



Two Harbors Investment Corp.
Third Quarter 2022 Earnings Call Transcript

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PRESENTERS

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Q&A PARTICIPANTS

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Trevor Cranston – JMP Securities
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Doug Harter – Credit Suisse
Rick Shane – J.P. Morgan
Arren Cyganovich – Citi
Eric Hagen – BTIG

PREPARED REMARKS

Operator Good morning, my name is Latonya and I will be your conference facilitator.

At this time, I would like to welcome everyone to Two Harbors' third quarter 2022 financial results conference call. All participants will be in a listen-only mode. After the speakers' remarks, there will be a question and answer period.

I would now like to turn over the call to Paulina Sims.

Paulina Sims Good morning everyone and welcome to our call to discuss Two Harbors' third quarter 2022 financial results. With me on the call this morning are Bill Greenberg, our President and Chief Executive Officer, Nick Letica, our Chief Investment Officer, and Mary Risky, our Chief Financial Officer.

The earnings press release and presentation associated with today's call have been filed with the SEC and are available on the SEC's website as well as the Investor Relations page of our website at twoharborsinvestment.com. In our earnings release and presentation, we have provided a reconciliation of GAAP to non-GAAP financial measures and we urge you to review this information in conjunction with today's call.

As a reminder, our comments today will include forward-looking statements which are subject to risks and uncertainties that may cause our results to differ materially from expectations. These are described on Page 2 of the presentation and in our Form 10-K and subsequent reports filed with the SEC. Except as may be required by law, Two Harbors does not update forward-looking statements and disclaims any obligation to do so.

I will now turn the call over to Bill.

Bill Greenberg Thank you, Paulina. Good morning everyone and welcome to our third quarter earnings call.

I'd like to begin by extending a very warm welcome to Nick Letica, our new Chief Investment Officer. Nick brings more than three decades of experience in the fixed-income and mortgage-backed securities' markets and we are very excited, and fortunate, to have him on our team.

This morning, I will provide some color on the market environment and our performance. Mary will give more details on our financial results, and Nick will discuss our portfolio activity, risk profile, and outlook.

Please turn to **slide 3**. Our book value at September 30th was \$16.42 per share, representing a negative 16.2% total economic quarterly return. The portfolio performance reflects one of the most challenging market environments in decades. Risk assets widened against the backdrop of stubbornly high inflation, uncertainty surrounding monetary policy, and higher interest rates. The volatility of interest rates and spreads intensified during the third quarter and peaked in the last week of September.

As mortgages cheapened, and as book value declined in September, we allowed our economic debt-to-equity ratio to drift higher, from 6.4 to 7.5 times. In October, being respectful of market volatility, we thought it prudent to somewhat reduce our leverage. We sold RMBS and used some of the proceeds to repurchase 2.9 million shares of preferred stock at a deep discount to par. At the end of October, our debt-to-equity ratio was right around 7x.

We felt this was a good use of capital given that the prefs have a low/mid-teens yield with zero convexity risk, zero prepayment risk, and zero credit or market risk. The accretion to common book value of 26 cents can be thought of as recouping certain RMBS losses over the period that were funded with that capital. In rough terms, a portfolio of 3.5 through 5 percent coupon RMBS with 8 times leverage would have lost a little over 20% on equity over the last two quarters, while our preferred shares had a total return around negative 25%. It's also possible to think of this trade as selling RMBS at spread levels as they existed 2 quarters ago.

Please turn to **slide 4**. Although headline CPI in September ticked down slightly to 8.2%, core CPI accelerated to 6.6% to reach a new multi-decade high. Nevertheless, the market has confidence that the Fed will be successful in bringing inflation lower, and expectations, as determined by the tradeable market in the future CPI fixings, are that year-over-year CPI will have a 3% handle by next summer, as seen in Figure 1. After delivering a fourth straight 75 basis point hike last week, Chairman Powell suggested that even though the Fed may slow its pace of hikes in the near term, the terminal rate is still a long way away, and it is very premature to talk about a pause. Indeed, in the wake of the Fed's meeting, current market pricing implies another 125 basis points of hikes over the next four meetings, which would bring the implied fed funds rate to north of 5% by mid-2023 before the Fed pauses, as seen in Figure 2. Fed officials,

including the Chairman, have been very outspoken that they are not expecting to pivot and to cut rates in 2023.

Mortgage spreads reacted in line with the outsized macro volatility, as the depth and liquidity of the mortgage market allowed participants to adjust their exposure to risky assets very quickly. In Figure 3, we show the performance versus rate hedges on the RMBS coupon stack for each of the three months of the third quarter. July saw large outperformance across coupons followed by significant underperformance in August and September. Overall, belly coupons of 3.5's and 4's performed the worst, underperforming rate hedges by about 50 ticks.

