violation of these restrictions will result in the automatic transfer of the shares of stock causing the violation to a trust for the benefit of a charitable beneficiary. As a condition of its waiver, our board of directors may require an opinion of counsel or IRS ruling satisfactory to the board of directors with respect to our qualification as a REIT.

In connection with an exemption from the ownership limits or at any other time, our board of directors may from time to time increase the ownership limits for one or more persons or entities and decrease the ownership limits for all others; provided, however, that any decrease will be effective as to existing holders who own common stock or total shares of stock, as applicable, in excess of such decreased ownership limit as described below; and provided further that the ownership limit may not be increased if, after giving effect to such increase, five or fewer individuals could own or constructively own in the aggregate, more than 49.9% in value of the shares then outstanding. Prior to the modification of the ownership limit, our board of directors may require such opinions of counsel, affidavits, undertakings or agreements as the board may deem necessary or advisable in order to determine or ensure our qualification as a REIT. A reduced ownership limit will not apply to any person or entity whose percentage ownership in shares of our common stock or total shares of stock, as applicable, is in excess of such decreased ownership limit until such time as such person’s or entity’s percentage of shares of our common stock or total shares of stock, as applicable, equals or falls below the decreased ownership limit, but any further acquisition of shares of our common stock or total shares of stock, as applicable, in excess of such percentage ownership of shares of our common stock or total shares of stock will be in violation of such ownership limit.

Our charter provisions further prohibit:

- any person from beneficially or constructively owning, applying certain attribution rules of the Code, shares of our stock that would result in our being “closely held” under Section 856(h) of the Code or otherwise cause us to fail to qualify as a REIT; and
- any person from transferring shares of our stock if such transfer would result in shares of our stock being beneficially owned by fewer than 100 persons (determined without reference to any rules of attribution).

Any person who acquires or attempts or intends to acquire beneficial or constructive ownership of shares of our stock that will or may violate any of the foregoing restrictions on transferability and ownership will be required to give written notice of such event to us immediately or, in the case of a proposed or attempted transaction, at least 15 days prior to such proposed or attempted transaction, and provide us with such other information as we may request in order to determine the effect of such transfer on our qualification as a REIT. The foregoing provisions on transferability and ownership will not apply if our board of directors determines that it is no longer in our best interests to attempt to qualify, or to continue to qualify, as a REIT.

Pursuant to our charter, if any transfer of shares of our stock would result in shares of our stock being beneficially owned by fewer than 100 persons, such transfer will be null and void and the intended transferee will acquire no rights in such shares. In addition, if any purported transfer of shares of our stock or any other event would otherwise result in any person violating the ownership limits or such other limit established by our board of directors or in our being “closely held” under Section 856(h) of the Code or otherwise failing to qualify as a REIT, then that number of shares (rounded up to the nearest whole share) that would cause such person to violate such restrictions will be automatically transferred to, and held by, a trust for the exclusive benefit of one or more charitable organizations selected by us and the intended transferee will acquire no rights in such shares. The automatic transfer will be effective as of the close of business on the business day prior to the date of the purported transfer or other event that results in a transfer to the trust. Any dividend or other distribution paid to the purported record transferee, prior to our discovery that the shares had been automatically transferred to a trust as described above, must be repaid to the trustee upon demand for distribution to the charitable beneficiary by the trust. If the transfer to the trust as described above is not automatically effective, for any reason, to prevent violation of the applicable ownership limit or our being “closely held” under Section 856(h) of the Code or otherwise failing to qualify as a REIT, then our charter provides that the transfer of the shares will be null and void and the intended transferee will acquire no rights in such shares.

Shares of stock transferred to the trustee are deemed offered for sale to us, or our designee, at a price per share equal to the lesser of (1) the price paid by the purported record transferee for the shares (or, if the event that resulted in the transfer to the trust did not involve a purchase of such shares of stock at market price, the last reported sales price reported on the NYSE (or other applicable exchange) on the day of the event which resulted in the transfer of such shares of stock to the trust) and (2) the market price on the date we or our designee accepts such offer. We have the right to accept such offer until the trustee has sold the shares of stock held in the trust pursuant to the clauses discussed below. Upon a sale to us, the interest of the charitable beneficiary in the shares sold terminates, the trustee must distribute the net proceeds of the sale to the purported record transferee and any dividends or other distributions held by the trustee with respect to such shares of stock will be paid to the charitable beneficiary.

If we do not buy the shares, the trustee must, within 20 days of receiving notice from us of the transfer of shares to the trust, sell the shares to a person or entity designated by the trustee who could own the shares without violating the ownership limits or such other limit as established by our board of directors. After that, the trustee must distribute to the purported record transferee an amount equal to the lesser of (1) the price paid by the purported record transferee for the shares (or, if the event which resulted in the transfer to the trust did not involve a purchase of such shares at market price, the last reported sales price reported on the NYSE (or other applicable exchange) on the day of the event which resulted in the transfer of such shares of stock to the trust) and (2) the sales proceeds (net of commissions and other expenses of sale) received by the trust for the shares. Any net sales proceeds in excess of the amount payable to the purported record transferee will be immediately paid to the charitable beneficiary, together with any dividends or other distributions thereon. In addition, if prior to discovery by us that shares of stock

have been transferred to a trust, such shares of stock are sold by a purported record transferee, then such shares will be deemed to have been sold on behalf of the trust and to the extent that the purported record transferee received an amount for or in respect of such shares that exceeds the amount that such purported record transferee was entitled to receive, such excess amount must be paid to the trustee upon demand. The purported beneficial transferee or purported record transferee has no rights in the shares held by the trustee.

The trustee will be designated by us and will be unaffiliated with us and with any purported record transferee or purported beneficial transferee. Prior to the sale of any shares by the trust, the trustee will receive, in trust for the beneficiary, all dividends and other distributions paid by us with respect to the shares held in trust and may also exercise all voting rights with respect to the shares held in trust. These rights will be exercised for the exclusive benefit of the charitable beneficiary. Any dividend or other distribution paid prior to our discovery that shares of stock have been transferred to the trust will be paid by the recipient to the trustee upon demand. Any dividend or other distribution authorized but unpaid will be paid when due to the trustee.

Subject to Maryland law, effective as of the date that the shares have been transferred to the trust, the trustee will have the authority, at the trustee's sole discretion:

- to rescind as void any vote cast by a purported record transferee prior to our discovery that the shares have been transferred to the trust; and
- to recast the vote in accordance with the desires of the trustee acting for the benefit of the charitable beneficiary of the trust.

However, if we have already taken irreversible action, then the trustee may not rescind and recast the vote.

If our board of directors determines in good faith that a proposed transfer would violate the restrictions on ownership and transfer of shares of our stock set forth in the charter, the board of directors will take such action as it deems advisable to refuse to give effect to or to prevent such transfer, including, but not limited to, causing us to redeem the shares of stock, refusing to give effect to the transfer on our books or instituting proceedings to enjoin the transfer.

Every owner of more than 5% (or such lower percentage as required by the Code or the regulations promulgated thereunder) of our stock, within 30 days after the end of each taxable year, is required to give us written notice, stating the name and address of such owner, the number of shares of our capital stock which he, she or it beneficially owns and a description of the manner in which the shares are held. Each such owner shall provide us with such additional information as we may request in order to determine the effect, if any, of such beneficial ownership on our status as a REIT and to ensure compliance with the aggregate share ownership limit. In addition, each stockholder shall upon demand be required to provide us with such information as we may request in good faith in order to determine our status as a REIT and to comply with the requirements of any taxing authority or governmental authority or to determine such compliance.

These ownership limits could delay, defer or prevent a transaction or a change in control that might involve a premium price for the common stock or otherwise be in the best interests of the stockholders.

Certain Provisions of the Maryland General Corporation Law and Two Harbors' Charter and Bylaws

The following summary description of certain provisions of the MGCL and our charter and bylaws does not purport to be complete and is subject to and qualified in its entirety by reference to the MGCL and the actual provisions of our charter and our bylaws.

Our Board of Directors

Our charter and bylaws provide that the number of directors we have may be established by our board of directors but may not be less than the minimum number required by the MGCL, nor more than 15. Our bylaws currently provide that any vacancy may be filled only by a majority of the remaining directors. Any individual elected to fill such vacancy will serve until the next annual meeting of stockholders and until a successor is duly elected and qualifies.

Pursuant to our bylaws, each of our directors is elected by our common stockholders entitled to vote to serve until the next annual meeting of stockholders and until his or her successor is duly elected and qualified. Holders of shares of common stock will have no right to cumulative voting in the election of directors. Consequently, at each annual meeting of stockholders, the holders of a majority of the shares of common stock entitled to vote will be able to elect all of our directors. However, our Bylaws provide that, in the event that the Company's Secretary determines that, as of the record date for the stockholders' meeting, the number of nominees exceeds the number of directors to be elected, then directors will be elected by a plurality of the votes cast at a meeting of stockholders duly called and at which a quorum is present. In such case, each share may be voted for as many individuals as there are directors to be elected and for whose election the share is entitled to be cast.

Removal of Directors

Our charter provides that a director may be removed, with or without cause, only by the affirmative vote of the holders of shares entitled to cast at least two-thirds of all the votes of common stockholders entitled to be cast generally in the election of directors. This provision, when coupled with the power of our board of directors to fill vacancies on the board of directors, precludes stockholders from (1) removing incumbent directors except upon a substantial affirmative vote and (2) filling the vacancies created by such removal with their own nominees.

Business Combinations

Under the MGCL, certain "business combinations" (including a merger, consolidation, share exchange or, in certain circumstances, an asset transfer or issuance or reclassification of equity securities) between a Maryland corporation and an interested stockholder (defined generally as any person who beneficially owns, directly or indirectly, 10% or more of the voting power of the corporation's outstanding voting stock or an affiliate or associate of the corporation who, at any time within the two-year period immediately prior to the date in question, was the beneficial owner of 10% or more of the voting power of the then-outstanding stock of the corporation) or an affiliate of such an interested stockholder are prohibited for five years after the most recent date on which the interested stockholder becomes an interested stockholder. Thereafter, any such business combination must be recommended by the board of directors of such corporation and approved by the affirmative vote of at least (1) 80% of the votes entitled to be cast by holders of outstanding voting shares of stock of the corporation and (2) two-thirds of the votes entitled to be cast by holders of voting stock of the corporation other than shares held by the interested stockholder with whom (or with whose affiliate) the business combination is to be effected or held by an affiliate or associate of the interested stockholder, unless, among other conditions, the corporation's common stockholders receive a minimum price (as described in the MGCL) for their shares and the consideration is received in cash or in the same form as previously paid by the interested stockholder for its shares.

These provisions of the MGCL do not apply, however, to business combinations that are approved or exempted by a board of directors prior to the most recent date on which the interested stockholder became an interested stockholder. Our board of directors may provide that the board's approval is subject to compliance with any terms and conditions determined by the board. In addition, in the future our board of directors may by resolution exempt business combinations between us and any other person, provided that such resolution is adopted prior to the most recent date on which the applicable interested stockholder becomes an interested stockholder. Consequently, the five-year prohibition and the supermajority vote requirements will not apply to business combinations between us and such persons. As a result, any person described above may be able to enter into business combinations with us that may not be in the best interest of our stockholders without compliance by us with the supermajority vote requirements and other provisions of the statute.

The business combination statute may discourage others from trying to acquire control of us and increase the difficulty of consummating any offer.

Control Share Acquisitions

The MGCL provides that holders of "control shares" of a Maryland corporation acquired in a "control share acquisition" have no voting rights except to the extent approved at a special meeting of stockholders by the affirmative vote of two-thirds of the votes entitled to be cast on the matter, excluding shares of stock in a corporation in respect of which any of the following persons is entitled to exercise or direct the exercise of the voting power of such shares in the election of directors: (1) a person who makes or proposes to make a control share acquisition, (2) an officer of the corporation or (3) an employee of the corporation who is also a director of the corporation.

“Control shares” are voting shares of stock which, if aggregated with all other such shares of stock previously acquired by the acquirer, or in respect of which the acquirer is able to exercise or direct the exercise of voting power (except solely by virtue of a revocable proxy), would entitle the acquirer to exercise or direct the exercise of voting power in electing directors within one of the following ranges of voting power: (A) one-tenth or more but less than one-third; (B) one-third or more but less than a majority; or (C) a majority or more of all voting power. Control shares do not include shares that the acquiring person is then entitled to vote as a result of having previously obtained stockholder approval. A “control share acquisition” means the acquisition of control shares or of the power to direct the exercise of voting power of control shares, subject to certain exceptions.

A person who has made or proposes to make a control share acquisition, upon satisfaction of certain conditions (including an undertaking to pay expenses and making an “acquiring person statement” as described in the MGCL), may compel our board of directors to call a special meeting of stockholders to be held within 50 days of demand to consider the voting rights of the shares. If no request for a meeting is made, the corporation may itself present the question at any stockholders meeting.

If voting rights are not approved at the meeting or if the acquiring person does not deliver an “acquiring person statement” as required by the statute, then, subject to certain conditions and limitations, the corporation may redeem any or all of the control shares (except those for which voting rights have previously been approved) for fair value determined, without regard to the absence of voting rights for the control shares, as of the date of the last control share acquisition by the acquirer or of any meeting of stockholders at which the voting rights of such shares are considered and not approved. If voting rights for control shares are approved at a stockholders meeting and the acquirer becomes entitled to vote a majority of the shares entitled to vote, all other stockholders may exercise appraisal rights. The fair value of the shares as determined for purposes of such appraisal rights may not be less than the highest price per share paid by the acquirer in the control share acquisition.

The control share acquisition statute does not apply to (1) shares acquired in a merger, consolidation or share exchange if the corporation is a party to the transaction or (2) acquisitions approved or exempted by the charter or bylaws of the corporation.

Our bylaws contain a provision exempting from the control share acquisition statute any and all acquisitions by any person of shares of our stock. There is no assurance that such provision will not be amended or eliminated at any time in the future.

Subtitle 8

Subtitle 8 of Title 3 of the MGCL permits a Maryland corporation with a class of equity securities registered under the Exchange Act and at least three independent directors to elect to be subject, by provision in its charter or bylaws or a resolution of its board of directors and notwithstanding any contrary provision in the charter or bylaws, to any or all of five provisions:

- a classified board;
- a two-thirds vote requirement for removing a director;
- a requirement that the number of directors be fixed only by vote of the directors;
- a requirement that a vacancy on the board be filled only by the remaining directors in office and for the remainder of the full term of the class of directors in which the vacancy occurred; and
- a majority requirement for the calling of a special meeting of stockholders.

Our charter provides that, pursuant to Subtitle 8, vacancies on the board may be filled only by the affirmative vote of a majority of the remaining directors in office, even if the remaining directors do not constitute a quorum, and any director elected to fill a vacancy shall serve for the remainder of the full term of the directorship in which the vacancy occurred. Through provisions in our charter and bylaws unrelated to Subtitle 8, we already (1) require the affirmative vote of the holders of not less than two-thirds of all of the votes entitled to be cast on the

matter for the removal of any director from the board, which removal will be allowed with or without cause, (2) vest in the board the exclusive power to fix the number of directorships and (3) require, unless called by the chairman of the board, chief executive officer, president or the board of directors, the written request of stockholders of not less than a majority of all the votes entitled to be cast at such a meeting to call a special meeting.

Meetings of Stockholders

Pursuant to our bylaws, a meeting of our stockholders for the election of directors and the transaction of any business will be held annually on a date and at the time set by our board of directors. In addition, the chairman of the board, chief executive officer, president or board of directors may call a special meeting of our stockholders. Subject to the provisions of our bylaws, a special meeting of our stockholders will also be called by the secretary upon the written request of the stockholders entitled to cast not less than a majority of all the votes entitled to be cast at the meeting.

Amendment to Our Charter and Bylaws

Except for amendments related to removal of directors, the restrictions on ownership and transfer of shares of our stock and the requirement of a two-thirds vote for amendments to these provisions (each of which require the affirmative vote of the holders of not less than two-thirds of all the votes entitled to be cast on the matter and the approval of our board of directors), our charter may be amended only with the approval of the board of directors and the affirmative vote of the holders of a majority of all of the votes entitled to be cast on the matter.

Our board of directors has the exclusive power to adopt, alter or repeal any provision of our bylaws and to make new bylaws. In addition, our stockholders may alter or repeal any provision of our bylaws and adopt new bylaws if any such alteration, repeal or adoption is approved by the affirmative vote of a majority of the votes entitled to be cast on the matter.

Dissolution of Two Harbors

Our dissolution must be approved by a majority of the entire board of directors and the affirmative vote of holders of not less than a majority of all of the votes entitled to be cast on the matter.

Advance Notice of Director Nominations and New Business

Our bylaws provide that, with respect to an annual meeting of stockholders, nominations of individuals for election to the board of directors and the proposal of other business to be considered by stockholders may be made only (1) pursuant to our notice of the meeting, (2) by or at the direction of our board of directors or (3) by a stockholder who was a stockholder of record both at the time of giving his notice and at the time of the meeting and who is entitled to vote at the meeting on the election of directors or on the proposal of other business, as the case may be, and has complied with the advance notice provisions set forth in our bylaws.

With respect to special meetings of stockholders, only the business specified in our notice of meeting may be brought before the meeting. Nominations of individuals for election to our board of directors may be made only (1) by or at the direction of our board of directors or (2) provided that the board of directors has determined that directors will be elected at such meeting, by a stockholder who was a stockholder of record both at the time of giving his notice and at the time of the meeting and who is entitled to vote at the meeting and has complied with the advance notice provisions set forth in our bylaws.

Anti-takeover Effect of Certain Provisions of Maryland Law and of Our Charter and Bylaws

Our charter and bylaws and Maryland law contain provisions that may delay, defer or prevent a change in control or other transaction that might involve a premium price for shares of our common stock or otherwise be in the best interests of our stockholders, including business combination provisions, supermajority vote requirements and advance notice requirements for director nominations and stockholder proposals. Likewise, if the provision in the bylaws opting out of the control share acquisition provisions of the MGCL were rescinded or if we were to opt into the classified board or other provisions of Subtitle 8, these provisions of the MGCL could have similar anti-takeover effects.