Please turn to **slide 5**. The third quarter environment for mortgages was a continuation of what we experienced in the first half of the year. Current coupon static spreads widened another 38 basis points during the quarter, while option adjusted spreads increased 39 basis points, as seen in Figure 1. With this recent re-pricing, spreads are now at levels that have only been seen in acute phases of previous crisis periods. Indeed, the current spread levels are above the dotted lines in the figure, which represent the 90th percentile spreads over the last 20 years.

One side effect of the rapidly rising rate environment and a mortgage index that has a dollar price in the 80's is that the convexity of the index is at all-time highs, as seen in Figure 2. Mortgages are famously negatively convex which means the changing duration of the securities needs to be constantly rebalanced as rates move. At these rates and dollar prices, however, the mortgage index has essentially zero convexity, and it becomes easier to hedge deep discount securities. Even the so-called higher coupons are below par and benefit from a convexity profile which is relatively benign.

Figure 3 shows static and OAS spread curves across the coupon stack, and their changes from last quarter. The astute observer may recognize that these curves are somewhat different from what we showed last quarter. The reason is that we have updated both our expectations around prepayments in this deep discount environment and also moved from showing LIBOR spreads to those relative to Treasuries.

From this chart it's easy to see that rates rose, as the curves all shifted to the right, and spreads widened, as the curves shifted upwards. While interest rates have risen very quickly this year, and durations on these lower coupon bonds have fully extended, we have yet to actually see prepay speeds also fully bottom out. Speeds on 1.5's are still slower than 2's and speeds on 2's are still slower than 2.5's. Many models have put floors on how slow prepayments can be and many of those models are now starting to over-project speeds. The very low spreads on the lowest coupons are indications that our speed expectations are likely slower than the rest of the market and, despite significant underperformance in these coupons last quarter, we see further downside performance risk. The higher coupons offer significantly more value with static spreads above 150 basis points, and OAS's around 50. With the duration of the 5% coupon being only 60% of the duration of the 2% coupon, we see the value of higher coupons to be even greater when the spreads are expressed per unit of risk or duration. Nick

will also have a few words to say about the comparison between higher and lower coupons in a special topic in a few moments.

Now I will turn it over to Mary to discuss our financial results in more detail.

Mary Risky

Thank you, Bill and good morning everyone.

Please turn to **slide 6**. As a reminder, the discussion of our financial results today reflects the one-for-four reverse stock split effected on November 1st. For the third quarter, the company reported a comprehensive loss of \$287.8 million, or \$(3.35) per weighted average basic common share. Our book value was \$16.42 per share compared to \$20.41 at June 30th. Including the 68 cent common dividend results in a quarterly economic return of negative 16.2%. The results primarily reflect the mortgage spread widening Bill discussed earlier and, to a lesser degree, higher hedging costs as a result of the elevated volatility during the quarter. Post quarter end, we repurchased 2.9 million shares of preferred stock, contributing approximately \$0.26 to common book value and lowering our ratio of preferred stock to total equity from 34% to 31%.

Moving on to **slide 7**, Earnings Available for Distribution was \$0.64 per share compared to \$0.87 for the second quarter.

Interest income increased by \$37.4 million to over \$94 million primarily due to a larger RMBS portfolio and rotation into up-in-coupon securities. Interest income also benefited from lower amortization as prepayment speeds continued to slow and from higher rates on cash balances.

Likewise, interest expense rose by \$46.3 million to \$83.4 million. The increase was driven by an overall rise in interest rates and higher borrowing balances in Agency repo and MSR revolving credit facilities.

TBA dollar roll income declined by almost \$20 million to \$37.8 million, as a result of lower average notional balances as well as the absence of roll specialness. Finally, losses from US Treasury futures decreased by \$4.0 million as short term rates rose and the yield curve flattened.

Turning to MSR, net servicing revenue decreased by \$2.9 million to \$73.2 million. The decline reflects the impact of the sale of \$20 billion UPB in MSR during the quarter.

We expect our calculation of EAD will moderate over the next several quarters as a result of rising rates, an inverted yield curve, and other factors impacting our income and hedged financing costs differently under our accounting methods. EAD for our Agency fixed rate RMBS is calculated using a GAAP concept of amortized cost and yield-to-maturity determined at time of purchase, resulting in coupon and premium amortization not being impacted by rising rates or mortgage spreads. Net MSR servicing income and amortization is based on original pricing yield, so does not include the benefit of either increased float income from rising short term rates or

lower compensating interest due to slower prepayments. Financing costs are largely variable and short-term, therefore react more quickly to rising rates than yields on our longer term assets, which will increase as we reinvest at current yields-to-maturity. And finally, EAD for U.S. Treasury futures income represents the sum of the implied net cash and expected change in price of a financed U.S. treasury, which differs from the alternative debt hedging instrument of a payer swap that only considers the net cash paid or received in EAD but not the change in expected price. Unexpected changes in futures prices is not included in EAD, which was a significant gain during Q3. We also utilize Eurodollar and Fed funds futures in our interest rate hedging mix and those gains or losses are also not included in EAD.