Exclusive Forum

Our bylaws provide that, unless we consent in writing to the selection of an alternative forum, the Circuit Court for Baltimore City, Maryland, or, if that court does not have jurisdiction, the United States District Court for

the District of Maryland, Baltimore Division, shall be the sole and exclusive forum for the following: any derivative action or proceeding brought on behalf of Two Harbors; any action asserting a claim of breach of any duty owed by any of our directors or officers or our other employees to us or to our stockholders; any action asserting a claim against us or any of our directors or officers or our other employees arising pursuant to any provision of the MGCL or our charter or bylaws; or any action asserting a claim against us or any of our directors or officers or our employees that is governed by the internal affairs doctrine. This choice of forum provision may limit a stockholder's ability to bring a claim in a judicial forum that the stockholder believes is favorable for disputes with us or our directors, officers or other employees, which may discourage lawsuits against us and our directors, officers and employees. Alternatively, if a court were to find these provisions of our bylaws inapplicable to, or unenforceable in respect of, one or more of the specified types of actions or proceedings, we may incur additional costs associated with resolving such matters in other jurisdictions, which could adversely affect our business, financial condition or results of operations.

Indemnification and Limitation of Directors' and Officers' Liability

Maryland law permits a Maryland corporation to include in its charter a provision eliminating the liability of its directors and officers to the corporation and its stockholders for money damages except for liability resulting from actual receipt of an improper benefit or profit in money, property or services or active and deliberate dishonesty that is established by a final judgment and is material to the cause of action. Our charter contains such a provision that eliminates such liability to the maximum extent permitted by Maryland law.

The MGCL requires us (unless our charter provides otherwise, which our charter does not) to indemnify a director or officer who has been successful, on the merits or otherwise, in the defense of any proceeding to which he or she is made or threatened to be made a party by reason of his or her service in that capacity. The MGCL permits a corporation to indemnify its present and former directors and officers, among others, against judgments, penalties, fines, settlements and reasonable expenses actually incurred by them in connection with any proceeding to which they may be made or threatened to be made a party by reason of their service in those or other capacities unless it is established that:

- the act or omission of the director or officer was material to the matter giving rise to the proceeding and (1) was committed in bad faith or (2) was the result of active and deliberate dishonesty;
- the director or officer actually received an improper personal benefit in money, property or services; or
- in the case of any criminal proceeding, the director or officer had reasonable cause to believe that the act or omission was unlawful.

However, under the MGCL, a Maryland corporation may not indemnify a director or officer in a suit by or in the right of the corporation in which the director or officer was adjudged liable to the corporation or in a proceeding in which the director or officer was adjudged liable on the basis that personal benefit was improperly received. A court may order indemnification if it determines that the director or officer is fairly and reasonably entitled to indemnification, even though the director or officer did not meet the prescribed standard of conduct or was adjudged liable on the basis that personal benefit was improperly received. However, indemnification for an adverse judgment in a suit by us or in our right, or for a judgment of liability on the basis that personal benefit was improperly received, is limited to expenses.

In addition, the MGCL permits a corporation to advance reasonable expenses to a director or officer upon the corporation's receipt of:

- a written affirmation by the director or officer of his or her good faith belief that he or she has met the standard of conduct necessary for indemnification by the corporation; and

- a written undertaking by the director or officer or on the director's or officer's behalf to repay the amount paid or reimbursed by the corporation if it is ultimately determined that the director or officer did not meet the standard of conduct.

Our charter authorizes us to obligate ourselves and our bylaws obligate us, to the maximum extent permitted by Maryland law in effect from time to time, to indemnify and, without requiring a preliminary determination of the ultimate entitlement to indemnification, pay or reimburse reasonable expenses in advance of final disposition of a proceeding to:

- any present or former director or officer of ours who is made or threatened to be made a party to the proceeding by reason of his or her service in that capacity; or
- any individual who, while a director or officer of ours and at our request, serves or has served another corporation, REIT, partnership, joint venture, trust, employee benefit plan or other enterprise as a director, officer, partner or trustee of such corporation, REIT, partnership, joint venture, trust, employee benefit plan or other enterprise and who is made or threatened to be made a party to the proceeding by reason of his or her service in that capacity.

Our charter and bylaws also permit us to indemnify and advance expenses to any person who served a predecessor of ours in any of the capacities described above and to any employee or agent of ours or a predecessor of ours.

We have entered into indemnification agreements with each of our directors and executive officers that provide for indemnification to the maximum extent permitted by Maryland law. In addition, the operating agreements of our subsidiaries provide that we, as managing member, and our officers and directors are indemnified to the fullest extent permitted by law.

Insofar as the foregoing provisions permit indemnification of directors, officers or persons controlling us for liability arising under the Securities Act, we have been informed that, in the opinion of the SEC, this indemnification is against public policy as expressed in the Securities Act and is therefore unenforceable.

REIT Qualification

Our charter provides that our board of directors may revoke or otherwise terminate our REIT election, without approval of our stockholders, if it determines that it is no longer in our best interests to continue to qualify as a REIT.

Common Stock

Subject to the preferential rights of any other class or series of shares of stock and to the provisions of our charter regarding the restrictions on ownership and transfer of shares of our stock, holders of shares of our common stock are entitled to receive dividends on such shares of common stock out of investments legally available therefor if, as and when authorized by our board of directors and declared by us, and the holders of our shares of common stock are entitled to share ratably in our investments legally available for distribution to our stockholders in the event of our liquidation, dissolution or winding up after payment of or adequate provision for all our known debts and liabilities.

Subject to the provisions of our charter regarding the restrictions on transfer and ownership of shares of our stock and except as may otherwise be specified in the terms of any class or series of shares of stock, each outstanding share of common stock entitles the holder to one vote on all matters submitted to a vote of stockholders, including the election of directors, and, except as provided with respect to any other class or series of shares of stock, the holders of such shares of common stock will possess the exclusive voting power. There is no cumulative voting in the election of our board of directors, which means that the holders of a majority of the outstanding shares of common stock can elect all of the directors then standing for election, and the holders of the remaining shares of common stock will not be able to elect any directors.

Holders of shares of common stock have no preference, conversion, exchange, sinking fund or redemption rights, have no preemptive rights to subscribe for any securities of our Company and generally have no appraisal rights. Subject to the provisions of our charter regarding the restrictions on transfer and ownership of shares of our stock, shares of common stock will have equal dividend, liquidation and other rights.

Under the MGCL, a Maryland corporation generally cannot dissolve, amend its charter, merge with another entity, transfer all or substantially all of its investments, engage in a share exchange or engage in similar transactions outside the ordinary course of business unless declared advisable by its board of directors and approved by the affirmative vote of stockholders holding at least two-thirds of the votes entitled to be cast on the matter unless a lesser percentage (but not less than a majority of all of the votes entitled to be cast on the matter) is set forth in the corporation's charter. Our charter provides that these matters (other than certain amendments to the provisions of our charter related to the removal of directors, the restrictions on ownership and transfer of shares of our stock and the requirement of a two-thirds vote for amendment to these provisions) may be approved by our stockholders by a majority of all of the votes entitled to be cast on the matter.

As of December 31, 2023, we had 103,206,457 shares of common stock issued and outstanding.

Preferred Stock

As of December 31, 2023, we had 5,085,268 shares of Series A Preferred Stock, 10,439,260 shares of 7.625% Series B Preferred Stock, 9,831,898 shares of Series C Preferred Stock (collectively, the "Outstanding Preferred Stock") issued and outstanding (collectively, the "Outstanding Preferred Stock"). As of December 31, 2023, we had available for issuance 70,950,000 authorized but undesignated and unissued shares of preferred stock. Our board of directors may, without the approval of holders of the Outstanding Preferred Stock or our common stock, designate additional series of authorized preferred stock ranking junior to or on parity with the Outstanding Preferred Stock or designate additional shares of the Outstanding Preferred Stock and authorize the issuance of such shares.

Description of Series A Preferred Stock, Series B Preferred Stock and Series C Preferred Stock

This description of certain terms of the Series A Preferred Stock, Series B Preferred Stock and Series C Preferred Stock does not purport to be complete and is in all respects subject to, and qualified in its entirety by references to the relevant provisions of our charter, including the articles supplementary designating the terms of the Series A Preferred Stock, Series B Preferred Stock and Series C Preferred Stock, our bylaws and Maryland law. Unless otherwise noted, the description of Series A Preferred Stock included in this section applies equally to Series B Preferred Stock and Series C Preferred Stock.

Maturity

The Series A Preferred Stock have no stated maturity and are not subject to any sinking fund or mandatory redemption. Shares of the Series A Preferred Stock will remain outstanding indefinitely unless we decide to redeem or otherwise repurchase them or they become convertible and are converted as described below under "— Conversion Rights." We are not required to set apart for payment the funds to redeem the Series A Preferred Stock.

The description of Series A Preferred Stock included in this section applies equally to Series B Preferred Stock and Series C Preferred Stock.