In this environment, where EAD diverges from the earnings potential we know to be available in the market, we emphasize our portfolio return outlook which we will review in more detail later in the presentation.

Turning to **page 8**, the portfolio yield increased 22 basis points to 4.61%, driven primarily by our investment in higher coupon RMBS. Our realized net spread in the quarter was 1.77% compared to 2.70% in the prior quarter, as higher portfolio yields were more than offset by an increase in the cost of funds. Please note that beginning this quarter, we are including U.S. Treasury futures income and implied financing costs in the yield table.

Please turn to **slide 9**. By most measures, there was a substantial amount of rate volatility during the quarter. In spite of that, funding in the repo market remained liquid and well-supported. Similar to prior quarters, funding costs for Agency RMBS notched higher on an absolute basis closely following actual and expected Fed hikes. However, as shown in the chart in the upper right, the Spread to SOFR remains low. The weighted average days to maturity increased to 96 days as of quarter end, and we have since rolled substantially all of our balances beyond the turn of the year. We maintained access to diverse funding sources for MSR and our unused, uncommitted MSR asset financing capacity stood at \$199 million at quarter end.

Please turn to **slide 10**. Our portfolio leverage rose to 7.5x at September 30th from 6.4x at the end of the second quarter. Average economic debt-to-equity in the third quarter was 7.1x compared to the second quarter average of 5.6x.

I will now turn the call over to Nick for a portfolio update.

Nick Letica

Thank you Mary, and thank you Bill for the nice introduction earlier. I'm so grateful for the opportunity to join Two Harbors and contribute to such a high caliber organization. Although I might have scripted a slightly less 'interesting' time in the markets while settling into the role, the opportunity set is exceptionally good and I could not be more optimistic about our future.

As you can see in the portfolio composition chart on **slide 10**, the market value of the portfolio declined to \$16.6 billion over the quarter, down about 10%. The bulk of the decline came from the RMBS portfolio, and over half of that was price declines due to

the rise in rates and widening of spreads. The overall reduction in the RMBS position was in TBAs, as our pool position net increased by about \$700 million. The market value of our servicing portfolio was pretty stable, ending the quarter at \$3 billion. In terms of interest rate and curve risk, we continued to keep exposures low. More detail can be found on page 17 in the appendix.

In terms of RMBS portfolio composition, we continued to rotate up-in-coupon both in TBA and pool positions, increasing the portfolio's nominal yield and OAS and to reduce exposure to prepayments which we expect, on average, to be slower than market expectations. More detail can be found on page 16 in the appendix.

Turning to **slide 11**, figure 2 shows the underperformance of MBS by coupon, for TBAs and specified pools. The entire mortgage complex was wider relative to rates by about one and a half to two points. The performance of lower coupon specified pools were largely in line to TBAs, while the higher coupon pools underperformed TBAs into the sharp rate sell-off. Aggregate speeds for our specified pool book declined by 36% to 9.1 CPR. Pool additions were focused on 5% coupon loan balance stories that have considerably more prepayment stability than TBAs while offering attractive spreads and levered returns.

The UPB of the MSR book, as captured by **slide 12**, declined to \$208 billion, resulting from the settlement of two sales in which term sheets were executed in the second quarter. Overall market activity moderated with \$100 billion of conventional packages offered, bringing the year-to-date volume of sales to a record \$440 billion. Portfolio growth came from our flow channel, including recapture, which added \$4.4 billion. The valuation of the book rose very modestly by one tenth of a multiple to five and a half times, despite a 100 basis points rise in mortgage rates. The 3-month prepayment rate favorably declined by 31% to 6.9 CPR. Since quarter end, the prepayment rate has declined by another 15% to 5.3 CPR in October.

Please turn to **page 13**. This slide illustrates why we prefer higher coupon MBS exposure and why we remain optimistic about our MSR book. These stories are linked - both are predicated on our belief that prepayment speeds, particularly for the lowest coupon mortgages, will be historically slow.

Thirty-year mortgage rates, after spending nearly two years at or near all-time low levels, have risen about 400 basis points this year. Owing to the huge amount of refinance activity that occurred in this cycle and the rapid rise in rates this year, the mortgage universe has never been as concentrated in discount coupons. 30-year 2.5 coupons and below, for example, with an average dollar price of around 81, now comprise more than 50% of the market value of the MBS index!

With hundreds of basis points of negative rate incentive, prepays on these far out of the money coupons are virtually 100% related to housing turnover. Turnover rates vary through time but as a rule of thumb 6 CPR has been considered to be a good long-term assumption. This can be thought of as a baseline prepayment rate.

Prepayment speeds released on Friday showed another decline with conventional 2.0s and 2.5s prepaying at 4 and 5 CPR, respectively, already below the 6 CPR rule of thumb. FNMA 1.5s paid at 3.1 CPR. There are reasons to believe that the 2.0s and 2.5s might be a little faster than the 1.5s, but nonetheless we believe these speeds will continue to fall, as homeowners are justifiably reluctant to give up a 2.5 or 3.0% mortgage in a 7% mortgage world. Amongst practitioners, this is referred to as 'lock-in'.

We can point to several periods in time when rising rates created some deep discounts. Probably the best period is 1993 to 1994 when rates increased by about 250 basis points. Turnover speeds then were around 5 CPR. Speeds should be slower this time as the current set of discounts is more out of the money, much lower coupon - say 3% now versus 7% then - and loan sizes are larger now, amplifying the rate change.

Other factors are adding to this story. Just last week, the FHFA announced changes to their loan level pricing grids to make cashout refinances more expensive. For deep out of the money mortgages, these refis already made little sense from a marginal rate perspective, but this makes them even more unattractive.

After that long wind up, let's look at some numbers. Looking at Figure I - the dark blue line is the levered static return of FNMA 2.5s as a function of prepayment rate. First note how sensitive the return is to small changes in prepayments. A 2 CPR change moves the levered return by 4%. At around 5 CPR or slower, the levered return is 9-11%. Now look at the light blue line that is for FNMA 5s, priced in the mid-90s dollar price. Look at the stability of the return pattern - from 2 to 10% CPR - the levered return is 16-18%. These bonds possess more spread and being priced much closer to par are not dependent on early return of principal to generate a high level of return. In order for the 2.5s to achieve the same levered return, speeds would have to come in at 8 CPR which we see as a low probability outcome. For these reasons, we are positioned in higher coupons.

On the other hand, slow speeds are beneficial for MSRs because they extend the life of the cashflows. Our MSR book, as you can see from Figure II, is approximately 385 basis points out of the money with over 90% at least 325 basis points out of the money. The solid line represents actual speeds, by incentive bucket, reported for October. Given lags, these speeds reflect mortgage rates from August and September which were on average about 100 basis points lower than current levels. As already discussed, we expect a further decline in speeds.

The dashed line incorporates our model projections for the average speed over a 12-month period. For the most of the buckets, the 12-month projection is between 4 and 5 CPR, with an aggregate projection of 4.5 CPR. Slower speeds will boost the return of the MSR portfolio. Figure 3 shows the levered static return of our MSR portfolio as a function of prepayment speed. Should speeds follow our projection, the levered return should be moving up the curve to 13% or higher. The bottom line here is that slowing speeds will provide a tailwind to the performance of the MSR.

Finally, I'd like to discuss our outlook for Two Harbors and our return expectations on **slide 14**. I'm sure many of you will notice that this is a new format for the outlook slide which provides transparency around our capital allocation, estimated return, and portfolio composition for the primary components of our strategy on both a portfolio and common equity basis.

About 55% of the capital is allocated to the hedged MSR strategy with a static return estimate of 12 to 14%. The balance is hedged RMBS securities, with a static return estimate of 16 to 18%, reflecting RMBS spreads that are near record wides. The aggregate static return estimate for the portfolio, after expenses, is 10.6 to 12.8%. These returns are static net yields before applying any capital structure leverage to the portfolio.

The lower section of the slide breaks out the estimated static return on three components of our invested capital with a focus on common equity, as well as an estimated return per common share. The potential static return on common equity falls in the range of 13 to 16.8%, or a quarterly static return per common share of 53 to 69 cents.

While the fact that last quarter's dividend falls in the range of this static earnings potential is comforting, there is much that the estimates on this page leave out. By definition, these estimates do not include any price changes and hence do not include any benefit due to potential spread tightening or any loss due to potential spread widening. With mortgage spreads at historically wide levels, we think it is exceedingly likely that one year from now spreads will be tighter than they are today. These return estimates do not include any benefit from our team's skilled asset management, including asset allocation, security selection, and hedging acumen. Finally, these estimates do not include any benefits arising from increased revenue or cost savings from the acquisition of RoundPoint, which is still expected to close sometime in the third quarter of 2023.

To be clear, we provide these estimates not only to show current returns on our target assets, but also to show where market economics diverge from our measure of EAD. Of course, decisions on future dividends will depend on many factors including these static levered return estimates, as well as EAD, REIT distribution requirements, and sustainability. Ultimately our Board of Directors makes the final decision on dividends based on the factors above and the market conditions at that time.

We hope that you find this new outlook slide informative.

Thank you very much for joining us today, and we will now be happy to take any questions you might have.

Q&A

Operator

Our first question comes from Kenneth Lee with RBC Capital Markets.