Ranking

The Series A Preferred Stock, with respect to rights to the payment of dividends and the distribution of assets upon our liquidation, dissolution or winding up, rank:

- senior to all classes or series of our common stock and any class or series of stock we may issue in the future that by its terms ranks junior to our Series A Preferred Stock, Series B Preferred Stock

and Series C Preferred Stock with respect to the payment of dividends and the distribution of assets in the event of our liquidation, dissolution or winding up (“Junior Stock”);

- on a parity with our Series B Preferred Stock and Series C Preferred Stock and any other any class or series of stock issued by us in the future that by its terms ranks on parity with the Series A Preferred Stock, Series B Preferred Stock and Series C Preferred Stock with respect to the payment of dividends and the distribution of assets in the event of our liquidation, dissolution or winding up (“Parity Stock”);
- junior to any class or series of stock we may issue in the future that by its terms ranks senior to the Parity Stock with respect to the payment of dividends and the distribution of assets in the event of our liquidation, dissolution or winding up (“Senior Stock”); and
- effectively junior to all of our existing and future indebtedness (including indebtedness convertible into or exchangeable for our common stock or preferred stock) and the indebtedness of our existing and future subsidiaries.

The description of Series A Preferred Stock included in this section applies equally to Series B Preferred Stock and Series C Preferred Stock.

Dividends

Holders of shares of the Series A Preferred Stock, Series B Preferred Stock and Series C Preferred Stock are entitled to receive, when, as and if authorized by our board of directors and declared by us, out of funds legally available for the payment of dividends, cumulative cash dividends. The initial dividend rates for the Series A Preferred Stock, Series B Preferred Stock and Series C Preferred Stock are as follows:

- For the Series A Preferred Stock, 8.125% of the \$25.00 per share liquidation preference per annum (equivalent to \$2.03125 per annum per share) until April 27, 2027, after which, dividends on the Series A Preferred Stock accumulate at a percentage of the \$25.00 liquidation preference equal to an annual floating rate of the Three-Month LIBOR Rate plus a spread of 5.660%;
- For the Series B Preferred Stock, 7.625% of the \$25.00 per share liquidation preference per annum (equivalent to \$1.90625 per annum per share) until July 27, 2027, after which, dividends on the Series B Preferred Stock accumulate at a percentage of the \$25.00 liquidation preference equal to an annual floating rate of the Three-Month LIBOR Rate plus a spread of 5.352%; and
- For the Series C Preferred Stock, 7.25% of the \$25.00 per share liquidation preference per annum (equivalent to \$1.8125 per annum per share) until January 27, 2025, after which, dividends on the Series C Preferred Stock accumulate at a percentage of the \$25.00 liquidation preference equal to an annual floating rate of the Three-Month LIBOR Rate plus a spread of 5.011%.

Dividends on the Series A Preferred Stock accumulate daily and be cumulative from, and including, the date of original issue and is payable quarterly in arrears on the 27th day of each April, July, October and January of each year (each, a “dividend payment date”). If any dividend payment date is not a business day, then the payment will be made on the next business day without any adjustment to the amount of dividends paid. If any dividend payment date thereafter is not a business day, then the dividend payment date will be postponed to the next succeeding business day, unless that day falls in the next calendar month, in which case the dividend payment date will be brought forward to the immediately preceding day that is a business day, and, in either case, dividends will accrue to, but excluding, the actual payment day.

During the floating rate period, any dividend payable on the Series A Preferred Stock, including dividends payable for any partial Dividend Period, is computed on the basis of a 360-day year and the number of days actually elapsed. Dividends is payable to holders of record as they appear on our stock records at the close of business on the

applicable record date, which is no fewer than ten days and no more than 35 days prior to the applicable dividend payment date, as shall be fixed by the board of directors (each, a “dividend record date”). The dividends payable on any dividend payment date include dividends accumulated to, but excluding, such dividend payment date.

For each Dividend Period during the floating rate period, LIBOR (the London interbank offered rate) (“Three-Month LIBOR Rate”) is determined by us, as of the applicable Dividend Determination Date (as defined below), in accordance with the following provisions:

- LIBOR will be the rate (expressed as a percentage per year) for deposits in U.S. dollars having an index maturity of three months, in amounts of at least \$1,000,000, as such rate appears on “Reuters Page LIBOR01” at approximately 11:00 a.m. (London time) on the relevant Dividend Determination Date; or
- if no such rate appears on “Reuters Page LIBOR01” or if the “Reuters Page LIBOR01” is not available at approximately 11:00 a.m. (London time) on the relevant Dividend Determination Date, then we will select four nationally-recognized banks in the London interbank market and request that the principal London offices of those four selected banks provide us with their offered quotation for deposits in U.S. dollars for a period of three months, commencing on the first day of the applicable Dividend Period, to prime banks in the London interbank market at approximately 11:00 a.m. (London time) on that Dividend Determination Date for the applicable Dividend Period. Offered quotations must be based on a principal amount equal to an amount that, in our discretion, is representative of a single transaction in U.S. dollars in the London interbank market at that time. If at least two quotations are provided, the Three-Month LIBOR Rate for such Dividend Period will be the arithmetic mean (rounded upward if necessary, to the nearest 0.00001 of 1%) of those quotations. If fewer than two quotations are provided, the Three-Month LIBOR Rate for such Dividend Period will be the arithmetic mean (rounded upward if necessary, to the nearest 0.00001 of 1%) of the rates quoted at approximately 11:00 a.m. (New York City time) on that Dividend Determination Date for such Dividend Period by three nationally-recognized banks in New York, New York selected by us, for loans in U.S. dollars to nationally-recognized European banks (as selected by us), for a period of three months commencing on the first day of such Dividend Period. The rates quoted must be based on an amount that, in our discretion, is representative of a single transaction in U.S. dollars in that market at that time. If fewer than three New York City banks selected by us do not quote rates in the manner described above, the Three-Month LIBOR Rate for the applicable Dividend Period is the same as for the immediately preceding Dividend Period, or, if there was no such Dividend Period, the dividend shall be calculated at the dividend rate in effect for the immediately preceding Dividend Period.

“Dividend Determination Date” means the London Business Day (as defined below) immediately preceding the first date of the applicable Dividend Period.

“Dividend Period” means the period from, and including, a dividend payment date to, but excluding, the next succeeding dividend payment date.

“London Business Day” means any day on which dealings in deposits in U.S. dollars are transacted in the London interbank market.

“Reuters Page LIBOR01” means the display so designated on the Reuters 3000 Xtra (or such other page as may replace the LIBOR01 page on that service, or such other service as may be nominated by the ICE Benchmark Administration Limited, or ICE, or its successor, or such other entity assuming the responsibility of ICE or its successor in the event ICE or its successor no longer does so, as the successor service, for the purpose of displaying London interbank offered rates for U.S. dollar deposits).

Notwithstanding the foregoing and solely with respect to the Series C Preferred Stock:

- (a) If we determine on the relevant Dividend Determination Date that the LIBOR base rate has been discontinued, then we will appoint a Calculation Agent (as defined below) and the Calculation Agent will use a substitute or successor base rate that it has determined in its sole discretion is most comparable to the LIBOR base rate, provided that if the Calculation Agent determines there is an industry-accepted successor base rate, then the Calculation Agent shall use such successor base rate; and
- (b) If the Calculation Agent has determined a substitute or successor base rate in accordance with the foregoing, the Calculation Agent in its sole discretion may determine what business day convention to use, the definition of business day, the dividend determination date and any other relevant methodology for calculating such substitute or successor base rate in a manner that is consistent with industry-accepted practices for such substitute or successor base rate.

“Calculation Agent” with respect to the Series C Preferred Stock shall mean a third-party independent financial institution of national standing with experience providing such services, which has been selected by us.

No dividends on shares of Series A Preferred Stock may be authorized by our board of directors or paid or set apart for payment by us at any time when the terms and provisions of any agreement of ours, including any agreement relating to our indebtedness, prohibit the authorization, payment or setting apart for payment thereof or provide that the authorization, payment or setting apart for payment thereof would constitute a breach of the agreement or a default under the agreement, or if the authorization, payment or setting apart for payment is restricted or prohibited by law.

Notwithstanding the foregoing, dividends on the Series A Preferred Stock will accumulate whether or not (i) the terms and provisions of any laws or agreements referred to in the preceding paragraph at any time prohibit the current payment of dividends, (ii) we have earnings, (iii) there are funds legally available for the payment of those dividends and (iv) those dividends are declared. No interest, or sum in lieu of interest, is payable in respect of any dividend payment or payments on the Series A Preferred Stock which may be in arrears, and holders of Series A Preferred Stock will not be entitled to any dividends in excess of full cumulative dividends described above. Any dividend payment made on the Series A Preferred Stock will first be credited against the earliest accumulated but unpaid dividend due with respect to those shares.

Future dividends on our common stock and preferred stock, including the Series A Preferred Stock is at the discretion of our board of directors and will depend on, among other things, our results of operations, cash flow from operations, financial condition and capital requirements, the annual distribution requirements under the REIT provisions of the Code, applicable law, any debt service requirements and any other factors our board of directors deems relevant. Accordingly, we cannot guarantee that we will be able to make cash distributions on the Series A Preferred Stock or what the actual dividends will be for any future period.