- Kenneth Lee** Really appreciate the slide that new Slide #14 with the expected returns. My first question just relates to that. You mentioned that the expected return assumptions are static returns and come before either hedging or expense saves or otherwise active management. Just wondering if you could just talk a little bit more about what's sort of like in rough ballpark, how much incremental earnings or expected returns could you potentially generate from some of these other items on top of these base static returns?
- Bill Greenberg** Yes. Thanks very much, Ken, for the question. As we said in the slide, and as Nick said, it excludes lots of things, including portfolio selection, active management and all the savings from RoundPoint. We already disclosed what we thought the RoundPoint activities would be last quarter. And so that's not in here. And then the other things depend on a host of market factors and hedging decisions and real-time things. And so it's very hard to estimate or quantify what they are. If they were easier to estimate or quantify we would have put them in here, in fact. And so unfortunately, I have to leave it there, but this is one snapshot in time. By the way, this also is a snapshot of our 9/30 portfolio. Right? So it doesn't include any changes to the portfolio that we have made since then or could make going forward. And the idea here or one of the ideas in showing this new look, we viewed it as an extension of the old outlook slide that we used to have with the top section is market returns that we see as available for hedged MSR or hedged RMBS. And then we did the additional arithmetic at the bottom just to put it in common shares for them. But in many ways, when we look at this when we compare it to EAD, this is sort of what we think the thing – what an EAD like measure would look like if we bought and sold the portfolio every day, right? And so it's very static. It's a snapshot, and it's very hard to quantify those other things.
- Kenneth Lee** Got you. Got you. And just one somewhat related follow-up, if I may. You mentioned in terms of the EAD, it's expected to moderate over the next several quarters. And granted EAD has a bunch of items that's going to differ from the underlying economic earnings. Just wanted to get your thoughts on how you think underlying economic earnings could be expected to trend over the next several quarters?
- Mary Risky** So I think that goes to the outlook slide is where we look at the economic returns on the portfolio versus EAD, which has its nuances in our calculation.
- Bill Greenberg** As one example of that, Ken, rates have risen so fast in the last several months. And when we've been very aggressive, I would even say, in moving up in coupon and rotating our exposures. But even as we've done that, right, rates have moved up so far, so fast that the EAD calculation, which relies on historical prices – regional purchase prices and advertising costs -- even those are at deep discounts now. And so a lot of that will normalize and moderate as Mary said, as the portfolio gets reinvested as we rotate more into current yielding assets that -- where the current yields and spreads are more consistent with what is used in the EAD calculation. So that will happen over time. Of course, the inverted yield curve also has some extra effects here that make it diverge a little bit from the Slide 14 outlook of the things. So it's a complicated thing to compare them, which is why we've shown on Page 14.
- Operator** Our next question comes from Trevor Cranston with JMP Securities.

- Trevor Cranston** A question on the MSR portfolio and just general sort of capital allocation decisions. Historically, part of the value for owning MSR on your balance sheet has been that it provides a hedge to the MBS portfolio. I guess where MSR valuations are today, it seems like the hedge component of the MSR is probably pretty minimal. So can you talk about how you sort of think about allocating capital between MSR and MBS today? And is that decision sort of as we stand today and more so just going to be based around where you see the best total return and if that happens to be better in the MBS market is it possible we could see more MSR sales in the future?
- Bill Greenberg** Thanks very much for the question. Yes, I mean we're always looking at the relative value differences between the two. You're right. As you said, the hedging aspect of the MSR is lessened in this environment where the average coupon of the MSR is 400 basis points out of the money. So it's not providing really spread hedging capacity anymore. But we still like it a lot because it's -- as you saw, the price moved very little in the 100 basis point move. So there's not very much interest rate sensitivity. It's easy to hedge at this point. And as Nick said, we have a view that speeds are going to be slower than the market expects and could really surprise to the downside on speeds, for which the MSR would really benefit. Coupled with that, as you point out and as we show on the slide and as we described, RMBS spreads are at historical wides here too. And so we like those. We don't mind that our MSR is not hedging spreads because spreads are wide. And we look forward to either enjoying that spread, right, or having spreads tighten in some near to intermediate term. And so either way, we like that. But the overall mix is going to be determined by a combination of those factors and that something we talk about every day.
- Trevor Cranston** Okay. Got it. And I guess to that last point about being okay with being -- having more exposure to spreads. I think you said the new flow purchases and recapture replaced runoff in the MSR in the portfolio. Have you guys considered just turning off flow purchases given that current coupon MSR would likely underperform if MBS spreads were to tighten just in order to sort of maximize your exposure to potential spread tighter?
- Bill Greenberg** Yes. We talked about that. I mean it's -- like everything, right, there's -- it's all a question of price and yield and what the expected return is and relative to the alternative uses of capital. And we still like that. The additions of MSR have been small, as you've seen. And that was last quarter. Mortgage rates have risen even higher since the driving rates that we've shown in this quarter. And so the amounts that we're producing through the flow channel now are pretty small. So it doesn't particularly move in needle either way.
- Operator** Our next question comes from Bose George with KBW.
- Bose George** I didn't know if you said this, but can I -- if not, can I get an updated book value for the quarter?
- Bill Greenberg** Yes. Thanks for the question. So as I think everyone knows on the call, it's been a volatile quarter. The spreads have been moving around a lot since quarter end. Our book value was as low as down 5% post quarter end, but spreads have rebounded