Except as noted below, unless full cumulative dividends on the Series A Preferred Stock, have been or contemporaneously are declared and paid or declared and a sum sufficient for the payment thereof is set apart for payment for all past Dividend Periods, no dividends (other than in shares of our common stock or other Junior Stock we may issue in the future) may be declared or paid or set apart for payment upon our common stock or other Junior Stock or Parity Stock we may issue in the future and no other distribution may be declared or made upon our common stock or other Junior Stock or Parity Stock we may issue in the future. In addition, our common stock and other Junior Stock or Parity Stock we may issue in the future may not be redeemed, purchased or otherwise acquired for any consideration (or any moneys be paid to or made available for a sinking fund for the redemption of any such securities) by us (except by conversion into or exchange for shares of, or options, warrants or rights to purchase or subscribe for, our common stock or other Junior Stock we may issue in the future or pursuant to an exchange offer made on the same terms to all holders of Series A Preferred Stock and all Parity Stock we may issue in the future). The foregoing will not, however, prevent the redemption, purchase or acquisition by us of shares of any class or series of stock for the purpose of enforcing restrictions on transfer and ownership of our stock contained in our

charter, or the redemption, purchase or acquisition by us of shares of our common stock for purposes of and in compliance with any incentive or benefit plan of ours.

When dividends are not paid in full (or a sum sufficient for such full payment is not so set apart) upon the Series A Preferred Stock and any Parity Stock we may issue in the future, all dividends declared upon the Series A Preferred Stock and such Parity Stock must be declared pro rata so that the amount of dividends declared per share of Series A Preferred Stock and such Parity Stock will in all cases bear to each other the same ratio that accumulated dividends per share on the Series A Preferred Stock and such Parity Stock (which will not include any accrual in respect of unpaid dividends for prior Dividend Periods if such Parity Stock do not have a cumulative dividend) bear to each other. No interest, or sum of money in lieu of interest, is payable in respect of any dividend payment or payments on the Series A Preferred Stock which may be in arrears.

The description of Series A Preferred Stock included in this section (other than the first paragraph and the discussion of the use of a Calculation Agent which applies solely to the Series C Preferred Stock) applies equally to Series B Preferred Stock and Series C Preferred Stock.

Liquidation Preference

In the event of our voluntary or involuntary liquidation, dissolution or winding up, the holders of Series A Preferred Stock are entitled to be paid out of the assets we have legally available for distribution to our stockholders, subject to the preferential rights of the holders of any Senior Stock, a liquidation preference of \$25.00 per share, plus any accumulated and unpaid dividends thereon (whether or not authorized or declared) to, but excluding, the payment date, before any distribution of assets is made to holders of common stock or other Junior Stock we may issue in the future; and the holders of Series A Preferred Stock are not entitled to any further payment.

In the event that, upon any such voluntary or involuntary liquidation, dissolution or winding up, our available assets are insufficient to pay the amount of the liquidating distributions on all outstanding shares of Series A Preferred Stock and any Parity Stock we may issue in the future, then the holders of Series A Preferred Stock and such Parity Stock will share ratably in any such distribution of assets in proportion to the full liquidating distributions to which they would otherwise be respectively entitled.

Notice of any such liquidation stating the payment date or dates when, and the place or places where, the amounts distributable in each circumstance shall be payable, is given no fewer than 30 days and no more than 60 days prior to the payment date, to each holder of record of Series A Preferred Stock at the address of such holder as it appears on our stock records. After payment of the full amount of the liquidating distributions to which they are entitled, the holders of Series A Preferred Stock have no right or claim to any of our remaining assets. The consolidation, conversion or merger of us with or into any other corporation, trust or entity or of any other entity with or into us, the sale, lease, transfer or conveyance of all or substantially all of our property or business or a statutory share exchange, will not be deemed to constitute a liquidation, dissolution or winding up of us (although such events may give rise to the special optional redemption and contingent conversion rights described below).

In determining whether a distribution (other than upon voluntary or involuntary liquidation), by dividend, redemption or other acquisition of shares of stock or otherwise, is permitted under Maryland law with respect to any share of any class or series of our stock, amounts that would be needed, if we were to be dissolved at the time of the distribution, to satisfy the preferential rights upon dissolution of holders of shares of Series A Preferred Stock will not be added to our total liabilities.

The description of Series A Preferred Stock included in this section applies equally to Series B Preferred Stock and Series C Preferred Stock.

Redemption

The Series A Preferred Stock, Series B Preferred Stock and Series C Preferred Stock are not redeemable by us prior to April 27, 2027, July 27, 2027 and January 27, 2025, respectively, except under circumstances where it is

necessary to preserve our qualification as a REIT for U.S. federal income tax purposes and except as described below under “—Special Optional Redemption” upon the occurrence of a Change of Control (as defined herein).

Optional Redemption. We may, at our option, upon not less than 30 nor more than 60 days’ notice, redeem the Series A Preferred Stock on and after April 27, 2027, the Series B Preferred Stock on and after July 27, 2027 and the Series C Preferred Stock on and after January 27, 2025, in whole or in part, at any time or from time to time, for cash at a redemption price of \$25.00 per share, plus any accumulated and unpaid dividends thereon (whether or not authorized or declared) to, but excluding, the redemption date, without interest.

Special Optional Redemption. Upon the occurrence of a Change of Control, we may, at our option, upon not less than 30 nor more than 60 days’ notice, redeem the Series A Preferred Stock, in whole or in part, within 120 days after the first date on which such Change of Control occurred, for cash at a redemption price of \$25.00 per share, plus any accumulated and unpaid dividends thereon (whether or not authorized or declared) to, but excluding, the redemption date. If, prior to the Change of Control Conversion Date, we have provided notice of our election to redeem some or all of the shares of Series A Preferred Stock (whether pursuant to our optional redemption right described above under “—Optional Redemption” or this special optional redemption right), the holders of Series A Preferred Stock will not have the Change of Control Conversion Right (as defined below) described below under “—Conversion Rights” with respect to the shares called for redemption.

A “Change of Control” is deemed to occur when, after the original issuance of the Series A Preferred Stock, the following have occurred and are continuing:

- the acquisition by any person, including any syndicate or group deemed to be a “person” under Section 13(d)(3) of the Exchange Act, of beneficial ownership, directly or indirectly, through a purchase, merger or other acquisition transaction or series of purchases, mergers or other acquisition transactions of our stock entitling that person to exercise more than 50% of the total voting power of all our stock entitled to vote generally in the election of our directors (except that such person is deemed to have beneficial ownership of all securities that such person has the right to acquire, whether such right is currently exercisable or is exercisable only upon the occurrence of a subsequent condition); and
- following the closing of any transaction referred to in the bullet point above, neither we nor the acquiring or surviving entity has a class of common securities (or American Depositary Receipts representing such securities) listed on the NYSE, the NYSE American LLC or the Nasdaq Stock Market, or listed or quoted on an exchange or quotation system that is a successor to the NYSE, the NYSE American LLC or the Nasdaq Stock Market.

Redemption Procedures. In the event we elect to redeem Series A Preferred Stock pursuant to our optional redemption right or our special optional redemption right, the notice of redemption will be given to each holder of record of Series A Preferred Stock called for redemption at such holder’s address as it appears on our stock records and will state the following:

- the redemption date;
- the number of shares of Series A Preferred Stock to be redeemed;
- the redemption price;
- the place or places where certificates (if any) for the Series A Preferred Stock are to be surrendered for payment of the redemption price;
- that dividends on the shares to be redeemed will cease to accumulate on the redemption date;

- whether such redemption is being made pursuant to the provisions described above under “—Optional Redemption” or “—Special Optional Redemption;”
- if applicable, that such redemption is being made in connection with a Change of Control and, in that case, a brief description of the transaction or transactions constituting such Change of Control; and
- if such redemption is being made in connection with a Change of Control, that the holders of the shares of Series A Preferred Stock being so called for redemption will not be able to tender such shares of Series A Preferred Stock for conversion in connection with the Change of Control and that each share of Series A Preferred Stock tendered for conversion that is called, prior to the Change of Control Conversion Date, for redemption will be redeemed on the related date of redemption instead of converted on the Change of Control Conversion Date.

If less than all of the Series A Preferred Stock held by any holder is to be redeemed, the notice given to such holder shall also specify the number of shares of Series A Preferred Stock held by such holder to be redeemed (or the method of determining such number). No failure to give such notice or any defect thereto or in the giving thereof will affect the validity of the proceedings for the redemption of any shares of Series A Preferred Stock, except as to the holder to whom notice was defective or not given.

Holders of shares of Series A Preferred Stock to be redeemed must surrender such shares at the place designated in the notice of redemption and is entitled to the redemption price and any accumulated and unpaid dividends payable upon the redemption following the surrender. If notice of redemption of any shares of Series A Preferred Stock has been given and if we have irrevocably set apart for payment the funds necessary for redemption (including any accumulated and unpaid dividends) in trust for the benefit of the holders of the shares of Series A Preferred Stock so called for redemption, then from and after the redemption date (unless we default in providing for the payment of the redemption price plus accumulated and unpaid dividends, if any), dividends will cease to accumulate on those shares of Series A Preferred Stock, those shares of Series A Preferred Stock will no longer be deemed outstanding and all rights of the holders of those shares will terminate, except the right to receive the redemption price plus accumulated and unpaid dividends, if any, payable upon redemption. If any redemption date is not a business day, then the redemption price and accumulated and unpaid dividends, if any, payable upon redemption may be paid on the next business day and no interest, additional dividends or other sums will accumulate on the amount payable for the period from and after that redemption date to that next business day. If less than all of the outstanding shares of Series A Preferred Stock are to be redeemed, the shares of Series A Preferred Stock to be redeemed will be selected pro rata (as nearly as may be practicable without creating fractional shares) or by lot. If such redemption is to be by lot and if, as a result of such redemption, any holder of Series A Preferred Stock would own, or be deemed by virtue of certain attribution provisions of the Code to own, in excess of 9.8% in value or in number of shares (whichever is more restrictive) of any class or series of our stock (including the Series A Preferred Stock), or violate any other restriction or limitation of our stock set forth in our charter, then, except as otherwise permitted in our charter, we will redeem the requisite number of shares of Series A Preferred Stock of that holder such that the holder will not own or be deemed by virtue of certain attribution provisions of the Code to own, subsequent to the redemption, in excess of 9.8% in value or in number of shares (whichever is more restrictive) of any class or series of our stock or violate any other restriction or limitation of our stock set forth in our charter.

Immediately prior to any redemption of Series A Preferred Stock, we will pay, in cash, any accumulated and unpaid dividends to, but excluding, the redemption date, unless a redemption date falls after a dividend record date and prior to the corresponding dividend payment date, in which case each holder of Series A Preferred Stock at the close of business on such dividend record date will be entitled to the dividend payable on such shares on the corresponding dividend payment date notwithstanding the redemption of such shares before such dividend payment date. Except as provided above, we will make no payment or allowance for unpaid dividends, whether or not in arrears, on shares of the Series A Preferred Stock to be redeemed.

Unless full cumulative dividends on all shares of Series A Preferred Stock have been or contemporaneously are declared and paid or declared and a sum sufficient for the payment thereof has been or contemporaneously is set apart for payment for all past Dividend Periods, no shares of Series A Preferred Stock may be redeemed unless all outstanding shares of Series A Preferred Stock are simultaneously redeemed, and we may not purchase or otherwise acquire directly or indirectly any shares of Series A Preferred Stock (except by conversion into or exchange for shares of, or options, warrants or rights to purchase or subscribe for, our common stock or other Junior Stock we may issue in the future or pursuant to a purchase or exchange offer made on the same terms to all holders of Series A Preferred Stock, if any); provided, however, that the foregoing will not prevent the redemption, purchase or acquisition by us of shares of Series A Preferred Stock for the purpose of enforcing restrictions on ownership and transfer of our stock contained in our charter.

Subject to applicable law, we may purchase shares of Series A Preferred Stock in the open market, by tender or by privately negotiated transactions. Any shares of Series A Preferred Stock that we acquire, by redemption or otherwise, shall be reclassified as authorized but unissued shares of preferred stock, without designation as to class or series, and may thereafter be issued as any class or series of preferred stock.

The description of Series A Preferred Stock included in this section (other than the first two paragraphs) applies equally to Series B Preferred Stock and Series C Preferred Stock.

Conversion Rights

Upon the occurrence of a Change of Control, each holder of Series A Preferred Stock has the right (unless, prior to the Change of Control Conversion Date, we have provided notice of our election to redeem some or all of the shares of Series A Preferred Stock held by such holder as described above under “—Redemption,” in which case such holder will have the right only with respect to shares of Series A Preferred Stock that are not called for redemption) to convert some or all of the shares of the Series A Preferred Stock held by such holder (the “Change of Control Conversion Right”) on the Change of Control Conversion Date into a number of shares of our common stock per share of Series A Preferred Stock (the “Common Stock Conversion Consideration”) equal to the lesser of:

- the quotient obtained by dividing (i) the sum of the \$25.00 liquidation preference per share of Series A Preferred Stock, plus any accumulated and unpaid dividends thereon (whether or not authorized or declared) to, but excluding, the Change of Control Conversion Date (unless the Change of Control Conversion Date is after a dividend record date and prior to the corresponding dividend payment date for the Series A Preferred Stock, in which case no additional amount for such accumulated and unpaid dividends to be paid on such dividend payment date will be included in this sum) by (ii) the common stock Price, as defined below (such quotient, the “Conversion Rate”); and
- 0.67277 (as adjusted)(the “Share Cap”) subject to certain adjustments as described below.

Notwithstanding anything in the articles supplementary designating the Series A Preferred Stock to the contrary and except as otherwise required by law, the persons who are the holders of record of shares of Series A Preferred Stock at the close of business on a dividend record date will be entitled to receive the dividend payable on the corresponding dividend payment date notwithstanding the conversion of those shares after such dividend record date and on or prior to such dividend payment date and, in such case, the full amount of such dividend will be paid on such dividend payment date to the persons who were the holders of record at the close of business on such dividend record date. Except as provided above, we will make no allowance for unpaid dividends that are not in arrears on the shares of Series A Preferred Stock to be converted.

The Share Cap is subject to pro rata adjustments for any share splits (including those effected pursuant to a distribution of our common stock to existing holders of our common stock), subdivisions or combinations (in each case, a “Share Split”) with respect to our common stock as follows: the adjusted Share Cap as the result of a Share Split will be the number of shares of our common stock that is equivalent to the product obtained by multiplying (i)

the Share Cap in effect immediately prior to such Share Split by (ii) a fraction, the numerator of which is the number of shares of our common stock outstanding immediately after giving effect to such Share Split and the denominator of which is the number of shares of our common stock outstanding immediately prior to such Share Split.

For the avoidance of doubt, subject to the immediately succeeding sentence, the aggregate number of shares of our common stock (or equivalent Alternative Conversion Consideration (as defined below), as applicable) issuable or deliverable, as applicable, in connection with the exercise of the Change of Control Conversion Right may not exceed the product of the Share Cap times the aggregate number of shares of the Series A Preferred issued and outstanding at the Change of Control Conversion Date (or equivalent Alternative Conversion Consideration, as applicable) (the "Exchange Cap"). The Exchange Cap is subject to pro rata adjustments for any Share Splits on the same basis as the corresponding adjustment to the Share Cap.

In the case of a Change of Control pursuant to which our common stock is or will be converted into cash, securities or other property or assets (including any combination thereof) (the "Alternative Form Consideration"), a holder of Series A Preferred Stock will receive upon conversion of such shares of the Series A Preferred Stock the kind and amount of Alternative Form Consideration which such holder would have owned or been entitled to receive upon the Change of Control had such holder held a number of shares of our common stock equal to the common stock Conversion Consideration immediately prior to the effective time of the Change of Control (the "Alternative Conversion Consideration"). The common stock Conversion Consideration or the Alternative Conversion Consideration, whichever shall be applicable to a Change of Control, is referred to as the "Conversion Consideration."

If the holders of our common stock have the opportunity to elect the form of consideration to be received in the Change of Control, the Conversion Consideration in respect of such Change of Control will be deemed to be the kind and amount of consideration actually received by holders of a majority of the outstanding shares of our common stock that made or voted for such an election (if electing between two types of consideration) or holders of a plurality of the outstanding shares of our common stock that made or voted for such an election (if electing between more than two types of consideration), as the case may be, and will be subject to any limitations to which all holders of our common stock are subject, including, without limitation, pro rata reductions applicable to any portion of the consideration payable in such Change of Control.

We will not issue fractional shares of our common stock upon the conversion of the Series A Preferred Stock in connection with a Change of Control. Instead, we will make a cash payment equal to the value of such fractional shares based upon the common stock Price used in determining the common stock Conversion Consideration for such Change of Control.

Within 15 days following the occurrence of a Change of Control, provided that we have not then exercised our right to redeem all shares of Series A Preferred Stock pursuant to the redemption provisions described above, we will provide to holders of Series A Preferred Stock a notice of occurrence of the Change of Control that describes the resulting Change of Control Conversion Right, which notice shall be delivered to the holders of record of the shares of Series A Preferred Stock to their addresses as they appear on our stock records. No failure to give such notice or any defect thereto or in the giving thereof will affect the validity of the proceedings for the conversion of any shares of Series A Preferred Stock except as to the holder to whom notice was defective or not given. This notice will state the following:

- the events constituting the Change of Control;
- the date of the Change of Control;
- the last date on which the holders of Series A Preferred Stock may exercise their Change of Control Conversion Right;
- the method and period for calculating the common stock Price;

- the Change of Control Conversion Date;
- that if, prior to the Change of Control Conversion Date, we have provided notice of our election to redeem all or any shares of Series A Preferred Stock, holders of Series A Preferred Stock that are subject to such notice of redemption will not be able to convert the shares of Series A Preferred called for redemption and such shares will be redeemed on the related redemption date, even if such shares have already been tendered for conversion pursuant to the Change of Control Conversion Right;
- if applicable, the type and amount of Alternative Conversion Consideration entitled to be received per share of Series A Preferred Stock;
- the name and address of the paying agent, transfer agent and conversion agent for the Series A Preferred Stock;
- the procedures that the holders of Series A Preferred Stock must follow to exercise the Change of Control Conversion Right (including procedures for surrendering shares of Series A Preferred Stock for conversion through the facilities of a Depositary (as defined below)), including the form of conversion notice to be delivered by such holders as described below; and
- the last date on which holders of Series A Preferred Stock may withdraw shares of Series A Preferred Stock surrendered for conversion and the procedures that such holders must follow to effect such a withdrawal.