quite strongly here in the last bit of October and the early part of November here. And so we stand right now quarter-to-date book value as of Monday's close up between 6% and 7%.

- Bose George** Okay. Great. And then...
- Bill Greenberg** That speaks to the volatility, as I said, from down 5% to up 6% or 7%, like it speaks to the spread volatility that we've been having.
- Bose George** Yes, yes, absolutely. And then just in terms of your return and thanks for that disclosure -- that is helpful. Your dividend kind of falls in that range, a little bit at the higher end of the range. So when we think about the dividend, is it fair to say your dividend can stay at these levels unless something changes in the market?
- Mary Risky** So I would say reiterating what Nick said on the call, future dividends are going to depend on many factors. But you're correct in that the range on the outlook page does support the current dividend, but we'll just have to make those decisions based on market conditions and ultimately, it's our board that makes the final decision.
- Operator** Our next question comes from Doug Harter with Credit Suisse.
- Doug Harter** You guys described kind of your leverage as overweight and kind of the answer to your last question, just showing the volatility of the markets right now. I guess, just how are you balancing kind of wide attractive spreads versus that volatility in kind of where to set leverage today?
- Nick Letica** Thanks for the question. It's a decision -- complex decision as we try to balance to your point. They are very, very attractive levels that are in the market today versus the amount of the risk that we manage on a day-to-day basis. I would say that, as Bill said, we did moderate our leverage post quarter end. And we do see some potential upside on the leverage front if we do see volatility kind of ticking down. I think that's a big part of making a decision about increasing leverage or taking it down for that matter. It's not just -- it's not a one-way train. I would say that the -- what we need to see for that to happen is to see the Fed have communicated a stronger sense of where they see a terminal rate and how long it's going to last, and then probably we see a decline in volatility that gives a little bit more of a green light of taking leverage up. And if we were to take it up, I think it would still probably be somewhere in the 6% to 7% or potentially high 7s kind of leverage if we did get that kind of signal out of the market.
- Doug Harter** And then I guess with spreads where they are, I mean, I guess how are you thinking about the path to normalization? Is it more of kind of a slow grind tighter where these attractive spreads might persist for a while? Or could it be kind of a snapback as kind of the said induced volatility kind of subsides. I guess how are you thinking about the longevity or the duration of this return opportunity?
- Nick Letica** Well, I mean, selfishly, if we could script it, I think we would love spreads to just sit where they are right now because they are very supportive of the strategy at these kind of levels. It's a very difficult question to answer, you kind of need a crystal ball on

how inflation is going to subside what the pace is. I would say that overall, I can't say that I see any big flaws or objections to the way the market is pricing forward inflation, but very, very tricky question to answer at this point. It really just depends on that path. I mean it could be a snapback. It could be a grind for the moment. It's been -- this quarter has been a little bit friendlier and it's been kind of a grind back. And I think we've gotten back about 10 basis points nominally just kind of across the stack. But it's really going to be very, very data dependent. But like I said, if spreads were to just sit here, I think that would be more than just fine with us.

- Operator** Our next question comes from Rick Shane with JPMorgan.
- Rick Shane** If you could just take a quick look at Slide 14. And I just want to make sure I understand this fully. I understand the idea that this is a static analysis. When we look at the RMBS rate strategy and talk about the hedges, obviously, the hedge there is the futures positions. How do we sort of account for that on this page?
- Bill Greenberg** Thanks, Rick. Thanks for the call. Economically, we would account for -- these are measured in terms of spreads, right, there's a levered spread sort of analysis, right? And so like we would measure it with respect to a swap or a cash treasury, right? We're looking at the spreads of the RMBS relative to the treasury rates. You can talk about it versus a blended 5 or 10 year or Z spread along the curve -- along the treasury curve - - and so forth, and then we apply the usual leverage arithmetic to that calculation in order to get that.
- Rick Shane** Okay. And look, I understand there's an issue here, which is that accounting, given all of the different interpretations and how different instruments are treated is much a narrative as it is a reality and that you're asking investors to look at the narrative in a different way in terms of EAD, which is fine. And again, I think that ultimately, it all gets to the same economic reality. But one comment you made is that the way to think of this increasingly is if we were to sell the portfolio on a daily basis. And the reason that the market, to some extent, had historically simplified to an EAD type measure was in part it reflected, in a very simplified way, cash flows. And I do wonder with how you are structuring the portfolio today, if there is a divergence between cash flows and dividend that we need to think about. And given liquidity on some of these instruments, how you actually meet the liquidity needs given the divergence in cash flows? Sorry, it's a super long question, but I think it's an important issue.
- Bill Greenberg** Yes. I'm not sure I understood the entire question exactly. The cash flows when you talk about cash flows of mortgage-backed securities with all the embedded options, they certainly do change with interest rates a lot, right? And so as you -- when you talk about prepayments, that's going to be a large adjustment that you're going to have to make. Maybe if you were to do this thing starting out in this environment where there's very low prepayments and the cash flows are more stable in general, you might have better success of, but I don't know. I'm just guessing. Mary, do you have any other thoughts on that?
- Mary Risky** Yes, I would just add a couple of things. So EAD is not necessarily cash flow, at least our calculation of EAD, we had significant realized gains on hedges this quarter that