Under such circumstances, we also will issue a press release containing such notice for publication on Dow Jones & Company, Inc., Business Wire, PR Newswire or Bloomberg Business News (or, if these organizations are not in existence at the time of issuance of the press release, such other news or press organization as is reasonably calculated to broadly disseminate the relevant information to the public), and post a notice on our website, in any event prior to the opening of business on the first business day following any date on which we provide the notice described above to the holders of Series A Preferred Stock.

To exercise the Change of Control Conversion Right, the holders of Series A Preferred Stock will be required to deliver, on or before the close of business on the Change of Control Conversion Date, the certificates (if any) representing the shares of Series A Preferred Stock to be converted, duly endorsed for transfer (or, in the case of any shares of Series A Preferred Stock held in book-entry form through a Depositary or shares directly registered with the transfer agent, therefor, to deliver, on or before the close of business on the Change of Control Conversion Date, the shares of Series A Preferred Stock to be converted through the facilities of such Depositary or through such transfer agent, respectively), together with a written conversion notice in the form provided by us, duly completed, to our transfer agent. The conversion notice must state:

- the relevant Change of Control Conversion Date;
- the number of shares of Series A Preferred Stock to be converted; and
- that the shares of the Series A Preferred Stock are to be converted pursuant to the applicable provisions of the articles supplementary designating the Series A Preferred Stock.

The “Change of Control Conversion Date” is the date the Series A Preferred Stock is to be converted, which will be a business day selected by us that is no fewer than 20 days nor more than 35 days after the date on which we provide the notice described above to the holders of Series A Preferred Stock.

The “common stock Price” is (i) if the consideration to be received in the Change of Control by the holders of our common stock is solely cash, the amount of cash consideration per share of our common stock or (ii) if the consideration to be received in the Change of Control by holders of our common stock is other than solely cash (x) the average of the closing sale prices per share of our common stock (or, if no closing sale price is reported, the average of the closing bid and ask prices per share or, if more than one in either case, the average of the average closing bid and the average closing ask prices per share) for the ten consecutive trading days immediately preceding, but excluding, the date on which such Change of Control occurred as reported on the principal U.S. securities exchange on which our common stock is then traded, or (y) if our common stock is not then listed for trading on a U.S. securities exchange, the average of the last quoted bid prices for our common stock in the over-the-counter market as reported by Pink OTC Markets Inc. or a similar organization for the ten consecutive trading days immediately preceding, but excluding, the date on which such Change of Control occurred.

Holders of Series A Preferred Stock may withdraw any notice of exercise of a Change of Control Conversion Right (in whole or in part) by a written notice of withdrawal delivered to our transfer agent prior to the close of business on the business day prior to the Change of Control Conversion Date. The notice of withdrawal delivered by any holder must state:

- the number of withdrawn shares of Series A Preferred Stock;
- if certificated shares of Series A Preferred Stock have been surrendered for conversion, the certificate numbers of the withdrawn shares of Series A Preferred Stock; and
- the number of shares of Series A Preferred Stock, if any, which remain subject to the holder’s conversion notice.

Notwithstanding the foregoing, if any shares of Series A Preferred (each, a “Depository”), the conversion notice and/or the notice of withdrawal, as applicable, must comply with applicable procedures, if any, of the applicable Depository.

Shares of Series A Preferred Stock as to which the Change of Control Conversion Right has been properly exercised and for which the conversion notice has not been properly withdrawn will be converted into the applicable Conversion Consideration in accordance with the Change of Control Conversion Right on the Change of Control Conversion Date, unless prior to the Change of Control Conversion Date we have provided notice of our election to redeem some or all of the shares of Series A Preferred Stock, as described above under “—Redemption,” in which case only the shares of Series A Preferred Stock properly surrendered for conversion and not properly withdrawn that are not called for redemption will be converted as aforesaid. If we elect to redeem shares of Series A Preferred Stock that would otherwise be converted into the applicable Conversion Consideration on a Change of Control Conversion Date, such shares of Series A Preferred Stock will not be so converted and the holders of such shares will be entitled to receive on the applicable redemption date the redemption price described above under “—Redemption—Optional Redemption” or “—Redemption—Special Optional Redemption,” as applicable.

We will deliver all securities, cash and any other property owing upon conversion no later than the third business day following the Change of Control Conversion Date. Notwithstanding the foregoing, the persons entitled to receive any shares of our common stock or other securities delivered on conversion will be deemed to have become the holders of record thereof as of the Change of Control Conversion Date.

In connection with the exercise of any Change of Control Conversion Right, we will comply with all applicable federal and state securities laws and stock exchange rules in connection with any conversion of shares of the Series A Preferred Stock into shares of our common stock or other property. Notwithstanding any other provision of the Series A Preferred Stock, no holder of Series A Preferred Stock will be entitled to convert such shares of the Series A Preferred Stock into shares of our common stock to the extent that receipt of such shares of common stock would cause such holder (or any other person) to violate the applicable restrictions on transfer and ownership of our stock contained in our charter, unless we provide an exemption from this limitation to such holder.

The Change of Control conversion feature may make it more difficult for a third party to acquire us or discourage a party from acquiring us. These change of control conversion rights may also make it more difficult for a party to acquire us or discourage a party from acquiring us.”

Except as provided above in connection with a Change of Control, the Series A Preferred Stock is not convertible into or exchangeable for any other securities or property.

The description of Series A Preferred Stock included in this section applies equally to Series B Preferred Stock and Series C Preferred Stock, except with respect to calculation of the Common Stock Conversion Consideration as described in the first paragraph, where the share cap for the Series B Preferred Stock is equal to 0.63516 (as adjusted) and the share cap for the Series C Preferred Stock is equal to 0.81116.

Voting Rights

Holders of Series A Preferred Stock do not have any voting rights, except as set forth below.

Whenever dividends on any shares of Series A Preferred Stock are in arrears for six or more full quarterly Dividend Periods, whether or not consecutive, the number of directors constituting our board of directors will be automatically increased by two (if not already increased by two by reason of the election of directors by the holders of any other class or series of preferred stock we may issue in the future and upon which like voting rights have been conferred and are exercisable) and the holders of Series A Preferred Stock, voting as a single class with holders of all other classes or series of Parity Stock we may issue in the future and upon which like voting rights have been conferred and are exercisable, will be entitled to vote for the election of those two additional directors at a special meeting called by us at the request of the holders of record of at least 20% of the outstanding shares of Series A Preferred Stock and all other classes or series of preferred stock we may issue in the future and upon which like voting rights have been conferred and are exercisable to be held no later than 90 days after our receipt of such request (unless the request is received less than 90 days before the date fixed for the next annual or special meeting of our stockholders, in which case, such vote will be held at the earlier of the next annual or special meeting of the stockholders to the extent permitted by applicable law), and at each subsequent annual meeting until all dividends accumulated on the Series A Preferred Stock for all past Dividend Periods and the then current Dividend Period will have been fully paid. In that case, the right of holders the Series A Preferred Stock to elect any directors will cease and, unless there are other classes or series of our preferred stock upon which like voting rights have been conferred and are exercisable, the term of office of any directors elected by holders of Series A Preferred Stock will immediately terminate and the number of directors constituting the board of directors will be reduced accordingly. If we fail to call the above special meeting within 20 days of receiving proper notice, any holder of our Series A Preferred Stock (or any other series of our preferred stock upon which like voting rights have been conferred and are exercisable) may call such a meeting at our expense solely for the election of such additional directors. For the avoidance of doubt, in no event will the total number of directors elected by holders of Series A Preferred Stock (voting together as a single class with the holders of all other classes or series of preferred stock we may issue in the future and upon which like voting rights have been conferred and are exercisable) pursuant to these voting rights exceed two. The directors elected by the holders of the Series A Preferred Stock and the holders of all other classes or series of preferred stock upon which like voting rights have been conferred and are exercisable will be elected by a plurality of the votes cast by the holders of the outstanding shares of Series A Preferred Stock when they have the voting rights described in this paragraph and any other classes or series of preferred stock we may issue in the future and upon which like voting rights have been conferred and are exercisable (voting together as a single class) to serve until our next annual meeting of stockholders and until their successors are duly elected and qualified or until such directors' right to hold the office terminates as described above, whichever occurs earlier.

On each matter on which holders of Series A Preferred Stock are entitled to vote, each share of Series A Preferred Stock is entitled to one vote, except that when the Series A Preferred Stock and shares of any other class or series of preferred stock we may issue in the future have the right to vote with the Series A Preferred Stock as a single class on any matter, the Series A Preferred Stock and each such other class or series of stock will have one vote for each \$25.00 of liquidation preference (excluding accumulated dividends). If, at any time when the voting rights conferred upon the Series A Preferred Stock are exercisable, any vacancy in the office of a director elected by

the holders of Series A Preferred Stock and any other classes or series of preferred stock upon which like voting rights have been conferred and are exercisable will occur, then such vacancy may be filled only by the remaining such director or by vote of the holders of the outstanding Series A Preferred Stock and any other classes or series of preferred stock upon which like voting rights have been conferred and are exercisable.