generated cash flow. As I noted in my prepared remarks, MSR, because we use the original pricing yield, doesn't benefit from the increased cash we're receiving on float income or paying less income stating interest due to selling prepayment speeds. So there's a lot of factors that cause EAD to diverge from actual cash flows.

Bill Greenberg And Rick, you tried to -- or you did make a statement about sort of linking sort of these cash flow effects with potentially how we think about our liquidity. And I think those are separate items in our minds. We think about our liquidity in terms of our portfolio risks in general, right, and how much cash we need in order to withstand a certain very significant stress events and those kinds of things. And so it's not really so much a statement about projected cash on the assets and the stability of those cash flows. It's really much more of a market-dependent view of the portfolio and market volatility and the risks in the portfolio.

Rick Shane Okay. Look, I think I'll pick this up off-line, but I think one of the issues we're just trying to understand is that there are cash flow fluctuations related to funding costs on an immediate basis. And I'm just wondering if the evolving hedging strategy reduces liquidity in any way or positions you with less liquid instruments as an offset to movements in repo rates, for example.

Bill Greenberg Yes. So I think the short answer to that question is no, it doesn't. A slightly longer answer would be -- this is sort of the reason why we introduced the Slide 14 in a slightly different way than we had before, which is you're sort of putting your finger on exactly the reason we did this, which is if we bought Fannie 4s at par at the beginning of the year when rates were rising, and they were par dollar price then, right? And now Fannie 4s are \$91 price, right? The spread has, of course, widened as stuff widened. But even if the spread has stayed constant, right, the EAD would be reflecting a yield that reflected that lower rate environment when we know that because rates rose, the yield and the spread reflect the higher rate environment. So that's not in -- that wouldn't be in the EAD necessarily because it's still based on purchase yield right, the yield at the time of purchase rather than the current market yield, right? And so we felt it was important to show everything on a contemporaneous basis, right? And Slide 14 shows the book value, right, as it was, along with the spreads, the market prices of the assets that were in effect at the time that, that was our book value, right? That's why I say it so it's buying and selling every day. So it's lining up those things, whereas the EAD measure, we're showing you the current book value, but the yields are based on some historical measures and amortized cost, and it's very difficult and complicated. This is a simpler view, at least in my mind, to see what the return potential is because everything is lined up on one day.

Rick Shane Fair enough. And it definitely is complicated. I was flipping through textbooks last night trying to understand some of the stuff. So I appreciate the answers.

Operator Our next question comes from Aaron Cyganovich with Citi.

Arren Cyganovich I just wanted to follow up on kind of a question about the spreads and the potential tightening there. What kind of macro events or what events would lead or naturally lead to spread tightening over time?

Nick Letica Well, thank you for the question. The -- as I alluded to earlier, the -- I think a lot of what's happening in the market right now is very inflation related. And I think that's the focus of the market, it's the focus of the Fed. Yes. It's almost a singular focus. And I don't want to make the world sound that simple, but I think right now, that is really what is driving things. So if I had to put my finger on one thing, it would be that. And then to a direct linkage to mortgages, it would be a decline in volatility. As Bill mentioned in his comments, as dramatic and as it has been from the way mortgages have performed over the quarter, a lot of it can just be attributed to volatility. And combined with what has been a very poor technical situation for mortgages at the same time. And the linkage really here is inflation to Fed to volatility declining to better spread performance out of the sector.

Arren Cyganovich Okay. Got it.

Bill Greenberg I might just add one thing, which is that the current pricing of the mortgage market is incorporating this existing high volatility already, right? And we think it's still historically attractive, even including that higher volatility. And so we do expect volatility to moderate eventually, and we think mortgage will outperform in that period if that helps.

Arren Cyganovich And then on the hedging side, it looks like you don't have any interest rate swaps any longer. Can you just talk about the hedging positions and the decision to remove those?

Nick Letica Yes, thank you for the question. It is -- I think a fairly simple response. First of all, we do believe that there is a better correlation between treasuries, futures, to mortgages and swaps. There's a lot more things that go into the swap market and almost introduces an extra amount of basis risk to that. And finally, and going back to a prior question, I don't know if it was exactly answered, but our -- with the -- how quickly the market is moving around and shifting of current coupon and everything else, frankly, it's a lot easier to manage the book with futures than it is with swaps. Swaps are -- continue to be more of a slightly negotiated transaction as opposed to futures, which are entirely electronic and easy to trade.

Arren Cyganovich Okay. And then lastly, you had mentioned that you sold some of your portfolio to buy back some shares. How much of that portfolio did you sell?

Bill Greenberg Well, we said what the overall decline in the portfolio was and our leverage is now 7x. So we sold it to -- we viewed it as a little bit of a paired trade to use the proceeds, selling mortgages to buy back those shares. So it's wrapped up in the leverage decline that we had. It was between -- how much did we decline? I don't think how much did we reduce the position in October here? \$500 million and \$1 billion relative to the -- so something like that, say, between \$500 million and \$1 billion of mortgages in order to fund the position. And as we said, right, it was -- it's a risk-free return, right, for us, right, in the low mid-teens, no prepayment risk, no convexity risk, no credit risk, no market risk, right? And we were able to -- when we think of the mortgages that were funded by that position, it was actually a positive P&L trade. And so it wasn't locking in any losses. It was actually locking in gains by effectuating that repurchase.

- Operator** Our next question comes from Eric Hagen with BTIG.
- Eric Hagen** I think I have, I think, 3 questions. First, can you say which preferred series you've bought back in October? And then can you talk about the mark-to-market features on the debt supporting MSR? Are those daily mark-to-market? Are they more like a kind of credit mark, if you will? And are there different mark-to-market features depending on the source of funding? And then the third question is in the portfolio of specified pools, can you guys talk about the liquidity and some of the trading dynamics you see driving value for the higher versus lower coupons? Like from that standpoint alone, like what's the value that shareholders are picking up in the higher coupons versus being in the lower coupons, where there's a lot more supply?
- Bill Greenberg** Sure. Thanks for the question, Eric. Good to have you. Mary, you want to take Nick's - take Eric's question about the preferred there? Something is wrong Mary you are on mute there.
- Mary Risky** Sorry about that. The preferred buyback was across all 3 series. And we'll be filing our Q today and the details behind it will be included in the subsequent footnote.
- Eric Hagen** Okay. Yes
- Bill Greenberg** Nick?
- Nick Letica** Yes. Talking about the positioning in the mortgage stack. And I think we kind of addressed it in that special topic slide. If you look at our levered return, static level return projections across the various coupons, we are positioned higher coupons for the most part. It is hard to be entirely positioned in so-called current coupons right now because rates have moved so far so fast that there really hasn't been a time enough, not enough time to originate really a stock of things that are priced right around par and the low pars. They're just a TBA market right now. We -- so I would say current coupon is a more practical perspective right now, or 5, maybe some 5.5. And we are -- continue to be -- continue to be wanting to move into higher coupons from the lower coupons. And I think the type of return potential that we see in those sectors is what you can see on our special topics slide.
- Eric Hagen** Great. Yes, the third one I asked was about the mark-to-market features across the debt supporting MSRs.
- Bill Greenberg** Yes, sure. The -- we have a combination of bilateral facilities as well as our term note. The mark-to-market features vary from daily to being market dependent based on rate triggers to -- I mean, everyone has the ability to re-mark whenever they want, right? And so some are more regular and some are more periodic in basis that we said. One of the things that I think we've described in past periods and past quarters is that a falling rate environment is actually from a liquidity standpoint, easier and better to manage for us because of the so-called imbalance between the haircuts and it's the rising rate environment, which is potentially more stressful. But as we see here, right, rates rose 100 basis points, right, in our -- and the broker marks on our portfolio increased by 1 of a month. So we're pretty near the -- well, we're in an environment

where there's not very much rate sensitivity to MSR prices anymore, given that we're so far out of the money. I mean I think there's still interesting valuation, things happening as speeds slow and as the Fed raises rates and float income is going to increase and all of that. But in terms of the price sensitivity of MSR here, it's very, very light. That answer your questions?

Eric Hagen

Yes.

Operator

At this time, I would like to turn the call back over to Mr. William Greenberg for closing comments.

Bill Greenberg

Well, I'd like to thank everyone very much for joining us. And as always, thank you for your interest in Two Harbors.

Operator

Thank you. This does conclude today's teleconference and webcast. You may disconnect your lines at this time, and thank you for your participation, and have a great day.

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