Any director elected by holders of shares of Series A Preferred Stock and any class or series of preferred stock we may issue in the future upon which like voting rights have been conferred and are exercisable may be removed at any time, with or without cause, by the vote of, and may not be removed otherwise than by the vote of, the holders of record of a majority of the outstanding shares of Series A Preferred Stock and any class or series of preferred stock we may issue in the future when they have the voting rights described above (voting as a single class with all other classes or series of preferred stock we may issue in the future upon which like voting rights have been conferred and are exercisable).

So long as any shares of Series A Preferred Stock remain outstanding, we will not, without the affirmative vote or consent of the holders of at least two-thirds of the shares of Series A Preferred Stock outstanding at the time, voting together as a single class with the shares of Series A Preferred Stock and all classes or series of Parity Stock we may issue in the future and upon which like voting rights have been conferred and are exercisable (and which have been adversely impacted in the case of clause (ii) below), (i) authorize, create, or increase the authorized or issued amount of, any class or series of Senior Stock or reclassify any of our authorized stock into such shares, or create or authorize or issue any obligation or security convertible into or evidencing the right to purchase any such shares or (ii) amend, alter or repeal the provisions of our charter, whether by merger, conversion, consolidation or otherwise, so as to materially and adversely affect any right, preference, privilege or voting power of the Series A Preferred Stock (each, an "Event"); provided, however, with respect to the occurrence of any Event set forth in clause (ii) above, so long as the Series A Preferred Stock remains outstanding with the terms thereof materially unchanged or the holders of Series A Preferred Stock receive shares of stock or other equity interests with rights, preferences, privileges and voting powers substantially the same as those of the Series A Preferred Stock taking into account that upon the occurrence of an Event we may not be the successor entity, the occurrence of any such Event will not be deemed to materially and adversely affect the rights, preferences, privileges or voting power of holders of Series A Preferred Stock; and, provided further, that any increase in the amount of the authorized or issued Series A Preferred Stock or the creation or issuance, or any increase in the amounts authorized of any Parity Stock or Junior Stock will not be deemed to materially and adversely affect the rights, preferences, privileges or voting powers of holders of Series A Preferred Stock. Notwithstanding the foregoing, if any amendment, alteration or repeal of any provision of our charter would materially and adversely affect the rights, preferences, privileges or voting rights of the Series A Preferred Stock disproportionately relative to other classes or series of Parity Stock, then the affirmative vote or consent of the holders of at least two-thirds of the outstanding shares of Series A Preferred Stock, (each voting as a separate class) shall also be required.

The foregoing voting provisions will not apply if, at or prior to the time when the act with respect to which such vote would otherwise be required shall be effected, all outstanding shares of Series A Preferred Stock have been redeemed or called for redemption upon proper notice and sufficient funds have been irrevocably set apart to effect such redemption.

Except as expressly stated in the articles supplementary designating the Series A Preferred Stock, the Series A Preferred Stock will not have any relative, participating, optional or other special voting rights or powers and the consent of the holders thereof will not be required for the taking of any corporate action. The holders of each of the Series A Preferred Stock have exclusive voting rights on any amendment to our charter that would alter the contract rights, as expressly set forth in the charter, of only each of the Series A Preferred Stock.

The description of Series A Preferred Stock included in this section applies equally to Series B Preferred Stock and Series C Preferred Stock

Information Rights

During any period in which we are not subject to Section 13 or 15(d) of the Exchange Act and any shares of Series A Preferred Stock are outstanding, we will use our best efforts to transmit through our website at www.twoharborsinvestment.com (or other permissible means under the Exchange Act) copies of the Annual Reports on Form 10-K and Quarterly Reports on Form 10-Q that we would have been required to file with the SEC pursuant to Section 13 or 15(d) of the Exchange Act if we were subject thereto (other than any exhibits that would have been required). We will use our best efforts to provide such reports on our website within 15 days after the respective dates by which we would have been required to file such reports with the SEC if we were subject to Section 13 or 15(d) of the Exchange Act and we were a “large accelerated filer” within the meaning of the Exchange Act.

The description of Series A Preferred Stock included in this section applies equally to Series B Preferred Stock and Series C Preferred Stock.

Restrictions on Transfer and Ownership

In order to ensure that we remain qualified as a REIT for U.S. federal income tax purposes, among other purposes, our charter, including the articles supplementary setting forth the terms of the Series A Preferred Stock, provides that generally no person, other than certain excepted holders, may own, or be deemed to own by virtue of the attribution provisions of the Code, more than 9.8% in value or in number of shares, whichever is more restrictive, of the outstanding shares of any class or series of our stock. These provisions may restrict the ability of a holder of Series A Preferred Stock to convert such stock into our common stock as described above under “—Conversion Rights.” Our board of directors may, in its sole discretion, exempt a person from the 9.8% ownership limit under certain circumstances.

The description of Series A Preferred Stock included in this section applies equally to Series B Preferred Stock and Series C Preferred Stock.

Preemptive Rights

No holders of Series A Preferred Stock, as holders of Series A Preferred Stock, have any preemptive rights to purchase or subscribe for our common stock or any of our other securities.

The description of Series A Preferred Stock included in this section applies equally to Series B Preferred Stock and Series C Preferred Stock.

TWO HARBORS INVESTMENT CORP.

Subsidiaries of Registrant

The following entities comprise the direct or indirect wholly owned subsidiaries of Two Harbors Investment Corp. as of the date of this filing:

Name	State of Organization	Percent Ownership
Agate Bay Residential Mortgage Securities LLC	Delaware	100%
Area RE Partners Columbus LLC	Delaware	20%
CYS/Area LP	Delaware	99%
CYS Condo GP LLC	Delaware	100%
CYS Investments LLC	Maryland	100%
Eiger Holdings Company LLC	Delaware	100%
Eiger Partnership LLC	Delaware	100%
Matrix Financial Services Corporation	Arizona	100%
North Shore Assets LLC	Delaware	100%
North Shore Mortgage Opportunity LLC	Delaware	100%
RoundPoint Mortgage Servicing LLC	Delaware	100%
RoundPoint Mortgage Solutions, LLC	Delaware	100%
TH Asset Holdings LLC	Delaware	100%
TH Asset Investment Corp.	Delaware	100%
TH MSR Issuer Trust	Delaware	100%
TH Servicing Advance Receivables I, LLC	Delaware	100%
TH Servicing Advance Receivables Issuer Trust I	Delaware	100%
TH TRS Corp.	Delaware	100%
Two Harbors Asset I, LLC	Delaware	100%
Two Harbors Asset II, LLC	Delaware	100%
Two Harbors Operating Company LLC	Delaware	100%

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in the following Registration Statements:

- Registration Statements (Form S-8 No. 333-204220 and 333-188875) pertaining to the Second Restated 2009 Equity Incentive Plan of Two Harbors Investment Corp.,
- Registration Statement (Form S-8 No. 333-256283) pertaining to the 2021 Equity Incentive Plan of Two Harbors Investment Corp.,
- Registration Statement (Form S-3 No. 333-268267) pertaining to the Dividend Reinvestment and Direct Stock Purchase Plan of Two Harbors Investment Corp., and
- Registration Statement (Form S-3 No. 333-253606) pertaining to the registration of common stock, preferred stock, debt securities, and depositary shares of Two Harbors Investment Corp.;

of our reports dated February 20, 2024, with respect to the consolidated financial statements of Two Harbors Investment Corp. and the effectiveness of internal control over financial reporting of Two Harbors Investment Corp. included in this Annual Report (Form 10-K) of Two Harbors Investment Corp. for the year ended December 31, 2023.

/s/ Ernst & Young LLP

Minneapolis, Minnesota
February 20, 2024

**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 Annual Report on Form 10-K 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: February 20, 2024

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

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

I, Mary Risky, certify that:

1. I have reviewed this Annual Report on Form 10-K 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: February 20, 2024

/s/ Mary Risky
Mary Risky
Chief Financial Officer

CERTIFICATION

Pursuant to 18 U.S.C. §1350, the undersigned officer of Two Harbors Investment Corp. (the “Registrant”) hereby certifies that the Registrant’s Annual Report on Form 10-K for the fiscal year ended December 31, 2023 (the “Annual 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 Annual Report fairly presents, in all material respects, the financial condition and results of operations of the Registrant.

Date: February 20, 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 Annual Report or as a separate disclosure document.

CERTIFICATION

Pursuant to 18 U.S.C. §1350, the undersigned officer of Two Harbors Investment Corp. (the “Registrant”) hereby certifies that the Registrant’s Annual Report on Form 10-K for the fiscal year ended December 31, 2023 (the “Annual 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 Annual Report fairly presents, in all material respects, the financial condition and results of operations of the Registrant.

Date: February 20, 2024

/s/ Mary Risky

Mary Risky

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 Annual Report or as a separate disclosure document.